Appendix A
List of Recipients

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Appendix A
List of Recipients

The following is a list of agencies, organizations, and persons to whom electronic copies of the Final Environmental Impact Statement (Final EIS) were sent. Copies of the Final EIS were sent to other interested businesses, individuals, and organizations as requested.

Federal Agencies

Advisory Council on Historic Preservation
National Park Service
Surface Transportation Board
United States Army Corps of Engineers
United States Department of Agriculture
United States Department of Commerce
United States Department of Energy
United States Department of Homeland Security, Federal Emergency Management Agency
United States Department of Housing and Urban Development
United States Department of the Interior, Office of Environmental Policy and Compliance
United States Environmental Protection Agency
United States Federal Aviation Administration
United States Federal Highway Administration
United States Federal Railroad Administration
United States Federal Transit Administration
United States Fish and Wildlife Service

United States Legislators

Honorable Al Franken, US Senator
Honorable Amy Klobuchar, US Senator
Honorable Erik Paulsen, US Representative (District 3)
Honorable Keith Ellison, US Representative (District 5)

Federal Agencies – Regional Offices

United States Army Corps of Engineers, St. Paul District
United States Department of Housing and Urban Development, Region V
United States Environmental Protection Agency, Region V
United States Federal Aviation Administration, Great Lakes Regional Office and Minneapolis Airports District Office
United States Federal Highway Administration, Minnesota Division
United States Federal Railroad Administration, Region IV
United States Federal Transit Administration, Region V

Tribes

Flandreau Santee Sioux
Lower Sioux Indian Community Council
Mille Lacs Band of Ojibwe
Prairie Island Indian Community
Santee Sioux Nation
Shakopee Mdewakanton Sioux Community
Sisseton-Wahpeton
Sisseton-Wahpeton Oyate
Spirit Lake Nation
Turtle Mountain
Upper Sioux Indian Community

State Agencies

Minnesota Board of Water and Soil Resources
Minnesota Department of Agriculture
Minnesota Department of Commerce
Minnesota Department of Health
Minnesota Department of Natural Resources
Minnesota Department of Public Safety
Minnesota Department of Transportation
Minnesota Environmental Quality Board
Minnesota Historical Society
Minnesota Indian Affairs Council
Minnesota Office of the State Archaeologist
Minnesota Pollution Control Agency
Minnesota State Historic Preservation Office

Governor and State Legislators

Honorable Mark Dayton, Governor, State of Minnesota

Honorable John A. Hoffman, Minnesota State Senator (District 36)
Honorable Chris A. Eaton, Minnesota State Senator (District 40)
Honorable Ann H. Rest, Minnesota State Senator (District 45)
Honorable Bobby Joe Champion, Minnesota State Senator (District 59)

Honorable Melissa Hortman, Minnesota State Representative (District 36B)
Honorable Michael V. Nelson, Minnesota State Representative (District 40A)
Honorable Lyndon Carlson, Sr., Minnesota State Representative (District 45A)
Honorable Mike Freiberg, Minnesota State Representative (District 45B)
Honorable Raymond Dehn, Minnesota State Representative (District 59B)

Local Elected Officials

Honorable Mike Opat, Hennepin County Commissioner (District 1)
Honorable Linda Higgins, Hennepin County Commissioner (District 2)
Honorable Marion Greene, Hennepin County Commissioner (District 3)
Honorable Peter McLaughlin, Hennepin County Commissioner (District 4)
Honorable Randy Johnson, Hennepin County Commissioner (District 5)
Honorable Jan Callison, Hennepin County Commissioner (District 6, Chair)
Honorable Jeff Johnson, Hennepin County Commissioner (District 7)

Honorable Jeffrey Lunde, Mayor, City of Brooklyn Park
Honorable Peter Crema, Council Member, City of Brooklyn Park (East District)
Honorable Rich Gates, Council Member, City of Brooklyn Park (Central District)
Honorable John Jordan, Council Member, City of Brooklyn Park (West District)
Honorable Bob Mata, Council Member, City of Brooklyn Park (West District)
Honorable Terry Parks, Council Member, City of Brooklyn Park (East District)
Honorable Mike Trepanier, Council Member, City of Brooklyn Park (Central District)

Honorable Jim Adams, Mayor, City of Crystal
Honorable Laura Libby, Council Member, City of Crystal (Section I, Wards 1 and 2)
Honorable Olga Parsons, Council Member, City of Crystal (Section II, Wards 1 and 2)
Honorable Elizabeth Dahl, Council Member, City of Crystal (Ward 1)
Honorable Jeff Kolb, Council Member, City of Crystal (Ward 2)
Honorable Casey Peak, Council Member, City of Crystal (Ward 3)
Honorable Julie Deshler, Council Member, City of Crystal (Ward 4)

Honorable Shep Harris, Mayor, City of Golden Valley
Honorable Joanie Clausen, Council Member, City of Golden Valley
Honorable Larry Fonest, Council Member, City of Golden Valley
Honorable Steve Schmidgall, Council Member, City of Golden Valley
Honorable Andy Snope, Council Member, City of Golden Valley

Honorable Mark Steffenson, Mayor, City of Maple Grove

Honorable Betsy Hodges, Mayor, City of Minneapolis
Honorable Kevin Reich, Council Member, City of Minneapolis (Ward 1)
Honorable Cam Gordon, Council Member, City of Minneapolis (Ward 2)
Honorable Jacob Frey, Council Member, City of Minneapolis (Ward 3)
Honorable Barbara Johnson, Council President, City of Minneapolis (Ward 4)
Honorable Blong Yang, Council Member, City of Minneapolis (Ward 5)
Honorable Abdi Warsame, Council Member, City of Minneapolis (Ward 6)
Honorable Lisa Goodman, Council Member, City of Minneapolis (Ward 7)
Honorable Elizabeth Glidden, Council Member, City of Minneapolis (Ward 8)
Honorable Alondra Cano, Council Member, City of Minneapolis (Ward 9)
Honorable Lisa Bender, Council Member, City of Minneapolis (Ward 10)
Honorable John Quincy, Council Member, City of Minneapolis (Ward 11)
Honorable Andrew Johnson, Council Member, City of Minneapolis (Ward 12)
Honorable Linea Palmisano, Council Member, City of Minneapolis (Ward 13)

Honorable Kathi Hemken, Mayor, City of New Hope

Honorable Duane Poppe, Mayor, City of Osseo

Honorable Regan Murphy, Mayor, City of Robbinsdale
Honorable Bill Blonigan, Council Member, City of Robbinsdale (Ward 1)
Honorable Dan Rogan, Council Member, City of Robbinsdale (Ward 2)
Honorable George Selman, Council Member, City of Robbinsdale (Ward 3)
Honorable Pat Backen, Council Member, City of Robbinsdale (Ward 4)

County Agencies

Hennepin County
Hennepin Conservation District
Hennepin County, Department of Energy and Environment
Hennepin County, Department of Housing, Transit, and Community Works
Hennepin County, Department of Policy, Planning and Land Management
Hennepin County, Department of Transportation
Hennepin County Regional Railroad Authority

Municipalities

City of Brooklyn Park
City of Crystal
City of Golden Valley
City of Maple Grove
City of Minneapolis
City of New Hope
City of Osseo
City of Robbinsdale

Local and Regional Agencies

Bassett Creek Watershed Management Commission
Maple Grove Transit
Metropolitan Airports Commission (MAC)
Metropolitan Council/Metro Transit
Minneapolis Heritage Preservation Commission
Minneapolis Park and Recreation Board
Minneapolis Regional Chamber of Commerce
Mississippi Watershed Management Organization
Shingle Creek and West Mississippi Watershed Management Commission
Three Rivers Park District

Libraries

Brookdale Library
Brooklyn Park Library
Golden Valley Library
Hennepin County Library – Minneapolis Central
Maple Grove Library
Metropolitan Council Library
Minnesota Department of Transportation Library
North Regional Library
Osseo Library
Rockford Road Library
Sumner Library
Legislative Reference Library

Other

BNSF Railway
Canadian Pacific Railway

BLRT Extension Project Committees

BLRT Extension project – Corridor Management Committee
BLRT Extension project – Business Advisory Committee
BLRT Extension project – Community Advisory Committee
BLRT Extension project – Technical Project Advisory Committee

Appendix B
List of Preparers

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Appendix B
List of Preparers

Public Agencies

Federal Transit Administration

Region V Office, Chicago, IL

Marisol Simón
Reginald Arkell, AICP
Kathryn Loster

Office of Environmental Programs, Washington, DC

Maya Sarna

Metropolitan Council – BLRT Extension Project Office

Name	Degree	Role
Dan Soler, PE	BS, Civil Engineering	Project Director
MarySue Abel, PE	MS, Civil Engineering	Deputy Project Director
Kathryn O'Brien	BS, Speech MUP, Urban Planning	Assistant Director, Environmental and Agreements
Robin Caufman	BS Environmental Studies MURP, Urban and Regional Planning	Assistant Director for Administration, Communication and Outreach
Sam O'Connell, AICP	BS, Geography	Manager, Public Involvement
Nick Landwer, PE	BS, Civil Engineering	Director, Transit Systems Design and Engineering
Alicia Vap	MUP, Urban Planning	Assistant Director, Land Use/ Stations/OMF
Jim Toulouse	BS, Civil & Environmental Engineering	Manager, Engineering
Kathryn Hansen	BS, Urban Land Economics MS, Real Estate Appraisal and Investment Analysis	Manager, TOD
Josh Haider	BS, Construction Management AAS, Construction Technology AAS, Architectural Drafting & Estimating Tech.	Manager, Project Controls
Judith Phillips	BA, Political Science MA, Organizational Communication	Manager, Project Offices
Caroline Miller	BA, Anthropology (Archaeology) MURP, Urban and Regional Planning	Environmental Specialist
Ella Rasp	BA, Urban Studies (Urban Infrastructure and Environment) – in progress	Environmental Intern

Minnesota Department of Transportation

Name	Degree	Role
Ryan Wilson	BS, Civil Engineering MS, Civil Engineering MURP, Urban and Regional Planning	Railroad Coordination Manager
Lee Williams	—	ROW/Permits Manager
James DeLuca	BS, Geology MS, Geology	Environmental Mitigation Specialist
Greg Mathis	BA, Geography MCRP, Community and Regional Planning	Cultural Resources Lead

Hennepin County

Name	Degree	Role
Brent Rusco	BS, Civil Engineering MA, Organizational Leadership	Senior Project Manager
Chad Ellos	BS, Civil Engineering	Project Manager

Final Environmental Impact Statement Consultants

Name	Degree	Contribution to Final EIS
HDR, Inc.		
Scott Reed, PG	BS, Geology MBA, Environmental Mgmt Concentration	Project Manager
Janet Kennison	BA, Environmental Studies MS, Environmental Management	Environmental Task Lead
Kimberly Slaughter	BA, Government/Pre-Law MS, Community and Region Planning	Quality Assurance Manager
Roben Armstrong	BS, Aviation Science MS, Transportation Planning and Management	Purpose and Need; Community and Social Analysis
Tim Burkhardt, AICP	BA, English MPH, Environmental Health	QC and Independent Technical Reviewer
Timothy Casey, INCE	BS, Biology	QC Reviewer
Jessica Dean, PE	BS, Civil Engineering	QC Reviewer
Michael DeRuyter	BS, Natural Resources	Wetlands; Biological Environment
Kelly Farrell	BS, Environmental Sciences/Studies (Natural Resources) BA, Visual and Performing Arts (Music) MBA, Business Administration	Section 4(f)
Steve Granson	BA, Accounting MS, Transportation Planning and Management	Economic Effects; Financial Considerations
Derek Green	BS, Zoology	QC Reviewer
Michael Justin, RPA	BS, Anthropology MS, Anthropology	QC Reviewer

Name	Degree	Contribution to Final EIS
Dax Kuhfuss, PE	BS, Civil Engineering	Independent Technical Reviewer
Cathy P. LaFata, AICP, CTP	BA, Psychology/Mathematics MA, Urban Planning, Transportation, and Environmental Planning	Environmental Justice; Section 6(f); Visual/Aesthetics
Edward J. Liebsch	BA, Earth Science MS, Meteorology	Air Quality
Agata Miszczyk	MGIS, Geographic Information Systems	GIS Technician
Thomas More, AICP	BA, Political Science MA, Urban and Regional Planning	QC Reviewer
Howard Newman, PE	BS Civil Engineering	QC Reviewer
Brandi Popenhagen, PE	BS, Civil Engineering	QC Reviewer
Jeanette Price	BS, Environmental Studies	Visual/Aesthetics
Shelley D. Richards, PE, ENV SP, STP	BS, Civil Engineering MS, Civil Engineering MBA, Business Administration	Draft EIS Comments/QC Reviewer
Hong Spores, CPG	BS, Geology MBA, Business Administration	Geology/Soils/Topography; Hazardous Materials Contamination
Carrie Ulrich	BS, Environmental Studies MS, English	Technical Editor
Ashley Ver Burg	BA, Environmental Studies	Executive Summary; Consultation and Coordination
Jennifer Walter	BA, Anthropology MA, Anthropology	GIS Manager
106 Group		
Jenny Bring	BA, Anthropology – Archaeology Emphasis	Cultural Resources Lead; QA/QC
Nicole Foss	BA, Anthropology MA, Anthropology (Historical Archaeology)	Cultural Resources
Nathan Moe	BA, Urban and Regional Studies	Cultural Resources GIS; Graphics
Kelly Wilder	BS, Ecology and Evolutionary Biology BA, New-Editorial Journalism JD, Law	Cultural Resources Editor
Cross-Spectrum Acoustics Inc.		
Scott Edwards, INCE Member	BSE, Acoustical Engineering and Music	Noise and Vibration
Lance Meister, INCE Member	BS, Civil Engineering	Noise and Vibration
SEH, Inc.		
Lisa Elliott	MA, Urban and Regional Planning	Joint Development
Chris Hiniker, AICP	BA, Geography	Independent Technical Reviewer
Jeffrey Olson, WDCP #1089	BS, Botany MS, Natural Resource Ecology	Wetlands; Aquatic Resources; Threatened and Endangered Species; Biological Environment

Name	Degree	Contribution to Final EIS
Robert Rogers, AICP	BA, Geography MA, Urban and Regional Planning	Section 4(f)
Stonebrooke Engineering Inc.		
Tim Arvidson, PE	BS, Civil Engineering	Utilities
Marc Briese, PE	BS, Civil Engineering MS, Infrastructure Systems Engineering	Vehicular Traffic
Ross Harris, AICP	BS, Community and Regional Planning MS, Business Management	Freight Rail Conditions; Bicyclists and Pedestrians; Parking; Aviation
Wally Marusenko, PE	BS, Civil Engineering MS, Civil Engineering	Utilities

Engineering Consultants

Name	Degree	Role
Kimley-Horn and Associates, Inc.		
Paul Danielson, PE	BS, Civil Engineering	Project Manager
Lisa Rasmussen, PE	BS, Civil Engineering	Civil Engineering Lead
JoNette Kuhnau, PE	BS, Civil Engineering MS, Civil Engineering	Traffic Engineering Lead
Tom Harrington, PLA	BS, Landscape Architecture	Architectural Design Lead
Derek Newbauer, PE	BS, Civil Engineering	Project Engineer
SRF Consulting Group, Inc.		
Lisa Goddard, PE, LEED AP	BS, Civil Engineering	Water Resources

Appendix C
Sources and References Cited

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Appendix C Sources and References Cited

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Hennepin County

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Appendix D
Agency Coordination

The following is a list of agency coordination letters that have been transmitted since the Draft EIS was published in April 2014:

1. Metropolitan Council email to the Federal Aviation Administration seeking concurrence on proposed BLRT Extension project modifications in relation to its encroachment into the Crystal Airport Runway Protection Zone, November 20, 2015
2. Federal Aviation Administration letter to the Metropolitan Council concurring on the proposed BLRT Extension project modifications in relation to its encroachment into the Crystal Airport Runway Protection Zone, December 28, 2015
3. Minnesota Department of Natural Resources letter to the Metropolitan Council concurring on state-listed species that may be in the proposed BLRT Extension project area, February 9, 2016. This letter also includes a Blanding's turtle fact sheet and flyer
4. Federal Transit Administration letter to the US Fish and Wildlife Service seeking concurrence on Section 7 of the Endangered Species Act determinations, March, 7, 2016
5. Federal Transit Administration letter to the US Fish and Wildlife Service submitting the Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form, May 6, 2016
6. US Fish and Wildlife Service letter to the Federal Transit Administration concurring on Section 7 of the Endangered Species Act determinations, May 16, 2016
7. Federal Transit Administration letter to the US Environmental Protection Agency responding to their Draft EIS comments, June 16, 2016

Agency coordination with the Minnesota State Historic Preservation Office can be found in **Appendix H**.

Agency coordination with the US Army Corps of Engineers and local Wetland Conservation Act jurisdictions can be found in **Appendix I**.

Agency coordination with the Minnesota Department of Natural Resources, the US Department of the Interior, and the National Park Service regarding Section 6(f) can be found in **Appendix J**.

Agency coordination letters prior to 2015 can be found in the Bottineau Transitway Draft EIS at this website link:

metrocouncil.org/Transportation/Projects/Current-Projects/METRO-Blue-Line-Extension/Publications-And-Resources/Environmental/DEIS/BLLRT_DEIS_App-D_AgencyCoordination.aspx

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From: O'Brien, Kathryn
Sent: Friday, November 20, 2015 9:04 AM
To: gina.mitchell@faa.gov
Cc: Bridget Rief; Abel, MarySue; Landwer, Nick; Reed, Scott; BPODMC
Subject: Blue Line Extension Project - RPZ Coordination

Gina, please find attached exhibits prepared by the Blue Line (formerly known as the Bottineau Transitway) Project Office that provide information on the Preferred Alternative for the Project, and, specifically, the Preferred Alternative relative to its encroachment into the Runway Protection Zone associated with Runway 6L-24R at the Crystal Airport.

As we discussed a week or so ago, the Project has changed slightly from its definition when the "FAA Great Lakes Region Runway Protection Zone Alternatives Analysis" was prepared for the Bottineau Transitway in February 2014. Namely, the alignment of the LRT tracks and associated overhead catenary system elements has shifted approximately 10-feet to the east, within the existing Burlington Northern Santa Fe (BNSF) railroad corridor. This shift resulted from coordination with the BNSF railway and is being made to provide sufficient separation from the LRT and the freight to minimize any potential for conflicts between these modes of rail operations.

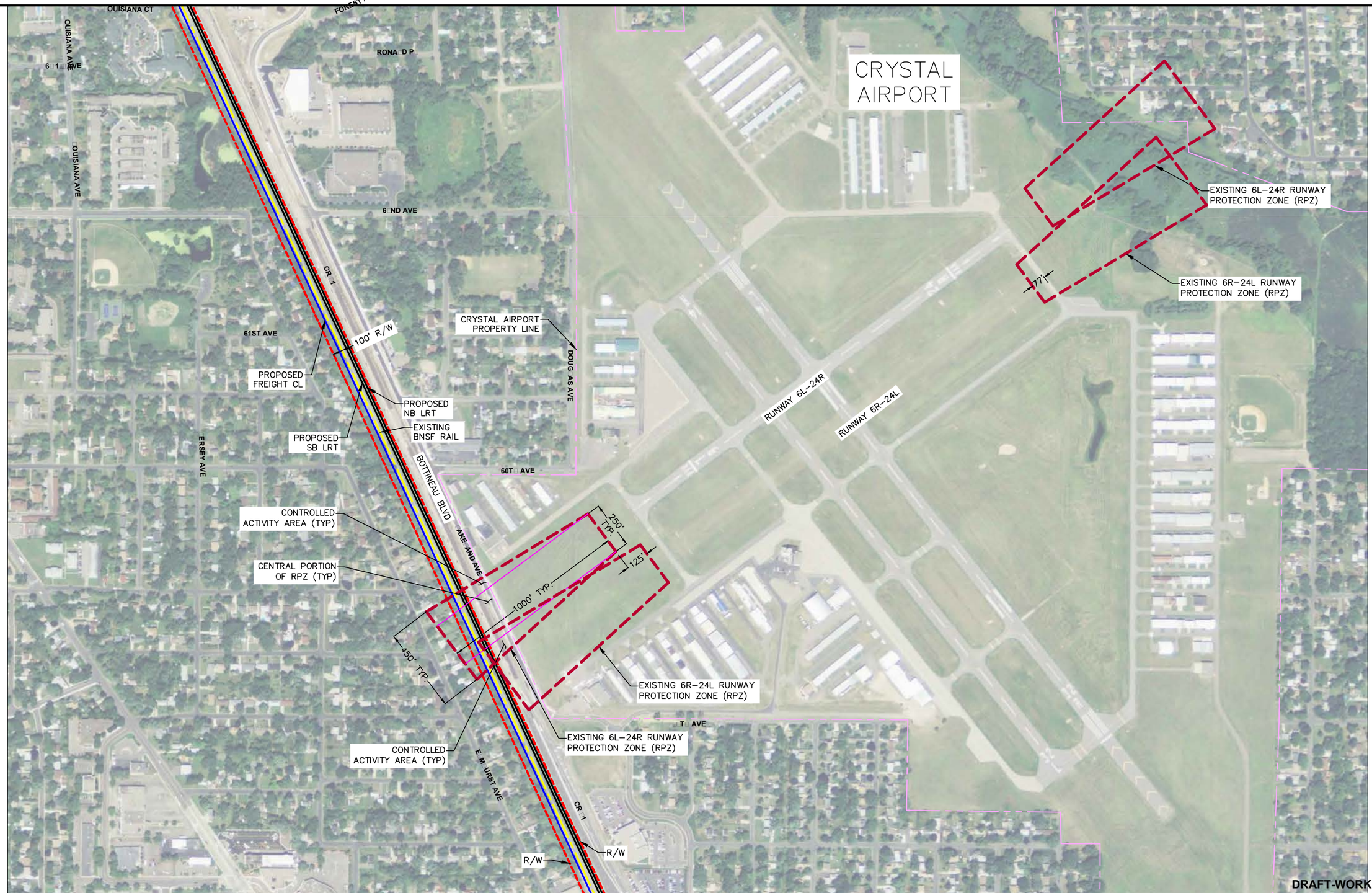
Blue Line Project Office staff have reviewed the significance in this slight shift in guideway alignment in terms of its impact on the FAA approach surface as established for Runway 6L-24R. The assessment of our design team is that this shift to the east can be effected without breaking the plane of this approach surface – the calculation you will see on the typical section figure indicates that the overhead LRT elements are slightly more than 9-feet below the plane of the approach surface.

I look forward to your consideration of this information and to discussing with you how to best submit this in a more "official" transmittal as part of the process of bringing closure to the FAA Alternatives Analysis process, and for appropriate documentation in the forthcoming (June 2016) Blue Line Extension Project Final EIS and subsequent Record of Decision.

Please feel free to call or to e-mail and, as we discussed on the phone, please know that project office staff would be more than happy to sit down with you and other stakeholders in this matter to discuss any questions or concerns you may about the Blue Line Extension project.

Kathryn O'Brien
Assistant Director, Environmental & Agreements

MetroTransit- Transit Systems Development
Blue Line Extension Light Rail Transit Project Office
5514 West Broadway
Crystal, MN 55428
Direct: 612.373.5377



DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

PREFERRED ALTERNATIVE WITHIN RUNWAY PROTECTION ZONE

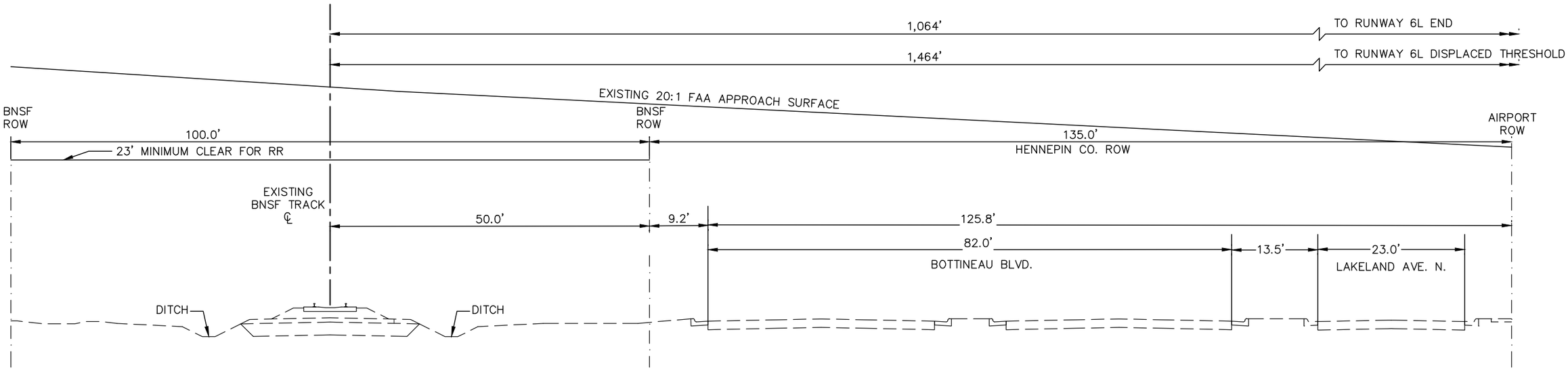
FIGURE 1
11/19/2015

NORTH
0 125 250 500

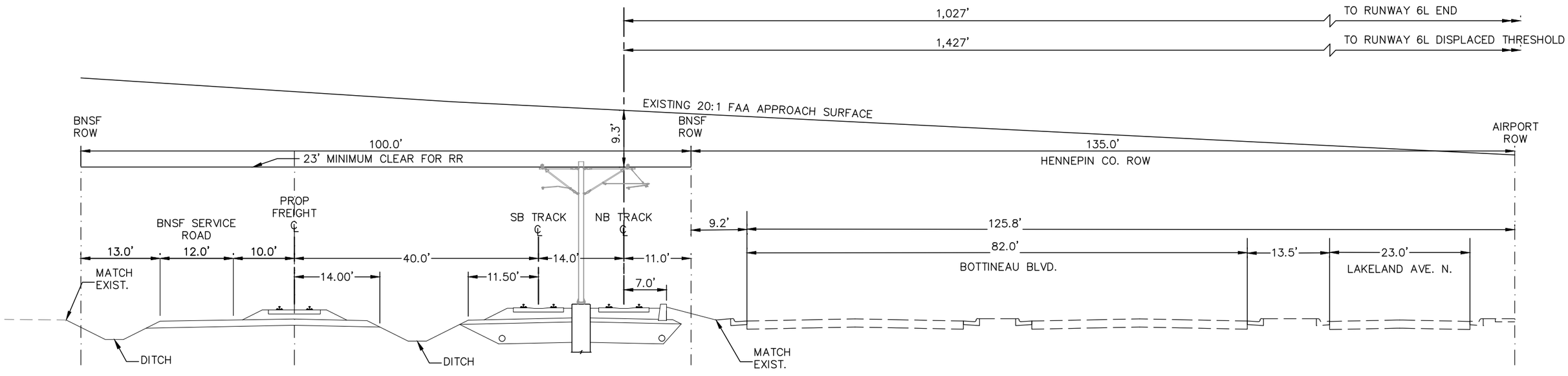
METROPOLITAN COUNCIL

Kimley»Horn

Nov, 19 2015 09:31 am H:\BPO\550_Design_Consultant\CAD\003-SEGMENT-C\MC\EXHIBITS\CIVIL\CrystalAirport\C-AirportRPZ.dwg By: V-SchmidEP



EXISTING SECTION



PROPOSED SECTION – LRT ALTERNATIVES

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

PREFERRED ALTERNATIVE WITHIN RUNWAY PROTECTION ZONE

FIGURE 2
11/19/2015

METROPOLITAN COUNCIL

Kimley»Horn

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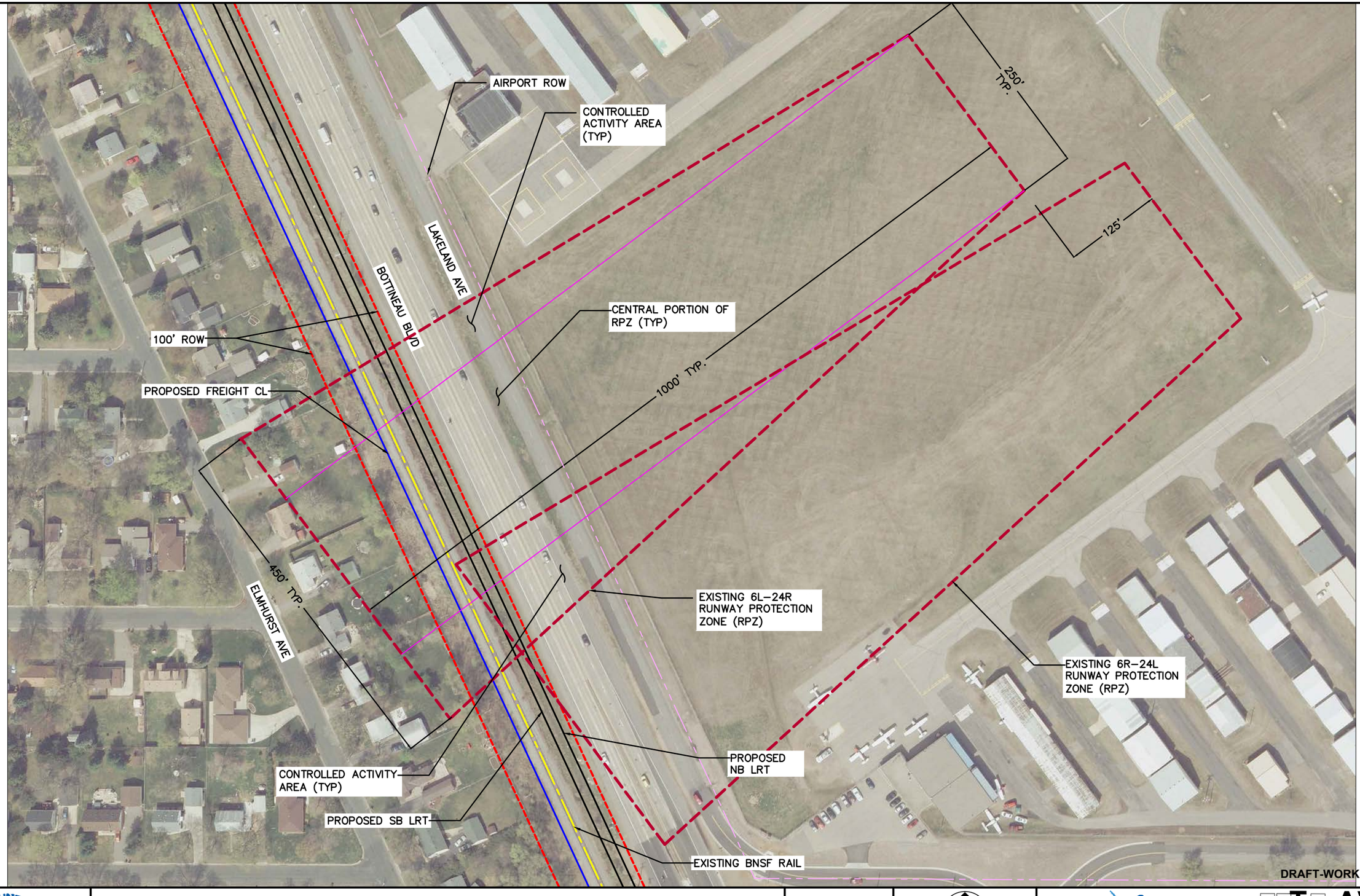

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

PREFERRED ALTERNATIVE WITHIN RUNWAY PROTECTION ZONE

FIGURE 3
11/19/2015

NORTH
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METROPOLITAN COUNCIL

Kimley»Horn

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U.S. Department
of Transportation
Federal Aviation Administration

Federal Aviation Administration
Dakota-Minnesota Airports District Office
Bismarck Office
2301 University Drive, Building 23B
Bismarck, ND 58504

Federal Aviation Administration
Dakota-Minnesota Airports District Office
Minneapolis Office
6020 28th Avenue South, Suite 102
Minneapolis, MN 55450

December 28, 2015

Ms. Kathryn O'Brien, Assistant Director, Environmental & Agreements
Blue Line Extension Light Rail Transit Project Office
5514 West Broadway
Crystal, MN 55428

Ms. O'Brien:

On November 20, 2015, the FAA Dakota-Minnesota Airports District Office (ADO) received an email stating the Blue Line Project, formerly known as the Bottineau Transitway Project, changed slightly from the alignment identified in the February 10, 2014, Crystal Airport Runway Protection Zone Alternatives Analysis (RPZ AA).

The FAA concurs with the November 20, 2015, proposed modifications to the February 10, 2014, RPZ AA. The ADO understands that this alignment and elevation information will be consistent with the Final EIS. Should the alignment or elevation change, please contact the ADO.

If you have any questions or would like to discuss this information further, please feel welcome to contact Gina Mitchell, Community Planner, at (612) 253-4641 or gina.mitchell@faa.gov.

Sincerely,

Lindsay Butler
Assistant Manager
Dakota-Minnesota Airports District Office, Minnesota Office

cc Maya Sarna, FTA (by email)
Bill Wheeler, FTA (by email)
Bridget Rief, Metropolitan Airports Commission (by email)
Barry Cooper, Regional Administrator, FAA Great Lakes Region (by email & mail)
Rich Kula, Planning & Programming Manager, FAA Great Lakes Airports Division (by email)
Russ Owen, Metropolitan Council (by email)

From: Miller, Caroline
To: Miller, Caroline
Subject: RE: Blue Line Light Rail; seek concurrence on listed species
Date: Wednesday, May 04, 2016 9:04:21 AM

From: "Joyal, Lisa (DNR)" <Lisa.Joyal@state.mn.us>
To: Jeff Olson <jolson@sehinc.com>
Date: 02/09/2016 02:27 PM
Subject: RE: Blue Line Light Rail; seek concurrence on listed species

---

Hi Jeff,

I concur with your assessment, but would also add that the least darter and the pugnose shiner were documented in 2006 in Eagle Lake and have the potential to be present in Shingle Creek and perhaps other waterways crossed by the proposed project. As such, it is important that effective erosion and sediment control practices be implemented and maintained during construction and be incorporated into any stormwater management plan.

I've also attached the Blanding's Turtle Fact Sheet and Flyer for your reference.

Thank you,

Lisa Joyal

~~~~~~

Lisa Joyal
Endangered Species Review Coordinator
NHIS Data Distribution Coordinator
Division of Ecological and Water Resources
Minnesota Department of Natural Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155

phone: 651-259-5109
lisa.joyal@state.mn.us
www.mndnr.gov/eco

From: Jeff Olson [mailto:jolson@sehinc.com]
Sent: Wednesday, January 06, 2016 11:02 AM
To: Joyal, Lisa (DNR)
Subject: Blue Line Light Rail; seek concurrence on listed species

Hello Lisa,

Per our Natural Heritage Licensing Agreement, we have completed a database search of element
~~~~~~

occurrences in the vicinity of the proposed Blue Line Light Rail. See attached figure (points and polygons), excel spreadsheet (attribute table), and general project location figure. We conclude that the only state-listed species that has a reasonable probability of being in the project area is the Blanding's Turtle (State Threatened). We also conclude that, with adherence to DNR guidelines concerning the minimization of impacts to to Blanding's Turtle, that potential impacts to the species would be negligible.

We are aware of three Federally-listed (or monitored) species that are have some probability of being in the project area;

- Northern Long-Eared Bat. We are in consultation with the USFWS concerning potential summer roosting habitat within the project area.
- Bald Eagle. De-listed (but still monitored). We will monitor nest locations prior to and during the construction phase of the project and consult with USFWS if there is an issue.
- Minnesota Dwarf Trout Lily. Population known from the Harriet Butler Wildflower Sanctuary - not impacted by the proposed Blue Line Project.

We seek your concurrence that our conclusions are reasonable.

Thank you!

Best Regards,

Jeffrey Olson
Senior Scientist

SEH, Inc.
3535 Vadnais Center Drive
St. Paul, MN 55110-5196
651 318 0340 (office)
612 598 4254 (mobile)
www.sehinc.com

Environmental Review Fact Sheet Series

Endangered, Threatened, and Special Concern Species of Minnesota

Blanding's Turtle

(*Emydoidea blandingii*)

Minnesota Status:	Threatened	State Rank[1]:	S2
Federal Status:	none	Global Rank[1]:	G4

HABITAT USE

Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Also, the warmer water of these shallower areas probably aids in the development of eggs within the female turtle. Nesting occurs in open (grassy or brushy) sandy uplands, often some distance from water bodies. Frequently, nesting occurs in traditional nesting grounds on undeveloped land. Blanding's turtles have also been known to nest successfully on residential property (especially in low density housing situations), and to utilize disturbed areas such as farm fields, gardens, under power lines, and road shoulders (especially of dirt roads). Although Blanding's turtles may travel through woodlots during their seasonal movements, shady areas (including forests and lawns with shade trees) are not used for nesting. Wetlands with deeper water are needed in times of drought, and during the winter. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing.

LIFE HISTORY

Individuals emerge from overwintering and begin basking in late March or early April on warm, sunny days. The increase in body temperature which occurs during basking is necessary for egg development within the female turtle. Nesting in Minnesota typically occurs during June, and females are most active in late afternoon and at dusk. Nesting can occur as much as a mile from wetlands. The nest is dug by the female in an open sandy area and 6-15 eggs are laid. The female turtle returns to the marsh within 24 hours of laying eggs. After a development period of approximately two months, hatchlings leave the nest from mid-August through early-October. Nesting females and hatchlings are often at risk of being killed while crossing roads between wetlands and nesting areas. In addition to movements associated with nesting, all ages and both sexes move between wetlands from April through November. These movements peak in June and July and again in September and October as turtles move to and from overwintering sites. In late autumn (typically November), Blanding's turtles bury themselves in the substrate (the mud at the bottom) of deeper wetlands to overwinter.

IMPACTS / THREATS / CAUSES OF DECLINE

- loss of wetland habitat through drainage or flooding (converting wetlands into ponds or lakes)
- loss of upland habitat through development or conversion to agriculture
- human disturbance, including collection for the pet trade* and road kills during seasonal movements
- increase in predator populations (skunks, raccoons, etc.) which prey on nests and young

*It is illegal to possess this threatened species.

RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS

These recommendations apply to typical construction projects and general land use within Blanding's turtle habitat, and are provided to help local governments, developers, contractors, and homeowners minimize or avoid detrimental impacts to Blanding's turtle populations. **List 1** describes minimum measures which we recommend to prevent harm to Blanding's turtles during construction or other work within Blanding's turtle habitat. **List 2** contains recommendations which offer even greater protection for Blanding's turtles populations; this list should be used *in addition to the first list* in areas which are known to be of state-wide importance to Blanding's turtles (contact the DNR's Natural Heritage and Nongame Research Program if you wish to determine if your project or home is in one of these areas), or in any other area where greater protection for Blanding's turtles is desired.

List 1. Recommendations for all areas inhabited by Blanding's turtles.	**List 2. *Additional* recommendations for areas known to be of state-wide importance to Blanding's turtles.**
GENERAL	
A flyer with an illustration of a Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.	Turtle crossing signs can be installed adjacent to road-crossing areas used by Blanding's turtles to increase public awareness and reduce road kills.
Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed.	Workers in the area should be aware that Blanding's turtles nest in June, generally after 4pm, and should be advised to minimize disturbance if turtles are seen.
If a Blanding's turtle nests in your yard, do not disturb the nest.	If you would like to provide more protection for a Blanding's turtle nest on your property, see "Protecting Blanding's Turtle Nests" on page 3 of this fact sheet.
Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.	Construction in potential nesting areas should be limited to the period between September 15 and June 1 (this is the time when activity of adults and hatchlings in upland areas is at a minimum).
WETLANDS	
Small, vegetated temporary wetlands (Types 2 & 3) should not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer).	Shallow portions of wetlands should not be disturbed during prime basking time (mid morning to mid- afternoon in May and June). A wide buffer should be left along the shore to minimize human activity near wetlands (basking Blanding's turtles are more easily disturbed than other turtle species).
Wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.	Wetlands should be protected from road, lawn, and other chemical run-off by a vegetated buffer strip at least 50' wide. This area should be left unmowed and in a natural condition.
ROADS	
Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).	Tunnels should be considered in areas with concentrations of turtle crossings (more than 10 turtles per year per 100 meters of road), and in areas of lower density if the level of road use would make a safe crossing impossible for turtles. Contact your DNR Regional Nongame Specialist for further information on wildlife tunnels.
Roads should be ditched, not curbed or below grade. If curbs must be used, 4 inch high curbs at a 3:1 slope are preferred (Blanding's turtles have great difficulty climbing traditional curbs; curbs and below grade roads trap turtles on the road and can cause road kills).	Roads should be ditched, not curbed or below grade.

ROADS cont.	
Culverts between wetland areas, or between wetland areas and nesting areas, should be 36 inches or greater in diameter, and elliptical or flat-bottomed.	Road placement should avoid separating wetlands from adjacent upland nesting sites, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details).
Wetland crossings should be bridged, or include raised roadways with culverts which are 36 in or greater in diameter and flat-bottomed or elliptical (raised roadways discourage turtles from leaving the wetland to bask on roads).	Road placement should avoid bisecting wetlands, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details). This is especially important for roads with more than 2 lanes.
Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.	Roads crossing streams should be bridged.
UTILITIES	
Utility access and maintenance roads should be kept to a minimum (this reduces road-kill potential).	
Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.	
LANDSCAPING AND VEGETATION MANAGEMENT	
Terrain should be left with as much natural contour as possible.	As much natural landscape as possible should be preserved (installation of sod or wood chips, paving, and planting of trees within nesting habitat can make that habitat unusable to nesting Blanding's turtles).
Graded areas should be revegetated with native grasses and forbs (some non-natives form dense patches through which it is difficult for turtles to travel).	Open space should include some areas at higher elevations for nesting. These areas should be retained in native vegetation, and should be connected to wetlands by a wide corridor of native vegetation.
Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).	Ditches and utility access roads should not be mowed or managed through use of chemicals. If vegetation management is required, it should be done mechanically, as infrequently as possible, and fall through spring (mowing can kill turtles present during mowing, and makes it easier for predators to locate turtles crossing roads).

Protecting Blanding's Turtle Nests: Most predation on turtle nests occurs within 48 hours after the eggs are laid. After this time, the scent is gone from the nest and it is more difficult for predators to locate the nest. Nests more than a week old probably do not need additional protection, unless they are in a particularly vulnerable spot, such as a yard where pets may disturb the nest. Turtle nests can be protected from predators and other disturbance by covering them with a piece of wire fencing (such as chicken wire), secured to the ground with stakes or rocks. The piece of fencing should measure at least 2 ft. x 2 ft., and should be of medium sized mesh (openings should be about 2 in. x 2 in.). It is ***very important*** that the fencing be **removed before August 1st** so the young turtles can escape from the nest when they hatch!

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Oldfield, B., and J. J. Moriarty. 1994. Amphibians and Reptiles Native to Minnesota. University of Minnesota Press, Minneapolis, 237 pp.

Sajwaj, T. D., and J. W. Lang. 2000. Thermal ecology of Blanding's turtle in central Minnesota. Chelonian Conservation and Biology 3(4):626-636.

CAUTION







BLANDING'S TURTLES

MAY BE ENCOUNTERED IN THIS AREA

The unique and rare Blanding's turtle has been found in this area. Blanding's turtles are state-listed as Threatened and are protected under Minnesota Statute 84.095, Protection of Threatened and Endangered Species. Please be careful of turtles on roads and in construction sites. For additional information on turtles, or to report a Blanding's turtle sighting, contact the DNR Nongame Specialist nearest you: Bemidji (218-308-2641); Grand Rapids (218-327-4518); New Ulm (507-359-6033); Rochester (507-206-2820); or St. Paul (651-259-5772).

DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top shell to provide additional protection when threatened. The head, legs, and tail are dark brown or blue-gray with small dots of light brown or yellow. A distinctive field mark is the bright yellow chin and neck.

BLANDING'S TURTLES DO NOT MAKE GOOD PETS
IT IS ILLEGAL TO KEEP THIS THREATENED SPECIES IN CAPTIVITY

SUMMARY OF RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS TO BLANDING'S TURTLE POPULATIONS

(see Blanding's Turtle Fact Sheet for full recommendations)

- This flyer should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.
- Turtles that are in imminent danger should be moved, by hand, out of harm's way. Turtles that are not in imminent danger should be left undisturbed to continue their travel among wetlands and/or nest sites.
- If a Blanding's turtle nests in your yard, do not disturb the nest and do not allow pets near the nest.
- Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.
- Small, vegetated temporary wetlands should not be dredged, deepened, or filled.
- All wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.
- Roads should be kept to minimum standards on widths and lanes.
- Roads should be ditched, not curbed or below grade. If curbs must be used, 4" high curbs at a 3:1 slope are preferred.
- Culverts under roads crossing wetland areas, between wetland areas, or between wetland and nesting areas should be at least 36 in. diameter and flat-bottomed or elliptical.
- Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.
- Utility access and maintenance roads should be kept to a minimum.
- Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.
- Terrain should be left with as much natural contour as possible.
- Graded areas should be revegetated with native grasses and forbs.
- Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).

Compiled by the Minnesota Department of Natural Resources Division of Ecological and Water Resources, Updated August 2012
Endangered Species Review Coordinator, 500 Lafayette Rd., Box 25, St. Paul, MN 55155 / 651-259-5109

U.S. Department
of Transportation
Federal Transit Administration

REGION V
Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

200 West Adams Street
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Chicago, IL 60606-5253
312-353-2789
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March 7, 2016

Peter Fasbender, Field Office Supervisor
U.S. Fish and Wildlife Service
Ecological Services Field Office
4101 American Boulevard East
Bloomington, MN 55425

RE: METRO Blue Line Light Rail Extension Project – Consultation under Section 7 of the Endangered Species Act

Dear Mr. Horton:

The purpose of this letter is to advance informal consultation under Section 7 of the Endangered Species Act (ESA) between the Federal Transit Administration (FTA) and the U. S. Fish and Wildlife Service (USFWS) as it relates to the proposed Blue Line Light Rail Transit (BLRT) Extension project. The BLRT Extension project is a 13-mile light rail transit line that would be located in Hennepin County and extend westward along Trunk Highway (TH) 55 from Target Field Station to the BNSF Railway Monticello Subdivision at the eastern edge of Theodore Wirth Regional Park. It then would follow the BNSF corridor from TH 55 to just south of 73rd Avenue in Brooklyn Park. From that point it would cross eastward to West Broadway Avenue and extend north to a point just north of TH 610.

The Metropolitan Council has reviewed the USFWS publication "County Distribution of Federally Listed Threatened, Endangered, Proposed and Candidate Species." Accordingly, FTA has determined the following regarding these species in Hennepin County:

- **Northern long-eared bat** (*Myotis septentrionalis*). Federally Threatened. Based on review of the Natural Heritage Information System (NHIS) database, a known hibernacula is located along the Mississippi River near downtown Minneapolis; however the BLRT Extension will not be near the hibernacula. Based on NHIS database review and consultation with the USFWS, there are no known maternity colonies in all of Hennepin County. Based on USFWS documentation, forested areas throughout much of Minnesota provide potential summer roosting habitat for the Northern Long-Eared Bat (NLEB). Appropriate conclusions pertaining to impacts to the NLEB resulting from the BLRT Extension project are discussed below.

- **Higgins eye pearlymussel** (*Lampsilis higginsii*). Federally Threatened. This species occurs in the Mississippi River. The BLRT Extension project will not impact the Mississippi River, therefore the appropriate conclusion with respect to impacts to this mussel species is "No Effect".

- **Snuffbox mussel** (*Epioblasma triquetra*). Federally Endangered. This species occurs in the Mississippi River. The BLRT Extension project will not impact the Mississippi River, therefore the appropriate conclusion with respect to impacts to this mussel species is "No Effect".

The BLRT Extension project is now in the FTA New Starts Project Development process; current activities include preliminary design and completion of a Final Environmental Impact Statement (EIS). As part of the environmental review process and in compliance with Section 7 requirements, the FTA has assessed potential impacts to the NLEB as a result of the BLRT Extension project. Potential impacts to the NLEB take into account the ESA Final 4(d) Rule, published on January 14, 2016 and in effect as of February 16, 2016. The BLRT Extension project traverses a few larger forested areas that could be potential NLEB summer habitat.

This letter:

- Summarizes past consultation with the USFWS concerning the NLEB and the BLRT Extension project;
- Presents current information concerning impacts to forested areas within the project area;
- Proposes a project implementation strategy in compliance with the Final 4(d) NLEB Rule, specifically portions relevant to federal actions. As noted in the USFWS on-line guidance, "the [USFWS] has provided a framework to streamline Section 7 consultations when federal actions may affect the northern long-eared bat but not cause prohibited take." (See http://www.fws.gov/midwest/endangered/mammals/nleb/S7.html).
- Presents the assertion that implementation of the BLRT Extension project under this framework would lead to a decision regarding the NLEB of "May Affect, Incidental Take Not Prohibited", and requests concurrence with that decision;
- Presents information regarding proposed bald eagle nesting activity monitoring.

Past Consultation

On May 21, 2015 staff from the BLRT Extension project office (BPO) and the USFWS discussed (via teleconference call) the project, the recent listing of the NLEB as Federally Threatened, and the Interim 4(d) Rule established by the USFWS to help protect this species.

On November 19, 2015, BPO staff met with you at the USFWS Field Office to discuss the quantification of impacts to forested areas as it relates to summer roosting habitat for the NLEB. At this meeting, the parties discussed an early iteration of potential forest impacts. Table 1 (as follows) presents an updated quantification of forest impacts. Discussion also included scenarios under which seasonal clearing and grubbing restrictions would and would not be imposed within the BLRT Extension project area in compliance with the Interim 4(d) Rule, in place during late Fall 2015. These scenarios included no clearing restrictions for tree removal within smaller forested areas (less than 15 acres), and the possibility of conducting acoustic bat surveys in the spring and/or summer of 2016. However, with the adoption of the Final 4(d) Rule concerning NLEB and the absence of known maternity roost trees and hibernacula in or near the BLRT Extension project area, no acoustic bat surveys would be required and no seasonal clearing and grubbing restrictions would be imposed.

NLEB Summer Habitat Data Within/Near the Blue Line Light Rail Extension Project Area

BPO has compiled data on the extent of forested habitat in the vicinity of the BLRT Extension project area and potential impacts to forested habitat. These data are presented in the enclosed NLEB Map book and in Table 1.

GIS data on forest cover types within the project area were gathered from the Minnesota Land Cover Classification System (MLCCS). These data were overlain on modern aerial photography and MLCCS polygons were trimmed where it was clear that deforestation had occurred since the cover type GIS information had been acquired. Ten (10) large forest complexes within approximately ¼ mile of the proposed BLRT Extension project were identified and digitized. The size of the forest complexes ranged from approximately 7 acres to 62 acres. Other fragmented forest remnants outside of the forest complexes were identified throughout the project area as well. Table 1 summarizes the extent of and impacts to forested habitat (forest complexes and other forest remnants) in the vicinity of the project area.

Table 1: Forested Habitat Summary of Extent and Impacts Within the Project Area

Forest Complex Name	Extent (ac)	Impacts (ac) within existing linear transportation ROW	Impacts (ac) within 100 buffer outside of existing ROW	Impacts (ac) within ROW plus 100 foot buffer outside of ROW	Impacts (ac) outside of the 100 foot buffer	Total Forest Impacts (ac)
101st Avenue North	16.8	0.00	0.00	0.00	0.00	0.00
Target Corp #1	20.4	0.06	0.00	0.06	0.46	0.51
Target Corp #2	23.2	0.16	1.74	1.90	2.81	4.70
Shingle Creek	20.7	0.00	0.00	0.00	0.00	0.00
Grimes Pond	11.9	0.01	0.06	0.06	0.00	0.06
North Rice Pond – Mary Hills	57.5	2.59	0.70	3.29	0.01	3.30
St. Mary Margaret – MPRB	6.9	0.07	0.05	0.12	0.18	0.29
Theodore Wirth	62.1	2.80	2.40	5.20	3.49	8.69
Highway 55	24.7	0.31	0.07	0.38	0.00	0.38
Xerxes	24.9	0.00	0.00	0.00	0.00	0.00
Forest Complex Total	**269.1**	**5.99**	**5.01**	**10.99**	**6.94**	**17.93**
Individual Forest Remnant Total	**198.6**	**6.44**	**2.53**	**8.97**	**1.64**	**10.61**
Forest Complex and Individual Forest Remnant Total	**467.6**	**12.43**	**7.54**	**19.96**	**8.57**	**28.54**

In summary, the total extent of forest complexes in the vicinity of the BLRT Extension project area is approximately 269 acres. Of this total extent, about 18 acres would be impacted of which about 11 acres are within the right-of-way (ROW) and a 100-foot buffer outside of the ROW, and about 7 acres are outside of the 100-foot ROW buffer. Additionally, the total extent of small fragmented forested remnants in the vicinity of the BLRT alignment is about 199 acres. Of this total extent, approximately 11 acres of fragmented forest remnants would be impacted. Approximately 9 acres of impacts to forest fragments are within the ROW and 100-foot ROW buffer, and about 2 acres are outside of the 100-foot ROW buffer. These impacts are distributed over 77 individual small forest fragments.

Final 4(d) Rule for NLEB

On January 14, 2016 the USFWS published the Final 4(d) Rule for the NLEB. The Final 4(d) Rule is less restrictive than the Interim 4(d) Rule because it was determined that the overwhelming cause of the decline of the NLEB (and other bat species) is White Nose Syndrome. Habitat loss as a result of human activity was determined to be a considerably less important factor in the decline of bat populations. See USFWS Briefing at: http://www.fws.gov/Midwest/endangered/mammals/nleb/pdf/BriefingFinal4dRuleNLEB13Jan2016.pdf

The Final 4(d) Rule states that if tree clearing will occur at a distance of greater than ¼ mile of a hibernacula entrance or greater than 150 feet from a known maternity roost tree, then no seasonal restrictions on tree clearing would be imposed. See Question #7 in the "*Key to the Northern Long-Eared Bat 4(d) Rule for Federal Actions That May Affect Northern Long-Eared Bats*" (http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/KeyFinal4dNLEB_FedAgencies17Feb2016.pdf). Also, tree clearing outside of the ¼ mile hibernacula buffer and outside of the 150-foot maternity roost tree buffer would lead to the appropriate conclusion of "May Affect, Incidental Take Not Prohibited".

Bald Eagle

The FTA is aware that the bald eagle (*Haliaeetus leucocephalus*) has been documented to nest within approximately one mile of the BLRT Extension project area. Nest locations often change and nesting could occur within the project area prior to construction, during construction and in the post-construction phase. While the Bald Eagle has been de-listed from the Federal Endangered Species List and is outside of the scope of Section 7 Consultation, it is still afforded protections under the Bald and Golden Eagle Protection Act (BGEPA), the Migratory Bird Treaty Act (MBTA), and the Lacey Act. The Metropolitan Council will monitor potential nesting activity in the vicinity of the project area and will consult with the USFWS if it is evident that construction activities may disturb bald eagles or their nests.

Conclusions and Path Forward

Based on the aforementioned consultation with the USFWS, the FTA concludes the following:

1) There are no NLEB hibernacula within the BLRT Extension project area per consultation with USFWS and review of the NHIS database. Per NHIS database review and USFWS consultation, there is a known hibernacula along the Mississippi River in the City of Minneapolis; however, the BLRT Extension project will not impact this hibernacula.
2) There are no known NLEB maternity colonies within Hennepin County which includes the entire BLRT Extension project area per consultation with the USFWS and NHIS database review.
3) Based on the Final 4(d) Rule, FTA, in consultation with the USFWS, has determined that the appropriate finding under the ESA for the NLEB is: "May Affect, Incidental Take Not Prohibited".
4) Based on the Final 4(d) Rule and project site characteristics, FTA, in consultation with the USFWS, concludes that there would be no seasonal restrictions imposed on tree clearing throughout the entire BLRT Extension project area.
5) Based on the Final 4(d) Rule, FTA, in consultation with the USFWS, concludes that no acoustic bat surveys would be required throughout the BLRT Extension project area.

RE: METRO Blue Line Light Rail Extension Project – Consultation under Section 7 of the Endangered Species Act

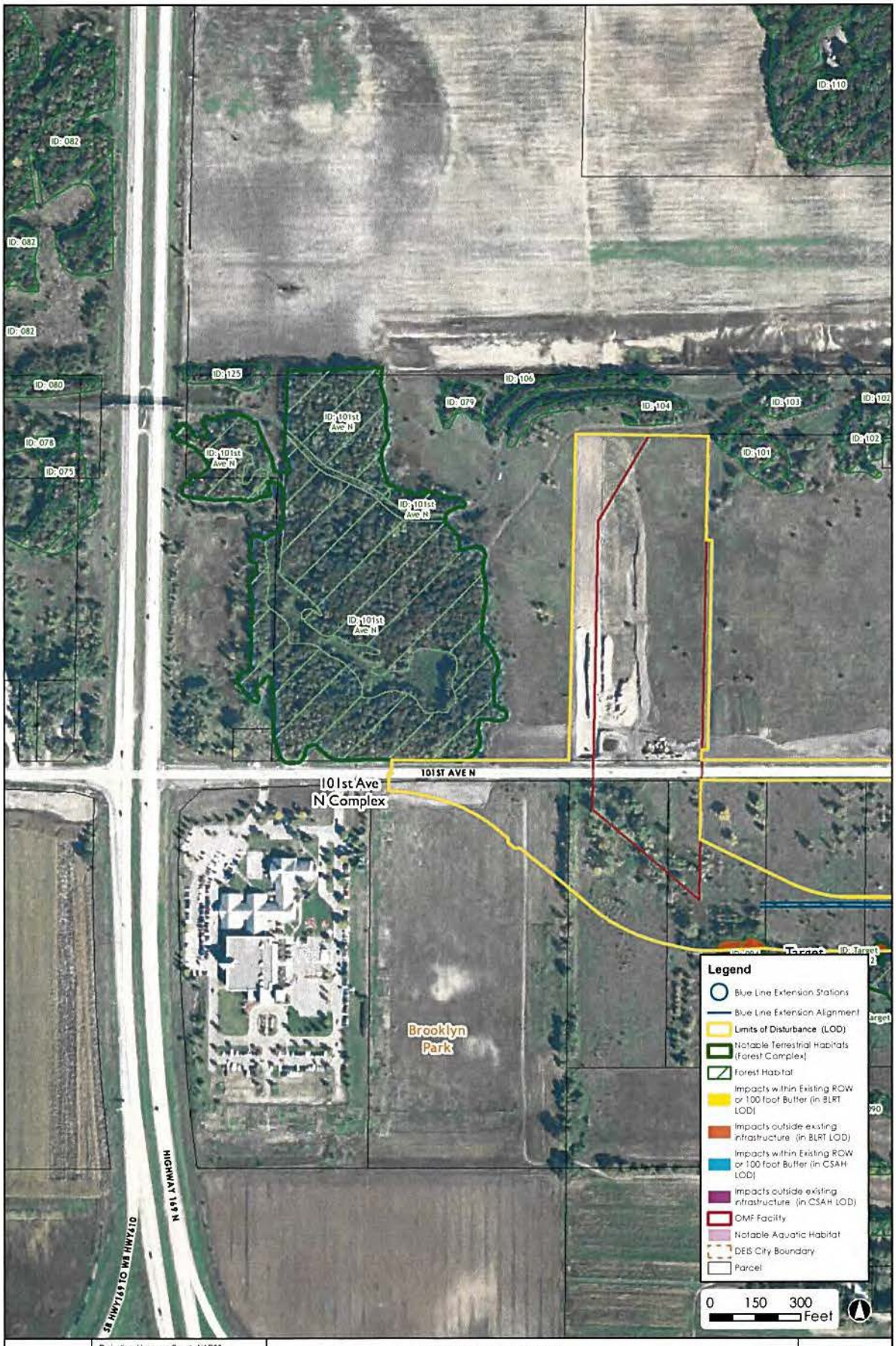
The FTA requests USFWS concurrence on the determination of "May Affect, Incidental Take Not Prohibited" for the BLRT Extension project relative to the NLEB. Please contact Reggie Arkell, Community Planner, at (312) 886-3704 or reginald.arkell@dot.gov if you have any questions. Thank you.

Sincerely,

Marisol R. Simón
Regional Administrator

Enclosure

ec: Kathryn O'Brien, Metropolitan Council
Reggie Arkell, Federal Transit Administration



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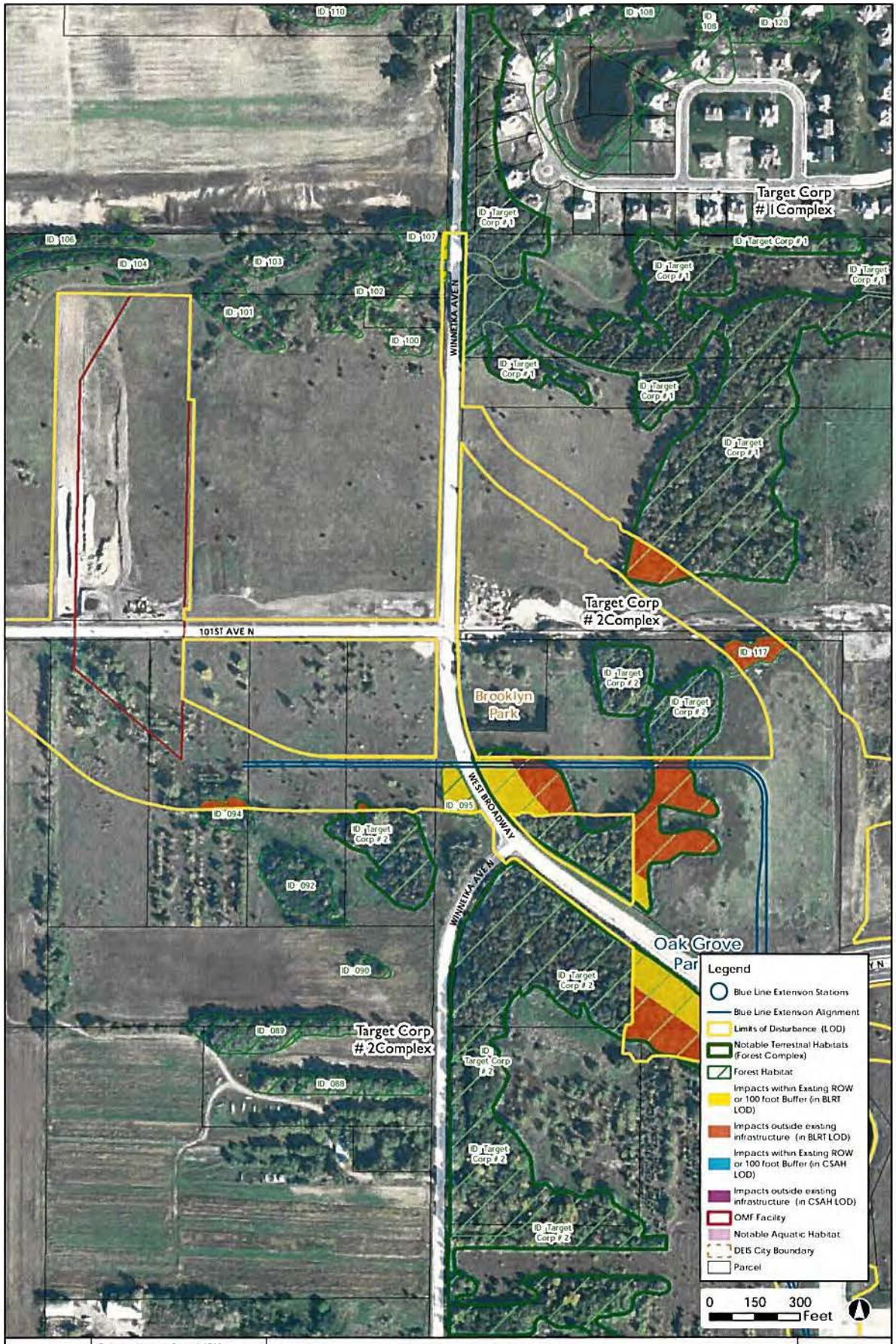

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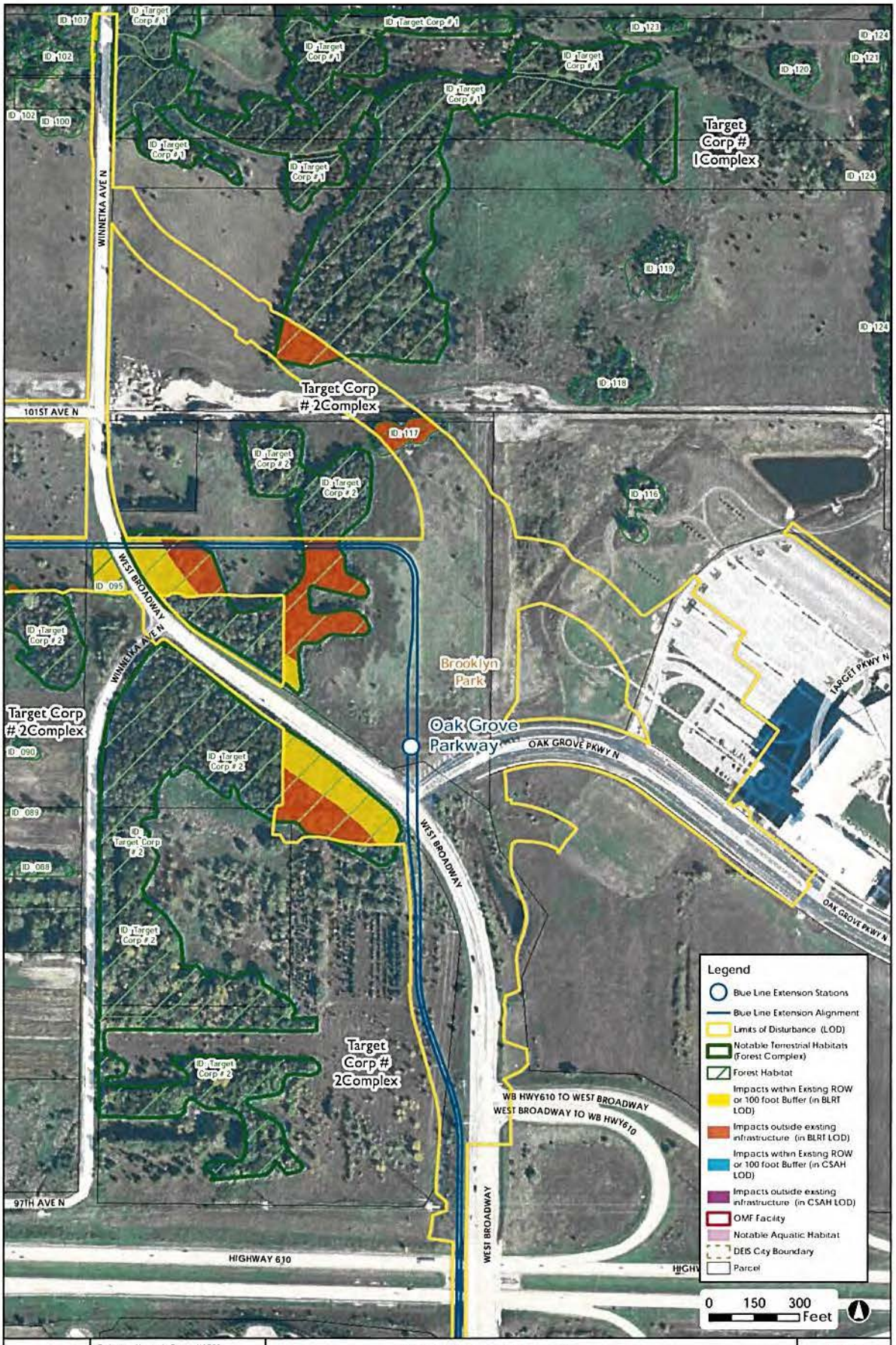

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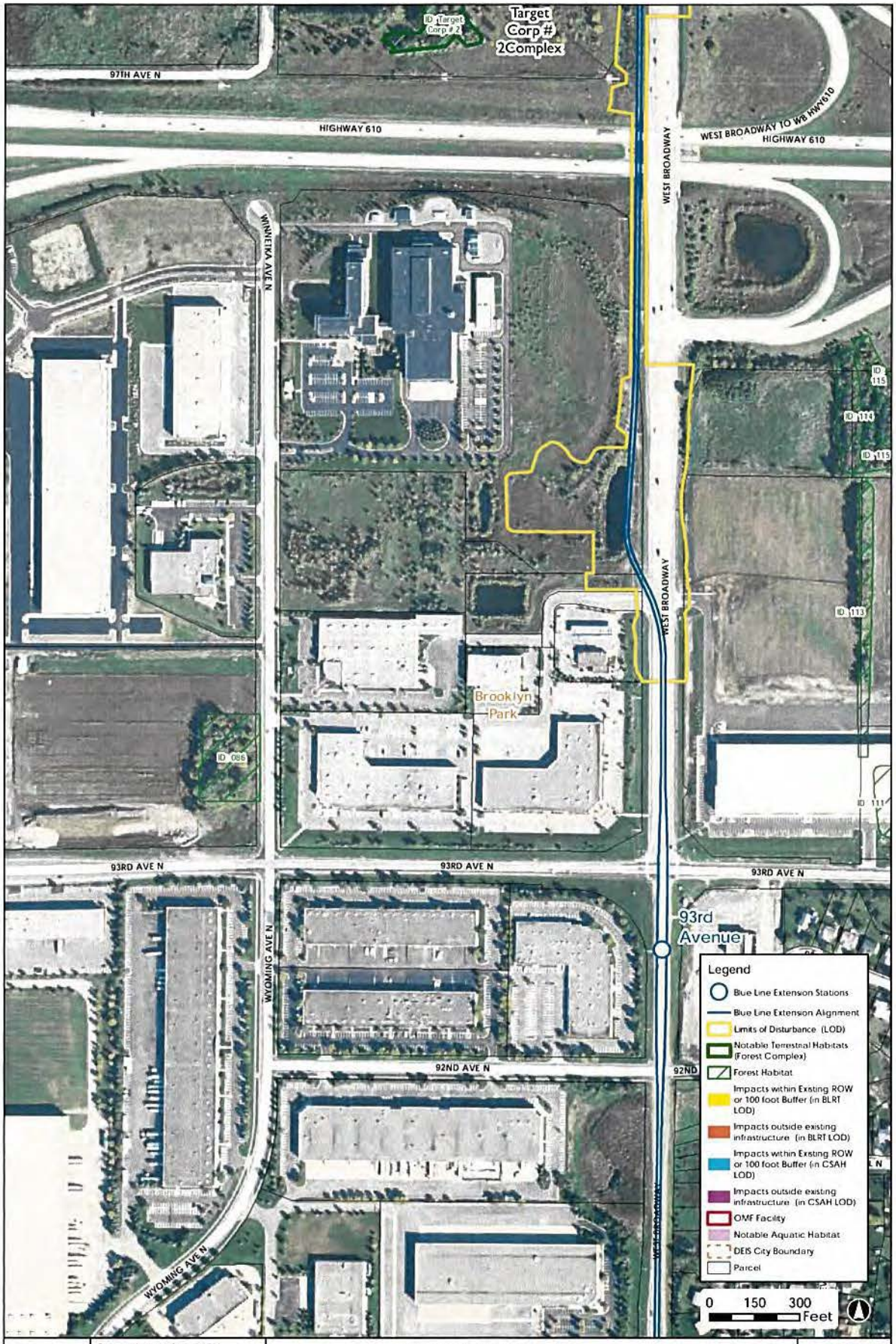

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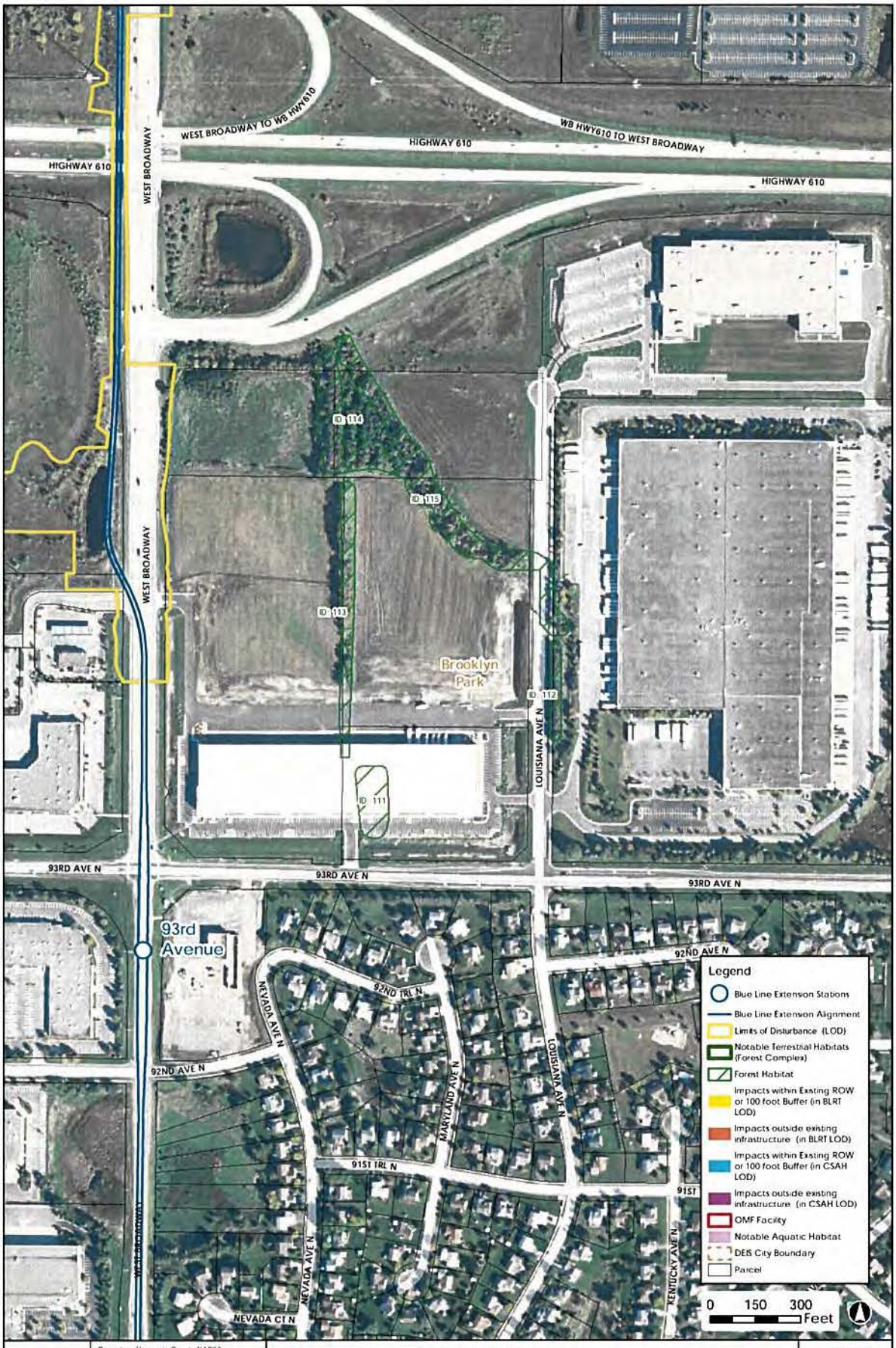

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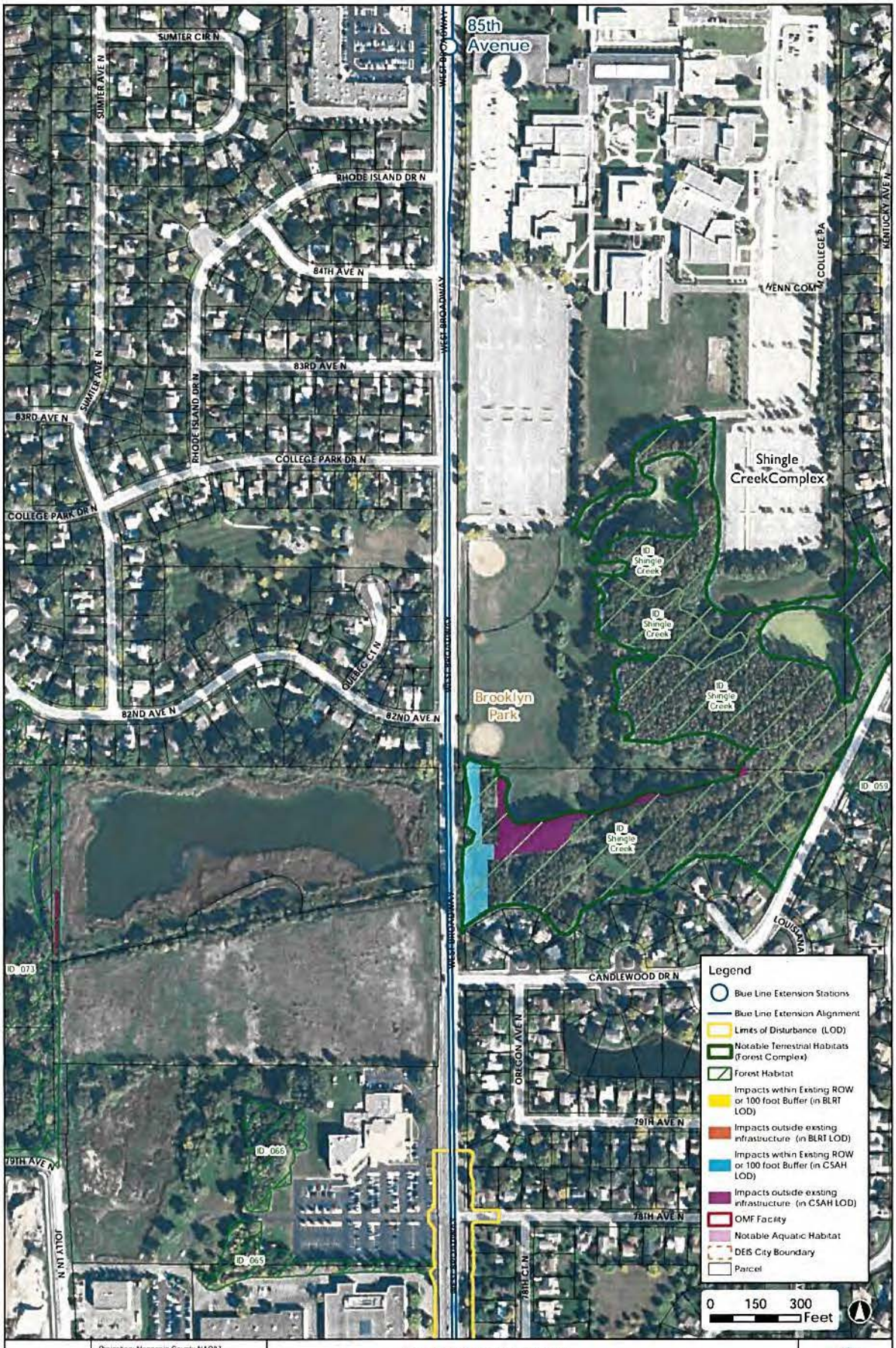

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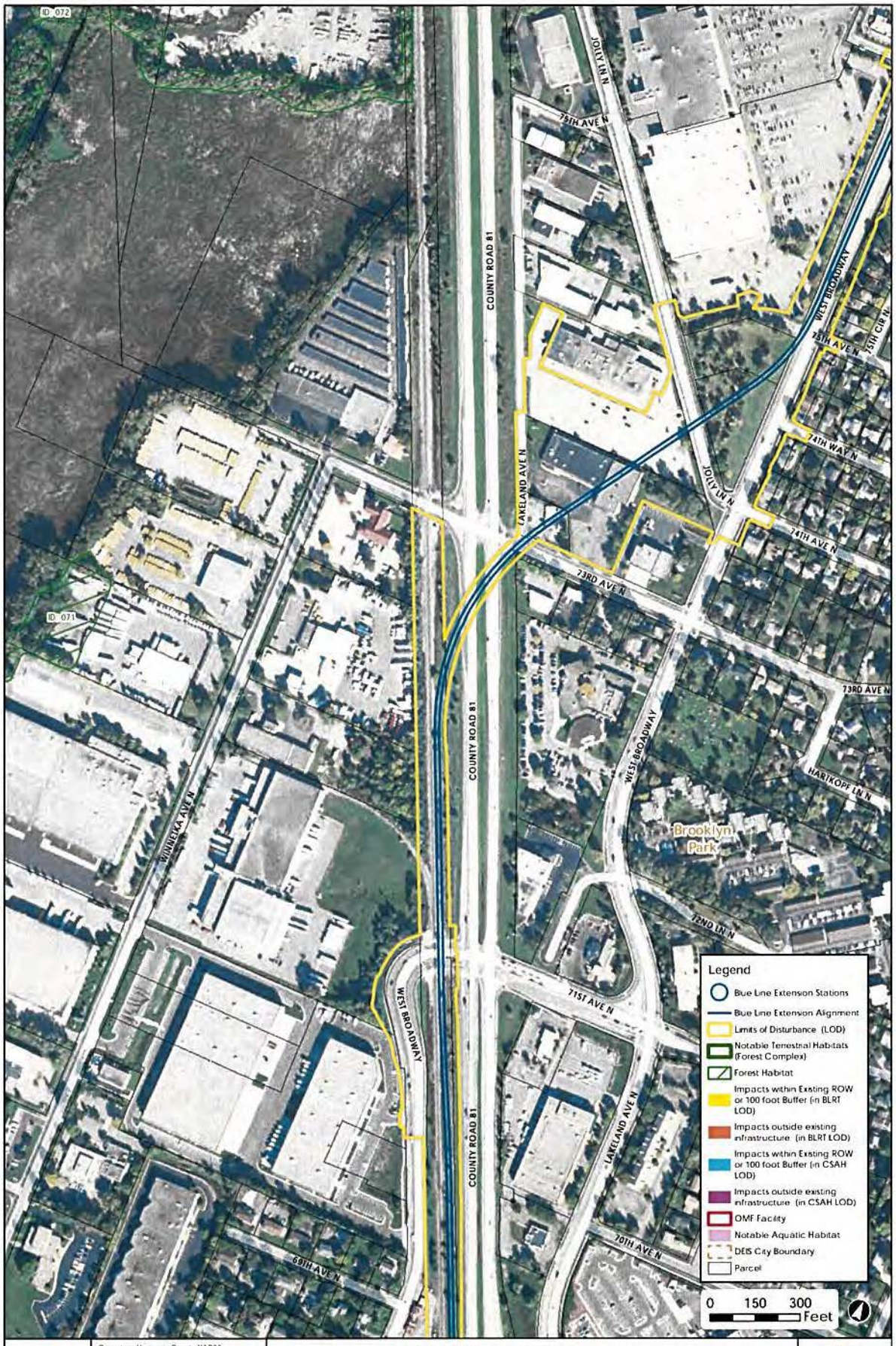

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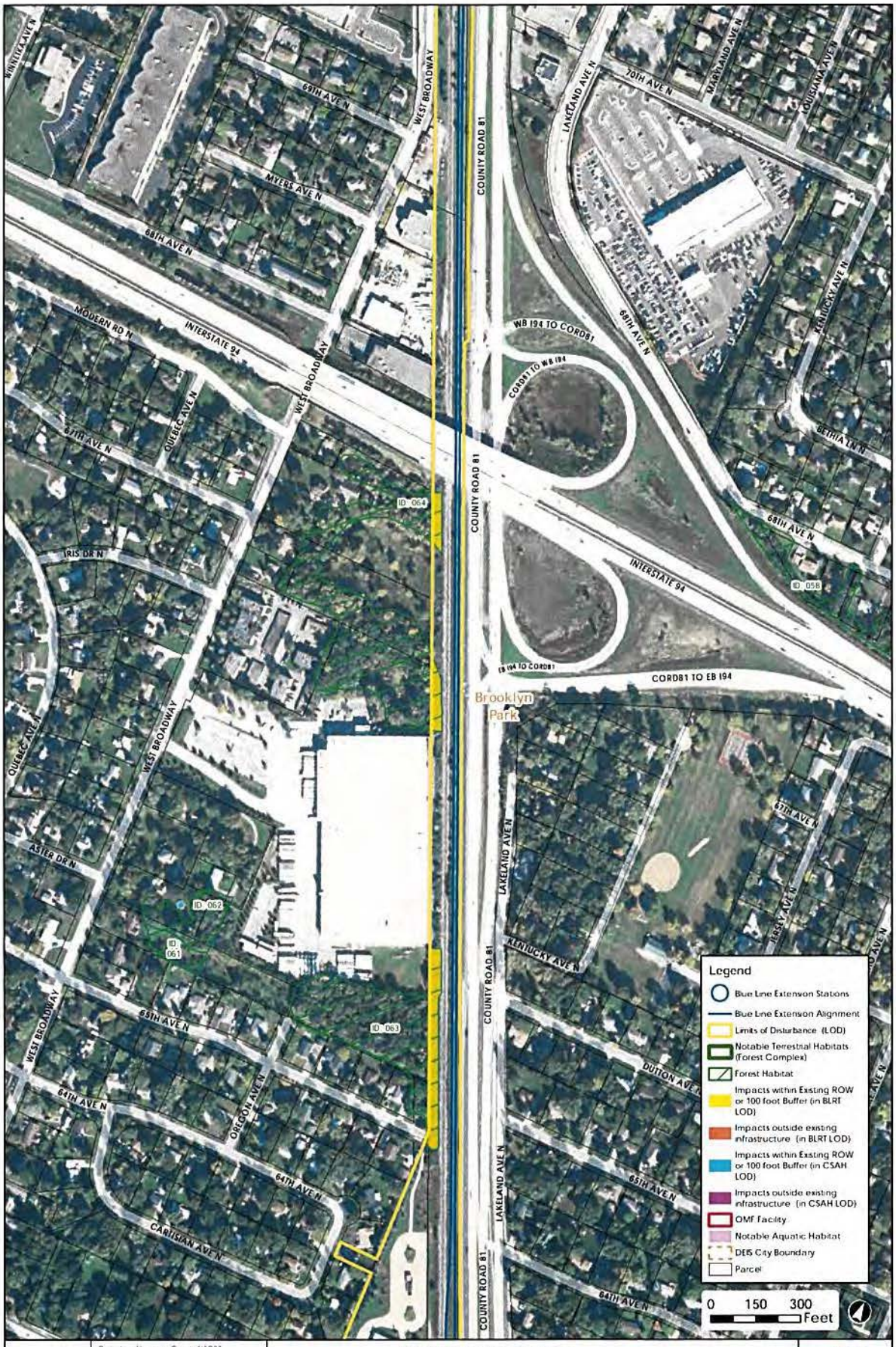

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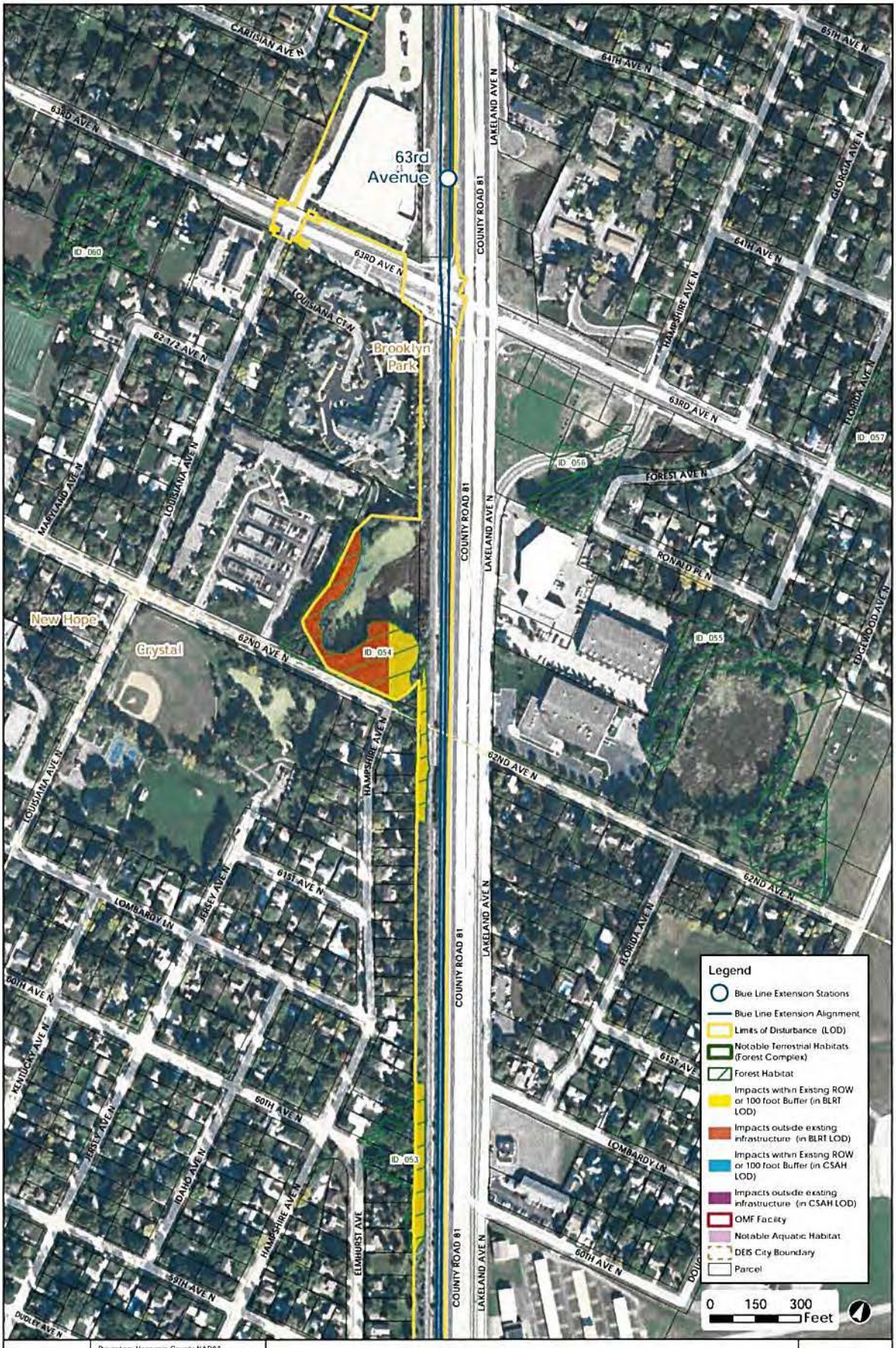

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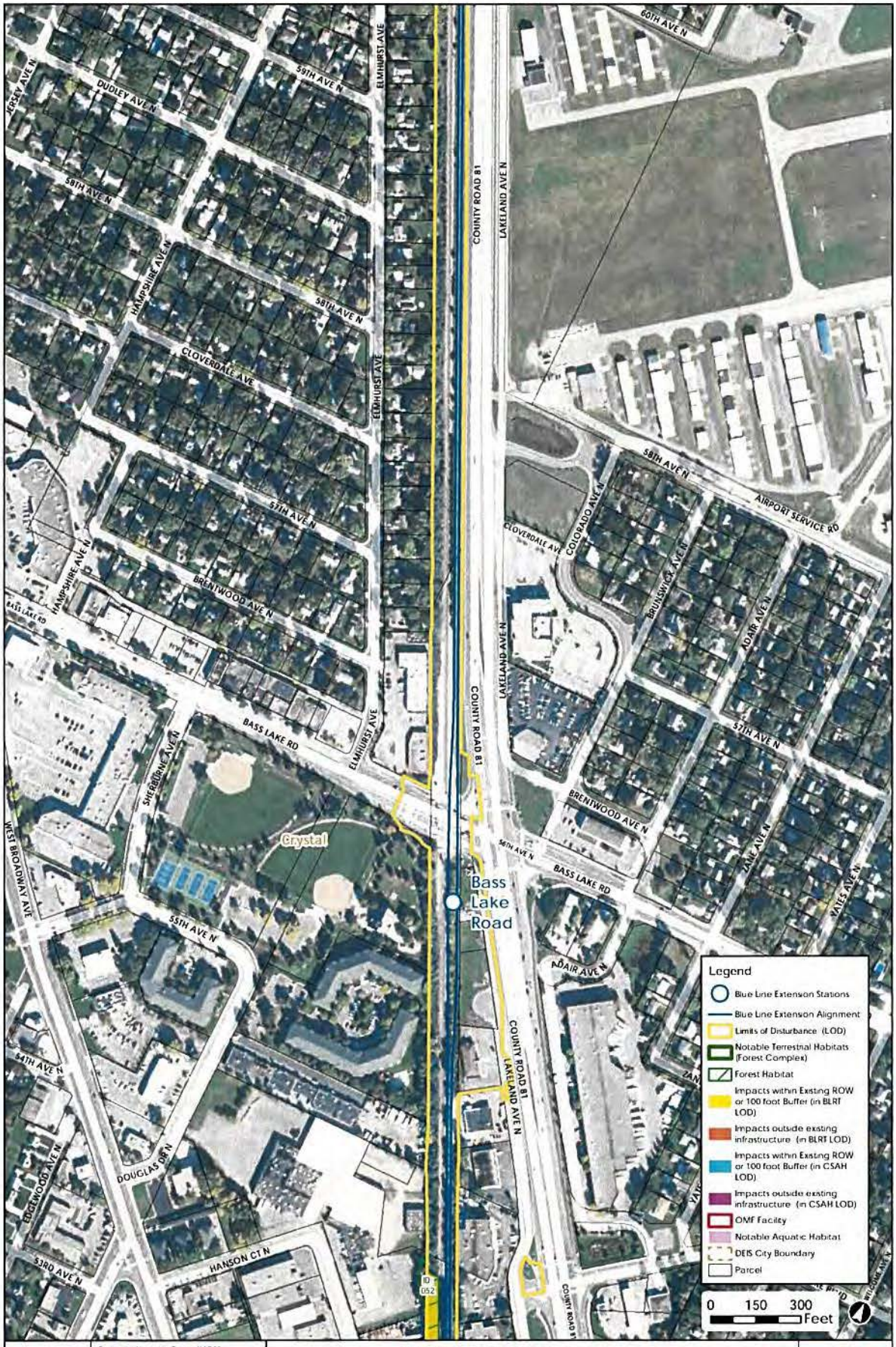

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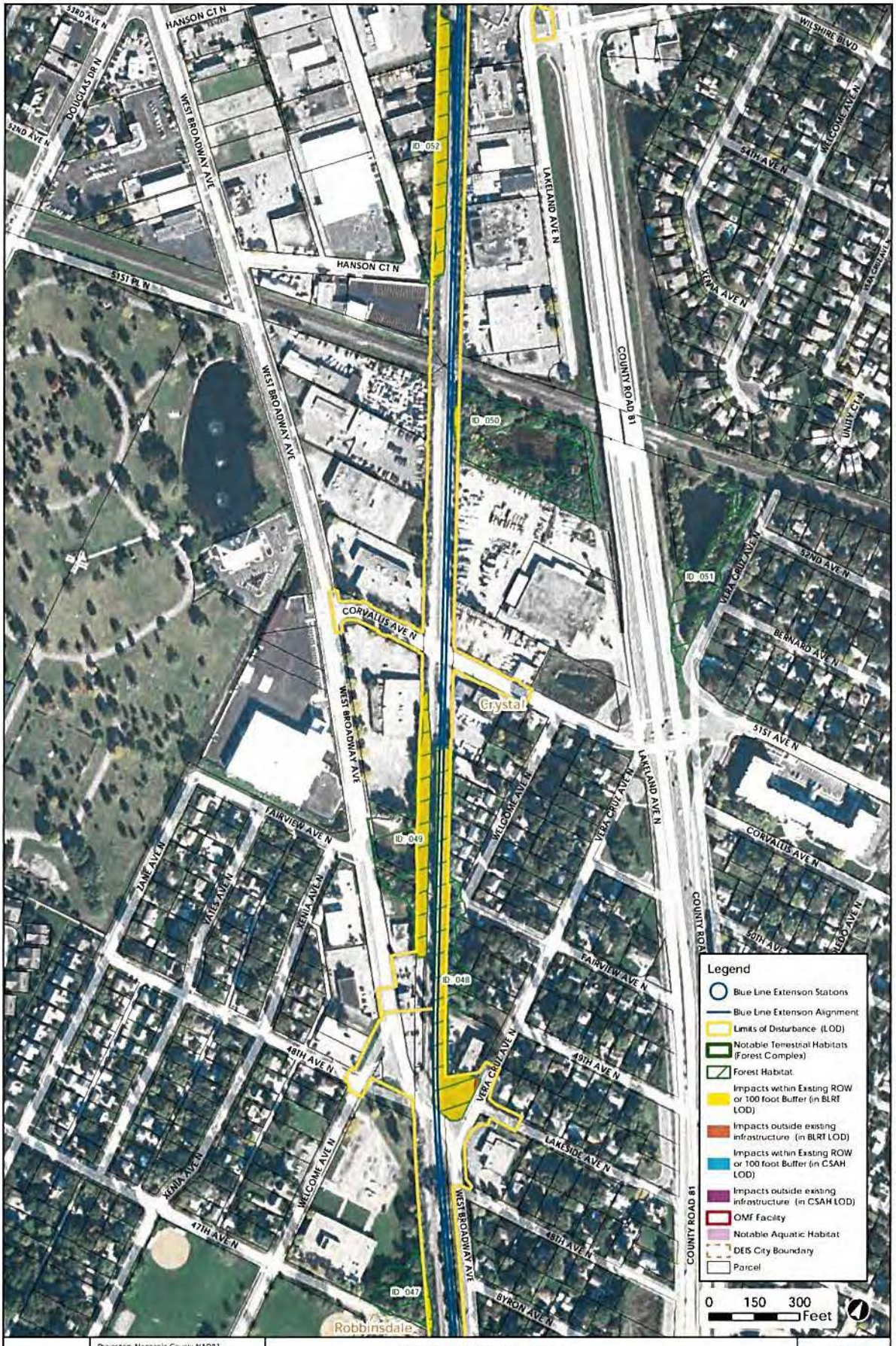

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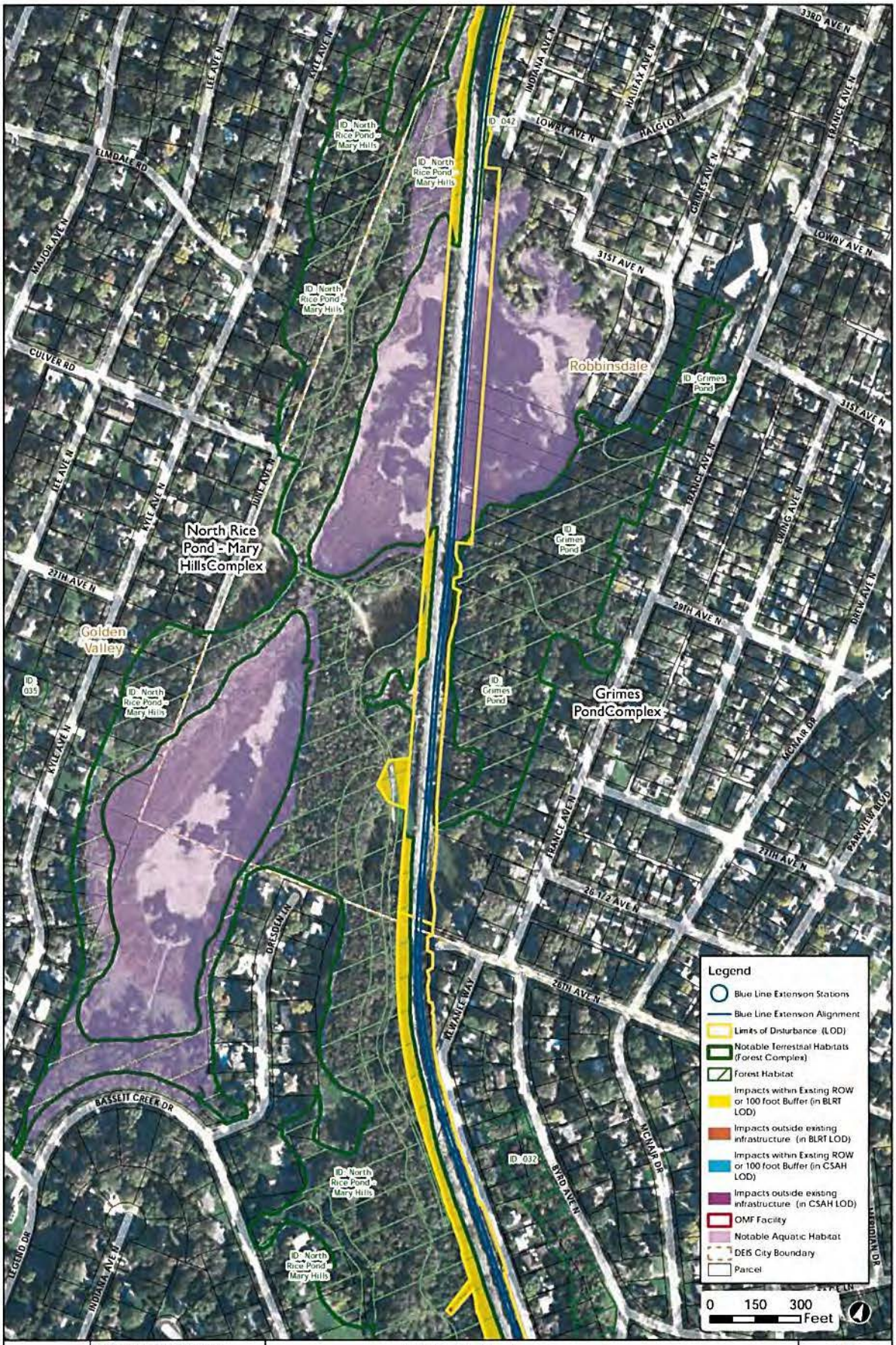

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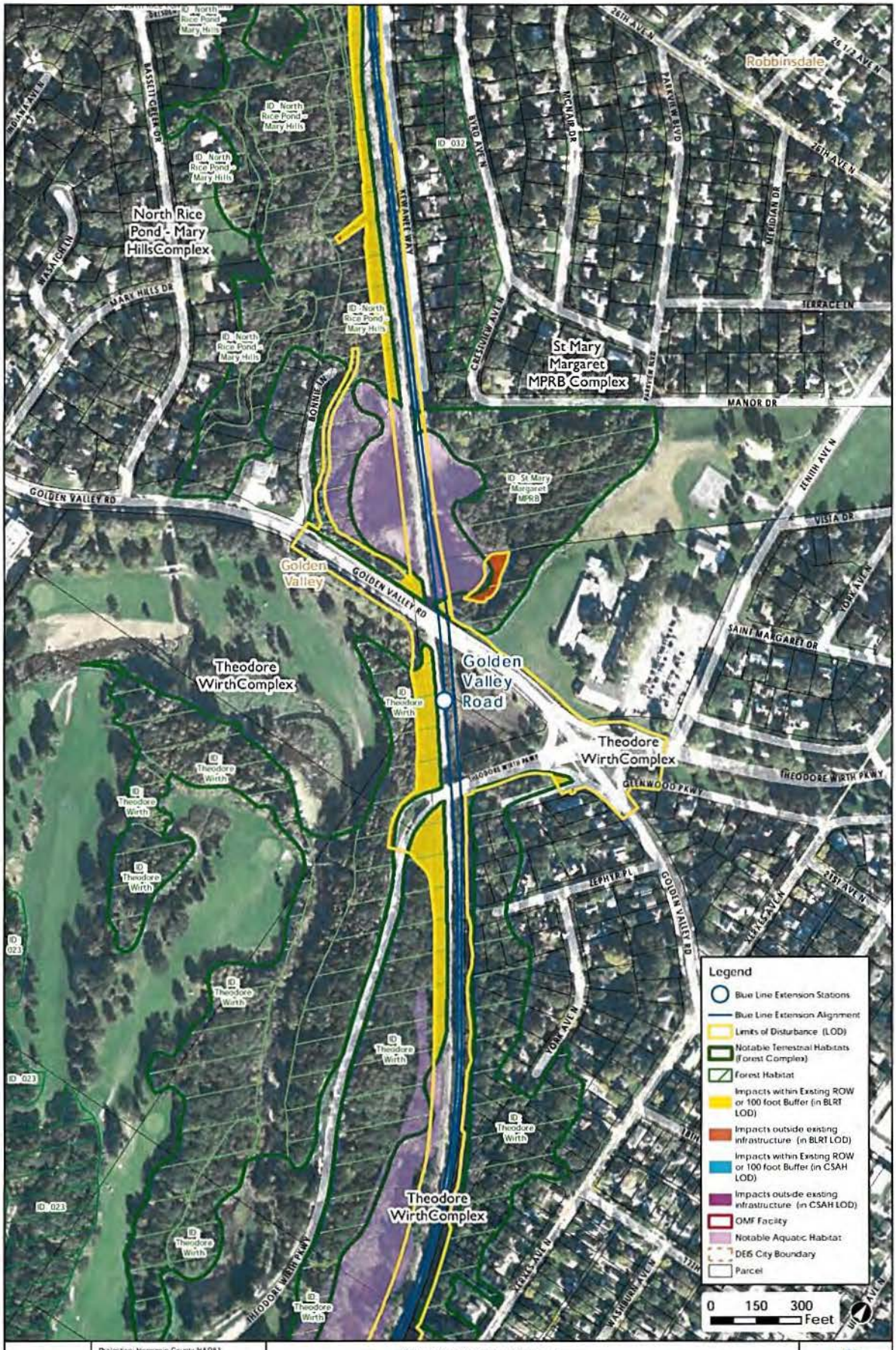

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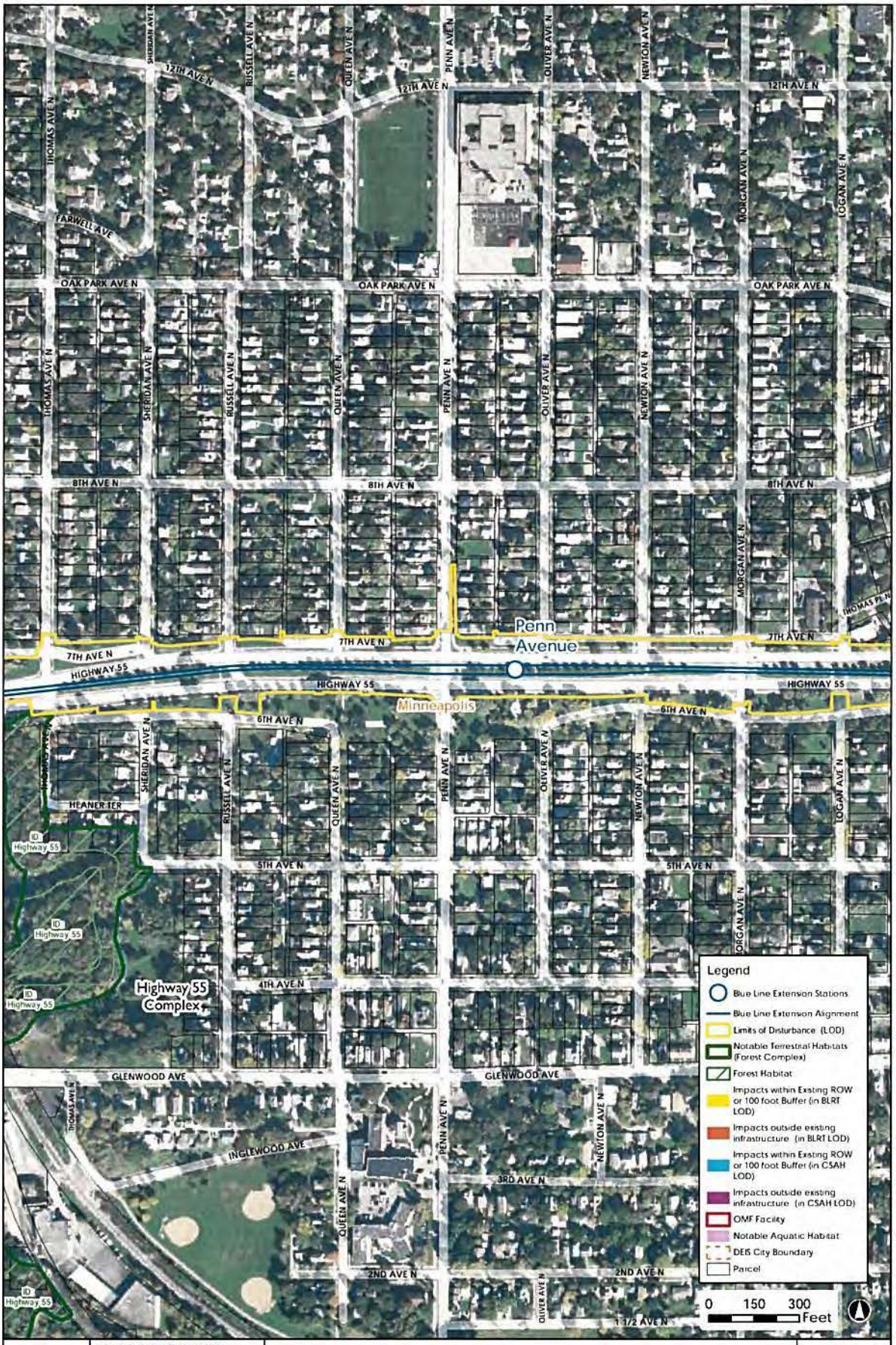

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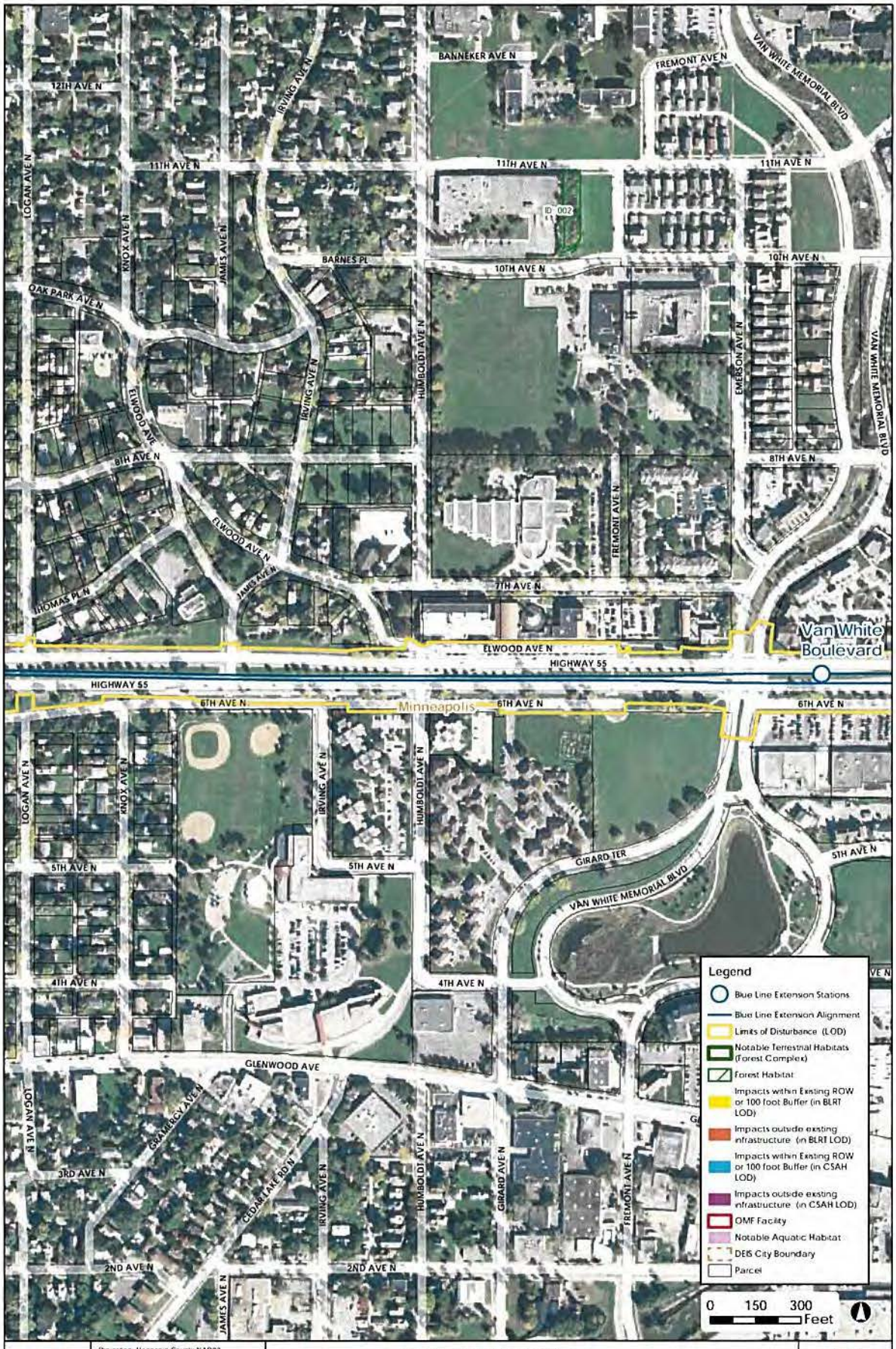

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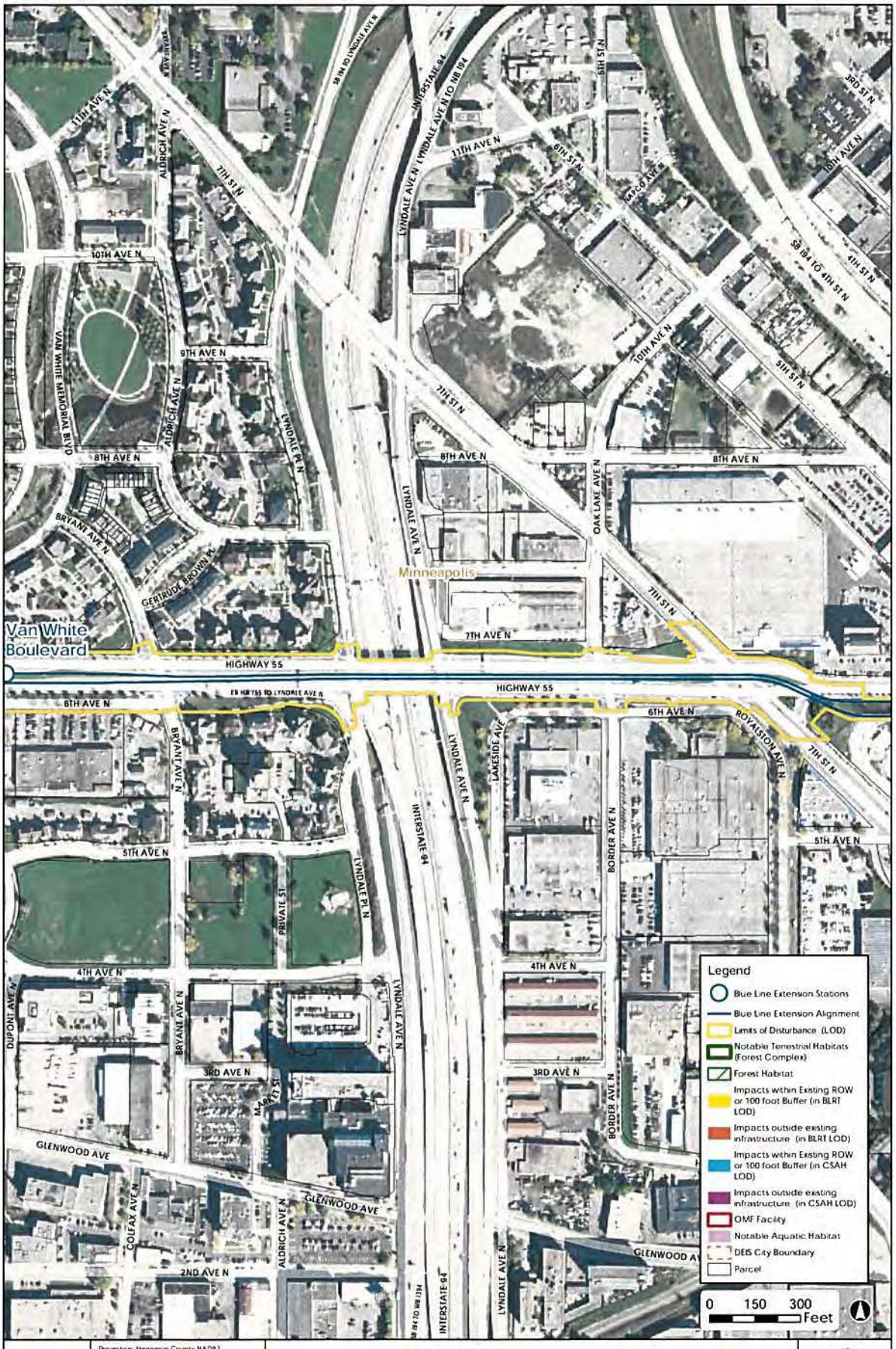

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1/9/2016



Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Wildlife Habitat Impacts

Page 24

METRO Blue Line Extension

DRAFT

1/9/2016

From: Arkell, Reginald (FTA)
To: andrew_horton@fws.gov
Cc: Sarna, Maya (FTA); O"Brien, Kathryn; Miller, Caroline; Reed, Scott
Subject: Metro BLRT Project - FTA NLEB 4f Consultation Form to USFWS
Date: Friday, May 06, 2016 1:10:20 PM
Attachments: image001.png
image002.png
2016-05-05 Metro BLRT - FTA NLEB 4d Consultation Form to USFWS.pdf

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Andrew:

Pursuant to our conversation on 5/5/16, please see the attached *Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form* (NLEB Form) completed and signed by FTA. I understand from you that submission of this form by email is sufficient. This is follow-up documentation you had requested in relation to FTA's 3/7/16 Section 7 ESA consultation and concurrence request to USFWS concerning the Metro Blue Line Light Rail Transit Extension Project. FTA is requesting a response from USFWS at your earliest convenience on the information and conclusions/determinations provided in our 3/7/16 letter and the NLEB form. Thank you very much for your assistance.

Reggie Arkell, AICP – Community Planner
U.S. DOT, Federal Transit Administration, Region 5
200 West Adams Street, Suite 320
Chicago, Illinois 60606
Telephone: 312-886-3704
Facsimile: 312-886-0351
Email: reginald.arkell@dot.gov
http://www.fta.dot.gov/

Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

Information to Determine 4(d) Rule Compliance:	**YES**	**NO**
1. Does the project occur wholly outside of the WNS Zone[1]?	☐	☒
2. Have you contacted the appropriate agency[2] to determine if your project is near known hibernacula or maternity roost trees?	☒	☐
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	☐	☒
4. Could the project alter the entrance or interior environment of a known hibernaculum?	☐	☒
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	☐	☒
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	☐	☒

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Agency and Applicant[3] (Name, Email, Phone No.): *Marisol R. Simon, Regional Administrator, Federal Transit Administration Region 5; contact person – Reginald Arkell, Community Planner, reginald.arkell@dot.gov, (312) 886-3704*

Project Name: *METRO Blue Line Light Rail Transit Extension Project (BLRT Extension project)*

Project Location (include coordinates if known): *Western Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park, MN*

Basic Project Description (provide narrative below or attach additional information): *The BLRT Extension project is a 13-mile light rail transit line that would be located in Hennepin county and extend westward along Trunk Highway (TH) 55 from Target Field Station to the BNSF Railway Monticello Subdivision at the eastern edge of Theodore Wirth Regional Park. It would then follow the BNSF*

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[1] http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf

[2] See http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html

[3] If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

corridor from TH 55 to just south of 73rd Avenue in Brooklyn Park. From that point it would cross eastward to West Broadway Avenue and extend north to a point just north of TH 610.

General Project Information	**YES**	**NO**
Does the project occur within 0.25 miles of a known hibernaculum?	☐	☒
Does the project occur within 150 feet of a known maternity roost tree?	☐	☒
Does the project include forest conversion[4]? (if yes, report acreage below)	☒	☐
Estimated total acres of forest conversion	*28.54*	
If known, estimated acres[5] of forest conversion from April 1 to October 31		
If known, estimated acres of forest conversion from June 1 to July 31[6]		
Does the project include timber harvest? (if yes, report acreage below)	☐	☒
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	☐	☒
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	☐	☒
Estimated wind capacity (MW)		

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: _____ Date Submitted: 5/5/2016

[4] Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).
[5] If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.
[6] If the activity includes tree clearing in June and July, also include those acreage in April to October.

From:	Horton, Andrew
To:	Arkell, Reginald (FTA)
Cc:	Sarna, Maya (FTA); O"Brien, Kathryn; Miller, Caroline; Reed, Scott
Subject:	Re: Metro BLRT Project - FTA NLEB 4f Consultation Form to USFWS
Date:	Monday, May 16, 2016 1:35:40 PM
Attachments:	image001.png image002.png

Mr. Arkell,

We have received your determination that this project will fall under the "may affect, but take not prohibited" determination of the Final 4(d) Rule. I have reviewed this project and the action area is greater than 0.25 acres from any known northern long-eared bat hibernacula and more than 150-feet from any known occupied maternity roost tree. This project meets the requirements under the Final 4(d) Rule and tree clearing may proceed without waiting the 30-days from the date submitted.

This project has also been reviewed in regards to Higgins eye pearlymussel and snuffbox and no impacts are anticipated. There are no known bald eagle nests within 660 feet of the proposed project, however, it an active nest is discovered within 660 feet from your work area or removal of an inactive nest is unavoidable, our office should be contacted. Thank you and let me know if you have any additional questions.

- Andrew

Andrew Horton
Twin Cities Ecological Services Field Office
U.S. Fish and Wildlife Service
4101 American Blvd East
Bloomington, MN 55425-1665
(952) 252-0092, ext. 208 **(New Phone Number!)**

On Fri, May 6, 2016 at 1:10 PM, Arkell, Reginald (FTA) <reginald.arkell@dot.gov> wrote:

> Andrew:
>
> Pursuant to our conversation on 5/5/16, please see the attached *Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form* (NLEB Form) completed and signed by FTA. I understand from you that submission of this form by email is sufficient. This is follow-up documentation you had requested in relation to FTA's 3/7/16 Section 7 ESA consultation and concurrence request to USFWS concerning the Metro Blue Line Light Rail Transit Extension Project. FTA is requesting a response from USFWS at your earliest convenience on the information and conclusions/determinations provided in our 3/7/16 letter and the NLEB form. Thank you very much for your assistance.

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION V
Illinois, Indiana,
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200 West Adams Street
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312-353-2789
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June 16, 2016

Kenneth A. Westlake
Chief, NEPA Implementation Section
United States Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: USEPA Comments on the Draft Environmental Impact Statement (DEIS)
Bottineau Transitway, Hennepin County, Minnesota – CEQ No. 20140108

Dear Mr. Westlake:

Thank you for the U.S. Environmental Protection Agency's (EPA's) letter dated May 27, 2014, commenting on the Bottineau Transitway (now referred to as the Blue Line Light Rail Extension, or BLRT) Draft Environmental Impact Statement (Draft EIS), published in April 2014 by the Federal Transit Administration (FTA), the Metropolitan Council (Council), and the Hennepin County Regional Railroad Authority. Since publication of the Draft EIS, the Council has taken sole responsibility as the local Project sponsor and has been working with stakeholders and the FTA to prepare the Project's Final Environmental Impact Statement (Final EIS). The publication of the Final EIS is anticipated in July 2016. Although the FTA indicated in the project's Draft EIS its intent to publish a combined Final EIS/Record of Decision (ROD), the decision has subsequently been made to publish these documents separately.

This response letter is not intended to be the official response to your comments as required under 23 CFR Part 771.125 (a)(1) and under 23 CFR Part 774, but rather to provide USEPA context on how the Project has been defined as a Preferred Alternative for inclusion in the Final EIS. The FTA and the Council are available to meet to discuss USEPA's comments on the Draft EIS prior to publication of the Final EIS if you would like to discuss any issues in greater detail.

The letter is organized by the themes identified in EPA's letter of May 27, 2014 – a copy of which is attached for ease of reference. Under each theme, the EPA made recommendations, which are re-stated below along with a summary of the ways in which the issue will be addressed in the Final EIS and Record of Decision (ROD).

ALTERNATIVES

Recommendation: EPA recommends the FEIS identify how station location decisions will be made. These decisions should be documented based on how alternatives fulfill project purpose and need and their impacts.

FTA Response:

Decisions regarding the locations of stations for the proposed BLRT Extension project were made consistent with the Metropolitan Council's *Regional Transitway Guidelines* document (February 2012), which states that the identification of transitway station areas should be based on travel demand demonstrated through rigorous market analysis of existing and planned future conditions and articulates standards for station spacing and configuration based on transitway mode. This reference is included in Chapter 2 of the Final EIS with a link to the guidance document: http://www.metrocouncil.org/Transportation/Publications-And-Resources/RegionalTransitwayGuidelines-pdf.aspx.

EPA's recommendation was prefaced by the observation that two station locations, at Plymouth Avenue and at Golden Valley Road, were identified as part of the locally preferred alternative (LPA) alignment in the Draft EIS, but only one station was presumed for ultimate selection as part of the Preferred Alternative. Selecting one, or both, of these stations and identifying the basis for this decision in the Project's Final EIS was one of the key technical issues identified for resolution by the Met Council early in the Project Development phase.

Input received on resolving the issue of whether both a Golden Valley Road and a Plymouth Avenue station should be included in the Final EIS Preferred Alternative included comments received during the Draft EIS period. The City of Golden Valley, in their comment letter, pointed out the importance of the Golden Valley Road station to serve their residents, to provide a transit connection for existing bus routes on Golden Valley Road, and to serve nearby businesses, including the Kenny Courage Rehabilitation Institute located approximately 1/3-mile from the Golden Valley Road Station. The City of Minneapolis, in their Draft EIS comment letter, supported the construction of the Plymouth Avenue and Golden Valley Road stations, stating "both [are] necessary to adequately serve the corridor travelshed, including a significant portion of North Minneapolis."

Input received by the Council after publication of the Draft EIS further clarified the need for both stations to serve distinct travel markets. This input included a resolution passed by the Minneapolis Park and Recreation Board in November 2015 supporting the construction of both stations as well as an action by the Project's Corridor Management Committee to include the construction of both stations as part of the Project's scope and budget.

The Project's Final EIS will provide a through discussion of both the technical and public input process that led to decision-making regarding the decision to construct both the Plymouth Avenue and the Golden Valley Road stations. This information will include ridership estimates, constructability, design requirements, environmental impacts, any mitigation requirements, and stakeholder input.

> ***Recommendation:*** *We [EPA] recommend the FEIS identify how the OMF location decision will be made. We recommend selection of the alternative at CR 103 and 93rd Avenue because of its apparent fewer impacts.*

FTA Response:

The OMF location decision was made based on availability of sufficient property, design and operational requirements, environmental impact analyses, and stakeholder input. Summary-level discussion of this process is included in Chapter 2 of the Final EIS and the siting of the proposed Blue Line Extension project OMF is identified as Issue 12 of the project's issues resolution process (also described in Chapter 2 of the Final EIS). Since the publication of the Draft EIS, a private developer has acquired the proposed OMF site at CR 103 and 93rd Avenue and has started construction of a series of office/warehouse buildings; therefore, this site is no longer under consideration. The proposed OMF site at CR 103 and 101st Avenue will be the location identified as the Preferred Alternative in the Final EIS. The project design team has evaluated different layouts for the OMF facility that take into consideration park property, wetlands, long range development plans, and stakeholder input. The adverse effects associated with the CR 103 and 101st Avenue site, noted in the Draft EIS, have been avoided through a process of local stakeholder coordination and engineering solutions. Specifically, the Preferred Alternative OMF has been re-oriented in a north-south direction to avoid the potential permanent impacts to Three Rivers Park District property noted in the Draft EIS and to minimize wetland impacts. This location is also removed from any residents or other types of land uses potentially affected by noise or other activities associated with the OMF. Furthermore, the OMF siting accommodates the City of Brooklyn Park's plans for future development in this area and is consistent with these planned land uses and development.

> ***Recommendation:*** *We [EPA] recommend the FEIS acknowledge that Alternative B-C-D1 does not cause the least damage to the biological and natural resources of the physical environment.*

FTA Response:

The FTA concurs that Alternative B-C-D1 does not cause the least damage to the biological and natural resources of the physical environment. This will be acknowledged in the Project's Final EIS. In addition, an explanation of the selection of the locally preferred alternative, especially the potential for disproportionately high and adverse impacts on minority and low-income populations associated with the alternative not selected, will be provided in the Final EIS as well.

AIR QUALITY

> ***Recommendation:*** *Because MSATs [Mobile Source Air Toxics] can cause adverse health impact, especially to vulnerable populations such as children, the elderly, and those with existing respiratory health issues, EPA recommends the FEIS identify potential mitigation measures to decrease the exposure of these populations to MSATs emissions during construction and operation of the proposed project. Such measures may include, but should not be limited to, strategies to reduce diesel emissions, such as project construction contracts that require the use of equipment with clean diesel engines and the use of clean diesel fuels, and limits on the length of*

time equipment is allowed to idle when not in active use (EPA recommends idling not exceed 5 minutes).

FTA Response:

The current understanding of Mobile Source Air Toxics (MSATs) indicates that in general, MSATs will decline even if vehicle miles traveled increase. This is demonstrated in an FHWA analysis using the EPA's MOVES2012b model, where a 102% increase in VMT between 2010 and 2050 still allows an 83% reduction in priority MSATs. This reduction, even under a VMT growth scenario, is attributable to emission control technology and modern fuels[1]. The proposed BLRT project will result in a slight reduction of VMT in the project area, therefore an increase in MSATs from LRT operations is highly unlikely. A qualitative discussion of MSATs will be included in the Final EIS to document these findings.

Construction activities do indeed have the potential for temporary increases in MSAT emissions; the Final EIS will discuss mitigation measures to reduce such emissions during construction activities, including identifying potential equipment types and operational parameters to reduce MSAT emissions.

Recommendation: ***We [EPA] recommend that the FEIS identify and discuss any anticipated effects of climate change on the project and possible adaptation measures. For example, discuss any effects that predicted increase in the number and/or intensity of precipitation events associated with climate change may have on sizing bridge spans, culvert openings, and stormwater management measures in order to accommodate such events and ensure project longevity, public health, and safety.***

FTA Response:

The potential effects of climate change will be discussed in the Final EIS. The requirements of Executive Order 13690 (pertaining to infrastructure resiliency relative to extreme precipitation/flood events and the frequency of such events) is also included in the FEIS, and are being incorporated into the Project design. The necessary mitigation for water resource impacts associated with these designs will be disclosed in the Final EIS.

WATER RESOURCES – WETLANDS AND STREAMS

Recommendations: ***EPA recommends the FEIS include:***

- ***A specific discussion of how sequencing established by the Clean Water Act Section 404(b)(1) guidelines has been applied. This sequence is: avoidance first, then demonstrated impact minimization, then mitigation remaining unavoidable, minimized impacts;***
- ***A 404(b)(1) analysis; and,***

[1] FHWA Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA, December 6, 2012.

- ***A discussion on proposed mitigation for unavoidable, minimized wetland and stream impacts.***

FTA Response:

The United States Army Corps of Engineers (USACE) is a cooperating agency on the proposed BLRT Extension project, which is being advanced under the NEPA/404 Merger process. The NEPA/404 Merger process provides a series of concurrence points that can be considered formal documentation of the sequencing process in accordance with the 404(b)(1) guidelines. Specifically:

- Concurrence point 1 is agreement on the purpose and need for the proposed project. The USACE provided input to the FTA and the local project sponsor regarding the purpose and need, and agreed on the final purpose and need for the project as documented in their letter dated June 19, 2013.
- Concurrence point 2 is agreement on the alternatives to be evaluated in the NEPA document; the USACE reviewed the alternatives considered in the studies leading up to the Draft EIS, and agreed with the set of alternatives carried forward in the Draft EIS. This concurrence point was documented in the same June 19, 2013 USACE letter.
- Concurrence point 3 is the agreement on the Least Environmentally Damaging Practicable Alternative (LEDPA). The USACE reviewed the social, economic, and environmental impacts associated with the alternatives analyzed in the Draft EIS, and concluded that the locally preferred alternative (Draft EIS alternative B-C-D1) was the LEDPA when taking into account impacts to all resources. The USACE documented their agreement on concurrence point 3 in a letter dated October 1, 2013.
- Concurrent point 4 is the agreement on minimization and mitigation strategies. The Council submitted a Minnesota Interagency Water Resource Application (a joint Section 404/Minnesota Wetland Conservation Act (WCA) permit application) for the proposed BLRT Extension project on May 16, 2016. Section 5.5.1 of the application document provides a summary of the engineering measures taken to minimize wetland impacts, and Section 5.6 presents proposed wetland mitigation. The USACE reviewed the permit application and provided agreement on concurrence point 4 in a letter dated June 16, 2016.

A copy of the Minnesota Interagency Water Resource Application, including copies of the concurrence point letters from the USACE, will be included in the Final EIS appendices.

Recommendations:

- ***The FEIS should include wetland delineations, USACE jurisdictional determinations, and wetland and stream quality assessments. This information should encompass all areas of right-of-way (ROW, adjacent construction access and access road locations, staging areas, station locations, and park-and-ride lots) associated with the Preferred***

Alternative. This information will provide accurate baseline data on existing wetlands and water resources, and accurate quantification of potential impacts.

- ***To help inform decisions regarding the location of the OMF and choice between two station locations in Alignment D1, the FEIS should include potential aquatic resource impacts for all options, based on wetland delineations, and wetland and stream quality assessments.***
- ***Potential permanent and temporary wetlands and stream impacts noted on FEIS impact summary tables and impact narratives in the FEIS should be based on the delineations and assessments. The FEIS should address and discuss construction staging and access, and identify how wetlands adjacent to construction areas will be protected from incidental fill during construction. Restoration of all temporary wetland impacts should also be discussed.***
- ***The FEIS should discuss stream impacts associated with each alignment, station locations, and potential OMF locations. The FEIS should provide impact summary totals for the preferred alignments [i.e., linear footage of impact, stream impact location maps (including new or modified stream crossings or culvert work, with narrative discussion of impacts), and a description of stream impacts].***

FTA Response:

During the development of the Final EIS, wetland delineations were conducted along the entire proposed BLRT Extension project corridor, including all stations, park-and-ride locations, construction access areas, and the OMF. The delineations were reviewed and approved by USACE staff as well as state and local staff responsible for implementation of the Minnesota WCA. Jurisdictional determinations were made for the entire project; a total of about 4.16 acres of USACE-jurisdictional wetland impact and about 6.28 acres of WCA-jurisdictional wetland impact were identified.

The proposed BLRT Extension project includes stations at both the Plymouth Avenue and Golden Valley Road locations; the wetland delineation information indicated that the majority of wetland impacts in these locations was from the freight rail and light rail alignments and not the footprint of the stations. The difference in wetland impact between constructing one, the other, or both stations was negligible, and was not a determining factor in the selection of the stations.

The OMF was reoriented from what was shown in the Draft EIS and the footprint of the facility was reduced to avoid park property and minimize wetland impacts.

Chapter 5 of the Final EIS will include a summary of the anticipated temporary and permanent wetland and stream impacts, and will also include a discussion of minimization and mitigation requirements for permanent and temporary water resource impacts. A copy of the Minnesota Interagency Resource Application will be included in the final EIS appendices; this application

also includes a copy of the USACE letter approving concurrence point 4 (agreement on minimization/mitigation strategies). The Final EIS

> ***Recommendation:*** ***The FEIS should provide information on the location and number of proposed stream crossings or stream impacts (associated with culvert repair, extension, etc.), whether or not the waterbody is a 303(d)-listed waterbody or upstream of a 303(d)-listed waterbody, and describe how the project could potentially affect each listed waterbody with regard to specific listed impairments.***

FTA Response:

The Water Quality and Stormwater section of the Final EIS will disclose the number of stream crossings (two – Shingle Creek and Basset Creek). A discussion of impaired (303(d)-listed) waters will be included in the Water Quality and Stormwater section (see table below), along with short- and long-term mitigation measures to avoid impacts to receiving waters.

Table 5.9-2. Downstream Impaired Waters within 1 Mile of the BLRT Extension Project

Impaired Receiving Water	Impairments	Total Maximum Daily Load (TMDL) Status
Mississippi River	Mercury In fish tissue; fecal coliform; polychlorinated biphenyls (PCB) in fish tissue	*Upper Mississippi River Bacteria TMDL and Protection Plan* (2014)
Bassett Creek	Chloride; fecal coliform; fishes bioassessments	Included in the above TMDL plan
Crystal Lake	Nutrient/eutrophication biological indicators	*Crystal Lake Nutrient TMDL Implementation Plan* (2009)
Twin Lakes: Lower, Middle, and Upper	Mercury in fish tissue; nutrient/ eutrophication biological indicators; PCB in fish tissue; perfluorooctane sufonate (PFOS) in fish tissue	*Twin and Ryan Lakes Nutrient TMDL* (2007); plans are required for mercury, PCB, and PFOS
Shingle Creek	Aquatic macroinvertebrate bioassessments; chloride; dissolved oxygen	*Shingle and Bass Creeks Biota and Dissolved Oxygen TMDL Implementation Plan* (2012); *Shingle Creek Chloride TMDL Implementation Plan* (2007)

Recommendations:

- ***EPA recommends that FTA coordinate with the USACE, U.S. Fish and Wildlife Service (USFWS), EPA and Minnesota Department of Natural Resources (MnDNR) to determine if wetland mitigation for indirect impacts is expected and required. If mitigation for indirect impact, to include shading, is required, the FEIS should discuss this point.***

- ***The FEIS should discuss acreages of impact from both direct and indirect impacts, as well as proposed mitigation ratios for both direct and indirect wetland impacts.***
- ***The FEIS should discuss temporary wetland impacts, and how those wetland impacts will be restored. Monitoring of restored wetland areas to ensure full restoration is expected. Conceptual monitoring plans should be included in the FEIS.***
- ***To avoid confusion or misunderstanding of the information depicted on project figures, we also recommend that FEIS project figures/drawings include comprehensive legends.***

FTA Response:

- Coordination has taken place with the USACE, DNR, Minnesota Board of Water and Soil Resources, and local agencies responsible for implementing WCA regarding indirect impacts to wetlands. The USFWS was also consulted regarding the proposed BLRT Extension project; however, they did not express concerns regarding impacts to wetland resources.
- The Final EIS will discuss acreages of wetland impact. Two locations where shading from bridges over wetland areas could create indirect impacts were identified; however, the impacts were calculated conservatively using the footprint of the bridge deck rather than the cross-section of the bridge piers, and were reported as direct impacts. Mitigation has been calculated using direct impact ratios of 2 (mitigation):1 (impact) which is more conservative than indirect wetland impact mitigation ratios.
- Temporary wetland impacts are disclosed in the Minnesota Interagency Water Resource Application and will be summarized in the Final EIS. Restoration of temporary wetland impacts will be subject to monitoring to document restoration. It is anticipated that restored wetland areas will be monitored on the same schedule as on-site wetland mitigation areas.
- All figures in the Final EIS will include comprehensive legends..

THREATENED OR ENDANGERED SPECIES

Recommendation: EPA recommends that FTA continue to coordinate with USFWS and the MnDNR to determine if any of the proposed activities would or could detrimentally affect any Federally- or state-listed species, species proposed for listing, or their critical habitat. The FEIS should include updated correspondence from USFWS and MnDNR confirming whether the proposed project will, or will not, affect any Federally- or state-listed threatened or endangered species, including the northern long-eared bat and the Blanding's turtle.

FTA Response:

The Final EIS design and planning team has worked in close coordination with the USFWS and MnDNR concerning the potential for impacts to federal and state-listed species including the northern long-eared bat and Blanding's turtle. USFWS has concurred with FTA's determination that the proposed BLRT Extension project falls under the "may affect, incidental take not prohibited" determination of the Final 4(f) Rule for the northern long-eared bat; this concurrence is documented in an e-mail dated May 16, 2016. No other impacts to federal-listed species is anticipated. The Minnesota DNR concurred with the assessment of impacts to state-listed species in an e-mail on February 9, 2016.

> ***Recommendation: These [standards for avoiding impacts to bald eagle nesting sites and future eagle nest surveys] guidelines and surveys are commitments that should be reiterated and formalized in the FEIS/ROD.***

FTA Response:

Eagle nest locations are currently known, though nest locations do change from year to year. As noted in Section 5.8 of the Final EIS, appropriate and reasonable measures to avoid and minimize impacts to eagles, their nests and habitat will be taken and these measures will be documented in the Final EIS.

> ***Recommendation: [In reference to pre-construction surveys of bridge structures and forested areas within the construction limits for the presence of Migratory Bird Treaty Act species' nests] The FEIS should specify the agencies with which consultation will be undertaken, and specify the timeframes during which mitigation measures will be implemented. These surveys and mitigation measures should be commitments in the FEIS/ROD.***

FTA Response:

Bridges and structures have been surveyed for the presence of swallow's nests (afforded protections under the Migratory Bird Treaty Act) during the 2015 field season. Forested areas that will be impacted as a result of the proposed BLRT are disturbed from urban fragmentation and as a result, nests present within them likely have a high rate of nest parasitism from brown-headed cowbirds, an aggressive species. As noted in Section 5.8, appropriate and reasonable measures will be taken to avoid and minimize impacts to migratory nesting bird species. These measures and commitments, developed in consultation with the USFWS, will be described in the Final EIS and ROD.

> ***Recommendation: EPA recommends that FTA continue coordination efforts with USFWS and state wildlife agencies as appropriate to meet the conditions of the Fish and Wildlife Coordination Act. Correspondence to and received from coordinating agencies documenting FWCA coordination should be included in the FEIS/ROD.***

FTA Response:

FTA agrees and the requested correspondence documenting coordination efforts with US Fish and Wildlife and with the Minnesota Department of Natural Resources will be included in the Final EIS.

FLOODPLAINS

> **Recommendation: We [EPA] recommend the FEIS provide information on potential floodplain impacts (acres of impact plus acre-feet of impact), and potential floodplain mitigation information (including expected mitigation ratios, updates on status of coordination with permitting entities, and identification of potential mitigation sites that are not currently forested).**

FTA Response:
The Final EIS will include information regarding the extent of floodplain impacts based on more detailed design information than was available at the time of the Draft EIS publication. Section 5.2 of the Final EIS and/or Appendix F of the Final EIS supporting documentation will disclose the length of floodplain impact, whether the impact is linear or transverse, and the overall volume of floodplain impact by stream reach. Mitigation for floodplain impacts is being discussed with owners of the properties that lie within each stream reach. Mitigation will be in the form of compensatory flood storage, and will be provided at a one-to-one ratio. At this time, the mitigation site identified in the Draft EIS is a viable option. This option will be identified as floodplain mitigation in the Final EIS and is supported by the Minneapolis Park and Recreation Board (on whose property this site is partially located) as articulated in a resolution passed by the Board in November 2015. The site was damaged during a tornado in 2011; the opportunity exists to create compensatory flood storage, and introduce floodplain forest tree species to restore the forested nature of the area.

STORMWATER

> **Recommendation: All stormwater BMPs and detention area should be built and located outside of natural wetlands and streams. Existing natural wetlands should not be used as primary detention facilities, and any treated stormwater discharged to natural wetlands should not cause a change of existing wetland type and function (i.e., should not change an emergent wetland to an open water wetland, etc.). Sustainable stormwater technologies, including the use of pervious or porous pavement, should be utilized throughout the project.**

FTA Response:

Areas suitable for certain BMPs are somewhat limited in linear projects. In some cases, stormwater management may require BMPs (stormwater ponds, sediment forebays) to be placed at the perimeter of existing wetlands. Adjacent wetlands would then benefit from added hydrology which has been cleaned of sediments and pollutants in the BMP. Many wetlands in the project area are severely degraded as a result of a general lowering of the water table over

the past century. The team will strive to maintain the current functionality of wetlands, though addition of hydrology in some cases may enhance wetland functionality.

FORESTED IMPACTS

> **Recommendations: We [EPA] recommend the FEIS quantify acreage and number of upland trees to be removed by the project. EPA recommends further coordination with USFWS, MnDNR, and local municipalities regarding providing voluntary upland forested mitigation for these losses. The FEIS should include specific information on what forest mitigation is being offered (e.g., a summary of mitigation ratios, a summary of how mitigation will be offered). If applicable, the FEIS should clarify forest mitigation provided for bat habitat impacts versus forest mitigation provided for impacts to upland forest.**

FTA Response:

The FTA understands that the Council, as part of its preliminary design efforts, is conducting a detailed survey of existing trees that may be affected by project construction. This survey is anticipated to be complete in early fall 2016 (shortly after the publication of the Final EIS). This list will include the size and species of each tree greater than 6" diameter breast height (DBH) for trees within Minneapolis, Golden Valley, Robbinsdale, and Crystal; and greater than 4" DBH for trees within Brooklyn Park. FTA will document the process of coordinating with USFWS in the Project's Final EIS, including findings regarding potential impacts to the northern long-eared bat and its habitat. This coordination includes an inventory of existing forested complex areas and an assessment of Project impacts.

ADDITIONAL COMMENTS

> **Recommendations: We [EPA] recommend the FEIS include a vegetative management plan that addresses the identification and control of noxious weed/invasive species in and near the project ROW and associated facilities during project construction and operation. The plan should list the noxious weeds and exotic plants that occur in the resource area. In cases where noxious weeds are a threat, EPA recommends the document detail a strategy for prevention, early detection of invasion, and control procedures for each species.**

FTA Response:

The FTA takes the issues of noxious weeds and invasive plant species seriously. Through discussions with the Council, FTA understands that detailed noxious weed and invasive plant management strategies vary depending on the type of weed/plant to be controlled, the setting in which the weed/plan grows, and the construction and operating parameters of the light rail system. Rather than attempting to develop a detailed vegetative management plan at an early stage of design when little is known about construction staging, means and methods, and operational specifics; the Final EIS includes a commitment to develop a vegetation management plan including measures such as spot-spraying with appropriate herbicides and

cleaning equipment as it enters and exits the construction area along the proposed BLRT Extension Project. However, permanent eradication of invasive or noxious weeks in the study area would not be feasible. These measures are discussed in section 5.8.5.4 in the Final EIS.

> **Recommendation: EPA recommends project proponents consider using green building strategies for the Bottineau Transitway project.**

FTA Response:

To the extent feasible, the design of the BLRT project will incorporate green building strategies. These considerations will be more fully articulated as the Project proceeds into the Engineering phase of New Starts Project Development, which will occur at some point following FTA's issuance of a Project Record of Decision.

DEIS CORRECTIONS / ADDITIONS

> **Recommendation: In order to help avoid reader confusion, EPA recommends each of the above referenced terms [Locally Preferred Alternative or LPA, Preferred Alternative, Environmentally Preferred Alternative, Least Environmentally Damaging Preferred Alternative or LEDPA, and Least Environmentally Damaging Practicable Alternative or LEDPA] be defined in the FEIS Glossary of Terms and their associated acronyms included in the Acronyms section of the FEIS.**

FTA Response:

The Final EIS has been drafted to help avoid reader confusion, using clear and consistent terms for the proposed undertaking (the proposed BLRT Extension project), defining the Locally Preferred Alternative (LPA) and other technical terms. The Final EIS will include a glossary, and will provide a comprehensive list of acronyms used in the document. To the extent that the terms listed in the EPA's comment letter are confusing or synonymous, the FTA will strive to avoid using more than one term to explain or describe the same issue or item in the Final EIS.

> **Recommendation: EPA recommends the Acronym section of the FEIS identify the LEDPA acronym to mean "the least environmental damaging practicable alternative."**

FTA Response:

The FTA concurs that the acronym "LEDPA" means the "least environmentally damaging practicable alternative," and will document it as such in appropriate sections of the Final EIS.

We hope this additional information is useful and provides background information for how EPA's recommendations were responded to in the Project's forthcoming Final EIS, which is anticipated for publication later this summer.

Re: USEPA Comments on the Draft Environmental Impact Statement (DEIS)
Bottineau Transitway, Hennepin County, Minnesota – CEQ No. 20140108

If you require additional assistance, please contact Maya Sarna at (202) 366-5811 (maya.sarna@dot.gov) or Reginald Arkell at (312) 886-3704 (reginald.arkell@dot.gov). Thank you for your coordination on this important regional project.

Sincerely,

Marisol R. Simon
Regional Administrator

Cc: Maya Sarna, FTA HQ
Reginald Arkell, FTA Region V
Mark Fuhrmann, Program Director, Metropolitan Council
Dan Soler, Project Director, Metropolitan Council – Blue Line Project Office
Kathryn O'Brien, Assistant Director, Metropolitan Council – Blue Line Project Office

Appendix E
Engineering Drawings

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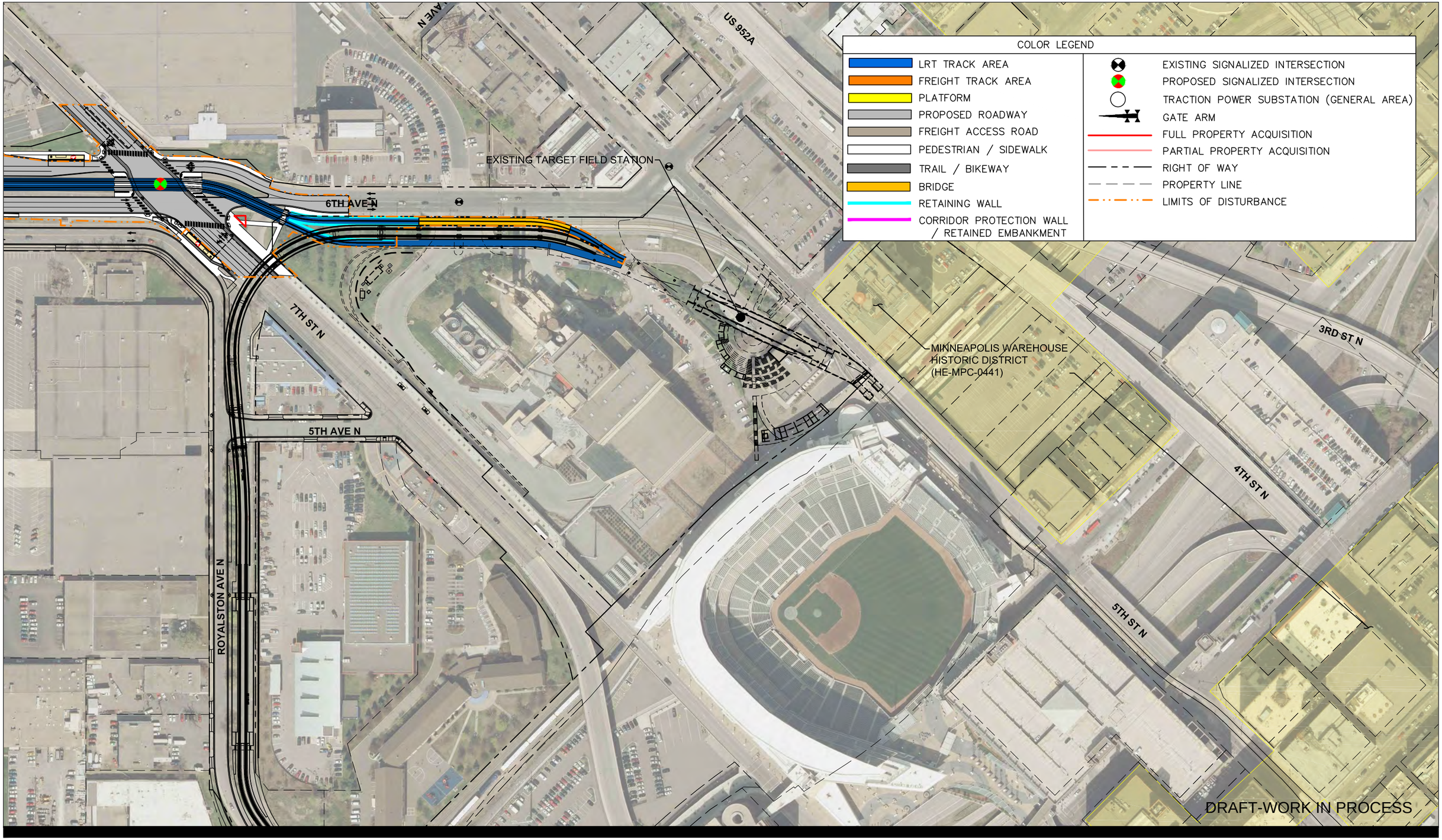

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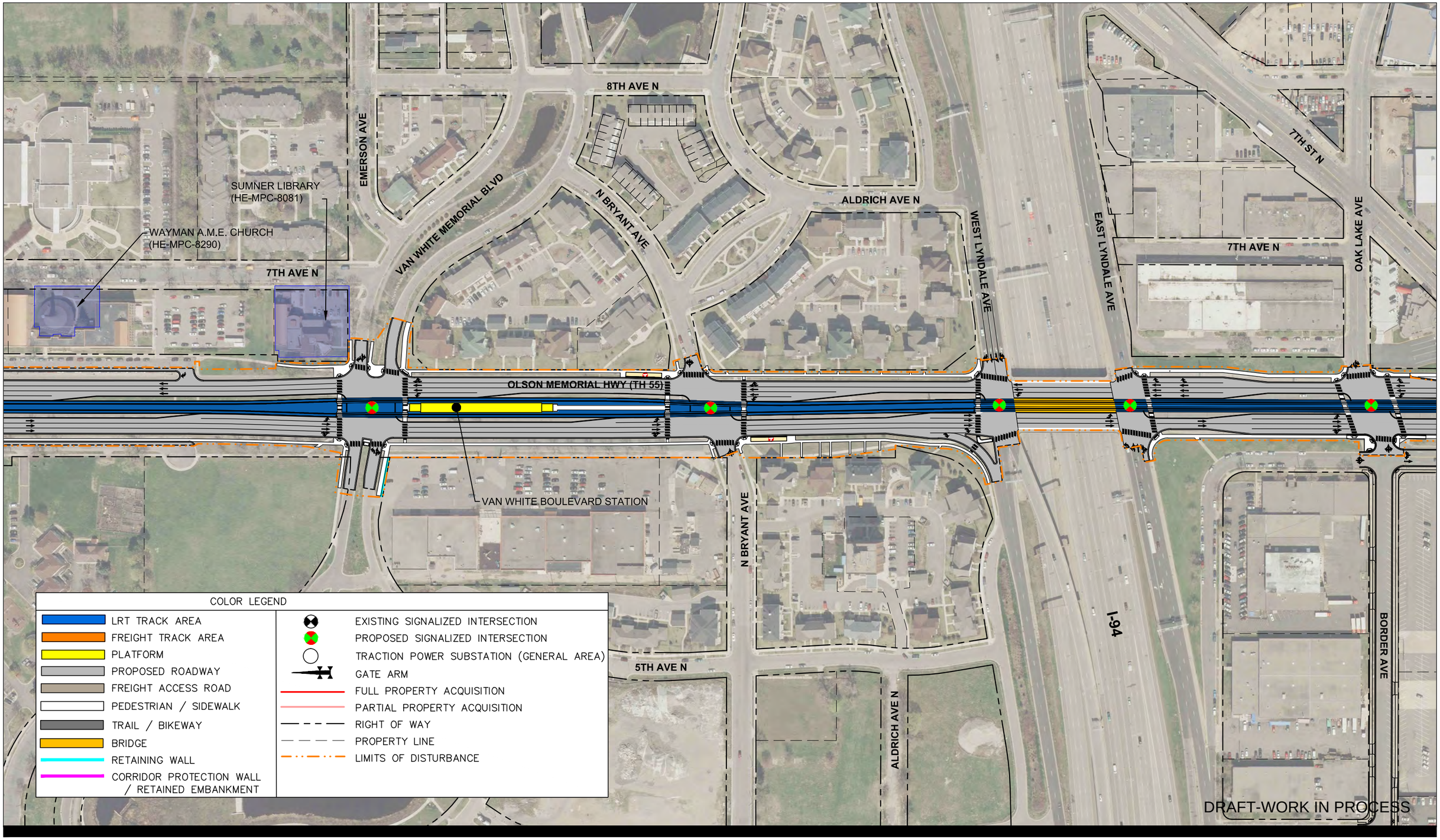
BLUE LINE LRT EXTENSION

CITY OF MINNEAPOLIS
FEIS PLAN SHEET

0 50 100 200
SCALE

1



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BLUE LINE LRT EXTENSION

CITY OF MINNEAPOLIS
FEIS PLAN SHEET

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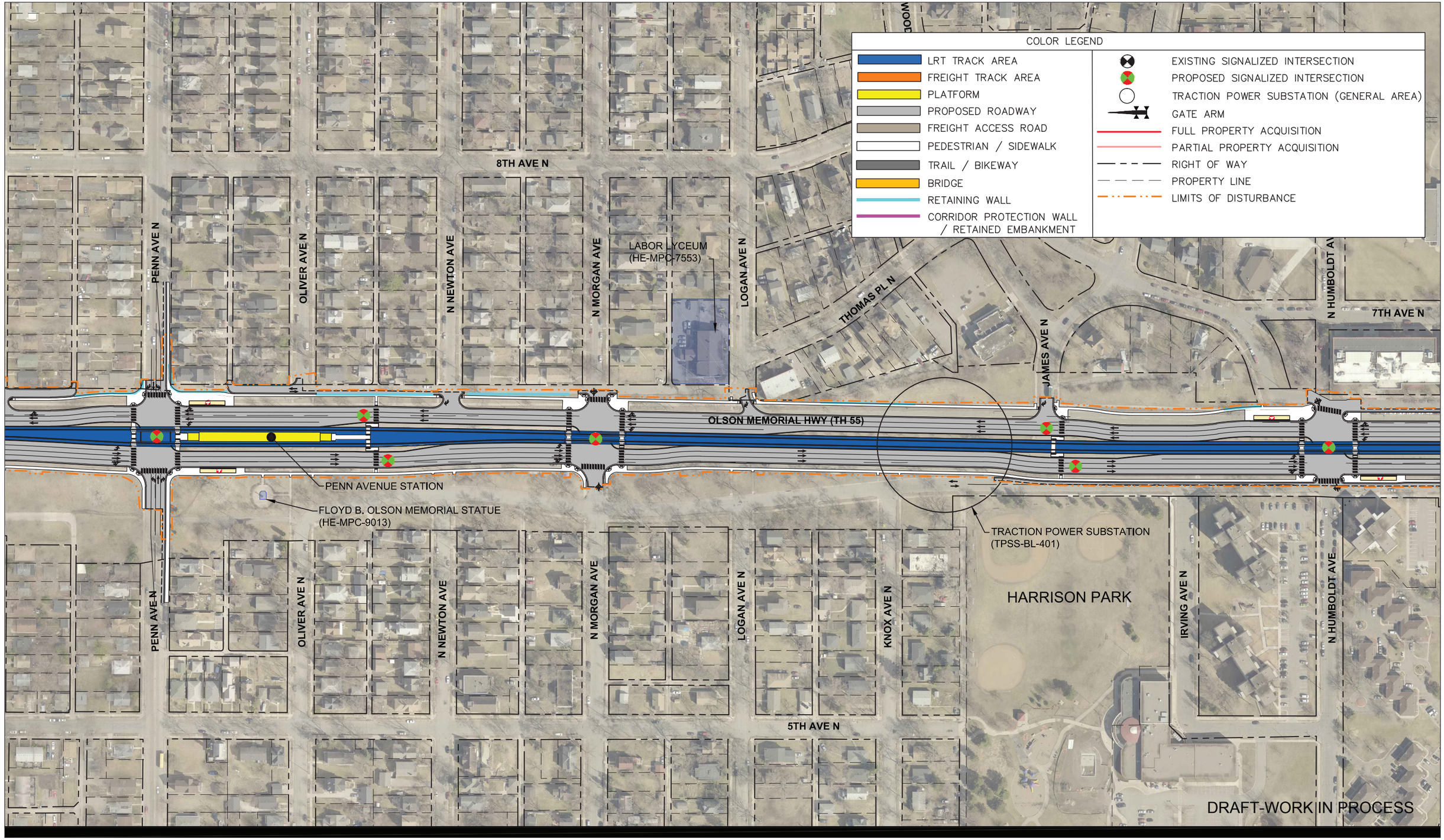

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BLUE LINE LRT EXTENSION

CITY OF MINNEAPOLIS

FEIS PLAN SHEET

0 50 100 200

SCALE

3

THEODORE WIRTH PARK

GRAND ROUNDS HISTORIC DISTRICT
(XX-PRK-001)

CITY OF GOLDEN VALLEY

CITY OF MINNEAPOLIS

BNSF RAILROAD CORRIDOR

VINCENT AVE N

UPTON AVE N

N THOMAS AVE

SHERIDAN AVE N

RUSSELL AVE N

QUEEN AVE N

8TH AVE N

OLSON MEMORIAL HWY (TH 55)

WIRTH LAKE

TRACTION POWER SUBSTATION
(TPSS-BL-402)

HEANER TER N

5TH AVE N

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
- RETAINING WALL
- CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT
- EXISTING SIGNALIZED INTERSECTION
- PROPOSED SIGNALIZED INTERSECTION
- TRACTION POWER SUBSTATION (GENERAL AREA)
- GATE ARM
- FULL PROPERTY ACQUISITION
- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

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BLUE LINE LRT EXTENSION

CITY OF MINNEAPOLIS
FEIS PLAN SHEET

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SCALE

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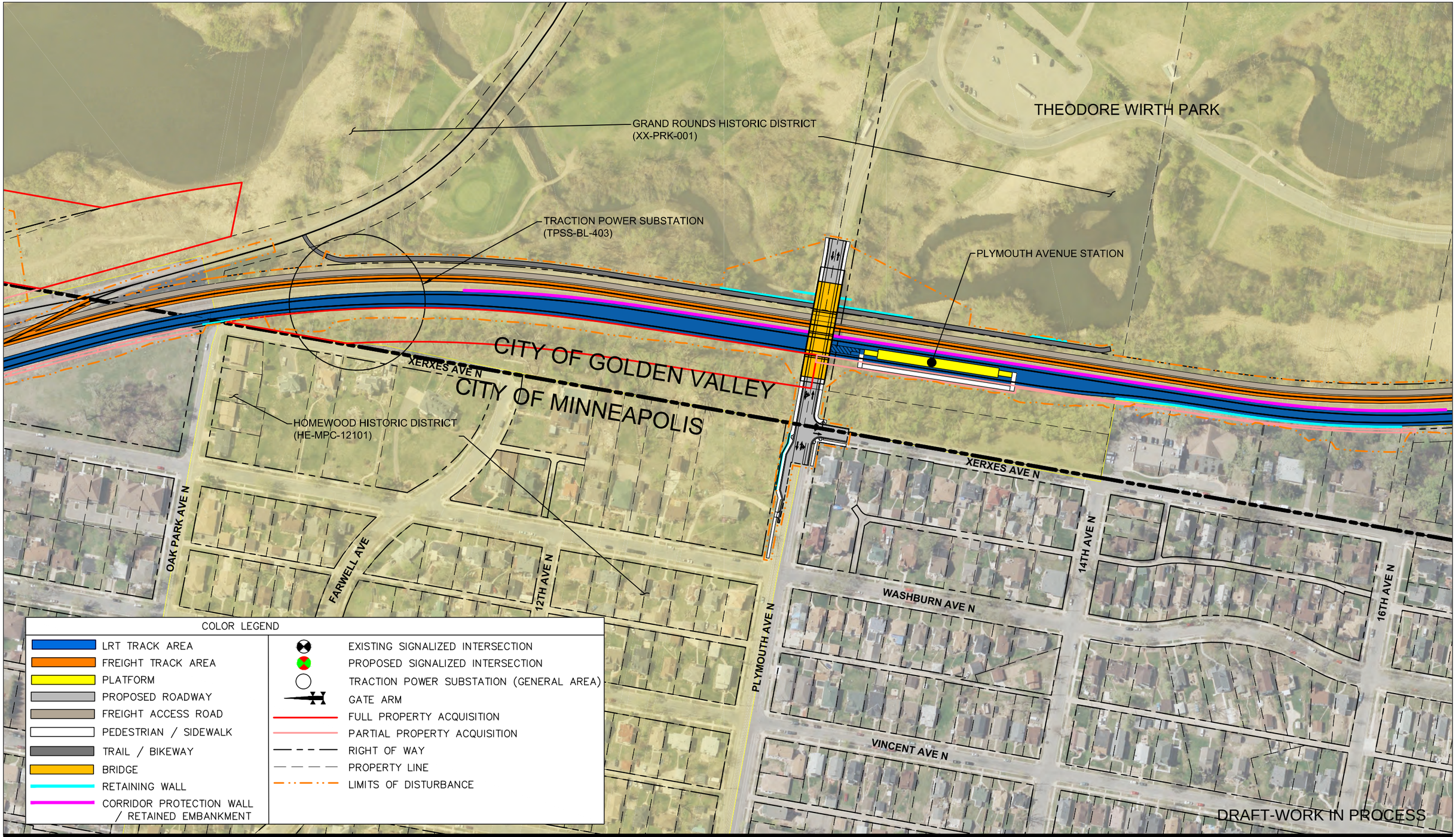

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BLUE LINE LRT EXTENSION

CITY OF MINNEAPOLIS / CITY OF GOLDEN VALLEY
FEIS PLAN SHEET

0 50 100 200
SCALE

5

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
- RETAINING WALL
- CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT

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- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

THEODORE WIRTH PARK

GOLDEN VALLEY RD

BONNIE LANE

THEODORE WIRTH PKWY

GRAND ROUNDS HISTORIC DISTRICT (XX-PRK-001)

GOLDEN VALLEY ROAD STATION

TRACTION POWER SUBSTATION (TPSS-BL-404)

CRESTV

GRAND ROUNDS HISTORIC DISTRICT (XX-PRK-001)

GOLDEN VALLEY PARK AND RIDE

MANOR DR

GLENVIEW TERRACE PARK

YORK AVE N

ZEPHYR PL

XERXES AVE N

17TH AVE N

18TH AVE N

GOLDEN VALLEY RD

GLENWOOD PKWY

THEODORE WIRTH PKWY

GLENWOOD PKWY

ZENITH AVE N

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METRO BLUE LINE EXTENSION LRT

METROPOLITAN COUNCIL

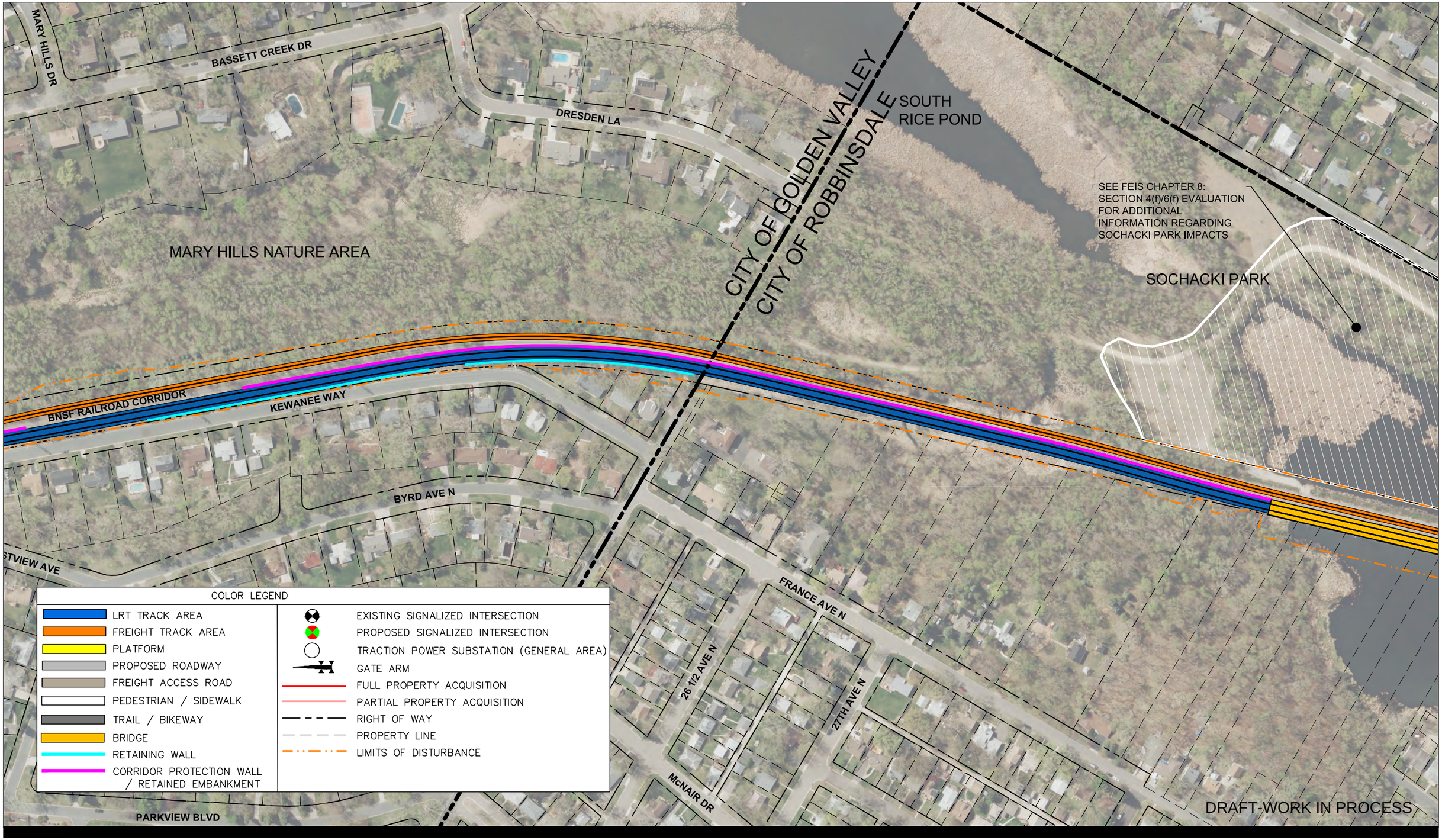
Kimley»Horn

BLUE LINE LRT EXTENSION

CITY OF GOLDEN VALLEY
FEIS PLAN SHEET

0 50 100 200
SCALE

6



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BLUE LINE LRT EXTENSION

CITY OF GOLDEN VALLEY / CITY OF ROBBINSDALE
FEIS PLAN SHEET

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E AVE

ELMDALE

ADELL AVE

LEE AVE N

34TH AVE N

SEE FEIS CHAPTER 8: SECTION 4(f)/6(f) EVALUATION FOR ADDITIONAL INFORMATION REGARDING SOCHACKI PARK IMPACTS

CITY OF GOLDEN VALLEY

CITY OF CRYSTAL

CITY OF ROBBINSDALE

NORTH RICE POND

GRIMES POND

TRACTION POWER SUBSTATION (TPSS-BL-405)

INDIANA AVE N

LOWRY AVE N

33RD AVE N

31 1/2 AVE N

HALIFAX AVE N

34TH AVE N

N 35TH AVE

HALIFA

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
- RETAINING WALL
- CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT

- EXISTING SIGNALIZED INTERSECTION
- PROPOSED SIGNALIZED INTERSECTION
- TRACTION POWER SUBSTATION (GENERAL AREA)
- GATE ARM
- FULL PROPERTY ACQUISITION
- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

CITY OF ROBBINSDALE
FEIS PLAN SHEET

0 50 100 200
SCALE

8

CITY OF CRYSTAL

CITY OF ROBBINSDALE

KYLE AVE N

JUNE AVE N

36TH AVE

N 36TH AVE

37TH AVE N

NOBLE AVE

ORCHARD AVE

39TH AVE N

38TH AVE N

LEE AVE N

MAJOR AVE N

39 1/2 AVE N

TRACTION POWER SUBSTATION
(TPSS-BL-406)

LEE PARK

GATE ARM CONTROLLED CROSSING

HALIFAX AVE N

38TH AVE N

HUBBARD AVE N

40TH AVE N

39TH AVE N

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
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- PROPERTY LINE
- LIMITS OF DISTURBANCE

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METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

Kimley»Horn

BLUE LINE LRT EXTENSION

CITY OF ROBBINSDALE
FEIS PLAN SHEET

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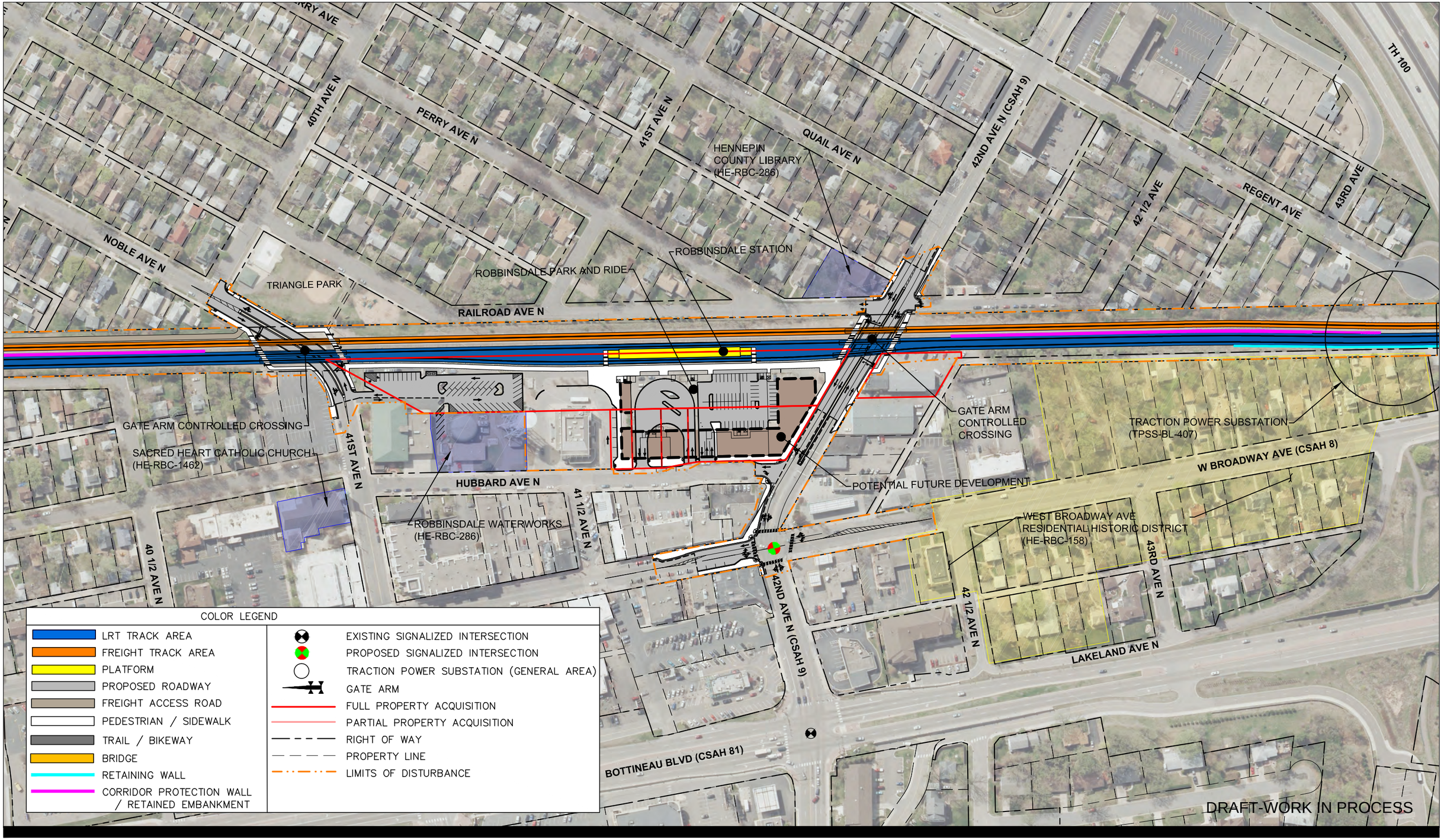
SCALE

9



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BLUE LINE LRT EXTENSION

CITY OF ROBBINSDALE
FEIS PLAN SHEET

0 50 100 200
SCALE

10

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
- RETAINING WALL
- CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT
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- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

BLUE LINE LRT EXTENSION

CITY OF ROBBINSDALE / CITY OF CRYSTAL
FEIS PLAN SHEET

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SCALE

11

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GLEN HAVEN MEMORIAL GARDENS

YATES AVE N

FAIRVIEW AVE N

48TH AVE N

XENIA AVE N

WELCOME AVE N

GATE ARM CONTROLLED CROSSING

W BROADWAY AVE (CSAH 8)

GATE ARM CONTROLLED CROSSING

CORVALLIS AVE

CANADIAN PACIFIC RAILROAD

TRACTION POWER SUBSTATION
(TPSS-BL-408)

DIAMOND CROSSING

WELCOME AVE N

VERA CRUZ AVE N

49TH AVE N

CORVALLIS AVE N

LAKELAND AVE N

BOTTINEAU BLVD (CSAH 81)

COLOR LEGEND	
LRT TRACK AREA	EXISTING SIGNALIZED INTERSECTION
FREIGHT TRACK AREA	PROPOSED SIGNALIZED INTERSECTION
PLATFORM	TRACTION POWER SUBSTATION (GENERAL AREA)
PROPOSED ROADWAY	GATE ARM
FREIGHT ACCESS ROAD	FULL PROPERTY ACQUISITION
PEDESTRIAN / SIDEWALK	PARTIAL PROPERTY ACQUISITION
TRAIL / BIKEWAY	RIGHT OF WAY
BRIDGE	PROPERTY LINE
RETAINING WALL	LIMITS OF DISTURBANCE
CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT	

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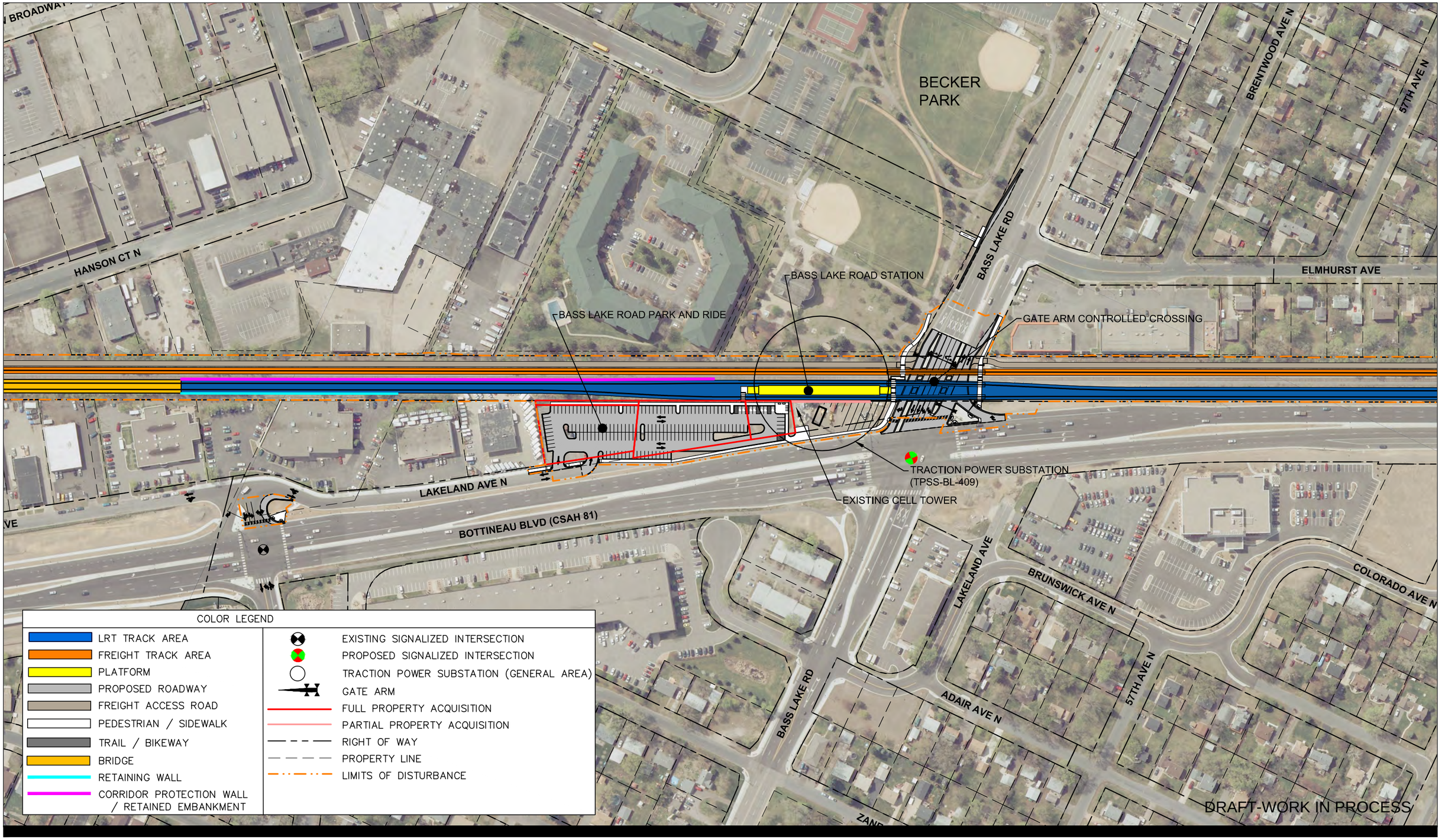
BLUE LINE LRT EXTENSION

CITY OF CRYSTAL
FEIS PLAN SHEET

0 50 100 200
SCALE

12



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BLUE LINE LRT EXTENSION

CITY OF CRYSTAL
FEIS PLAN SHEET

0 50 100 200
SCALE

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CLOVERDALE AVE
58TH AVE N
DUDLEY AVE N
59TH AVE N
HAMPSHIRE AVE N
60TH AVE N
IDAHO AVE N
LOMBARDY LN
61ST AVE N
ELMHURST AVE
HAMPSHIRE AVE N
BOTTINEAU BLVD (CSAH 81)
TRACTION POWER SUBSTATION
(TPSS-BL-410)
CRYSTAL
AIRPORT
60TH AVE N
LOMBARDY LN
FLORIDA AVE N
61ST AVE N
62ND AVE N
DOUGLAS DR N
SKYWAY
PARK
DRAFT-WORK IN PROCESS

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
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- PROPERTY LINE
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BLUE LINE LRT EXTENSION

CITY OF CRYSTAL
FEIS PLAN SHEET

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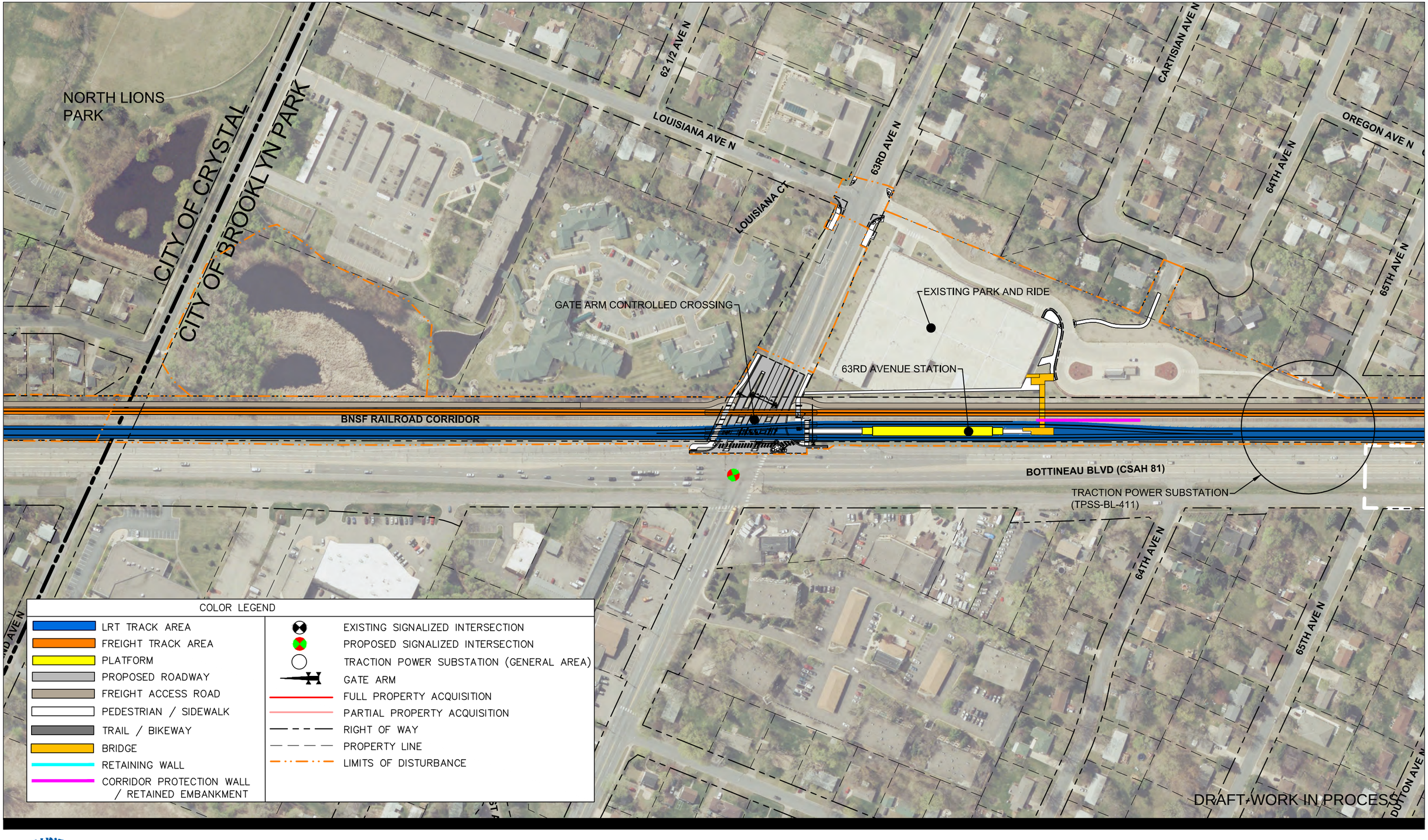

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
- RETAINING WALL
- CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT
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- GATE ARM
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- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

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BLUE LINE LRT EXTENSION

CITY OF CRYSTAL / CITY OF BROOKLYN PARK
FEIS PLAN SHEET

0 50 100 200
SCALE

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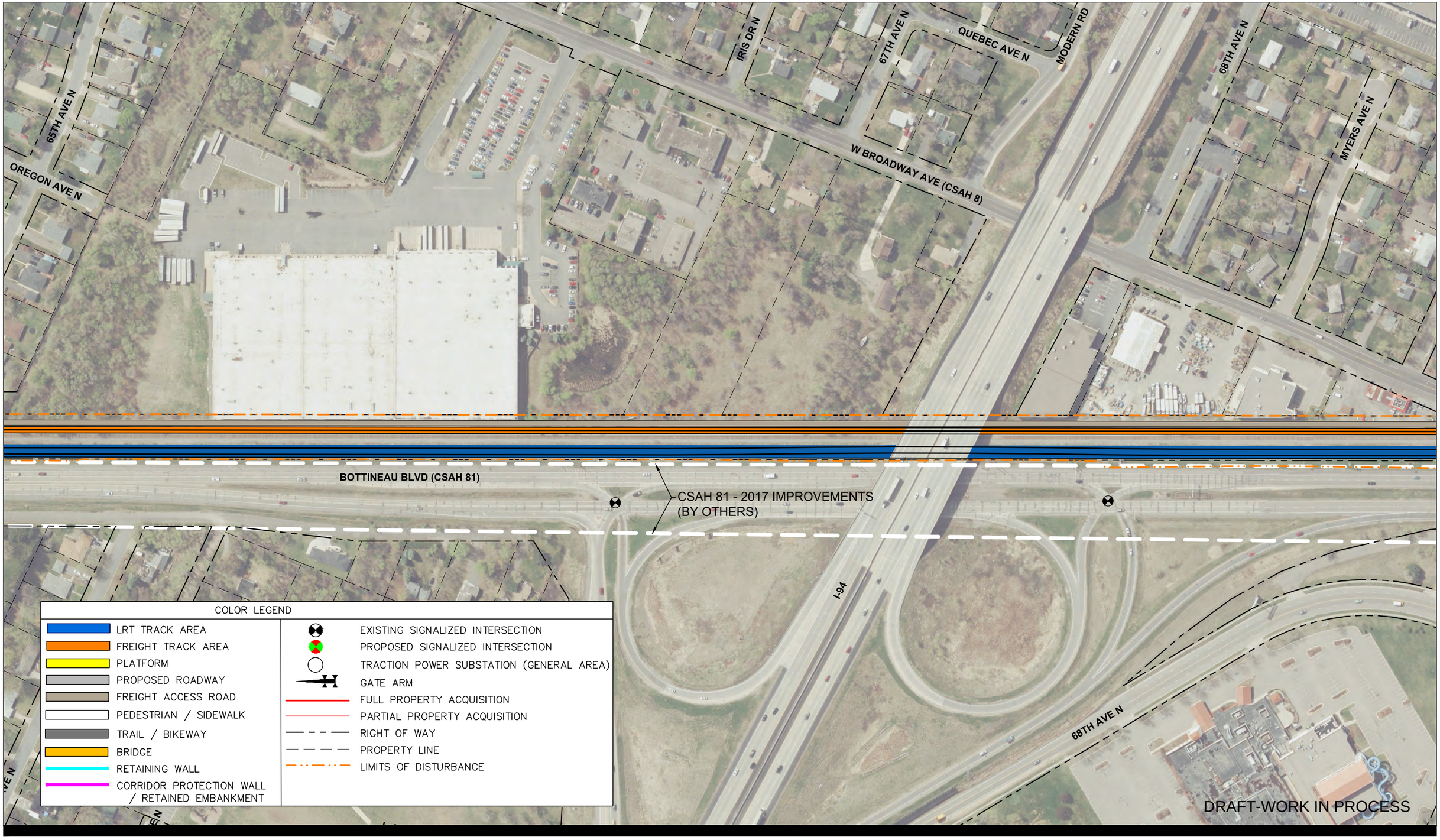

BLUE LINE LRT EXTENSION

FEIS PLAN SHEET

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SCALE

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69TH AVE N

WINNETKA AVE N

GATE ARM CONTROLLED CROSSING

TRACTION POWER SUBSTATION
(TPSS-BL-412)

W BROADWAY AVE (CSAH 8)

BNSF RAILROAD CORRIDOR

CSAH 81 - 2017 IMPROVEMENTS
(BY OTHERS)

BOTTINEAU BLVD (CSAH 81)

CSAH 81 - 2019 IMPROVEMENTS
(BY OTHERS)

71ST AVE N

W BROADWAY AVE (CSAH 130)

73RD AVE N

LAKELAND AVE

TRACTION POWER SUBSTATION
(TPSS-BL-413)

JOLLY LN

DRAFT WORK IN PROCESS

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
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- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

BLUE LINE LRT EXTENSION

CITY OF BROOKLYN PARK
FEIS PLAN SHEET

0 50 100 200
SCALE

LAKELAND AVE

JOLLY LA

JOLLY LN

TRACTION POWER SUBSTATION
(TPSS-BL-413)

BROOKLYN BOULEVARD STATION

W BROADWAY AVE (CSAH 130)

W BROADWAY AVE (CSAH 103)

BROOKLYN BLVD
(CSAH 130)

74TH AVE N

74TH WAY N

75TH AVE N

75TH CIR N

LOUISIANA AVE N

76TH AVE N

BROOKLYN BLVD
(CSAH 152)

KENTUCKY CIR N

PARK LAWN
PARK

DRAFT-WORK IN PROCESS

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
- RETAINING WALL
- CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT

- EXISTING SIGNALIZED INTERSECTION
- PROPOSED SIGNALIZED INTERSECTION
- TRACTION POWER SUBSTATION (GENERAL AREA)
- GATE ARM
- FULL PROPERTY ACQUISITION
- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

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BLUE LINE LRT EXTENSION

CITY OF BROOKLYN PARK
FEIS PLAN SHEET

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SCALE

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BLUE LINE LRT EXTENSION

CITY OF BROOKLYN PARK
FEIS PLAN SHEET

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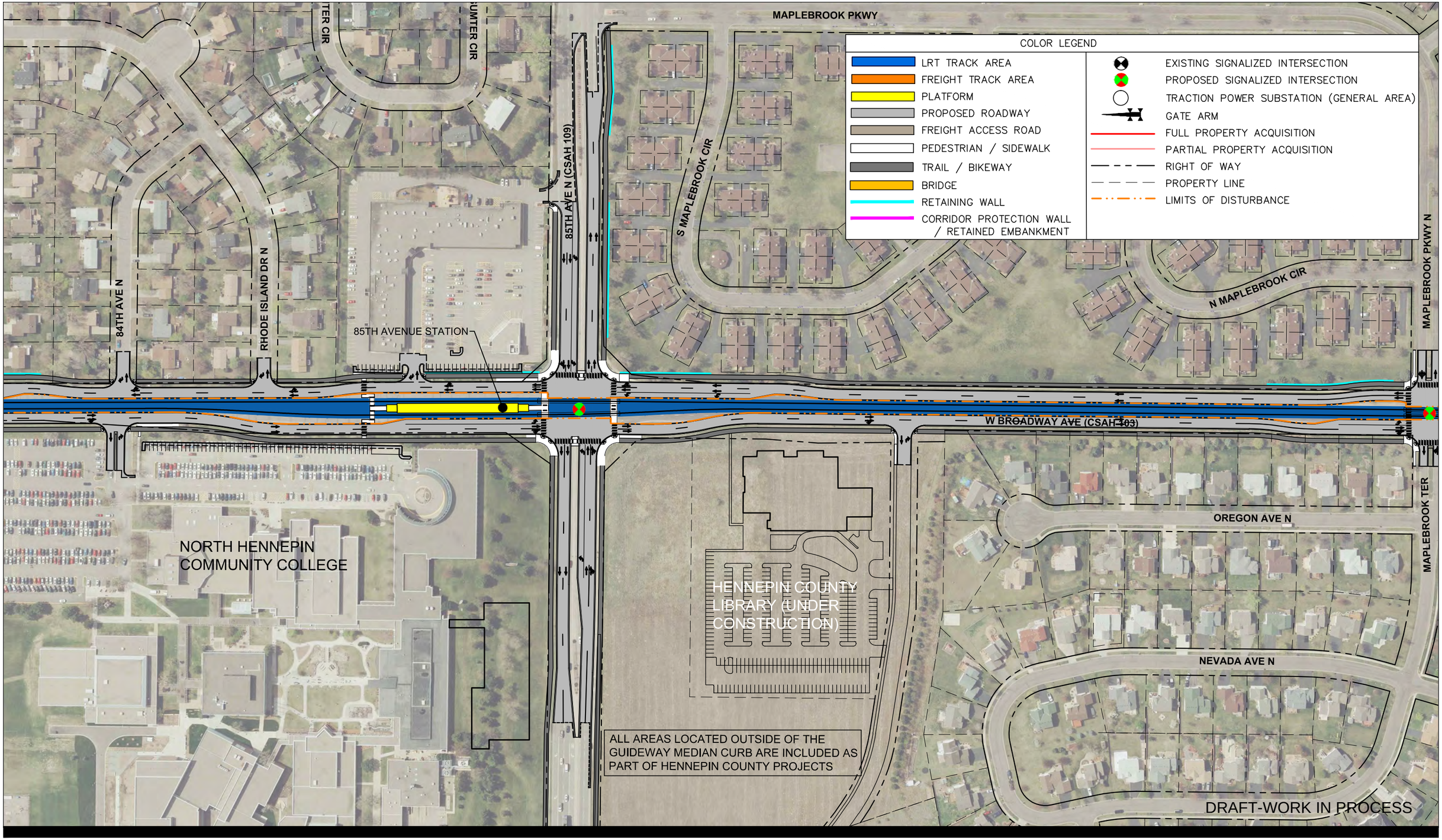

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BLUE LINE LRT EXTENSION

CITY OF BROOKLYN PARK
FEIS PLAN SHEET

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SCALE

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
- RETAINING WALL
- CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT
- EXISTING SIGNALIZED INTERSECTION
- PROPOSED SIGNALIZED INTERSECTION
- TRACTION POWER SUBSTATION (GENERAL AREA)
- GATE ARM
- FULL PROPERTY ACQUISITION
- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

ALL AREAS LOCATED OUTSIDE OF THE GUIDEWAY MEDIAN CURB ARE INCLUDED AS PART OF HENNEPIN COUNTY PROJECTS

89TH AVE N

TRACTION POWER SUBSTATION (TPSS-BL-415)

W BROADWAY AVE (CSAH 103)

92ND AVE

93RD AVENUE STATION

NEVADA CIR N

SETZLER PKWY

NEVADA CT N

EBENEZER COMMUNITY CHURCH

NEVADA AVE N

91ST TRAIL N

92ND TRAIL N

DRAFT-WORK IN PROCESS

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METRO BLUE LINE EXTENSION Brooklyn Park LRT

METROPOLITAN COUNCIL

Kimley»Horn

BLUE LINE LRT EXTENSION

CITY OF BROOKLYN PARK
FEIS PLAN SHEET

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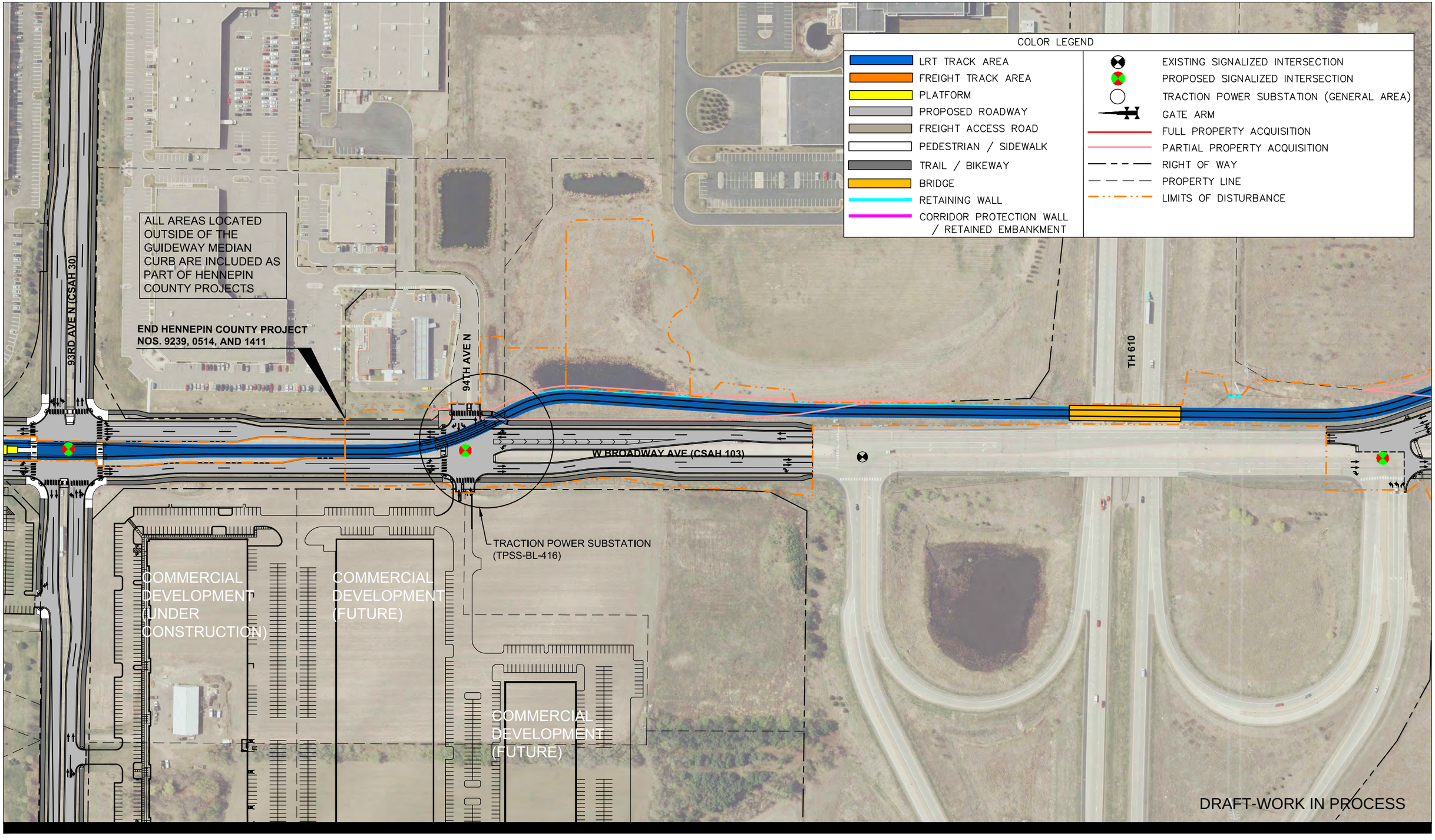

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BLUE LINE LRT EXTENSION

CITY OF BROOKLYN PARK
FEIS PLAN SHEET

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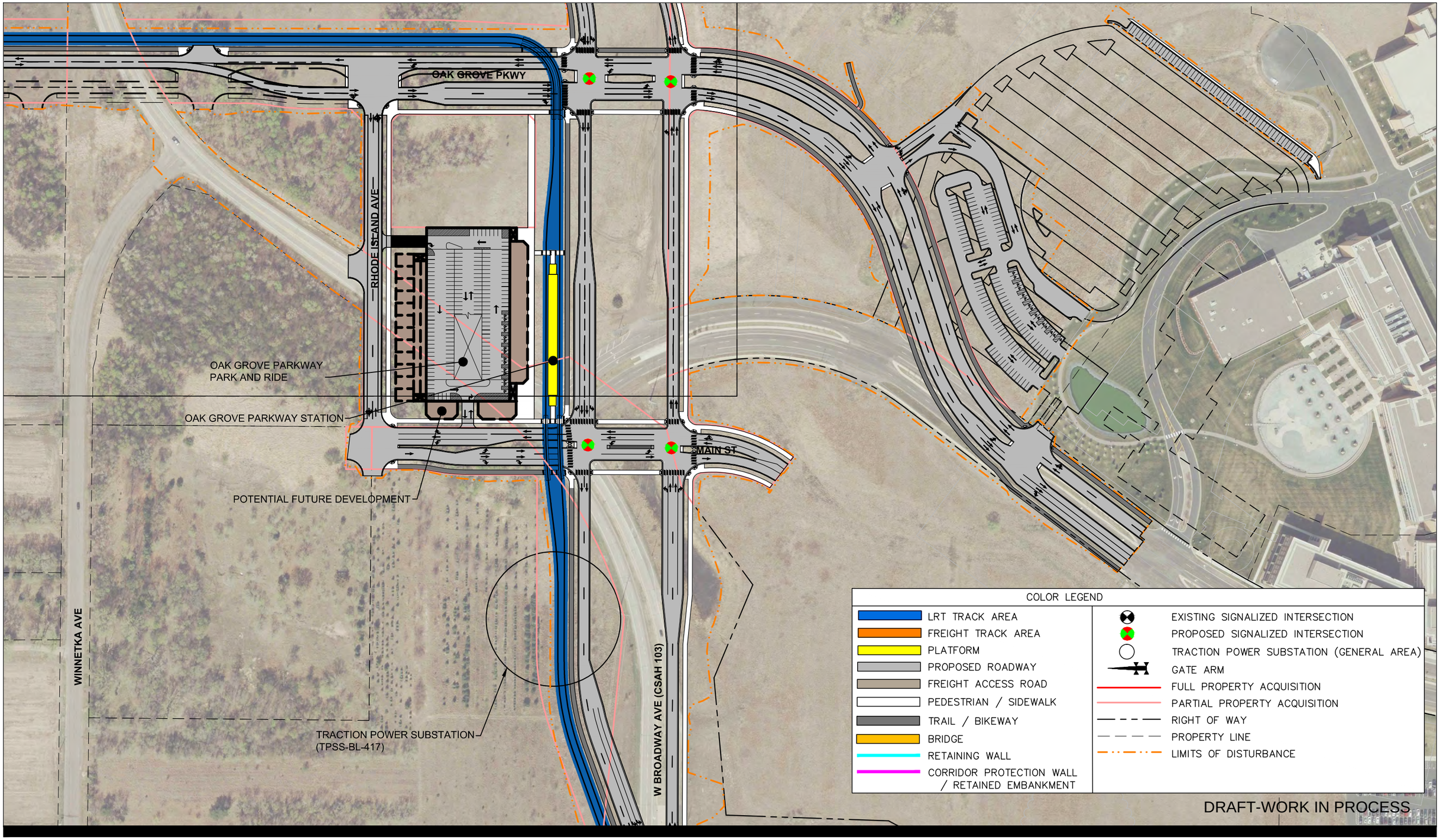

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BLUE LINE LRT EXTENSION

CITY OF BROOKLYN PARK
FEIS PLAN SHEET

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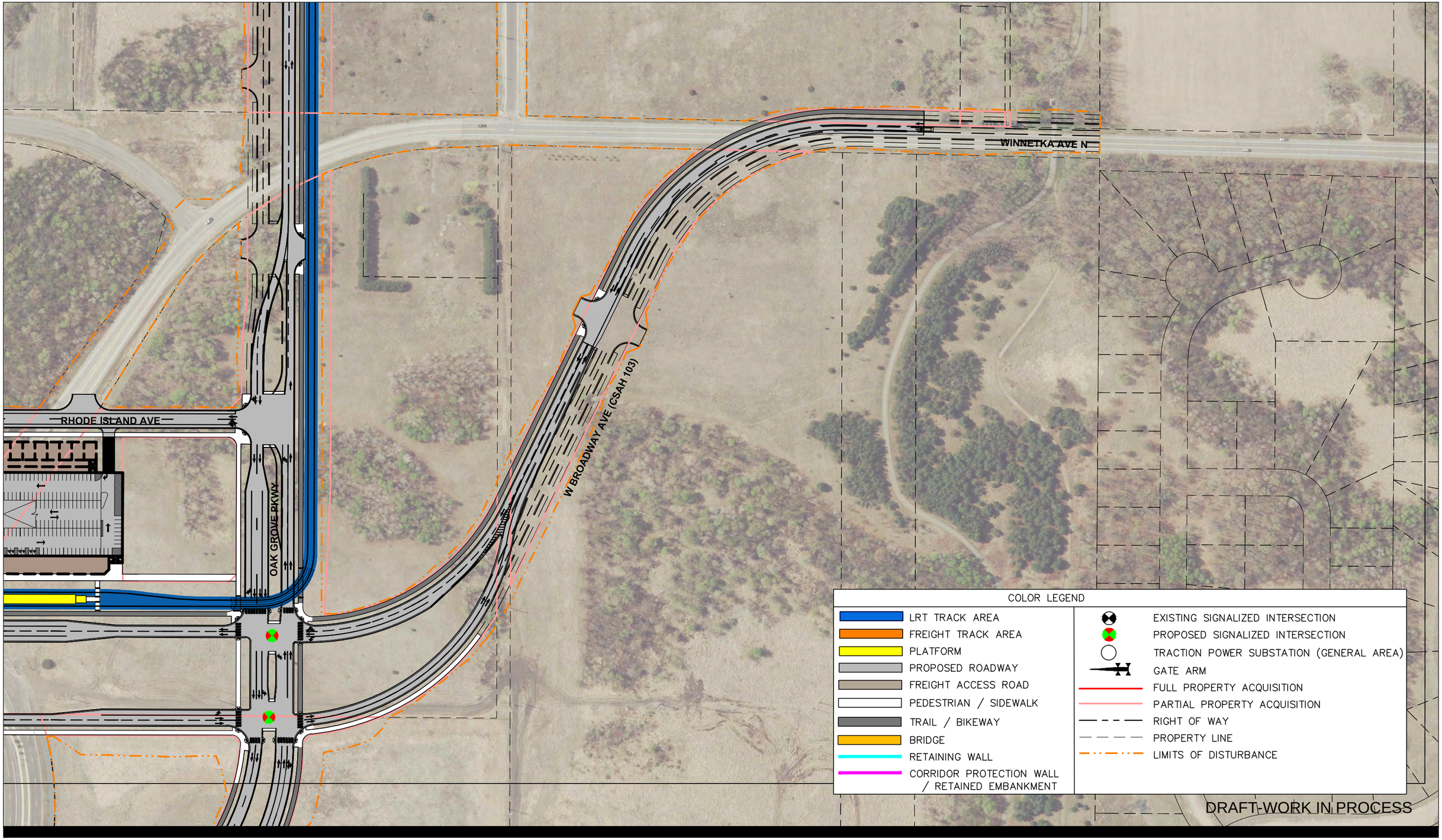

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BLUE LINE LRT EXTENSION

CITY OF BROOKLYN PARK
FEIS PLAN SHEET

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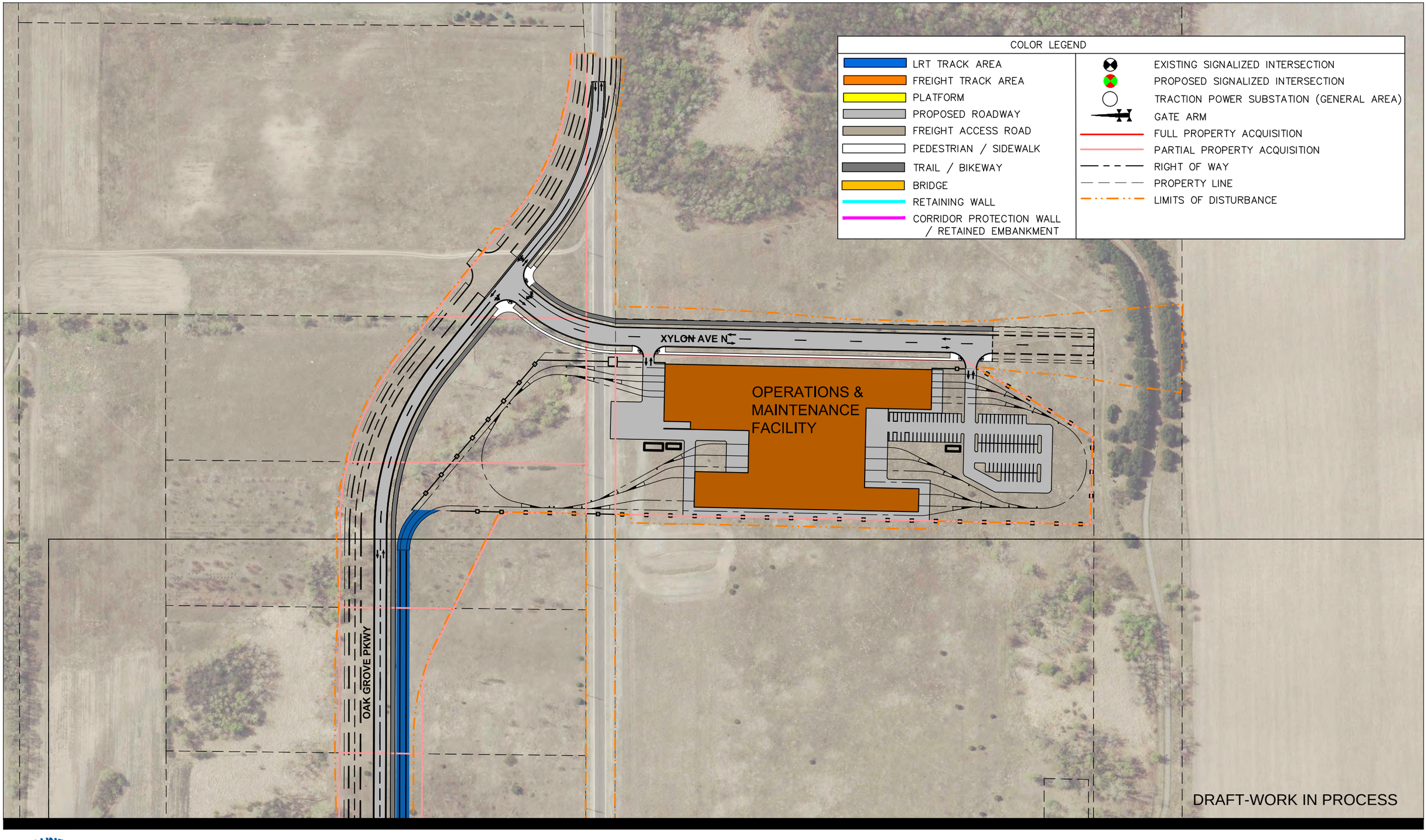
SCALE



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METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

Kimley»Horn

BLUE LINE LRT EXTENSION

CITY OF BROOKLYN PARK
FEIS PLAN SHEET

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SCALE

Appendix F
Supporting Technical Reports

The following is a list of supporting technical reports that provide additional documentation and analysis in support of the Final EIS chapters:

1. HDR, Inc., 2015, *Transportation Technical Report*
2. Kimley-Horn and Associates, Inc., 2015, *BLRT Traffic Operations Technical Memorandum*
3. HDR, Inc., 2016, *Visual Quality Technical Report*
4. Metropolitan Council, 2015, *Economic Impacts of Bottineau LRT*
5. SRF Consulting Group, Inc., 2016, *Preliminary Floodplain Impacts and Mitigation Strategies*
6. HDR, Inc., 2016, *Wetlands Technical Report*
7. Braun Intertec, 2015, *Modified Phase I Environmental Site Assessment*
8. HDR, Inc., 2016, *Noise and Vibration Technical Report*
9. HDR, Inc., 2016, *Biological Environment Technical Report*
10. SRF Consulting Group, Inc., 2016, *Preliminary Stormwater Management Plan*
11. Connetics Transportation Group, 2016, *Financial Analysis in Support of the FEIS*

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Appendix F
Supporting Technical Reports

F.2 BLRT Traffic Operations Technical Memorandum

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To:	Nick Landwer, P.E. Director of Design and Engineering, Blue Line LRT Extension Project
From:	JoNette Kuhnau, P.E., PTOE Traffic Engineering Task Lead, Kimley-Horn and Associates, Inc.
Date:	November 12, 2015
Subject:	BLRT Traffic Operations Technical Memorandum

1.0 Introduction

The Blue Line Light Rail Transit Extension (BLRT) project is proposed to be a 13-mile LRT project with 10 or 11 new stations that will operate from downtown Minneapolis through Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The BLRT line will serve as an extension of the METRO Blue Line (Hiawatha Corridor) and will also connect to the METRO Green Line in downtown Minneapolis.

The traffic analysis presented in this memorandum is based on the project scope as presented to the Corridor Management Committee (CMC) through September 2015, and as shown in the BLRT Municipal Consent (MC) plans.

1.1 Purpose of Memorandum

This technical memorandum has been prepared in support of the BLRT project MC design and the Final Environmental Impact Statement (Final EIS). The objective of the traffic analysis is to define the scope of the project improvements and evaluate the potential traffic impacts of the project, including the following:

- Evaluate the project's impacts on traffic operations at existing and proposed intersections and at-grade rail crossings along or near the BLRT alignment.
- Identify proposed improvements to address operational issues identified in the traffic analysis.

The methodology, assumptions, and results of the analysis are presented in the following sections.

1.2 Study Areas

The location of the overall BLRT alignment is shown in **Figure 1**. The proposed BLRT guideway will be at-grade for most of its alignment and includes segments with the LRT operating in an exclusive guideway and semi-exclusive street-running operation. In the middle segments of the alignment, the LRT guideway operates adjacent to the BNSF Railway (BNSF) Monticello Subdivision, from approximately 73rd Avenue in Brooklyn Park to Trunk Highway (TH) 55 in Minneapolis. The locations of the intersections and at-grade crossings studied as part of the BLRT traffic analysis are shown in **Figures 2-6.** The analysis was broken into four segments based on the characteristics of the roadway and BLRT alignment, as shown in **Figure 1** and described below:

- Operations and Maintenance Facility (OMF) to TH 610 in Brooklyn Park – BLRT alignment side-running along County State Aid Highway (CSAH) 103 (West Broadway Avenue) and Oak Grove Parkway.

- TH 610 to CSAH 81 (Bottineau Boulevard)/73rd Avenue N intersection in Brooklyn Park – BLRT alignment generally center-running along CSAH 103 (West Broadway Avenue).
- CSAH 81 (Bottineau Boulevard)/73rd Avenue N intersection in Brooklyn Park to TH 55 (Olson Memorial Highway) in Minneapolis –BLRT alignment adjacent to the BNSF Monticello Subdivision freight rail alignment.
- TH 55 (Olson Memorial Highway) to Target Field Station in Minneapolis – BLRT alignment generally center-running along TH 55 (Olson Memorial Highway).

The alignment between 41st Avenue N in Robbinsdale and TH 55 (Olson Memorial Highway) in Minneapolis included only one intersection (Golden Valley Road/Theodore Wirth Parkway) in the traffic analysis because the BLRT alignment is generally grade separated from the roadway network through this area. The BLRT alignment crosses only one low-volume roadway (39 ½ Avenue N), and the crossing on 39 ½ Avenue N is a gated crossing with no nearby all-way stop or signalized intersections. The Golden Valley Road/Theodore Wirth Parkway intersection was included in the analysis based on the potential traffic impacts due to the proposed park-and-ride facility at the Golden Valley Road Station.

1.3 Data Collection

Multiple data elements were collected for each of the areas analyzed:

- 13-hour weekday counts at intersections including passenger vehicles, heavy vehicles, pedestrians, and bicycles
- Freight rail train lengths and crossing times
- On-site field survey to collect the following information:
  - Existing intersection geometry
  - Lane widths
  - Lane utilizations
  - Approximate peak hour queue lengths
  - Storage bay lengths to the nearest 10-ft increment
  - Approach speed limits
  - Traffic signal infrastructure, including emergency vehicle preemption
  - Relevant signage and pavement markings
- Timing and coordination plans for existing signalized intersections
- Bus routes, stops, and passenger loading/unloading

This data was used to assemble a comprehensive model of the existing conditions.

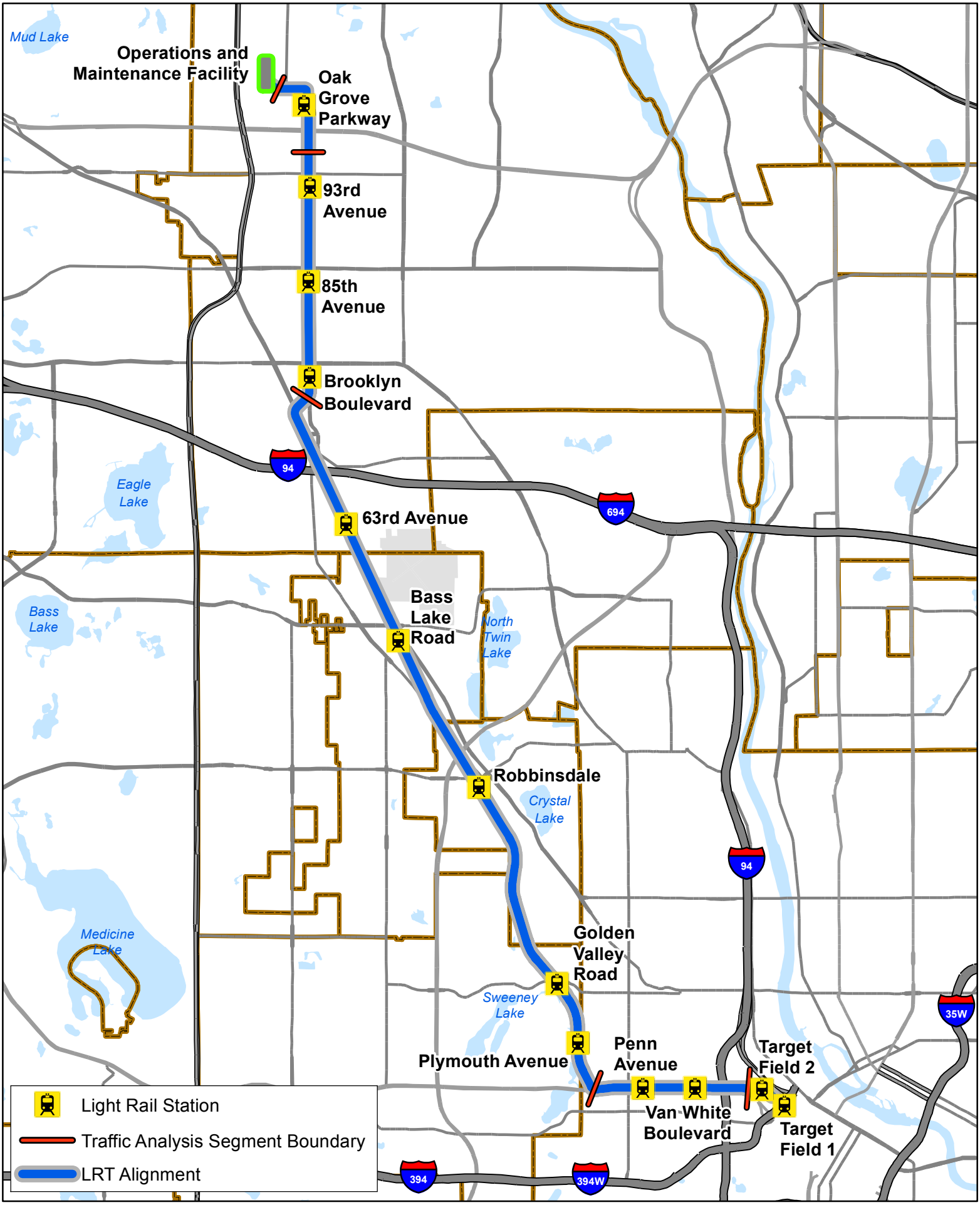

Figure 1. BLRT Project Study Area

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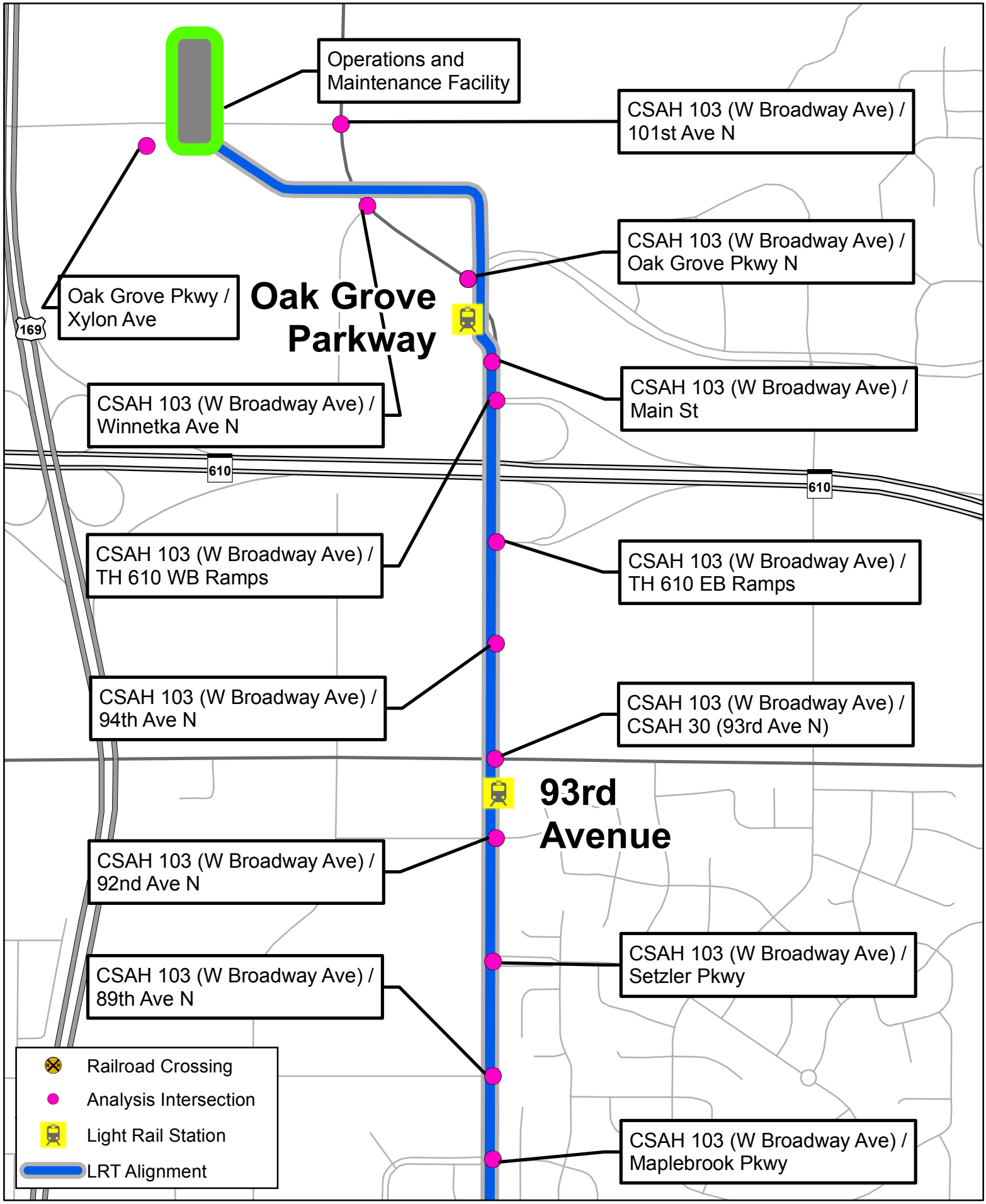


Figure 2. BLRT Traffic Analysis Intersections

0 0.1 0.2 Miles

N

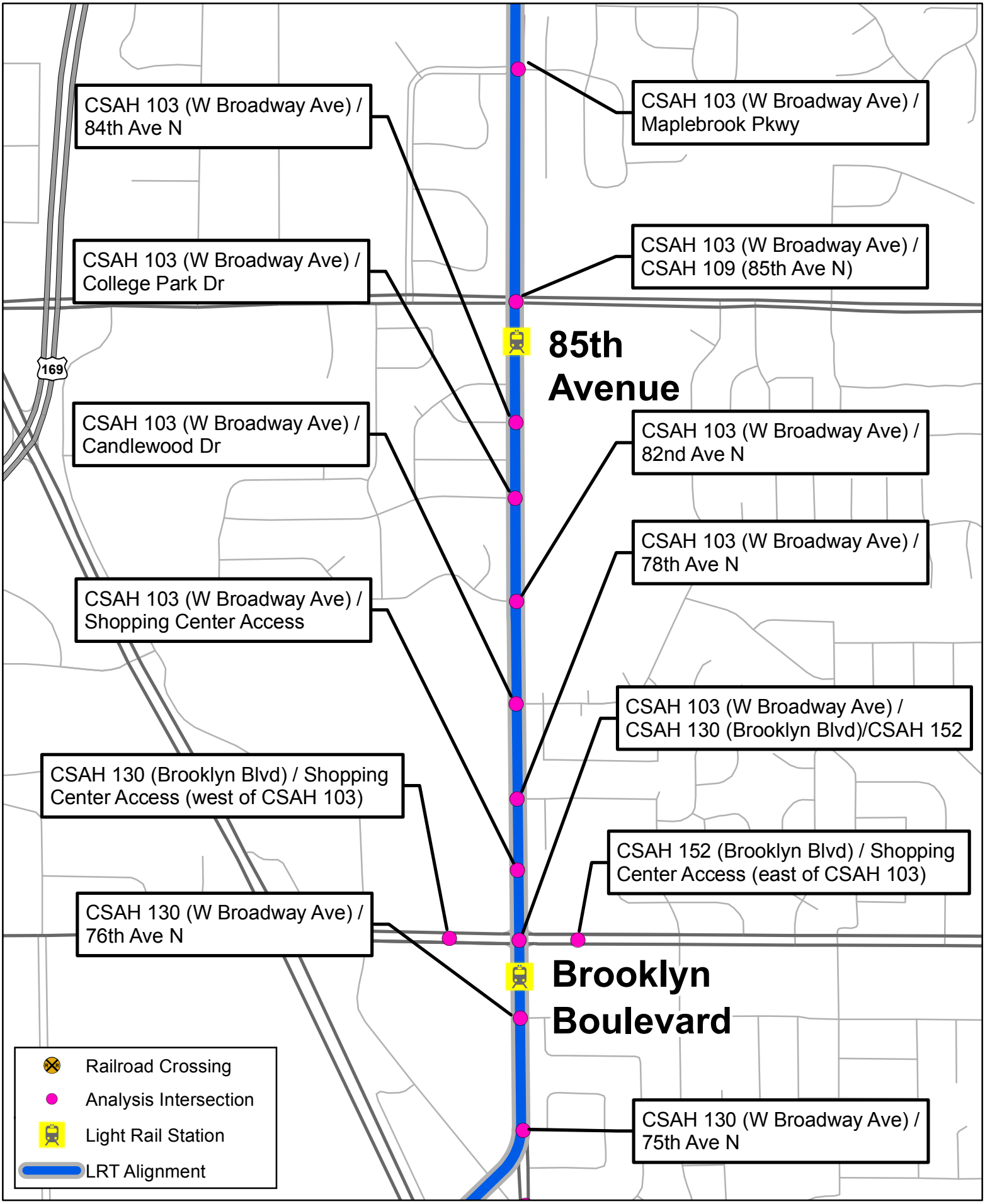


Figure 3. BLRT Traffic Analysis Intersections

0 0.1 0.2 Miles

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

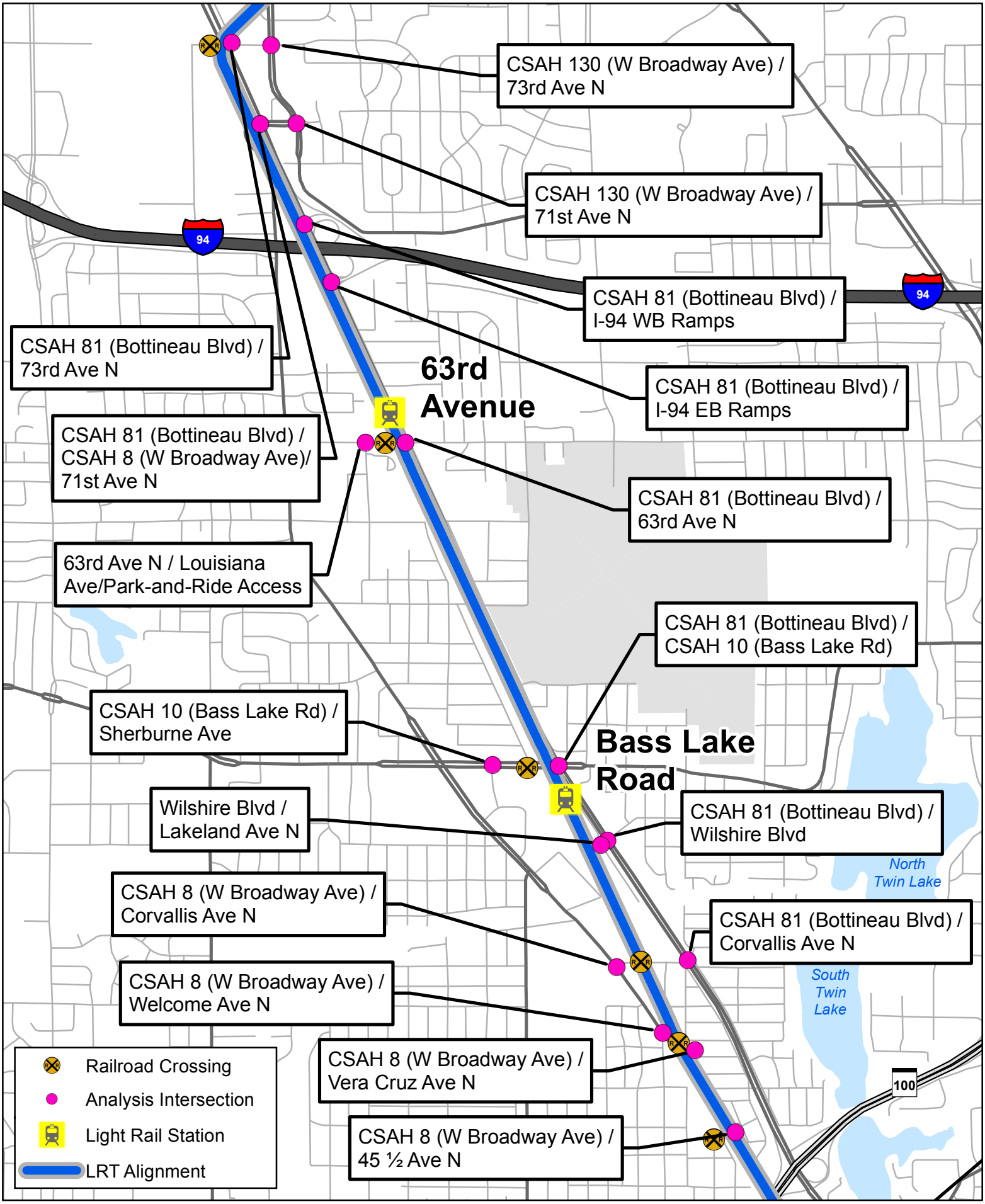


Figure 4. BLRT Traffic Analysis Intersections

0 0.2 0.4 Miles

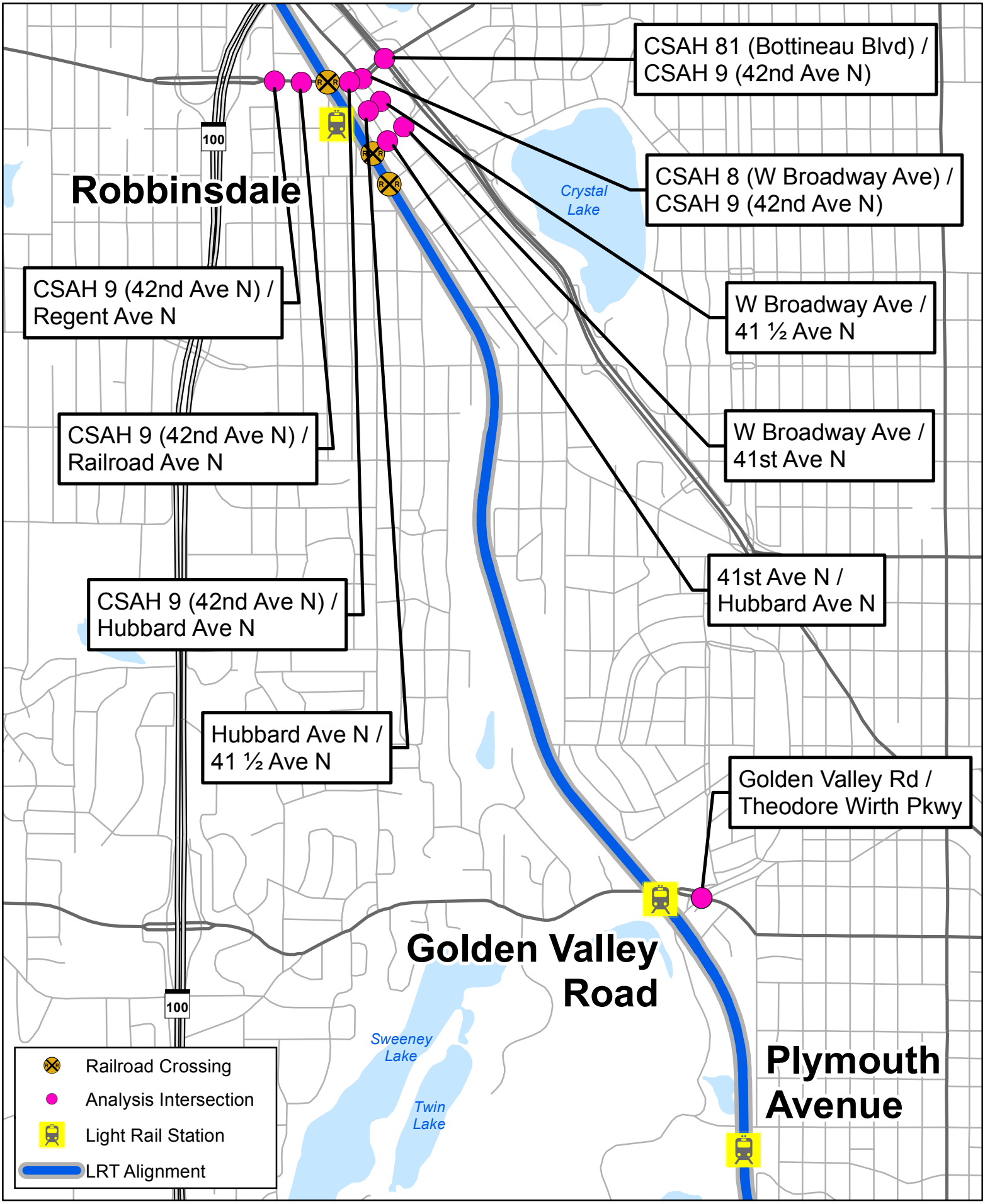


Figure 5. BLRT Traffic Analysis Intersections

0 0.2 0.4 Miles

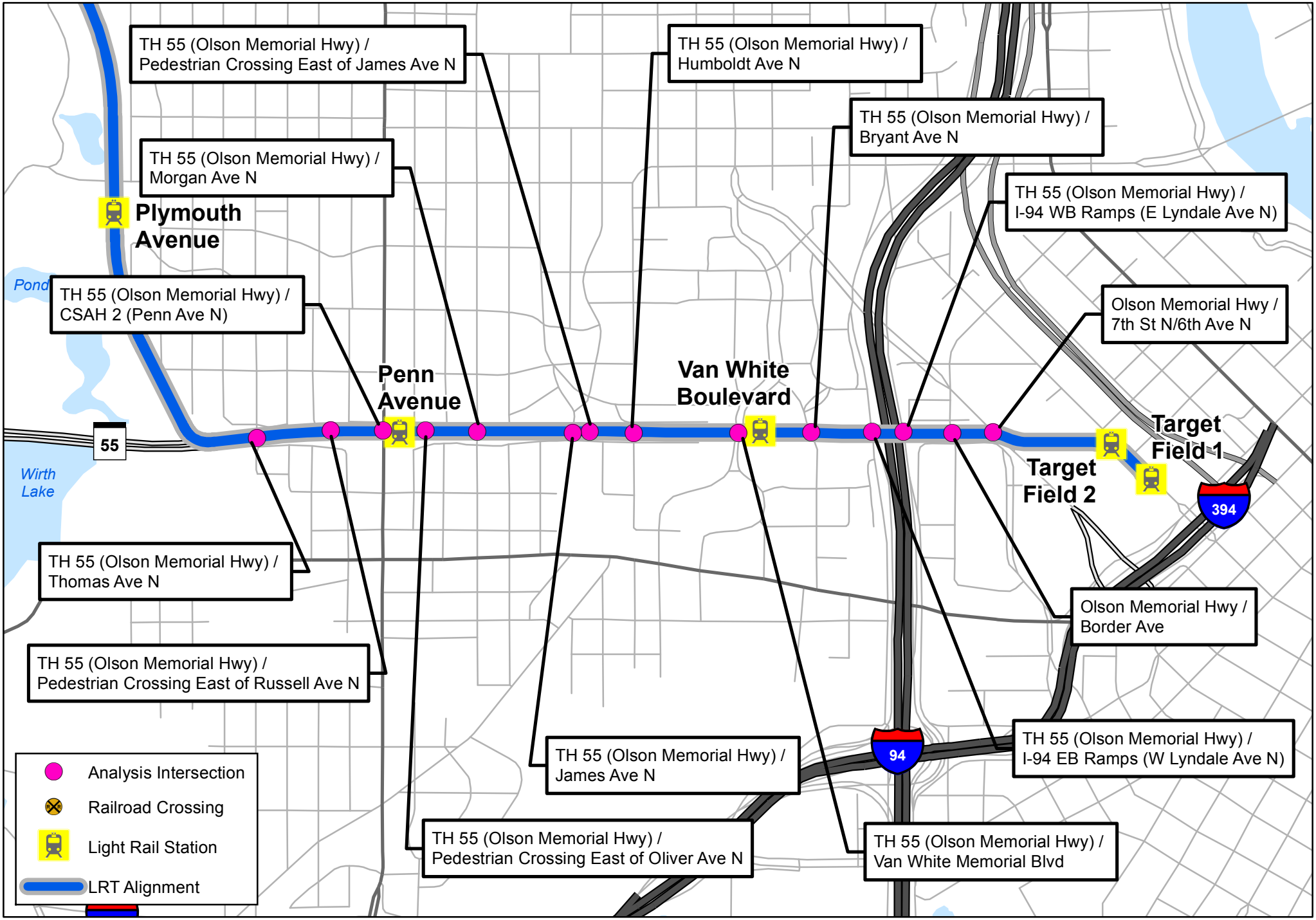


Figure 6. BLRT Traffic Analysis Intersections

2.0 Methodology

2.1 Key Intersections and At-Grade Crossings

To determine the impacts of the BLRT project on the local roadway network, a traffic operations analysis was conducted for signalized and unsignalized intersections within the vicinity of the new BLRT alignment or for intersections that would be expected to have increased traffic due to the BLRT stations, such as near park-and-ride facilities. The analysis area included signalized intersections with an LRT crossing in the intersection, the closest signalized or unsignalized intersections on both sides of an at-grade mid-block LRT crossing, and the intersections that provide access to a LRT station park-and-ride facility. At least two intersections were analyzed for each at-grade LRT crossing or park-and-ride facility. Additional intersections were analyzed based on their proximity to the crossing or park-and-ride facility and the potential for interaction with the crossing or park-and-ride facility. Grade separated crossings were not modeled because the LRT does not interact with pedestrian, bicycle, or vehicle traffic at these locations.

2.2 Forecast Traffic Volumes

The development of future year traffic forecasts for use in the simulation modeling was based on the preliminary 2040 socioeconomic data prepared by local communities and consistent with the Metropolitan Council's Thrive MSP 2040. This data was used as input to the Metropolitan Council's Regional Travel Demand Model. The outputs from the 2040 Regional Travel Demand Model were then compared to existing and historic traffic counts. This information, combined with the expected changes in land use and density, was utilized at a localized level to develop future year forecasts for each roadway segment within the project area. The traffic forecasting process is described in more detail in the *BLRT Traffic and Park-and-Ride Forecast Technical Memorandum* (2015).

2.3 Traffic Analysis Methodology

The approach to the traffic operations analysis is derived from the established methodologies documented in the 2010 *Highway Capacity Manual* (HCM). The HCM contains a series of analysis techniques for evaluating the operations of transportation facilities under specified conditions. The models for the BLRT analysis have been developed using VISSIM and Synchro/SimTraffic, software packages that implement the HCM methodologies. The inputs to the software include lane geometrics, traffic volumes, pedestrian/bicycle volumes, transit stations, freight and LRT alignments, freight and LRT volumes, intersection and grade crossing control devices, and signal phase and timing characteristics.

The outputs of the models are evaluated using the level of service thresholds as defined in the HCM, which are shown in **Table 2.1**. Based on standard practice in the traffic engineering industry, as well as guidance from the American Association of State Highway and Transportation Officials (AASHTO) and conformance with MnDOT practice, level of service D/E is considered to be the threshold of acceptable operations for an overall intersection in an urban or suburban area during peak hours.

The analysis periods included the highest hour of traffic volume during the weekday AM peak period (6:00-9:00 AM) and PM peak period (3:00-7:00 PM). The peak hour varied by intersection, but AM peak hours were generally identified as occurring between 7:00 AM and 8:30 AM and PM peak hours were generally identified as occurring between 4:30 PM and 5:45 PM.

Table 2.1. Intersection Level of Service Definitions

Level of Service	Signalized Intersection Delay (seconds per vehicle)	Unsignalized Intersection Delay (seconds per vehicle)
A	≤10	≤10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

Source: Highway Capacity Manual 2010

2.4 Design Criteria and Assumptions

All full access intersections with the LRT guideway, where all vehicular movements are allowed across the guideway, were assumed to be signalized and/or controlled with automatic gates to provide safe movement of LRT and vehicles. All at-grade roadway/LRT crossings where LRT operates in the freight corridor were assumed to have automatic gates in accordance with the guidance and standards contained in the 2009 edition of the *Minnesota Manual on Uniform Traffic Control Devices* (MMUTCD). The operation of automatic gates was also based on the standards in the MUTCD, which includes:

- gate arms start lowering a minimum of 3 seconds after the flashing-light signals start to operate;
- gate arms shall reach the horizontal position at least 5 seconds before the arrival of the rail traffic;
- gate arms shall remain in the down position as long as the rail traffic occupies the grade crossing; and
- gate arms should ascend to the upright position in 12 seconds or less, once the rail traffic leaves the grade crossing.

For a typical LRT crossing, the time from the gates being activated until they return to the upright position is approximately 45 to 50 seconds.

Signalized intersections within 200 feet of an at-grade rail crossing were identified for interconnection to the rail crossing. At these locations, the signal is proposed to be preempted by the rail crossing, in order to provide for clearance of vehicle queues from the tracks prior to the gate arms being lowered.

2.5 Measures of Effectiveness

The measures of effectiveness used to evaluate the operations results and identify a project impact in need of improvement were based on intersection delay (level of service) and queuing.

The level of service (LOS) criteria used to identify a project impact and potential mitigation were as follows:

- Overall intersection LOS E or F in Build conditions, if No Build intersection LOS D or better
- Approach or movement LOS E or F in Build conditions, if the movement negatively impacts upstream operations and No Build approach or movement operated at LOS D or better

The criteria used to identify a queuing issue were as follows:

- 95th percentile queue length that exceeds storage length, and one of the following criteria is also met:
  - Average back-of-queue exceeds storage length
  - Movement operates at LOS E or LOS F
  - 95th percentile queue blocks upstream full-access intersection(s)
- 95th percentile queue length exceeds 500 feet on a stop-controlled approach

For locations where a queuing issue was identified, the need for mitigation was based on a comparison to the No Build conditions, the severity of the issue, the potential safety and operations implications at the study intersection, and the impact the queue had on the larger roadway network. Where the need for queue mitigation was identified based on these criteria, improvements were added to the Build modeling and have been incorporated into the BLRT project. These improvements are listed in Section 5.1, along with all improvements that have been identified to be built as part of the BLRT project.

3.0 Existing Conditions Analysis

The existing conditions models were developed to validate and calibrate the simulation models of the study areas, which were then used to model the future year conditions. The assumptions, methodology, and results of the existing conditions analysis are presented in the following sections.

3.1 Existing Conditions Assumptions

The existing conditions analysis was based on traffic volumes, roadway geometrics, rail crossing treatments, and signal operations as they existed in 2014 when the data collection was completed. The existing peak hour traffic volumes, which are based on the counts conducted in 2014, are provided in **Appendix A**. The geometrics and intersection control for the existing conditions are shown in the intersection layout tables provided in **Appendix B.**

The AM peak hour was calculated to be the highest volume hour between 7:00 AM and 8:30 AM and the PM peak hour was calculated to be the highest volume hour between 4:30 PM and 5:45 PM for all intersections, based on the turning movement data collected within the study area.

Existing information collected along the freight rail corridor shows that at most one train per day with less than 20 cars is expected on the BNSF Monticello Subdivision. The data collected in 2014 showed that trains typically travel through the corridor in the AM peak hour, between 7:30 and 8:00 AM. No freight trains have been observed during the PM peak hour.

3.2 Existing Conditions Traffic Modeling Results

The existing operations results are presented for each of the four modeling areas in the following sections.

3.2.1 OMF to TH 610

The results of the AM and PM peak hour analysis showed that all intersections currently operate at overall LOS D or better during the Existing peak hour scenarios. All intersections were modeled in VISSIM based on the proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 3.1** below.

No queuing issues were identified in the Existing conditions.

The full table of existing conditions LOS and queuing analysis results can be found in **Appendix C.**

Table 3.1. OMF to TH 610 – Existing Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS	
	AM Existing	PM Existing
CSAH 103 (W Broadway Ave)/ 101st Ave N*	0.3 A	3.1 A
CSAH 103 (W Broadway Ave)/ Winnetka Ave N*	0.2 A	0.9 A
CSAH 103 (W Broadway Ave)/ Oak Grove Pkwy	10.0 A	18.9 B
CSAH 103 (W Broadway Ave)/ TH 610 WB Ramps	14.5 B	19.6 B
CSAH 103 (W Broadway Ave)/ TH 610 EB Ramps	11.7 B	13.5 B

*Side street stop-controlled intersection

3.2.2 *TH 610 to CSAH 81 (Bottineau Boulevard)/73rd Avenue N*

The results of the AM and PM peak hour analysis showed that all intersections currently operate at overall LOS D or better during the Existing peak hour scenarios. All intersections were modeled in VISSIM based on the proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 3.2** below.

Movements for which queuing issues were identified in one or more scenarios were as follows:

- CSAH 103 (West Broadway Avenue)/CSAH 30 (93rd Avenue N) – Eastbound left-turn

The queuing issue at CSAH 103 (West Broadway Avenue)/CSAH 30 (93rd Avenue N) is due to heavy demand for that movement in the PM peak and the single through lanes on the eastbound, westbound, and northbound approaches that limit the green time available for the eastbound left-turn movement.

The full table of existing conditions LOS and queuing analysis results can be found in **Appendix C.**

Table 3.2. TH 610 to CSAH 81/73rd Avenue N – Existing Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS	
	AM Existing	PM Existing
CSAH 103 (W Broadway Ave)/ 94th Ave N*	1.8 A	1.8 A
CSAH 103 (W Broadway Ave)/	29.8	52.4

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS	
	AM Existing	PM Existing
CSAH 30 (93rd Ave N)	C	D
CSAH 103 (W Broadway Ave)/ 92nd Ave N*	1.9 A	7.1 A
CSAH 103 (W Broadway Ave)/ Setzler Pkwy*	1.7 A	1.5 A
CSAH 103 (W Broadway Ave)/ 89th Ave N*	2.4 A	1.3 A
CSAH 103 (W Broadway Ave)/ Maplebrook Pkwy*	2.3 A	3.4 A
CSAH 103 (W Broadway Ave)/ CSAH 109 (85th Ave N)	31.1 C	26.6 C
CSAH 103 (W Broadway Ave)/ 84th Ave N	11.0 B	8.8 A
CSAH 103 (W Broadway Ave)/ College Park Dr*	0.6 A	0.5 A
CSAH 103 (W Broadway Ave)/ 82nd Ave N*	0.5 A	0.5 A
CSAH 103 (W Broadway Ave)/ Candlewood Dr*	1.8 A	2.3 A
CSAH 103 (W Broadway Ave)/ 78th Ave N*	0.3 A	0.7 A
CSAH 103 (W Broadway Ave)/ Shopping Center Access	5.2 A	13.0 B
CSAH 103 (W Broadway Ave)/ CSAH 130 (Brooklyn Blvd)/ CSAH 152	25.3 C	27.7 C
CSAH 130 (Brooklyn Blvd)/ Shopping Center Access (west of CSAH 103)	4.6 A	15.3 B
CSAH 152 (Brooklyn Blvd)/ Shopping Center Access (east of CSAH 103)*	0.9 A	1.7 A
CSAH 130 (W Broadway Ave)/ 76th Ave N	6.0 A	14.5 B
CSAH 130 (W Broadway Ave)/ 75th Ave N*	0.9 A	1.2 A
CSAH 130 (W Broadway Ave)/ 74th Ave N*	1.1 A	1.4 A
CSAH 130 (W Broadway Ave)/ 73rd Ave N	5.2 A	7.2 A

*Side street stop-controlled intersection

3.2.3 CSAH 81 (Bottineau Boulevard)/73rd Avenue N to TH 55 (Olson Memorial Highway)

The location and control of the existing freight rail crossings on the BNSF Monticello Subdivision within the BLRT project area are summarized in **Table 3.3** below.

Table 3.3. Existing Conditions Rail Crossing Treatments

Crossing Location	Existing Crossing Control
73rd Ave N	Flashers; preemption of CSAH 81 (Bottineau Blvd)/73rd Ave N traffic signal
CSAH 8 (W Broadway Ave)/ 71st Ave N	Flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/CSAH 8 (W Broadway Ave)/ 71st Ave N traffic signal
I-94/I-694	Grade separated under I-94/I-694
63rd Ave N	Flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/63rd Ave N traffic signal
CSAH 10 (Bass Lake Rd)	Flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/CSAH 10 (Bass Lake Rd) traffic signal
Corvallis Ave N	Flashers
CSAH 8 (W Broadway Ave)	Flashers
45½ Ave N	Flashers
TH 100	Grade separated over TH 100
CSAH 9 (42nd Ave N)	Flashers
41st Ave N	Flashers and automatic gates
39½ Ave N	Flashers and automatic gates

The data collected along the BNSF Monticello Subdivision in 2014 showed that trains typically travel through the corridor in the AM peak hour, between 7:30 and 8:00 AM. No freight trains have been observed during the PM peak hour. Therefore, the AM peak hour analysis was conducted both with and without a freight event. The assumed freight event was approximately one minute in duration, which is consistent with the existing freight activity in the corridor. No freight events were analyzed for the PM peak hour.

The results of the AM and PM peak hour analysis showed that all intersections currently operate at overall LOS D or better during the Existing peak hour scenarios, including a 20-car freight event in the AM peak hour. The Golden Valley Road/Theodore Wirth Parkway intersection was modeled in Synchro/SimTraffic because it does not have any nearby at-grade crossings with freight rail or proposed crossings with light rail transit (LRT). All other intersections were modeled in VISSIM based on the existing freight crossings and proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 3.4** below.

No queuing issues were identified in the Existing conditions.

The full table of existing conditions LOS and queuing analysis results can be found in **Appendix C**.

Table 3.4. CSAH 81/73rd Avenue N to TH 55 (Olson Memorial Highway) – Existing Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS		
	AM Existing No Freight Event	AM Existing Freight Event	PM Existing
CSAH 81 (Bottineau Blvd)/ 73rd Ave N	9.5 A	10.0 A	18.1 B
CSAH 81 (Bottineau Blvd)/ CSAH 8 (W Broadway Ave)/ 71st Ave N	21.6 C	22.9 C	26.1 C
CSAH 130 (W Broadway Ave)/ 71st Ave N	7.6 A	7.5 A	15.6 B
CSAH 81 (Bottineau Blvd)/ I-94 WB Ramps	6.4 A	6.4 A	6.5 A
CSAH 81 (Bottineau Blvd)/ I-94 EB Ramps	26.9 C	26.9 C	35.1 D
CSAH 81 (Bottineau Blvd)/ 63rd Ave N	30.9 C	31.2 C	31.2 C
63rd Ave N/Louisiana Ave/ Park-and-Ride Access	1.7 A	1.7 A	1.9 A
CSAH 81 (Bottineau Blvd)/ CSAH 10 (Bass Lake Rd)	23.4 C	24.2 C	36.0 D
CSAH 10 (Bass Lake Rd)/ Sherburne Ave	6.1 A	6.0 A	17.4 B
CSAH 81 (Bottineau Blvd)/ Wilshire Blvd	10.7 B	11.8 B	13.8 B
Wilshire Blvd/Lakeland Ave N	2.1 A	2.1 A	5.5 A
CSAH 81 (Bottineau Blvd)/ Corvallis Ave N	11.9 B	13.0 B	16.2 B
CSAH 8 (W Broadway Ave)/ Corvallis Ave N*	2.3 A	2.6 A	3.5 A
CSAH 8 (W Broadway Ave)/ Welcome Ave N*	0.6 A	1.1 A	1.3 A
CSAH 8 (W Broadway Ave)/ Vera Cruz Ave N*	0.4 A	0.7 A	0.8 A
CSAH 8 (W Broadway Ave)/ 45 ½ Ave N	0.9 A	1.0 A	1.0 A
CSAH 8 (W Broadway Ave)/ CSAH 9 (42nd Ave N)	14.8 B	14.8 B	19.7 B
CSAH 81 (Bottineau Blvd)/ CSAH 9 (42nd Ave N)	23.0 C	22.9 C	26.5 C
CSAH 9 (42nd Ave N)/ Hubbard Ave*,1	0.6 A	0.7 A	1.4 A
CSAH 9 (42nd Ave N)/ Railroad Ave N	0.7 A	1.1 A	0.9 A

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS		
	AM Existing No Freight Event	AM Existing Freight Event	PM Existing
CSAH 9 (42nd Ave N)/ Regent Ave N	2.1 A	2.1 A	1.7 A
W Broadway Ave/ 41 ½ Ave N*	8.8 A	8.8 A	12.3 B
Hubbard Ave/ 41 ½ Ave N*	3.6 A	3.7 A	3.1 A
Hubbard Ave/ 41st Ave N*	7.9 A	8.0 A	8.5 A
W Broadway Ave/ 41st Ave N*	7.8 A	7.8 A	10.0 A
Golden Valley Rd/ Theodore Wirth Pkwy**	8.8 A	N/A	16.0 C

*Side street stop-controlled intersection
** All-way stop-controlled intersection
[1] Left-turn movements limited to emergency vehicles and buses only.

3.2.4 TH 55 (Olson Memorial Highway) to Target Field Station

The results of the AM and PM peak hour analysis showed that all intersections currently operate at overall LOS D or better during the Existing peak hour scenarios, with the following exception:

- TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) in the PM peak

All intersections were modeled in VISSIM based on the proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 3.5** on the following page.

The poor LOS at the TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) intersection is due to the high traffic volumes and the current split phasing of the northbound and southbound approaches, which leads to inefficiencies at the intersection.

Movements for which queuing issues were identified in one or more scenarios were as follows:

- TH 55 (Olson Memorial Highway)/Thomas Avenue N – Southbound approach
- TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) – Eastbound through and right-turn movements
- TH 55 (Olson Memorial Highway)/Morgan Avenue N – Southbound approach
- TH 55 (Olson Memorial Highway)/Humboldt Avenue N – Northbound approach
- TH 55 (Olson Memorial Highway)/Van White Memorial Boulevard – Northbound through and right-turn movements
- TH 55 (Olson Memorial Highway)/Bryant Avenue N – Northbound approach
- TH 55 (Olson Memorial Highway)/I-94 EB Ramps (W Lyndale Avenue N) – Southbound right-turn movement

The queuing issues on Thomas Avenue N, Morgan Avenue N, Humboldt Avenue N, Van White Memorial Boulevard, and Bryant Avenue N are all due to the location of the frontage road zero to 50 feet from the intersection with TH 55 (Olson Memorial Highway). This means that one to two vehicles queued at the stop bar would exceed the storage distance. However, these queues are not considered to be operational deficiencies because the approach volumes are generally low and do not cause operational or safety issues upstream.

The queues on TH 55 (Olson Memorial Highway) at CSAH 2 (Penn Avenue N) and on I-94 EB Ramps (W Lyndale Avenue N) at TH 55 (Olson Memorial Highway) are due to high volumes of traffic demand in peak hours. The queue on TH 55 (Olson Memorial Highway) at CSAH 2 (Penn Avenue N) has the potential to cause operational and safety issues due to the volume and speed of traffic on this approach. The queue on the southbound approach of TH 55 (Olson Memorial Highway)/I-94 EB Ramps (W Lyndale Avenue N) is a significant distance from the I-94 exit and in a lower-speed, signalized roadway segment (30 mph).

The full table of existing conditions LOS and queuing analysis results can be found in **Appendix C.**

Table 3.5. TH 55 (Olson Memorial Highway) to Target Field Station – Existing Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS	
	AM Existing	PM Existing
TH 55 (Olson Memorial Hwy)/ Thomas Ave N*	2.8 A	8.3 A
TH 55 (Olson Memorial Hwy)/ CSAH 2 (Penn Ave N)	43.7 D	82.0 F
TH 55 (Olson Memorial Hwy)/ Morgan Ave N	7.2 A	7.8 A
TH 55 (Olson Memorial Hwy)/ James Ave N*	4.9 A	4.2 A
TH 55 (Olson Memorial Hwy)/ Humboldt Ave N	9.1 A	7.2 A
TH 55 (Olson Memorial Hwy)/ Van White Memorial Blvd	15.3 B	10.6 B
TH 55 (Olson Memorial Hwy)/ Bryant Ave N	8.6 A	8.1 A
TH 55 (Olson Memorial Hwy)/ I-94 EB Ramps (W Lyndale Ave N)	25.3 C	21.5 C
TH 55 (Olson Memorial Hwy)/ I-94 WB Ramps (E Lyndale Ave N)	23.8 C	28.9 C
Olson Memorial Hwy)/ Border Ave N	11.5 B	21.9 C
Olson Memorial Hwy)/ 7th St N/ 6th Ave N	27.2 C	30.5 C

*Side street stop-controlled intersection

3.3 Existing Conditions Traffic Modeling Summary

All intersections operate at overall LOS D or better in the AM and PM peak hour existing conditions, with the following exception:

- TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) in the PM peak

The poor LOS at the TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) intersection is due to the high traffic volumes and the current split phasing of the northbound and southbound approaches, which leads to inefficiencies at the intersection.

4.0 No Build Analysis

The No Build modeling was conducted to identify the expected traffic operations at the Opening Year of the BLRT project (2021) and for the forecast horizon year (2040). The assumptions, methodology, and results of the No Build conditions analysis are presented in the following sections.

4.1 No Build Conditions Assumptions

Opening Year and 2040 forecast peak hour volumes were based on the forecast No Build daily traffic volumes developed for key roadway segments within the study area, as described in Section 2.2. The Opening Year forecast daily traffic volumes were developed assuming a constant rate of growth between the Existing and 2040 conditions. The turning movement volumes for No Build AM and PM peak in the Opening Year and 2040 conditions are provided in **Appendix A**.

The No Build analysis was based on the future year No Build traffic volumes, existing roadway geometrics and rail crossing treatments, and existing signal operations. Geometric improvements assumed in the No Build analysis are shown in the intersection layouts provided in **Appendix B**, and were based on projects that were completed since 2014 or are currently programmed:

- CSAH 81 (Bottineau Boulevard) from TH 100 to Wilshire Boulevard restriped from a four-lane roadway to a six-lane roadway, completed in 2015 by Hennepin County.
- C-Line arterial bus rapid transit (BRT) construction on CSAH 2 (Penn Avenue N) and TH 55 (Olson Memorial Highway) currently planned for 2017 by the Metropolitan Council.
- CSAH 81 (Bottineau Boulevard) reconstruction from a four-lane to a six-lane roadway from 63rd Avenue N to CSAH 8 (West Broadway Avenue)/71st Avenue N, currently planned for 2016-2018 by Hennepin County.
- CSAH 81 (Bottineau Boulevard) reconstruction from a four-lane to a six-lane roadway from CSAH 8 (W Broadway Avenue)/71st Avenue N to TH 169, currently planned for 2019 by Hennepin County.
- CSAH 103 (West Broadway Avenue) reconstruction from a two-lane to a four-lane roadway from 78th Avenue N to CSAH 30 (93rd Avenue N) currently planned for 2018-2020 by Hennepin County.

Hennepin County and the City of Brooklyn Park have not yet determined if a new traffic signal will be constructed at the CSAH 103 (West Broadway Avenue)/Maplebrook Parkway intersection as part of the CSAH 103 (West Broadway Avenue) reconstruction project. Therefore, scenarios have been modeled with the intersection as an unsignalized right-in/right-out intersection or a signalized full-access intersection.

The City of Brooklyn Park has been studying a new interchange at TH 169/101st Avenue N and this project is currently in the preliminary design phase. However, the new interchange has not been programmed and is not shown in the Metropolitan Council *2040 Transportation Policy Plan* (TPP). Due to the significant impacts that this interchange will have on roadway capacity and traffic flow in the area north of TH 610 and to better capture the expected impacts of the BLRT project, 2040 scenarios have been analyzed both with and without the new interchange.

For other regional improvements that were assumed in the regional travel demand model and the forecasting process, refer to *BLRT Traffic and Park-and-Ride Forecast Technical Memorandum* (2015).

No improvements were assumed at any of the existing rail crossings. Signal timing was assumed to be optimized in the Opening Year (2021) and 2040 analysis. The signal timings were optimized as part of the VISSIM simulation models. The CSAH 103 (West Broadway Avenue), CSAH 81 (Bottineau Boulevard), and TH 55 (Olson Memorial Highway) corridors were all assumed to operate with coordinated and interconnected signals. Pedestrian crossings of TH 55 (Olson Memorial Highway) were assumed to be timed for one-stage crossings similar to the existing operations.

The geometrics and intersection control for the No Build conditions are shown in the intersection layout tables provided in **Appendix B.**

4.2 No Build Conditions Traffic Modeling Results

The same four modeling areas created for the Existing conditions modeling were used for the No Build analysis. The No Build operations results are presented by modeling area in the following sections.

4.2.1 OMF to TH 610

The results of the Opening Year AM and PM peak hour analysis showed that all intersections would be expected to operate at overall LOS D or better in the No Build scenarios. The results of the 2040 AM and PM peak hour analysis showed that all intersections, which are listed below, would be expected to operate at overall LOS E or F in the No Build scenarios.

- CSAH 103 (West Broadway Avenue)/101st Avenue N in the 2040 AM and PM peaks
- CSAH 103 (West Broadway Avenue)/Winnetka Avenue N in the 2040 AM and PM peaks
- CSAH 103 (West Broadway Avenue)/Oak Grove Parkway in the 2040 AM and PM peaks
- CSAH 103 (West Broadway Avenue)/TH 610 WB Ramps in the 2040 AM and PM peaks
- CSAH 103 (West Broadway Avenue)/TH 610 EB Ramps in the 2040 AM and PM peaks

All intersections were modeled in VISSIM based on the proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 4.1** and **Table 4.2** below.

Movements for which queuing issues were identified in one or more of the 2040 scenarios were as follows:

- CSAH 103 (West Broadway Avenue)/Winnetka Avenue N – Northbound left-turn and through movements
- CSAH 103 (West Broadway Avenue)/Oak Grove Parkway – Northbound through movement; southbound left-turn and through movements; westbound left-turn and right-turn movements
- CSAH 103 (West Broadway Avenue)TH 610 WB Ramps – Northbound through movement; southbound left-turn movement; westbound left-turn and right-turn movements

The poor operations (delay and queuing) in the 2040 No Build scenarios are due to the intense development planned to occur in this area by 2040. Queues spill back between all intersections north of TH 610 and roadway capacity improvements would be needed to accommodate the forecast growth in traffic. However, there are not currently roadway improvement projects programmed in this area.

The full table of No Build conditions LOS and queuing analysis results can be found in **Appendix C**.

Table 4.1. OMF to TH 610 – Opening Year No Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS	
	Opening Year AM No Build Scenario 01[1]	Opening Year PM No Build Scenario 01[1]
CSAH 103 (W Broadway Ave)/ 101st Ave N*	0.6 A	5.4 A
CSAH 103 (W Broadway Ave)/ Winnetka Ave N*	0.3 A	0.9 A
CSAH 103 (W Broadway Ave)/ Oak Grove Pkwy	20.6 C	27.9 C
CSAH 103 (W Broadway Ave)/ TH 610 WB Ramps	23.1 C	43.5 D
CSAH 103 (W Broadway Ave)/ TH 610 EB Ramps	18.7 B	17.5 B

* Side street stop-controlled intersection

[1] No Build Scenario 01 assumes no interchange at TH 169/101st Avenue N.

Table 4.2. OMF to TH 610 – 2040 No Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	2040 AM No Build Scenario 01[1]	2040 AM No Build Scenario 02[2]	2040 PM No Build Scenario 01[1]	2040 PM No Build Scenario 02[2]
CSAH 103 (W Broadway Ave)/ 101st Ave N*	73.5 F	72.1 F	193.9 F	156.2 F
CSAH 103 (W Broadway Ave)/ Winnetka Ave N*	133.8 F	125.8 F	162.1 F	149.5 F
CSAH 103 (W Broadway Ave)/ Oak Grove Pkwy	152.0 F	128.1 F	200+ F	200+ F
CSAH 103 (W Broadway Ave)/ TH 610 WB Ramps	200+ F	200+ F	200+ F	200+ F
CSAH 103 (W Broadway Ave)/ TH 610 EB Ramps	105.2 F	80.7 F	188.6 F	184.8 F

* Side street stop-controlled intersection

[1] No Build Scenario 01 assumes no interchange at TH 169/101st Avenue N.

[2] No Build Scenario 02 assumes a new full access interchange at TH 169/101st Avenue N.

4.2.2 TH 610 to CSAH 81 (Bottineau Boulevard)/73rd Avenue N

The results of the Opening Year and 2040 AM and PM peak hour analysis showed that all intersections would be expected to operate at overall LOS D or better during the No Build peak hour scenarios, with the following exception:

- CSAH 103 (West Broadway Avenue)/CSAH 109 (85th Avenue N) in the 2040 PM peak

The poor LOS at the CSAH 103 (West Broadway Avenue)/CSAH 109 (85th Avenue N) in the 2040 PM peak was due to increased southbound u-turn traffic in Scenario 1 with a right-in/right-out access at Maplebrook Parkway.

Several of the intersections along CSAH 103 (West Broadway Avenue) south of TH 610 had better operations in the No Build conditions than in the Existing conditions, due to the planned CSAH 103 (W Broadway Avenue) roadway reconstruction.

All intersections were modeled in VISSIM based on the proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 4.3** and **Table 4.4** below.

Movements for which queuing issues were identified in one or more scenarios were as follows:

- CSAH 103 (West Broadway Avenue)/ CSAH 130 (Brooklyn Boulevard)/CSAH 152 – Eastbound left-turn movement

The eastbound left-turn queuing at CSAH 103 (West Broadway Avenue/CSAH 130 (Brooklyn Boulevard)/CSAH 152 occurs in the 2040 No Build PM peak was due to high vehicle traffic demand and protected-only phasing.

The full table of No Build conditions LOS and queuing analysis results can be found in **Appendix C.**

Table 4.3. TH 610 to CSAH 81/73rd Avenue N – Opening Year No Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	Opening Year AM No Build Scenario 01[1]	Opening Year AM No Build Scenario 02[2]	Opening Year PM No Build Scenario 01[1]	Opening Year PM No Build Scenario 02[2]
CSAH 103 (W Broadway Ave)/ 94th Ave N*	2.0 A	2.0 A	1.9 A	2.0 A
CSAH 103 (W Broadway Ave)/ CSAH 30 (93rd Ave N)	27.0 C	26.6 C	31.6 C	32.0 C
CSAH 103 (W Broadway Ave)/ 92nd Ave N*	1.3 A	1.4 A	1.0 A	1.1 A
CSAH 103 (W Broadway Ave)/ Setzler Pkwy	14.2 B	10.0 A	13.9 B	18.0 B
CSAH 103 (W Broadway Ave)/ 89th Ave N*	0.6 A	0.8 A	0.7 A	0.7 A
CSAH 103 (W Broadway Ave)/ Maplebrook Pkwy[1,2]	1.0 A	7.6 A	1.0 A	8.8 A
CSAH 103 (W Broadway Ave)/	34.1	33.2	45.9	39.8

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	Opening Year AM No Build Scenario 01[1]	Opening Year AM No Build Scenario 02[2]	Opening Year PM No Build Scenario 01[1]	Opening Year PM No Build Scenario 02[2]
CSAH 109 (85th Ave N)	C	C	D	D
CSAH 103 (W Broadway Ave)/ 84th Ave N*	0.6 A	0.6 A	1.3 A	1.2 A
CSAH 103 (W Broadway Ave)/ College Park Dr	7.7 A	6.6 A	13.7 B	13.4 B
CSAH 103 (W Broadway Ave)/ 82nd Ave N*	0.6 A	0.7 A	0.9 A	0.5 A
CSAH 103 (W Broadway Ave)/ Candlewood Dr	6.1 A	6.2 A	9.1 A	9.3 A
CSAH 103 (W Broadway Ave)/ 78th Ave N*	0.4 A	0.5 A	0.9 A	0.9 A
CSAH 103 (W Broadway Ave)/ Shopping Center Access	8.4 A	7.9 A	16.8 B	16.1 B
CSAH 103 (W Broadway Ave)/ CSAH 130 (Brooklyn Blvd)/ CSAH 152	25.2 C	23.8 C	35.3 D	42.5 D
CSAH 130 (Brooklyn Blvd)/ Shopping Center Access (west of CSAH 103)	8.9 A	7.8 A	20.6 C	20.2 C
CSAH 152 (Brooklyn Blvd)/ Shopping Center Access (east of CSAH 103)*	0.9 A	0.9 A	2.1 A	2.1 A
CSAH 130 (W Broadway Ave)/ 76th Ave N	13.6 B	13.0 B	25.4 C	22.4 C
CSAH 130 (W Broadway Ave)/ 75th Ave N*	1.4 A	1.2 A	1.8 A	1.4 A
CSAH 130 (W Broadway Ave)/ 74th Ave N*	1.6 A	1.3 A	1.6 A	1.6 A
CSAH 130 (W Broadway Ave)/ 73rd Ave N	10.6 B	11.5 B	10.8 B	10.8 B

*Side street stop-controlled intersection

[1] Scenario 01 assumes right-in/right-out access with side street stop control at CSAH 103 (W Broadway Avenue)/Maplebrook Parkway.

[2] Scenario 02 assumes a full-access signalized intersection at CSAH 103 (W Broadway Avenue)/Maplebrook Parkway.

Table 4.4. TH 610 to CSAH 81/73rd Avenue N – 2040 No Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	2040 AM No Build Scenario 01[1]	2040 AM No Build Scenario 02[2]	2040 PM No Build Scenario 01[1]	2040 PM No Build Scenario 02[2]
CSAH 103 (W Broadway Ave)/ 94th Ave N*	2.7 A	2.6 A	2.7 A	2.8 A
CSAH 103 (W Broadway Ave)/ CSAH 30 (93rd Ave N)	32.6 C	32.1 C	37.4 D	37.3 D
CSAH 103 (W Broadway Ave)/ 92nd Ave N*	1.6 A	1.7 A	1.1 A	1.2 A
CSAH 103 (W Broadway Ave)/ Setzler Pkwy	15.9 B	10.4 B	13.9 B	18.8 B
CSAH 103 (W Broadway Ave)/ 89th Ave N*	0.9 A	0.9 A	0.8 A	0.8 A
CSAH 103 (W Broadway Ave)/ Maplebrook Pkwy[1,2]	1.1 A	8.5 A	1.2 A	9.6 A
CSAH 103 (W Broadway Ave)/ CSAH 109 (85th Ave N)	36.2 D	35.9 D	55.4 E	43.2 D
CSAH 103 (W Broadway Ave)/ 84th Ave N*	0.7 A	0.7 A	1.4 A	1.2 A
CSAH 103 (W Broadway Ave)/ College Park Dr	6.9 A	6.7 A	13.6 B	13.3 B
CSAH 103 (W Broadway Ave)/ 82nd Ave N*	0.7 A	0.7 A	0.8 A	0.6 A
CSAH 103 (W Broadway Ave)/ Candlewood Dr	6.2 A	6.3 A	9.0 A	8.8 A
CSAH 103 (W Broadway Ave)/ 78th Ave N*	0.6 A	0.6 A	0.9 A	0.9 A
CSAH 103 (W Broadway Ave)/ Shopping Center Access	8.5 A	8.3 A	17.0 B	16.7 B
CSAH 103 (W Broadway Ave)/ CSAH 130 (Brooklyn Blvd)/ CSAH 152	25.3 C	25.5 C	39.5 D	46.9 D
CSAH 130 (Brooklyn Blvd)/ Shopping Center Access (west of CSAH 103)	9.0 A	7.9 A	29.7 C	27.0 C
CSAH 152 (Brooklyn Blvd)/ Shopping Center Access (east of CSAH 103)*	0.9 A	0.9 A	2.3 A	2.3 A
CSAH 130 (W Broadway Ave)/ 76th Ave N	14.6 B	14.2 B	27.0 C	23.7 C
CSAH 130 (W Broadway Ave)/ 75th Ave N*	1.5 A	1.4 A	2.1 A	1.6 A
CSAH 130 (W Broadway Ave)/ 74th Ave N*	1.6 A	1.5 A	1.9 A	1.9 A
CSAH 130 (W Broadway Ave)/	13.0	13.0	13.0	12.6

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	2040 AM No Build Scenario 01[1]	2040 AM No Build Scenario 02[2]	2040 PM No Build Scenario 01[1]	2040 PM No Build Scenario 02[2]
73rd Ave N	B	B	B	B

*Side street stop-controlled intersection

[1] Scenario 01 assumes right-in/right-out access with side street stop control at CSAH 103 (W Broadway Avenue)/Maplebrook Parkway.

[2] Scenario 02 assumes a full-access signalized intersection at CSAH 103 (W Broadway Avenue)/Maplebrook Parkway.

4.2.3 CSAH 81 (Bottineau Boulevard)/73rd Avenue N to TH 55 (Olson Memorial Highway)

The results of the Opening Year and 2040 AM and PM peak hour analysis showed that all intersections would be expected to operate at overall LOS D or better during the No Build peak hour scenarios, including a 20-car (approximately one minute) freight event in the AM peak hour, with the following exceptions:

- Golden Valley Road/Theodore Wirth Parkway in the 2040 PM Peak

The Golden Valley Road/Theodore Wirth Parkway intersection was modeled in Synchro/SimTraffic because it does not have any nearby at-grade crossings with freight rail or proposed crossings with LRT. All other intersections were modeled in VISSIM based on the existing freight crossings and proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 4.5** and **Table 4.6** below.

Movements for which queuing issues were identified in one or more scenarios were as follows:

- Golden Valley Road/Theodore Wirth Parkway – Eastbound approach queues exceeded 500 feet

Many of the intersections along CSAH 81 (Bottineau Boulevard) had better operations in the No Build conditions than in the Existing conditions, due to the planned reconstruction projects from 63rd Avenue N to TH 169, planned to occur prior to Opening Year, and the six-lane restriping from TH 100 to Wilshire Boulevard that occurred in 2015.

The all-way stop control at the Golden Valley Road/Theodore Wirth Parkway would be expected to operate poorly in the 2040 PM peak due to the forecast growth in area traffic volumes and the inefficiency of the all-way stop control. There are no improvements currently planned or programmed for this intersection.

The full table of No Build conditions LOS and queuing analysis results can be found in **Appendix C.**

Table 4.5. CSAH 81/73rd Avenue N to TH 55 (Olson Memorial Highway) – Opening Year No Build Conditions Results

Intersection	Overall Intersection Average Delay and LOS		
	Opening Year AM No Build No Freight Event	Opening Year AM No Build Freight Event	Opening Year PM No Build
CSAH 81 (Bottineau Blvd)/ 73rd Ave N	9.6 A	10.2 B	14.8 B
CSAH 81 (Bottineau Blvd)/ CSAH 8 (W Broadway Ave)/ 71st Ave N	20.8 C	22.0 C	21.4 C
CSAH 130 (W Broadway Ave)/ 71st Ave N	7.6 A	7.3 A	15.8 B
CSAH 81 (Bottineau Blvd)/ I-94 WB Ramps	9.8 A	9.6 A	8.1 A
CSAH 81 (Bottineau Blvd)/ I-94 EB Ramps	21.6 C	21.2 C	26.7 C
CSAH 81 (Bottineau Blvd)/ 63rd Ave N	31.1 C	31.6 C	32.6 C
63rd Ave N/Louisiana Ave/ Park-and-Ride Access	1.6 A	1.6 A	2.0 A
CSAH 81 (Bottineau Blvd)/ CSAH 10 (Bass Lake Rd)	23.1 C	24.7 C	37.5 D
CSAH 10 (Bass Lake Rd)/ Sherburne Ave	6.0 A	6.1 A	18.4 B
CSAH 81 (Bottineau Blvd)/ Wilshire Blvd	11.0 B	11.8 B	14.7 B
Wilshire Blvd/Lakeland Ave N	1.8 A	1.9 A	4.7 A
CSAH 81 (Bottineau Blvd)/ Corvallis Ave N	8.5 A	9.0 A	13.9 B
CSAH 8 (W Broadway Ave)/ Corvallis Ave N*	2.3 A	2.7 A	3.7 A
CSAH 8 (W Broadway Ave)/ Welcome Ave N*	0.6 A	1.1 A	1.4 A
CSAH 8 (W Broadway Ave)/ Vera Cruz Ave N*	0.4 A	0.6 A	0.6 A
CSAH 8 (W Broadway Ave)/ 45 ½ Ave N	1.0 A	1.0 A	1.0 A
CSAH 8 (W Broadway Ave)/ CSAH 9 (42nd Ave N)	15.2 B	15.2 B	20.8 C
CSAH 81 (Bottineau Blvd)/ CSAH 9 (42nd Ave N)	23.5 C	23.4 C	26.7 C
CSAH 9 (42nd Ave N)/ Hubbard Ave*,1	0.7 A	0.8 A	1.7 A

Intersection	Overall Intersection Average Delay and LOS		
	Opening Year AM No Build No Freight Event	Opening Year AM No Build Freight Event	Opening Year PM No Build
CSAH 9 (42nd Ave N)/ Railroad Ave N	0.8 A	1.2 A	1.0 A
CSAH 9 (42nd Ave N)/ Regent Ave N	2.4 A	2.5 A	1.8 A
W Broadway Ave/ 41 ½ Ave N*	8.9 A	9.1 A	13.4 B
Hubbard Ave/ 41 ½ Ave N*	4.3 A	4.3 A	3.8 A
Hubbard Ave/ 41st Ave N*	8.0 A	8.0 A	8.5 A
W Broadway Ave/ 41st Ave N*	7.9 A	8.1 A	10.3 B
Golden Valley Rd/ Theodore Wirth Pkwy**	9.4 A	N/A	15.2 B

*Side street stop-controlled intersection
** All-way stop-controlled intersection
[1] Left-turn movements limited to emergency vehicles and buses only.

Table 4.6. CSAH 81/73rd Avenue N to TH 55 (Olson Memorial Highway) – 2040 No Build Conditions Results

Intersection	Overall Intersection Average Delay and LOS		
	2040 AM No Build No Freight Event	2040 AM No Build Freight Event	2040 PM No Build
CSAH 81 (Bottineau Blvd)/ 73rd Ave N	11.0 B	11.6 B	18.2 B
CSAH 81 (Bottineau Blvd)/ CSAH 8 (W Broadway Ave)/ 71st Ave N	20.2 C	21.6 C	22.3 C
CSAH 130 (W Broadway Ave)/ 71st Ave N	8.2 A	8.0 A	15.9 B
CSAH 81 (Bottineau Blvd)/ I-94 WB Ramps	9.5 A	9.4 A	8.0 A
CSAH 81 (Bottineau Blvd)/ I-94 EB Ramps	22.3 C	22.0 C	27.8 C
CSAH 81 (Bottineau Blvd)/ 63rd Ave N	33.2 C	33.5 C	34.2 C
63rd Ave N/Louisiana Ave/ Park-and-Ride Access	1.9 A	1.9 A	2.3 A

Intersection	Overall Intersection Average Delay and LOS		
	2040 AM No Build No Freight Event	2040 AM No Build Freight Event	2040 PM No Build
CSAH 81 (Bottineau Blvd)/ CSAH 10 (Bass Lake Rd)	24.9 C	26.1 C	41.9 D
CSAH 10 (Bass Lake Rd)/ Sherburne Ave	7.1 A	7.2 A	22.6 C
CSAH 81 (Bottineau Blvd)/ Wilshire Blvd	11.9 B	12.6 B	15.1 B
Wilshire Blvd/Lakeland Ave N	2.3 A	2.3 A	3.8 A
CSAH 81 (Bottineau Blvd)/ Corvallis Ave N	9.4 A	9.7 A	14.6 B
CSAH 8 (W Broadway Ave)/ Corvallis Ave N*	2.4 A	2.7 A	3.9 A
CSAH 8 (W Broadway Ave)/ Welcome Ave N*	0.8 A	1.3 A	1.5 A
CSAH 8 (W Broadway Ave)/ Vera Cruz Ave N*	0.5 A	0.7 A	0.6 A
CSAH 8 (W Broadway Ave)/ 45 ½ Ave N	1.0 A	1.1 A	1.2 A
CSAH 8 (W Broadway Ave)/ CSAH 9 (42nd Ave N)	15.7 B	16.0 B	22.1 C
CSAH 81 (Bottineau Blvd)/ CSAH 9 (42nd Ave N)	25.0 C	24.9 C	28.2 C
CSAH 9 (42nd Ave N)/ Hubbard Ave*,[1]	0.9 A	1.1 A	2.4 A
CSAH 9 (42nd Ave N)/ Railroad Ave N	0.9 A	1.3 A	1.4 A
CSAH 9 (42nd Ave N)/ Regent Ave N	2.5 A	2.5 A	2.3 A
W Broadway Ave/ 41 ½ Ave N*	9.3 A	9.4 A	14.5 B
Hubbard Ave/ 41 ½ Ave N*	4.2 A	4.2 A	3.5 A
Hubbard Ave/ 41st Ave N*	7.9 A	7.9 A	8.7 A
W Broadway Ave/ 41st Ave N*	8.2 A	8.2 A	11.4 B
Golden Valley Rd/ Theodore Wirth Pkwy**	10.5 B	N/A	42.0 E

*Side street stop-controlled intersection
** All-way stop-controlled intersection
[1] Left-turn movements limited to emergency vehicles and buses only.

4.2.4 TH 55 (Olson Memorial Highway) to Target Field Station

The results of the Opening Year and 2040 AM and PM peak hour analysis showed that all intersections would be expected to operate at overall LOS D or better during the No Build peak hour scenarios, with the following exceptions:

- TH 55 (Olson Memorial Highway)/Thomas Avenue N in the 2040 AM and 2040 PM peaks
- TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) in the Opening Year PM, 2040 AM, and 2040 PM peaks
- TH 55 (Olson Memorial Highway)/Morgan Avenue N in the 2040 PM peak

All intersections were modeled in VISSIM based on the proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 4.7** below.

Movements for which queuing issues were identified in one or more scenarios were as follows:

- TH 55 (Olson Memorial Highway)/Thomas Avenue N – Southbound approach
- TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) – Eastbound approach
- TH 55 (Olson Memorial Highway)/Morgan Avenue N – Southbound approach
- TH 55 (Olson Memorial Highway)/Humboldt Avenue N – Northbound approach
- TH 55 (Olson Memorial Highway)/Van White Memorial Boulevard – Northbound through and right-turn movements
- TH 55 (Olson Memorial Highway)/Bryant Avenue N – Northbound approach
- TH 55 (Olson Memorial Highway)/I-94 EB Ramps (W Lyndale Avenue N) – Southbound approach

The poor LOS at the TH 55 (Olson Memorial Highway)/Thomas Avenue N, TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N), and TH 55 (Olson Memorial Highway)/Morgan Avenue N intersections is due to the high traffic volumes and capacity constraints at the TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) intersection, which result in queues that spill back and cause delays at the upstream intersections in each direction on TH 55 (Olson Memorial Highway).

The queuing issues on Thomas Avenue N, Morgan Avenue N, Humboldt Avenue N, Van White Memorial Boulevard, and Bryant Avenue N are all due to the location of the frontage road zero to 50 feet from the intersection with TH 55 (Olson Memorial Highway). One to two vehicles queued at the stop bar would exceed the storage distance for these approaches. These issues were also noted in the Existing conditions analysis.

The queues on TH 55 (Olson Memorial Highway) at CSAH 2 (Penn Avenue N) and on I-94 EB Ramps (W Lyndale Avenue N) at TH 55 (Olson Memorial Highway) are due to high volumes of traffic demand in peak hours. The queue on eastbound TH 55 (Olson Memorial Highway) has the potential to cause operational and safety issues due to the volume and speed of traffic on this approach. The queue on the southbound approach of TH 55 (Olson Memorial Highway)/I-94 EB Ramps (W Lyndale Avenue N) is due to the high volume of traffic, but is a significant distance from the I-94 exit and in a lower speed roadway segment (30 mph). These issues were also noted in the Existing conditions analysis.

The full table of No Build conditions LOS and queuing analysis results can be found in **Appendix C**.

Table 4.7. TH 55 (Olson Memorial Highway) to Target Field Station – Opening Year and 2040 No Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	Opening Year AM No Build	2040 AM No Build	Opening Year PM No Build	2040 PM No Build
TH 55 (Olson Memorial Hwy)/ Thomas Ave N*	6.5 A	91.1 F	33.7 D	88.8 F
TH 55 (Olson Memorial Hwy)/ CSAH 2 (Penn Ave N)	52.3 D	80.6 F	102.1 F	130.8 F
TH 55 (Olson Memorial Hwy)/ Morgan Ave N	6.5 A	5.7 A	20.1 C	57.2 E
TH 55 (Olson Memorial Hwy)/ James Ave N*	5.2 A	3.7 A	4.2 A	4.2 A
TH 55 (Olson Memorial Hwy)/ Humboldt Ave N	10.8 B	14.0 B	8.5 A	19.2 B
TH 55 (Olson Memorial Hwy)/ Van White Memorial Blvd	14.5 B	12.1 B	9.3 A	13.9 B
TH 55 (Olson Memorial Hwy)/ Bryant Ave N	12.0 B	10.2 B	8.0 A	9.0 A
TH 55 (Olson Memorial Hwy)/ I-94 EB Ramps (W Lyndale Ave N)	34.8 C	43.3 D	21.1 C	24.6 C
TH 55 (Olson Memorial Hwy)/ I-94 WB Ramps (E Lyndale Ave N)	32.4 C	28.4 C	33.1 C	31.4 C
Olson Memorial Hwy)/ Border Ave N	17.0 B	11.7 B	24.4 C	33.1 C
Olson Memorial Hwy)/ 7th St N/ 6th Ave N	28.2 C	23.1 C	32.4 C	36.0 D

*Side street stop-controlled intersection

4.3 No Build Conditions Traffic Modeling Summary

All intersections would be expected to operate at overall LOS D or better in the Opening Year and 2040 No Build AM and PM peak conditions, with the following exceptions:

- CSAH 103 (West Broadway Avenue)/101st Avenue N in the 2040 AM and PM peaks
- CSAH 103 (West Broadway Avenue)/Winnetka Avenue N in the 2040 AM and PM peaks
- CSAH 103 (West Broadway Avenue)/Oak Grove Parkway in the 2040 AM and PM peaks
- CSAH 103 (West Broadway Avenue)/TH 610 WB Ramps in the 2040 AM and PM peaks
- CSAH 103 (West Broadway Avenue)/TH 610 EB Ramps in the 2040 AM and PM peaks
- CSAH 103 (West Broadway Avenue)/CSAH 109 (85th Avenue N) in the 2040 PM peak scenario with no signal at Maplebrook Parkway
- Golden Valley Road/Theodore Wirth Parkway in the 2040 PM peak
- TH 55 (Olson Memorial Highway)/Thomas Avenue N in the 2040 AM and PM peaks

- TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) in the Opening Year PM, 2040 AM, and 2040 PM peaks
- TH 55 (Olson Memorial Highway)/Morgan Avenue N in the 2040 PM peak

The poor operations (delay and queuing) in the area north of TH 610 in the 2040 No Build scenarios is due to the intense development planned to occur in this area by 2040. However, there have been no roadway improvement projects programmed to improve the roadway network in this area, and therefore the intersections are expected to operate over capacity.

The all-way stop control at the Golden Valley Road/Theodore Wirth Parkway would be expected to operate poorly in the 2040 PM peak due to the forecast growth in area traffic volumes and the inefficiency of the existing all-way stop control.

The poor LOS at the TH 55 (Olson Memorial Highway)/Thomas Avenue N, TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N), and TH 55 (Olson Memorial Highway)/Morgan Avenue N intersections is due to the high traffic volumes and capacity constraints at the TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) intersection, which results in queues that spill back and cause delays at the upstream intersections in each direction on TH 55 (Olson Memorial Highway).

Many of the intersections along CSAH 103 (West Broadway Avenue) and CSAH 81 (Bottineau Boulevard) had better operations in the No Build conditions than in the Existing conditions, due to the planned and already implemented corridor improvement projects.

5.0 Build Analysis

The Build modeling was conducted to identify the expected traffic operations at the Opening Year of the BLRT project (2021) and for the forecast horizon year (2040), with the LRT operating. The assumptions, methodology, and results of the Build conditions analysis are presented in the following sections.

5.1 Build Conditions Assumptions

Traffic volumes for the Build conditions were based on the same growth forecasts as the No Build conditions. At LRT stations, additional pedestrian volumes were incorporated into the modeling. Near park-and-ride facilities, additional vehicle traffic was added to the roadway network to account for traffic generated at these facilities. The modeled AM and PM peak hour Build turning movement volumes for the Opening Year (2021) and 2040 conditions are provided in **Appendix A.**

The location and size of park-and-ride facilities included in the traffic modeling are summarized in **Table 5.1**. The traffic analysis represents the total park-and-ride demand expected in 2040, as identified in the *BLRT Traffic and Park-and-Ride Forecast Technical Memorandum* (2015). The traffic analysis assumed the full 2040 demand for parking spaces in order to capture the full potential parking capacity of the site and produce a conservative analysis of the park-and-ride traffic impacts. The traffic analysis at the 63rd Avenue Station included an increased number of parking spaces, compared to what is currently proposed by the BLRT project, in order to model the expected traffic operations if the existing parking facility were to be expanded in the future to the site's full parking capacity.

Table 5.1. Park-and-Ride Facility Summary

Location	Number of Park-and-Ride Spaces Proposed	Number of Park-and-Ride Spaces Analyzed
Oak Grove Station	850	850
63rd Avenue Station	565	725
Bass Lake Road Station	170	170
Robbinsdale Station	550	550
Golden Valley Road Station	100	100

The control of each of the LRT crossings was identified based on the proximity to the freight rail alignment and adjacent signalized intersections. **Table 5.2** below displays the existing and proposed control of the freight and LRT crossings along the BLRT alignment.

Table 5.2. Build Conditions Rail Crossing Treatments

Crossing Location	Existing Freight Crossing Control	Proposed LRT and/or Freight Crossing Control
CSAH 103 (W Broadway Ave)/ Oak Grove Pkwy	N/A – no freight crossings	LRT controlled by traffic signal (non-revenue track)
CSAH 103 (W Broadway Ave)/ Main St		LRT controlled by traffic signal with transit signal priority
TH 610		LRT grade separated over TH 610
CSAH 103 (W Broadway Ave)/ 94th Ave N		LRT controlled by traffic signal with traffic signal priority
CSAH 103 (W Broadway Ave)/ CSAH 30 (93rd Ave N)		LRT controlled by traffic signal with traffic signal priority
CSAH 103 (W Broadway Ave)/ Setzler Pkwy		LRT controlled by traffic signal with traffic signal priority
CSAH 103 (W Broadway Ave)/ Maplebrook Pkwy[1]		LRT controlled by traffic signal with traffic signal priority
CSAH 103 (W Broadway Ave)/ CSAH 109 (85th Ave N)		LRT controlled by traffic signal with traffic signal priority
CSAH 103 (W Broadway Ave)/ College Park Dr		LRT controlled by traffic signal with traffic signal priority
CSAH 103 (W Broadway Ave)/ Candlewood Dr		LRT controlled by traffic signal with traffic signal priority
CSAH 103 (W Broadway Ave)/ CSAH 130 (Brooklyn Blvd)/ CSAH 152		LRT controlled by traffic signal with traffic signal priority
CSAH 130 (W Broadway Ave)/ 76th Ave N		LRT controlled by traffic signal with traffic signal priority
CSAH 130 (W Broadway Ave)/ 75th Ave N		LRT controlled by traffic signal with traffic signal priority

Crossing Location	Existing Freight Crossing Control	Proposed LRT and/or Freight Crossing Control
73rd Ave N	Flashers; preemption of CSAH 81 (Bottineau Blvd)/73rd Ave N traffic signal	Freight – flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/73rd Ave N traffic signal LRT – grade separated over CSAH 81 (Bottineau Blvd)
CSAH 8 (W Broadway Ave)/ 71st Ave N	Flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/CSAH 8 (W Broadway Ave)/ 71st Ave N traffic signal	Flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/CSAH 8 (W Broadway Ave)/ 71st Ave N traffic signal
I-94/I-694	Grade separated under I-94/I-694	Grade separated under I-94/I-694
63rd Ave N	Flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/63rd Ave N traffic signal	Flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/63rd Ave N traffic signal
CSAH 10 (Bass Lake Rd)	Flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/CSAH 10 (Bass Lake Rd) traffic signal	Flashers and automatic gates; preemption of CSAH 81 (Bottineau Blvd)/CSAH 10 (Bass Lake Rd) traffic signal
Corvallis Ave N	Flashers	Flashers and automatic gates
CSAH 8 (W Broadway Ave)	Flashers	Flashers and automatic gates
45½ Ave N	Flashers	Flashers and automatic gates
TH 100	Grade separated over TH 100	Grade separated over TH 100
CSAH 9 (42nd Ave N)	Flashers	Flashers and automatic gates
41st Ave N	Flashers and automatic gates	Flashers and automatic gates
39½ Ave N	Flashers and automatic gates	Flashers and automatic gates
TH 55 (Olson Memorial Hwy)/ Thomas Ave N	N/A – no freight crossings	LRT controlled by traffic signal with traffic signal priority
TH 55 (Olson Memorial Hwy)/ Pedestrian Crossing East of Russell Ave N		LRT controlled by traffic signal with traffic signal priority
TH 55 (Olson Memorial Hwy)/ CSAH 2 (Penn Ave N)		LRT controlled by traffic signal with traffic signal priority
TH 55 (Olson Memorial Hwy)/ Pedestrian Crossing East of Oliver Ave N		LRT controlled by traffic signal with traffic signal priority
TH 55 (Olson Memorial Hwy)/ Morgan Ave N		LRT controlled by traffic signal with traffic signal priority
TH 55 (Olson Memorial Hwy)/ Pedestrian Crosswalk East of James Ave N		LRT controlled by traffic signal with traffic signal priority
TH 55 (Olson Memorial Hwy)/ Humboldt Ave N		LRT controlled by traffic signal with traffic signal priority

Crossing Location	Existing Freight Crossing Control	Proposed LRT and/or Freight Crossing Control
TH 55 (Olson Memorial Hwy)/ Van White Memorial Blvd	N/A – no freight crossings	LRT controlled by traffic signal with traffic signal priority
TH 55 (Olson Memorial Hwy)/ Bryant Ave N		LRT controlled by traffic signal with traffic signal priority
TH 55 (Olson Memorial Hwy)/ I-94 EB Ramps (W Lyndale Ave N)		LRT controlled by traffic signal with traffic signal priority
TH 55 (Olson Memorial Hwy)/ I-94 WB Ramps (E Lyndale Ave N)		LRT controlled by traffic signal with traffic signal priority
Olson Memorial Hwy/ Border Ave		LRT controlled by traffic signal with traffic signal priority
Olson Memorial Hwy/ 7th St N/6th Ave N		LRT controlled by traffic signal with traffic signal priority

[1] LRT crossing only if intersection is signalized.

Several improvements were identified as part of the scope of the project in order to provide control of the LRT at intersections and to provide adequate infrastructure to accommodate buses, pedestrians, and park-and-ride traffic near stations. These project elements were incorporated into the Build conditions modeling and are shown in **Appendix B**. The significant infrastructure improvements and listed below:

- Reconstruct 101st Avenue N and Oak Grove Parkway to accommodate the needs of the BLRT OMF site.
- Reconstruct CSAH 103 (West Broadway Avenue) from TH 610 to north of Oak Grove Parkway to accommodate the desired location of the LRT alignment, station location, and park-and-ride parking structure.
- Install a new traffic signal at CSAH 103 (West Broadway Avenue)/Main Street to provide a second access point to the park-and-ride facility.
- Install a new traffic signal at CSAH 103 (West Broadway Avenue)/94th Avenue N to allow LRT to transition from side-running to center-running.
- Install a new traffic signal at CSAH 103 (West Broadway Avenue)/75th Avenue N to allow LRT to transition from side-running to center-running.
- Install a new traffic signal at 63rd Avenue N/Louisiana Avenue to provide for pedestrian crossings of 63rd Avenue N and facilitate traffic exiting the park-and-ride facility.
- Reconfigure the CSAH 8 (West Broadway Avenue)/Vera Cruz Avenue N intersection to a roundabout, to continue to provide full access to the surrounding neighborhood, along with additional gates and medians at the rail crossing.
- Install a new traffic signal at TH 55 (Olson Memorial Highway)/Thomas Avenue N to maintain neighborhood access.
- Install new traffic signals on TH 55 (Olson Memorial Highway) at the proposed pedestrian crossings east of Russell Avenue N, east of Oliver Avenue N, and east of James Avenue N to maintain neighborhood pedestrian access. These pedestrian signals are assumed to operate as two-stage crossings due to the u-shaped geometry of the walkway as it crosses the LRT guideway.

Several new intersections were added to the analysis north of TH 610 for the Build conditions. The Oak Grove Parkway/Xylon Avenue intersection will provide access to the OMF and is proposed to operate with stop control on Xylon Avenue. The CSAH 103 (West Broadway Avenue)/Main Street intersection will provide access to the Oak Grove Station park-and-ride facility and is proposed to operate with signalized control. Due to the roadway reconfiguration in this area, the CSAH 103 (West Broadway

Avenue)/101st Avenue N and CSAH 103 (West Broadway Avenue)/Winnetka Avenue N intersections would no longer exist, and therefore were not included in the Build analysis. The CSAH 103 (West Broadway Avenue)/Oak Grove Parkway intersection has a non-revenue LRT crossing, which would include LRT movements only in and out of the OMF site. These movements would be limited in volumes and would occur outside of the peak hour periods.

In addition, some improvements were also identified as part of the Build project in order to provide overall LOS D or better operations at all intersections in the Build conditions. These project improvements included:

- Modify left-turn phasing on CSAH 130 (Brooklyn Boulevard)/CSAH 152 at CSAH 103 (West Broadway Avenue) from protected-only to protected/permissive.
- Modify signal phasing at CSAH 81 (Bottineau Boulevard)/CSAH 10 (Bass Lake Road) to provide a right-turn overlap phase on eastbound CSAH 10 (Bass Lake Road).
- Restripe Wilshire Boulevard at CSAH 81 (Bottineau Boulevard) to provide dual eastbound left-turn lanes and modify signal timing to accommodate park-and-ride traffic.
- Restripe CSAH 8 (West Broadway Avenue) at CSAH 9 (42nd Avenue N) to provide northbound and southbound left-turn lanes and modify the traffic signal to provide northbound, southbound, and westbound protected/permissive left-turn phasing to accommodate park-and-ride traffic.
- Modify CSAH 2 (Penn Avenue N) lane geometrics at TH 55 (Olson Memorial Highway) to better accommodate vehicle traffic.
- Modify southbound W Lyndale Avenue N geometrics to better accommodate vehicle traffic flow.

Hennepin County and the City of Brooklyn Park have not yet determined if a new traffic signal will be constructed at the CSAH 103 (West Broadway Avenue)/Maplebrook Parkway intersection as part of the CSAH 103 (West Broadway Avenue) reconstruction project. Therefore, scenarios have been modeled with the intersection as an unsignalized right-in/right-out intersection or a signalized full-access intersection.

The City of Brooklyn Park has been studying a new interchange at TH 169/101st Avenue N and this project is currently in the preliminary design phase. However, the new interchange has not been programmed and is not shown in the Metropolitan Council *2040 Transportation Policy Plan* (TPP). Due to the significant impacts that this interchange will have on roadway capacity and traffic flow in the area north of TH 610 and to better capture the expected impacts of the BLRT project, 2040 scenarios have been analyzed both with and without the new interchange.

Signal timing was assumed to be optimized in the Opening Year (2021) and 2040 Build analysis. The signal timings were optimized as part of the VISSIM and Synchro simulation models. The CSAH 103 (West Broadway Avenue), CSAH 81 (Bottineau Boulevard), and TH 55 (Olson Memorial Highway) corridors were all assumed to operate with coordinated and interconnected signals. Pedestrian crossings of TH 55 (Olson Memorial Highway) were assumed to be timed for one-stage crossings similar to the existing operations, with the exception of the three new pedestrian signals as noted previously.

The geometrics and intersection control for the Build conditions are shown in the intersection layout tables provided in **Appendix B.**

5.2 Build Conditions Traffic Modeling Results

The same modeling areas created for the Existing and No Build conditions modeling were used for the Build analysis. The Build operations results are presented by modeling area in the following sections.

5.2.1 OMF to TH 610

The results of the Opening Year and 2040 AM and PM peak hour analysis showed that all intersections would be expected to operate at overall LOS D or better during the Build peak hour scenarios with the following exceptions:

- Oak Grove Parkway/Xylon Avenue in the 2040 AM peak in the scenario with an interchange at TH 169/101st Avenue N and in the 2040 PM peak for both scenarios
- CSAH 103 (West Broadway Avenue)/Oak Grove Parkway in the 2040 PM peak in the scenario with no interchange at TH 169/101st Avenue N
- CSAH 103 (West Broadway Avenue)/Main Street in the 2040 PM peak in the scenario with no interchange at TH 169/101st Avenue N

The Oak Grove Parkway/Xylon Avenue intersection was modeled in Synchro/SimTraffic because it does not have any nearby at-grade crossings with LRT. All other intersections were modeled in VISSIM based on the proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 5.3** and **Table 5.4** below.

Movements for which queuing issues were identified in one or more scenarios were as follows:

- Oak Grove Parkway/Xylon Avenue – Northbound left-turn movement; southbound left-turn movement
- CSAH 103 (West Broadway Avenue)/Oak Grove Parkway – Eastbound right-turn movement; Westbound left-turn and right-turn movements (scenario with no interchange at TH 169/101st Avenue N))
- CSAH 103 (West Broadway Avenue)/Main Street – Eastbound through and right-turn movements (scenario with no interchange at TH 169/101st Avenue N))

All the intersections had better operations (delay and queuing) in the Build conditions than in the No Build conditions, due to the planned roadway construction completed as part of the BLRT project.

A future traffic signal is expected to be needed at the Oak Grove Parkway/Xylon Avenue intersection to accommodate future traffic volumes. The traffic signal is recommended to be constructed (by others) at the same time as the TH 169/101st Avenue N interchange or as development traffic warrants. The signal is not needed for the BLRT project or for LRT operations, and therefore is not proposed to be constructed as part of the BLRT project.

The poor operations (delay and queuing) at the CSAH 103 (West Broadway Avenue/Oak Grove Parkway and CSAH 103 (West Broadway Avenue)/Main Street intersections in the 2040 Build PM peak scenario without the TH 169/101st Avenue N interchange was due to the high traffic volumes, generated by future development, that all access the TH 610 interchange. The planned future interchange at TH 169/101st Avenue N would distribute this traffic demand between two interchanges and result in all intersections operating at overall LOS D or better during the peak periods. The operations issues noted in the Build conditions also occur in the No Build conditions to a greater degree, therefore no mitigation has been proposed.

The full table of Build conditions LOS and queuing analysis results can be found in **Appendix C**.

Table 5.3. OMF to TH 610 – Opening Year Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS	
	Opening Year AM Build Scenario 01[1]	Opening Year PM Build Scenario 01[1]
Oak Grove Pkwy/Xylon Ave*	1.8 A	1.6 A
CSAH 103 (W Broadway Ave)/ Oak Grove Pkwy	27.6 C	38.0 D
CSAH 103 (W Broadway Ave)/ Main St	18.7 B	12.5 B
CSAH 103 (W Broadway Ave)/ TH 610 WB Ramps	18.5 B	21.6 C
CSAH 103 (W Broadway Ave)/ TH 610 EB Ramps	16.7 B	16.0 B

* Side street stop-controlled intersection
[1] Build Scenario 01 assumes no interchange at TH 169/101st Avenue N.

Table 5.4. OMF to TH 610 – 2040 Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	2040 AM Build Scenario 01[1]	2040 AM Build Scenario 02[2]	2040 PM Build Scenario 01[1]	2040 PM Build Scenario 02[2]
Oak Grove Pkwy/Xylon Ave*	22.0 C	85.7 F	74.9 E	91.5 F
CSAH 103 (W Broadway Ave)/ Oak Grove Pkwy	41.9 D	40.6 D	95.9 F	47.2 D
CSAH 103 (W Broadway Ave)/ Main St	41.2 D	38.7 C	62.6 E	34.5 C
CSAH 103 (W Broadway Ave)/ TH 610 WB Ramps	32.3 C	22.5 C	38.8 D	26.3 C
CSAH 103 (W Broadway Ave)/ TH 610 EB Ramps	24.3 C	21.0 C	28.2 C	26.1 C

* Side street stop-controlled intersection
[1] Build Scenario 01 assumes no interchange at TH 169/101st Avenue N.
[2] Build Scenario 02 assumes a new full access interchange at TH 169/101st Avenue N.

5.2.2 TH 610 to CSAH 81 (Bottineau Boulevard)/73rd Avenue N

The results of the Opening Year and 2040 AM and PM peak hour analysis showed that all intersections would be expected to operate at overall LOS D or better during the Build peak hour scenarios. All intersections were modeled in VISSIM based on the proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 5.5** and **Table 5.6** below.

Movements for which queuing issues were identified in one or more scenarios were as follows:

- CSAH 103 (West Broadway Avenue)/Shopping Center Access – Eastbound right-turn movement
- CSAH 103 (West Broadway Avenue)/CSAH 130 (Brooklyn Boulevard)/CSAH 152 – Southbound left-turn movement

The two queuing issues identified are related, and are due to vehicle traffic demands and access control along CSAH 103 (West Broadway Avenue) in the 2040 Build PM peak. The conversion of the CSAH 103 (West Broadway Avenue)/Shopping Center Access to right-in/right-out in the Build conditions is expected to result in increased u-turn movements at the CSAH 103 (West Broadway Avenue)/CSAH 130 (Brooklyn Boulevard)/CSAH 152 intersection. The southbound left-turn lane at the CSAH 103 (West Broadway Avenue)/CSAH 130 (Brooklyn Boulevard)/CSAH 152 intersection will need to be designed with sufficient storage to accommodate these movements and limit or avoid impacts to the CSAH 103 (West Broadway Avenue)/Shopping Center Access intersection.

The full table of Build conditions LOS and queuing analysis results can be found in **Appendix C**.

Table 5.5. TH 610 to CSAH 81/73rd Avenue N – Opening Year Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	Opening Year AM Build Scenario 01[1]	Opening Year AM Build Scenario 02[2]	Opening Year PM Build Scenario 01[1]	Opening Year PM Build Scenario 02[2]
CSAH 103 (W Broadway Ave)/ 94th Ave N	10.8 B	10.8 B	9.5 A	9.9 A
CSAH 103 (W Broadway Ave)/ CSAH 30 (93rd Ave N)	39.4 D	38.4 D	37.2 D	35.8 D
CSAH 103 (W Broadway Ave)/ 92nd Ave N*	0.8 A	0.8 A	1.0 A	1.0 A
CSAH 103 (W Broadway Ave)/ Setzler Pkwy	14.4 B	10.4 B	20.1 C	18.8 B
CSAH 103 (W Broadway Ave)/ 89th Ave N*	0.7 A	0.7 A	0.7 A	0.8 A
CSAH 103 (W Broadway Ave)/ Maplebrook Pkwy[1,2]	0.9 A	8.0 A	1.0 A	10.0 A
CSAH 103 (W Broadway Ave)/ CSAH 109 (85th Ave N)	36.1 D	34.8 C	45.8 D	41.6 D
CSAH 103 (W Broadway Ave)/ 84th Ave N*	0.6 A	1.5 A	1.0 A	1.2 A
CSAH 103 (W Broadway Ave)/ College Park Dr	9.2 A	13.0 B	14.9 B	14.4 B
CSAH 103 (W Broadway Ave)/ 82nd Ave N*	0.7 A	0.8 A	0.6 A	0.6 A
CSAH 103 (W Broadway Ave)/ Candlewood Dr	9.2 A	9.3 A	13.7 B	13.7 B
CSAH 103 (W Broadway Ave)/ 78th Ave N*	0.4 A	0.4 A	0.6 A	0.6 A

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	Opening Year AM Build Scenario 01[1]	Opening Year AM Build Scenario 02[2]	Opening Year PM Build Scenario 01[1]	Opening Year PM Build Scenario 02[2]
CSAH 103 (W Broadway Ave)/ Shopping Center Access*	1.7 A	1.4 A	4.1 A	3.8 A
CSAH 103 (W Broadway Ave)/ CSAH 130 (Brooklyn Blvd)/ CSAH 152	26.7 C	25.4 C	43.5 D	43.4 D
CSAH 130 (Brooklyn Blvd)/ Shopping Center Access (west of CSAH 103)	7.5 A	7.7 A	19.1 B	19.1 B
CSAH 152 (Brooklyn Blvd)/ Shopping Center Access (east of CSAH 103)*	0.7 A	0.7 A	2.2 A	2.3 A
CSAH 130 (W Broadway Ave)/ 76th Ave N	13.7 B	13.6 B	31.1 C	31.5 C
CSAH 130 (W Broadway Ave)/ 75th Ave N	15.1 B	14.4 B	24.3 C	24.8 C
CSAH 130 (W Broadway Ave)/ 74th Ave N*	0.7 A	0.8 A	0.9 A	0.9 A
CSAH 130 (W Broadway Ave)/ 73rd Ave N	10.5 B	10.6 B	9.8 A	9.8 A

*Side street stop-controlled intersection
[1] Scenario 01 assumes right-in/right-out access with side street stop control at CSAH 103 (W Broadway Avenue)/Maplebrook Parkway.
[2] Scenario 02 assumes a full-access signalized intersection at CSAH 103 (W Broadway Avenue)/Maplebrook Parkway.

Table 5.6. TH 610 to CSAH 81/73rd Avenue N – 2040 Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	2040 AM Build Scenario 01[1]	2040 AM Build Scenario 02[2]	2040 PM Build Scenario 01[1]	2040 PM Build Scenario 02[2]
CSAH 103 (W Broadway Ave)/ 94th Ave N	15.6 B	15.4 B	11.8 B	11.3 B
CSAH 103 (W Broadway Ave)/ CSAH 30 (93rd Ave N)	49.4 D	49.8 D	47.7 D	48.1 D
CSAH 103 (W Broadway Ave)/ 92nd Ave N*	0.9 A	1.0 A	1.4 A	1.2 A
CSAH 103 (W Broadway Ave)/ Setzler Pkwy	17.3 B	10.4 B	23.8 C	20.5 C
CSAH 103 (W Broadway Ave)/ 89th Ave N*	0.7 A	0.8 A	0.9 A	0.9 A

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	2040 AM Build Scenario 01[1]	2040 AM Build Scenario 02[2]	2040 PM Build Scenario 01[1]	2040 PM Build Scenario 02[2]
CSAH 103 (W Broadway Ave)/ Maplebrook Pkwy[1,2]	1.1 A	8.4 A	1.3 A	11.4 B
CSAH 103 (W Broadway Ave)/ CSAH 109 (85th Ave N)	37.6 D	36.0 D	50.1 D	44.3 D
CSAH 103 (W Broadway Ave)/ 84th Ave N*	0.7 A	0.8 A	1.4 A	1.5 A
CSAH 103 (W Broadway Ave)/ College Park Dr	7.3 A	8.0 A	15.7 B	16.2 B
CSAH 103 (W Broadway Ave)/ 82nd Ave N*	0.7 A	0.7 A	0.7 A	0.8 A
CSAH 103 (W Broadway Ave)/ Candlewood Dr	9.5 A	9.8 A	14.2 B	14.0 B
CSAH 103 (W Broadway Ave)/ 78th Ave N*	0.4 A	0.4 A	1.3 A	1.6 A
CSAH 103 (W Broadway Ave)/ Shopping Center Access*	1.6 A	1.6 A	15.0 C	19.8 C
CSAH 103 (W Broadway Ave)/ CSAH 130 (Brooklyn Blvd)/ CSAH 152	30.5 C	30.7 C	51.1 D	49.9 D
CSAH 130 (Brooklyn Blvd)/ Shopping Center Access (west of CSAH 103)	8.2 A	7.9 A	16.8 B	16.9 B
CSAH 152 (Brooklyn Blvd)/ Shopping Center Access (east of CSAH 103)*	0.8 A	0.8 A	2.5 A	2.6 A
CSAH 130 (W Broadway Ave)/ 76th Ave N	15.2 B	14.8 B	34.3 C	32.1 C
CSAH 130 (W Broadway Ave)/ 75th Ave N	16.4 B	15.3 B	25.2 C	25.4 C
CSAH 130 (W Broadway Ave)/ 74th Ave N*	1.0 A	1.0 A	1.2 A	1.3 A
CSAH 130 (W Broadway Ave)/ 73rd Ave N	12.2 B	12.4 B	12.2 B	11.8 B

*Side street stop-controlled intersection

[1] Scenario 01 assumes right-in/right-out access with side street stop control at CSAH 103 (West Broadway Avenue)/Maplebrook Parkway.

[2] Scenario 02 assumes a full-access signalized intersection at CSAH 103 (West Broadway Avenue)/Maplebrook Parkway.

5.2.3 CSAH 81 (Bottineau Boulevard)/73rd Avenue N to TH 55 (Olson Memorial Highway)

The results of the Opening Year and 2040 AM and PM peak hour analysis showed that all intersections would be expected to operate at overall LOS D or better during the Build peak hour scenarios, including a 20-car freight event in the AM peak hour, with the following exceptions:

- Golden Valley Road/Theodore Wirth Parkway in the 2040 PM peak

The Golden Valley Road/Theodore Wirth Parkway intersection was modeled in Synchro/SimTraffic because it does not have any nearby at-grade crossings with freight rail or proposed crossings with LRT. All other intersections were modeled in VISSIM based on the existing freight crossings and proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 5.7** and **Table 5.8** below.

Movements for which queuing issues were identified in one or more scenarios were as follows:

- CSAH 81 (Bottineau Boulevard)/Wilshire Boulevard – Eastbound left-turn movement
- Golden Valley Road/Theodore Wirth Parkway – Eastbound approach queue exceeded 500 feet

Many of the intersections along CSAH 81 (Bottineau Boulevard) had better operations in the Build conditions than in the Existing conditions, due to the planned reconstruction projects from 63rd Avenue N to TH 169, planned to occur before Opening Year, and the six-lane restriping from TH 100 to Wilshire Boulevard, which occurred in 2015.

The storage distance on Wilshire Boulevard between CSAH 81 (Bottineau Boulevard) and Lakeland Avenue N is limited to approximately 45 feet due to the location of the frontage road (Lakeland Avenue N). As a result, during the PM peak in the Build conditions, vehicles exiting the park-and-ride cause the eastbound left-turn queue to exceed this limited storage. Lakeland Avenue N is a dead end street north and south of Wilshire Boulevard and has very low traffic volumes, so the queues are not a concern relative to traffic operations or safety. However, to address concerns for access to the properties along Lakeland Avenue, the capacity of the eastbound left-turn movement is proposed to be improved through a combination of signal timing and lane restriping.

The all-way stop control at the Golden Valley Road/Theodore Wirth Parkway would be expected to operate poorly in the 2040 PM peak due to the forecast growth in area traffic volumes and the inefficiency of the existing all-way stop control. The operations issues noted in the Build conditions also occur in the No Build conditions to the same degree, and the park-and-ride would be expected to contribute two percent or less of the 2040 peak hour volumes. Therefore, no mitigation has been proposed for this intersection.

The full table of Build conditions LOS and queuing analysis results can be found in **Appendix C**.

Table 5.7. CSAH 81/73rd Avenue N to TH 55 (Olson Memorial Highway) – Opening Year Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS		
	Opening Year AM Build No Freight Event	Opening Year AM Build Freight Event	Opening Year Build PM
CSAH 81 (Bottineau Blvd)/ 73rd Ave N	14.3B	14.9 B	17.8 B
CSAH 81 (Bottineau Blvd)/ CSAH 8 (W Broadway Ave)/ 71st Ave N	30.0 C	31.6 C	31.4 C
CSAH 130 (W Broadway Ave)/	7.6	7.5	15.9

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS		
	Opening Year AM Build No Freight Event	Opening Year AM Build Freight Event	Opening Year Build PM
71st Ave N	A	A	B
CSAH 81 (Bottineau Blvd)/ I-94 WB Ramps	11.1 B	10.5 B	8.6 A
CSAH 81 (Bottineau Blvd)/ I-94 EB Ramps	24.5 C	23.9 C	30.4 C
CSAH 81 (Bottineau Blvd)/ 63rd Ave N	35.8 D	36.6 D	35.4 D
63rd Ave N/Louisiana Ave/ Park-and-Ride Access	6.4 A	6.5 A	13.1 B
CSAH 81 (Bottineau Blvd)/ CSAH 10 (Bass Lake Rd)	30.4 C	33.2 C	45.2 D
CSAH 10 (Bass Lake Rd)/ Sherburne Ave	6.6 A	6.7 A	20.6 C
CSAH 81 (Bottineau Blvd)/ Wilshire Blvd	12.6 B	13.7 B	14.9 B
Wilshire Blvd/Lakeland Ave N	5.8 A	5.8 A	28.7 D
CSAH 81 (Bottineau Blvd)/ Corvallis Ave N	9.0 A	9.4 A	13.3 B
CSAH 8 (W Broadway Ave)/ Corvallis Ave N*	2.6 A	3.0 A	4.4 A
CSAH 8 (W Broadway Ave)/ Welcome Ave N*	2.0 A	2.6 A	2.0 A
CSAH 8 (W Broadway Ave)/ Vera Cruz Ave N*	0.6 A	0.7 A	2.9 A
CSAH 8 (W Broadway Ave)/ 45 ½ Ave N	1.5 A	1.5 A	1.4 A
CSAH 8 (W Broadway Ave)/ CSAH 9 (42nd Ave N)	18.6 B	18.6 B	18.5 B
CSAH 81 (Bottineau Blvd)/ CSAH 9 (42nd Ave N)	24.4 C	24.3 C	30.0 C
CSAH 9 (42nd Ave N)/ Hubbard Ave*,1	3.2 A	3.4 A	9.7 A
CSAH 9 (42nd Ave N)/ Railroad Ave N	1.7 A	2.4 A	1.9 A
CSAH 9 (42nd Ave N)/ Regent Ave N	2.4 A	2.4 A	2.0 A
W Broadway Ave/ 41 ½ Ave N*	10.1 B	10.2 B	18.9 C
Hubbard Ave/ 41 ½ Ave N*	5.7 A	5.8 A	26.4 D
Hubbard Ave/ 41st Ave N*	7.5	7.5	17.2

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS		
	Opening Year AM Build No Freight Event	Opening Year AM Build Freight Event	Opening Year Build PM
	A	A	C
W Broadway Ave/ 41st Ave N*	8.4 A	8.6 A	16.3 C
Golden Valley Rd/ Theodore Wirth Pkwy**	11.5 B	N/A	19.4 C

*Side street stop-controlled intersection
** All-way stop-controlled intersection
[1] Left-turn movements limited to emergency vehicles and buses only.

Table 5.8. CSAH 81/73rd Avenue N to TH 55 (Olson Memorial Highway) – 2040 Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS		
	2040 AM Build No Freight Event	2040 AM Build Freight Event	2040 PM Build
CSAH 81 (Bottineau Blvd)/ 73rd Ave N	17.5 B	18.0 B	19.8 B
CSAH 81 (Bottineau Blvd)/ CSAH 8 (W Broadway Ave)/ 71st Ave N	31.5 C	31.6 C	33.4 C
CSAH 130 (W Broadway Ave)/ 71st Ave N	8.5 A	8.2 A	16.5 B
CSAH 81 (Bottineau Blvd)/ I-94 WB Ramps	11.0 B	10.6 B	8.7 A
CSAH 81 (Bottineau Blvd)/ I-94 EB Ramps	26.5 C	25.9 C	33.6 C
CSAH 81 (Bottineau Blvd)/ 63rd Ave N	37.2 D	38.9 D	36.6 D
63rd Ave N/Louisiana Ave/ Park-and-Ride Access	6.9 A	7.0 A	13.5 B
CSAH 81 (Bottineau Blvd)/ CSAH 10 (Bass Lake Rd)	32.4 C	33.9 C	53.7 D
CSAH 10 (Bass Lake Rd)/ Sherburne Ave	7.8 A	7.9 A	24.8 C
CSAH 81 (Bottineau Blvd)/ Wilshire Blvd	14.1 B	14.8 B	16.2 B
Wilshire Blvd/Lakeland Ave	5.8 A	5.8 A	29.3 D
CSAH 81 (Bottineau Blvd)/ Corvallis Ave N	9.8 A	9.7 A	14.6 B

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS		
	2040 AM Build No Freight Event	2040 AM Build Freight Event	2040 PM Build
CSAH 8 (W Broadway Ave)/ Corvallis Ave N*	2.7 A	3.0 A	4.6 A
CSAH 8 (W Broadway Ave)/ Welcome Ave N*	2.0 A	2.6 A	2.2 A
CSAH 8 (W Broadway Ave)/ Vera Cruz Ave N*	0.7 A	0.8 A	3.1 A
CSAH 8 (W Broadway Ave)/ 45 ½ Ave N	1.6 A	1.7 A	1.6 A
CSAH 8 (W Broadway Ave)/ CSAH 9 (42nd Ave N)	19.8 B	19.8 B	20.5 C
CSAH 81 (Bottineau Blvd)/ CSAH 9 (42nd Ave N)	25.3 C	25.2 C	32.0 C
CSAH 9 (42nd Ave N)/ Hubbard Ave*,[1]	3.5 A	3.8 A	10.8 B
CSAH 9 (42nd Ave N)/ Railroad Ave N	2.0 A	2.7 A	2.1 A
CSAH 9 (42nd Ave N)/ Regent Ave N	2.6 A	2.6 A	2.5 A
W Broadway Ave/ 41 ½ Ave N*	10.6 B	10.7 B	23.8 C
Hubbard Ave/ 41 ½ Ave N*	5.9 A	5.9 A	26.8 D
Hubbard Ave/ 41st Ave N*	8.1 A	8.1 A	17.1 C
W Broadway Ave/ 41st Ave N*	8.7 A	8.6 A	17.1 C
Golden Valley Rd/ Theodore Wirth Pkwy**	12.8 B	N/A	42.5 E

*Side street stop-controlled intersection
** All-way stop-controlled intersection
[1] Left-turn movements limited to emergency vehicles and buses only.

5.2.4 TH 55 (Olson Memorial Highway) to Target Field Station

The results of the Opening Year and 2040 AM and PM peak hour analysis showed that all intersections would be expected to operate at overall LOS D or better during the Build peak hour scenarios, with the following exceptions:

- TH 55 (Olson Memorial Highway)/Thomas Avenue N in the 2040 AM peak
- Olson Memorial Highway)/7th Street N/6th Avenue N in the 2040 PM peak

All intersections were modeled in VISSIM based on the proposed future at-grade LRT crossings. The overall intersection results are shown in **Table 5.9** below.

Movements for which queuing issues were identified in one or more scenarios were as follows:

- TH 55 (Olson Memorial Highway)/Thomas Avenue N – Southbound approach
- TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) – Southbound left-turn movement
- TH 55 (Olson Memorial Highway)/Morgan Avenue N – Southbound approach
- TH 55 (Olson Memorial Highway)/Humboldt Avenue N – Northbound approach
- TH 55 (Olson Memorial Highway)/Van White Memorial Boulevard – Northbound through and right-turn movements
- TH 55 (Olson Memorial Highway)/Bryant Avenue N – Northbound approach
- TH 55 (Olson Memorial Highway)/I-94 EB Ramps (W Lyndale Avenue N) – Southbound approach

The poor LOS at the TH 55 (Olson Memorial Highway)/Thomas Avenue N intersections is due to the high traffic volumes at the TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) intersection. During the AM peak when eastbound traffic volumes are heaviest, queues can spill back on TH 55 (Olson Memorial Highway) and impact the upstream intersection at TH 55 (Olson Memorial Highway)/Thomas Avenue N. The queues and delays on TH 55 (Olson Memorial Highway) are less severe in the Build conditions than in the No Build conditions due to intersection and signal timing improvements associated with the BLRT project, therefore no additional improvements are proposed.

The LOS E operations at the Olson Memorial Highway/7th Street N/6th Avenue N intersection in the 2040 PM peak is due to growth in traffic volumes at the intersection, the LRT alignment through the intersection that results in complex traffic signal phasing, and the roadway geometrics at the intersection. The intersection has many competing needs: C-Line arterial BRT stations; bus access to the adjacent Metro Transit Heywood Garage; pedestrian access to the adjacent Target Field Station; City of Minneapolis planned future protected bikeway on 7th Street N; and buildings immediately adjacent to the right-of-way in two quadrants. During the design development process, several roadway improvements including additional left-turn and through lanes were identified and modeled, and these roadway improvements would maintain LOS D or better operations at the intersection in 2040 peak hours in the Build conditions. However, these roadway improvements would result in longer crossings for pedestrians and bicyclists, were perceived to make the intersection less friendly for transit users, and would reduce the available space for the planned protected bikeway on 7th Street N. The BLRT project stakeholders, including the City of Minneapolis, Metro Transit, and Hennepin County, evaluated the competing needs of all modes at the intersection and recommended that roadway capacity improvements not be implemented at the intersection due to the negative impacts on other modes. Therefore roadway improvements are not proposed to maintain LOS D or better operations at this intersection in the 2040 Build PM peak conditions.

The southbound left-turn queue at TH 55 (Olson Memorial Highway)/CSAH 2 (Penn Avenue N) occurs in the 2040 Build PM peak only and is due to the relatively short 100-foot turn lane. The length of the turn lane was limited to 100 feet in order to minimize impacts to on-street parking and adjacent boulevard space. The queue would be accommodated within the taper distance of the turn lane, and therefore this is not considered to be an issue that is in need of further improvements.

The queuing issues on Thomas Avenue N, Morgan Avenue N, Humboldt Avenue N, Van White Memorial Boulevard, and Bryant Avenue N are all due to the location of the frontage road zero to 50 feet from the intersection with TH 55 (Olson Memorial Highway). One to two vehicles queued at the stop bar would exceed the storage distance for these approaches. These issues were also noted in the Existing and No Build conditions analysis and occur on low volume approaches. Therefore, no mitigation is proposed to address these queues.

The queue on the southbound approach of the TH 55 (Olson Memorial Highway)/I-94 EB Ramps (W Lyndale Avenue N) intersection is due to the high volume of traffic, but is a significant distance from the I-94 exit and in a lower speed roadway segment (30 mph). This issue was noted in the Existing and No Build conditions analysis also, and does not change significantly in the Build conditions. Therefore no additional improvements are proposed.

The full table of Build conditions LOS and queuing analysis results can be found in **Appendix C**.

Table 5.9. TH 55 (Olson Memorial Highway) to Target Field Station – Opening Year and 2040 Build Conditions Results

Intersection	Overall Intersection Average Delay (seconds/vehicle) and LOS			
	Opening Year AM Build	2040 AM Build	Opening Year PM Build	2040 PM Build
TH 55 (Olson Memorial Hwy)/ Thomas Ave N	12.0 B	65.3 E	10.9 B	21.8 C
TH 55 (Olson Memorial Hwy)/ Pedestrian Crossing East of Russell Ave N	9.5 A	22.4 C	4.6 A	11.5 B
TH 55 (Olson Memorial Hwy)/ CSAH 2 (Penn Ave N)	44.3 D	50.4 D	43.1 D	51.1 D
TH 55 (Olson Memorial Hwy)/ Pedestrian Crossing East of Oliver Ave N	6.5 A	6.5 A	7.3 A	8.0 A
TH 55 (Olson Memorial Hwy)/ Morgan Ave N	13.3 B	13.5 B	16.4 B	22.9 C
TH 55 (Olson Memorial Hwy)/ James Ave N*	6.1 A	6.6 A	5.2 A	3.6 A
TH 55 (Olson Memorial Hwy)/ Pedestrian Crossing East of James Ave N	1.3 A	1.3 A	1.2 A	1.2 A
TH 55 (Olson Memorial Hwy)/ Humboldt Ave N	22.6 C	24.5 C	22.6 C	20.3 C
TH 55 (Olson Memorial Hwy)/ Van White Memorial Blvd	26.5 C	31.5 C	33.3 C	36.3 D
TH 55 (Olson Memorial Hwy)/ Bryant Ave N	17.4 B	19.2 B	17.3 B	22.8 C
TH 55 (Olson Memorial Hwy)/ I-94 EB Ramps (W Lyndale Ave N)	34.1 C	54.9 D	29.1 C	32.3 C
TH 55 (Olson Memorial Hwy)/ I-94 WB Ramps (E Lyndale Ave N)	37.1 D	42.2 D	39.4 C	46.7 D
Olson Memorial Hwy)/ Border Ave N	23.6 C	24.0 C	32.3 C	34.4 C
Olson Memorial Hwy)/ 7th St N/ 6th Ave N	45.0 D	46.6 D	43.6 D	64.8 E

*Side street stop-controlled intersection

5.3 Build Conditions Traffic Modeling Summary

Several improvements were identified as part of the scope of the project in order to provide control of the LRT at intersections and to provide adequate infrastructure to accommodate buses, pedestrians, and park-and-ride traffic near stations. These project elements were incorporated into the Build conditions modeling and included:

- Reconstruct 101st Avenue N and Oak Grove Parkway to accommodate the needs of the BLRT OMF site.
- Reconstruct CSAH 103 (West Broadway Avenue) from TH 610 to north of Oak Grove Parkway to accommodate the desired location of the LRT alignment, station location, and park-and-ride parking structure.
- Install a new traffic signal at CSAH 103 (West Broadway Avenue)/Main Street to provide a second access point to the park-and-ride facility.
- Install a new traffic signal at CSAH 103 (West Broadway Avenue)/94th Avenue N to allow LRT to transition from side-running to center-running.
- Install a new traffic signal at CSAH 103 (West Broadway Avenue)/75th Avenue N to allow LRT to transition from side-running to center-running.
- Install a new traffic signal at 63rd Avenue N/Louisiana Avenue to provide for pedestrian crossings of 63rd Avenue N and facilitate traffic exiting the park-and-ride facility.
- Reconfigure the CSAH 8 (West Broadway Avenue)/Vera Cruz Avenue N intersection to a roundabout, to continue to provide full access to the surrounding neighborhood, along with additional gates and medians at the rail crossing.
- Install a new traffic signal at TH 55 (Olson Memorial Highway)/Thomas Avenue N to maintain neighborhood access.
- Install new traffic signals on TH 55 (Olson Memorial Highway) at the proposed pedestrian crossings east of Russell Avenue N, east of Oliver Avenue N, and east of James Avenue N to maintain neighborhood pedestrian access. These pedestrian signals are assumed to operate as two-stage crossings due to the u-shaped geometry of the walkway as it crosses the LRT guideway.

In addition, some improvements were also identified as part of the Build project in order to provide overall LOS D or better operations or to manage park-and-ride queuing at all intersections in the Build conditions. These project improvements included:

- Modify left-turn phasing on CSAH 130 (Brooklyn Boulevard)/CSAH 152 at CSAH 103 (West Broadway Avenue) from protected-only to protected/permissive.
- Modify signal phasing at CSAH 81 (Bottineau Boulevard)/CSAH 10 (Bass Lake Road) to provide a right-turn overlap phase on eastbound CSAH 10 (Bass Lake Road).
- Restripe Wilshire Boulevard at CSAH 81 (Bottineau Boulevard) to provide dual eastbound left-turn lanes and modify signal timing to accommodate park-and-ride traffic.
- Restripe CSAH 8 (West Broadway Avenue) at CSAH 9 (42nd Avenue N) to provide northbound and southbound left-turn lanes and modify the traffic signal to provide northbound, southbound, and westbound protected/permissive left-turn phasing to accommodate park-and-ride traffic.
- Modify CSAH 2 (Penn Avenue N) lane geometrics at TH 55 (Olson Memorial Highway) to better accommodate vehicle traffic.
- Modify southbound W Lyndale Avenue N geometrics to better accommodate vehicle traffic flow.

Signal timings in the Build conditions were optimized as part of the VISSIM simulation models. The CSAH 103 (West Broadway Avenue), CSAH 81 (Bottineau Boulevard), and TH 55 (Olson Memorial Highway) corridors were all assumed to operate with coordinated and interconnected signals. Pedestrian crossings of TH 55 (Olson Memorial Highway) were assumed to be timed for one-stage crossings similar to the existing operations, with the exception of the three new pedestrian signals as noted previously.

With these improvements, all intersections would be expected to operate at overall LOS D or better in the Opening Year and 2040 Build AM and PM peak conditions, with the following exceptions:

- Oak Grove Parkway/Xylon Avenue in the 2040 AM and PM peak
- CSAH 103 (West Broadway Avenue)/Oak Grove Parkway in the 2040 PM peak in the scenario with no interchange at TH 169/101st Avenue N
- CSAH 103 (West Broadway Avenue)/Main Street in the 2040 PM peak in the scenario with no interchange at TH 169/101st Avenue N
- Golden Valley Road/Theodore Wirth Parkway in 2040 PM peak
- TH 55 (Olson Memorial Highway)/Thomas Avenue N in the 2040 AM peak
- Olson Memorial Highway)/7th Street N/6th Avenue N in the 2040 PM peak

A future traffic signal is expected to be needed at the Oak Grove Parkway/Xylon Avenue intersection to accommodate 2040 development-generated traffic volumes. The traffic signal is recommended to be constructed (by others) at the same time as the TH 169/101st Avenue N interchange or as development traffic warrants.

The poor operations (delay and queuing) at the CSAH 103 (West Broadway Avenue/Oak Grove Parkway and CSAH 103 (West Broadway Avenue)/Main Street intersections in the 2040 Build PM peak scenarios without the TH 169/101st Avenue N interchange are due to the high development-generated traffic volumes all accessing the TH 610 interchange. The planned future interchange at TH 169/101st Avenue N would distribute this traffic demand between two interchanges and result in all intersections operating at overall LOS D or better during the peak periods. The operations issues noted in the Build conditions also occurred in the No Build conditions to a greater degree, therefore no mitigation has been proposed as part of the BLRT project.

The all-way stop control at the Golden Valley Road/Theodore Wirth Parkway would be expected to operate poorly in the 2040 PM peak due to the forecast growth in area traffic volumes and the inefficiency of the existing all-way stop control. The operations issues noted in the Build conditions also occur in the No Build conditions to the same degree, and the park-and-ride would be expected to contribute two percent or less of the 2040 peak hour volumes. Therefore, no mitigation has been proposed for this intersection.

The poor LOS at the TH 55 (Olson Memorial Highway)/Thomas Avenue N intersections is due to the high eastbound traffic volumes in the AM peak. The operations in the 2040 Build conditions are expected to be better than in the 2040 No Build conditions due to the improvements associated with the BLRT project, therefore no additional improvements are proposed.

The LOS E operations at the Olson Memorial Highway/7th Street N/6th Avenue N intersection in the 2040 PM peak is due to growth in traffic volumes at the intersection, the LRT alignment through the intersection that results in changes to the traffic signal phasing, and the roadway geometrics at the intersection. The BLRT stakeholders, in evaluating the competing needs of all modes at the intersection, recommended that roadway capacity improvements not be implemented at the intersection due to the corresponding negative impacts on other modes, including pedestrians, bicyclists, and buses.

Overall, there are fewer failing intersections in the Build conditions than in the No Build conditions due to the improvements made as part of the BLRT project. In addition, all the intersections with LOS E or F were due to an issue that also existed in the No Build conditions, or stakeholders determined that the traffic mitigation measures would have significant negative impacts on other modes. Therefore, no traffic mitigation measures, other than those described above, are proposed for the BLRT project.

Appendix A: Peak Hour Traffic Volumes

2014 AM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
CSAH 103 / 101st Ave N	3	99	-	-	577	1	8	-	6	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N	3	101	-	-	582	1	1	-	5	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	-	89	542	88	499	-	-	-	-	35	-	15
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	-	454	66	38	496	-	-	-	-	512	-	177
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	-	142	190	167	841	-	-	-	-	132	-	378
CSAH 103 (W Broadway Ave) / 94th Ave N	63	282	-	-	842	131	50	-	94	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	54	190	25	27	599	310	114	152	26	72	244	41
CSAH 103 (W Broadway Ave) / 92nd Ave N	11	242	0	4	611	82	5	1	4	12	3	22
CSAH 103 (W Broadway Ave) / Setzler Pkwy	15	200	15	20	580	27	5	0	4	62	0	48
CSAH 103 (W Broadway Ave) / 89th Ave N	5	219	-	-	598	48	11	-	8	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	5	175	9	3	589	14	34	3	17	46	5	15
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	54	117	60	65	491	96	39	305	115	181	415	33
CSAH 103 (W Broadway Ave) / 84th Ave N	2	220	57	139	647	1	3	0	5	15	0	8
CSAH 103 (W Broadway Ave) / College Park Dr	8	277	-	-	661	6	2	-	40	-	-	-
CSAH 103 (W Broadway Ave) / 82nd Ave N	11	357	-	-	696	5	3	-	38	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	-	345	22	16	718	-	-	-	-	87	-	23
CSAH 103 (W Broadway Ave) / 78th Ave N	0	341	3	11	793	1	0	0	1	7	0	26
CSAH 103 (W Broadway Ave) / Shopping Center Access	21	311	14	10	775	16	22	0	7	11	0	11
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	33	144	38	61	454	278	111	246	20	65	342	91
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	39	4	47	7	0	7	16	323	47	28	610	16
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	5	0	1	4	0	8	10	320	6	3	479	13
CSAH 130 (W Broadway Ave) / 76th Ave N	26	168	16	26	442	79	15	5	12	13	19	32
CSAH 130 (W Broadway Ave) / 75th Ave N	17	201	8	4	462	1	1	3	14	33	7	8
CSAH 130 (W Broadway Ave) / 74th Ave N	32	221	2	0	503	6	4	3	59	10	1	1
CSAH 130 (W Broadway Ave) / 73rd Ave N	16	200	9	10	501	61	36	11	10	17	29	19
CSAH 81 (Bottineau Blvd) / 73rd Ave N	39	697	26	10	1251	68	16	18	26	33	46	22
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	65	669	141	47	1130	133	66	77	33	349	200	27
CSAH 130 (W Broadway Ave) / 71st Ave N	125	65	1	9	72	425	151	9	105	0	26	2
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	470	210	118	1395	-	-	-	-	116	-	406
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	622	141	470	1041	-	-	-	-	357	-	58
CSAH 81 (Bottineau Blvd) / 63rd Ave N	47	524	69	104	1218	76	77	124	116	232	204	162
63rd Ave N / Louisiana Ave/Park-and-Ride Access	4	0	73	3	0	1	9	241	4	62	261	4
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	177	523	31	59	1284	224	66	172	294	113	290	52
CSAH 10 (Bass Lake Rd) / Sherburne Ave	6	1	68	0	1	0	0	463	11	83	606	1
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	17	663	79	63	1605	24	10	5	17	218	20	59
Wilshire Blvd / Lakeland Ave N	-	0	16	16	0	-	-	-	-	31	-	30
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	56	704	7	8	1777	56	30	8	112	32	22	26
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	80	26	124	134	-	-	-	-	34	-	100
CSAH 8 (W Broadway Ave) / Welcome Ave N	14	95	-	-	153	15	11	-	11	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	-	-	-	9	-	8	5	159	-	-	102	5
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	7	93	-	-	160	8	14	-	23	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	68	51	20	73	70	40	28	339	70	31	303	21
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	150	405	17	47	682	75	65	149	163	29	130	47
CSAH 9 (42nd Ave N) / Hubbard Ave	8 [1]	0 [1]	11	1 [1]	0 [1]	8	1 [1]	425	23	2 [1]	408	1
CSAH 9 (42nd Ave N) / Railroad Ave N	8	1	5	5	1	6	11	447	10	2	422	18
CSAH 9 (42nd Ave N) / Regent Ave N	113	1	32	8	0	13	6	414	48	17	398	1
W Broadway Ave / 41 ½ Ave N	5	139	-	-	153	18	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	14	-	-	21	-	-	-	-	18	-	5
41st Ave N / Hubbard Ave	6	9	17	22	24	10	8	60	1	13	65	14
W Broadway Ave / 41st Ave N	8	101	22	11	108	34	28	51	20	22	50	10
Golden Valley Rd / Theodore Wirth Pkwy	16	57	6	37	262	361	127	180	131	6	128	18
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	45	-	43	29	2007	-	-	889	12
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	39	128	60	99	104	83	132	1814	106	75	779	122
TH 55 (Olson Memorial Hwy) / Morgan Ave N	10	2	30	27	19	13	6	1948	19	50	953	2
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	50	-	50	34	1971	-	-	955	51
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	14	19	27	40	6	10	31	1972	18	82	982	57
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	14	19	20	71	22	36	24	1955	60	19	1071	14
TH 55 (Olson Memorial Hwy) / Bryant Ave N	4	2	32	5	4	27	6	2019	21	65	1073	22
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	286	374	410	-	1219	837	145	750	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	572	386	264	-	-	-	179	1109	-	-	323	22
Olson Memorial Hwy / Border Ave	22	29	37	3	106	129	265	988	120	4	194	6
Olson Memorial Hwy / 7th St N/6th Ave N	76	182	64	49	802	8	-	419	609	40	120	40

[1] Movement allowed by buses and emergency vehicles only

2014 PM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
CSAH 103 / 101st Ave N	3	592	-	-	204	1	163	-	15	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N	5	594	-	-	218	1	1	-	8	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	-	480	175	40	186	-	-	-	-	582	-	119
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	-	493	162	333	435	-	-	-	-	281	-	162
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	-	444	545	168	548	-	-	-	-	113	-	211
CSAH 103 (W Broadway Ave) / 94th Ave N	65	878	-	-	579	82	110	-	91	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	26	577	74	78	383	209	298	222	47	53	132	68
CSAH 103 (W Broadway Ave) / 92nd Ave N	8	609	5	17	455	11	64	0	32	4	0	4
CSAH 103 (W Broadway Ave) / Setzler Pkwy	2	572	58	44	445	2	26	1	10	26	0	24
CSAH 103 (W Broadway Ave) / 89th Ave N	8	582	-	-	462	19	50	-	29	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	14	554	51	12	446	33	26	6	9	24	2	10
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	131	437	338	70	310	99	138	707	160	142	393	44
CSAH 103 (W Broadway Ave) / 84th Ave N	6	809	47	87	521	4	6	0	4	72	2	91
CSAH 103 (W Broadway Ave) / College Park Dr	52	855	-	-	592	5	7	-	33	-	-	-
CSAH 103 (W Broadway Ave) / 82nd Ave N	32	939	-	-	622	3	7	-	19	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	-	951	113	27	614	-	-	-	-	63	-	20
CSAH 103 (W Broadway Ave) / 78th Ave N	11	1033	15	31	638	8	3	0	5	8	1	28
CSAH 103 (W Broadway Ave) / Shopping Center Access	55	885	77	35	543	73	100	12	44	46	12	74
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	85	491	157	121	312	200	371	532	58	135	582	155
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	81	26	146	43	22	55	65	772	116	129	693	45
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	8	0	11	41	0	39	30	760	20	11	825	38
CSAH 130 (W Broadway Ave) / 76th Ave N	63	526	84	88	311	161	141	43	50	43	58	66
CSAH 130 (W Broadway Ave) / 75th Ave N	56	655	29	16	385	3	2	9	60	14	7	16
CSAH 130 (W Broadway Ave) / 74th Ave N	64	731	7	4	449	6	6	3	140	4	3	3
CSAH 130 (W Broadway Ave) / 73rd Ave N	37	682	33	40	492	61	92	25	19	17	30	28
CSAH 81 (Bottineau Blvd) / 73rd Ave N	50	1523	55	21	651	43	117	57	72	50	42	36
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	48	1380	409	48	636	90	183	240	55	274	144	66
CSAH 130 (W Broadway Ave) / 71st Ave N	178	199	5	18	224	289	528	19	150	2	17	10
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	1239	495	122	845	-	-	-	-	150	-	600
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	1579	220	369	626	-	-	-	-	216	-	155
CSAH 81 (Bottineau Blvd) / 63rd Ave N	73	1452	253	129	637	76	127	249	63	164	221	220
63rd Ave N / Louisiana Ave/Park-and-Ride Access	3	0	112	5	0	9	3	322	12	82	284	4
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	332	1401	129	70	622	172	300	471	318	90	342	77
CSAH 10 (Bass Lake Rd) / Sherburne Ave	11	0	207	28	4	17	23	853	19	70	760	15
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	26	1723	260	77	920	36	37	7	29	115	7	105
Wilshire Blvd / Lakeland Ave N	-	0	37	36	0	-	-	-	-	35	-	34
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	142	1917	23	26	976	62	75	25	85	11	12	17
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	252	38	147	219	-	-	-	-	52	-	164
CSAH 8 (W Broadway Ave) / Welcome Ave N	55	237	-	-	198	73	53	-	27	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	-	-	-	20	-	6	14	211	-	-	286	14
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	19	284	-	-	217	14	16	-	9	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	104	150	42	40	142	44	63	470	114	38	335	90
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	274	779	51	94	580	69	103	275	225	22	120	72
CSAH 9 (42nd Ave N) / Hubbard Ave	13 [1]	0 [1]	25	0 [1]	0 [1]	7	40 [1]	622	40	2 [1]	475	6
CSAH 9 (42nd Ave N) / Railroad Ave N	5	2	6	9	2	6	9	665	18	13	504	11
CSAH 9 (42nd Ave N) / Regent Ave N	69	3	19	9	2	19	11	649	95	24	458	9
W Broadway Ave / 41 ½ Ave N	15	296	-	-	275	19	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	18	-	-	42	-	-	-	-	14	-	20
41st Ave N / Hubbard Ave	6	4	10	28	24	10	17	130	5	10	85	17
W Broadway Ave / 41st Ave N	11	182	33	48	192	35	63	85	20	37	66	51
Golden Valley Rd / Theodore Wirth Pkwy	95	189	10	22	92	187	321	171	33	2	189	39
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	42	-	34	74	1738	-	-	1380	34
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	89	201	66	111	143	114	196	1458	126	87	1211	159
TH 55 (Olson Memorial Hwy) / Morgan Ave N	25	14	35	22	34	9	18	1601	16	49	1423	3
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	38	-	43	37	1621	-	-	1432	4
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	14	16	42	27	19	17	26	1617	16	33	1405	18
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	28	39	25	71	38	53	66	1560	60	32	1375	7
TH 55 (Olson Memorial Hwy) / Bryant Ave N	32	13	64	12	6	20	19	1608	29	45	1362	29
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	183	371	223	-	909	775	253	1213	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	375	694	127	-	-	-	262	718	-	-	1091	81
Olson Memorial Hwy / Border Ave	146	82	12	9	91	290	255	542	48	13	736	15
Olson Memorial Hwy / 7th St N/6th Ave N	319	468	42	47	262	27	-	336	225	52	418	49

[1] Movement allowed by buses and emergency vehicles only

2021 No Build AM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
CSAH 103 / 101st Ave N	15	120	-	-	665	5	10	-	20	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N	5	135	-	-	685	5	5	-	5	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	-	120	685	115	575	-	-	-	-	45	-	20
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	-	580	95	50	640	-	-	-	-	540	-	225
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	-	180	210	240	940	-	-	-	-	140	-	495
CSAH 103 (W Broadway Ave) / 94th Ave N	70	335	-	-	930	150	55	-	95	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	80	210	30	50	640	335	120	180	25	80	280	70
CSAH 103 (W Broadway Ave) / 92nd Ave N	-	285	5	-	675	100	-	-	10	-	-	40
CSAH 103 (W Broadway Ave) / Setzler Pkwy	20	225	15	35	625	30	5	5	30	65	5	50
CSAH 103 (W Broadway Ave) / 89th Ave N	-	260	-	-	645	55	-	-	20	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	5	200	10	15	635	15	35	5	20	50	5	15
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	55	135	60	70	535	105	40	310	115	185	425	35
CSAH 103 (W Broadway Ave) / 84th Ave N	-	245	60	-	840	5	-	-	5	-	-	10
CSAH 103 (W Broadway Ave) / College Park Dr	20	300	75	145	695	5	5	5	40	15	5	5
CSAH 103 (W Broadway Ave) / 82nd Ave N	-	395	-	-	745	15	-	-	40	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	5 [1]	365	20	20	765	-	-	-	-	90	-	25
CSAH 103 (W Broadway Ave) / 78th Ave N	-	365	15	-	850	5	-	-	5	-	-	35
CSAH 103 (W Broadway Ave) / Shopping Center Access	20	335	15	20	825	15	20	5	5	10	5	10
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	30	155	40	65	485	295	115	250	20	65	345	95
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	40	5	45	5	5	5	15	335	50	30	630	15
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	5	5	5	5	5	10	15	340	5	5	490	15
CSAH 130 (W Broadway Ave) / 76th Ave N	30	180	20	25	460	80	15	5	10	15	20	35
CSAH 130 (W Broadway Ave) / 75th Ave N	15	220	10	5	490	5	5	5	15	35	5	10
CSAH 130 (W Broadway Ave) / 74th Ave N	35	240	5	5	530	5	5	5	60	10	5	5
CSAH 130 (W Broadway Ave) / 73rd Ave N	20	215	10	10	530	65	40	10	10	20	30	20
CSAH 81 (Bottineau Blvd) / 73rd Ave N	45	770	30	10	1350	65	15	20	30	40	50	25
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	65	740	150	55	1225	140	75	80	30	370	210	35
CSAH 130 (W Broadway Ave) / 71st Ave N	130	70	5	10	75	455	165	10	110	5	25	5
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	535	225	120	1505	-	-	-	-	120	-	420
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	700	150	485	1140	-	-	-	-	375	-	60
CSAH 81 (Bottineau Blvd) / 63rd Ave N	50	585	75	115	1315	85	85	130	120	240	210	180
63rd Ave N / Louisiana Ave/Park-and-Ride Access	5	5	75	5	5	5	10	250	5	65	270	5
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	180	575	30	65	1360	245	75	180	305	115	300	55
CSAH 10 (Bass Lake Rd) / Sherburne Ave	5	5	75	5	5	5	5	485	10	90	635	5
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	20	715	85	65	1690	25	10	5	20	225	20	60
Wilshire Blvd / Lakeland Ave N	-	5	15	15	5	-	-	-	-	30	-	30
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	55	755	10	10	1860	60	35	10	115	30	25	30
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	90	30	130	140	-	-	-	-	35	-	105
CSAH 8 (W Broadway Ave) / Welcome Ave N	10	110	-	-	160	15	10	-	10	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	-	-	-	10	-	10	5	165	-	-	110	5
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	10	100	-	-	165	10	15	-	25	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	70	55	20	80	75	40	30	355	70	35	320	25
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	160	420	15	50	700	80	70	155	170	30	135	50
CSAH 9 (42nd Ave N) / Hubbard Ave	10 [2]	0 [2]	10	5 [2]	0 [2]	10	5 [2]	440	25	5 [2]	425	5
CSAH 9 (42nd Ave N) / Railroad Ave N	10	5	5	5	5	5	10	465	10	5	440	20
CSAH 9 (42nd Ave N) / Regent Ave N	115	5	35	10	5	15	5	430	50	20	415	5
W Broadway Ave / 41 ½ Ave N	5	145	-	-	160	20	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	15	-	-	20	-	-	-	-	20	-	5
41st Ave N / Hubbard Ave	5	10	20	25	25	10	10	60	5	15	65	15
W Broadway Ave / 41st Ave N	10	110	25	10	110	35	30	55	20	25	50	10
Golden Valley Rd / Theodore Wirth Pkwy	15	60	5	40	270	370	130	185	135	5	130	20
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	45	-	45	30	2085	-	-	935	15
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	40	135	65	105	110	85	135	1880	110	80	820	125
TH 55 (Olson Memorial Hwy) / Morgan Ave N	10	5	30	30	20	15	5	2020	20	50	1000	5
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	50	-	50	35	2045	-	-	1005	55
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	20	25	30	45	10	15	45	2030	25	90	1020	60
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	15	20	20	75	25	35	25	2015	60	20	1120	15
TH 55 (Olson Memorial Hwy) / Bryant Ave N	5	5	35	5	5	30	5	2085	20	70	1120	25
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	305	390	420	-	1280	845	160	795	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	590	400	290	-	-	-	180	1175	-	-	365	25
Olson Memorial Hwy / Border Ave	25	30	40	5	115	135	270	1070	125	5	230	5
Olson Memorial Hwy / 7th St N/6th Ave N	80	190	70	60	825	10	-	480	635	45	155	50

[1] U-turn volume

[2] Movement allowed by buses and emergency vehicles only

2021 No Build PM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
CSAH 103 / 101st Ave N	5	680	-	-	235	5	190	-	35	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N	5	690	-	-	270	5	5	-	10	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	-	555	220	50	230	-	-	-	-	730	-	140
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	-	650	175	420	600	-	-	-	-	295	-	200
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	-	545	540	260	640	-	-	-	-	120	-	280
CSAH 103 (W Broadway Ave) / 94th Ave N	70	970	-	-	665	95	115	-	95	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	40	615	85	120	415	230	320	250	45	60	155	105
CSAH 103 (W Broadway Ave) / 92nd Ave N	-	730	25	-	515	20	-	-	100	-	-	10
CSAH 103 (W Broadway Ave) / Setzler Pkwy	55	615	60	135	480	5	25	5	10	30	5	25
CSAH 103 (W Broadway Ave) / 89th Ave N	-	720	-	-	545	25	-	-	85	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	15	595	55	10	490	35	25	5	10	30	5	10
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	135	470	350	75	345	105	145	720	165	150	400	45
CSAH 103 (W Broadway Ave) / 84th Ave N	-	885	50	-	660	5	-	-	5	-	-	80
CSAH 103 (W Broadway Ave) / College Park Dr	95	910	35	90	570	5	15	5	35	75	5	15
CSAH 103 (W Broadway Ave) / 82nd Ave N	-	1035	-	-	675	35	-	-	25	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	20 [1]	1005	120	35	665	-	-	-	-	65	-	20
CSAH 103 (W Broadway Ave) / 78th Ave N	-	1110	45	-	700	20	-	-	10	-	-	40
CSAH 103 (W Broadway Ave) / Shopping Center Access	55	940	80	70	590	75	105	10	45	45	10	75
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	90	520	175	130	340	215	390	540	60	145	595	165
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	80	25	150	45	25	55	65	800	120	130	720	50
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	10	5	10	40	5	40	30	790	20	10	855	40
CSAH 130 (W Broadway Ave) / 76th Ave N	65	565	85	90	340	170	150	45	50	45	60	70
CSAH 130 (W Broadway Ave) / 75th Ave N	60	700	30	15	415	5	5	10	60	15	5	15
CSAH 130 (W Broadway Ave) / 74th Ave N	70	780	10	5	485	5	5	5	145	5	5	5
CSAH 130 (W Broadway Ave) / 73rd Ave N	45	725	35	40	525	70	105	25	20	20	35	30
CSAH 81 (Bottineau Blvd) / 73rd Ave N	55	1635	65	20	725	45	120	60	80	60	45	40
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	50	1480	425	60	705	100	195	250	55	290	150	75
CSAH 130 (W Broadway Ave) / 71st Ave N	180	210	5	20	240	315	565	20	150	5	15	10
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	1340	520	125	925	-	-	-	-	160	-	615
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	1700	230	380	705	-	-	-	-	230	-	160
CSAH 81 (Bottineau Blvd) / 63rd Ave N	80	1555	265	145	710	85	135	255	65	170	230	240
63rd Ave N / Louisiana Ave/Park-and-Ride Access	5	5	115	5	5	10	5	335	10	90	295	5
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	340	1495	135	75	680	190	325	485	330	95	355	80
CSAH 10 (Bass Lake Rd) / Sherburne Ave	10	5	225	30	5	20	25	885	20	80	790	15
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	25	1820	270	80	990	35	40	5	30	120	5	110
Wilshire Blvd / Lakeland Ave N	-	5	40	35	5	-	-	-	-	35	-	35
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	145	2020	25	30	1045	70	80	25	85	10	15	20
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	265	40	150	230	-	-	-	-	55	-	170
CSAH 8 (W Broadway Ave) / Welcome Ave N	55	250	-	-	210	75	55	-	30	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	-	-	-	15	-	5	15	225	-	-	300	15
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	20	295	-	-	225	15	15	-	10	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	105	155	45	45	150	45	65	495	115	40	355	95
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	290	800	50	95	600	75	110	285	235	25	130	75
CSAH 9 (42nd Ave N) / Hubbard Ave	15 [2]	0 [2]	25	0 [2]	0 [2]	10	5 [2]	645	40	5 [2]	495	5
CSAH 9 (42nd Ave N) / Railroad Ave N	5	5	5	10	5	5	10	690	20	15	525	10
CSAH 9 (42nd Ave N) / Regent Ave N	70	5	20	10	5	20	10	670	100	25	475	10
W Broadway Ave / 41 ½ Ave N	15	305	-	-	285	20	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	20	-	-	45	-	-	-	-	15	-	20
41st Ave N / Hubbard Ave	5	5	10	35	30	15	20	135	5	10	90	20
W Broadway Ave / 41st Ave N	10	200	35	50	200	35	70	90	20	40	70	55
Golden Valley Rd / Theodore Wirth Pkwy	100	195	10	20	95	190	330	175	35	5	195	40
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	45	-	35	75	1810	-	-	1450	35
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	95	210	70	115	150	125	200	1520	130	90	1270	165
TH 55 (Olson Memorial Hwy) / Morgan Ave N	25	15	35	25	35	10	15	1670	20	50	1490	5
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	40	-	45	40	1690	-	-	1500	5
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	20	20	45	30	25	25	35	1675	25	25	1460	20
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	30	40	25	75	40	55	65	1615	65	30	1425	10
TH 55 (Olson Memorial Hwy) / Bryant Ave N	35	15	65	15	5	20	20	1665	35	45	1410	30
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	195	390	225	-	960	785	275	1260	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	375	725	145	-	-	-	270	765	-	-	1165	100
Olson Memorial Hwy / Border Ave	150	90	15	10	100	295	255	605	50	15	815	20
Olson Memorial Hwy / 7th St N/6th Ave N	330	485	45	55	270	30	-	395	235	60	485	55

[1] U-turn volume

[2] Movement allowed by buses and emergency vehicles only

2040 No Build AM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
CSAH 103 / 101st Ave N (No Build01) [1]	340	265	-	-	965	115	105	-	335	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N (No Build01) [1]	575	380	-	-	1085	215	225	-	815	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy (No Build01) [1]	-	815	770	385	1515	-	-	-	-	120	-	140
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps (No Build01) [1]	-	1065	80	595	1040	-	-	-	-	610	-	520
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps (No Build01) [1]	-	345	200	500	1150	-	-	-	-	210	-	800
CSAH 103 / 101st Ave N (No Build02) [2]	395	195	-	-	810	115	75	-	400	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N (No Build02) [2]	520	435	-	-	1020	190	155	-	650	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy (No Build02) [2]	-	815	770	385	1285	-	-	-	-	120	-	140
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps (No Build02) [2]	-	1065	80	435	970	-	-	-	-	610	-	520
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps (No Build02) [2]	-	345	200	430	1150	-	-	-	-	210	-	800
CSAH 103 (W Broadway Ave) / 94th Ave N	80	475	-	-	1160	200	70	-	100	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	85	270	45	110	750	405	140	255	25	105	380	145
CSAH 103 (W Broadway Ave) / 92nd Ave N	-	360	10	-	800	115	-	-	15	-	-	40
CSAH 103 (W Broadway Ave) / Setzler Pkwy	20	290	20	45	740	30	5	5	30	70	5	60
CSAH 103 (W Broadway Ave) / 89th Ave N	-	335	-	-	765	55	-	-	30	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	5	270	10	15	765	15	40	5	30	70	10	15
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	60	190	70	80	660	125	50	330	130	200	445	45
CSAH 103 (W Broadway Ave) / 84th Ave N	-	315	65	-	990	5	-	-	5	-	-	5
CSAH 103 (W Broadway Ave) / College Park Dr	25	370	70	155	830	10	5	5	45	20	5	5
CSAH 103 (W Broadway Ave) / 82nd Ave N	-	465	-	-	880	20	-	-	45	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	10 [3]	435	25	20	905	-	-	-	-	95	-	25
CSAH 103 (W Broadway Ave) / 78th Ave N	-	430	15	-	1005	5	-	-	5	-	-	35
CSAH 103 (W Broadway Ave) / Shopping Center Access	20	400	15	50	965	20	20	5	5	10	5	10
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	35	195	45	80	560	340	130	265	20	70	355	115
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	40	5	45	10	5	10	20	360	55	25	680	20
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	5	5	10	10	5	10	15	370	5	5	520	15
CSAH 130 (W Broadway Ave) / 76th Ave N	35	215	30	30	525	90	20	10	15	15	25	35
CSAH 130 (W Broadway Ave) / 75th Ave N	20	270	10	5	570	5	5	5	15	35	5	10
CSAH 130 (W Broadway Ave) / 74th Ave N	40	300	5	5	615	5	5	5	70	15	5	5
CSAH 130 (W Broadway Ave) / 73rd Ave N	25	265	10	10	610	80	55	15	15	20	35	20
CSAH 81 (Bottineau Blvd) / 73rd Ave N	60	955	45	10	1605	65	15	25	40	55	55	25
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	55	925	165	80	1450	165	90	90	20	405	225	50
CSAH 130 (W Broadway Ave) / 71st Ave N	130	85	5	10	90	525	210	10	115	5	30	5
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	690	265	125	1755	-	-	-	-	140	-	460
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	885	180	520	1375	-	-	-	-	425	-	70
CSAH 81 (Bottineau Blvd) / 63rd Ave N	65	740	90	145	1550	100	105	145	130	255	230	220
63rd Ave N / Louisiana Ave/Park-and-Ride Access	5	5	85	10	5	5	15	285	5	75	315	10
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	200	720	35	70	1570	295	105	205	330	115	325	70
CSAH 10 (Bass Lake Rd) / Sherburne Ave	10	5	95	5	5	5	5	545	15	110	705	5
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	25	875	100	75	1915	25	10	5	20	245	20	70
Wilshire Blvd / Lakeland Ave N	-	5	20	20	5	-	-	-	-	35	-	35
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	55	915	10	10	2095	75	45	10	120	35	25	40
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	95	35	140	155	-	-	-	-	45	-	115
CSAH 8 (W Broadway Ave) / Welcome Ave N	15	115	-	-	185	15	15	-	5	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	-	-	-	5	-	10	5	195	-	-	125	5
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	10	110	-	-	180	10	15	-	30	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	70	60	25	90	80	40	30	390	75	40	360	30
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	180	455	20	50	750	90	80	175	190	30	155	50
CSAH 9 (42nd Ave N) / Hubbard Ave	10 [4]	0 [4]	10	5 [4]	0 [4]	10	5 [4]	485	25	5 [4]	470	5
CSAH 9 (42nd Ave N) / Railroad Ave N	10	5	5	5	5	5	10	510	10	5	485	20
CSAH 9 (42nd Ave N) / Regent Ave N	125	5	40	10	5	15	5	470	55	20	455	5
W Broadway Ave / 41 ½ Ave N	5	160	-	-	175	20	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	15	-	-	25	-	-	-	-	20	-	5
41st Ave N / Hubbard Ave	5	10	20	25	25	10	10	70	5	15	75	15
W Broadway Ave / 41st Ave N	10	115	25	15	125	40	30	60	25	25	55	10
Golden Valley Rd / Theodore Wirth Pkwy	20	65	5	40	290	400	140	200	145	5	145	20
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	50	-	55	35	2290	-	-	1065	15
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	45	145	70	115	120	100	150	2060	125	85	935	140
TH 55 (Olson Memorial Hwy) / Morgan Ave N	10	5	35	30	20	15	5	2220	20	60	1130	5
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	60	-	55	35	2250	-	-	1135	60
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	35	45	30	55	20	30	75	2185	50	105	1130	65
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	15	25	25	85	25	35	25	2180	65	25	1245	20
TH 55 (Olson Memorial Hwy) / Bryant Ave N	5	5	40	5	5	30	5	2265	20	75	1255	25
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	350	440	440	-	1445	865	195	915	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	630	440	355	-	-	-	185	1350	-	-	480	35
Olson Memorial Hwy / Border Ave	30	35	55	5	125	155	280	1290	135	10	335	10
Olson Memorial Hwy / 7th St N/6th Ave N	95	210	90	80	895	10	-	650	700	60	245	75

[1] No Build01 assumes no interchange at TH 169/101st Avenue N

[2] No Build02 assumes a full access interchange at TH 169/101st Avenue N

[3] U-turn volume

[4] Movement allowed by buses and emergency vehicles only

2040 No Build PM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
CSAH 103 / 101st Ave N (No Build01) [1]	390	845	-	-	390	135	235	-	550	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N (No Build01) [1]	715	950	-	-	700	240	285	-	1000	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy (No Build01) [1]	-	1330	320	350	1350	-	-	-	-	935	-	335
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps (No Build01) [1]	-	1140	165	1275	1010	-	-	-	-	285	-	510
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps (No Build01) [1]	-	605	750	570	725	-	-	-	-	300	-	700
CSAH 103 / 101st Ave N (No Build02) [2]	405	825	-	-	370	135	215	-	500	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N (No Build02) [2]	640	1000	-	-	655	215	230	-	800	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy (No Build02) [2]	-	1255	320	350	1105	-	-	-	-	880	-	385
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps (No Build02) [2]	-	1065	165	995	990	-	-	-	-	285	-	510
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps (No Build02) [2]	-	605	750	550	725	-	-	-	-	300	-	625
CSAH 103 (W Broadway Ave) / 94th Ave N	75	1225	-	-	900	125	130	-	110	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	40	715	105	225	500	285	380	335	45	85	215	205
CSAH 103 (W Broadway Ave) / 92nd Ave N	-	855	25	-	625	25	-	-	110	-	-	10
CSAH 103 (W Broadway Ave) / Setzler Pkwy	80	725	65	150	580	5	30	5	5	30	5	30
CSAH 103 (W Broadway Ave) / 89th Ave N	-	870	-	-	670	30	-	-	100	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	20	705	60	60	610	35	30	10	15	35	5	15
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	155	570	385	85	450	130	165	745	190	170	425	50
CSAH 103 (W Broadway Ave) / 84th Ave N	-	1060	50	-	805	5	-	-	5	-	-	50
CSAH 103 (W Broadway Ave) / College Park Dr	105	1050	30	100	700	10	15	5	30	80	5	50
CSAH 103 (W Broadway Ave) / 82nd Ave N	-	1185	-	-	810	40	-	-	30	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	25 [3]	1160	130	40	800	-	-	-	-	75	-	20
CSAH 103 (W Broadway Ave) / 78th Ave N	-	1275	50	-	875	25	-	-	10	-	-	40
CSAH 103 (W Broadway Ave) / Shopping Center Access	60	1095	80	80	725	85	110	10	45	50	10	85
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	105	595	215	155	410	250	445	565	60	165	625	195
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	80	25	165	50	25	65	75	855	125	140	775	65
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	10	5	15	45	5	35	35	880	25	15	935	45
CSAH 130 (W Broadway Ave) / 76th Ave N	70	670	95	105	340	190	165	45	60	50	60	80
CSAH 130 (W Broadway Ave) / 75th Ave N	70	820	40	15	500	5	5	10	70	20	5	15
CSAH 130 (W Broadway Ave) / 74th Ave N	80	915	10	5	580	5	5	5	160	5	5	5
CSAH 130 (W Broadway Ave) / 73rd Ave N	60	845	40	40	625	85	135	35	30	20	40	30
CSAH 81 (Bottineau Blvd) / 73rd Ave N	70	1935	90	25	970	40	15	25	40	95	55	45
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	45	1760	475	85	900	125	225	270	50	325	165	110
CSAH 130 (W Broadway Ave) / 71st Ave N	190	245	5	20	280	395	660	20	145	5	20	15
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	1615	590	130	1145	-	-	-	-	195	-	665
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	2035	255	420	920	-	-	-	-	265	-	165
CSAH 81 (Bottineau Blvd) / 63rd Ave N	90	1835	300	185	900	105	165	280	75	195	250	290
63rd Ave N / Louisiana Ave/Park-and-Ride Access	5	5	130	10	5	15	5	375	10	105	330	10
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	370	1745	150	95	845	230	385	530	365	110	395	95
CSAH 10 (Bass Lake Rd) / Sherburne Ave	15	5	275	35	5	20	30	970	25	100	870	20
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	30	2095	290	90	1185	40	40	5	35	135	5	125
Wilshire Blvd / Lakeland Ave N	-	5	40	40	5	-	-	-	-	40	-	40
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	145	2295	25	35	1230	85	100	30	90	15	15	25
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	285	50	165	260	-	-	-	-	65	-	180
CSAH 8 (W Broadway Ave) / Welcome Ave N	60	275	-	-	240	85	60	-	30	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	-	-	-	20	-	5	15	255	-	-	330	15
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	25	325	-	-	255	20	20	-	15	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	105	175	55	50	170	50	65	555	115	50	405	110
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	330	865	55	105	655	85	120	315	260	25	150	85
CSAH 9 (42nd Ave N) / Hubbard Ave	15 [4]	0 [4]	25	0 [4]	0 [4]	10	5 [4]	705	40	5 [4]	550	5
CSAH 9 (42nd Ave N) / Railroad Ave N	5	5	5	10	5	5	10	760	20	15	585	10
CSAH 9 (42nd Ave N) / Regent Ave N	80	5	25	10	5	20	10	735	105	30	530	10
W Broadway Ave / 41 ½ Ave N	15	335	-	-	305	25	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	20	-	-	50	-	-	-	-	15	-	25
41st Ave N / Hubbard Ave	5	5	10	40	30	15	20	150	5	10	95	20
W Broadway Ave / 41st Ave N	15	220	40	55	210	40	70	105	25	40	75	60
Golden Valley Rd / Theodore Wirth Pkwy	105	210	10	25	100	205	360	190	35	5	215	45
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	45	-	45	90	2000	-	-	1635	35
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	105	230	75	130	165	145	215	1685	145	100	1420	180
TH 55 (Olson Memorial Hwy) / Morgan Ave N	30	15	40	25	40	10	20	1855	20	55	1660	5
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	45	-	45	45	1880	-	-	1675	10
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	35	35	50	30	40	40	55	1825	40	30	1610	20
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	30	50	30	85	45	55	75	1765	70	40	1570	10
TH 55 (Olson Memorial Hwy) / Bryant Ave N	35	15	75	15	5	20	20	1825	35	50	1560	35
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	230	435	230	-	1110	805	340	1415	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	375	805	190	-	-	-	295	915	-	-	1380	135
Olson Memorial Hwy / Border Ave	165	110	20	15	125	310	265	785	55	20	1040	25
Olson Memorial Hwy / 7th St N/6th Ave N	360	525	60	80	295	35	-	560	265	75	690	80

[1] No Build01 assumes no interchange at TH 169/101st Avenue N

[2] No Build02 assumes a full access interchange at TH 169/101st Avenue N

[3] U-turn volume

[4] Movement allowed by buses and emergency vehicles only

2021 Build AM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Oak Grove Pkwy / Xylon Ave	10	5	5	30	5	50	80	245	15	5	125	40
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	50	100	655	55	580	45	10	55	25	25	20	10
CSAH 103 (W Broadway Ave) / Main St	55	800	30	5	605	35	5	5	5	20	10	5
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	-	645	95	50	640	-	-	-	-	540	-	240
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	-	190	210	240	940	-	-	-	-	140	-	550
CSAH 103 (W Broadway Ave) / 94th Ave N	70	345	-	-	930	150	55	-	95	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	80	215	30	50	640	335	130	180	25	85	280	70
CSAH 103 (W Broadway Ave) / 92nd Ave N	-	290	10	-	665	100	-	-	10	-	-	40
CSAH 103 (W Broadway Ave) / Setzler Pkwy	20	225	15	40	625	30	5	5	5	65	5	55
CSAH 103 (W Broadway Ave) / 89th Ave N	-	260	-	-	645	55	-	-	20	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	5	200	10	15	635	15	35	5	20	50	10	15
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	55	135	60	70	535	105	40	310	115	185	425	35
CSAH 103 (W Broadway Ave) / 84th Ave N	-	240	60	-	835	5	-	-	5	-	-	10
CSAH 103 (W Broadway Ave) / College Park Dr	20	295	20	145	705	5	5	5	40	5	5	5
CSAH 103 (W Broadway Ave) / 82nd Ave N	-	390	-	-	745	15	-	-	40	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	40 [1]	365	25	20	765	-	-	-	-	95	-	20
CSAH 103 (W Broadway Ave) / 78th Ave N	-	395	15	-	890	5	-	-	5	-	-	35
CSAH 103 (W Broadway Ave) / Shopping Center Access	-	400	25	-	850	40	-	-	30	-	-	20
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	30	160	40	110	490	290	115	250	15	70	345	95
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	40	5	40	5	5	5	15	335	50	25	630	20
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	5	5	5	5	5	10	15	335	5	5	490	15
CSAH 130 (W Broadway Ave) / 76th Ave N	30	180	20	25	480	80	15	5	10	15	20	35
CSAH 130 (W Broadway Ave) / 75th Ave N	55	215	10	5	490	10	5	5	80	35	10	10
CSAH 130 (W Broadway Ave) / 74th Ave N	-	270	5	5	600	-	-	-	-	20	-	5
CSAH 130 (W Broadway Ave) / 73rd Ave N	20	215	10	10	535	70	40	15	10	20	35	20
CSAH 81 (Bottineau Blvd) / 73rd Ave N	45	685	35	10	1200	70	20	25	45	40	50	30
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	65	655	155	55	1100	130	75	70	40	395	205	30
CSAH 130 (W Broadway Ave) / 71st Ave N	130	80	5	10	85	475	165	10	105	5	25	5
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	545	235	120	1575	-	-	-	-	145	-	420
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	720	150	485	1235	-	-	-	-	460	-	60
CSAH 81 (Bottineau Blvd) / 63rd Ave N	60	585	75	115	1315	265	105	140	120	240	275	180
63rd Ave N / Louisiana Ave/Park-and-Ride Access	5	5	75	35	5	20	120	250	5	65	270	260
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	190	575	30	65	1365	245	75	180	375	120	300	55
CSAH 10 (Bass Lake Rd) / Sherburne Ave	5	5	85	5	5	5	5	545	10	90	645	5
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	20	715	85	65	1690	105	20	5	20	225	20	60
Wilshire Blvd / Lakeland Ave N	-	5	15	25	5	-	-	-	-	30	-	110
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	55	755	10	10	1860	60	35	10	115	30	25	30
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	90	30	130	140	-	-	-	-	35	-	105
CSAH 8 (W Broadway Ave) / Welcome Ave N	10	110	-	-	160	15	10	-	10	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	110	5	5	5	10	10	5	5	165	5	5	5
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	10	100	-	-	165	10	15	-	35	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	85	55	20	80	85	40	30	365	70	95	320	25
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	160	420	15	50	700	105	75	160	170	30	170	50
CSAH 9 (42nd Ave N) / Hubbard Ave	10 [2]	0 [2]	10	5 [2]	0 [2]	10	5 [2]	440	25	5 [2]	425	5
CSAH 9 (42nd Ave N) / Railroad Ave N	-	-	5	-	-	5	-	595	10	-	455	20
CSAH 9 (42nd Ave N) / Regent Ave N	115	5	35	10	5	15	5	560	50	20	430	5
W Broadway Ave / 41 ½ Ave N	40	160	-	-	160	90	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	50	-	-	40	-	-	-	-	20	-	110
41st Ave N / Hubbard Ave	5	10	20	40	25	15	45	60	5	15	65	15
W Broadway Ave / 41st Ave N	10	145	25	10	110	35	45	55	25	25	50	10
Golden Valley Rd / Theodore Wirth Pkwy	30	60	5	40	270	375	130	185	135	5	140	20
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	45	-	45	30	2085	-	-	935	15
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Russell Ave N	-	-	-	-	-	-	-	2130	-	-	950	-
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	40	135	65	105	110	85	135	1880	110	80	820	125
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Oliver Ave N	-	-	-	-	-	-	-	2050	-	-	1025	-
TH 55 (Olson Memorial Hwy) / Morgan Ave N	10	5	30	30	20	15	5	2020	20	50	1000	5
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	-	-	50	-	2080	-	-	1005	55
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of James Ave N	-	-	-	-	-	-	-	2080	-	-	1060	-
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	20	25	30	95	10	15	75	1980	25	90	1020	60
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	15	20	20	75	25	35	25	2015	60	20	1120	15
TH 55 (Olson Memorial Hwy) / Bryant Ave N	5	5	35	5	5	30	5	2085	20	70	1120	25
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	305	390	420	-	1280	845	160	795	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	590	400	290	-	-	-	180	1175	-	-	365	25
Olson Memorial Hwy / Border Ave	25	30	40	5	115	135	270	1070	125	5	230	5
Olson Memorial Hwy / 7th St N/6th Ave N	80	190	70	60	825	10	-	480	635	45	155	50

[1] U-turn volume

[2] Movement allowed by buses and emergency vehicles only

2021 Build PM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Oak Grove Pkwy / Xylon Ave	10	5	5	25	10	55	45	200	10	10	205	50
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	10	570	215	25	190	5	230	30	45	700	70	65
CSAH 103 (W Broadway Ave) / Main St	5	770	10	5	955	5	20	5	50	30	5	5
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	-	655	175	475	620	-	-	-	-	295	-	205
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	-	545	540	255	650	-	-	-	-	120	-	285
CSAH 103 (W Broadway Ave) / 94th Ave N	70	970	-	-	675	95	115	-	95	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	40	615	85	120	420	235	320	250	45	65	150	105
CSAH 103 (W Broadway Ave) / 92nd Ave N	-	730	25	-	520	20	-	-	100	-	-	10
CSAH 103 (W Broadway Ave) / Setzler Pkwy	10	615	60	140	480	5	25	5	10	30	5	25
CSAH 103 (W Broadway Ave) / 89th Ave N	-	685	-	-	500	25	-	-	85	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	15	595	55	60	490	35	25	5	10	30	5	10
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	135	470	350	75	345	105	145	720	165	145	400	45
CSAH 103 (W Broadway Ave) / 84th Ave N	-	880	50	-	655	5	-	-	5	-	-	80
CSAH 103 (W Broadway Ave) / College Park Dr	95	905	35	90	565	5	15	5	35	75	5	15
CSAH 103 (W Broadway Ave) / 82nd Ave N	-	1025	-	-	665	35	-	-	20	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	135 [1]	1010	120	35	660	-	-	-	-	65	-	15
CSAH 103 (W Broadway Ave) / 78th Ave N	-	1220	45	-	815	20	-	-	10	-	-	40
CSAH 103 (W Broadway Ave) / Shopping Center Access	-	1180	125	-	660	145	-	-	160	-	-	135
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	85	530	175	315	345	205	390	535	60	145	590	165
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	80	25	145	45	25	55	65	800	120	120	720	50
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	15	5	15	45	5	40	35	800	25	25	845	40
CSAH 130 (W Broadway Ave) / 76th Ave N	65	565	85	90	340	170	150	45	50	45	60	70
CSAH 130 (W Broadway Ave) / 75th Ave N	135	700	35	15	410	10	10	10	210	15	10	15
CSAH 130 (W Broadway Ave) / 74th Ave N	-	850	10	5	630	-	-	-	-	15	-	5
CSAH 130 (W Broadway Ave) / 73rd Ave N	45	725	35	40	525	70	105	30	20	20	35	30
CSAH 81 (Bottineau Blvd) / 73rd Ave N	50	1650	65	25	785	45	120	60	80	60	45	40
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	55	1500	445	60	770	95	195	235	55	285	150	75
CSAH 130 (W Broadway Ave) / 71st Ave N	175	225	10	15	235	315	575	20	145	5	25	10
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	1405	600	125	935	-	-	-	-	165	-	615
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	1845	245	380	720	-	-	-	-	245	-	160
CSAH 81 (Bottineau Blvd) / 63rd Ave N	80	1555	265	145	710	115	295	310	70	170	240	240
63rd Ave N / Louisiana Ave/Park-and-Ride Access	5	5	115	225	5	110	25	335	10	90	295	45
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	400	1500	140	75	680	190	325	485	340	95	355	80
CSAH 10 (Bass Lake Rd) / Sherburne Ave	10	5	225	30	5	20	25	895	20	90	840	15
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	25	1820	270	80	990	45	110	5	30	120	5	110
Wilshire Blvd / Lakeland Ave N	-	5	40	105	5	-	-	-	-	35	-	45
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	145	2020	25	30	1045	70	80	25	85	10	15	20
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	265	40	150	230	-	-	-	-	55	-	170
CSAH 8 (W Broadway Ave) / Welcome Ave N	55	250	-	-	210	75	55	-	30	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	300	15	5	5	15	5	15	5	225	5	5	5
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	30	295	-	-	225	15	15	-	10	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	220	155	45	45	150	45	75	545	115	50	355	95
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	290	800	50	95	600	80	130	315	235	25	135	75
CSAH 9 (42nd Ave N) / Hubbard Ave	15 [2]	0 [2]	25	0 [2]	0 [2]	10	5 [2]	645	40	5 [2]	610	5
CSAH 9 (42nd Ave N) / Railroad Ave N	-	-	5	-	-	5	-	710	20	-	640	10
CSAH 9 (42nd Ave N) / Regent Ave N	70	5	20	10	5	20	10	690	100	25	590	10
W Broadway Ave / 41 ½ Ave N	20	420	-	-	285	30	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	25	-	-	220	-	-	-	-	15	-	35
41st Ave N / Hubbard Ave	5	5	10	180	30	45	25	135	5	10	90	20
W Broadway Ave / 41st Ave N	10	205	35	50	200	35	185	90	50	40	70	55
Golden Valley Rd / Theodore Wirth Pkwy	100	195	10	20	95	190	335	185	50	5	195	40
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	45	-	35	75	1810	-	-	1450	35
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Russell Ave N	-	-	-	-	-	-	-	1855	-	-	1485	-
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	95	210	70	115	150	125	200	1520	130	90	1270	165
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Oliver Ave N	-	-	-	-	-	-	-	1705	-	-	1525	-
TH 55 (Olson Memorial Hwy) / Morgan Ave N	25	15	35	25	35	10	15	1670	20	50	1490	5
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	-	-	45	-	1730	-	-	1500	5
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of James Ave N	-	-	-	-	-	-	-	1730	-	-	1505	-
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	20	20	45	70	25	25	70	1635	25	25	1460	20
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	30	40	25	75	40	55	65	1615	65	30	1425	10
TH 55 (Olson Memorial Hwy) / Bryant Ave N	35	15	65	15	5	20	20	1665	35	45	1410	30
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	195	390	225	-	960	785	275	1260	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	375	725	145	-	-	-	270	765	-	-	1165	100
Olson Memorial Hwy / Border Ave	150	90	15	10	100	295	255	605	50	15	815	20
Olson Memorial Hwy / 7th St N/6th Ave N	330	485	45	55	270	30	-	395	235	60	485	55

[1] U-turn volume

[2] Movement allowed by buses and emergency vehicles only

2040 Build AM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Oak Grove Pkwy / Xylon Ave (Build01) [1]	85	50	45	70	25	130	195	410	140	70	205	100
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy (Build01) [1]	455	110	750	50	765	115	35	165	485	40	155	10
CSAH 103 (W Broadway Ave) / Main St (Build01) [1]	285	1265	85	5	1185	105	45	155	365	55	145	5
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps (Build01) [1]	-	1005	80	535	1070	-	-	-	-	575	-	630
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps (Build01) [1]	-	250	310	465	1185	-	-	-	-	180	-	835
Oak Grove Pkwy / Xylon Ave (Build02) [2]	265	55	70	55	30	195	205	545	465	105	265	80
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy (Build02) [2]	415	110	750	50	765	115	35	80	360	40	75	10
CSAH 103 (W Broadway Ave) / Main St (Build02) [2]	195	1225	85	5	1060	105	45	155	95	55	145	0
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps (Build02) [2]	-	970	80	140	1070	-	-	-	-	575	-	535
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps (Build02) [2]	-	250	310	465	1185	-	-	-	-	180	-	800
CSAH 103 (W Broadway Ave) / 94th Ave N	80	490	-	-	1165	200	70	-	100	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	85	275	45	110	750	405	150	255	25	110	380	145
CSAH 103 (W Broadway Ave) / 92nd Ave N	-	365	15	-	790	115	-	-	15	-	-	40
CSAH 103 (W Broadway Ave) / Setzler Pkwy	20	290	20	50	740	30	5	5	5	70	5	60
CSAH 103 (W Broadway Ave) / 89th Ave N	-	335	-	-	765	55	-	-	30	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	5	270	10	15	765	15	40	5	30	70	10	15
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	60	190	70	80	660	125	50	330	125	200	445	45
CSAH 103 (W Broadway Ave) / 84th Ave N	-	310	65	-	990	5	-	-	5	-	-	5
CSAH 103 (W Broadway Ave) / College Park Dr	25	365	70	155	830	10	5	5	45	20	5	5
CSAH 103 (W Broadway Ave) / 82nd Ave N	-	455	-	-	885	20	-	-	45	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	40 [3]	435	25	20	905	-	-	-	-	100	-	25
CSAH 103 (W Broadway Ave) / 78th Ave N	-	465	15	-	1040	5	-	-	5	-	-	35
CSAH 103 (W Broadway Ave) / Shopping Center Access	-	470	25	-	995	40	-	-	30	-	-	20
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	30	195	45	130	570	335	130	260	15	70	355	115
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	40	5	40	10	5	10	20	360	55	20	680	20
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	5	5	10	10	5	10	15	370	5	5	520	15
CSAH 130 (W Broadway Ave) / 76th Ave N	35	215	30	30	560	90	20	10	15	15	25	35
CSAH 130 (W Broadway Ave) / 75th Ave N	65	270	10	5	570	10	5	5	90	40	10	10
CSAH 130 (W Broadway Ave) / 74th Ave N	-	335	10	5	695	-	-	-	-	20	-	5
CSAH 130 (W Broadway Ave) / 73rd Ave N	25	265	10	10	615	80	55	15	15	20	40	20
CSAH 81 (Bottineau Blvd) / 73rd Ave N	60	845	50	10	1415	70	20	25	60	55	55	30
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	65	820	170	75	1300	155	90	80	40	445	225	45
CSAH 130 (W Broadway Ave) / 71st Ave N	135	95	5	10	95	550	205	10	115	5	30	5
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	700	275	125	1825	-	-	-	-	165	-	460
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	905	180	520	1470	-	-	-	-	510	-	70
CSAH 81 (Bottineau Blvd) / 63rd Ave N	65	740	90	145	1550	280	125	155	130	255	295	220
63rd Ave N / Louisiana Ave/Park-and-Ride Access	5	5	85	40	5	20	125	285	5	75	315	265
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	200	720	35	70	1575	295	105	205	400	120	325	70
CSAH 10 (Bass Lake Rd) / Sherburne Ave	10	5	105	5	5	5	5	605	15	110	715	5
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	25	875	100	75	1915	105	20	5	20	245	20	70
Wilshire Blvd / Lakeland Ave N	-	5	20	30	5	-	-	-	-	35	-	115
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	55	915	10	10	2095	75	45	10	120	35	25	40
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	95	35	140	155	-	-	-	-	45	-	115
CSAH 8 (W Broadway Ave) / Welcome Ave N	15	115	-	-	185	15	15	-	5	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	125	5	5	5	5	10	5	5	195	5	5	5
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	10	110	-	-	180	10	15	-	40	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	85	60	25	90	90	40	30	400	75	100	360	30
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	180	455	20	50	750	115	85	180	190	30	190	50
CSAH 9 (42nd Ave N) / Hubbard Ave	10 [4]	0 [4]	10	5 [4]	0 [4]	10	5 [4]	485	25	5 [4]	470	5
CSAH 9 (42nd Ave N) / Railroad Ave N	-	-	5	-	-	5	-	640	10	-	500	20
CSAH 9 (42nd Ave N) / Regent Ave N	125	5	40	10	5	15	5	600	55	20	470	5
W Broadway Ave / 41 ½ Ave N	40	175	-	-	175	90	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	50	-	-	45	-	-	-	-	20	-	110
41st Ave N / Hubbard Ave	5	10	20	40	25	15	45	70	5	15	75	15
W Broadway Ave / 41st Ave N	10	150	25	15	125	40	45	60	30	25	55	10
Golden Valley Rd / Theodore Wirth Pkwy	30	65	5	40	290	405	145	205	150	5	155	20
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	55	-	55	40	2500	-	-	1230	20
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Russell Ave N	-	-	-	-	-	-	-	2555	-	-	1250	-
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	70	165	60	100	130	145	205	2190	160	75	1035	125
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Oliver Ave N	-	-	-	-	-	-	-	2350	-	-	1235	-
TH 55 (Olson Memorial Hwy) / Morgan Ave N	10	5	35	30	20	15	10	2315	25	60	1210	5
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	-	-	65	-	2380	-	-	1210	65
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of James Ave N	-	-	-	-	-	-	-	2380	-	-	1275	-
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	20	25	30	100	10	15	85	2270	25	90	1240	65
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	15	25	20	80	25	45	30	2300	70	20	1335	15
TH 55 (Olson Memorial Hwy) / Bryant Ave N	10	5	35	5	5	35	15	2345	40	65	1325	25
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	320	410	485	-	1440	945	165	930	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	650	420	285	-	-	-	210	1310	-	-	445	30
Olson Memorial Hwy / Border Ave	25	30	45	5	115	145	280	1195	120	5	305	10
Olson Memorial Hwy / 7th St N/6th Ave N	125	230	90	55	885	10	-	505	740	50	185	45

[1] Build01 assumes no interchange at TH 169/101st Avenue N.

[2] Build02 assumes a full access interchange is constructed at TH 169/101st Avenue N.

[3] U-turn volume

[4] Movement allowed by buses and emergency vehicles only

2040 Build PM Peak Hour Volumes

Intersection	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Oak Grove Pkwy / Xylon Ave (Build01) [1]	115	65	60	90	35	175	155	330	110	120	340	170
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy (Build01) [1]	485	730	235	25	250	60	135	220	580	780	205	70
CSAH 103 (W Broadway Ave) / Main St (Build01) [1]	215	1350	25	5	1615	45	95	205	580	85	225	5
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps (Build01) [1]	-	1140	210	1335	945	-	-	-	-	280	-	450
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps (Build01) [1]	-	615	740	380	820	-	-	-	-	215	-	735
Oak Grove Pkwy / Xylon Ave (Build02) [2]	355	70	95	70	40	260	160	435	370	175	445	135
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy (Build02) [2]	430	730	235	25	250	60	135	115	420	780	100	70
CSAH 103 (W Broadway Ave) / Main St (Build02) [2]	95	1295	25	5	1455	45	95	205	220	85	225	5
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps (Build02) [2]	-	965	210	815	945	-	-	-	-	280	-	450
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps (Build02) [2]	-	615	740	380	820	-	-	-	-	215	-	560
CSAH 103 (W Broadway Ave) / 94th Ave N	75	1225	-	-	910	125	130	-	110	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	40	715	105	225	505	290	385	335	45	90	215	205
CSAH 103 (W Broadway Ave) / 92nd Ave N	-	855	30	-	630	25	-	-	110	-	-	10
CSAH 103 (W Broadway Ave) / Setzler Pkwy	10	725	65	160	580	5	30	5	10	30	5	30
CSAH 103 (W Broadway Ave) / 89th Ave N	-	805	-	-	605	30	-	-	100	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	20	705	60	60	610	35	30	10	15	35	10	15
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	150	570	385	85	450	130	165	745	190	165	425	50
CSAH 103 (W Broadway Ave) / 84th Ave N	-	1060	50	-	800	5	-	-	5	-	-	50
CSAH 103 (W Broadway Ave) / College Park Dr	105	1050	30	100	700	10	15	5	30	80	5	50
CSAH 103 (W Broadway Ave) / 82nd Ave N	-	1180	-	-	805	40	-	-	20	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	140 [3]	1160	135	40	800	-	-	-	-	75	-	15
CSAH 103 (W Broadway Ave) / 78th Ave N	-	1390	50	-	965	25	-	-	10	-	-	40
CSAH 103 (W Broadway Ave) / Shopping Center Access	-	1350	135	-	805	155	-	-	165	-	-	145
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	100	605	220	360	415	245	440	565	60	165	620	195
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	80	30	155	50	30	65	75	855	125	125	775	65
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)	15	5	20	50	5	35	45	895	35	30	925	45
CSAH 130 (W Broadway Ave) / 76th Ave N	70	675	95	105	415	190	165	45	60	50	60	80
CSAH 130 (W Broadway Ave) / 75th Ave N	155	820	40	15	495	10	10	10	235	20	10	15
CSAH 130 (W Broadway Ave) / 74th Ave N	-	1000	15	5	740	-	-	-	-	15	-	5
CSAH 130 (W Broadway Ave) / 73rd Ave N	60	845	40	40	620	85	135	35	30	20	40	30
CSAH 81 (Bottineau Blvd) / 73rd Ave N	65	1945	90	30	985	50	120	75	105	85	55	45
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	55	1775	495	85	965	120	225	255	55	320	160	105
CSAH 130 (W Broadway Ave) / 71st Ave N	180	265	10	20	275	380	670	20	145	5	25	10
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	-	1680	670	130	1155	-	-	-	-	200	-	665
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	-	2180	270	420	935	-	-	-	-	280	-	165
CSAH 81 (Bottineau Blvd) / 63rd Ave N	90	1835	300	185	900	135	325	335	80	195	260	290
63rd Ave N / Louisiana Ave/Park-and-Ride Access	5	5	130	230	5	115	25	375	10	105	330	50
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	430	1750	155	95	845	230	385	530	375	110	395	95
CSAH 10 (Bass Lake Rd) / Sherburne Ave	15	5	275	35	5	20	30	980	25	110	920	20
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	30	2095	290	90	1185	50	110	5	35	135	5	125
Wilshire Blvd / Lakeland Ave N	-	5	40	110	5	-	-	-	-	40	-	50
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	145	2295	25	35	1230	85	100	30	90	15	15	25
CSAH 8 (W Broadway Ave) / Corvallis Ave N	-	285	50	165	260	-	-	-	-	65	-	180
CSAH 8 (W Broadway Ave) / Welcome Ave N	60	275	-	-	240	85	60	-	30	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	330	15	5	5	20	5	15	5	255	5	5	5
CSAH 8 (W Broadway Ave) / 45 ½ Ave N	35	325	-	-	255	20	20	-	15	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	220	175	55	50	170	50	75	605	115	60	405	110
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	330	865	55	105	655	90	140	345	260	25	155	85
CSAH 9 (42nd Ave N) / Hubbard Ave	15 [4]	0 [4]	25	0 [4]	0 [4]	10	5 [4]	705	40	5 [4]	665	5
CSAH 9 (42nd Ave N) / Railroad Ave N	-	-	5	-	-	5	-	780	20	-	700	10
CSAH 9 (42nd Ave N) / Regent Ave N	80	5	25	10	5	20	10	755	105	30	645	10
W Broadway Ave / 41 ½ Ave N	20	450	-	-	305	35	-	-	-	-	-	-
Hubbard Ave / 41 ½ Ave N	-	25	-	-	225	-	-	-	-	15	-	40
41st Ave N / Hubbard Ave	5	5	10	185	30	45	25	150	5	10	95	20
W Broadway Ave / 41st Ave N	15	225	40	55	210	40	185	105	55	40	75	60
Golden Valley Rd / Theodore Wirth Pkwy	110	210	10	25	100	205	365	200	50	5	215	45
TH 55 (Olson Memorial Hwy) / Thomas Ave N	-	-	-	60	-	50	105	2220	-	-	1820	40
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Russell Ave N	-	-	-	-	-	-	-	2280	-	-	1860	-
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	145	250	70	115	185	190	295	1795	190	90	1525	155
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Oliver Ave N	-	-	-	-	-	-	-	1980	-	-	1770	-
TH 55 (Olson Memorial Hwy) / Morgan Ave N	30	15	40	25	40	10	40	1920	20	60	1730	5
TH 55 (Olson Memorial Hwy) / James Ave N	-	-	-	-	-	55	-	1985	-	-	1740	5
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of James Ave N	-	-	-	-	-	-	-	1985	-	-	1745	-
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	20	20	45	75	25	25	75	1895	15	40	1700	20
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	35	45	25	80	45	65	90	1865	60	40	1660	10
TH 55 (Olson Memorial Hwy) / Bryant Ave N	50	15	65	15	10	30	30	1895	45	50	1630	35
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	-	-	-	209	411	270	-	1105	870	285	1445	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	420	760	140	-	-	-	310	880	-	-	1310	100
Olson Memorial Hwy / Border Ave	150	90	15	10	100	315	275	695	50	20	945	20
Olson Memorial Hwy / 7th St N/6th Ave N	405	520	55	55	300	30	-	440	280	70	550	55

[1] Build01 assumes no interchange at TH 169/101st Avenue N

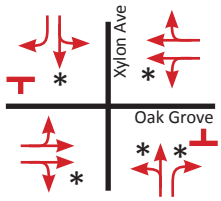
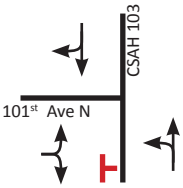
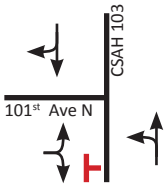
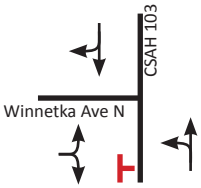
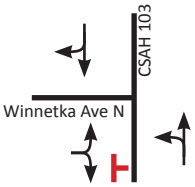
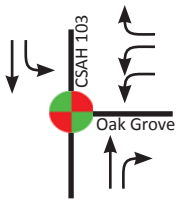
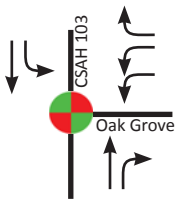
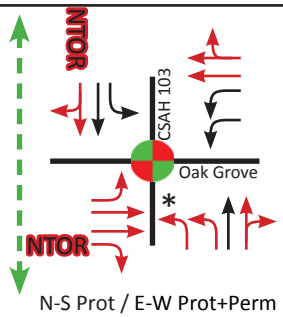
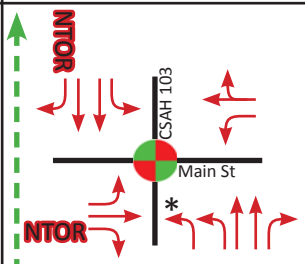
[2] Build02 assumes a full access interchange at TH 169/101st Avenue N

[3] U-turn volume

[4] Movement allowed by buses and emergency vehicles only

Appendix B: Intersection Layout Tables

BLRT Intersection Layout Table

Intersection	Existing	No Build	Build	Notes
Oak Grove Pkwy / Xylon Ave	N/A	N/A		*Additional lanes and movements in 2040 only
CSAH 103 (W Broadway Ave) / 101st Ave N			N/A	
CSAH 103 (W Broadway Ave) / Winnetka Ave N			N/A	
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	 S Prot / W Perm	 S Prot / W Perm	 N-S Prot / E-W Prot+Perm	Non-revenue crossing NTOR only when LRT approaching *Second NB LT lane in 2040 only
CSAH 103 (W Broadway Ave) / Main St	N/A	N/A	 N-S Prot / E-W Perm	*Second NB LT lane in 2040 only

Legend

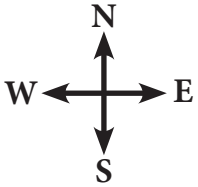
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach



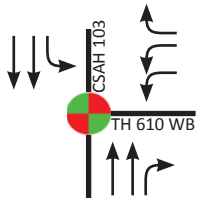
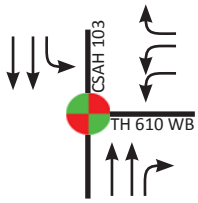
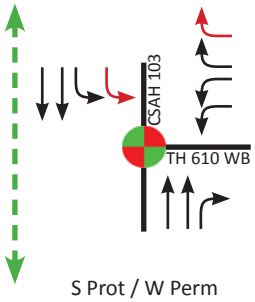
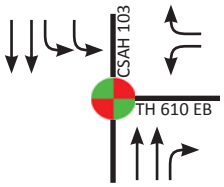
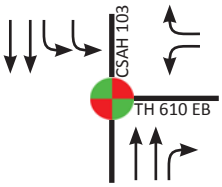
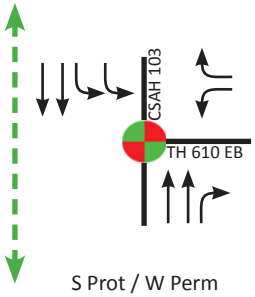
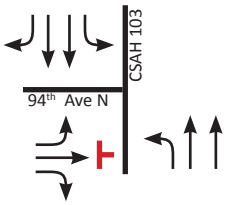
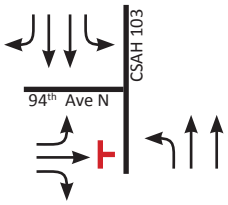
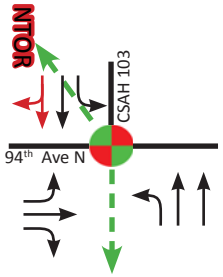
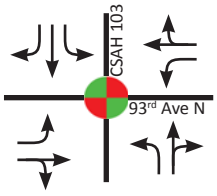
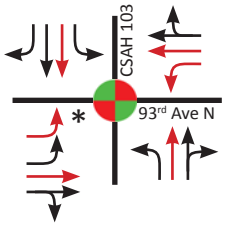
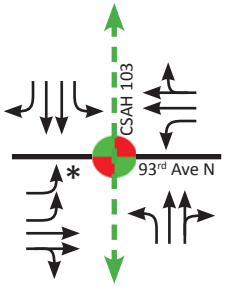
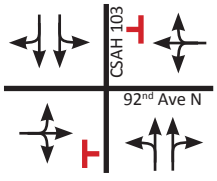
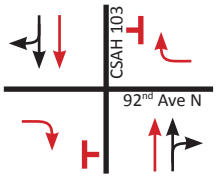
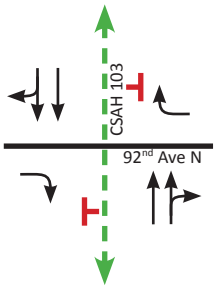
Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase



LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase



BLRT Intersection Layout Table

Intersection	Existing	No Build	Build	Notes
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	 S Prot / W Perm	 S Prot / W Perm	 S Prot / W Perm	
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	 S Prot / W Perm	 S Prot / W Perm	 S Prot / W Perm	
CSAH 103 (W Broadway Ave) / 94th Ave N			 N-S Prot / E-W Perm	NTOR only when LRT approaching
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	*Second EB LT lane in 2040 only
CSAH 103 (W Broadway Ave) / 92nd Ave N				

Legend

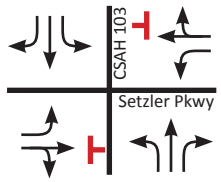
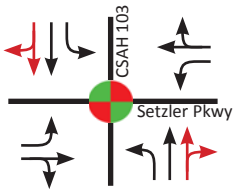
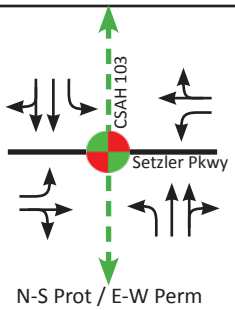
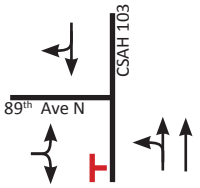
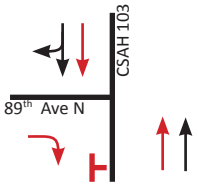
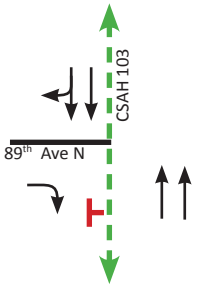
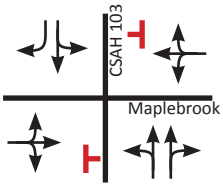
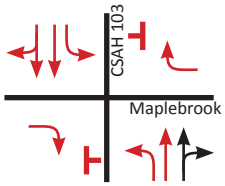
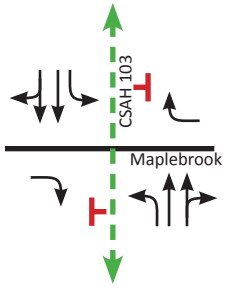
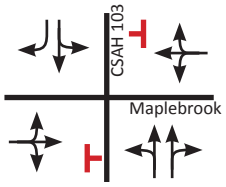
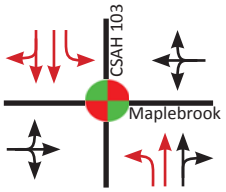
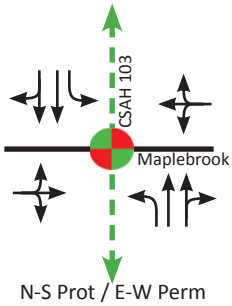
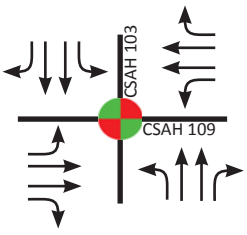
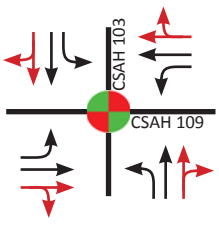
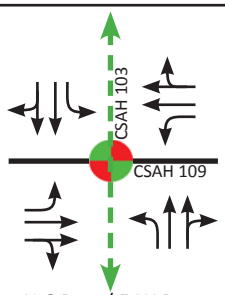
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase

N
W E
S

BLRT Intersection Layout Table

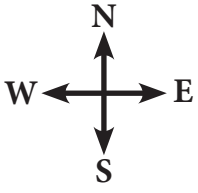
Intersection	Existing	No Build	Build	Notes
CSAH 103 (W Broadway Ave) / Setzler Pkwy		 N-S Prot / E-W Perm	 N-S Prot / E-W Perm	
CSAH 103 (W Broadway Ave) / 89th Ave N				
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy				No Build 01 Build 01 Scenarios
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy		 N-S Prot / E-W Perm	 N-S Prot / E-W Perm	No Build 02 Build 02 Scenarios
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	

Legend

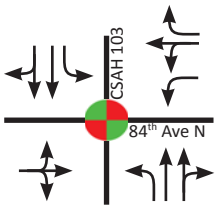
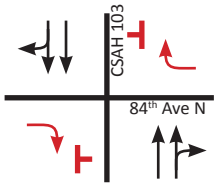
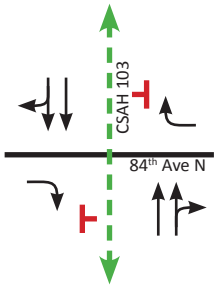
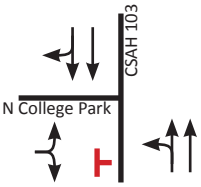
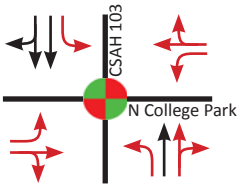
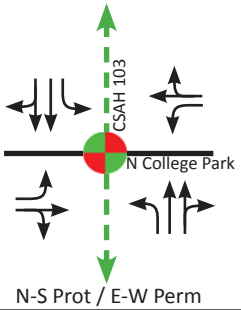
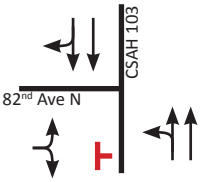
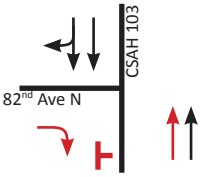
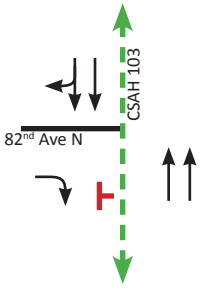
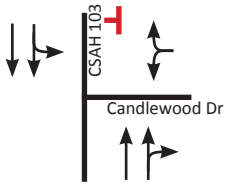
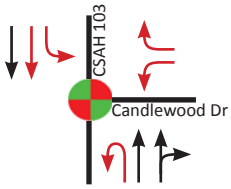
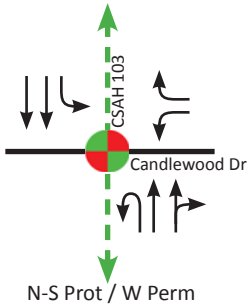
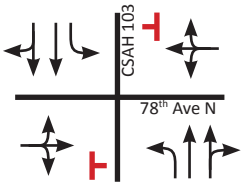
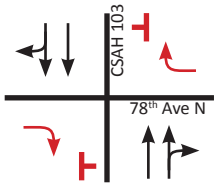
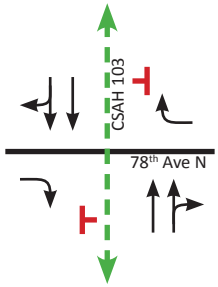
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase



BLRT Intersection Layout Table

Intersection	Existing	No Build	Build	Notes
CSAH 103 (W Broadway Ave) / 84th Ave N	 N-S Prot / E-W Perm			
CSAH 103 (W Broadway Ave) / College Park Dr		 N-S Prot / E-W Perm	 N-S Prot / E-W Perm	
CSAH 103 (W Broadway Ave) / 82nd Ave N				
CSAH 103 (W Broadway Ave) / Candlewood Dr		 N-S Prot / W Perm	 N-S Prot / W Perm	
CSAH 103 (W Broadway Ave) / 78th Ave N				

Legend

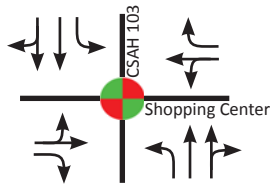
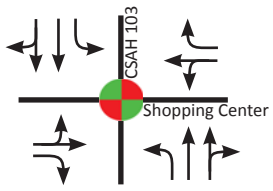
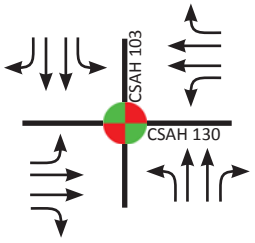
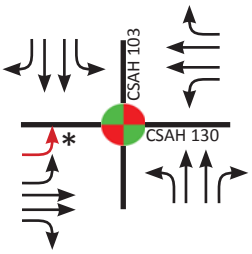
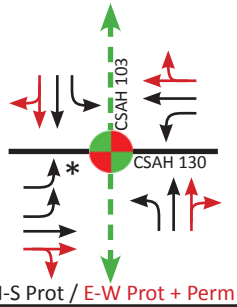
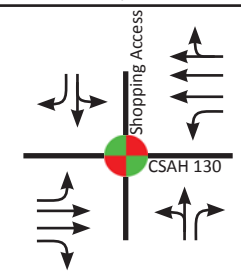
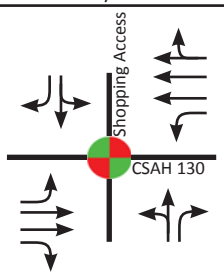
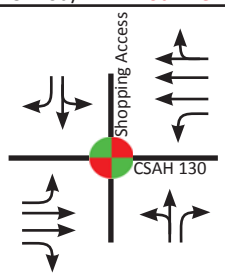
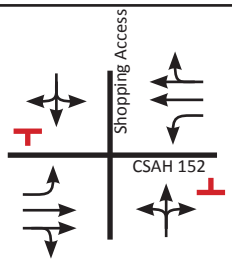
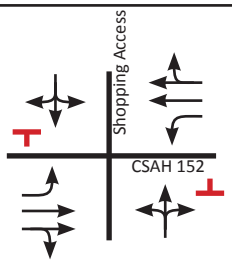
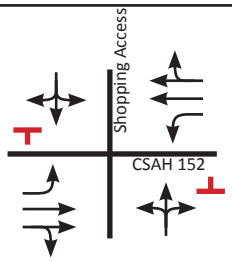
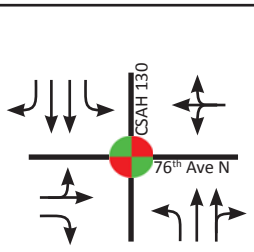
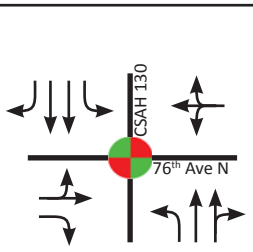
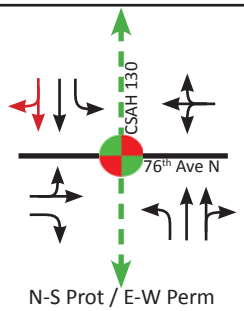
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase

N
W E
S

BLRT Intersection Layout Table

Intersection	Existing	No Build	Build	Notes
CSAH 103 (W Broadway Ave) / Shopping Center Access	 N-S Prot / E-W Perm	 N-S Prot / E-W Perm		
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd)/CSAH 152	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot + Perm	*Second EB LT lane in 2040 only
CSAH 130 (Brooklyn Blvd) / Shopping Center Access (west of CSAH 103)	 N-S Perm / E-W Prot	 N-S Perm / E-W Prot	 N-S Perm / E-W Prot	
CSAH 152 (Brooklyn Blvd) / Shopping Center Access (east of CSAH 103)				
CSAH 130 (W Broadway Ave) / 76th Ave N	 N-S Prot / E-W Perm	 N-S Prot / E-W Perm	 N-S Prot / E-W Perm	

Legend

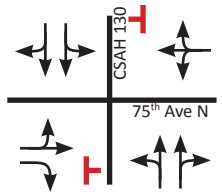
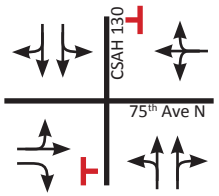
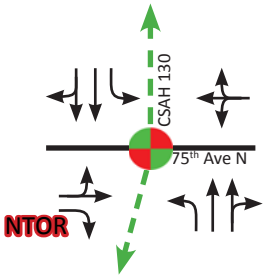
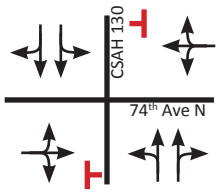
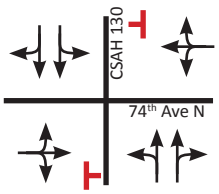
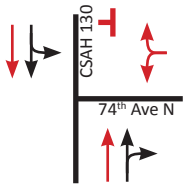
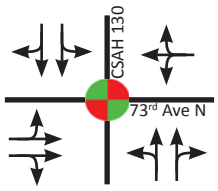
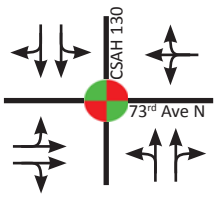
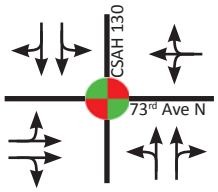
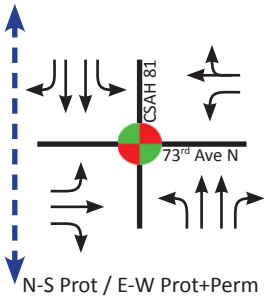
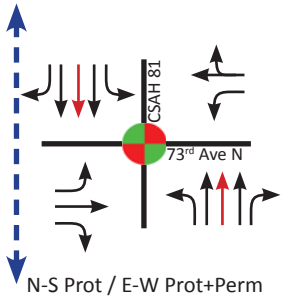
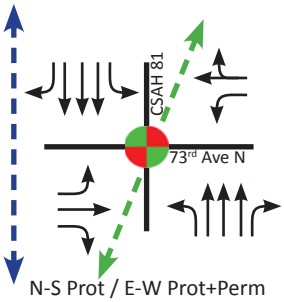
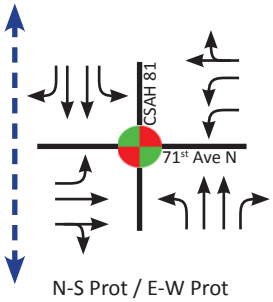
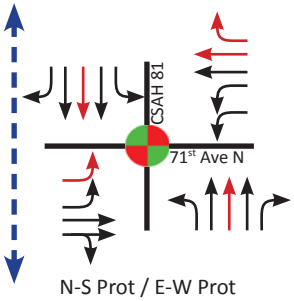
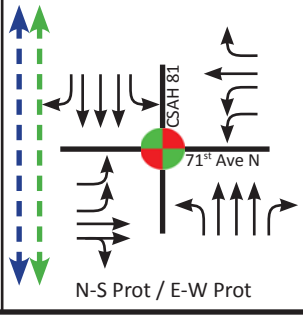
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase

N
W E
S

BLRT Intersection Layout Table

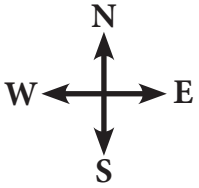
Intersection	Existing	No Build	Build	Notes
CSAH 130 (W Broadway Ave) / 75th Ave N			 N-S Prot / E-W Perm	NTOR only when LRT approaching
CSAH 130 (W Broadway Ave) / 74th Ave N				
CSAH 130 (W Broadway Ave) / 73rd Ave N	 N-S Perm / E-W Perm	 N-S Perm / E-W Perm	 N-S Perm / E-W Perm	
CSAH 81 (Bottineau Blvd) / 73rd Ave N	 N-S Prot / E-W Prot+Perm	 N-S Prot / E-W Prot+Perm	 N-S Prot / E-W Prot+Perm	LRT grade separated over CSAH 81
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave)/71st Ave N	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	

Legend

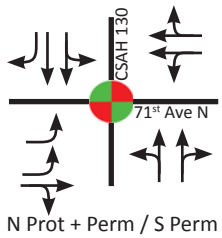
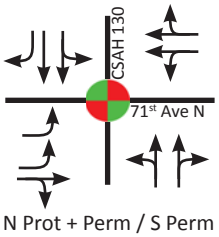
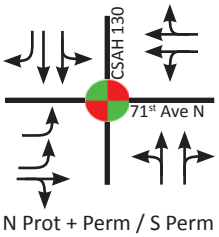
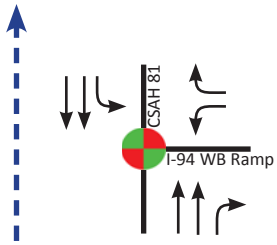
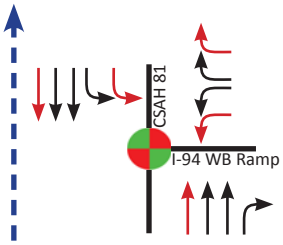
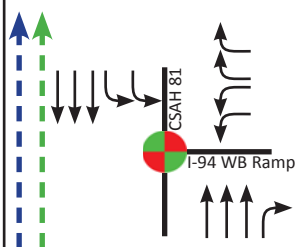
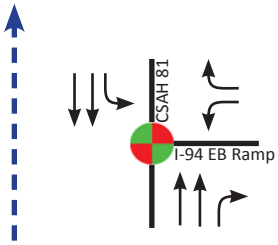
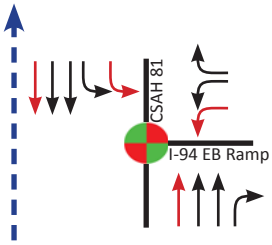
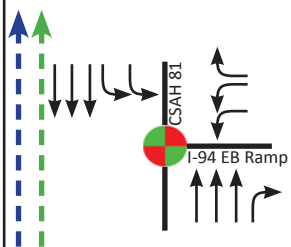
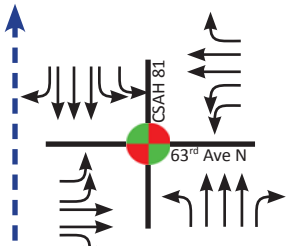
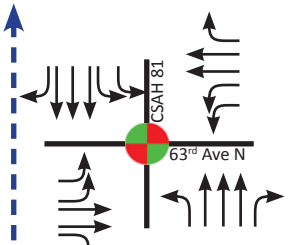
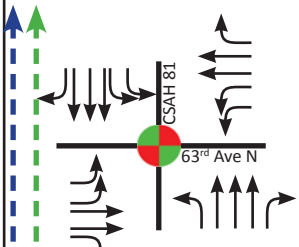
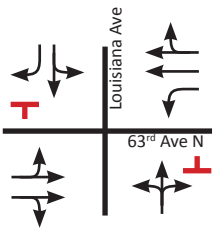
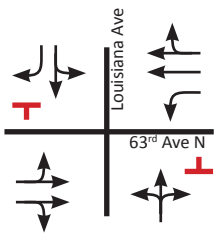
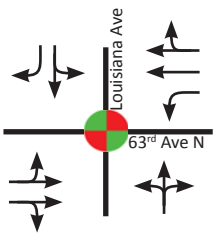
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase



BLRT Intersection Layout Table

Intersection	Existing	No Build	Build	Notes
CSAH 130 (W Broadway Ave) / 71st Ave N	 N Prot + Perm / S Perm W Perm/ E Prot	 N Prot + Perm / S Perm W Perm/ E Prot	 N Prot + Perm / S Perm W Perm/ E Prot	
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	 S Prot / W Perm	 S Prot / W Perm	 S Prot / W Perm	
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	 S Prot / W Perm	 S Prot / W Perm	 S Prot / W Perm	
CSAH 81 (Bottineau Blvd) / 63rd Ave N	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	
63rd Ave N / Louisiana Ave/ Park-and-Ride Access			 N-S Perm / E-W Perm	

Legend

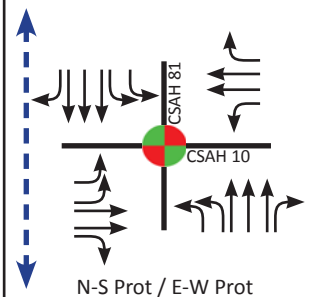
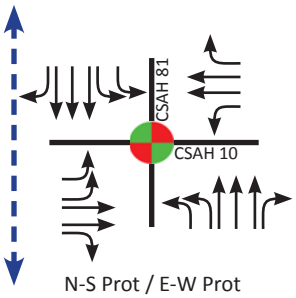
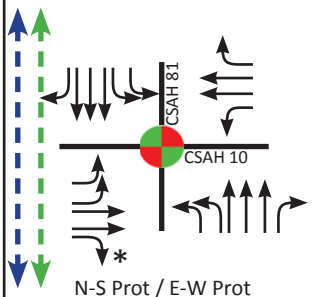
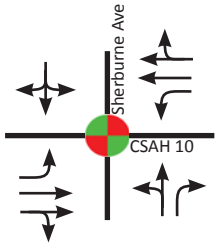
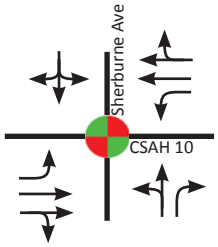
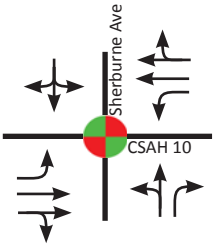
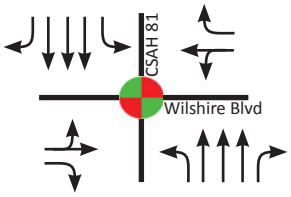
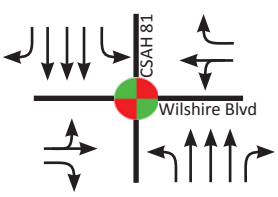
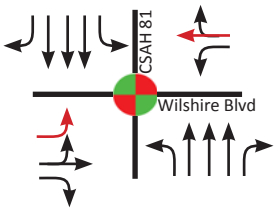
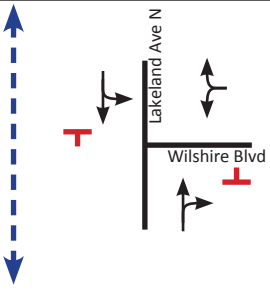
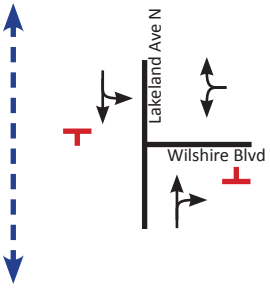
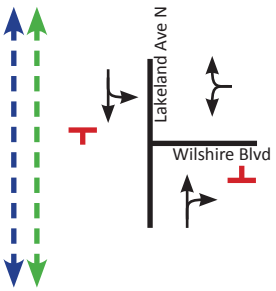
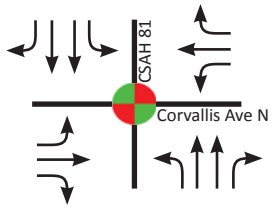
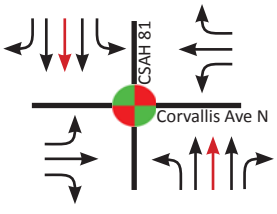
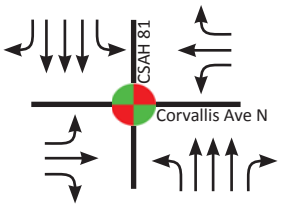
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase

N
W E
S

BLRT Intersection Layout Table

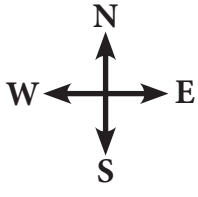
Intersection	Existing	No Build	Build	Notes
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	 N-S Prot / E-W Prot	*EB RT overlap phase
CSAH 10 (Bass Lake Rd) / Sherburne Ave	 N-S Perm / E-W Prot	 N-S Perm / E-W Prot	 N-S Perm / E-W Prot	
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	 N-S Prot / E-W Perm	 N-S Prot / E-W Perm	 N-S Prot / E-W Perm	
Wilshire Blvd / Lakeland Ave N				
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	 N-S Prot/ E-W Prot+Perm	 N-S Prot/ E-W Prot+Perm	 N-S Prot/ E-W Prot+Perm	

Legend

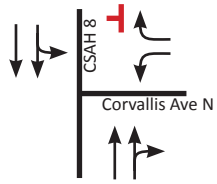
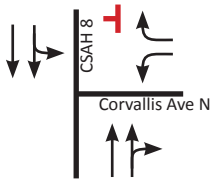
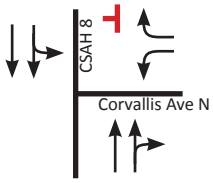
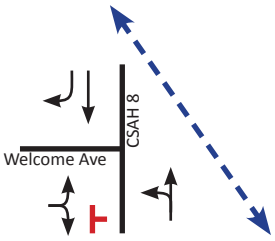
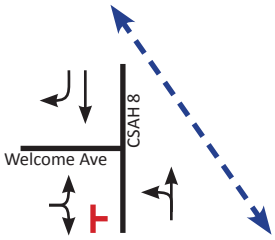
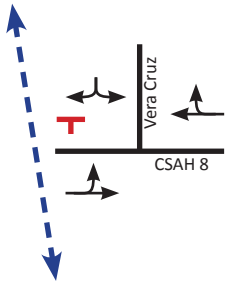
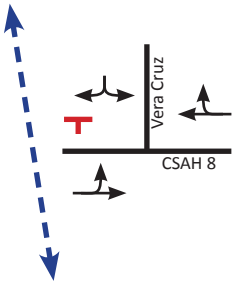
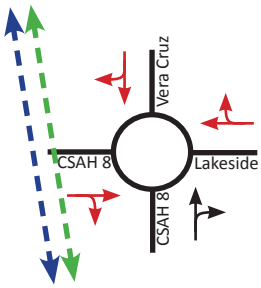
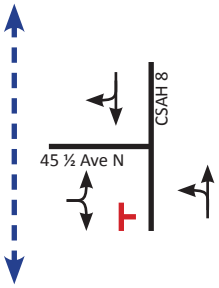
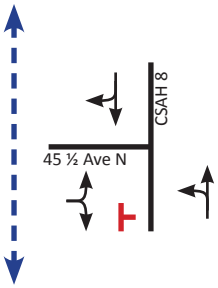
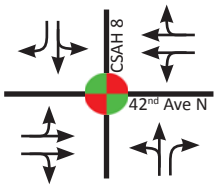
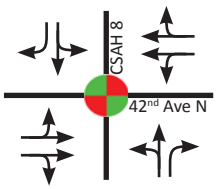
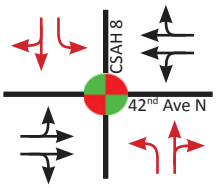
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase



BLRT Intersection Layout Table

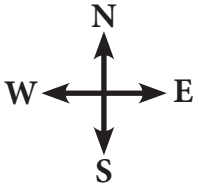
Intersection	Existing	No Build	Build	Notes
CSAH 8 (W Broadway Ave) / Corvallis Ave N				
CSAH 8 (W Broadway Ave) / Welcome Ave N				
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N				Intersection converted to a roundabout in Build conditions
CSAH 8 (W Broadway Ave) / 45 ½ Ave N				
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	 N-S Perm / E-W Perm	 N-S Perm / E-W Perm	 N-S Prot+Perm / E Perm / W Prot+Perm	

Legend

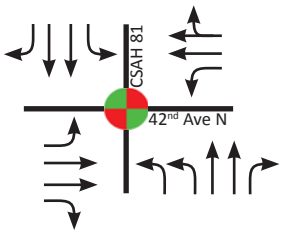
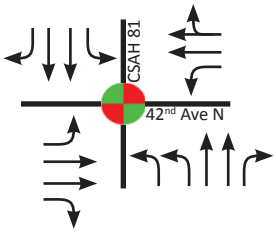
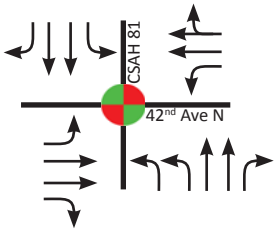
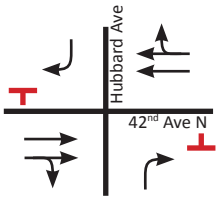
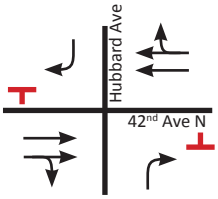
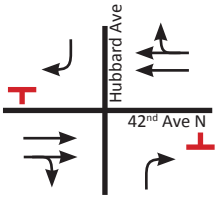
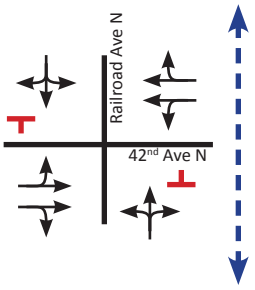
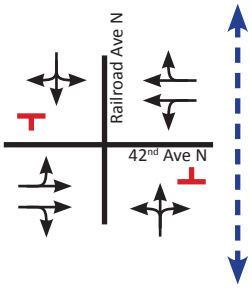
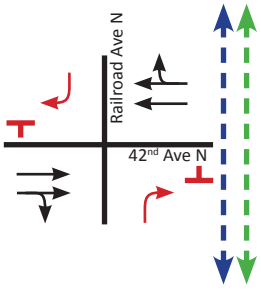
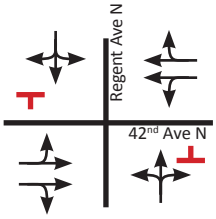
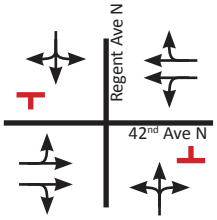
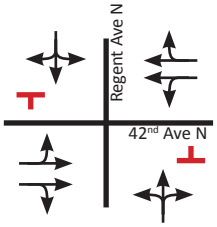
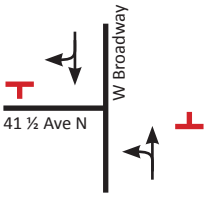
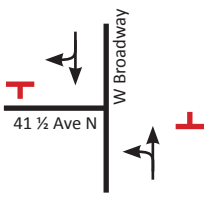
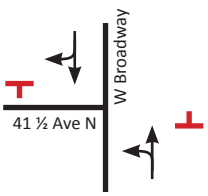
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase



BLRT Intersection Layout Table

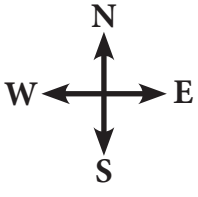
Intersection	Existing	No Build	Build	Notes
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	 N-S Prot/ E-W Prot	 N-S Prot/ E-W Prot	 N-S Prot/ E-W Prot	
CSAH 9 (42nd Ave N) / Hubbard Ave				*Left turns allowed by buses and emergency vehicles only
CSAH 9 (42nd Ave N) / Railroad Ave N				
CSAH 9 (42nd Ave N) / Regent Ave N				
W Broadway Ave / 41 ½ Ave N				

Legend

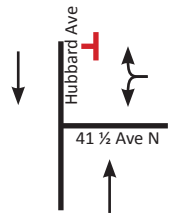
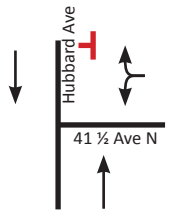
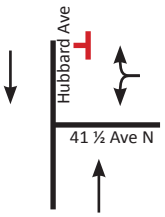
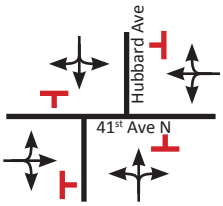
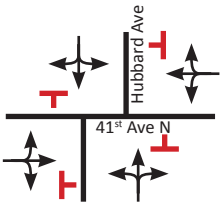
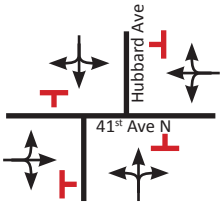
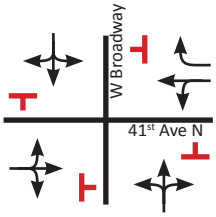
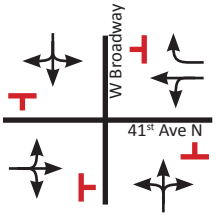
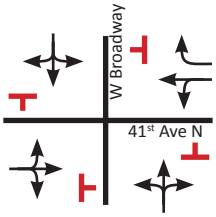
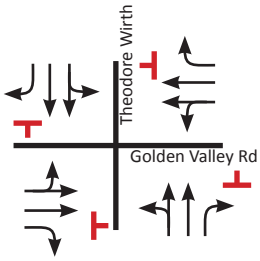
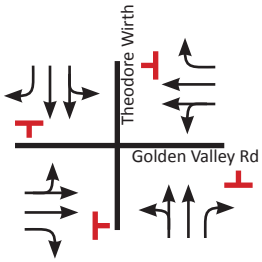
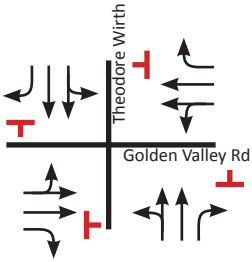
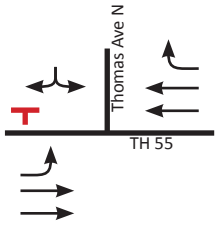
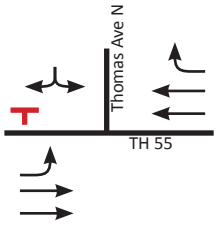
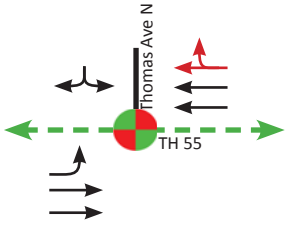
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase



BLRT Intersection Layout Table

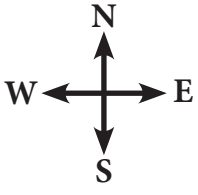
Intersection	Existing	No Build	Build	Notes
Hubbard Ave / 41 ½ Ave N				
41st Ave N / Hubbard Ave				
W Broadway Ave / 41st Ave N				
Golden Valley Rd / Theodore Wirth Pkwy				
TH 55 (Olson Memorial Hwy) / Thomas Ave N			 E Prot	

Legend

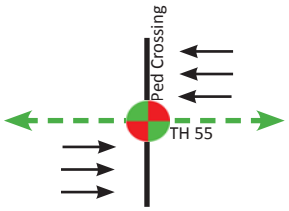
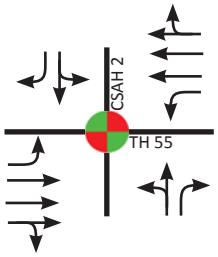
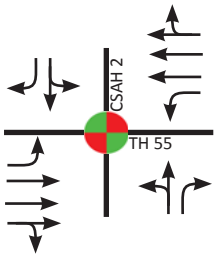
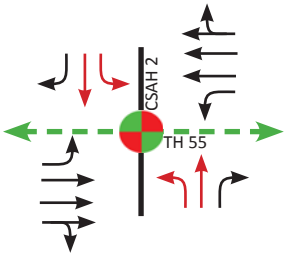
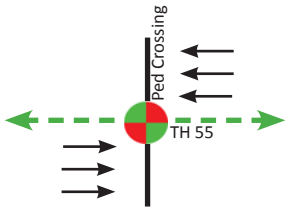
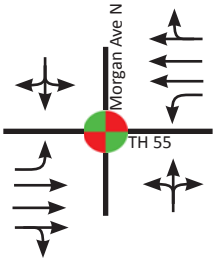
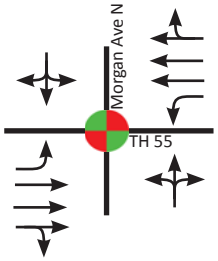
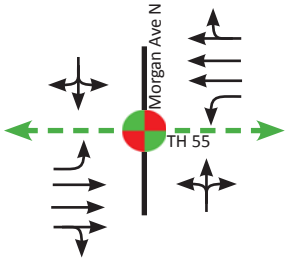
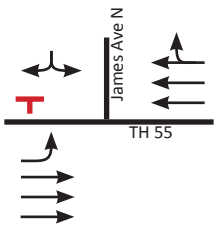
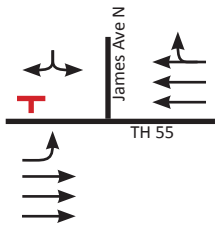
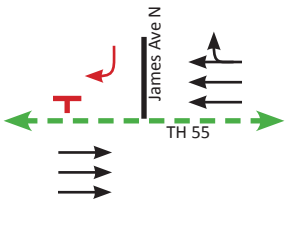
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase



BLRT Intersection Layout Table

Intersection	Existing	No Build	Build	Notes
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Russell Ave N	N/A	N/A		
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	 N-S Split / E-W Prot+Perm	 N-S Split / E-W Prot+Perm	 N-S Prot+Perm / E-W Prot	
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Oliver Ave N	N/A	N/A		
TH 55 (Olson Memorial Hwy) / Morgan Ave N	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot	
TH 55 (Olson Memorial Hwy) / James Ave N				

Legend

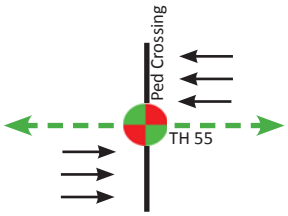
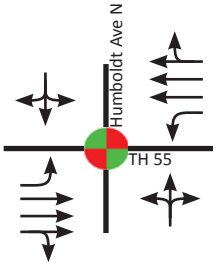
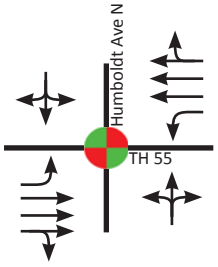
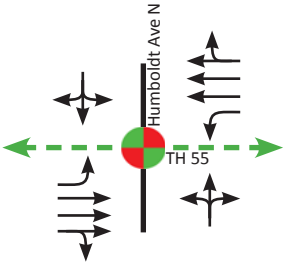
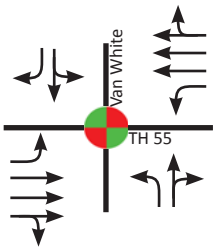
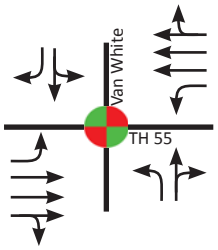
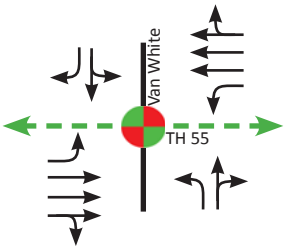
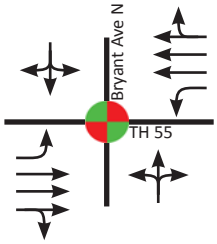
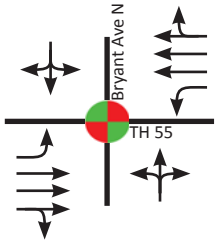
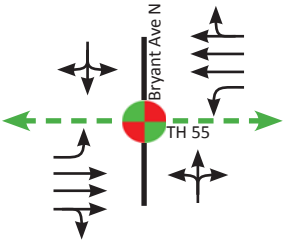
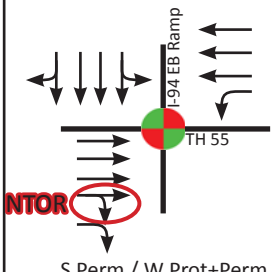
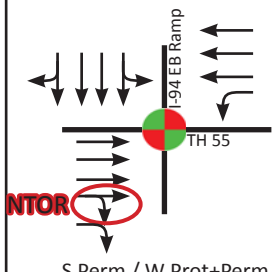
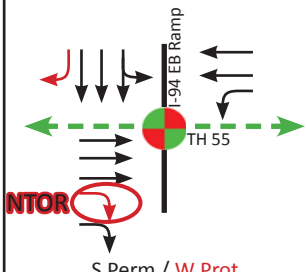
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase

N
W E
S

BLRT Intersection Layout Table

Intersection	Existing	No Build	Build	Notes
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of James Ave N	N/A	N/A		
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot	
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot	
TH 55 (Olson Memorial Hwy) / Bryant Ave N	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot	
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	 S Perm / W Prot+Perm	 S Perm / W Prot+Perm	 S Perm / W Prot	

Legend

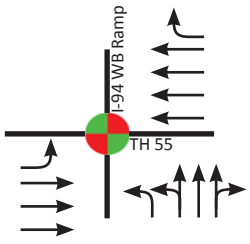
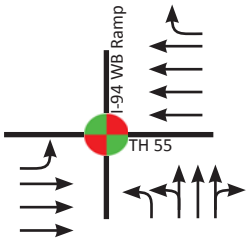
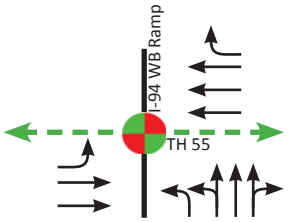
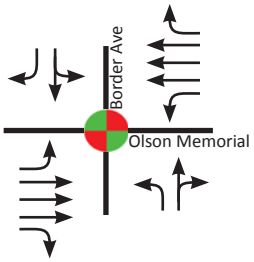
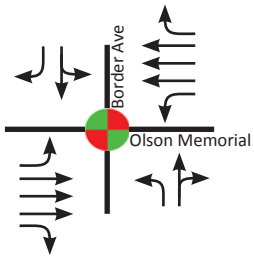
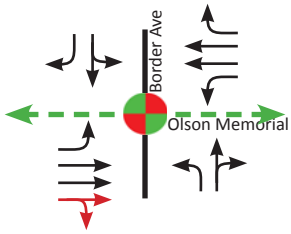
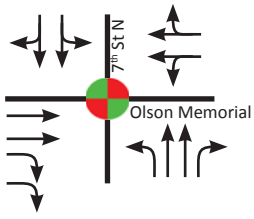
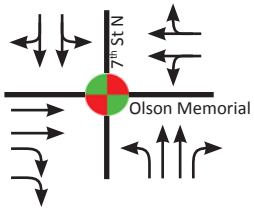
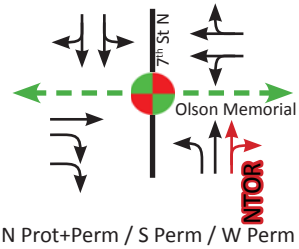
Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach

Lane Use
Lane Use Change
No Turn on Red NTOR
Perm = Permissive Left-Turn Phase

LRT
Freight Rail
Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase

N
W E
S

BLRT Intersection Layout Table

Intersection	Existing	No Build	Build	Notes
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	 N Perm / E Prot+Perm	 N Perm / E Prot+Perm	 N Perm / E Prot	
Olson Memorial Hwy / Border Ave	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot+Perm	 N-S Perm / E-W Prot	
Olson Memorial Hwy / 7th St N/6th Ave N	 N Prot+Perm / S Perm / W Perm	 N Prot+Perm / S Perm / W Perm	 N Prot+Perm / S Perm / W Perm	NTOR only when LRT approaching

Legend

Traffic Signal
Stop Control
N = NB Approach
S = SB Approach
E = EB Approach
W = WB Approach



Lane Use
Lane Use Change



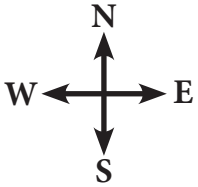
No Turn on Red NTOR

Perm = Permissive Left-Turn Phase

LRT
Freight Rail



Prot = Protected Left-Turn Phase
Prot+Perm = Protected/ Permissive Left-Turn Phase



Appendix C: Traffic Analysis Detailed Results

AM Level of Service and Intersection Delay

Scenario		2014			Opening Year 2021						2040											
		Existing Condition			No Build01			Build01			No Build01			No Build02			Build01			Build02		
Intersection	Appr	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)
		by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters
Oak Grove Pkwy / Xylon Ave	NB	--	--	--	--	--	--	A	A	1.8	--	--	--	--	--	--	F	C	22.0	F	F	85.7
	EB	--			--			A			--			--			A			A		
	SB	--			--			A			--			--			C			F		
	WB	--			--			A			--			--			A			A		
CSAH 103 (W Broadway Ave) / 101st Ave N	NB	A	A	0.3	A	A	0.6	--	--	--	C	F	73.5	C	F	72.1	--	--	--	--	--	--
	EB	A			A			--			F			F			--			--		
	SB	A			A			--			A			A			--			--		
	WB	--			--			--			--			--			--			--		
CSAH 103 (W Broadway Ave) / Winnetka Ave N	NB	A	A	0.2	A	A	0.3	--	--	--	F	F	133.8	F	F	125.8	--	--	--	--	--	--
	EB	A			A			--			F			F			--			--		
	SB	A			A			--			A			A			--			--		
	WB	--			--			--			--			--			--			--		
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	NB	B	B	10.0	C	C	20.6	C	C	27.6	F	F	152.0	F	F	128.1	D	D	41.9	D	D	40.6
	EB	--			--			C			--			--			C			C		
	SB	A			B			C			C			C			C			C		
	WB	C			D			D			F			F			D			D		
CSAH 103 (W Broadway Ave) / Main St	NB	--	--	--	--	--	--	B	B	18.7	--	--	--	--	--	--	D	D	41.2	D	D	38.7
	EB	--			--			D			--			--			D			D		
	SB	--			--			C			--			--			C			C		
	WB	--			--			E			--			--			E			E		
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	NB	B	B	14.5	C	C	23.1	A	B	18.5	F	F	288.6	F	F	207.7	D	C	32.3	B	C	22.5
	EB	--			--			--			--			--			--			--		
	SB	B			B			B			E			D			C			B		
	WB	B			C			C			F			F			C			C		
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	NB	A	B	11.7	A	B	18.7	B	B	16.7	C	F	105.2	B	F	80.7	B	C	24.3	B	C	21.0
	EB	--			--			--			--			--			--			--		
	SB	B			B			B			C			C			C			C		
	WB	B			C			B			F			F			C			C		

Analysis Notes:

No Build01/Build01: Assumes no interchange at Hwy 169 and 101st Ave N

No Build02/Build02: Assumes a full access interchange at Hwy 169 and 101st Ave N

AM Level of Service and Intersection Delay

Scenario		2014			Opening Year 2021													2040											
		Existing Condition			No Build01			No Build02			Build01			Build02			No Build01			No Build02			Build01			Build02		
Intersection	Appr	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)
		by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters
CSAH 103 (W Broadway Ave) / 94th Ave N	NB	A	A	1.8	A	A	2.0	A	A	2.0	A	B	10.8	A	B	10.8	A	B	2.7	A	A	2.6	A	C	15.6	A	C	15.4			
	EB	A			A			A			B			B			B			B			C			C				
	SB	A			A			A			B			B			A			A			B			B				
	WB	--			--			--			--			--			--			--			--			--				
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	NB	C	C	29.8	C	C	27.0	C	C	26.6	C	D	39.4	C	D	38.4	C	C	32.6	C	C	32.1	D	D	49.4	D	D	49.8			
	EB	D			C			C			D			D			C			C			D			D				
	SB	C			C			C			D			D			C			C			D			D				
	WB	D			C			C			D			D			C			C			D			D				
CSAH 103 (W Broadway Ave) / 92nd Ave N	NB	A	A	1.9	A	A	1.3	A	A	1.4	A	A	0.8	A	A	0.8	A	A	1.6	A	A	1.7	A	A	0.9	A	A	1.0			
	EB	A			A			A			A			A			A			A			A			A				
	SB	A			A			A			A			A			A			A			A			A				
	WB	A			A			A			A			A			A			A			A			A				
CSAH 103 (W Broadway Ave) / Setzler Pkwy	NB	A	A	1.7	B	B	14.2	A	A	10.0	B	C	14.4	A	C	10.4	B	C	15.9	A	C	10.4	C	C	17.3	A	C	10.4			
	EB	A			C			C			C			C			C			C			C			C				
	SB	A			A			A			A			A			B			A			B			A				
	WB	A			C			C			C			C			C			C			C			C				
CSAH 103 (W Broadway Ave) / 89th Ave N	NB	A	A	2.4	A	A	0.6	A	A	0.8	A	A	0.7	A	A	0.7	A	A	0.9	A	A	0.9	A	A	0.7	A	A	0.8			
	EB	B			A			A			A			A			A			A			A			A				
	SB	A			A			A			A			A			A			A			A			A				
	WB	--			--			--			--			--			--			--			--			--				
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	NB	A	A	2.3	A	A	1.0	A	D	7.6	A	A	0.9	A	D	8.0	A	A	1.1	A	D	8.5	A	A	1.1	A	D	8.4			
	EB	B			A			D			A			D			A			D			A			D				
	SB	A			A			A			A			A			A			A			A			A				
	WB	A			A			D			A			D			A			D			A			D				
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	NB	C	C	31.1	B	C	34.1	B	D	33.2	C	C	36.1	C	C	34.8	C	D	36.2	C	D	35.9	C	D	37.6	C	D	36.0			
	EB	C			D			D			C			C			D			D			D			D				
	SB	D			D			D			D			D			D			D			D			D				
	WB	C			C			C			C			C			C			C			D			D				
CSAH 103 (W Broadway Ave) / 84th Ave N	NB	A	B	11.0	A	A	0.6	A	B	0.6	A	A	0.6	A	A	1.5	A	A	0.7	A	A	0.7	A	--	0.7	A	A	0.8			
	EB	B			--			B			A			A			A			A			A			A				
	SB	B			A			A			A			A			A			A			A			A				
	WB	D			A			A			A			A			A			A			--			A				
CSAH 103 (W Broadway Ave) / College Park Dr	NB	A	A	0.6	B	A	7.7	A	A	6.6	A	A	9.2	A	A	13.0	A	A	6.9	A	A	6.7	A	B	7.3	B	B	8.0			
	EB	A			B			B			A			A			A			A			A			B				
	SB	A			A			A			A			B			A			A			A			A				
	WB	--			D			D			D			D			D			D			D			D				
CSAH 103 (W Broadway Ave) / 82nd Ave N	NB	A	A	0.5	A	A	0.6	A	A	0.7	A	A	0.7	A	A	0.8	A	A	0.7	A	A	0.7	A	A	0.7	A	A	0.7			
	EB	A			A			A			A			A			A			A			A			A				
	SB	A			A			A			A			A			A			A			A			A				
	WB	--			--			--			--			--			--			--			--			--				
CSAH 103 (W Broadway Ave) / Candlewood Dr	NB	A	A	1.8	A	A	6.1	A	A	6.2	A	A	9.2	A	A	9.3	A	A	6.2	A	A	6.3	A	A	9.5	A	A	9.8			
	EB	--			--			--			--			--			--			--			--			--				
	SB	A			A			A			A			A			A			A			A			A				
	WB	C			D			D			D			D			D			D			D			D				
CSAH 103 (W Broadway Ave) / 78th Ave N	NB	A	A	0.3	A	A	0.4	A	A	0.5	A	A	0.4	A	A	0.4	A	A	0.6	A	A	0.6	A	A	0.4	A	A	0.4			
	EB	A			A			A			A			A			A			A			A			A				
	SB	A			A			A			A			A			A			A			A			A				
	WB	A			A			A			A			A			A			A			A			A				
CSAH 103 (W Broadway Ave) / Shopping Center Access	NB	A	A	5.2	A	A	8.4	A	A	7.9	A	A	1.7	A	A	1.4	A	D	8.5	A	D	8.3	A	A	1.6	A	A	1.6			
	EB	D			D			D			A			A			D			D			A			A				
	SB	A			A			A			A			A			A			A			A			A				
	WB	D			D			A			A			A			C			C			A			A				
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd/CSAH 152)	NB	C	C	25.3	C	C	25.2	C	D	23.8	C	C	26.7	C	C	25.4	C	C	25.3	C	D	25.5	C	C	30.5	C	C	30.7			
	EB	C			C			C			C			C			C			C			C			C				
	SB	B			B			B			--			--			C			B			--			--				
	WB	C			C			C			C			C			C			C			C			C				
CSAH 130 (Brooklyn Blvd/CSAH 152) / Shopping Center Access (west of CSAH 103)	NB	B	A	4.6	C	A	8.9	C	A	7.8	C	A	7.5	C	A	7.7	C	A	9.0	C	A	7.9	C	A	8.2	C	A	7.9			
	EB	A			A			A			A			A			A			A			A			A				
	SB	B			D			C			C			C			C			C			C			C				
	WB	A			A			A			A			A			A			A			A			A				
CSAH 130 (Brooklyn Blvd/CSAH 152) / Shopping Center Access (east of CSAH 103)	NB	A	A	0.9	A	A	0.9	A	A	0.9	A	A	0.7	A	A	0.7	A	A	0.9	A	A	0.9	A	A	0.8	A	A	0.8			
	EB	A			A			A			A			A			A			A			A			A				
	SB	A			A			A			A			A			A			A			A			A				
	WB	A			A			A			A			A			A			A			A			A				
CSAH 130 (W Broadway Ave) / 76th Ave N	NB	A	A	6.0	B	B	13.6	B	B	13.0	B	B	13.7	B	B	13.6	B	C	14.6	B	C	14.2	B	D	15.2	B	D	14.8			
	EB	C			C			D			D			D			C			C			D			D				
	SB	A			B			B			A			A			B			B			B			B				
	WB	C			D			C			D			D			D			D			D			D				
CSAH 130 (W Broadway Ave) / 75th Ave N	NB	A	A	0.9	A	A	1.4	A	A	1.2	B	B	15.1	B	B	14.4	A	A	1.5	A	A	1.4	B	A	16.4	B	A	15.3			
	EB	A			A			A			B			B			A			A			A			B				
	SB	A			A			A			B			B			A			A			B			B				
	WB	A			A			A			D			D			A			A			D			D				
CSAH 130 (W Broadway Ave) / 74th Ave N	NB	A	A	1.1	A	A	1.6	A	A	1.3	A	--	0.7	A	--	0.8	A	A	1.6	A	A	1.5	A	--	1.0	A	--	1.0			
	EB	A			A			A			--			--			A			A			--			--				
	SB	A			A			A			A			A			A			A			A			A				
	WB	A			A			A			A			A			A			A			A			A				
CSAH 130 (W Broadway Ave) / 73rd Ave N	NB	A	A	5.2	A	B	10.6	A	B	11.5	A	B	10.5	A	B	10.6	A	C	13.0	A	C	13.0	A	C	12.2	A	C	12.4			
	EB	C			B			C			C			C			C			C			C			C				
	SB	A			B			B			A			D			B			B			B			B				
	WB	B			C			C			C			D			D			D			C			C				

Analysis Notes:
No Build01/Build01: Right-in/Right-out at CSAH 103 (W Broadway Ave)/Maplebrook Parkway
No Build02/Build02: Full-access signalized intersection at CSAH 103 (W Broadway Ave)/Maplebrook Parkway

AM Level of Service and Intersection Delay

Scenario		2014						Opening Year 2021												2040									
		Existing No Freight Event			Existing Freight Event			No Build No Freight Event			No Build Freight Event			Build No Freight Event			Build Freight Event			No Build No Freight Event			No Build Freight Event			Build No Freight Event			Build Freight Event		
Intersection	Appr	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)
		by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters
CSAH 81 (Bottineau Blvd) / 73rd Ave N	NB	A	A	9.5	A	A	10.0	A	A	9.6	A	B	10.2	A	B	14.3	B	B	14.9	A	B	11.0	A	B	11.6	B	B	17.5	B	B	18.0
	EB	C			C			C			C			D			D			C			C			D			D		
	SB	A			A			A			A			B			B			B			B			B			B		
	WB	D			D			D			D			D			D			D			D			D			D		
CSAH 81 (Bottineau Blvd) / 71st Ave N	NB	B	C	21.6	B	C	22.9	B	C	20.8	B	C	22.0	B	C	30.0	B	C	31.6	B	C	20.2	E	C	21.6	B	C	31.5	B	C	31.6
	EB	D			D			D			D			D			D			D			D			D			D		
	SB	B			B			B			B			C			C			B			B			C			C		
	WB	D			D			D			D			D			D			D			D			D			D		
CSAH 103 (W Broadway Ave) / 71st Ave N	NB	A	A	7.6	A	A	7.5	A	A	7.6	A	A	7.3	A	A	7.6	A	A	7.5	A	A	8.2	A	A	8.0	A	A	8.5	A	A	8.2
	EB	B			B			B			B			B			B			B			B			B			B		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	D			D			C			C			C			C			C			D			C			C		
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	NB	A	A	6.4	A	A	6.4	B	A	9.8	B	A	9.6	B	B	11.1	B	B	10.5	B	A	9.5	B	A	9.4	B	B	11.0	B	B	10.6
	EB	--			--			--			--			--			--			--			--			--			--		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	B			B			B			B			B			B			B			B			B			B		
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	NB	D	C	26.9	D	C	26.9	C	C	21.6	C	C	21.2	C	C	24.5	C	C	23.9	C	C	22.3	C	C	22.0	C	C	26.5	C	C	25.9
	EB	--			--			--			--			--			--			--			--			--			--		
	SB	B			B			B			B			B			B			B			B			B			B		
	WB	D			D			D			D			D			D			D			D			D			D		
CSAH 81 (Bottineau Blvd) / 63rd Ave N	NB	B	C	30.9	B	C	31.2	B	C	31.1	B	C	31.6	C	D	35.8	C	D	36.6	C	C	33.2	C	C	33.5	C	D	37.2	C	D	38.9
	EB	C			C			D			D			C			C			D			D			C			C		
	SB	C			C			C			C			D			D			C			C			D			D		
	WB	D			D			D			D			D			D			D			D			D			D		
63rd Ave N / Louisiana Ave / Park-and-Ride Access	NB	A	A	1.7	A	A	1.7	A	A	1.6	A	A	1.6	A	A	6.4	A	A	6.5	A	A	1.9	A	A	1.9	A	A	6.9	A	A	7.0
	EB	A			A			A			A			A			A			A			A			A			A		
	SB	B			B			B			B			D			D			B			A			D			D		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	NB	B	C	23.4	B	C	24.2	B	C	23.1	B	C	24.7	C	C	30.4	C	C	33.2	B	C	24.9	B	C	26.1	C	C	32.4	C	C	33.9
	EB	C			C			C			C			C			C			C			C			C			C		
	SB	C			C			C			C			C			C			C			C			C			C		
	WB	C			C			C			C			D			D			C			D			C			D		
CSAH 10 (Bass Lake Rd) / Sherburne Ave	NB	A	A	6.1	A	A	6.0	A	A	6.0	A	A	6.1	A	A	6.6	A	A	6.7	A	A	7.1	A	A	7.2	A	A	7.8	A	A	7.9
	EB	A			A			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	NB	B	B	10.7	B	B	11.8	B	B	11.0	B	B	11.8	B	B	12.6	B	B	13.7	B	B	11.9	B	B	12.6	B	B	14.1	B	B	14.8
	EB	B			B			B			B			C			C			B			B			C			C		
	SB	A			A			A			A			A			B			A			A			B			B		
	WB	C			C			C			C			C			C			C			C			C			C		
Wilshire Blvd / Lakeland Ave N	NB	A	A	2.1	A	A	2.1	A	A	1.8	A	A	1.9	A	A	5.8	A	A	5.8	A	A	2.3	A	A	2.3	A	A	5.8	A	A	5.8
	EB	--			--			--			--			--			--			--			--			--			--		
	SB	A			A			A			A			E			E			A			A			E			E		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	NB	B	B	11.9	B	B	13.0	A	A	8.5	B	A	9.0	B	A	9.0	B	A	9.4	B	A	9.4	B	A	9.7	B	A	9.8	B	A	9.7
	EB	B			C			B			B			B			B			B			B			B			B		
	SB	B			B			A			A			A			A			A			A			A			A		
	WB	C			C			C			C			C			C			C			C			C			C		
CSAH 8 (W Broadway Ave) / Corvallis Ave N	NB	A	A	2.3	A	A	2.6	A	A	2.3	A	A	2.7	A	A	2.6	A	A	3.0	A	A	2.4	A	A	2.7	A	A	2.7	A	A	3.0
	EB	--			--			--			--			--			--			--			--			--			--		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 8 (W Broadway Ave) / Welcome Ave N	NB	A	A	0.6	A	A	1.1	A	A	0.6	A	A	1.1	A	A	2.0	A	A	2.6	A	A	0.8	A	A	1.3	A	A	2.0	A	A	2.6
	EB	--			--			--			--			A			A			--			--			--			--		
	SB	A			A			A			A			--			--			A			A			--			--		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	NB	--	A	0.4	--	A	0.7	--	A	0.4	--	A	0.6	--	A	0.6	--	A	0.7	--	A	0.5	--	A	0.7	--	A	0.7	--	A	0.8
	EB	A			A			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 8 (W Broadway Ave) / 45½ Ave N	NB	A	A	0.9	A	A	1.0	A	A	1.0	A	A	1.0	A	A	1.5	A	A	1.5	A	A	1.0	A	A	1.1	A	A	1.6	A	A	1.7
	EB	A			A			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	--			--			--			--			--			--			--			--			--			--		
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	NB	D	B	14.8	D	B	14.8	C	B	15.2	C	B	15.2	C	B	18.6	C	B	18.6	C	B	15.7	C	B	16.0	C	B	19.8	C	B	19.8
	EB	A			A			A			A			B			B			A			A			B			B		
	SB	C			C			C			C			D			D			C			C			D			D		
	WB	A			A			B			B			B			B			B			B			B			B		
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	NB	C	C	23.0	C	C	22.9	C	C	23.5	C	C	23.4	C	C	24.4	C	C	24.3	C	C	25.0	C	C	24.9	C	C	25.3	C	C	25.2
	EB	C			C			C			C			C			C			C			C			C			C		
	SB	B			B			C			C			C			C			C			C			C			C		
	WB	D			D			D			D			D			D			D			D			D			D		
CSAH 9 (42nd Ave N) / Hubbard Ave[1]	NB	A	A	0.6	A	A	0.7	B	A	0.7	B	A	0.8	D	A	3.2	D	A	3.4	B	A	0.9	A	A	1.1	E	A	3.5	E	A	3.8
	EB	A			A			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 9 (42nd Ave N) / Railroad Ave N	NB	B	A	0.7	B	A	1.1	A	A	0.8	A	A	1.2	B	A	1.7	B	A	2.4	B	A	0.9	B	A	1.3	C	A	2.0	D	A	2.7
	EB	A			A			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 9 (42nd Ave N) / Regent Ave N	NB	B	A	2.1	B	A	2.1	B	A	2.4	B	A	2.5	C	A	2.4	C	A	2.4	B	A	2.5	B	A	2.5	C	A	2.7	C	A	2.7
	EB	A			A			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 8 (W Broadway Ave) / 41 1/2 Ave N	NB	A	A	8.8	A	A	8.8	A	A	8.9	A	A	9.1	A	B	10.1	A	B	10.2	A	A	9.3	A	A	9.4	A	B	10.6	A	B	10.7
	EB	--			--			--			--			--			--			--			--			--			--		
	SB	A			A			A			A			B			B			A			B			B			B		
	WB	--			--			--			--			--			--			--			--			--			--		
Hubbard Ave / 41 1/2 Ave N	NB	A	A	3.6	A	A	3.7	A	A	4.3	A	A	4.3	A	A	5.7	A	A	5.8	A	A	4.2	A	A	4.2	A	A	5.9	A	A	5.9
	EB	--			--			--			--			--			--			--			--			--			--		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A			A		
41st Ave N/ Hubbard Ave	NB	A	A	7.9	A	A	8.0	A	A	8.0	A	A	8.0	A	A	7.5	A	A	7.5	A	A	7.9	A	A	7.9	A	A	8.1	A	A	8.1
	EB	A			A			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A			A		
CSAH 8 (W Broadway Ave) / 41st Ave N	NB	A	A	7.8	A	A	7.8	A	A	7.9	A	A	8.1	A	A	8.4	A	A	8.6	A	A	8.2	A	A	8.2	A	A	8.7	A	A	8.6
	EB	A			A			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A			A		
Golden Valley Rd / Theodore Wirth Pkwy	NB	A	A	8.8	--	--	--	A	A	9.4	--	--	--	A	B	11.5	--	--	--	A	B	10.5	--	--	--	A	B	12.8	--	--	--
	EB	A			--			A			--			A			--			B			--			A			--		
	SB	A			--			A			--			B			--			B			--			C			--		
	WB	A			--			A			--			B			--			A			--			B			--		

Analysis Notes:

[1] All left turns and NB and SB through movements are restricted to emergency vehicles and buses.

AM Level of Service and Intersection Delay

Scenario		2014			Opening Year 2021						2040					
		Existing Conditions			No Build			Build			No Build			Build		
Intersection	Appr	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)
		by Appr	by Inter	by Inter	by Appr	by Inter	by Inter	by Appr	by Inter	by Inter	by Appr	by Inter	by Inter	by Appr	by Inter	by Inter
TH 55 (Olson Memorial Hwy) / Thomas Ave N	EB	A	A	2.8	A	A	6.5	B	B	12.0	F	F	91.1	F	E	65.3
	SB	C			F			D			F			D		
	WB	A			A			B			A			B		
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Russell Ave	EB	-	-	-	-	-	-	B	A	9.5	-	-	-	C	C	22.4
	WB	-			-			A			-			A		
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	NB	D	D	43.7	D	D	52.3	D	D	44.3	D	F	80.6	E	D	50.4
	EB	D			E			D			F			D		
	SB	D			D			D			D			D		
	WB	C			C			D			D			D		
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Oliver Ave N	EB	-	-	-	-	-	-	A	A	6.5	-	-	-	A	A	6.5
	WB	-			-			A			-			A		
TH 55 (Olson Memorial Hwy) / Morgan Ave N	NB	C	A	7.2	D	A	6.5	C	B	13.3	C	A	5.7	D	B	13.5
	EB	A			A			B			A			B		
	SB	D			D			D			D			D		
	WB	B			A			B			A			B		
TH 55 (Olson Memorial Hwy) / James Ave N	EB	A	A	4.9	A	A	5.2	-	A	6.1	A	A	3.7	-	A	6.6
	SB	C			C			A			C			A		
	WB	A			A			A			A			A		
TH 55 (Olson Memorial Hwy) / Pedestrain Crossing East of James Ave	EB	-	-	-	-	-	-	A	A	1.3	-	-	-	A	A	1.3
	WB	-			-			A			-			A		
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	NB	D	A	9.1	D	B	10.8	D	C	22.6	D	B	14.0	D	C	24.5
	EB	A			B			C			A			C		
	SB	D			D			D			D			D		
	WB	A			A			B			B			C		
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	NB	D	B	15.3	D	B	14.5	D	C	26.5	D	B	12.1	D	C	31.5
	EB	B			B			C			B			D		
	SB	D			D			D			D			D		
	WB	A			A			B			A			B		
TH 55 (Olson Memorial Hwy) / Bryant Ave N	NB	C	A	8.6	C	B	12.0	D	B	17.4	C	B	10.2	D	C	19.2
	EB	B			B			B			B			C		
	SB	C			C			C			B			C		
	WB	A			A			B			A			B		
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	EB	A	C	25.3	C	C	34.8	C	C	34.1	B	D	43.3	C	D	54.9
	SB	E			E			D			F			F		
	WB	B			B			B			B			B		
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	NB	D	C	23.8	D	C	32.4	E	D	37.1	C	C	28.4	E	D	42.2
	EB	B			C			B			B			B		
	WB	C			D			D			E			D		
Olson Memorial Hwy / Border Ave	NB	D	B	11.5	D	B	17.0	D	C	23.6	D	B	11.7	E	C	24.0
	EB	A			B			C			A			C		
	SB	C			C			C			C			C		
	WB	B			B			B			A			B		
Olson Memorial Hwy / 7th St N/6th Ave N	NB	C	C	27.2	C	C	28.2	D	D	45.0	C	C	23.1	D	D	46.6
	EB	B			B			B			B			B		
	SB	D			D			D			C			D		
	WB	C			C			D			D			D		

PM Level of Service and Intersection Delay

Scenario		2014			Opening Year 2021						2040											
		Existing Condition			No Build01			Build01			No Build01			No Build02			Build01			Build02		
Intersection	Appr	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)
		by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters
Oak Grove Pkwy / Xylon Ave	NB	--	--	--	--	--	--	A	A	1.6	--	--	--	--	--	--	F	F	91.5	F	F	74.9
	EB	--			--			A			--			--			A			A		
	SB	--			--			A			--			--			F			F		
	WB	--			--			A			--			--			A			A		
CSAH 103 (W Broadway Ave) / 101st Ave N	NB	A	A	3.1	A	A	5.4	--	--	--	A	F	193.9	A	F	156.2	--	--	--	--	--	--
	EB	B			D			--			F			F			--			--		
	SB	A			A			--			F			F			--			--		
	WB	--			--			--			--			--			--			--		
CSAH 103 (W Broadway Ave) / Winnetka Ave N	NB	A	A	0.9	A	A	0.9	--	--	--	C	F	162.1	C	F	149.5	--	--	--	--	--	--
	EB	A			A			--			F			F			--			--		
	SB	A			A			--			F			F			--			--		
	WB	--			--			--			--			--			--			--		
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	NB	B	B	18.9	B	C	27.9	C	D	38.0	F	F	234.2	F	F	213.1	E	F	95.9	D	D	47.2
	EB	--			--			D			--			--			F			C		
	SB	B			C			C			F			F			E			D		
	WB	C			D			D			F			F			F			D		
CSAH 103 (W Broadway Ave) / Main St	NB	--	--	--	--	--	--	A	B	12.5	--	--	--	--	--	--	C	E	62.6	B	C	34.5
	EB	--			--			D			--			--			F			E		
	SB	--			--			B			--			--			E			C		
	WB	--			--			E			--			--			F			F		
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	NB	B	B	19.6	C	D	43.5	C	C	21.6	F	F	284.7	F	F	286.6	D	D	38.8	C	C	26.3
	EB	--			--			--			--			--			--			--		
	SB	C			E			B			F			F			D			B		
	WB	C			D			C			F			F			C			C		
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	NB	B	B	13.5	B	B	17.5	B	B	16.0	F	F	188.6	F	F	184.8	C	C	28.2	C	C	26.1
	EB	--			--			--			--			--			--			--		
	SB	B			B			B			C			C			C			C		
	WB	B			C			B			F			F			C			C		

Analysis Notes:

No Build01/Build01: Assumes no interchange at Hwy 169 and 101st Ave N

No Build02/Build02: Assumes a full access interchange at Hwy 169 and 101st Ave N

PM Level of Service and Intersection Delay

Scenario		2014			Opening Year 2021												2040										
		Existing Condition			No Build01			No Build02			Build01			Build02			No Build01			No Build02			Build01			Build02		
Intersection	Appr	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)
		by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters
CSAH 103 (W Broadway Ave) / 94th Ave N	NB	A	A	1.8	A	A	1.9	A	A	2.0	A	A	9.5	A	A	9.9	A	A	2.7	A	A	2.8	A	B	11.8	A	B	11.3
	EB	A			B			B			B			B			C			C			C			C		
	SB	A			A			A			B			B			A			A			B			B		
	WB	--			--			--			--			--			--			--			--			--		
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	NB	D	D	52.4	C	C	31.6	C	C	32.0	D	D	37.2	C	D	35.8	D	D	37.4	D	D	37.3	D	D	47.7	D	D	48.1
	EB	F			D			D			D			D			D			D			E			E		
	SB	C			C			C			C			C			C			C			D			D		
	WB	D			D			C			D			D			C			C			D			D		
CSAH 103 (W Broadway Ave) / 92nd Ave N	NB	A	A	7.1	A	A	1.0	A	A	1.1	A	A	1.0	A	A	1.0	A	A	1.1	A	A	1.2	A	A	1.4	A	A	1.2
	EB	E			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A		
	WB	B			A			A			A			A			A			A			A			A		
CSAH 103 (W Broadway Ave) / Setzler Pkwy	NB	A	A	1.5	A	B	13.9	B	B	18.0	B	C	20.1	B	B	18.8	A	B	13.9	B	B	18.8	C	C	23.8	B	C	20.5
	EB	A			D			D			D			D			D			D			D			D		
	SB	A			B			B			B			B			B			B			C			B		
	WB	A			C			D			D			D			C			D			D			D		
CSAH 103 (W Broadway Ave) / 89th Ave N	NB	A	A	1.3	A	A	0.7	A	A	0.7	A	A	0.7	A	A	0.8	A	A	0.8	A	A	0.8	A	A	0.9	A	A	0.9
	EB	B			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A		
	WB	--			--			--			--			--			--			--			--			--		
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	NB	A	A	3.4	A	A	1.0	A	A	8.8	A	A	1.0	A	B	10.0	A	A	1.2	A	A	9.8	A	A	1.3	A	B	11.4
	EB	A			A			D			A			D			A			D			A			D		
	SB	A			A			B			A			B			A			B			A			B		
	WB	A			A			D			A			D			A			D			A			D		
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	NB	C	C	26.6	D	D	45.9	D	D	39.8	D	D	45.8	D	D	41.6	D	E	55.4	D	D	43.2	D	D	50.1	D	D	44.3
	EB	C			D			D			D			D			E			D			D			D		
	SB	D			E			D			D			D			E			D			D			D		
	WB	C			D			D			D			D			D			D			D			D		
CSAH 103 (W Broadway Ave) / 84th Ave N	NB	A	A	8.8	A	A	1.3	A	A	1.2	A	A	1.0	A	A	1.2	A	A	1.4	A	A	1.2	A	A	1.4	A	A	1.5
	EB	C			A			A			A			A			A			A			A			A		
	SB	B			A			A			A			A			A			A			A			A		
	WB	C			A			A			A			A			A			A			A			A		
CSAH 103 (W Broadway Ave) / College Park Dr	NB	A	A	0.5	A	B	13.7	B	B	13.4	B	B	14.9	A	B	14.4	B	B	13.6	B	B	13.3	B	B	15.7	B	B	16.2
	EB	A			B			B			B			B			B			B			B			B		
	SB	A			B			B			B			B			B			B			B			B		
	WB	--			D			D			D			D			D			D			D			D		
CSAH 103 (W Broadway Ave) / 82nd Ave N	NB	A	A	0.5	A	A	0.9	A	A	0.5	A	A	0.6	A	A	0.6	A	A	0.8	A	A	0.6	A	A	0.7	A	A	0.8
	EB	A			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A		
	WB	--			--			--			--			--			--			--			--			--		
CSAH 103 (W Broadway Ave) / Candlewood Dr	NB	A	A	2.3	A	A	9.1	A	A	9.3	B	B	13.7	B	B	13.7	A	A	9.0	A	A	8.8	B	B	14.2	B	B	14.0
	EB	--			--			--			--			--			--			--			--			--		
	SB	A			A			A			B			B			A			A			B			B		
	WB	E			D			D			D			D			D			D			D			D		
CSAH 103 (W Broadway Ave) / 78th Ave N	NB	A	A	0.7	A	A	0.9	A	A	0.9	A	A	0.6	A	A	0.6	A	A	0.9	A	A	0.9	A	A	1.3	A	A	1.6
	EB	B			A			A			A			A			A			A			A			A		
	SB	A			A			A			A			A			A			A			A			A		
	WB	A			A			A			A			A			A			A			A			A		
CSAH 103 (W Broadway Ave) / Shopping Center Access	NB	A	B	13.0	B	B	16.8	B	B	16.1	A	A	4.1	A	A	3.8	B	B	17.0	B	B	16.7	A	C	15.0	A	C	19.8
	EB	D			D			D			B			B			D			D			F			F		
	SB	B			B			B			A			A			B			B			D			E		
	WB	C			C			C			A			A			C			C			A			A		
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd/CSAH 152)	NB	C	C	27.7	C	D	35.3	D	D	42.5	D	D	43.5	D	D	43.4	C	E	39.5	D	E	46.9	E	D	51.1	D	E	49.9
	EB	C			D			D			D			D			E			E			D			D		
	SB	C			C			C			D			D			C			C			E			E		
	WB	C			D			D			D			D			D			D			D			D		
CSAH 130 (Brooklyn Blvd/CSAH 152) / Shopping Center Access (west of CSAH 103)	NB	C	B	15.3	C	C	20.6	C	C	20.2	C	B	19.1	C	B	19.1	C	D	29.7	C	C	27.0	C	B	16.8	C	B	16.9
	EB	B			C			B			B			B			D			C			B			B		
	SB	C			C			C			C			C			C			C			C			C		
	WB	B			B			B			B			B			B			C			B			B		
CSAH 130 (Brooklyn Blvd/CSAH 152) / Shopping Center Access (east of CSAH 103)	NB	A	A	1.7	A	A	2.1	A	A	2.1	A	A	2.2	A	A	2.3	A	A	2.3	A	A	2.3	B	A	2.5	B	A	2.6
	EB	A			A			A			A			A			A			A			A			A		
	SB	B			B			B			B			B			B			B			C			C		
	WB	A			A			A			A			A			A			A			A			A		
CSAH 130 (W Broadway Ave) / 76th Ave N	NB	B	B	14.5	C	C	25.4	C	C	22.4	C	C	31.1	C	C	31.5	C	D	27.0	C	C	23.7	D	C	34.3	C	D	32.1
	EB	C			D			D			D			D			D			D			E			D		
	SB	A			B			B			B			B			B			B			B			B		
	WB	C			D			C			D			D			D			C			D			D		
CSAH 130 (W Broadway Ave) / 75th Ave N	NB	A	A	1.2	A	A	1.8	A	A	1.4	C	C	24.3	C	C	24.8	A	A	2.1	A	A	1.6	C	C	25.2	C	C	25.4
	EB	A			A			A			B			B			A			A			B			B		
	SB	A			A			A			D			D			A			A			D			D		
	WB	A			A			A			D			D			B			B			D			D		
CSAH 130 (W Broadway Ave) / 74th Ave N	NB	A	A	1.4	A	A	1.6	A	A	1.6	A	--	0.9	A	--	0.9	A	A	1.9	A	A	1.9	A	--	1.2	A	--	1.3
	EB	A			A			A			--			--			A			A			--			--		
	SB	A			A			A			A			A			A			A			A			A		
	WB	A			B			A			B			B			B			C			B			B		
CSAH 130 (W Broadway Ave) / 73rd Ave N	NB	A	A	7.2	A	B	10.8	A	B	10.8	A	A	9.8	A	A	9.8	B	B	13.0	A	B	12.6	A	B	12.2	A	B	11.8
	EB	C			D			D			D			D			D			C			D			D		
	SB	A			A			A			A			A			A			A			A			A		
	WB	C			C			C			D			D			C			C			D			D		

Analysis Notes:

No Build01/Build01: Right-in/Right-out at CSAH 103 (W Broadway Ave)/Maplebrook Parkway

No Build02/Build02: Full-access signalized intersection at CSAH 103 (W Broadway Ave)/Maplebrook Parkway

PM Level of Service and Intersection Delay

Scenario		2014			Opening Year 2021						2040					
		Existing Condition			No Build			Build			No Build			Build		
Intersection	Appr	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)
		by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters	by Appr	by Inters	by Inters
CSAH 81 (Bottineau Blvd) / 73rd Ave N	NB	B	B	18.1	B	B	14.8	B	B	17.8	B	B	18.2	B	B	19.8
	EB	C			D			D			D			C		
	SB	B			B			B			B			C		
	WB	D			D			D			D			C		
CSAH 81 (Bottineau Blvd) / 71st Ave N	NB	B	C	26.1	B	C	21.4	B	C	31.4	B	C	22.3	C	C	33.4
	EB	E			D			D			D			D		
	SB	B			B			B			B			C		
	WB	E			D			D			D			D		
CSAH 103 (W Broadway Ave) / 71st Ave N	NB	C	B	15.6	C	B	15.8	C	B	15.9	C	B	15.9	C	B	16.5
	EB	B			B			B			B			B		
	SB	B			B			B			B			B		
	WB	E			E			D			D			D		
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	NB	A	A	6.5	A	A	8.1	A	A	8.6	A	A	8.0	A	A	8.7
	EB	--			--			--			--			--		
	SB	A			A			A			A			A		
	WB	A			B			B			C			B		
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	NB	D	D	35.1	C	C	26.7	D	C	30.4	C	C	27.8	D	C	33.6
	EB	--			--			--			--			--		
	SB	B			B			B			B			B		
	WB	D			C			D			D			D		
CSAH 81 (Bottineau Blvd) / 63rd Ave N	NB	C	C	31.2	C	C	32.6	C	D	35.4	C	C	34.2	C	D	36.6
	EB	D			D			D			D			D		
	SB	C			C			C			C			C		
	WB	D			D			D			D			D		
63rd Ave N / Louisiana Ave / Park-and-Ride Access	NB	A	A	1.9	A	A	2.0	A	B	13.1	A	A	2.3	A	B	13.5
	EB	A			A			A			A			A		
	SB	A			A			C			A			C		
	WB	A			A			A			A			B		
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	NB	D	D	36.0	D	D	37.5	D	D	45.2	D	D	41.9	E	D	53.7
	EB	C			D			D			D			D		
	SB	C			C			D			D			D		
	WB	D			D			D			D			D		
CSAH 10 (Bass Lake Rd) / Sherburne Ave	NB	A	B	17.4	B	B	18.4	B	C	20.6	B	C	22.6	B	C	24.8
	EB	C			C			C			C			C		
	SB	B			B			B			B			C		
	WB	B			B			B			B			C		
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	NB	B	B	13.8	B	B	14.7	B	B	14.9	B	B	15.1	B	B	16.2
	EB	C			C			B			B			C		
	SB	B			B			B			B			B		
	WB	C			C			C			C			C		
Wilshire Blvd / Lakeland Ave N	NB	A	A	5.5	A	A	4.7	C	D	28.7	A	A	3.8	C	D	29.3
	EB	--			--			--			--			--		
	SB	B			A			F			A			F		
	WB	A			A			A			A			A		
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	NB	B	B	16.2	B	B	13.9	B	B	13.3	B	B	14.6	B	B	14.6
	EB	C			C			C			C			C		
	SB	B			B			B			B			B		
	WB	D			C			C			C			C		
CSAH 8 (W Broadway Ave) / Corvallis Ave N	NB	A	A	3.5	A	A	3.7	A	A	4.4	A	A	3.9	A	A	4.6
	EB	--			--			--			--			--		
	SB	A			A			A			A			A		
	WB	B			B			B			B			C		
CSAH 8 (W Broadway Ave) / Welcome Ave N	NB	A	A	1.3	A	A	1.4	A	A	2.0	A	A	1.5	A	A	2.2
	EB	A			A			A			A			A		
	SB	--			--			--			--			--		
	WB	A			A			A			A			A		
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	NB	--	A	0.8	--	A	0.6	--	A	2.9	--	A	0.6	--	A	3.1
	EB	A			A			A			A			A		
	SB	A			A			A			A			A		
	WB	A			A			A			A			A		
CSAH 8 (W Broadway Ave) / 45½ Ave N	NB	A	A	1.0	A	A	1.0	A	A	1.4	A	A	1.2	A	A	1.6
	EB	A			A			A			A			A		
	SB	A			A			A			A			A		
	WB	--			--			--			--			--		
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	NB	D	B	19.7	D	C	20.8	C	B	18.5	D	C	22.1	C	C	20.5
	EB	A			A			B			A			B		
	SB	D			D			C			D			D		
	WB	B			B			A			B			B		
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	NB	C	C	26.5	C	C	26.7	C	C	30.0	C	C	28.2	C	C	32.0
	EB	C			C			C			C			C		
	SB	C			C			C			C			C		
	WB	D			D			D			D			D		
CSAH 9 (42nd Ave N) / Hubbard Ave[1]	NB	A	A	1.4	B	A	1.7	F	A	9.7	C	A	2.4	F	B	10.8
	EB	A			A			A			A			A		
	SB	A			A			A			A			A		
	WB	A			A			A			A			A		
CSAH 9 (42nd Ave N) / Railroad Ave N	NB	C	A	0.9	C	A	1.0	C	A	1.9	C	A	1.4	C	A	2.1
	EB	A			A			A			A			A		
	SB	A			B			A			B			A		
	WB	A			A			A			A			A		
CSAH 9 (42nd Ave N) / Regent Ave N	NB	B	A	1.7	C	A	1.8	C	A	2.0	C	A	2.3	C	A	2.5
	EB	A			A			A			A			A		
	SB	A			A			A			A			A		
	WB	A			A			A			A			A		
CSAH 8 (W Broadway Ave) / 41 1/2 Ave N	NB	B	B	12.3	B	B	13.4	C	C	18.9	B	B	14.5	D	C	23.8
	EB	--			--			--			--			--		
	SB	B			B			C			B			C		
	WB	--			--			--			--			--		
Hubbard Ave / 41 1/2 Ave N	NB	A	A	3.1	A	A	3.8	A	D	26.4	A	A	3.5	A	D	26.8
	EB	--			--			--			--			--		
	SB	A			A			E			A			E		
	WB	A			A			A			A			A		
41st Ave N / Hubbard Ave	NB	A	A	8.5	A	A	8.5	A	C	17.2	A	A	8.7	A	C	17.1
	EB	A			A			B			A			B		
	SB	A			A			D			A			D		
	WB	A			A			B			A			A		
CSAH 8 (W Broadway Ave) / 41st Ave N	NB	B	B	10.0	B	B	10.3	B	C	16.3	B	B	11.4	B	C	17.1
	EB	A			A			C			A			D		
	SB	B			B			B			B			B		
	WB	A			A			B			A			A		
Golden Valley Rd / Theodore Wirth Pkwy	NB	B	C	16.0	B	C	15.2	C	C	19.4	C	E	42.0	C	E	42.5
	EB	C			C			D			F			F		
	SB	A			A			A			A			A		
	WB	B			B			B			C			C		

Analysis Notes:

[1] All left turns and NB and SB through movements are restricted to emergency vehicles and buses.

PM Level of Service and Intersection Delay

Scenario		2014			Opening Year 2021						2040					
		Existing Conditions			No Build			Build			No Build			Build		
Intersection	Appr	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)	LOS		Avg. Delay (sec/veh)
		by Appr	by Inter	by Inter	by Appr	by Inter	by Inter	by Appr	by Inter	by Inter	by Appr	by Inter	by Inter	by Appr	by Inter	by Inter
TH 55 (Olson Memorial Hwy) / Thomas Ave N	EB	A	A	8.3	F	D	33.7	A	B	10.9	F	F	88.8	C	C	21.8
	SB	F			F			D			F			E		
	WB	A			A			B			A			B		
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Russell Ave	EB	-	-	-	-	-	-	A	A	4.6	-	-	-	A	B	11.5
	WB	-			-			A			-			B		
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	NB	D	F	82.0	D	F	102.1	E	D	43.1	E	F	130.8	E	D	51.1
	EB	F			F			D			F			D		
	SB	D			D			D			E			E		
	WB	E			F			D			F			D		
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Oliver Ave N	EB	-	-	-	-	-	-	A	A	7.3	-	-	-	A	A	8.0
	WB	-			-			A			-			A		
TH 55 (Olson Memorial Hwy) / Morgan Ave N	NB	D	A	7.8	D	C	20.1	D	B	16.4	E	E	57.2	D	C	22.9
	EB	A			A			A			A			B		
	SB	D			E			D			E			D		
	WB	B			D			C			F			C		
TH 55 (Olson Memorial Hwy) / James Ave N	EB	A	A	4.2	A	A	4.2	-	A	5.2	A	A	4.2	-	A	3.6
	SB	B			C			A			D			B		
	WB	A			A			A			E			A		
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of James Ave	EB	-	-	-	-	-	-	A	A	1.2	-	-	-	A	A	1.2
	WB	-			-			A			-			A		
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	NB	D	A	7.2	D	A	8.5	D	C	22.6	D	B	19.2	D	C	20.3
	EB	A			B			C			A			C		
	SB	D			D			D			D			D		
	WB	A			A			B			C			B		
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	NB	D	B	10.6	D	A	9.3	D	C	33.3	D	B	13.9	D	D	36.3
	EB	B			A			D			B			D		
	SB	D			D			D			D			D		
	WB	A			A			C			A			B		
TH 55 (Olson Memorial Hwy) / Bryant Ave N	NB	D	A	8.1	D	A	8.0	D	B	17.3	D	A	9.0	E	C	22.8
	EB	A			A			B			B			C		
	SB	C			D			C			D			D		
	WB	A			A			B			A			B		
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	EB	C	C	21.5	B	C	21.1	C	C	29.1	C	C	24.6	D	C	32.3
	SB	D			D			E			E			D		
	WB	B			B			B			A			B		
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	NB	D	C	28.9	D	C	33.1	E	D	39.4	D	C	31.4	F	D	46.7
	EB	B			B			B			B			B		
	WB	C			C			C			D			D		
Olson Memorial Hwy / Border Ave	NB	E	C	21.9	E	C	24.4	E	C	32.3	F	C	33.1	F	C	34.4
	EB	A			B			C			C			D		
	SB	C			C			C			C			C		
	WB	B			B			C			C			C		
Olson Memorial Hwy / 7th St N/6th Ave N	NB	C	C	30.5	D	C	32.4	E	D	43.6	D	D	36.0	E	E	64.8
	EB	B			B			A			C			C		
	SB	E			E			E			E			F		
	WB	C			C			D			D			E		

Storage Length

Scenario		2014			Opening Year 2021						2040											
		Existing Condition			No Build01			Build01			No Build01			No Build02			Build01			Build02		
Intersection	Appr	Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)		
		LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT
Oak Grove Pkwy / Xylon Ave	NB	-	-	-	-	-	-	250	1000	1000	-	-	-	-	-	-	250	1000	1000	250	1000	1000
	EB	-	-	-	-	-	-	1250	1250	1250	-	-	-	-	-	-	1250	1250	1250	1250	1250	1250
	SB	-	-	-	-	-	-	250	400	400	-	-	-	-	-	-	250	400	400	250	400	400
	WB	-	-	-	-	-	-	1400	1400	1400	-	-	-	-	-	-	1400	1400	1400	1400	1400	1400
CSAH 103 (W Broadway Ave) / 101st Ave N	NB	725	725	-	725	725	-	-	-	-	725	725	-	725	725	-	-	-	-	-	-	-
	EB	2600	-	2600	2600	-	2600	-	-	-	2600	-	2600	2600	-	2600	-	-	-	-	-	-
	SB	-	2400	2400	-	2400	2400	-	-	-	-	2400	2400	-	2400	2400	-	-	-	-	-	-
	WB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N	NB	900	900	-	900	900	-	-	-	-	900	900	-	900	900	-	-	-	-	-	-	-
	EB	3000	-	3000	3000	-	3000	-	-	-	3000	-	3000	3000	-	3000	-	-	-	-	-	-
	SB	-	725	-	-	725	-	-	-	-	-	725	-	-	725	-	-	-	-	-	-	-
	WB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	NB	-	950	350	-	950	350	340	700	700	-	950	350	-	950	350	340	700	700	340	700	700
	EB	-	-	-	-	-	-	320	450	300	-	-	-	-	-	-	320	450	300	320	450	300
	SB	250	900	-	250	900	-	310	950	950	250	900	-	250	900	-	310	950	950	310	950	950
	WB	315	-	720	315	-	720	350	720	720	315	-	720	315	-	720	350	720	720	350	720	720
CSAH 103 (W Broadway Ave) / Main St	NB	-	-	-	-	-	-	410	830	320	-	-	-	-	-	-	410	830	320	410	830	320
	EB	-	-	-	-	-	-	210	380	380	-	-	-	-	-	-	210	380	380	210	380	380
	SB	-	-	-	-	-	-	370	700	370	-	-	-	-	-	-	370	700	370	370	700	370
	WB	-	-	-	-	-	-	205	650	650	-	-	-	-	-	-	205	650	650	205	650	650
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	NB	-	800	375	-	800	375	-	800	375	-	800	375	-	800	375	-	800	375	-	800	375
	EB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	460	1045	-	460	1045	-	460	1045	-	460	1045	-	460	1045	-	460	1045	-	460	1045	-
	WB	560	-	560	560	-	560	560	-	560	560	-	560	560	-	560	560	-	560	560	-	560
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	NB	350	785	-	350	785	-	350	785	-	350	785	-	350	785	-	350	785	-	350	785	-
	EB	80	-	65	80	-	65	80	-	65	80	-	65	80	-	65	80	-	65	80	-	65
	SB	-	800	380	-	800	380	-	800	380	-	800	380	-	800	380	-	800	380	-	800	380
	WB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Analysis Notes:

No Build01/Build01: Assumes no interchange at Hwy 169 and 101st Ave N

No Build02/Build02: Assumes a full access interchange at Hwy 169 and 101st Ave N

Storage Length for through lanes is measured to the nearest upstream full access public intersection, unless otherwise noted.

Storage Length

Scenario		2014			Opening Year 2021													2040											
		Existing Condition			No Build01			No Build02			Build01			Build02			No Build01			No Build02			Build01			Build02		
Intersection	Appr	Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)		
		LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT
CSAH 103 (W Broadway Ave) / 94th Ave N	NB	350	785	-	350	785	-	350	785	-	350	785	-	350	785	-	350	785	-	350	785	-	350	785	-	350	785	-
	EB	80	-	65	80	-	65	80	-	65	80	-	65	80	-	65	80	-	65	80	-	65	80	-	65	80	-	65
	SB	-	800	380	-	800	380	-	800	380	-	800	380	-	800	380	-	800	380	-	800	380	-	800	380	-	800	380
	WB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	NB	225	600	600	225	600	600	225	600	600	225	600	600	225	600	600	225	600	600	225	600	600	225	600	600	225	600	600
	EB	215	1220	1220	360	1220	1220	360	1220	1220	360	1220	1220	360	1220	1220	360	1220	1220	360	1220	1220	360	1220	1220	360	1220	1220
	SB	375	785	785	375	785	785	375	785	785	375	785	785	375	785	785	375	785	785	375	785	785	375	785	785	375	785	785
	WB	290	1220	1220	290	1220	1220	290	1220	1220	290	1220	1220	290	1220	1220	290	1220	1220	290	1220	1220	290	1220	1220	290	1220	1220
CSAH 103 (W Broadway Ave) / 92nd Ave N	NB	950	950	220	-	950	220	-	950	220	-	950	220	-	950	220	-	950	220	-	950	220	-	950	220	-	950	220
	EB	1250	1250	1250	-	-	1250	-	-	1250	-	-	1250	-	-	1250	-	-	1250	-	-	1250	-	-	1250	-	-	1250
	SB	600	600	140	-	600	140	-	600	140	-	600	140	-	600	140	-	600	140	-	600	140	-	600	140	-	600	140
	WB	430	430	430	-	-	430	-	-	430	-	-	430	-	-	430	-	-	430	-	-	430	-	-	430	-	-	430
CSAH 103 (W Broadway Ave) / Setzler Pkwy	NB	195	870	350	350	870	870	350	870	870	350	870	870	350	870	870	350	870	870	350	870	870	350	870	870	350	870	870
	EB	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
	SB	250	950	250	350	950	950	350	950	950	350	950	950	350	950	950	350	950	950	350	950	950	350	950	950	350	950	950
	WB	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
CSAH 103 (W Broadway Ave) / 89th Ave N	NB	650	650	-	-	650	-	-	650	-	-	650	-	-	650	-	-	650	-	-	650	-	-	650	-	-	650	-
	EB	1900	-	1900	-	-	1900	-	-	1900	-	-	1900	-	-	1900	-	-	1900	-	-	1900	-	-	1900	-	-	1900
	SB	-	870	870	870	870	870	870	870	870	-	870	870	-	870	870	-	870	870	-	870	870	-	870	870	-	870	870
	WB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	NB	1110	1110	215	-	1110	1110	330	1110	1110	-	1110	1110	330	1110	1110	-	1110	1110	330	1110	1110	-	1110	1110	330	1110	1110
	EB	260	260	260	-	-	260	260	260	260	-	-	260	260	260	260	-	-	260	260	260	260	-	-	260	260	260	260
	SB	650	650	150	-	650	650	330	650	650	-	650	650	330	650	650	-	650	650	330	650	650	-	650	650	330	650	650
	WB	170	170	170	-	-	170	170	170	170	-	-	170	170	170	170	-	-	170	170	170	170	-	-	170	170	170	170
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	NB	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
	EB	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375
	SB	360	645	645	360	645	645	360	645	645	360	645	645	360	645	645	360	645	645	360	645	645	360	645	645	360	645	645
	WB	440	1000	725	440	1000	725	440	1000	725	440	1000	725	440	1000	725	440	1000	725	440	1000	725	440	1000	725	440	1000	1000
CSAH 103 (W Broadway Ave) / 84th Ave N	NB	400	250	250	-	250	250	-	250	250	-	250	250	-	250	250	-	250	250	-	250	250	-	250	250	-	250	250
	EB	640	640	640	-	-	640	-	-	640	-	-	640	-	-	640	-	-	640	-	-	640	-	-	640	-	-	640
	SB	265	265	265	-	265	265	-	265	265	-	265	265	-	265	265	-	265	265	-	265	265	-	265	265	-	265	265
	WB	115	115	115	-	-	115	-	-	115	-	-	115	-	-	115	-	-	115	-	-	115	-	-	115	-	-	115
CSAH 103 (W Broadway Ave) / College Park Dr	NB	800	800	-	250	800	800	250	800	800	250	800	800	250	800	800	250	800	800	250	800	800	250	800	800	250	800	800
	EB	760	-	760	150	760	760	150	760	760	150	760	760	150	760	760	150	760	760	150	760	760	150	760	760	150	760	760
	SB	-	265	265	350	265	265	350	265	265	350	265	265	350	265	265	350	265	265	350	265	265	350	265	265	350	265	265
	WB	-	-	-	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
CSAH 103 (W Broadway Ave) / 82nd Ave N	NB	815	815	-	-	815	-	-	815	-	-	815	-	-	815	-	-	815	-	-	815	-	-	815	-	-	815	-
	EB	300	-	300	-	-	300	-	-	300	-	-	300	-	-	300	-	-	300	-	-	300	-	-	300	-	-	300
	SB	-	800	800	-	800	800	-	800	800	-	800	800	-	800	800	-	800	800	-	800	800	-	800	800	-	800	800
	WB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	NB	-	715	715	-	715	715	-	715	715	-	715	715	-	715	715	-	715	715	-	715	715	-	715	715	-	715	715
	EB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	815	815	-	250	815	-	250	815	-	250	815	-	250	815	-	250	815	-	250	815	-	250	815	-	250	815	-
	WB	150	-	150	150	-	150	150	-	150	150	-	150	150	-	150	150	-	150	150	-	150	150	-	150	150	-	150
CSAH 103 (W Broadway Ave) / 78th Ave N	NB	300	540	540	-	540	540	-	540	540	-	540	540	-	540	540	-	540	540	-	540	540	-	540	540	-	540	540
	EB	450	450	450	-	-	450	-	-	450	-	-	450	-	-	450	-	-	450	-	-	450	-	-	450	-	-	450
	SB	200	715	715	-	715	715	-	715	715	-	715	715	-	715	715	-	715	715	-	715	715	-	715	715	-	715	715
	WB	175	175	175	-	-	175	-	-	175	-	-	175	-	-	175	-	-	175	-	-	175	-	-	175	-	-	175
CSAH 103 (W Broadway Ave) / Shopping Center Access	NB	200	450	450	200	450	450	200	450	450	-	450	450	-	450	450	200	450	450	200	450	450	-	450	450	-	450	450
	EB	40	40	40	40	40	40	40	40	40	-	-	40	-	-	40	40	40	40	40	40	40	-	-	40	-	-	40
	SB	200	540	540	200	540	540	200	540	540	-	540	540	-	540	540	200	540	540	200	540	540	-	540	540	-	540	540
	WB	40	40	40	40	40	40	40	40	40	-	-	40	-	-	40	40	40	40	40	40	40	-	-	40	-	-	40
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd/CSAH 152)	NB	390	570	500	390	570	500	390	570	500	390	570	500	390	570	500	390	570	500	390	570	500	390	570	570	390	570	570
	EB	350	500	575	350	500	575	350	500	575	350	500	575	350	500	575	350	500	575	350	500	575	350	500	500	350	500	500
	SB	225	450	475	225	450	475	225	450	475	310	450	475	310	450	475	225	450	475	225	450	475	310	450	450	310	450	450
	WB	330	515	490	330	515	490	330	515	490	330	515	490	330	515	490	330	515	490	330	515	490	330	515	515	330	515	515
CSAH 130 (Brooklyn Blvd/CSAH 152) / Shopping Center Access (west of CSAH 103)	NB	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215
	EB	240	600	215	240	600	215	240	600	215	240	600	215	240	600	215	240	600	215	240	600	215	240	600	215	240	600	215
	SB	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
	WB	115	490	290	115	490	290	115	490	290	115	490	290	115	490	290	115	490	290	115	490	290	115	490	290	115	490	290
CSAH 130 (Brooklyn Blvd/CSAH 152) / Shopping Center Access (east of CSAH 103)	NB	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	EB	160	515	515	160	515	515	160	515	515	160	515	515	160	515	515	160	515	515	160	515	515	160	515	515	160	515	515
	SB	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
	WB	240	660	660	240	660	660	240	660	660	240	660	660	240	660	660	240	660	660	240	660	660	240	660	660	240	660	660
CSAH 130 (W Broadway Ave) / 76th Ave N	NB	215	880	880	215	880	880	215	880	880	215	880	880	215	880	880	215	880	880	215	880	880	215	880	880	215	880	880
	EB	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175
	SB	150	570	240	150	570	240	150	570	240	150	570	240	150	570	240	150	570	240	150	570	240	150	570	240	150	570	240
	WB	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
CSAH 130 (W Broadway Ave) / 75th Ave N	NB	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265	265
	EB	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	SB	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880
	WB	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
CSAH 130 (W Broadway Ave) / 74th Ave N	NB	250	250	250	250	250	250	250	250	250	250	250	-	250	250	-	250	250	250	250	250	250	250	250	-	250	250	-
	EB	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	-	1320	1320	-	1320	1320	1320	1320	1320	1320	1320	1320	-	1320	1320	-	1320
	SB	265	265	265	265	265	265	265	265	265	-	265	265	-	265	265	265	265	265	265	265	265	-	265	265	-	265	265
	WB	910	910	910	910	910	910	910	910	910	-	-	-	-	-	-	910	910	910	910	910	910	-	-	-	-	-	-
CSAH 130 (W Broadway Ave) / 73rd Ave N	NB	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
	EB	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
	SB	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
	WB	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490

Analysis Notes:

No Build01/Build01: Right-in/Right-out at CSAH 103 (W Broadway Ave)/Maplebrook Parkway

No Build02/Build02: Full-access signalized intersection at CSAH 103 (W Broadway Ave)/Maplebrook Parkway

Storage Length for through lanes is measured to the nearest upstream full access public intersection, unless otherwise noted.

Storage Length

Scenario		2014						Opening Year 2021												2040									
		Existing No Freight Event			Existing Freight Event			No Build No Freight Event			No Build Freight Event			Build No Freight Event			Build Freight Event			No Build No Freight Event			No Build Freight Event			Build No Freight Event			Build Freight Event		
Intersection	Appr	Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)		
		LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT
CSAH 81 (Bottineau Blvd) / 73rd Ave N	NB	470	1325	375	470	1325	375	470	1325	375	470	1325	375	470	1325	375	470	1325	375	470	1325	375	470	1325	375	470	1325	375	470	1325	375
	EB	230	440	530	230	440	530	230	440	530	230	440	530	230	440	530	230	440	530	230	440	530	230	440	530	230	440	530	230	440	530
	SB	390	2800	360	390	2800	360	390	2800	360	390	2800	360	390	2800	360	390	2800	360	390	2800	360	390	2800	360	390	2800	360	390	2800	360
	WB	315	640	640	315	640	640	315	640	640	315	640	640	315	640	640	315	640	640	315	640	640	315	640	640	315	640	640	315	640	640
CSAH 81 (Bottineau Blvd) / 71st Ave N	NB	265	960	360	265	960	360	265	960	360	265	960	360	265	960	360	265	960	360	265	960	360	265	960	360	265	960	360	265	960	360
	EB	315	970	970	315	970	970	315	970	970	315	970	970	315	970	970	315	970	970	315	970	970	315	970	970	315	970	970	315	970	970
	SB	330	1315	315	330	1315	315	330	1315	315	330	1315	315	330	1315	315	330	1315	315	330	1315	315	330	1315	315	330	1315	315	330	1315	315
	WB	480	480	480	480	480	480	480	480	125	480	480	125	480	480	125	480	480	125	480	480	125	480	480	125	480	480	125	480	480	125
CSAH 103 (W Broadway Ave) / 71st Ave N	NB	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
	EB	425	460	460	425	460	460	425	460	460	425	460	460	425	460	460	425	460	460	425	460	460	425	460	460	425	460	460	425	460	460
	SB	420	420	440	420	420	440	420	420	440	420	420	440	420	420	440	420	420	440	420	420	440	420	420	440	420	420	440	420	420	440
	WB	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	NB	-	1040	500	-	1040	500	-	1040	650	-	1040	650	-	1040	650	-	1040	650	-	1040	650	-	1040	650	-	1040	650	-	1040	650
	EB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	235	1825	-	235	1825	-	350	1825	-	350	1825	-	350	1825	-	350	1825	-	350	1825	-	350	1825	-	350	1825	-	350	1825	-
	WB	375	-	850	375	-	850	375	-	300	375	-	300	375	-	300	375	-	300	375	-	300	375	-	300	375	-	300	375	-	300
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	NB	-	2780	360	-	2780	360	-	2780	360	-	2780	360	-	2780	360	-	2780	360	-	2780	360	-	2780	360	-	2780	360	-	2780	360
	EB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	525	1060	-	525	1060	-	650	1060	-	650	1060	-	650	1060	-	650	1060	-	650	1060	-	650	1060	-	650	1060	-	650	1060	-
	WB	140	-	300	140	-	300	300	-	300	300	-	300	300	-	300	300	-	300	300	-	300	300	-	300	300	-	300	300	-	300
CSAH 81 (Bottineau Blvd) / 63rd Ave N	NB	390	4460	420	390	4460	420	390	4460	420	390	4460	420	390	4460	420	390	4460	420	390	4460	420	390	4460	420	390	4460	420	390	4460	420
	EB	300	560	450	300	560	450	300	560	450	300	560	450	300	560	450	300	560	450	300	560	450	300	560	450	300	560	450	300	560	450
	SB	450	2715	330	450	2715	330	450	2715	330	450	2715	330	450	2715	330	450	2715	330	450	2715	330	450	2715	330	450	2715	330	450	2715	330
	WB	330	515	380	330	515	380	330	515	380	330	515	380	330	515	380	330	515	380	330	515	380	330	515	380	330	515	380	330	515	380
63rd Ave N / Louisiana Ave / Park-and-Ride Access	NB	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
	EB	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230	1230
	SB	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	WB	215	475	475	215	475	475	215	475	475	215	475	475	215	475	475	215	475	475	215	475	475	215	475	475	215	475	475	215	475	475
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	NB	380	1300	320	380	1300	320	380	1300	320	380	1300	320	380	1300	320	380	1300	320	380	1300	320	380	1300	320	380	1300	320	380	1300	320
	EB	400	400	440	400	400	440	400	400	440	400	400	440	400	400	440	400	400	440	400	400	440	400	400	440	400	400	440	400	400	440
	SB	460	5700	470	460	5700	470	460	5700	470	460	5700	470	460	5700	470	460	5700	470	460	5700	470	460	5700	470	460	5700	470	460	5700	470
	WB	275	380	310	275	380	310	275	380	310	275	380	310	275	380	310	275	380	310	275	380	310	275	380	310	275	380	310	275	380	310
CSAH 10 (Bass Lake Rd) / Sherburne Ave	NB	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630
	EB	215	720	720	215	720	720	215	720	720	215	720	720	215	720	720	215	720	720	215	720	720	215	720	720	215	720	720	215	720	720
	SB	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	WB	325	500	500	325	500	500	325	500	500	325	500	500	325	500	500	325	500	500	325	500	500	325	500	500	325	500	500	325	500	500
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	NB	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300
	EB	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80
	SB	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190
	WB	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215
Wilshire Blvd / Lakeland Ave N	NB	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300	400	2250	300
	EB	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80	45	45	80
	SB	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190	400	1300	190
	WB	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	NB	500	2300	330	500	2300	330	500	2300	330	500	2300	330	500	2300	330	500	2300	330	500	2300	330	500	2300	330	500	2300	330	500	2300	330
	EB	90	275	275	90	275	275	90	275	275	90	275	275	90	275	275	90	275	275	90	275	275	90	275	275	90	275	275	90	275	275
	SB	375	2260	530	375	2260	530	375	2260	530	375	2260	530	375	2260	530	375	2260	530	375	2260	530	375	2260	530	375	2260	530	375	2260	530
	WB	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
CSAH 8 (W Broadway Ave) / Corvallis Ave N	NB	-	700	700	-	700	700	-	700	700	-	700	700	-	700	700	-	700	700	-	700	700	-	700	700	-	700	700	-	700	700
	EB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	1560	1560	-	1560	1560	-	1560	1560	-	1560	1560	-	1560	1560	-	1560	1560	-	1560	1560	-	1560	1560	-	1560	1560	-	1560	1560	-
	WB	1030	-	80	1030	-	80	1030	-	80	1030	-	80	1030	-	80	1030	-	80	1030	-	80	1030	-	80	1030	-	80	1030	-	80
CSAH 8 (W Broadway Ave) / Welcome Ave N	NB	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-
	EB	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210
	SB	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70
	WB	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-	50	-	-	-	-	-	-	-	-	50	-	-	50	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	NB	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-
	EB	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210
	SB	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70
	WB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSAH 8 (W Broadway Ave) / 45½ Ave N	NB	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-	390	390	-
	EB	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210	210	-	210
	SB	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70	-	70	70
	WB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	NB	330	330	60	330	330	60	330	330	60	330	330	60	100	330	330	100	330	330	330	330	60	330	330	60	100	330	330	100	330	330
	EB	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	SB	345	345	345	345	345	345	345	345	345	345	345	345	150	345	345	150	345	345	345	345	345	345	345	345	150	345	345	150	345	345
	WB	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	NB	360	725	175	360	725	175	360	725	175	360	725	175	360	725	175	360	725	175	360	725	175	360	725	175	360	725	175	360	725	175
	EB	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
	SB	260	730	150	260	730	150	260	730	150	260	730	150	260	730	150	260	730	150	260	730	150	260	730	150	260	730	150	260	730	150
	WB	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175
CSAH 9 (42nd Ave N) / Hubbard Ave[1]	NB	-	-	345	-	-	345	-	-	345	-	-	345	-	-	345	-	-	345	-	-	345	-	-	345	-	-	345	-	-	345
	EB	-	200	200	-	200	200	-	200	200	-	200	200	-	200	200	-	200	200	-	200	200	-	200	200	-	200	200	-	200	200
	SB	-	-	30	-	-	30	-	-	30	-	-	30	-	-	30	-	-	30	-	-	30	-	-	30	-	-	30	-	-	30
	WB	-	90	90	-	90	90	-	90	90	-	90	90	-	90	90	-	90	90	-	90	90	-	90	90	-	90	90	-	90	90
CSAH 9 (42nd Ave N) / Railroad Ave N	NB	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215
	EB	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215
	SB	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175
	WB	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
CSAH 9 (42nd Ave N) / Regent Ave N	NB	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
	EB	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415
	SB	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
	WB	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330
CSAH 8 (W Broadway Ave) / 41 1/2 Ave N	NB	410	410	-	410	410	-	410	410	-	410	410	-	410	410	-	410	410	-	410	410	-	410	410	-	410	410	-	410	410	-
	EB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	-	325	325	-	325	325	-	325	325	-	325	325	-	325	325	-	325	325	-	325	325	-	325	325	-	325	325	-	325	325	-
	WB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hubbard Ave / 41 1/2 Ave N	NB	-	415	-	-	415	-	-	415	-	-	415	-	-	415	-	-	415	-	-	415	-	-	415	-	-	415	-	-	415	-
	EB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB	-	420	-	-	420	-	-	420	-	-	420	-	-	420	-	-	420	-	-	420	-	-	420	-	-	420	-	-	420	-
	WB	175	-	175	175	-	175	175	-	175	175	-	175	175	-	175	175	-	175	175	-	175	175	-	175	175	-	175	175	-	175
41st Ave N / Hubbard Ave	NB	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430
	EB	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
	SB	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
	WB	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
CSAH 8 (W Broadway Ave) / 41st Ave N	NB	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430
	EB	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
	SB	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420
	WB	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
Golden Valley Rd / Theodore Wirth Pkwy	NB	3010	3010	160	-	-	-	3010	3010	160	-	-	-	3010	3010	160	-	-	-	3010	3010	160	-	-	-	3010	3010	160	-	-	-
	EB	1145	1145	230	-	-	-	1145	1145	230	-	-	-	430	430	230	-	-	-	1145	1145	230	-	-	-	430	430	230	-	-	-
	SB	240	240	75	-	-	-	240	240	75	-	-	-	240	240	75	-	-	-	240	240	75	-	-	-	240	240	75	-	-	-
	WB	375	375	200	-	-	-	375	375	200	-	-	-	375	375	200	-	-	-	375	375	200	-	-	-	375	375	200	-	-	-

Analysis Notes:

Storage Length for through lanes is measured to the nearest upstream full access public intersection, unless otherwise noted.

[1] All left turns and NB and SB through movements are restricted to emergency vehicles and buses.

Storage Length

Scenario		2014			Opening Year 2021						2040					
		Existing Conditions			No Build			Build			No Build			Build		
Intersection	Appr	Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)			Effective Storage Distance (feet)		
		LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT
TH 55 (Olson Memorial Hwy) / Thomas Ave N	EB	225	3785	-	225	3785	-	225	3785	-	225	3785	-	225	3785	-
	SB	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
	WB	-	280	280	-	280	280	-	280	280	-	280	280	-	280	280
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Russell Ave	EB	-	-	-	-	-	-	-	620	-	-	-	-	-	620	-
	WB	-	-	-	-	-	-	-	630	-	-	-	-	-	630	-
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	NB	510	510	115	510	510	115	135	510	115	510	510	115	135	510	115
	EB	260	605	605	260	605	605	320	605	605	260	605	605	320	605	605
	SB	490	490	75	490	490	75	95	490	75	490	490	75	95	490	75
	WB	280	885	885	280	885	885	305	885	885	280	885	885	305	885	885
TH 55 (Olson Memorial Hwy) / Pedestrian Crosssing East of Oliver Ave	EB	-	-	-	-	-	-	-	450	-	-	-	-	-	450	-
	WB	-	-	-	-	-	-	-	440	-	-	-	-	-	440	-
TH 55 (Olson Memorial Hwy) / Morgan Ave N	NB	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	EB	240	880	880	240	880	880	255	880	880	240	880	880	255	880	880
	SB	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	WB	265	935	935	265	935	935	305	1545	1545	265	935	935	305	1545	1545
TH 55 (Olson Memorial Hwy) / James Ave N	NB	270	925	-	270	925	-	-	-	-	270	925	-	-	-	-
	EB	270	925	-	270	925	-	-	-	-	270	925	-	-	-	-
	WB	-	565	565	-	565	565	-	565	565	-	565	565	-	565	565
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of James Ave	EB	-	-	-	-	-	-	-	1005	-	-	-	-	-	1005	-
	WB	-	-	-	-	-	-	-	530	-	-	-	-	-	530	-
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	NB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	EB	245	560	560	245	560	560	305	1540	1540	245	560	560	305	1540	1540
	SB	290	290	290	290	290	290	290	290	290	290	290	290	290	290	290
	WB	270	970	970	270	970	970	295	970	970	270	970	970	295	970	970
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	NB	90	0	0	90	0	0	90	0	0	90	0	0	90	0	0
	EB	265	965	965	265	965	965	300	965	965	265	965	965	300	965	965
	SB	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165
	WB	200	610	610	200	610	610	200	610	610	200	610	610	200	610	610
TH 55 (Olson Memorial Hwy) / Bryant Ave N	NB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	EB	205	615	615	205	615	615	105	615	615	205	615	615	105	615	615
	SB	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
	WB	275	535	535	275	535	535	100	535	535	275	535	535	100	535	535
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	EB	-	505	365	-	505	365	-	505	260	-	505	365	-	505	260
	SB	380	380	235	380	380	235	380	380	235	380	380	235	380	380	235
	WB	165	205	-	165	205	-	220	220	-	165	205	-	220	220	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	NB	375	790	790	375	790	790	375	790	790	375	790	790	375	790	790
	EB	185	200	-	185	200	-	225	200	-	185	200	-	225	200	-
	WB	-	425	120	-	425	120	-	425	165	-	425	120	-	425	165
Olson Memorial Hwy / Border Ave	NB	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865
	EB	110	425	130	110	425	130	405	425	215	110	425	130	405	425	215
	SB	335	335	45	335	335	45	335	335	45	335	335	45	335	335	45
	WB	165	300	115	165	300	115	140	300	115	165	300	115	140	300	115
Olson Memorial Hwy / 7th St N/6th Ave N	NB	235	565	90	235	565	90	460	565	-	235	565	90	460	565	-
	EB	-	330	340	-	330	340	-	305	310	-	330	340	-	305	310
	SB	460	460	460	460	460	460	460	460	460	460	460	460	460	460	460
	WB	1075	1075	115	1075	1075	115	1075	1075	-	1075	1075	115	1075	1075	-

Storage Length for through lanes is measured to the nearest upstream full access public intersection, unless otherwise noted.

Queuing Issues

Intersection	Appr	Movement	Peak Period	Scenario(s) with 95th Percentile Queue > Storage							Identified as Issue?		Mitigation Proposed?	
				2014	2021		2040							
				Existing Conditions	No Build01	Build01	No Build01	No Build02	Build01	Build02				
Oak Grove Pkwy / Xylon Ave	NB	Left-Turn	AM						X	X	Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	A traffic signal should be built in conjunction with the interchange or with future development, when warranted. Need for the signal is due to future development traffic.
			PM						X	X				
	EB	-									-	-	-	-
	SB	Left-Turn	AM							X	Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	A traffic signal should be built in conjunction with the interchange or with future development, when warranted. Need for the signal is due to future development traffic.
			PM						X	X				
	WB	-									-	-	-	-
CSAH 103 (W Broadway Ave) / 101st Ave N	NB	-									-	-	-	-
	EB	-									-	-	-	-
	SB	-									-	-	-	-
	WB	-									-	-	-	-
CSAH 103 (W Broadway Ave) / Winnetka Ave N	NB	Left-Turn / Through	AM				X	X			Yes	Queues spill back through upstream intersections.	No	The proposed Build roadway network will accommodate the expected future traffic volumes.
			PM											
	EB	-									-	-	-	-
	SB	-									-	-	-	-
	WB	-									-	-	-	-
CSAH 103 (W Broadway Ave) / Oak Grove Pkwy	NB	Through	AM				X	X			Yes	Queues spill back through upstream intersections.	No	The proposed Build roadway network will accommodate the expected future traffic volumes.
			PM											
	EB	Right-Turn	AM								Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	Queues are due to future development traffic. Queues would be reduced with construction of the interchange at TH 169/101st Avenue N.
			PM						X					
	SB	Left-Turn / Through	AM								Yes	Queues spill back through upstream intersections.	No	The proposed Build roadway network will accommodate the expected future traffic volumes.
			PM				X	X						
	WB	Left-Turn / Right-Turn	AM				X	X			Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	Issue occurred in No Build conditions. Build conditions are improved compared to No Build conditions.
			PM				X	X	X					
CSAH 103 (W Broadway Ave) / Main St	NB	-									-	-	-	-
	EB	Through / Right-Turn	AM								Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	Queues are due to future development traffic. Queues would be reduced with construction of the interchange at TH 169/101st Avenue N.
			PM						X					
	SB	-									-	-	-	-
	WB	-									-	-	-	-
CSAH 103 (W Broadway Ave) / TH 610 WB Ramps	NB	Through	AM				X	X			Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	The proposed Build roadway network will accommodate the expected future traffic volumes.
			PM				X	X						
	EB	-									-	-	-	-
	SB	Left-Turn	AM								No	Queues spill back through upstream intersections.	No	The proposed Build roadway network will accommodate the expected future traffic volumes.
			PM				X	X						
	WB	Left-Turn / Right-Turn	AM				X	X			No	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	The proposed Build roadway network will accommodate the expected future traffic volumes.
			PM				X	X						
CSAH 103 (W Broadway Ave) / TH 610 EB Ramps	NB	-									-	-	-	-
	EB	-									-	-	-	-
	SB	-									-	-	-	-
	WB	-									-	-	-	-

Analysis Notes:

Storage Length for through lanes is measured to the nearest upstream full access public intersection, unless otherwise noted.

Queuing Issues

Intersection	Appr	Movement	Peak Period	Scenario(s) with 95th Percentile Queue > Storage									Identified as Issue?		Mitigation Proposed?	
				2014	2021				2040							
				Existing Conditions	No Build01	No Build02	Build01	Build02	No Build01	No Build02	Build01	Build02				
CSAH 103 (W Broadway Ave) / 94th Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 30 (93rd Ave N)	NB	-											-	-	-	-
	EB	Left-Turn	AM										Yes	Average back of queue does not exceed storage length, but movement operates at LOS E or worse.	No	Issue only occurs in the Existing Conditions scenario and will be improved by the CSAH 103 reconstruction project.
			PM	X												
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / 92nd Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / Setzler Pkwy	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / 89th Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / Maplebrook Pkwy	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 109 (85th Ave N)	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / 84th Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / College Park Dr	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / 82nd Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / Candlewood Dr	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / 78th Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / Shopping Center Access	NB	-											-	-	-	-
	EB	Right-Turn	AM										Yes	Average back of queue exceeds storage length and the movement	No	Issue occurs as a result of the southbound left-turn/U-turn queue at CSAH 103
			PM								X	X				
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 103 (W Broadway Ave) / CSAH 130 (Brooklyn Blvd/CSAH 152)	NB	-											-	-	-	-
	EB	Left-Turn	AM										Yes	Average back of queue does not exceed storage length, but movement operates at LOS E or worse.	No	Issue occurs in No Build scenarios only. Protected/permissive left-turn phasins is proposed in the Build scenarios, which reduces the queue.
			PM						X	X						
	SB	Left-Turn/ U-Turn	AM										Yes	Movement operates at LOS E or worse and the average back of queue exceeds the storage length.	No	Issue occurs as a result of the eastbound left-turns at the CSAH 103 (W Broadway Ave)/Shopping Center intersection being redirected to this intersection as a result of the intersection becoming a right-in/right-out in the Build scenarios. These vehicles may choose to exit the shopping center using the access on Brooklyn Boulevard, which would reduce the number of vehicles making this movement. The southbound left-turn/U-turn turn bay length will be designed to reduce the amount of time the queue spills back into the through lanes.
			PM								X	X				
	WB	-											-	-	-	-
CSAH 130 (Brooklyn Blvd/CSAH 152) / Shopping Center Access (west of CSAH 103)	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 130 (Brooklyn Blvd/CSAH 152) / Shopping Center Access (east of CSAH 103)	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 130 (W Broadway Ave) / 76th Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 130 (W Broadway Ave) / 75th Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 130 (W Broadway Ave) / 74th Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-
CSAH 130 (W Broadway Ave) / 73rd Ave N	NB	-											-	-	-	-
	EB	-											-	-	-	-
	SB	-											-	-	-	-
	WB	-											-	-	-	-

Analysis Notes:
Storage Length for through lanes is measured to the nearest upstream full access public intersection, unless otherwise noted.

Queuing Issues

Intersection	Appr	Movement	Peak Period	Scenario(s) with 95th Percentile Queue > Storage										Identified as Issue?		Mitigation Proposed?	
				2014		2021				2040							
				Existing No Feight Event	Existing Freight Event	No Build No Freight Event	No Build Freight Event	Build No Freight Event	Build Freight Event	No Build No Freight Event	No Build Freight Event	Build No Freight Event	Build Freight Event				
CSAH 81 (Bottineau Blvd) / 73rd Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 81 (Bottineau Blvd) / CSAH 8 (W Broadway Ave) / 71st Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 130 (W Broadway Ave) / 71st Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 81 (Bottineau Blvd) / I-94 WB Ramps	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 81 (Bottineau Blvd) / I-94 EB Ramps	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	Left-Turn	AM	X										No	Average back of queue does not exceed storage length and the movement does not operate at LOS E or worse.	No	Does not impact upstream traffic. The storage length for this movement will also be increased in the future as part of the CSAH 103 reconstruction project.
			PM														
CSAH 81 (Bottineau Blvd) / 63rd Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
63rd Ave N / Louisiana Ave / Park-and-Ride Access	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	Left-Turn	AM											No	Average back of queue does not exceed storage length and movement operates at LOS D or better.	No	Queue does not cause operational or safety issues and clears each signal cycle.
			PM					X				X					
	WB	-												-	-	-	-
CSAH 81 (Bottineau Blvd) / CSAH 10 (Bass Lake Rd)	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 10 (Bass Lake Rd) / Sherburne Ave	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 81 (Bottineau Blvd) / Wilshire Blvd	NB	-												-	-	-	-
	EB	Left/ Through	AM											Yes	95th percentile queues can impact upstream interection.	Yes	Restriping and signal timing changes will be made to increase capacity for EB left-turn.
			PM									X					
	SB	-												-	-	-	-
	WB	-												-	-	-	-
Wilshire Blvd / Lakeland Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 81 (Bottineau Blvd) / Corvallis Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 8 (W Broadway Ave) / Welcome Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 8 (W Broadway Ave) / Vera Cruz Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 8 (W Broadway Ave) / 45½ Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 8 (W Broadway Ave) / CSAH 9 (42nd Ave N)	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 81 (Bottineau Blvd) / CSAH 9 (42nd Ave N)	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 9 (42nd Ave N) / Hubbard Ave N[1]	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 9 (42nd Ave N) / Regent Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 8 (W Broadway Ave) / 41½ Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
Hubbard Ave / 41½ Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
41st Ave N / Hubbard Ave	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
CSAH 8 (W Broadway Ave) / 41st Ave N	NB	-												-	-	-	-
	EB	-												-	-	-	-
	SB	-												-	-	-	-
	WB	-												-	-	-	-
Golden Valley Rd / Theodore Wirth Pkwy	NB	-												-	-	-	-
	EB	Left/ Through	AM											Yes	Average back of queue exceeds 500 feet and movement operates at LOS F.	No	Issue occurs in No Build scenario and the project does not cause a significant change.
			PM							X		X					
	SB	-												-	-	-	-
	WB	-												-	-	-	-

Analysis Notes:

Storage Length for through lanes is measured to the nearest upstream full access public intersection, unless otherwise noted.

Queuing Issues -

Intersection	Appr	Movement	Peak Period	Scenario(s) with 95th Percentile Queue > Storage					Identified as Issue?		Mitigation Proposed?	
				2014	2021		2040					
				Existing Conditions	No Build02	Build	No Build	Build				
TH 55 (Olson Memorial Hwy) / Thomas Ave N	EB	-	-	-	-	-	-	-	-	-	-	-
	SB	Left-Turn/ Right-Turn	AM		X		X		Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	Issue occurs in Existing and No Build conditions, and the Build conditions do not cause a significant change.
			PM	X	X		X	X				
	WB											
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Russell Ave	EB	-	-						-	-	-	-
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / CSAH 2 (Penn Ave N)	NB								-	-	-	-
	EB	Left-Turn	AM						Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	Issue occurs only in Existing and No Build conditions. Build project improvements reduce the queuing.
			PM		X		X					
		Through/ Right-turn	AM		X		X		Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	
			PM	X	X		X					
	SB	Left-Turn	AM						Yes	Movement operates at LOS E or worse but average back of queue does not exceed storage length.	No	Build project includes creation of a left-turn lane. Length of the turn lane has been limited to minimize impacts on parking and adjacent property.
			PM					X				
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of Oliver Ave N	EB	-	-						-	-	-	-
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / Morgan Ave N	NB	-	-						-	-	-	-
	EB	-	-						-	-	-	-
	SB	Left-turn/ Through/ Right-Turn	AM	X	X	X	X	X	Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	Issue occurs in Existing and No Build conditions, and the Build conditions do not cause a significant change.
			PM	X	X	X	X	X				
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / James Ave N	EB	-	-						-	-	-	-
	SB	-	-						-	-	-	-
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / Pedestrian Crossing East of James Ave	EB	-	-						-	-	-	-
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / Humboldt Ave N	NB	Left-turn/ Through/ Right-Turn	AM	X	X	X	X	X	Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	Issue occurs in Existing and No Build conditions, and the Build conditions do not cause a significant change.
			PM	X	X	X	X	X				
	EB	-	-						-	-	-	-
	SB	-	-						-	-	-	-
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / Van White Memorial Blvd	NB	Through/ Right-turn	AM	X	X	X	X	X	Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	Issue occurs in Existing and No Build conditions, and the Build conditions do not cause a significant change.
			PM	X	X	X	X	X				
	EB	-	-						-	-	-	-
	SB	-	-						-	-	-	-
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / Bryant Ave N	NB	Left-turn/ Through/ Right-Turn	AM	X	X	X	X	X		Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	Issue occurs in Existing and No Build conditions, and the Build conditions do not cause a significant change.
			PM	X	X	X	X	X				
	EB	-	-						-	-	-	-
	SB	-	-						-	-	-	-
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / I-94 EB Ramps (W Lyndale Ave N)	EB	-	-						-	-	-	-
	SB	Left-Turn	AM		X			X	Yes	Average back of queue does not exceed storage length but movement operates at LOS E or worse.	No	Issue occurs in Existing and No Build conditions, and the Build conditions do not cause a significant change.
			PM									
		Through	AM		X		X	X	Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	
			PM									
		Right-Turn	AM	X	X		X	X	Yes	Average back of queue exceeds storage length and movement operates at LOS E or worse.	No	
			PM									
	WB	-	-						-	-	-	-
TH 55 (Olson Memorial Hwy) / I-94 WB Ramps (E Lyndale Ave N)	NB	-	-						-	-	-	-
	EB	-	-						-	-	-	-
	WB	-	-						-	-	-	-
Olson Memorial Hwy / Border Ave	NB	-	-						-	-	-	-
	EB	-	-						-	-	-	-
	SB	-	-						-	-	-	-
	WB	-	-						-	-	-	-
Olson Memorial Hwy / 7th St N/6th Ave N	NB	-	-						-	-	-	-
	EB	-	-						-	-	-	-
	SB	-	-						-	-	-	-
	WB	-	-						-	-	-	-

Storage Length for through lanes is measured to the nearest upstream full access public intersection, unless otherwise noted.

Appendix F
Supporting Technical Reports

F.3 Visual Quality Technical Report

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Visual Quality Technical Report

June 2016

Blue Line Extension Project Technical Report

METROPOLITAN COUNCIL

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Executive Summary

This Visual Quality Technical Report has been prepared in support of the Final Environmental Impact Statement (Final EIS) for the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project. The proposed BLRT Extension project is located in Hennepin County, Minnesota, extending approximately 13 miles from downtown Minneapolis to the northwest serving north Minneapolis and the suburbs of Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The light rail transit (LRT) is anticipated to serve a broader area to the northwest, including the communities of New Hope, Brooklyn Center, Maple Grove, Osseo, Champlin, and Dayton.

The purpose of the proposed BLRT Extension project is to provide transit service which will satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public. The proposed BLRT Extension project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.

The methodology used to evaluate aesthetics and visual quality impacts of the proposed BLRT Extension project is based on the federal guidelines provided in the Federal Highway Administration (FHWA) Guidelines for the Visual Impact Assessment of Highway Projects (FHWA, 2015), which outlines the four phases used to assess visual impacts: establishment; inventory; analysis; and mitigation.

For the purposes of this visual and aesthetics resource analysis, the proposed BLRT Extension project corridor was divided into four landscape units (Minneapolis, Golden Valley, Robbinsdale/ Crystal, and Brooklyn Park). Potential aesthetic impacts resulting from implementation of the proposed BLRT Extension project were determined based on direct field observation from multiple vantage points; evaluation of existing visual character; and review of BLRT Extension project plans and features. Visual impact assessment was based on direct field observation from multiple vantage points, including from neighboring properties and roadways; evaluation of existing visual character; and review of proposed BLRT Extension project plans and features. Visual impact assessment was also based on photographic documentation of several key views of the proposed BLRT Extension project corridor.

This resulting aesthetics and visual resources analysis focuses on proposed BLRT Extension project features that would have direct impacts on the proposed BLRT Extension project corridor by changing the character of the existing visual quality of the landscape. The analysis concluded that the proposed BLRT Extension project would not result in a substantial change to the visual character of the corridor as a whole, and neutral effects on visual quality are anticipated to result from project implementation along most segments. However, adverse effects on visual quality would occur in some areas, such as where the existing vegetated center median of Olson Memorial Highway (Trunk Highway 55) would be modified or removed. Additionally, adverse effects on visual quality would occur in areas where recreational and residential uses are located along or in the vicinity of the proposed BLRT Extension project corridor. At locations where adverse visual effects are anticipated, transitway elements added to the rail corridor may be visually screened or softened using landscaping where adequate space permits, and in general, the loss of vegetation

would be replaced with vegetation of a similar type where feasible. Where new physical features of the transitway are introduced, strategies to screen or soften the view would be implemented.

Neutral impacts are anticipated as a result of station and traction power substation (TPSS) construction. Stations would be designed to be aesthetically attractive and to complement their surroundings. Additionally, TPSSs would be designed to be compatible with their surroundings, and may incorporate landscaping and/or other built features such as walls or fencing to minimize visual intrusion as appropriate. However, it is anticipated that station features would also include passenger information displays, lighting, and security systems, which could alter the visual quality and character of the view for sensitive view groups. Coordination with stakeholders would continue throughout the proposed BLRT Extension project design process for stations and also to address the siting of TPSSs to maintain neutral visual impacts. This process many include development of additional visual screening as required. To further minimize visual quality impacts of TPSS siting, the siting would be customized for each location based on the context of each facility in relation to adjacent properties and resources.

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1 Introduction

1.1 Project Background

This Visual Quality Technical Report has been prepared in support of the Final Environmental Impact Statement (Final EIS) for the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project. The purpose of the proposed BLRT Extension project is to provide transit service which will satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public. The proposed BLRT Extension project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.

The Draft Environmental Impact Statement (Draft EIS) was completed in 2014 (March). In support of the Draft EIS, the *Bottineau Transitway Technical Report: Visual Quality* (September 2012) was prepared to analyze the project alternatives under consideration in the Draft EIS. The objective of this Final EIS Visual Quality Technical Report is to evaluate the proposed BLRT Extension project's potential effects on visual quality within the study area for the proposed BLRT Extension project, including:

- The effect of the proposed BLRT Extension project on the character of the natural visual features of the study area;
- The effect of the proposed BLRT Extension project on the character of the built visual features of the study area; and
- The effect of the proposed BLRT Extension project as visually perceived by the affected population in the study area.

1.2 Definition of Terms

1.2.1 Visual Features

The term *visual features* refers to the components of the natural, built, or project environments that are capable of being seen, as described in further detail below.

- **Natural Visual Features** include the land, water, vegetation, and animals that compose the natural environment. Although natural features may have been altered or imported by people, features which are primarily geological or biological in origin are considered natural.
- **Built Visual Features** include the buildings, structures, and artifacts that compose the surrounding built environment, also known as the cultural environment. These are features which were constructed by people.
- **Project Visual Features** include the geometrics, structures, and fixtures that compose the project environment. These are the constructed features which would be placed in the environment as part of the proposed BLRT Extension project.

1.2.2 Visual Quality

The term *visual quality* refers to what viewers like and dislike about the visual features that compose a particular scene. Visual quality is inherently subjective—different viewers may evaluate visual features differently. In general, people respond favorably to scenes that create a sense of perceived harmony, order, and coherence.

Based on the developed urban and suburban context of the proposed BLRT Extension project study area, specific features were identified as *higher-quality visual features* when they exemplified one of the following characteristics:

- A remnant natural feature exemplary of pre-settlement conditions;
- A visually distinct natural or built feature that stands out from the surroundings and which contributes physically and symbolically in a positive way to the overall community's visual quality; or
- A natural or built feature that is an integral component of the broader physical pattern of the community and is generally regarded positively.

1.2.3 Affected Population

The term *affected population* is defined as the viewers who occupy land adjacent to the proposed BLRT Extension project—in either the long or short terms. These people can be characterized by their association with a specific adjacent land-use, including residential, commercial, industrial, agricultural, recreational, and institutional parcels. An example of a long-term viewer would be a homeowner with property along the transitway. An example of a short-term viewer would be a runner using a trail in a park adjacent to the transitway.

1.2.4 General Visual Context

The term *general visual context* is the appearance of the nearby surroundings from the vantage point of a person from ground level; i.e., as one would perceive it from a car, train, bus, bicycle, or on foot. The proposed BLRT Extension project passes through developed urban and suburban areas with a wide range of development patterns. In **Section 4.2 – Landscape Units and Viewshed**, a brief description of the general visual context of each area is provided as a basis for understanding the identified effects on specific visual features.

2 Assessment Methodology

The methodology used to evaluate aesthetics and visual quality impacts is based on the Federal Highway Administration's (FHWA) *Guidelines for the Visual Impact Assessment of Highway Projects* (January 2015), which outlines the four phases used to assess visual impacts. The four phases are establishment, inventory, analysis, and mitigation, as described in detail below.

- **Establishment:** The primary purpose of the establishment phase is to define the study area. The establishment phase is documented in **Chapter 3 – Proposed BLRT Extension Project Location and Description**, which defines the proposed BLRT Extension project's visual character, and **Chapter 4 – Existing Conditions**, which defines the proposed BLRT Extension project's study area, including viewsheds and landscape units.
- **Inventory:** The purpose of the inventory phase is to examine visual quality, or the relationship between viewers and their environment. The inventory phase is documented in **Chapter 4 – Existing Conditions**, which describes the affected environment and visual quality of the study area.
- **Analysis:** The purpose of the analysis phase is to evaluate impacts on visual quality. The analysis phase is documented in **Chapter 5 – Visual Impact Assessment**, which assesses the changes to visual quality as a result of the proposed BLRT Extension project implementation, including a review of project features as seen from several key views.
- **Mitigation:** The purpose of the mitigation phase is to define the mitigation and enhancement efforts to be included in proposed BLRT Extension project design. The mitigation phase is documented in **Chapter 6 – Conclusions and Recommendations**, which outlines the mitigation measures to be implemented during proposed BLRT Extension project construction and operation.

2.1 Visual Character and Quality

The visual impacts of a proposed project are determined by assessing the visual resource changes that would occur as the result of the project and by predicting viewer response to those changes. Visual resource change is the sum of the change in visual character and the change in visual quality. This change can be determined by assessing the compatibility of the proposed project with the visual character of the existing landscape, and then comparing the visual quality of the existing resources with projected visual quality after implementation of the proposed project.

Visual character is descriptive and non-evaluative, which means it is based on defined attributes that are neither good nor bad themselves. A change in visual character cannot be described as having good or bad attributes until it is compared with the viewer response to that change. Both natural and artificial landscape features contribute to the visual character of an area or view.

Visual quality is the value viewers place on the existing visual character of the affected environment based on their visual preferences. FHWA outlines the following three aspects of visual perception, which determine the visual quality of a particular scene.

- When viewing the components of a scene's natural environment, viewers inherently evaluate the natural harmony of the existing scene, determining if the composition is harmonious or inharmonious.
- When viewing the components of the cultural environment, viewers evaluate the scene's cultural order, determining if the composition is orderly or disorderly.
- When viewing the project environment, viewers evaluate the coherence of the project components, determining if the project's composition is coherent or incoherent.

According to FHWA guidelines, people typically perceive the landscape from or to a linear transportation feature as a composition, and the more the composition meets their visual preferences and expectations, the more they like it. The more they like it, the more memorable, or vivid, it becomes. Therefore, it is useful to evaluate whether the new composition will be as vivid as the existing one, and whether the improvements have enhanced or detracted from the original scene.

2.1.1 Viewer Groups

The population affected by the proposed project is referred to as viewers. Viewer response is composed of two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how a viewer might react to visual changes brought about by a project. Viewer sensitivity is defined both as the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Viewer exposure is typically assessed by measuring the number of viewers exposed to the resource change, the type of viewer activity, the duration of the view, the speed at which the viewer moves, and the position of the viewer.

Low viewer sensitivity results when there are few viewers who experience a defined view, or when they may be less focused on the view, such as a freeway commuter on the freeway. Low viewer sensitivity is also related to viewer expectations resulting from what viewers are used to seeing along the corridor. For example, because a portion of the proposed BLRT Extension project corridor has historically been a rail corridor, viewers are accustomed to seeing rail as a dominant visual feature in the landscape in those areas. High viewer sensitivity results when there are many viewers who have a view of frequent or long duration. High viewer sensitivity is also related to familiarity with a view, such as when viewing a resource from a residence, a recreational site, or a commute route. For example, recreational and residential viewers tend to have extended viewing periods and may be more concerned about changes in views.

The study area for the proposed BLRT Extension project includes several types of viewer groups, such as light rail transit (LRT) users, roadway users, pedestrians, residents, workers, and recreational users, as described in further detail below.

- **LRT users:** LRT users include both occasional and frequent (e.g., commuters) passengers on rail lines utilizing the proposed BLRT Extension project corridor. Single views for LRT users are typically of short duration. LRT users who frequently travel a route generally possess low to moderate visual sensitivity to their surroundings, as the passing landscape becomes familiar. Also, LRT users may be less focused on the passing views and more focused on activities such as reading or use of electronic devices.
- **Roadway Users:** Roadway users include both routine (e.g., commuters) and occasional (e.g., recreational) travelers through the proposed BLRT Extension project corridor. Roadway users travel at varying speeds due to differences in the mode of transportation used (vehicles, bicycles, etc.), topography of the route, the traveler's familiarity with the route, and roadway and weather conditions. Single views for roadway users are typically of short duration. Roadway users are generally assumed to have moderate levels of sensitivity due to the typically short-term exposure to changes. Roadway users who frequently travel a route generally possess low to moderate visual sensitivity to their surroundings, as the passing landscape becomes familiar. Also, roadway users may be less focused on the passing views and more focused on roadway conditions.
- **Parkway Users:** The study area for the proposed BLRT Extension project also includes a unique category of roadway users: Grand Rounds Users, which are a combination of the routine (e.g., commuters) and occasional (e.g., recreational) travelers described above. The Grand Rounds National Scenic Byway, a linked series of park areas in Minneapolis, is part of the Federal Highway Administration's National Scenic Byways Program,[1] According to the Minneapolis Park and Recreation Board, Grand Rounds users are not truly "roadway users" because the Grand Rounds was developed and is managed as a pleasure-driving loop with a focus on scenic attributes; speeds are slower and the intended experience is park-like, and not transportation-focused. Yet these users are also not just "recreational users" because they are not seeking the same natural experience.
- **Pedestrians:** Pedestrians include individuals who are traveling on foot along or in the vicinity of the proposed BLRT Extension project corridor. Pedestrians may include individuals traveling to and from residences, schools, places of employment, retail centers, transportation facilities, etc. Pedestrians are generally assumed to have higher levels of viewer sensitivity due to the typically long-term exposure to changes in the environment.
- **Residents:** Residents include individuals whose homes are located along or in the vicinity of the proposed BLRT Extension project corridor. Residential viewers are generally assumed to have higher levels of viewer sensitivity due to a concern for their home environment and typically long-term exposure to changes in that environment. Residents may have moderately high viewer sensitivity because they are likely to place a high value on their local visual resources and to be more sensitive to changes in views.

[1] The US Department of Transportation, Federal Highway Administration oversees the National Scenic Byways Program, which helps recognize, preserve and enhance selected roads throughout the US National Scenic Byways are recognized based on one or more archaeological, cultural, historic, natural, recreational, and/or scenic qualities. The Grand Rounds National Scenic Byway is eligible for the National Register of Historic Places.

- **Business Owners:** Business owners include individuals whose business and/or work activities are located along or in the vicinity of the proposed BLRT Extension project corridor. Business owners are generally assumed to have lower levels of viewer sensitivity to a work environment. Viewer sensitivity is moderate among business owners, as they are typically less focused on the visual resources surrounding their business, and therefore are less sensitive to changes in views. However, depending on the nature of the business, some business owners may place a higher value on the visual resources surrounding their business, especially if the business is focused on the use or enjoyment of a natural or peaceful setting.
- **Workers:** Workers include individuals whose place of employment or work activities are located along or in the vicinity of the proposed BLRT Extension project corridor. Workers are generally assumed to have lower levels of viewer sensitivity to a work environment, as they are typically less focused on the visual resources surrounding their workplace, and therefore are less sensitive to changes in views.
- **Recreational Users:** The proposed BLRT Extension project corridor passes through or near several park and trail areas, and recreational users in these areas may include walkers/joggers, bikers, and nature viewers. Recreational viewers are generally assumed to have higher levels of viewer sensitivity due to a particularly focused interest in scenic quality. Viewer sensitivity is moderately high among recreational users because they are more likely to place a high value on the natural environment and to be more sensitive to changes in views.

2.1.2 Levels of Visual Impact

According to FHWA guidelines, impacts are defined as either changes to the environment, measured by the compatibility of the impact, or changes to viewers, measured by sensitivity to the impact. Together, the compatibility and sensitivity determine the degree of the impact, which is defined as a beneficial, adverse, or neutral change to visual quality. For example, a project may benefit visual quality by enhancing visual resources and/or views and improving the experience of visual quality. Similarly, a project may adversely affect visual quality by degrading visual resources or obstructing or altering desired views.

2.1.3 Assessing Visual Change

The visual impacts of the proposed BLRT Extension project were determined by evaluating the changes to existing visual resources that would occur as a result of the proposed BLRT Extension project implementation, and assessing the anticipated viewer response to those changes. Aesthetic impacts resulting from the proposed BLRT Extension project implementation were determined based on direct field observation from multiple vantage points, including from neighboring properties and roadways; evaluation of existing visual character; and review of proposed BLRT Extension project plans and features. Visual impact assessment was also based on photographic documentation of several key views of the proposed BLRT Extension project corridor. Key views are described in future detail below in **Chapter 5 – Visual Impact Assessment**. Key views represent specific locations within a landscape unit from which the proposed BLRT Extension project would be visible. Within the landscape unit, key views are used to characterize the existing visual conditions and to represent examples of visual character and visual quality. They are also used to determine impacts by demonstrating how the proposed BLRT Extension project would change views within the landscape unit.

3 Proposed BLRT Extension Project Location and Description

3.1 Proposed BLRT Extension Project Location

The proposed BLRT Extension project is located in Hennepin County, Minnesota, extending approximately 13 miles from downtown Minneapolis to the northwest, serving north Minneapolis and the suburbs of Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. **Figure 1** illustrates the proposed BLRT Extension project area. Key transportation facilities within the proposed BLRT Extension project area include Interstate Highway 94 (I-94), Olson Memorial Highway (Trunk Highway [TH] 55), TH 100, TH 610, Bottineau Boulevard (County Road 81), West Broadway Avenue (County State-Aid Highway [CSAH] 103), the BNSF Railway (BNSF) corridor, the Canadian Pacific Railway (CP) corridor, and Crystal Airport.

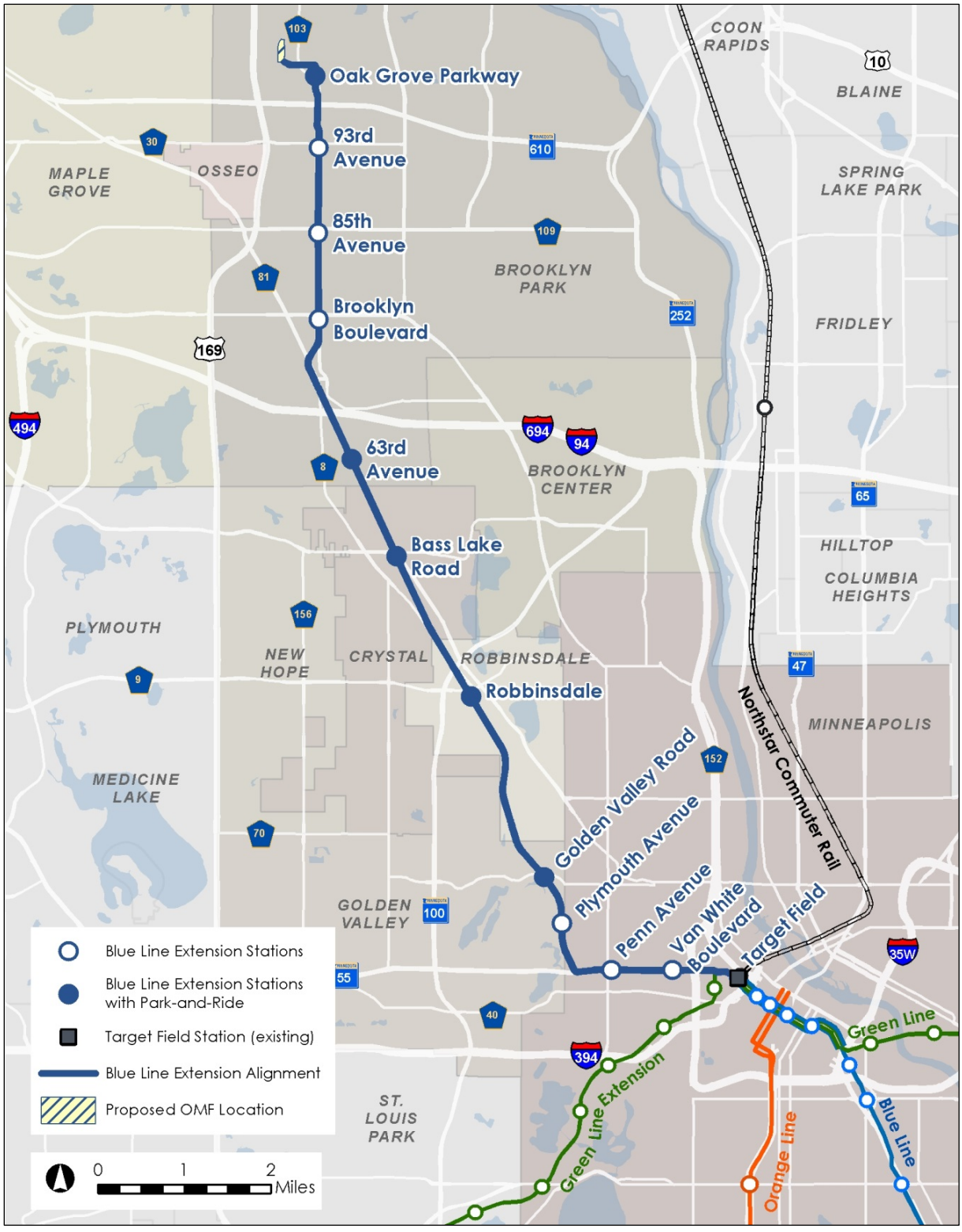
3.2 Proposed BLRT Extension Project Setting

The character of the area surrounding the proposed BLRT Extension project transitions from downtown Minneapolis to a moderately dense urban setting in north Minneapolis and then to a less dense suburban setting starting in the cities of Golden Valley, Robbinsdale, and Crystal, and extending through the City of Brooklyn Park at the north end of the corridor. The proposed BLRT Extension project area includes a variety of land use patterns that have been influenced by the transportation-oriented history of the corridor. Low-density, auto-oriented land uses have heavily influenced existing development patterns in the corridor, which primarily reflect highway-oriented regulations and traditional suburban development forms. Additionally, the presence of the existing railway lines influenced the development patterns and settings in much of the proposed BLRT Extension project corridor (e.g., development set back from the railroad right-of-way).

Much of the proposed BLRT Extension project area, in particular the Golden Valley area, includes substantial park setting along the proposed BLRT Extension project corridor. These areas are primarily located to the west of downtown Minneapolis, between the intersection of Olson Memorial Highway with Theodore Wirth Regional Park and continuing through Golden Valley.

Existing development in north Minneapolis and Robbinsdale reflects the history of West Broadway Avenue as a commercial streetcar corridor, with strips of auto-oriented commercial activity developed more recently. Residential neighborhoods are located along the proposed BLRT Extension project in the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. In Brooklyn Park south of 73rd Avenue and in northern Crystal, development adjacent to the proposed BLRT Extension project includes highway-oriented commercial activity and the Crystal Airport. In the City of Brooklyn Park north of 73rd Avenue, development adjacent to West Broadway Avenue includes mixed commercial and retail, commercial office/corporate campus (Target North Campus), residential, and institutional use (North Hennepin Community College and Hennepin County Library under construction). Several activity centers are located along the corridor, including downtown Minneapolis, Theodore Wirth Regional Park, downtown Robbinsdale, the Crystal Shopping Center, the City of Brooklyn Park commercial strip, and North Hennepin Community College. In addition, large commercial developments with substantial employment concentrations are anticipated by 2040 in the City of Brooklyn Park (surrounding the Target North Campus north of TH 610).

Figure 1. Proposed BLRT Extension Project



3.3 Proposed BLRT Extension Project Description

The proposed BLRT Extension project corridor begins at the Target Field Station in downtown Minneapolis and follows Olson Memorial Highway to just west of Thomas Avenue where it enters the BNSF rail corridor. Adjacent to the freight rail tracks, it continues in the rail corridor through the cities of Golden Valley, Robbinsdale, Crystal, and enters the City of Brooklyn Park. In portions of the Golden Valley area, the existing freight rail tracks would be relocated. As a result, in some areas, the new freight rail tracks would be closer to the corridor's parks. The corridor then crosses Bottineau Boulevard at 73rd Avenue to West Broadway Avenue and terminates just north of TH 610 near the Target North Campus.

The proposed BLRT Extension project includes seven new LRT bridges: a 350-foot-long crossing of the Hennepin Energy Recovery Center (HERC) driveway, a 700-foot-long crossing of the ponds immediately north of Golden Valley Road, a 1,250-foot-long crossing of Grimes Pond in Robbinsdale, a 375-foot-long bridge over TH 100, a 1,250-foot-long bridge over the CP rail tracks, a 925-foot-long bridge over the 73rd Avenue/Bottineau Boulevard intersection, and a 300-foot-long bridge over TH 610.

In addition, five roadway bridges would be reconstructed: a 375-foot-long Olson Memorial Highway bridge over the BNSF rail corridor, a 375-foot-long Plymouth Avenue bridge, a 120-foot-long Theodore Wirth Parkway bridge, a 215-foot-long Golden Valley Road bridge, and a 110-foot-long 36th Street bridge. Three additional bridges would require modifications to accommodate LRT: the Olson Memorial Highway bridge over I-94 in the City of Minneapolis, the eastbound Olson Memorial Highway bridge over the BNSF rail corridor, and the Interstate Highway 694 (I-694) bridge over the BNSF rail corridor in the City of Brooklyn Park.

The general elements of the proposed transitway system are the stations, the Operations and Maintenance Facility (OMF), the traction power substations (TPSSs), fare collection, trackway, vehicles, train control, operating frequencies, and noise walls proposed to mitigate noise impacts. These features are summarized below.

- **Stations** – The proposed BLRT Extension project includes 11 new stations at Van White Boulevard, Penn Avenue, Plymouth Avenue, Golden Valley Road, Robbinsdale Road, Bass Lake Road, 63rd Avenue, Brooklyn Boulevard, 85th Avenue, 93rd Avenue, and Oak Grove Parkway. The Golden Valley Road and Plymouth Avenue stations include vertical circulation (elevator) to allow passengers to access the station platforms. The 63rd Avenue Station includes a pedestrian overpass of the rail lines to provide better rider access between the parking ramp and the LRT platform. It is anticipated that station features would also include passenger information displays, lighting, and security systems.
- **Operations and Maintenance Facility** – The OMF site would be located at the north end of the proposed BLRT Extension project corridor in Brooklyn Park. The OMF site was selected based on its proximity to the end of the line, adequate space for the special trackwork required between the mainline track and the facility, and adequate property for the facility (about 10.8 acres). The OMF site would be occupied by a storage and maintenance building that is about 163,000 square feet (SF), surface parking for employees and visitors, trackwork, and

open space. The facility would include areas to store, service, and maintain up to 30 light rail vehicles (LRVs), vehicle washing and cleaning equipment, and office space to accommodate staff who would report for work at this facility. The facility would be equipped to perform daily cleaning and repair activities on the LRVs as they enter and leave revenue service. Scheduled service and maintenance inspections also would be performed in this facility. It is anticipated that OMF features would also include lighting and security systems.

- **Traction Power Substations** –A total of 17 potential TPSS locations have been identified along the proposed BLRT Extension project corridor. The TPSS locations are represented by areas with a 300-foot diameter. These areas would be refined through more-detailed engineering to minimize impacts to surrounding properties and resources and to balance safety, reliability, cost, and operational efficiencies. TPSS sites, once located, would be about 4,000 SF and able to accommodate a single-story building about 40 feet by 20 feet. Access to the building must also be accommodated. It is anticipated that most TPSS sites would be located within existing transportation right-of-way.
- **Fare-Collection System** – A self-service, proof-of-payment fare-collection system was assumed for the proposed BLRT Extension project, consistent with that used on the other regional transitways today. A proof-of-payment fare-collection system minimizes the right-of-way needed for each station.
- **Trackway** – LRVs would operate on standard-gauge rail. The proposed system would be double-tracked throughout to provide separate tracks for northbound and southbound trains. Crossovers to allow trains to cross from the northbound to the southbound tracks would be provided at regular intervals for special operations or emergencies. Typically, the trackway in the BNSF rail corridor would be ballasted track separate from the freight rail track. Alignments in streets would be either ballasted or embedded depending on the location and the context of the street.
- **Vehicles** – The conceptual engineering to support the Final EIS assumes the following LRV characteristics:
  - Articulated train cars could operate in either directional and could be operated as a single-unit or multi-unit train.
  - Cars would be designed for use with an overhead catenary system.
  - Each car would have 66 seats and capacity for 160 passengers (sitting and standing).
  - Two- to three-car trains would operate at speeds up to 55 miles per hour (mph).
  - Cars would be fully compatible with Americans with Disabilities Act (ADA) standards.
- **Train Control** – An operator would occupy each train and would have control over acceleration and braking as well as operating the passenger doors. Automated systems would inform the operator of various train and transitway operating conditions and would manage traffic signal priority, activation of crossing gates, and track switch operations.
- **Operating Frequencies** – The Final EIS assumes that trains would operate at 10-minute frequencies for weekday operations.

- **Noise Walls** – The proposed BLRT Extension project would also include the construction of noise walls in locations where such features have been determined feasible to mitigate for noise impacts. The proposed noise walls are located primarily in the more dense residential sections of the cities of Robbinsdale and Crystal. Noise wall design details would be refined during final project design activities, but it is anticipated that noise walls may be a maximum of 8 feet tall.

4 Existing Conditions

4.1 Study Area

The study area is defined as the right-of-way for the proposed BLRT Extension project corridor and the adjacent properties with a visual connection to the transitway, which include residential, commercial, and park properties. In select instances, the extent of analysis was expanded to account for specific features that were visible by field observation along the proposed transitway as a result of topography, physical scale, architectural distinction, or other considerations.

The study area includes a diverse array of development patterns, parks and natural areas, railroads, highways, and local roadways. A summary of the general visual context and a listing of identified higher-quality and unique visual features are provided below.

4.2 Landscape Units and Viewshed

A landscape unit is a portion of the regional landscape. These units are commonly used to divide long linear projects into logical geographic entities for assessment purposes. Landscape units generally are made up of areas with similar visual characteristics, although smaller locations within each landscape unit may differ from the overall unit's character. For the purposes of this visual quality analysis, the study area is divided into four landscape units: Minneapolis, Golden Valley, Robbinsdale/Crystal, and Brooklyn Park. The limits of the four landscape units are shown in **Figure 2**, and are described in detail below, in the discussion of each landscape unit.

A viewshed is a subset of a landscape unit; this subset is comprised of all the surface areas visible from an observer's viewpoint. The limits of a viewshed are defined as the visual limits of the views located from the proposed BLRT Extension project. The viewshed also includes the locations of viewers likely to be affected by visual changes resulting from the addition of proposed BLRT Extension project features. The study area for the proposed BLRT Extension project includes the areas that could potentially have views of the proposed BLRT Extension project features and the areas which LRT users could potentially view as they travel through the landscape.

4.2.1 Minneapolis Landscape Unit

The Minneapolis Landscape Unit is bound by Target Field to the east, and by the Minneapolis/ Golden Valley city limits to the west (see **Figure 2**).

Figure 2. Landscape Units



4.2.1.1 General Visual Context

The Minneapolis Landscape Unit runs along Olson Memorial Highway between downtown Minneapolis and the Golden Valley city limits. In the vicinity of Target Field in downtown Minneapolis, 7th Street branches into one-way outbound 7th Street and one-way inbound 10th Street. Northeast of the Target Field Station at 5th Avenue, 6th Avenue realigns to the street grid of the North Loop section of downtown. The taller buildings of downtown Minneapolis are visible in the near distance. Between Target Field and I-94, industrial and civic buildings line the route, and there is little greenery. The intersection of Olson Memorial Highway, 6th Avenue, and 7th Street is a skewed configuration and a visually challenging area to navigate. Along Olson Memorial Highway between I-94 and the bridge over the BNSF rail corridor, homes in the adjacent residential neighborhoods generally face inward to the local streets and do not face Olson Memorial Highway directly. Some multi-family residential buildings ranging from two to six stories do have some units facing the highway. On the south side of Olson Memorial Highway, Harrison Park includes ball fields and a community center building. Additionally, several civic buildings and spaces have prominent locations.

As part of the *Minneapolis Near Northside Master Plan* (May 2000), Olson Memorial Highway was envisioned as a "gateway" corridor, in that it passes through the center of the Master Plan area and is being redesigned to create a formalized green gateway to downtown Minneapolis. The redesigned roadway would also contribute to a safer, enhanced pedestrian environment. The plan also acknowledged the redesign would permit future implementation of LRT within the median island. Since the plan's adoption, a number of improvements have been implemented, including new boulevard and median tree plantings to complement the mature trees along the south frontage road.

4.2.1.2 Higher-Quality Visual Features

Section 1.1.1.2 – Visual Quality outlines the characteristics that a feature would exemplify in order to be considered a "higher-quality visual feature." Based on the developed urban and suburban context of the study area, the following features of the Minneapolis Landscape Unit were identified as higher-quality visual features:

- Ford Building
  - Located at the northeast corner of the intersection of 5th Street and 5th Avenue, the recently redeveloped historic ten-story building has a brick façade with large window openings and a recently renovated primary entrance oriented towards the parking lot off 5th Avenue.
- HERC site landscaping
  - Located at the southeast corner of 6th Avenue and 7th Street, this landscaped area stands out because there is very little other vegetation in the vicinity.
- Metro Transit headquarters
  - Located at the corner of 6th Avenue and 7th Street, the five-story modern building has a brick, metal, and glass façade.

- Boulevard and median trees along Olson Memorial Highway west of I-94
  - Linear rows of trees frame the roadway corridor. They are a mixture of mature and newly planted trees, which reinforces the city's desired "gateway" character for the roadway.
- Sumner Library
  - Located at the northwest corner of Olson Memorial Highway and Van White Memorial Boulevard, the historic two-story building, on the National Register of Historic Places, has prominent gabled roof peaks and a brick façade that faces Olson Memorial Highway.
- Seed Academy and Wayman African Methodist Episcopal (AME) Church
  - Located on the north side of Olson Memorial Highway east of Humboldt Avenue, the historic, multi-purpose building has a two-story brick façade with a mosaic appearance.
- Zion Baptist Church
  - Located on the north side of Olson Memorial Highway just west of Logan Avenue, the building is a modern three-story brick and glass structure.
- Floyd B. Olson Memorial Statue
  - Located on the south side of the Olson Memorial Highway just east of the Penn Avenue intersection, a small plaza surrounds an approximately 10-foot-tall historic figural stone sculpture of Floyd B. Olson, Minnesota's 22nd Governor from 1931 to 1936.
- Harrison Neighborhood gateway sculptures
  - Located on the south side of Olson Memorial Highway at the Penn Avenue intersection, these artistic gateway features are approximately ten feet tall and are topped with figural sculptures of children and colorful symbols.

4.2.2 Golden Valley Landscape Unit

The Golden Valley Landscape Unit is generally bound by the Minneapolis/Golden Valley city limits to the east, and by the Golden Valley/Robbinsdale city limits to the north; however, this landscape unit also includes the southern portion of the City of Robbinsdale (see **Figure 2**).

4.2.2.1 General Visual Context

The Golden Valley Landscape Unit runs along the edge of the Minneapolis and Golden Valley city limits, in the eastern 50 feet of the total 100-foot-wide BNSF right-of-way alongside the BNSF tracks. At the Olson Memorial Highway bridges over the BNSF right-of-way, the transitway would shift away from the center median of Olson Memorial Highway and turn north under westbound Olson Memorial Highway and continue northward along the Golden Valley and Minneapolis city limits. Through 36th Avenue, the transitway would be depressed in relation to the surroundings with wooded embankments on both sides. Adjacent land uses primarily include residential neighborhoods and public parkland.

While some of the residential areas are secluded from the rail corridor by wider vegetative buffers, others are in closer proximity or have less vegetative buffer such as along the eastern edge on Indiana Avenue, Kewanee Way, parts of Xerxes Avenue, and the area near the transition to/from

Olson Memorial Highway. Along the western edge of the rail corridor, a linear natural area is comprised of a series of parks that are a natural retreat from the surrounding urban and suburban development including Sochacki Park,[2] South Halifax Park, Glenview Terrace/Valley View Park, and Theodore Wirth Regional Park and Golf Course. Each is described in more detail below. Within Theodore Wirth Regional Park, Bassett Creek meanders through a patchwork of forested areas at the edge of the golf course as it heads south toward Bassett Lake and Olson Memorial Highway.

The railroad right-of-way is also a primary utility corridor. A power substation is located adjacent to the BNSF right-of-way near 34th Avenue. Power lines run along the east or west, or in some areas both, sides of the railroad corridor along the entire length of this landscape unit. The presence of the railroad and utilities through this generally green area environment indicates the natural area has been previously disturbed. However, much of the green area is an intentionally designed landscape by Theodore Wirth, as referenced in the Theodore Wirth Regional Park Cultural Landscape Study prepared by The 106 Group in 2015.

4.2.2.2 Higher-Quality Visual Features

Based on the developed urban and suburban context of the study area, the following features of the Golden Valley Landscape Unit were identified as higher-quality visual features:

- Plymouth Avenue bridge over Bassett Creek and the BNSF rail corridor
  - This bridge was designed with tall slender arching piers, an architectural railing, and decorative lighting. It serves as a gateway feature approaching Theodore Wirth Regional Park on Plymouth Avenue from the east and affords a good vantage point down to the creek from the sidewalk.
- Theodore Wirth Regional Park and Golf Course
  - At 759 acres, Theodore Wirth Regional Park is the largest park in the City of Minneapolis parks system and provides a diverse assortment of recreational opportunities. The park includes two golf courses, Wirth Lake, Birch Pond, and other amenities. Wirth Lake, located in a portion of the park to the south of Olson Memorial Highway, includes a beach area, a boardwalk across the northern portion of the lake, and also offers a variety of water recreation activities. The golf course comprises most of the park area adjacent to the proposed transitway. It is a mixture of open spaces for the tees, fairways, and greens bordered by densely wooded areas. The terrain is varied, ranging from flat in some areas to steeply sloped in others. The wooded area between the BNSF rail corridor and Theodore Wirth Parkway between Golden Valley Road and Plymouth Avenue forms a visual buffer from the active use areas of the park.

[2] In this technical report, the term *Sochacki Park* refers to the park resource managed jointly by the cities of Golden Valley and Robbinsdale, and the Three Rivers Park District. Sochacki Park consists of the former Sochacki Park located in the City of Robbinsdale, and the former Rice Lake Park and former Mary Hills Nature Area located in the City of Golden Valley.

- Bassett Creek and Bassett Lake
  - Bassett Creek flows along the eastern edge of Theodore Wirth Regional Park within the park boundaries, and is partially set within a vegetated area with a mixture of open spaces for the tees. It follows a meandering route that borders several golf holes. In some locations, views of the creek from the course are wide open, and in others the creek is secluded in dense vegetation. Connected with the creek, Bassett Lake is a wider body of water located within Theodore Wirth Regional Park on the north side of Olson Memorial Highway.
- Theodore Wirth Parkway
  - Theodore Wirth Parkway passes through Theodore Wirth Regional Park and crosses over the BNSF right-of-way near Golden Valley Road. It is part of the Grand Rounds National Scenic Byway, which was created for the purpose of scenic pleasure driving. The Grand Rounds was, and is envisioned, designed, and maintained as a facility with high visual quality. This feature is also described in the Theodore Wirth Regional Park Cultural Landscape Study noted above.
- Sochacki Park and South Halifax Park
  - These parks, although under different municipal jurisdictions, are adjacent to each other along the west side of the BNSF right-of-way. They are all densely wooded with a network of paved and unpaved trails.
- Glenview Terrace/Valley View Park
  - Glenview Terrace/Valley View Park is located east of the BNSF rail corridor north of Theodore Wirth Parkway. Near the railroad, it is densely wooded. Moving further east, it transitions to mowed lawn and has tennis courts and a playground.

4.2.3 Robbinsdale/Crystal Landscape Unit

The Robbinsdale/Crystal Landscape Unit is bound by the Golden Valley/Robbinsdale city limits to the south, and by the Crystal/Brooklyn Park city limits to the north (see **Figure 2**).

4.2.3.1 General Visual Context

In the Robbinsdale/Crystal Landscape Unit, the transitway would generally follow the BNSF rail corridor. In some locations, the route would parallel a primary roadway. In other locations, it would be more secluded, running behind commercial and residential areas. South of 36th Avenue, the transitway would pass by Walter Sochacki Park, park situated outside the west embankment of the BNSF right-of-way. Near 36th Avenue, the railroad right-of-way is depressed with steep side slopes to allow clearance under the 36th Avenue bridge. In the segment between 36th Avenue and Noble Avenue, the transitway would be aligned at a skew from the neighborhood street grid, so vantage points would vary. At the edges of the railroad right-of-way, continuous chain link fencing restricts access.

Between Noble/41st Avenue and 42nd Avenue, the transitway would pass along the west edge of downtown Robbinsdale's commercial area. Downtown Robbinsdale is an area primarily comprised of single-story storefront buildings and an enhanced streetscape with brick pavers, decorative

lighting, and other features. Along the edges of the railroad right-of-way, rows of tree cover provide some visual buffer for adjacent residential properties and continuous chain link fencing restricts access. Several neighborhood-scale parks are located adjacent to the transitway in this landscape unit, including Becker Park, Triangle Park, and Lee Park. These parks are characterized by mowed lawn with some tree cover at the edges. Moving north, the transitway would cross over TH 100 and run adjacent to West Broadway Avenue, a lower speed two-lane county roadway. Between TH 100 and 47th Avenue, a handful of mature trees are in a grass median between the railroad and West Broadway Avenue.

The development pattern in this area is comprised of single-story commercial buildings oriented towards Bottineau Boulevard. The transitway would parallel Bottineau Boulevard, a multi-lane divided-median county highway. Along the edges of the railroad right-of-way, rows of tree cover provide some visual buffer for adjacent residential properties. The railroad right-of-way is also a primary utility corridor and includes overhead utility lines and poles.

4.2.3.2 Higher-Quality Visual Features

Based on the developed urban and suburban context of the study area, the following features of the Robbinsdale/Crystal Landscape Unit were identified as higher-quality visual features:

- Sacred Heart Catholic Church
  - Located at the intersection of Hubbard Avenue and 40th Avenue, the prominent church spire rises vertically above all other buildings in the vicinity. Constructed of limestone, the building conveys a strong presence that visually anchors the southern end of downtown Robbinsdale.
- Historic Robbinsdale Public Library
  - Located south of 42nd Avenue and west of the BNSF right-of-way, a single-story library building, on the National Register of Historic Places, houses the Robbinsdale Historical Society and is residential in scale.
- West Broadway Avenue and BNSF railroad bridges over TH 100
  - The West Broadway Avenue and BNSF railroad bridges over TH 100 were designed and constructed in accordance with the Minnesota Department of Transportation's (MnDOT) TH 100 aesthetic design guidelines developed for bridges and other features throughout the corridor.
- Green boulevard on west side of West Broadway Avenue between 47th Avenue and TH 100
  - Mature trees in informal groupings are dispersed throughout a lawn area separating the roadway and railroad.
- Bottineau Boulevard Bridge over CP rail corridor
  - As part of the Bottineau Boulevard Roadway Reconstruction, a new bridge with aesthetic treatments and long approaches supported by retaining walls was constructed.

- City of Crystal gateway area
  - As part of the Bottineau Boulevard Roadway Reconstruction, an architectural gateway monument, landscaping, and decorative lighting were installed at the southwest corner of Bottineau Boulevard and Bass Lake Road to call attention to the entrance to the City of Crystal's primary commercial area to the west. Street trees, landscaping, and decorative lighting extend in both directions along both Bass Lake Road and Bottineau Boulevard.

4.2.4 Brooklyn Park Landscape Unit

The Brooklyn Park Landscape Unit: The landscape unit is bound by the Crystal/Brooklyn Park city limits to the south, and by the OMF to the north (see **Figure 2**).

4.2.4.1 General Visual Context

At the southern end of the Brooklyn Park Landscape Unit, the route would pass under I-94; the development pattern in that vicinity is comprised of single-story commercial buildings oriented towards Bottineau Boulevard.

South of TH 610, the adjacent land use transitions from agricultural to a mix of single-story commercial and light-industrial buildings and single-family residential neighborhoods. The commercial areas have front yards characterized by mowed lawn, trees, and stormwater treatment ponds. The homes face away from West Broadway Avenue, and fences and landscaping visually separate backyards from the roadway. North Hennepin Community College, located in the southeast corner of the West Broadway Avenue and 85th Avenue intersection is comprised of one and two-story buildings organized around a central green space. The perimeter of the campus is dominated by surface parking lots, with two ball fields and a mowed lawn located south of the college.

North of TH 610 up to 101st Avenue, open field agricultural land is the predominant land use with some remnant woodland and grassland areas. The recently constructed Target North Campus with its multi-story buildings is located along Oak Grove Parkway east of West Broadway Avenue and has landscaped grounds characterized by mowed lawn and trees. Future redevelopment with higher-intensity land use is envisioned for the area, which would likely bring a more suburban development pattern with new streets, buildings, parking, and landscaping.

4.2.4.2 Higher-Quality Visual Features

Based on the developed urban and suburban context of the study area, the following features of the Brooklyn Park Landscape Unit were identified as higher-quality visual features:

- I-94 bridge over the BNSF rail corridor and Bottineau Boulevard
  - The I-94 bridge was designed and constructed with aesthetic enhancements that are unique to this bridge and not a consistent theme throughout the I-94 corridor.
- Shingle Creek
  - Views of Shingle Creek where it crosses West Broadway Avenue north of Candlewood Drive soften the predominantly built appearance of the area. East of West Broadway Avenue, the creek is located in a residential area, and has a natural meandering shape edged by tree cover. To the west, the creek is located in a commercial area, has been straightened and there is little tree cover.
- West Broadway Avenue Bridge over TH 610
  - The West Broadway Avenue bridge over TH 610 was designed and constructed in accordance with MnDOT's TH 610 aesthetic design guidelines developed for bridges and other features throughout the corridor.
- Rush Creek Regional Trail
  - The Rush Creek Regional Trail is approximately 10 miles of paved trail linking Elm Creek Park Reserve to Coon Rapids Dam Regional Park. The trail is popular for its wider-than-average trail corridor, which allows the trail alignment to weave gradually, incorporating significant variety in the landscape. The trail is located adjacent to large mowed turf in some areas, and wooded and dense vegetation in other areas.

5 Visual Impact Assessment

5.1 Introduction

As described in **Section 2.1.3** – **Assessing Visual Change**, the visual impacts of the proposed BLRT Extension project were determined by evaluating the changes to existing visual resources that would occur as a result of the proposed BLRT Extension project implementation, and assessing the anticipated viewer response to those changes. Visual impact assessment was based on direct field observation from multiple vantage points, including from neighboring properties and roadways; evaluation of existing visual character; and review of proposed BLRT Extension project plans and features. Visual impact assessment was also based on photographic documentation of several key views of the proposed BLRT Extension project corridor.

5.2 Key Views

Visual impact assessment included an evaluation of photographic documentation of several key views of the proposed BLRT Extension project corridor. Key views were selected at critical viewpoints, along commonly traveled routes, or at other likely observation points to document the existing conditions of the study area. For some locations, both an existing condition photograph and a simulated condition drawing are provided. Simulation vantage points were selected to provide representative public views from which the proposed BLRT Extension project components that would be most visible to the various types of sensitive receptors that are anticipated to be located within the landscape units identified for the proposed BLRT Extension project. These locations are noted as key view point (KVP) followed by a figure number.

Analysis of aesthetic impacts resulting from the proposed BLRT Extension project implementation included an evaluation of both the photographic documentation of key views of the proposed BLRT Extension project, as well as the simulation condition drawings which illustrate the proposed BLRT Extension project components from 23 KVP locations. For some KVP locations, more than one view was provided (for example, KVP-7 and KVP-7a), resulting in a total of 27 simulations. KVP locations were selected based on the sensitivity of the resource (e.g., to support the historic resources Section 106 consultation process) or locations of key vertical features of the proposed BLRT Extension project that could potentially change the visual character or views of an affected area.

Each of the 20 KVPs is included on a location map, which consists of a series of aerial photographs depicting the location and direction of each KVP. Each KVP is then represented with a "before the proposed BLRT Extension project" existing condition photograph and a computer-generated sketch-up simulation of the conceptual "after the proposed BLRT Extension project" condition. The computer-generated sketch-up simulations were prepared using digital photographs and computer modeling procedures to represent the visual changes that would result from implementation of the proposed BLRT Extension project. The KVP location maps and photographs are provided in **Appendix A** of this report.

Additional key views were evaluated at three of the locations proposed for noise walls. These locations are noted as noise wall (NW) followed by a figure number. Each of the three NWs is

included on a location map, which consists of an aerial photograph depicting the location and direction of each NW. The NW location map and photographs are provided in **Appendix A** of this report.

5.3 Visual Impact Assessment

The following sections describe the anticipated changes in visual quality and character, within each landscape unit and for each KVP or NW where applicable, as a result of the proposed BLRT Extension project implementation. As described above in **Section 4.2 – Landscape Units and Viewshed**, the proposed BLRT Extension project would pass through four landscape units, for which 23 KVPs were analyzed. It is important to note when assessing KVPs, that seasonal changes and weather patterns typical of the proposed BLRT Extension project area would produce variations to vegetation and ground cover. In order to represent an accurate long-term view of the proposed BLRT Extension project area, in addition to representation of new proposed BLRT Extension project features, visual simulations for the proposed BLRT Extension project represented a simulation of established vegetation. Thus, in the short term, proposed BLRT Extension project features may be more visible when vegetation is young, and, in the long term, proposed BLRT Extension project features may be less visible when vegetation is mature. Therefore, depending upon the timeframe of the view, both seasonal and vegetation variations could result in altered views than those represented in each existing condition and simulated photograph.

5.3.1 No-Build Alternative

The No-Build Alternative reflects existing and committed improvements to the regional transit network for the horizon year of 2040, not including the proposed BLRT Extension project. The No-Build Alternative is based on the Metropolitan Council's (Council) *Thrive MSP 2040 Transportation Policy Plan* (*2040 TPP*). Under the No-Build Alternative, there would be no alteration of the visual quality and character of the proposed BLRT Extension project corridor. Therefore, there would be no visual effects and no mitigation would be required.

5.3.2 BLRT Extension Project Operational Impacts

Overview

Anticipated visual effects during operation of the proposed BLRT Extension project would generally be consistent with existing, similar features, and the proposed BLRT Extension project would not substantially obstruct proposed BLRT Extension project area views or substantially alter the existing visual character of the proposed BLRT Extension project corridor. Additional discussion of operational impacts on the higher-quality visual features identified in **Section 4.2** and other prominent visual features of each of the four landscape units is provided below. A summary of KVP and NW analysis (photographic and simulation analysis) by landscape unit is provided below in **Table 5-1**. A summary of impacts resulting from the addition of primary proposed BLRT Extension project features, as well as impacts on existing higher-quality visual features is provided below in **Table 5-2**.

Table 1. Summary of Photographic Documentation

Landscape Unit	Designation and Description of View	Degree of Visual Change in Quality and Character	Level of Visual Sensitivity
Minneapolis	OMH 1 (view to the west toward Penn Avenue, from center Olson Memorial Highway median)	Altered	Moderate
	KVP 1 (view to the east toward the Olson Memorial Highway bridge over the BNSF rail corridor, from the Wirth Lake Boardwalk)	Not substantially altered	High
	KVP 2 (view to the east-southeast toward the Olson Memorial Highway bridge over the BNSF rail corridor, from the Wirth Park Trail)	Altered	High
Golden Valley	KVP 3 (view to the northwest toward the existing BNSF tracks and proposed LRT tracks, from Farwell Avenue and Xerxes Avenue North)	Not substantially altered	Moderately high
	KVP 4a (view to the west toward the proposed Plymouth Avenue Station and bridge, from Plymouth Avenue North and Washburn Avenue North)	Altered	Moderately high
	KVP 4b (view to the south toward the existing BNSF tracks and proposed LRT tracks, from the Plymouth Avenue North bridge)	Altered	Moderate
	KVP 4c (view to the north toward the proposed Plymouth Avenue Station, from the Plymouth Avenue bridge)	Substantially altered	Moderate
	KVP 5 (view to the southeast toward the proposed Plymouth Avenue Station and bridge, from the Theodore Wirth Regional Park Chalet)	Altered	High
	KVP 6a (view to the north toward the proposed Golden Valley Road Station, from the Theodore Wirth Regional Park Golf Course)	Not substantially altered	High
	KVP 6b (view to the northeast toward Bassett Creek and the proposed Golden Valley Road Station, from the Theodore Wirth Regional Park Golf Course)	Altered	High
	KVP 7 (view to the west toward the proposed Golden Valley Road Station, from Theodore Wirth Parkway near the intersection of Zenith Avenue)	Not substantially altered	Moderately high
	KVP 8 (view to the west toward the proposed Golden Valley Road Station, from Golden Valley Road and Theodore Wirth Parkway)	Altered	High
	KVP 8a (view to the west toward the proposed Golden Valley Road Station, from Theodore Wirth Parkway at Golden Valley Road)	Altered	Moderately high

Table 1. Summary of Photographic Documentation

Landscape Unit	Designation and Description of View	Degree of Visual Change in Quality and Character	Level of Visual Sensitivity
Robbinsdale/ Crystal	KVP 9 (view to the northwest toward downtown Robbinsdale, from 41st Avenue and Hubbard Avenue)	Not substantially altered	Moderate
	KVP 10 (view to the north toward the proposed Robbinsdale Station, from 41st Avenue)	Not substantially altered	Moderate
	KVP 11 (view to the east toward the proposed Robbinsdale Station, from 42nd Avenue)	Not substantially altered	Moderate
	KVP 12 (view to the southeast toward the proposed wall and fence, from the adjacent residential alley)	Altered	Moderately high
	KVP 21 (view to the southeast toward the proposed Bass Lake Road station and pedestrian bridge, from Bottineau Boulevard)	Altered for visual quality; not substantially altered for visual character	Moderate
	KVP 22 (view to the northwest toward the proposed Bass Lake Road station and pedestrian bridge, from the southeast quadrant of the Bass Lake Road/Bottineau Boulevard intersection)	Altered for visual quality; not substantially altered for visual character	Moderate
	KVP 23 (view to the northeast toward the proposed Bass Lake Road pedestrian bridge, from the southwest quadrant of the Bass Lake Road/Bottineau Boulevard intersection)	Altered for visual quality; not substantially altered for visual character	Moderate
Brooklyn Park	KVP 13 (view to the south toward the proposed 63rd Avenue Station, from the trail adjacent to Bottineau Boulevard)	Altered for visual quality; not substantially altered for visual character	Moderate
	KVP 14 (view to the southeast toward the proposed 63rd Avenue Station, from the adjacent neighborhood west of 63rd Avenue)	Altered	Moderately high
	KVP 15 (view to the north toward the proposed 73rd Avenue/Bottineau Boulevard bridge, from Bottineau Boulevard 81 at 71st Avenue)	Altered for visual quality; not substantially altered for visual character	Moderate
	KVP 16 (view to the northeast toward the proposed 73rd Avenue/Bottineau Boulevard bridge, from 71st Avenue)	Not substantially altered	Moderate
	KVP 17 (view to the north toward the proposed 73rd Avenue/Bottineau Boulevard bridge, from the southeast corner of Bottineau Boulevard and 71st Avenue)	Altered for visual quality; not substantially altered for visual character	Moderate

Table 1. Summary of Photographic Documentation

Landscape Unit	Designation and Description of View	Degree of Visual Change in Quality and Character	Level of Visual Sensitivity
	KVP 18 (view to the south toward the proposed 73rd Avenue/Bottineau Boulevard bridge, from Bottineau Boulevard at 73rd Avenue)	Altered for visual quality; not substantially altered for visual character	Moderate
	KVP 19 (view to the east toward the proposed OMF, from 101st Avenue)	Substantially altered	Moderate
	KVP 20 (view to the southwest toward the proposed OMF, from Rush Creek Regional Trail)	Substantially altered	Moderately high

For each view described in the table, **Appendix A** includes a "before BLRT Extension project" existing condition photograph and a computer-generated sketch-up simulation of the conceptual "after BLRT Extension project" condition.

Table 2. Summary of Impacts from Primary Project Visual Features and to Higher-Quality Visual Features

Landscape Unit	Description of View, Higher-Quality Visual Feature, or Primary Project Visual Feature	Photographic Documentation[1]	Level of Impact
Minneapolis	OMH 1 (view to the west toward Penn Avenue, from center Olson Memorial Highway median)	OMH 1	Adverse
	KVP 1 (view to the east toward the Olson Memorial Highway bridge over the BNSF rail corridor, from the Wirth Lake Boardwalk)	KVP 1	Neutral
	KVP 2 (view to the east-southeast toward the Olson Memorial Highway bridge over the BNSF rail corridor, from the Wirth Park Trail)	KVP 2	Adverse
	Ford Building	Not applicable	Neutral
	HERC Landscaping	Not applicable	Neutral
	Metro Transit Headquarters	Not applicable	Neutral
	Boulevard and median trees along Olson Memorial Highway west of I-94	See photographic documentation of OMH 1 above	Adverse
	Sumner Library	Not applicable	Neutral
	Seed Academy and Wayman AME Church	Not applicable	Neutral
	Zion Baptist Church	Not applicable	Neutral
	Floyd B. Olson Memorial	Not applicable	Neutral
	Harrison Neighborhood gateway sculptures	Not applicable	Neutral
Golden Valley	KVP 3 (view to the northwest toward the existing BNSF tracks and proposed LRT tracks, from Farwell Avenue and Xerxes Avenue North)	KVP 3	Neutral
	KVP 4a (view to the west toward the proposed Plymouth Avenue Station and bridge, from Plymouth Avenue North and Washburn Avenue North)	KVP 4a	Adverse
	KVP 4b (view to the south toward the existing BNSF tracks and proposed LRT tracks, from the Plymouth Avenue North bridge)	KVP 4b	Adverse
	KVP 4c (view to the north toward the proposed Plymouth Avenue Station, from the Plymouth Avenue bridge)	KVP 4c	Adverse
	KVP 5 (view to the southeast toward the proposed Plymouth Avenue Station and bridge, from the Theodore Wirth Regional Park Chalet)	KVP 5	Adverse
	KVP 6a (view to the north toward the proposed Golden Valley Road Station, from the Theodore Wirth Regional Park Golf Course)	KVP 6a	Neutral

Table 2. Summary of Impacts from Primary Project Visual Features and to Higher-Quality Visual Features

Landscape Unit	Description of View, Higher-Quality Visual Feature, or Primary Project Visual Feature	Photographic Documentation[1]	Level of Impact
	KVP 6b (view to the northeast toward Bassett Creek and the proposed Golden Valley Road Station, from the Theodore Wirth Regional Park Golf Course)	KVP 6b	Adverse
	KVP 7 (view to the west toward the proposed Golden Valley Road Station, from Theodore Wirth Parkway near the intersection of Zenith Avenue)	KVP 7	Neutral
	KVP 8 (view to the west toward the proposed Golden Valley Road Station, from Golden Valley Road and Theodore Wirth Parkway)	KVP 8	Adverse
	KVP 8a (view to the west toward the proposed Golden Valley Road Station, from Theodore Wirth Parkway at Golden Valley Road)	KVP 8a	Adverse
	NW 1a (view to the northwest toward the proposed noise barrier on the east side of the alignment roughly across from the extent of Sochacki Park (the former Mary Hills Nature Area portion)	NW 1a	Potentially adverse
	NW 1b (view to the southeast toward the proposed noise barrier on the east side of the alignment roughly across from the extent of Sochacki Park (the former Mary Hills Nature Area portion)	NW 1b	Potentially adverse
	Plymouth Avenue bridge over Bassett Creek and BNSF rail corridor	See photographic documentation of KVPs 4a, 4b, 4c, and 5 above.	Neutral
	Theodore Wirth Regional Park and Golf Course	See photographic documentation of KVPs 5, 6a, and 6b above.	Adverse
	Bassett Creek and Bassett Creek Lagoons	Not applicable	Adverse
	Theodore Wirth Parkway	See photographic documentation of KVPs 7, 8, and 8a above.	Neutral
	Glenview Terrace/Valley View Park	Not applicable	Neutral
	Sochacki Park and South Halifax Park	Not applicable	Adverse

Table 2. Summary of Impacts from Primary Project Visual Features and to Higher-Quality Visual Features

Landscape Unit	Description of View, Higher-Quality Visual Feature, or Primary Project Visual Feature	Photographic Documentation[1]	Level of Impact
Robbinsdale/ Crystal	KVP 9 (view to the northwest toward downtown Robbinsdale, from 41st Avenue and Hubbard Avenue)	KVP 9	Neutral
	KVP 10 (view to the north toward the proposed Robbinsdale Station, from 41st Avenue)	KVP 10	Neutral
	KVP 11 (view to the east toward the proposed Robbinsdale Station, from 42nd Avenue)	KVP 11	Adverse
	KVP 12 (view to the southeast toward the proposed wall and fence, from the adjacent residential alley)	KVP 12	Adverse
	KVP 21 (view to the southeast toward the proposed Bass Lake Road Station and pedestrian bridge, from Bottineau Boulevard)	KVP 21	Adverse
	KVP 22 (view to the northwest toward the proposed Bass Lake Road Station and pedestrian bridge, from the southeast quadrant of the Bass Lake Road/Bottineau Boulevard intersection)	KVP 22	Adverse
	KVP 23 (view to the northeast toward the proposed Bass Lake Road pedestrian bridge, from the southwest quadrant of the Bass Lake Road/Bottineau Boulevard intersection)	KVP 23	Adverse
	NW 2a (view to the northwest toward the proposed noise barrier from 36th Avenue to 41st Avenue on the east side, and from 36th Avenue to the southern border of Lee Park on the west side)	NW 2a	Neutral (east) or potentially adverse (west)
	NW 2b (view to the southeast toward the proposed noise barrier from 36th Avenue to 41st Avenue on the east side)	NW 2b	Neutral
	NW 3a (view to the northwest toward the proposed noise barrier from West Broadway Avenue to Corvallis Avenue on the east side)	NW 3a	Neutral
	NW 3b (view to the southeast toward the proposed noise barrier toward from West Broadway Avenue to Corvallis Avenue on the east side)	NW 3b	Neutral
	Bass Lake Road pedestrian overpass	See photographic documentation of KVPs 21, 22, and 23 above.	Adverse
	Sacred Heart Catholic Church	Not applicable	Neutral
	Historic Robbinsdale Public Library	Not applicable	Neutral

Table 2. Summary of Impacts from Primary Project Visual Features and to Higher-Quality Visual Features

Landscape Unit	Description of View, Higher-Quality Visual Feature, or Primary Project Visual Feature	Photographic Documentation[1]	Level of Impact
	West Broadway Avenue and BNSF rail bridges over TH 100	Not applicable	Neutral
	Green boulevard on west side of West Broadway Avenue between 47th Avenue and TH 100	Not applicable	Adverse
	Bottineau Boulevard bridge over CP rail corridor	Not applicable	Neutral
	City of Crystal gateway area	Not applicable	Neutral
	Residential neighborhood between Bass Lake Road and 63rd Avenue	See **Appendix A**	Adverse
Brooklyn Park	KVP 13 (view to the south toward the proposed 63rd Avenue Station, from the trail adjacent to Bottineau Boulevard)	KVP 13	Adverse
	KVP 14 (view to the southeast toward the proposed 63rd Avenue Station, from the adjacent neighborhood west of 63rd Avenue)	KVP 14	Adverse
	KVP 15 (view to the north toward the proposed 73rd Avenue/Bottineau Boulevard bridge, from Bottineau Boulevard 81 at 71st Avenue)	KVP 15	Adverse
	KVP 16 (view to the northeast toward the proposed 73rd Avenue/Bottineau Boulevard bridge, from 71st Avenue)	KVP 16	Neutral
	KVP 17 (view to the north toward the proposed 73rd Avenue/Bottineau Boulevard bridge, from the southeast corner of Bottineau Boulevard and 71st Avenue)	KVP 17	Adverse
	KVP 18 (view to the south toward the proposed 73rd Avenue/Bottineau Boulevard bridge, from Bottineau Boulevard at 73rd Avenue)	KVP 18	Adverse
	KVP 19 (view to the east toward the proposed OMF, from 101st Avenue)	KVP 19	Adverse
	KVP 20 (view to the southwest toward the proposed OMF, from Rush Creek Regional Trail)	KVP 20	Adverse
	63rd Avenue park-and-ride	See photographic documentation of KVPs 13 and 14 above.	Adverse
	73rd Avenue/Bottineau Boulevard bridge	See photographic documentation of KVPs 15, 16, 17, and 18 above.	Adverse
	OMF	See photographic documentation of KVPs 19 and 20 above.	Adverse

Table 2. Summary of Impacts from Primary Project Visual Features and to Higher-Quality Visual Features

Landscape Unit	Description of View, Higher-Quality Visual Feature, or Primary Project Visual Feature	Photographic Documentation[1]	Level of Impact
	I-694 bridge over BNSF rail corridor and Bottineau Boulevard	Not applicable	Neutral
	Shingle Creek	Not applicable	Neutral
	West Broadway Avenue bridge over TH 610	Not applicable	Neutral
	Rush Creek Regional Trail	Not applicable	Adverse

[1] A summary of photographic documentation locations is presented in **Table 4.5-1** of the Final EIS for locations where a current condition photograph and a simulation exist. These photographs, simulations, and other photographic documentation can be found in **Appendix F – Visual Quality Technical Report** of the Final EIS.

"Not applicable" indicates that photographic documentation was not developed for that particular feature.

Minneapolis Landscape Unit

Primary Proposed BLRT Extension Project Visual Features

Stations

The following proposed BLRT Extension project stations are proposed within the Minneapolis Landscape Unit.

- Van White Boulevard
- Penn Avenue

Bridges and Structures

The following proposed BLRT Extension project bridges and structures are proposed within the Minneapolis Landscape Unit.

- New bridge crossing HERC driveway
- Modified Olson Memorial Highway bridge over I-94
- Reconstructed Olson Memorial Highway bridge over the BNSF rail corridor (see description of KVPs 1 and 2 below)

Photographic Documentation

The Minneapolis Landscape Unit includes KVPs 1 and 2, as described in detail below. KVP location maps and photographs are provided in **Appendix A** of this report. A separate location map is provided in **Appendix A** for the Olson Memorial Highway photograph and sketch-up, designated as OMH 1.

- **OMH 1** (view to the west toward Penn Avenue, from center Olson Memorial Highway median) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on its status as a heavily traveled corridor. In the simulated view from OMH 1, median trees have been removed for the transitway alignment. However, though these trees would be removed from the corridor, some would be relocated to other park properties. Tree relocation would depend on the condition and age of the tree, and other factors. The proposed BLRT Extension project would alter the visual quality and character at this location; however, trees at the highway edges remain and continue to support the "gateway" appearance of the corridor.
- **KVP 1** (view to the east toward the Olson Memorial Highway bridge over the BNSF rail corridor, from the Wirth Lake Boardwalk) represents the changes to the viewshed as seen by recreational users. Views at this location would typically be of long duration, and viewers would have a high sensitivity based on the recreational nature of land uses at this location. In the simulated view from KVP 1, the new proposed BLRT Extension project features that would be most visible are the reconstructed Olson Memorial Highway bridge over the BNSF rail corridor, the overhead catenary system, and passing LRVs. However, these features could be difficult for viewers to see based on the distance and the surrounding vegetation. The proposed BLRT

Extension project would not substantially alter the visual quality or character at this location and would not obstruct views. The proposed BLRT Extension project would not preclude continued recreational use at this location.

- **KVP 2** (view to the east-southeast toward the Olson Memorial Highway bridge over the BNSF rail corridor, from the Wirth Park Trail) represents the changes to the viewshed as seen by recreational users. Views at this location would typically be of long duration, and viewers would have a high sensitivity based on the recreational nature of land uses at this location. In the simulated view from KVP 2, the new proposed BLRT Extension project features that would be most visible are the new track, the overhead catenary system, and passing LRVs. These new features would be of similar elevation to the existing BNSF rail corridor and may be difficult for viewers to see based on the surrounding vegetation, though it is important to note that seasonal changes in vegetation may result in increased visibility of the new features. These new features would be noticeable but would appear as a consistent linear feature alongside the existing BNSF tracks. However, existing Xcel Energy transmission poles are proposed to be relocated from the east, behind existing screening, to the west, closer to the adjacent park. Therefore, based on the increased frequency in passing vehicles, the additional overhead wires, and the relocation of the existing Xcel Energy power lines, the proposed BLRT Extension project would alter the visual quality and character at this location, but would not preclude continued recreational use.

Summary of Visual Impacts

In the Minneapolis Landscape Unit, the transitway would run along Olson Memorial Highway, a highway that currently accommodates a relatively high amount of traffic. Although Olson Memorial Highway is envisioned as a "gateway" corridor to downtown Minneapolis, the *Minneapolis Near Northside Master Plan* envisioned that LRT could be accommodated within the median without sacrificing the overall desired character of the corridor. The construction of the transitway within the existing median would alter its existing green character, which is considered a "higher-quality visual feature," resulting in adverse impacts on visual quality in that location. Impacts on "higher-quality visual features" are described in further detail below. Considering the existing industrial character of the visual context east of I-94 approaching downtown, it is anticipated that neutral visual effects would occur in that area.

Neutral impacts are anticipated as a result of station and TPSS construction, as these features would be designed to complement their surroundings, with variations in design that are consistent with the context of each station and TPSS location. TPSS features are introduced in **Section 3.3 – Proposed BLRT Extension Project Description**, which includes the size and siting considerations. Coordination with stakeholders, including the Minneapolis Park and Recreation Board, would continue throughout the proposed BLRT Extension project design process to address the siting of TPSSs and to maintain neutral visual impacts, including additional visual screening as required. However, it is anticipated that station features would also include passenger information displays, lighting, and security systems, which could alter the visual quality and character of the view for sensitive viewer groups.

Impacts on the resources identified in **Section 4 – Existing Conditions** as "higher-quality visual features" are described in detail below. Visual impacts to these resources as a result of the

proposed BLRT Extension project implementation would generally be neutral. However, where visual impacts would be adverse, implementation of Mitigation Measure 1 (Minimize Operational Night Lighting) and Mitigation Measure 2 (Visual Screening of proposed BLRT Extension project Facilities), outlined below in **Section 6.2**, would help to further reduce the impacts of operation of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

- **Ford Building:** Visual impacts to the Ford Building would be neutral because the Hiawatha LRT alignment already passes the building along 5th Street.
- **HERC site landscaping:** Visual impacts to the HERC site landscaping would be neutral. The transitway would run parallel to 6th Avenue in a widened right-of-way which would require partial removal of planter wall, trees, and the lawn area at the southeast corner of 6th Avenue and 7th Street.
- **Metro Transit headquarters:** Visual impacts to the Metro Transit's building would be neutral since it is already located along a busy highway and serves as a transit vehicle service and storage site.
- **Boulevard and median trees along Olson Memorial Highway west of I-94:** Visual impacts to the Olson Memorial Highway center median would be adverse, as trees would need to be removed for the transitway alignment. After the transitway is constructed in the center median, there would not be adequate space for new trees alongside it. However, as noted above, trees at the highway edges would remain and continue to support the "gateway" appearance of the corridor. Additionally, some trees would be relocated to other park properties, depending on the condition and age of the tree, and other factors.
- **Sumner Library:** Visual impacts to the library would be neutral since it is already located along a highly used roadway.
- **Seed Academy and Wayman AME Church:** Visual impacts to the school and church would be neutral since the use of church sanctuaries is typically inward-focused and because the site is already located along a highly used roadway.
- **Zion Baptist Church:** Visual impacts to church would be neutral since it is visually buffered by the north frontage road along Olson Memorial Highway. Use of church sanctuaries is typically inward-focused, and it is already located along a highly used roadway.
- **Floyd B. Olson Memorial Statue:** Visual impacts to the memorial would be neutral since the transitway turns onto Olson Memorial Highway and does not conflict with its siting.
- **Harrison Neighborhood gateway sculptures:** Visual impacts to the sculptures would be neutral since the transitway turns onto Olson Memorial Highway and does not conflict with their siting.

Golden Valley Landscape Unit

Primary Proposed BLRT Extension Project Visual Features

Stations

The following proposed BLRT Extension project stations are proposed within the Golden Valley Landscape Unit.

- Plymouth Avenue (see description of KVP 4a and 5 below)
- Golden Valley Road (includes park-and-ride; see description of KVPs 6a, 6b, 8, and 8a below)

Bridges and Structures

The following proposed BLRT Extension project bridges and structures are proposed within the Golden Valley Landscape Unit.

- Reconstructed Plymouth Avenue bridge (see description of KVPs 4a and 4b below)
- Reconstructed Theodore Wirth Parkway bridge (see description of KVPs 7 and 8a below)
- Reconstructed Golden Valley Road bridge (see description of KVPs 7 and 8a below)
- New bridge crossing Golden Valley Road ponds
- New bridge crossing Grimes Pond
- Reconstructed 36th Avenue bridge
- Noise walls on the east side of the Plymouth Avenue Station, the east side of the alignment roughly across from the southern extent of Sochacki Park (the former Mary Hills Nature Area – see description of NW 1a and NW 1b below), and the east side of the alignment from just north of South Halifax Park to 36th Avenue North, with a gap at the Xcel Energy substation. Photographs of proposed noise wall locations are provided in **Appendix A**.

Photographic Documentation

The Golden Valley Landscape Unit includes KVPs 3 through 8a, as described in detail below. KVP location maps and photographs are provided in **Appendix A** of this report. The Golden Valley Landscape Unit also includes NW 1a, and NW 1b. Photographs of proposed noise wall locations are provided in **Appendix A** of this report.

- **KVP 3** (view to the northwest toward the existing BNSF tracks and proposed LRT tracks, from Farwell Avenue and Xerxes Avenue North) represents the changes to the viewshed as seen by roadway users, pedestrians, and residents. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderately high sensitivity based on the residential nature of land uses at this location. In the simulated view from KVP 3, the new proposed BLRT Extension project features that would be most visible are the overhead catenary system. These new features would also be of similar elevation to the existing BNSF rail corridor, and may be difficult for viewers to see based on the surrounding vegetation. Additionally, the overhead catenary system would be a consistent feature alongside existing overhead power lines. The proposed BLRT Extension project would not substantially alter the visual quality or character at this location.

- **KVP 4a** (view to the west toward the proposed Plymouth Avenue Station and bridge, from Plymouth Avenue North and Washburn Avenue North) represents the changes to the viewshed as seen by roadway users, pedestrians, and residents. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderately high sensitivity based on the residential nature of land uses at this location. In the simulated view from KVP 4a, the vertical circulation structure adjacent to the Plymouth Avenue Station would be highly visible. These new features would be noticeable, but would be partially shielded by the existing bridge structure and vegetation. The proposed BLRT Extension project would alter the visual quality and character at this location.
- **KVP 4b** (view to the south toward the existing BNSF tracks and proposed LRT tracks, from the Plymouth Avenue North bridge) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 4b, the new proposed BLRT Extension project features that would be most visible would be the new track, overhead catenary system, and passing LRVs. Although the new features would noticeable, they would appear as a consistent linear feature alongside the existing BNSF tracks. However, with the addition of multiple overhead lines to the corridor, and the relocation of existing power lines from the east to the west, adjacent to the park, the view toward the green space of the park would be altered. Further, as stated above, the Plymouth Avenue Bridge has an important role in setting the visual character for the park itself. Although the altered viewshed would be at a lower elevation than the viewer, the proposed BLRT Extension project would alter the visual quality and character at this location.
- **KVP 4c** (view to the north toward the proposed Plymouth Avenue Station, from the Plymouth Avenue bridge) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 4c, the new proposed BLRT Extension project features that would be most visible would be the new track, overhead catenary system, and passing LRVs. Although the new features would noticeable, they would appear as a consistent linear feature alongside the existing BNSF tracks. In addition, the station and the vertical circulation structure adjacent to the station would be highly visible, substantially altering the visual quality and character at this location.
- **KVP 5** (view to the southeast toward the proposed Plymouth Avenue Station and bridge, from the Theodore Wirth Regional Park Chalet) represents the changes to the viewshed as seen by recreational users. Views at this location would typically be of long duration, and viewers would have a high sensitivity based on the recreational nature of land uses at this location. In the simulated view from KVP 5, the new proposed BLRT Extension project features that would be most visible would be the overhead catenary system and portions of the new Plymouth Avenue Station. These new features would be noticeable, but may be difficult for viewers to see based on the surrounding vegetation. However, as described above, seasonal changes and weather patterns typical of the proposed BLRT Extension project area would produce variations to

vegetation and ground cover. The proposed BLRT Extension project would alter the visual quality and character at this location, but would not preclude continued recreational use.

- **KVP 6a** (view to the north toward the proposed Golden Valley Road Station, from the Theodore Wirth Regional Park Golf Course) represents the changes to the viewshed as seen by recreational users. Views at this location would typically be of long duration, and viewers would have a high sensitivity based on the recreational nature of land uses at this location. In the simulated view from KVP 6a, the new proposed BLRT Extension project features may be noticeable, but may be difficult for viewers to see based on the surrounding vegetation. The proposed BLRT Extension project would not substantially alter the visual quality or character at this location. The proposed BLRT Extension project would not preclude continued recreational use at this location.
- **KVP 6b** (view to the northeast toward Bassett Creek and the proposed Golden Valley Road Station, from the Theodore Wirth Regional Park Golf Course) represents the changes to the viewshed as seen by recreational users. Views at this location would typically be of long duration, and viewers would have a high sensitivity based on the recreational nature of land uses at this location. In the simulated view from KVP 6b, the new proposed BLRT Extension project features that would be most visible would be the overhead catenary system and passing LRVs. These new features would be noticeable, but may be difficult for viewers to see based on the surrounding vegetation. However, as described above, seasonal changes and weather patterns typical of the proposed BLRT Extension project area would produce variations to vegetation and ground cover. The proposed BLRT Extension project would alter the visual quality and character at this location, but would not preclude continued recreational use.
- **KVP 7** (view to the west toward the proposed Golden Valley Road Station, from Theodore Wirth Parkway near the intersection of Zenith Avenue) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderately high sensitivity based on the presence of sensitive land uses (residential, church, etc.) at this location. Additionally, viewer sensitivity at this location would also be due to the presence of the Grand Rounds, which offers opportunities for scenic pleasure driving, as described above. In the simulated view from KVP 7, the new Golden Valley Road Station and park-and-ride would generally not be visible based on the lower elevation of the station, the terraced design of the parking lot, and the existing vegetation. The proposed BLRT Extension project would not substantially alter the visual quality or character at this location.
- **KVP 8** (view to the west toward the proposed Golden Valley Road Station, from Golden Valley Road and Theodore Wirth Parkway) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a high sensitivity based on the presence of sensitive land uses (residential, church, etc.) at this location, as well as the presence of the Grand Rounds. In the simulated view from KVP 8, the pedestrian access and upper levels of the terraced parking lot would be visible. The proposed BLRT Extension project would alter the visual quality and character at this location.

- **KVP 8a** (view to the west toward the proposed Golden Valley Road Station, from Theodore Wirth Parkway at Golden Valley Road) represents the changes to the viewshed as seen by roadway users, pedestrians, and recreational users, which at this location would include bicyclists on the Grand Rounds trail and nature enthusiasts accessing the existing park triangle. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderately high sensitivity based on the presence of sensitive land uses (residential, church, etc.) at this location. In the simulated view from KVP 8a, the pedestrian access and upper levels of the terraced parking lot would be visible. The proposed BLRT Extension project would alter the visual quality and character at this location.
- **NW 1a** (view to the northwest toward the proposed noise wall on the east side of the alignment roughly across from the southern extent of Sochacki Park) represents the location of a proposed noise wall, which would be located adjacent to the Kewanee Way residences. For this segment of the proposed noise wall, existing residences are located on both the west and east sides of Kewanee Way. While the addition of the noise wall would mainly be for the purpose of sound insulation, a noise wall at this location would also provide visual screening and privacy from the existing rail and proposed LRT alignment for the existing residences. However, the addition of the noise wall at this location would result in a potentially adverse visual effect by precluding views across the alignment toward the southern extent of Sochacki Park. The proposed BLRT Extension project would alter the visual quality and character at this location, especially for residents, pedestrians, and roadway users.
- **NW 1b** (view to the southeast toward the proposed noise wall on the east side of the alignment roughly across from the southern extent of Sochacki Park) represents the location of a proposed noise wall, which would be located adjacent to the Kewanee Way residences. For this segment of the proposed noise wall, existing residences are located along the east side of Kewanee Way. While the addition of the noise wall would mainly be for the purpose of sound insulation, a noise wall at this location would also provide visual screening and privacy from the existing rail and proposed LRT alignment for the existing residences. However, the addition of the noise wall at this location would result in a potentially adverse visual effect by precluding views across the alignment toward the southern extent of Sochacki Park. The proposed BLRT Extension project would alter the visual quality and character at this location, especially for residents, pedestrians, and roadway users.

Summary of Visual Impacts

In the Golden Valley Landscape Unit, the corridor utilizes the existing BNSF right-of-way between 34th Avenue and Olson Memorial Highway. The transitway would closely parallel the existing railway and, as such, would be an addition to an existing transportation corridor. Thus the addition of LRT to this corridor would be compatible with the existing land use. The implementation of LRT would bring an increased frequency of vehicles passing through the area. Impacts on visual quality would range from neutral to adverse because in some locations, the tracks would be in a depressed cut section and shielded by the topography and vegetation. However, in other instances, residential and park areas on both the east and west sides of the corridor, which are considered "higher-quality visual features" as described below, have an increased visual connection based on close

proximity and varying degrees of openness of existing vegetation. Both temporary and permanent impacts on the vegetation along the BNSF right-of-way may alter the views and amount of screening of adjacent neighborhoods and parks. At locations where adverse visual effects are anticipated, transitway elements added to the rail corridor may be visually screened or softened using landscaping where adequate space permits.

Neutral impacts are anticipated as a result of station and TPSS construction, as these features would be designed to complement their surroundings, with variations in design that are consistent with the context of each station and TPSS location. TPSS features are introduced in **Section 3.3 – Proposed BLRT Extension Project Description**, which includes the size and siting considerations. However, it is anticipated that station features would also include passenger information displays, lighting, and security systems, which could alter the visual quality and character of the view for sensitive view groups. Coordination with stakeholders, including the Minneapolis Park and Recreation Board, would continue throughout the proposed BLRT Extension project design process to address the siting of TPSSs and to maintain neutral visual impacts, including additional visual screening as required.

Impacts on the resources identified above in **Section 4 – Existing Conditions** as "higher-quality visual features" are described in detail below. Visual impacts to these resources as a result of proposed BLRT Extension project implementation would generally be neutral. However, where visual impact would be adverse, implementation of Mitigation Measure 1 (Minimize Operational Night Lighting) and Mitigation Measure 2 (Visual Screening of proposed BLRT Extension project Facilities), outlined below in **Section 6.2**, would help to reduce the impacts of operation of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

- **Plymouth Avenue bridge over Bassett Creek and BNSF rail corridor:** The bridge would be reconstructed to make space for the transitway. Reconstructed features would include a new deck and piers. However, the bridge would be reconstructed in a manner such that the key visual elements would remain essentially the same as the existing elements, with the exception of the pier spacing. In order to accommodate the new LRT tracks, an area below the bridge would be altered from a paved slope to a clear opening with infill walls added to two of the existing arched piers for crash protection and to retain grade. This modification would only be visible from the pedestrian trail west of the BNSF track and would be unnoticeable from Plymouth Avenue above. Therefore, visual impacts to the bridge would be neutral.
- **Theodore Wirth Regional Park and Golf Course:** Visual impacts to Theodore Wirth Regional Park and Golf Course would be adverse, since views to the BNSF right-of-way may be opened up by grading and vegetation thinning for the transitway. The additional features, including the catenary wires, support poles, tracks, TPSS, and light rail vehicles, would add visual intrusions to the perceived "natural" character of the park, beyond the existing railroad and overhead utilities.
- **Bassett Creek and Bassett Lake:** Visual impacts to Bassett Creek and Bassett Lake would be adverse. The additional features of the transitway, as listed above in the description of impacts

on Theodore Wirth Regional Park, would add visual intrusions to the perceived "natural" character of the parks beyond the existing railroad and overhead utilities.

- **Theodore Wirth Parkway:** Visual impacts to Theodore Wirth Parkway would be neutral since it passes over the transitway on a bridge for only a short distance. Some views to the BNSF right-of-way may be opened up in the approaches by grading and vegetation thinning for the transitway, but would be peripheral to the immediate scenery adjacent to the Parkway.
- **Glenview Terrace/Valley View Park:** Visual impacts to Glenview Terrace/Valley View Park would be neutral. As noted above, a new bridge would cross the Golden Valley Road Ponds at the western border of the park. The presence of wetlands in the BNSF right-of-way adjacent to the park would prevent cutting into side slopes and minimize removal of trees. The active uses of the park are well-buffered by a wooded area.
- **Sochacki Park and South Halifax Park:** Visual impacts to these parks would be adverse. The additional features of the transitway, as listed above in the description of impacts on Theodore Wirth Regional Park, would add visual intrusions to the perceived "natural" character of these parks beyond the existing railroad and overhead utilities. Also, as noted above, a new bridge would cross Grimes Pond adjacent to the existing BNSF embankment, which would remain as is and continue to be utilized for freight. Refer to **Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation** for further discussion of impacts to Sochacki Park, along with associated mitigation commitments to reduce impacts on these parks.

Robbinsdale/Crystal Landscape Unit

Primary Proposed BLRT Extension Project Visual Features

Stations

The following proposed BLRT Extension project stations are proposed within the Robbinsdale/ Crystal Landscape Unit.

- Robbinsdale (includes park-and-ride; see description of KVPs 10, and 11 below)
- Bass Lake Road (includes park-and-ride)

Bridges and Structures

The following proposed BLRT Extension project bridges and structures are proposed within the Robbinsdale/Crystal Landscape Unit.

- New bridge over TH 100
- New bridge over the CP rail corridor
- New pedestrian bridge at Bass Lake Road (see description of KVPs 21, 22, and 23 below)
- Noise walls from 36th Avenue to 41st Avenue, from 45½ Avenue to West Broadway Avenue, and from West Broadway Avenue to Corvallis Avenue on the east side (see description of NW 2a, NW 2b, NW 3a, and NW 3b below). Noise walls from 36th Avenue to the southern border of Lee Park, from the northern border of Lee Park to near 41st/Noble Avenue, and along

the Robbinsdale Station area on the west side (see description of NW 2a and NW 2b below). Photographs of proposed noise wall locations are provided in **Appendix A** of this report.

Photographic Documentation

The Robbinsdale/Crystal Landscape Unit includes KVPs 9 through 12 and KVP 21 through 23, as described below. KVP location maps and photographs are provided in **Appendix A** of this report. The Robbinsdale/Crystal Landscape Unit also includes NW 2a, NW 2b, NW 3a, and NW 3b. Photographs of proposed noise wall locations are provided in **Appendix A** of this report.

- **KVP 9** (view to the northwest toward downtown Robbinsdale, from 41st Avenue and Hubbard Avenue) represents the changes to the viewshed as seen by roadway users, pedestrians, business owners, and workers. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the varied land uses (residential, church, retail, commercial, transportation, etc.) at this location. In the simulated view from KVP 9, the new proposed BLRT Extension project features that would be most visible would be the overhead catenary system and passing LRVs. These new features would be noticeable, but may be partially shielded by existing structures. The proposed BLRT Extension project would not substantially alter the visual quality or character at this location.
- **KVP 10** (view to the north toward the proposed Robbinsdale Station, from 41st Avenue) represents the changes to the viewshed as seen by roadway users, pedestrians, business owners, and workers. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the varied land uses (residential, church, retail, commercial, transportation, etc.) at this location. In the simulated view from KVP 10, the new proposed BLRT Extension project features that would be most visible would be the new track, overhead catenary system, and passing LRVs. These new features would also be of similar elevation to the existing BNSF rail corridor, and although the new features would noticeable, they would appear as a consistent linear feature alongside the existing BNSF tracks. Additionally, the new Robbinsdale Station and park-and-ride structure would be highly visible; however, based on the presence of other prominent visual features, would not substantially alter the visual quality or character at this location.
- **KVP 11** (view to the east toward the proposed Robbinsdale Station, from 42nd Avenue) represents the changes to the viewshed as seen by roadway users, pedestrians, business owners, and workers. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the varied land uses (residential, retail, commercial, transportation, etc.) at this location. In the simulated view from KVP 11, the new proposed BLRT Extension project features that would be most visible would be the new track, overhead catenary system, and passing LRVs. These new features would also be of similar elevation to the existing BNSF rail corridor, and although the new features would noticeable, they would appear as a consistent linear feature alongside the existing BNSF tracks. Additionally, the new Robbinsdale Station and park-and-ride structure would be highly visible; however, based on the presence of other prominent visual features, would not substantially alter the visual quality or character at this location.

- **KVP 12** (view to the southeast toward the proposed wall and fence, from the adjacent residential alley) represents the changes to the viewshed as seen by roadway users, pedestrians, and residents. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderately high sensitivity based on the residential nature of land uses at this location. In the simulated view from KVP 12, the new proposed BLRT Extension project features that would be most visible would be the new wall and fence, which would be associated with the new bridge over TH 100. These new features would be highly visible; however, an existing BNSF bridge is located adjacent to the proposed bridge. Viewer groups at this location are partially shielded from views of BNSF operations by existing vegetation, which would be replaced by the proposed wall and fence. The new proposed BLRT Extension project features would alter the visual quality and character at this location.
- **KVP 21** (view to the southeast toward the proposed Bass Lake Road station and pedestrian bridge, from Bottineau Boulevard) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 21, the new proposed BLRT Extension project features that would be most visible would be the new station and pedestrian bridge, which would be highly visible and would alter the visual quality at this location. However, the new station and pedestrian overpass would not substantially alter the visual character based on its location adjacent to an existing and highly used roadway.
- **KVP 22** (view to the northwest toward the proposed Bass Lake Road station and pedestrian bridge, from the southeast quadrant of the Bass Lake Road/Bottineau Boulevard intersection) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 22, the new proposed BLRT Extension project features that would be most visible would be the new station and pedestrian bridge, which would be highly visible and would alter the visual quality at this location. However, the new station and pedestrian overpass would not substantially alter the visual character based on its location adjacent to an existing and highly used roadway.
- **KVP 23** (view to the northeast toward the proposed Bass Lake Road pedestrian bridge, from the southwest quadrant of the Bass Lake Road/Bottineau Boulevard intersection) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 23, the new proposed BLRT Extension project features that would be most visible would be the new pedestrian bridge, which would be highly visible and would alter the visual quality at this location. However, the new pedestrian overpass would not substantially alter the visual character based on its location adjacent to an existing and highly used roadway.

- **NW 2a** (view to the northwest toward the proposed noise walls from 36th Avenue to 41st Avenue on the east side, and from 36th Avenue to the southern border of Lee Park on the west side) represents the location of a proposed noise wall, which would be located adjacent to the June Avenue North residences on the west side and the Indiana Avenue North residences on the east side. While the addition of the noise wall would mainly be for the purpose of sound insulation, a noise wall at this location would also provide visual screening and privacy from the existing rail and proposed LRT alignment for the existing residences, especially those on June Avenue North, which have less of a vegetation buffer than those on Indiana Avenue North. The addition of the noise wall at this location would result in a potentially adverse visual effect for June Avenue North residences by precluding views across the alignment toward the existing vegetation buffer, but would result in a neutral visual effect for Indiana Avenue North residences due to the presence of the existing vegetation buffer. The proposed BLRT Extension project would alter the visual quality and character at this location, especially for residents and pedestrians.
- **NW 2b** (view to the southeast toward the proposed noise walls from 36th Avenue to 41st Avenue on the east side) represents the location of a proposed noise wall, which would be located adjacent to the Indiana Avenue North residences. While the addition of the noise wall would mainly be for the purpose of sound insulation, a noise wall at this location would also provide visual screening and privacy from the existing rail and proposed LRT alignment for the existing residences. The addition of the noise wall at this location would result in a neutral visual effect for Indiana Avenue North residences due to the presence of an existing vegetation buffer. The proposed BLRT Extension project would alter the visual quality and character at this location, especially for residents and pedestrians.
- **NW 3a** (view to the northwest toward the proposed noise wall from West Broadway Avenue to Corvallis Avenue on the east side) represents the location of a proposed noise wall, which would be located adjacent to the Welcome Avenue North and Fairview Avenue North residences. While the addition of the noise wall would mainly be for the purpose of sound insulation, a noise wall at this location would also provide visual screening and privacy from the existing rail and proposed LRT alignment for the existing residences. The addition of the noise wall at this location would result in a neutral visual effect for Welcome Avenue North and Fairview Avenue North residences due to the presence of an existing vegetation buffer. The proposed BLRT Extension project would alter the visual quality and character at this location, especially for residents and pedestrians.
- **NW 3b** (view to the southeast toward the proposed noise wall toward from West Broadway Avenue to Corvallis Avenue on the east side) represents the location of a proposed noise wall, which would be located adjacent to West Broadway Avenue. While the addition of the noise wall would mainly be for the purpose of sound insulation for the residential area to the east of West Broadway Avenue, a noise wall at this location would also provide visual screening and privacy from the existing rail and proposed LRT alignment for the existing residences. The addition of the noise wall at this location would result in a neutral visual effect due to the presence of West Broadway Avenue, which provides a buffer between the residential area and the existing rail and proposed LRT alignment. The proposed BLRT Extension project would

alter the visual quality and character at this location, especially for residents, pedestrians, and roadway users.

Summary of Visual Impacts

In the Robbinsdale/Crystal Landscape Unit, the corridor utilizes the existing BNSF right-of-way. Impacts on visual quality would generally be neutral because the transitway would closely parallel the existing railroad and, as such, would be a modification to an existing dedicated rail corridor rather than the introduction of a new rail corridor. The implementation of LRT would bring an increased frequency of vehicles passing through the area, and the effects to visual quality would generally be neutral. At locations where adverse visual effects are anticipated, including where sensitive receptors are located adjacent to the corridor, as described in further detail below, transitway elements added to the rail corridor may be visually screened or softened using landscaping where adequate space permits.

Where sensitive receptors are located adjacent to the corridor, visual intrusions would result from the increased frequency of vehicles passing through the area, the introduction of new sources of light from LRT vehicles and stations, and the altered viewshed for residents viewing the LRT corridor and vehicles. In addition, the ability for LRT users to view the residential land uses from passing LRT vehicles could also constitute a visual intrusion. For example, in the City of Crystal between the proposed Bass Lake Road Station and the proposed 63rd Avenue Station, many existing residences already have a partial or full view of the existing rail corridor. Existing vegetation provides visual screening of the existing BNSF rail corridor, and would also provide visual screening of the proposed LRT vehicles. However, in order to construct the proposed LRT alignment, vegetation removal, such as tree clearing, is proposed for portions of the BNSF right-of-way. Therefore, visual intrusions for sensitive receptors at these locations would also result from the removal of vegetation, and impacts on visual quality would be adverse.

To help visualize the proposed changes, especially in areas of thick vegetation and thin (or no) vegetation, **Appendix A** includes "before BLRT Extension project" existing condition photographs and computer-generated sketch-up simulation of the conceptual "after BLRT Extension project" conditions. For those areas located outside of the BNSF right-of-way, coordination with the city of Crystal has been initiated, and would continue throughout the proposed BLRT Extension project design process, to address the need for revegetation and/or landscaping and other aesthetic treatments to soften or offset the visual effects of tree clearing. Further, where visual impacts would be adverse, implementation of Mitigation Measure 1 (Minimize Operational Night Lighting) and Mitigation Measure 2 (Visual Screening of Proposed BLRT Extension Project Facilities), outlined below in **Section 6.2**, would help to further reduce the impacts of operation of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

For the majority of the LRT alignment, the trackway would generally be level with adjacent land uses. However, at some locations, such as the new bridges over the CP rail corridor and TPH 100, the trackway would be elevated and would result in similar visual intrusions to adjacent sensitive receptors (residential land uses) as described above. However, where visual impacts would be adverse, implementation of Mitigation Measure 1 (Minimize Operational Night Lighting) and

Mitigation Measure 2 (Visual Screening of Proposed BLRT Extension Project Facilities), outlined below in **Section 6.2**, would help to further reduce the impacts of operation of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

Neutral impacts are anticipated as a result of station and TPSS construction, as these features would be designed to complement their surroundings, with variations in design that are consistent with the context of each station and TPSS location. TPSS features are introduced in **Section 3.3 – Proposed BLRT Extension Project Description**, which includes the size and siting considerations. Coordination with stakeholders would continue throughout the proposed BLRT Extension project design process to address the siting of TPSSs and to maintain neutral visual impacts, including additional visual screening as required. However, it is anticipated that station features would also include passenger information displays, lighting, and security systems, which could alter the visual quality and character of the view for sensitive viewer groups.

Some proposed BLRT Extension project features within the Robbinsdale/Crystal landscape unit would result in adverse effects to visual quality, as described below. Where visual impacts would be adverse, implementation of Mitigation Measure 1 (Minimize Operational Night Lighting) and Mitigation Measure 2 (Visual Screening of Proposed BLRT Extension Project Facilities), outlined below in **Section 6.2**, would help to further reduce the impacts of operation of the BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

- **Bass Lake Road pedestrian overpass:** The new grade separated pedestrian crossing at Bass Lake Road would be a prominent visual feature, altering the viewshed at this location and resulting in adverse effects to visual quality. However, the new structure would not be out of character with the varied land uses (retail, commercial, transportation, etc.) at this location.

Impacts on the resources identified above in **Section 4 – Existing Conditions** as "higher-quality visual features" are described in detail below. Visual impacts to these resources as a result of the proposed BLRT Extension project implementation would generally be neutral. However, where visual impacts would be adverse, implementation of Mitigation Measure 1 (Minimize Operational Night Lighting) and Mitigation Measure 2 (Visual Screening of Proposed BLRT Extension Project Facilities), outlined below in **Section 6.2**, would help to further reduce the impacts of operation of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

- **Sacred Heart Catholic Church:** Visual impacts on the church would be neutral since the transitway infrastructure would run within the existing BNSF right-of-way and would not alter views of the building.
- **Historic Robbinsdale Public Library:** Visual impacts on the library would be neutral since the transitway infrastructure would run within the existing BNSF right-of-way and would not alter views of the building.
- **West Broadway Avenue and BNSF Railroad bridges over TH 100:** The reconstructed BNSF railroad bridge would be in the same location but widened to accommodate the transitway, and it would be designed to be consistent with the TH 100 aesthetic guidelines. Visual effects would be neutral.

- **Green boulevard on west side of West Broadway Avenue between 47th Avenue and TH 100:** The construction of the transitway would require the removal of some mature trees and reduce the width of the green space separating the roadway and railroad. Visual effects would be adverse.
- **Bottineau Boulevard Bridge over CP rail corridor:** Visual impacts on the bridge would be neutral. It would not be physically impacted, and since the new bridge for the transitway over the railroad would be separated visually by commercial development, there would be minimal visual influence between them.
- **City of Crystal gateway area:** Visual impacts on the gateway area would be neutral. The gateway sign and landscaping are near the intersection corner and would not be in conflict with the station location.

Brooklyn Park Landscape Unit

Primary Proposed BLRT Extension Project Visual Features

Stations

The following proposed BLRT Extension project stations are proposed within the Brooklyn Park Landscape Unit.

- 63rd Avenue (includes park-and-ride; see description of KVPs 13 and 14 below)
- Brooklyn Boulevard
- 85th Avenue
- 93rd Avenue
- Oak Grove Parkway (includes park-and-ride)

Bridges and Structures

The following proposed BLRT Extension project bridges and structures are proposed within the Brooklyn Park Landscape Unit.

- New pedestrian overpass at 63rd Avenue Station connected to parking garage (see description of KVPs 13 and 14 below)
- New bridge over 73rd Avenue/Bottineau Boulevard intersection (see description of KVPs 15, 16, 17, and 18 below)
- Modified I-694 bridge over the BNSF rail corridor
- New bridge over TH 610
- New OMF (see description of KVPs 19 and 20 below)

Photographic Documentation

Photographic Documentation

The Brooklyn Park Landscape Unit includes KVPs 13 through 20, as described below. KVP location maps and photographs are provided in **Appendix A** of this report.

- **KVP 13** (view to the south toward the proposed 63rd Avenue Station, from the trail adjacent to Bottineau Boulevard) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 13, the new proposed BLRT Extension project features that would be most visible would be the new track, overhead catenary system, and passing LRVs. These new features would also be of similar elevation to the existing BNSF rail corridor, and although the new features would be noticeable, they would appear as a consistent linear feature alongside the existing BNSF tracks. Additionally, the new 63rd Avenue Station and park-and-ride with pedestrian overpass structure would be highly visible and would alter the visual quality at this location. However, the new station and park-and-ride would not substantially alter the visual character based on its location adjacent to an existing and highly used roadway.
- **KVP 14** (view to the southeast toward the proposed 63rd Avenue Station, from the adjacent neighborhood west of 63rd Avenue) represents the changes to the viewshed as seen by roadway users, pedestrians, and residents. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderately high sensitivity based on the residential nature of land uses at this location. In the simulated view from KVP 14, the new proposed BLRT Extension project feature that would be most visible would be the 63rd Avenue park-and-ride structure. Although partially shielded by existing residential structures and vegetation, this new feature would be highly visible, and would alter the visual quality and character at this location.
- **KVP 15** (view to the north toward the proposed 73rd Avenue/Bottineau Boulevard Bridge, from Bottineau Boulevard at 71st Avenue) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 15, the new proposed BLRT Extension project features that would be most visible would be the new 73rd Avenue/Bottineau Boulevard bridge. This new feature would be highly visible and would alter the visual quality at this location. However, the new bridge would not substantially alter the visual character based on its location over an existing and highly used roadway.
- **KVP 16** (view to the northeast toward the proposed 73rd Avenue/Bottineau Boulevard Bridge, from 71st Avenue) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 16,

the new proposed BLRT Extension project features that would be most visible would be the new track, overhead catenary system, and passing LRVs. Although the new features would noticeable, they would appear as a consistent linear feature alongside the existing BNSF tracks. The new proposed BLRT Extension project features would not substantially alter the visual quality and character at this location.

- **KVP 17** (view to the north toward the proposed 73rd Avenue/Bottineau Boulevard Bridge, from the southeast corner of Bottineau Boulevard and 71st Avenue) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 17, the new proposed BLRT Extension project features that would be most visible would be the new track, overhead catenary system, and passing LRVs. Additionally, the new 73rd Avenue/Bottineau Boulevard bridge would be a prominent visual feature at this location. These new features would be highly visible and would alter the visual quality at this location. However, the new bridge would not substantially alter the visual character based on its location over an existing and highly used roadway.
- **KVP 18** (view to the south toward the proposed 73rd Avenue/Bottineau Boulevard Bridge, from Bottineau Boulevard at 73rd Avenue) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the transportation-related nature of land uses at this location. In the simulated view from KVP 18, the new proposed BLRT Extension project features that would be most visible would be the new track, overhead catenary system, and passing LRVs. Additionally, the new 73rd Avenue/Bottineau Boulevard bridge would be a prominent visual feature at this location. These new features would be highly visible, and would alter the visual quality at this location. However, the new bridge would not substantially alter the visual character based on its location over an existing and highly used roadway.
- **KVP 19** (view to the east toward the proposed OMF, from 101st Avenue) represents the changes to the viewshed as seen by roadway users and pedestrians. Views at this location would typically be of both short and long duration, depending on the viewer group, and viewers would have a moderate sensitivity based on the rural and transportation-related nature of land uses at this location. In the simulated view from KVP 19, the new proposed BLRT Extension project features that would be most visible would be the new OMF, which would be a prominent visual feature altering the viewshed at this location. The new facility would introduce a large structure to an otherwise minimally developed area, resulting in a substantial alteration of the visual quality and character, as well as a partial obstruction of long distance views.
- **KVP 20** (view to the southwest toward the proposed OMF, from Rush Creek Regional Trail) represents the changes to the viewshed as seen by recreational users. Views at this location would typically be of long duration, and viewers would have a moderately high sensitivity based on the recreational nature of land uses at this location. In the simulated view from KVP 20, which would be a prominent visual feature altering the viewshed at this location. The new

facility would introduce a large structure to an otherwise minimally developed area, resulting in a substantial alteration of the visual quality and character, as well as a partial obstruction of views. However, the proposed BLRT Extension project would not preclude continued recreational use at this location.

Summary of Visual Impacts

In the Brooklyn Park Landscape Unit, the corridor utilizes the existing right-of-way of West Broadway Avenue. For much of the corridor, the transitway would be located in the center of the roadway and would have neutral effects to visual quality.

For the majority of the LRT alignment, the trackway would generally be level with adjacent land uses. However, at some locations, such as the new bridge over 73rd Avenue/Bottineau Boulevard intersection, the trackway would be elevated resulting in potential visual intrusions to adjacent sensitive receptors (residential land uses). Visual intrusions for sensitive receptors at these locations would result from both the altered viewshed for residents viewing the LRT corridor and vehicles, and the ability for LRT users to view the residential land uses from passing LRT vehicles. However, where visual impacts would be adverse, implementation of Mitigation Measure 1 (Minimize Operational Night Lighting) and Mitigation Measure 2 (Visual Screening of Proposed BLRT Extension Project Facilities), outlined below in **Section 6.2**, would help to further reduce the impacts of operation of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

Neutral impacts are anticipated as a result of station and TPSS construction, as these features would be designed to complement their surroundings, with variations in design that are consistent with the context of each station and TPSS location. TPSS features are introduced in **Section 3.3 – Proposed BLRT Extension Project Description**, which includes the size and siting considerations. However, it is anticipated that station features would also include passenger information displays, lighting, and security systems, which could alter the visual quality and character of the view for sensitive viewer groups. Coordination with stakeholders would continue throughout the proposed BLRT Extension project design process for proposed stations and also to address the siting of TPSSs to maintain neutral visual impacts. This process may include the development of additional visual screening as required.

Some proposed BLRT Extension project features within the Brooklyn Park landscape unit would result in adverse effects to visual quality, as described below. Where visual impacts would be adverse, implementation of Mitigation Measure 1 (Minimize Operational Night Lighting) and Mitigation Measure 2 (Visual Screening of Proposed BLRT Extension Project Facilities), outlined below in **Section 6.2**, would help to further reduce the impacts of operation of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

- **63rd Avenue Park-and-ride/Pedestrian Bridge and Overpass:** The new 63rd Avenue park-and-ride and overpass would be prominent visual features, altering the viewshed at this location and resulting in adverse effects to visual quality. However, the new structure would not be out of character with the varied land uses (retail, commercial, transportation, etc.) at this location.

- **73rd Avenue/Bottineau Bridge:** While the proposed BLRT Extension project was designed to minimize impacts on land uses/private property, the new 73rd Avenue/Bottineau bridge would result in the acquisition of commercial property to the south of the Brooklyn Boulevard Station. The new bridge would be a prominent visual feature, altering the viewshed at this location and resulting in adverse effects to visual quality. However, the new bridge would not be out of character with the varied land uses (retail, commercial, transportation, etc.) at this location.
- **OMF:** The new OMF would be a prominent visual feature, altering the viewshed at this location. The new facility would introduce a large structure to an otherwise minimally developed area. Further, the new OMF would alter views for recreational users, and would result in adverse effects to visual quality. However, the new OMF and related proposed BLRT Extension project elements, including landscaping and visual screening, would be designed in coordination with the city of Brooklyn Park and the Three Rivers Park District, and in accordance with local zoning ordinances.

Impacts on the resources identified above in **Section 4 – Existing Conditions** as "higher-quality visual features" are described in detail below. Visual impacts to these resources as a result of proposed BLRT Extension project implementation would generally be neutral. Where visual impacts would be adverse, implementation of Mitigation Measure 1 (Minimize Operational Night Lighting) and Mitigation Measure 2 (Visual Screening of proposed BLRT Extension project Facilities), outlined below in **Section 6.2**, would help to further reduce the impacts of operation of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

- **I-694 bridge over the BNSF rail corridor and Bottineau Boulevard:** Since only minor modifications to the piers of the I-694 bridge are required, visual impacts on this resource would be neutral.
- **Shingle Creek:** Visual impacts on Shingle Creek would be neutral. The only transitway features in the vicinity would be the tracks and catenary in the center median of the roadway, and they would not visually interrupt clear views to the creek.
- **West Broadway Avenue Bridge over TH 610:** Visual effects on the bridge would be neutral. The new transitway bridge that would parallel the West Broadway Avenue Bridge over TH 610 would block views of the West Broadway Avenue bridge, and the transitway bridge would be designed to be consistent with the TH 610 aesthetic guidelines.
- **Rush Creek Regional Trail:** Visual effects on the trail would be adverse. As described above, the new OMF would be a prominent visual feature, introducing a large structure to an otherwise minimally developed area. The presence of the OMF would alter views for recreational users of this existing trail.

5.3.2.2 Construction Impacts

Anticipated visual effects during construction of the proposed BLRT Extension project would be similar to the appearance of typical roadway projects including the temporary presence of heavy equipment, traffic control measures, and construction activities. Areas where construction activities for proposed BLRT Extension project features would be particularly noticeable to sensitive viewer groups include:

- The reconstruction of the Olson Memorial Highway Bridge over I-94 to create adequate width for the transitway would be highly visible to travelers along I-94 and Olson Memorial Highway.
- Users of Theodore Wirth Regional Park, Sochacki Park and South Halifax Park would likely perceive construction activity as undesirable and not consistent with their anticipated recreational experience. The reconstruction of the westbound Olson Memorial Highway bridge over the BNSF rail corridor and depressed transitway with retaining walls curving onto Olson Memorial Highway would be highly visible to travelers along Olson Memorial Highway. Additionally, there may be temporary grading for the construction of retaining walls or other features that would affect slopes and vegetation.
- The reconstruction of the BNSF bridge over TH 100 to create adequate width for the transitway would be highly visible to travelers along northbound TH 100. Where the transitway passes along residential neighborhoods, the construction activity would likely be perceived as more visually disruptive to these typically peaceful residential settings.
- The construction of the new bridge for the transitway over TH 610 would be highly visible to travelers along eastbound TH 610.

In general, the potential short-term impacts that would occur during proposed BLRT Extension project construction would be associated with construction staging areas; concrete and form installation; removal of some of the existing vegetation; lights and glare from construction areas; and generation of dust and debris in the proposed BLRT Extension project area, as described in further detail below.

Temporary construction activities are anticipated to include partial or complete road and lane closures, vehicle and pedestrian detours, construction material deliveries, and transport of construction equipment. In general, construction staging areas would be located adjacent to the existing BNSF rail corridor and proposed BLRT Extension project corridor, where the presence of construction equipment and earthmoving activities are not anticipated to be visually intrusive and would be compatible with the surrounding landscape. Where the transitway passes along recreation areas and residential neighborhoods, construction activities, such as grading, vegetation removal, and lighting of work areas, would likely be perceived as visually disruptive to those typically more peaceful residential settings.

Construction impacts would be temporary, and construction staging areas would be restored to pre-project conditions after construction is completed. At locations where higher visual effects are anticipated, the loss of existing vegetation on side slopes for grading or access purposes would be replaced to the extent feasible. Implementation of Mitigation Measure 3 (Minimize Visual Disruption from Construction Activities), outlined below in **Section 6.2**, would help to further

reduce the impacts of construction of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

6 Conclusions and Recommendations

6.1 Overview of Evaluation Results

The proposed BLRT Extension project implementation would not result in a substantial change to the visual character of the corridor as a whole. Neutral visual effects are anticipated to result from the proposed BLRT Extension project implementation along most segments. However, adverse visual effects would occur in some areas, such as where partial residential acquisitions would be required and where the existing vegetated center median of Olson Memorial Highway would be modified or removed. Additionally, adverse visual effects to visual quality would occur in areas where recreational and residential uses are located along or in the vicinity of the proposed BLRT Extension project corridor.

At locations where adverse visual effects are anticipated, transitway elements added to the rail corridor may be visually screened or softened using landscaping where adequate space permits, and the loss of existing vegetation on side slopes for grading or access purposes would be replaced to the extent feasible. Several local plans address aesthetic and visual resources in the proposed BLRT Extension project area, and applicable policies include the establishment of design and landscape guidelines. The Minneapolis Park and Recreation Board, the Three Rivers Park District, the Sochacki Park Joint Powers Board, and the affected communities would be involved in the selection of landscape treatments that would be consistent with applicable local policies and that would be compatible with the character of the parks and surrounding neighborhoods. In general, lost vegetation for disturbed areas outside of the BNSF right-of-way would be replaced with vegetation of a similar type where feasible, and where new physical features of the transitway are introduced, efforts would be made to screen or soften the view.

Neutral impacts are anticipated as a result of station and TPSS construction. Stations would be designed to be aesthetically attractive and to complement their surroundings. However, it is anticipated that station features would also include passenger information displays, lighting, and security systems. Coordination with stakeholders would continue throughout the proposed BLRT Extension project design process for proposed stations. Additionally, TPSS facilities would be designed to complement their surroundings, and would incorporate landscaping features to minimize visual intrusion as appropriate. To further minimize visual quality impacts of TPSS siting, the siting would be customized for each location based on the context of each facility in relation to adjacent properties and resources. Coordination with stakeholders would continue throughout the proposed BLRT Extension project design process for proposed TPSSs.

6.2 Mitigation Measures

Implementation of Mitigation Measures 1 through 3, outlined below, would help to further reduce the impacts of operation and construction of the proposed BLRT Extension project on sensitive viewer groups in the proposed BLRT Extension project area.

6.2.1 Operational Mitigation Measures

Mitigation Measure 1: Minimize Operational Night Lighting

To minimize impacts on sensitive receptors resulting from nighttime operational lighting, to the extent feasible and consistent with safety and security, all permanent exterior lighting would be designed and installed so that (a) the lighting does not cause excessive reflected glare and (b) illumination of the proposed BLRT Extension project and its immediate vicinity is minimized.

Mitigation Measure 2: Visual Screening of Proposed BLRT Extension Project Facilities

To the extent feasible, proposed BLRT Extension project facilities have been sited to avoid locations in proximity to residences, parks, or other sensitive visual receptors. Where avoidance is not feasible, or where higher visual or privacy effects are anticipated to result from the introduction of new physical features of the transitway, such as where the vertical distance of the LRT alignment is higher than adjacent residences, efforts would be made to screen or soften the view using landscaping or walls where adequate space permits. Landscape treatments would be selected for consistency with applicable local policies, consideration for agency maintenance budgets and manpower, and for compatibility with the character of the parks and surrounding neighborhoods.

The Council has prepared design guidelines for key structures throughout the proposed light rail alignment, focusing on bridges and retaining walls. Those guidelines are included within the *Visual Quality Guidelines for Key Structures* (Council, 2015). These guidelines were developed by the Council, reflecting various coordinating efforts with affected local jurisdictions. The guidelines have been used by the Council in the advancement of the proposed BLRT Extension project's design and development. The guidelines have and will help to ensure a consistent aesthetic element for key structures throughout the proposed BLRT Extension project alignment, while allowing for some flexibility in wall treatments.

6.2.2 Construction Period Mitigation Measures

Mitigation Measure 3: Minimize Visual Disruption from Construction Activities

Follow the Council's design guidelines to address construction impacts where appropriate and practical; these include:

- Locate staging areas in places where their visibility will be minimal and provide temporary construction screens or barriers to limit views into them from nearby residential areas, community facilities, recreational areas and trails, or other public open spaces from which they will be seen by visually sensitive viewers
- Use construction methods that minimize the need to remove vegetation to accommodate construction activities
- Shield light sources used in nighttime construction to reduce lighting impacts for residential areas
- Restore areas disturbed during construction

7 References

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2014 (April). Bottineau Transitway Draft Environmental Impact Statement.

USDOT, FTA and Hennepin County Regional Railroad Authority, Metropolitan Council
2012 (September). Bottineau Transitway Technical Report Visual Quality.

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Appendix A Key View Location Maps and Photographs

Appendix A Key View Location Maps and Photographs

- FEIS Design Documents: Sketchup Views
- Olson Memorial Highway Median: Sketchup View
- Proposed Noise Wall Location Photographs
- Vegetation Review

FEIS Design Documents - Sketchup Views

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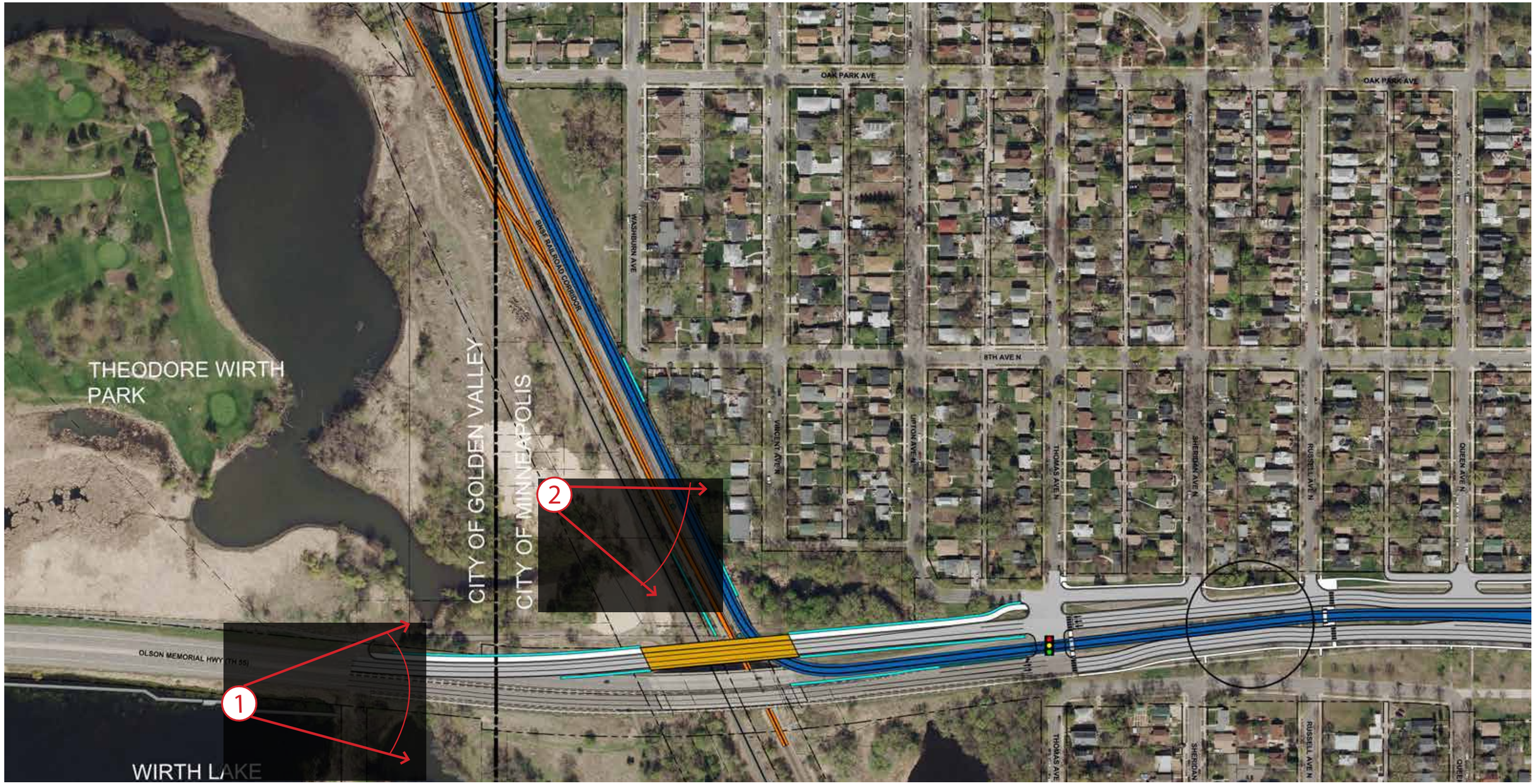

LEGEND

LRT TRACK AREA	SIDEWALK	EXISTING RIGHT OF WAY
FREIGHT TRACK AREA	TRAIL	PROPERTY LINE
STATION PLATFORM	ROADWAY	APPROX. LOCATION OF TRACTION POWER SUBSTATION (TPSS)
RETAINING WALL	FREIGHT ACCESS ROAD	APPROX. SIZE OF TPSS FINAL LOCATION TBD
BRIDGE		

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

FEIS DESIGN DOCUMENTS
SKETCHUP VIEWS
CITY OF MINNEAPOLIS
VIEW LOCATION PLANS

11/20/2015
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LEGEND

LRT TRACK AREA	SIDEWALK	EXISTING RIGHT OF WAY
FREIGHT TRACK AREA	TRAIL	PROPERTY LINE
STATION PLATFORM	ROADWAY	APPROX. LOCATION OF TRACTION POWER SUBSTATION (TPSS)
RETAINING WALL	FREIGHT ACCESS ROAD	APPROX. SIZE OF TPSS FINAL LOCATION TBD
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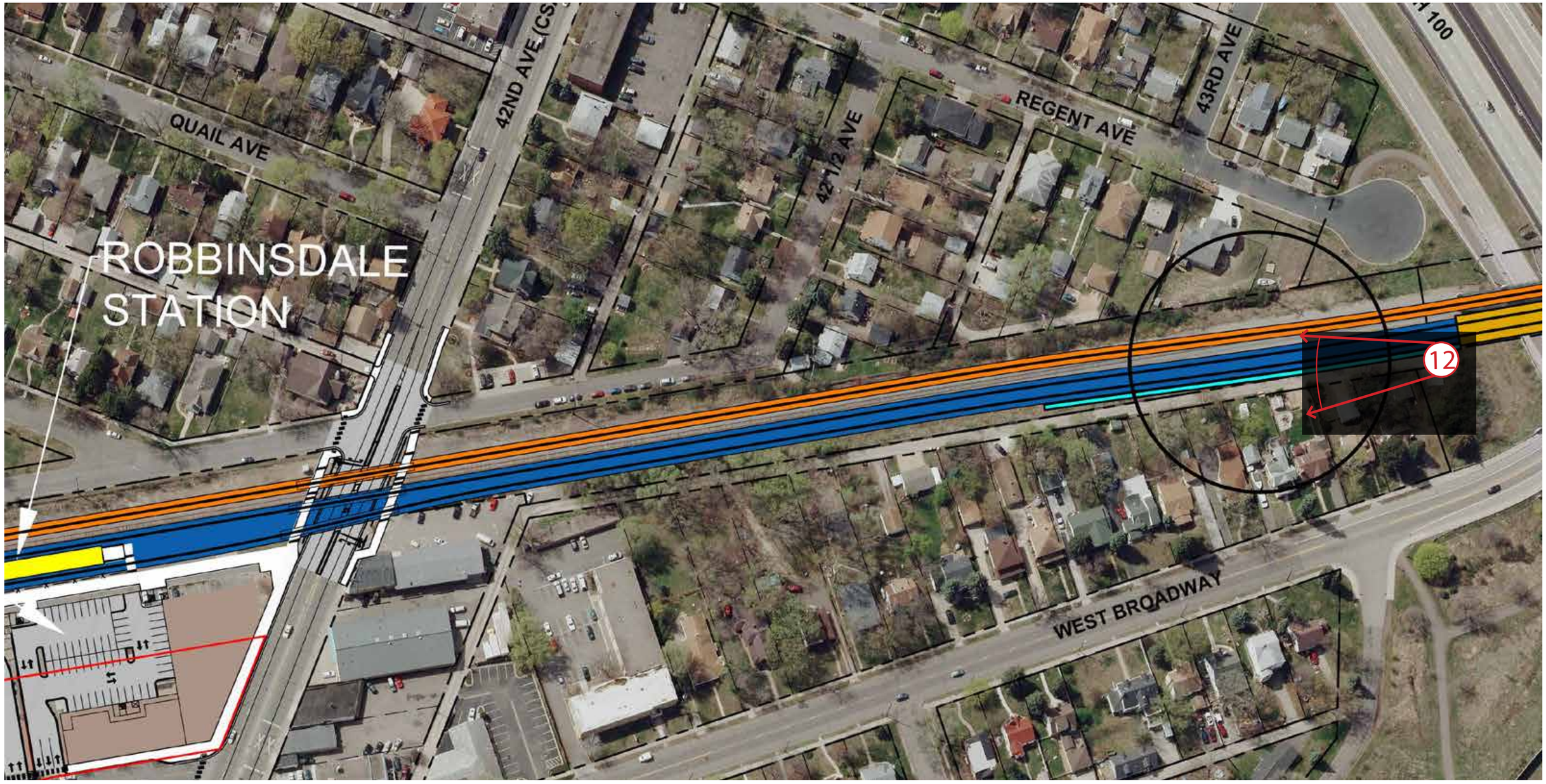

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LRT TRACK AREA	SIDEWALK	EXISTING RIGHT OF WAY
FREIGHT TRACK AREA	TRAIL	PROPERTY LINE
STATION PLATFORM	ROADWAY	APPROX. LOCATION OF TRACTION POWER SUBSTATION (TPSS)
RETAINING WALL	FREIGHT ACCESS ROAD	APPROX. SIZE OF TPSS FINAL LOCATION TBD
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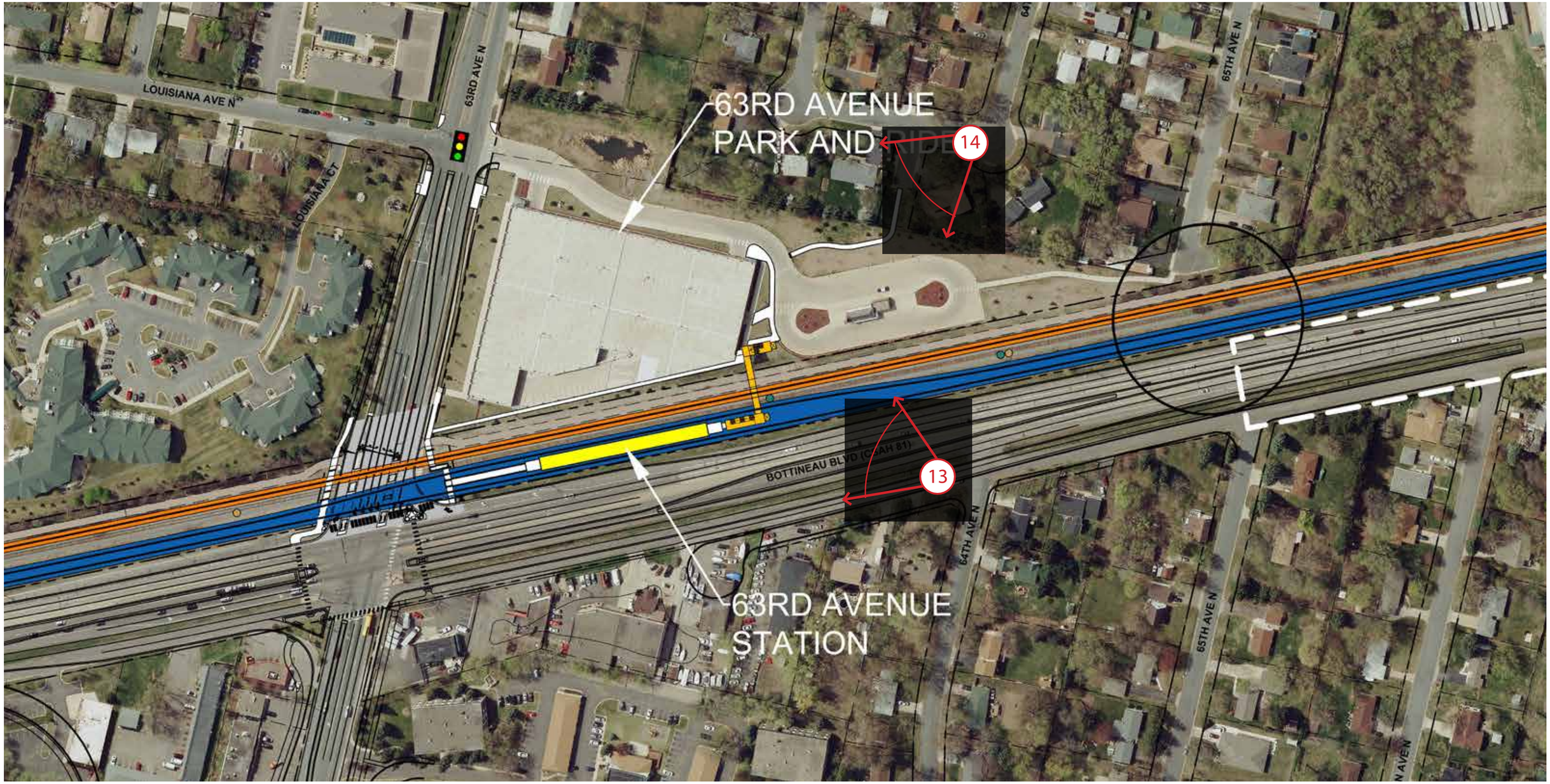

LEGEND

LRT TRACK AREA	SIDEWALK	EXISTING RIGHT OF WAY
FREIGHT TRACK AREA	TRAIL	PROPERTY LINE
STATION PLATFORM	ROADWAY	APPROX. LOCATION OF TRACTION POWER SUBSTATION (TPSS)
RETAINING WALL	FREIGHT ACCESS ROAD	APPROX. SIZE OF TPSS FINAL LOCATION TBD
BRIDGE		

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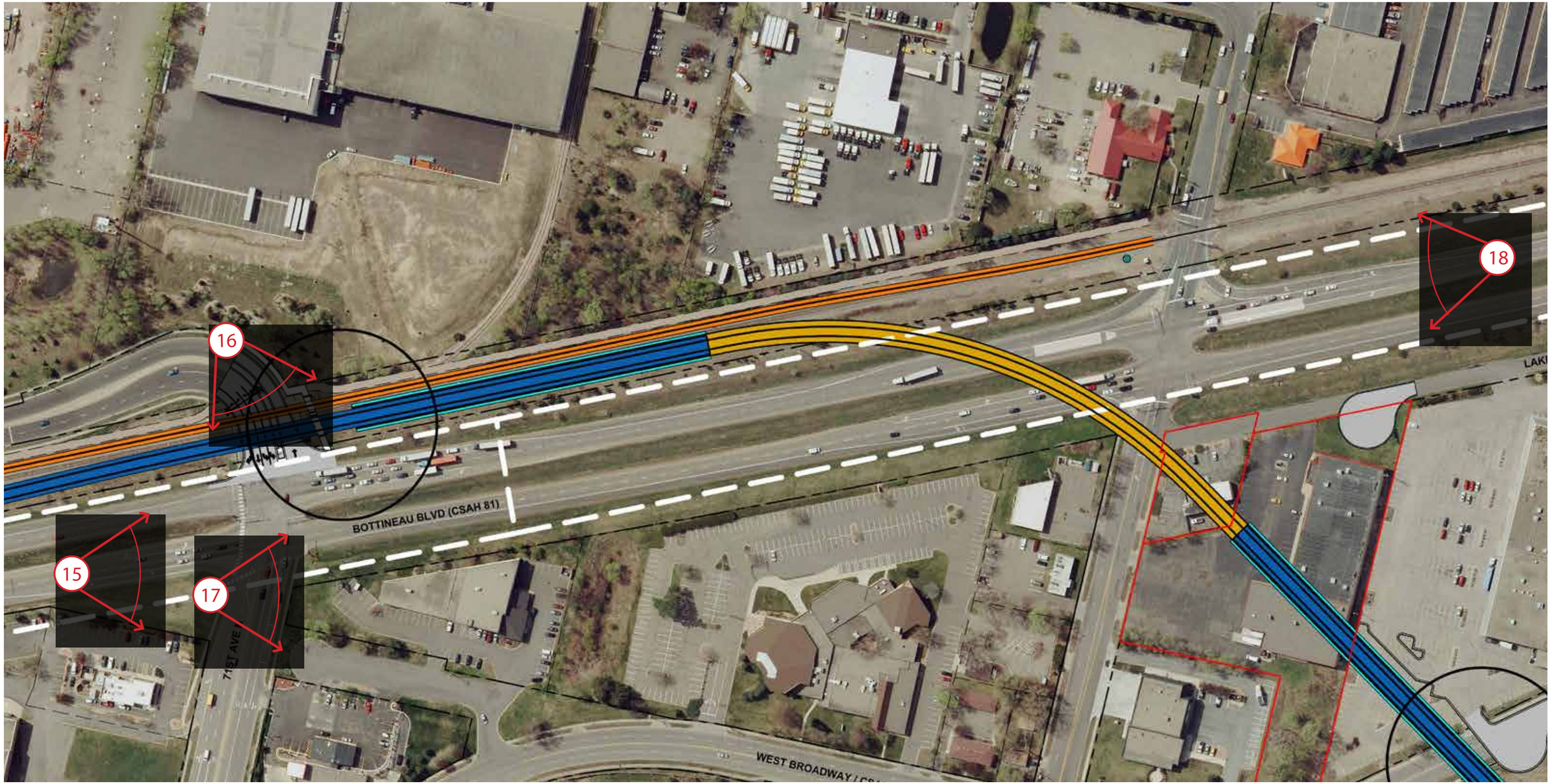

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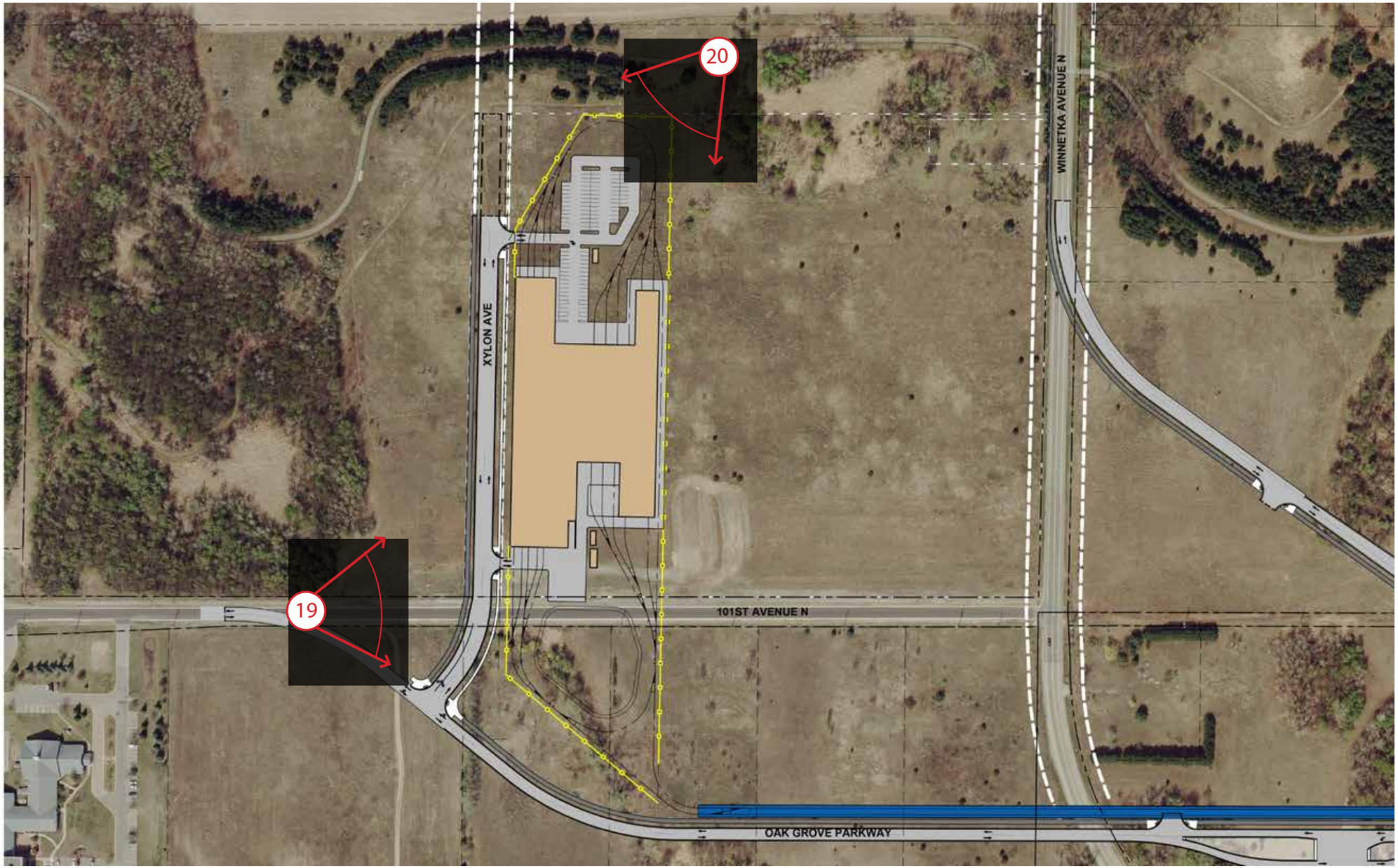
VIEW LOCATION PLANS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XYLON AVE
WINNETKA AVENUE N
101ST AVENUE N
OAK GROVE PARKWAY

NORTH



BLUE LINE LRT EXTENSION

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CITY OF GOLDEN VALLEY
VIEW FROM WIRTH LAKE BOARDWALK

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CITY OF GOLDEN VALLEY
VIEW OF WIRTH PARK TRAIL

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CITY OF GOLDEN VALLEY
VIEW OF WIRTH PARK TRAIL

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CITY OF GOLDEN VALLEY
VIEW FROM XERXES AND FARWELL AVENUE

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CITY OF GOLDEN VALLEY
VIEW FROM XERXES AND FARWELL AVENUE

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CITY OF MINNEAPOLIS
VIEW WEST FROM PLYMOUTH AVENUE

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CITY OF MINNEAPOLIS
VIEW WEST FROM PLYMOUTH AVENUE

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CITY OF GOLDEN VALLEY
VIEW SOUTH FROM PLYMOUTH AVENUE BRIDGE

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CITY OF GOLDEN VALLEY
VIEW SOUTH FROM PLYMOUTH AVENUE BRIDGE

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METRO BLUE LINE EXTENSION
Bottineau LRT

BLUE LINE LRT EXTENSION

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CITY OF GOLDEN VALLEY
VIEW NORTH FROM PLYMOUTH AVENUE BRIDGE

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BLUE LINE LRT EXTENSION

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CITY OF GOLDEN VALLEY
VIEW NORTH FROM PLYMOUTH AVENUE BRIDGE

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CITY OF GOLDEN VALLEY
VIEW FROM THEODORE WIRTH PARK CHALET

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CITY OF GOLDEN VALLEY
VIEW FROM THEODORE WIRTH PARK CHALET

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CITY OF GOLDEN VALLEY
VIEW NORTH FROM THEODORE WIRTH PARK GOLF COURSE

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CITY OF GOLDEN VALLEY
VIEW NORTH FROM THEODORE WIRTH PARK GOLF COURSE

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CITY OF GOLDEN VALLEY
VIEW NORTH FROM THEODORE WIRTH PARK GOLF COURSE

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CITY OF GOLDEN VALLEY
VIEW SOUTH FROM THEODORE WIRTH PARKWAY

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CITY OF GOLDEN VALLEY
VIEW SOUTH FROM THEODORE WIRTH PARKWAY

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CITY OF GOLDEN VALLEY
VIEW WEST AT GOLDEN VALLEY ROAD AND THEODORE WIRTH PARKWAY

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CITY OF GOLDEN VALLEY
VIEW WEST AT GOLDEN VALLEY ROAD AND THEODORE WIRTH PARKWAY

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VIEW SOUTH FROM THEODORE WIRTH PARKWAY

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VIEW SOUTH FROM THEODORE WIRTH PARKWAY

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CITY OF ROBBINSDALE
VIEW FROM 41ST AVENUE AND HUBBARD AVENUE

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CITY OF ROBBINSDALE
VIEW FROM 41ST AVENUE AND HUBBARD AVENUE

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CITY OF ROBBINSDALE
VIEW NORTHEAST FROM 41ST AVENUE

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CITY OF ROBBINSDALE
VIEW NORTHEAST FROM 41ST AVENUE

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CITY OF ROBBINSDALE
VIEW EAST ALONG 42ND AVENUE

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CITY OF ROBBINSDALE
VIEW EAST ALONG 42ND AVENUE

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CITY OF ROBBINSDALE
VIEW SOUTHEAST FROM RESIDENTIAL ALLEY

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CITY OF ROBBINSDALE
VIEW SOUTHEAST FROM RESIDENTIAL ALLEY

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CITY OF BROOKLYN PARK
VIEW FROM TRAIL LOOKING SOUTH TOWARDS 63RD AVENUE

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CITY OF BROOKLYN PARK
VIEW FROM TRAIL LOOKING SOUTH TOWARDS 63RD AVENUE

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CITY OF BROOKLYN PARK
VIEW FROM NEIGHBORHOOD WEST OF 63RD AVENUE STATION

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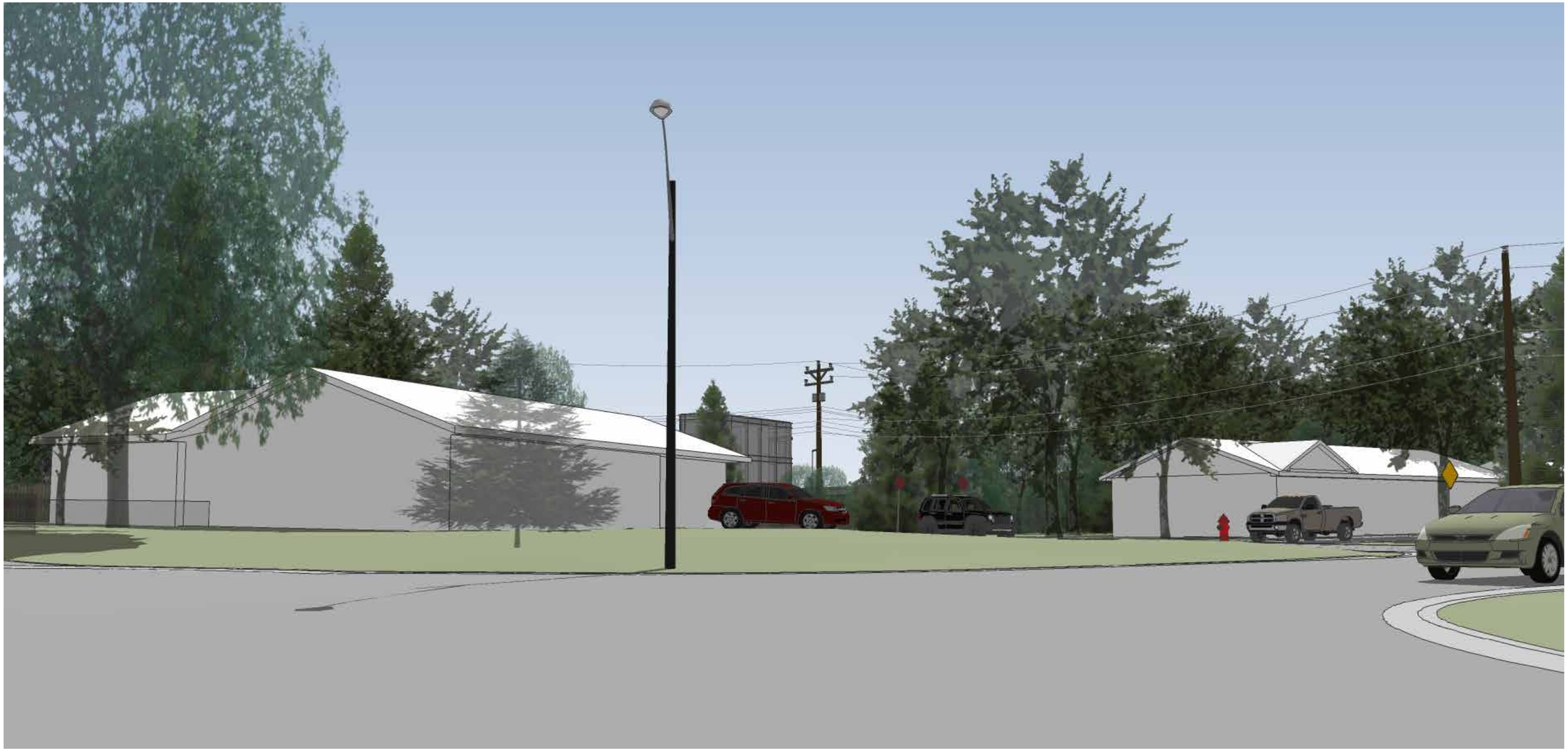

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CITY OF BROOKLYN PARK
VIEW FROM NEIGHBORHOOD WEST OF 63RD AVENUE STATION

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CITY OF BROOKLYN PARK
VIEW FROM BOTTINEAU BLVD / CR-81 AT 71ST AVENUE LOOKING NORTH

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CITY OF BROOKLYN PARK
VIEW FROM BOTTINEAU BLVD / CR-81 AT 71ST AVENUE LOOKING NORTH

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CITY OF BROOKLYN PARK
VIEW FROM 71ST AVENUE LOOKING EAST

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CITY OF BROOKLYN PARK
VIEW FROM 71ST AVENUE LOOKING EAST

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CITY OF BROOKLYN PARK
VIEW FROM SOUTHEAST CORNER OF BOTTINEAU BLVD / CR-81 AND 71ST AVENUE

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CITY OF BROOKLYN PARK
VIEW FROM SOUTHEAST CORNER OF BOTTINEAU BLVD / CR-81 AND 71ST AVENUE

17
PROPOSED



CITY OF BROOKLYN PARK
VIEW FROM BOTTINEAU BLVD / CR-81 AT 73RD AVENUE LOOKING SOUTH

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CITY OF BROOKLYN PARK
VIEW FROM BOTTINEAU BLVD / CR-81 AT 73RD AVENUE LOOKING SOUTH

18
PROPOSED



CITY OF BROOKLYN PARK
VIEW FROM 101ST AVENUE N LOOKING EAST

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CITY OF BROOKLYN PARK
VIEW FROM 101ST AVENUE N LOOKING EAST

19
PROPOSED



CITY OF BROOKLYN PARK
VIEW FROM RUSH CREEK REGIONAL TRAIL

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CITY OF BROOKLYN PARK
VIEW FROM RUSH CREEK REGIONAL TRAIL

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DRAFT-WORK IN PROCESS

METRO BLUE LINE EXTENSION
Bottineau LRT

BLUE LINE LRT EXTENSION

CITY OF CROSSTAL
PEDESTRIAN OVERPASS AT BASS LAKE ROAD
DUAL VERTICAL CIRCULATION OPTION

E

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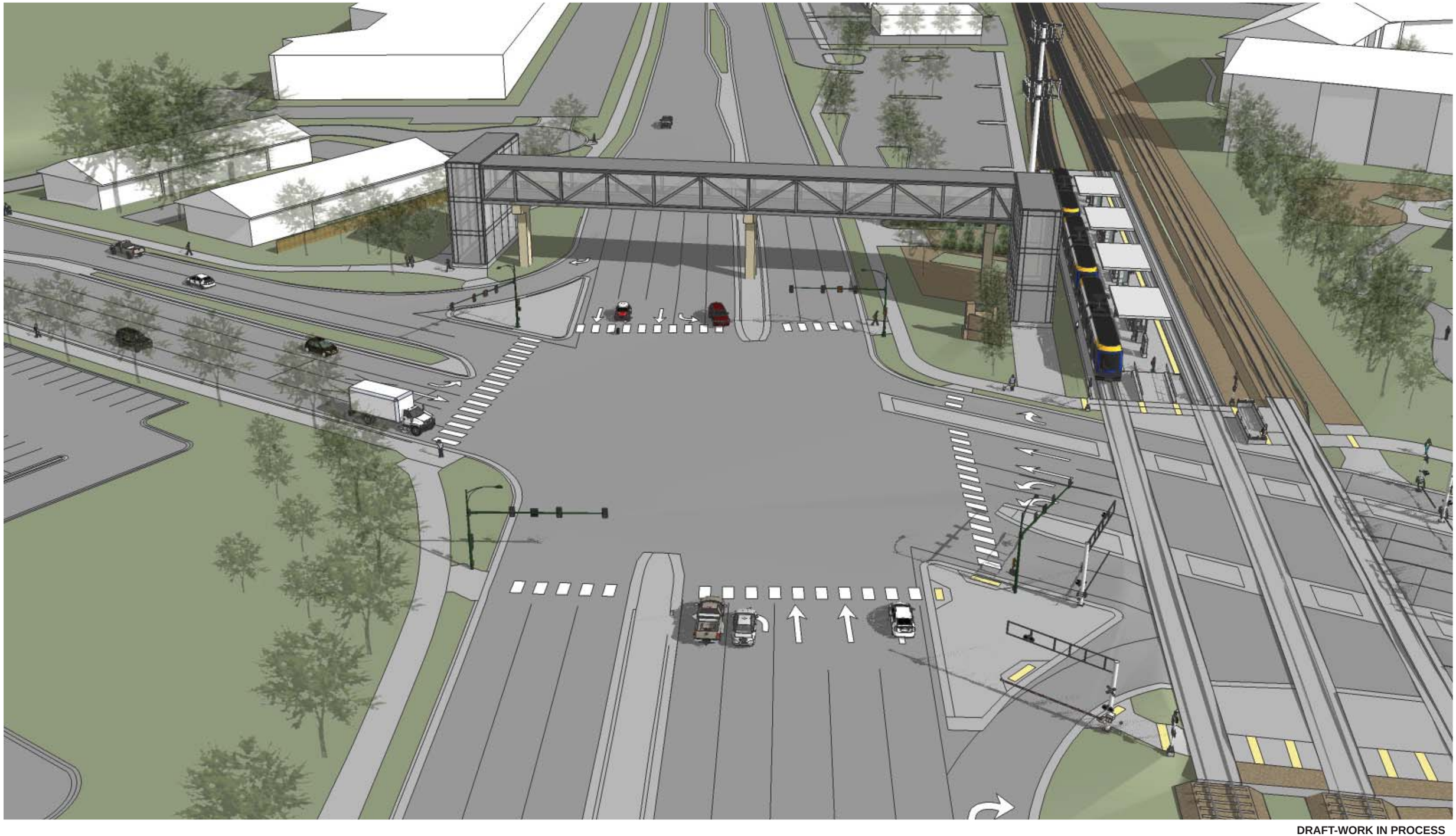

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METRO BLUE LINE EXTENSION Bottineau LRT	BLUE LINE LRT EXTENSION CITY OF CRYSTAL PEDESTRIAN OVERPASS AT BASS LAKE ROAD DUAL VERTICAL CIRCULATION OPTION	E	Rev 0 01/25/2016	21 PROPOSED	METROPOLITAN COUNCIL · Kimley»Horn · SRF Consulting Group, Inc. · miller dunwiddie ARCHITECTURE



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METRO BLUE LINE EXTENSION
Bottineau LRT

BLUE LINE LRT EXTENSION

CITY OF CRYSTAL
PEDESTRIAN OVERPASS AT BASS LAKE ROAD
DUAL VERTICAL CIRCULATION OPTION

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METRO BLUE LINE EXTENSION Bottineau LRT	BLUE LINE LRT EXTENSION CITY OF CRYSTAL PEDESTRIAN OVERPASS AT BASS LAKE ROAD DUAL VERTICAL CIRCULATION OPTION	E	Rev 0 01/25/2016	22 PROPOSED	METROPOLITAN COUNCIL · Kimley»Horn · SRF Consulting Group, Inc. · miller dunwiddie ARCHITECTURE



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BLUE LINE LRT EXTENSION

CITY OF CRYSTAL
PEDESTRIAN OVERPASS AT BASS LAKE ROAD
DUAL VERTICAL CIRCULATION OPTION

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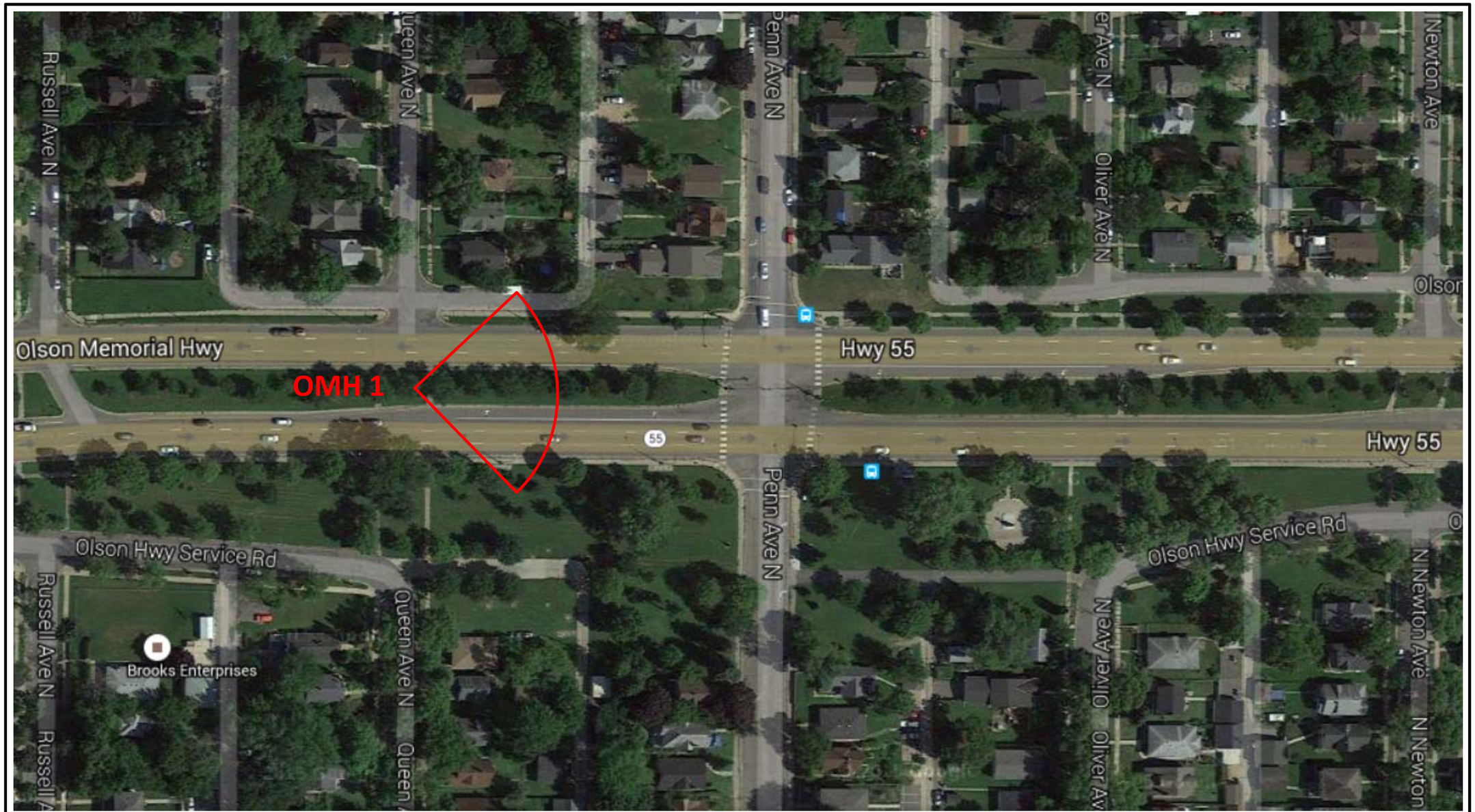
METRO BLUE LINE EXTENSION Bottineau LRT	BLUE LINE LRT EXTENSION CITY OF CRYSTAL PEDESTRIAN OVERPASS AT BASS LAKE ROAD DUAL VERTICAL CIRCULATION OPTION	E	Rev 0 01/25/2016	23 PROPOSED	METROPOLITAN COUNCIL · Kimley»Horn · SRF Consulting Group, Inc. · miller dunwiddie ARCHITECTURE

Olson Memorial Highway Median: Sketchup View



Olson Memorial Highway (OMH) Median View Location Map

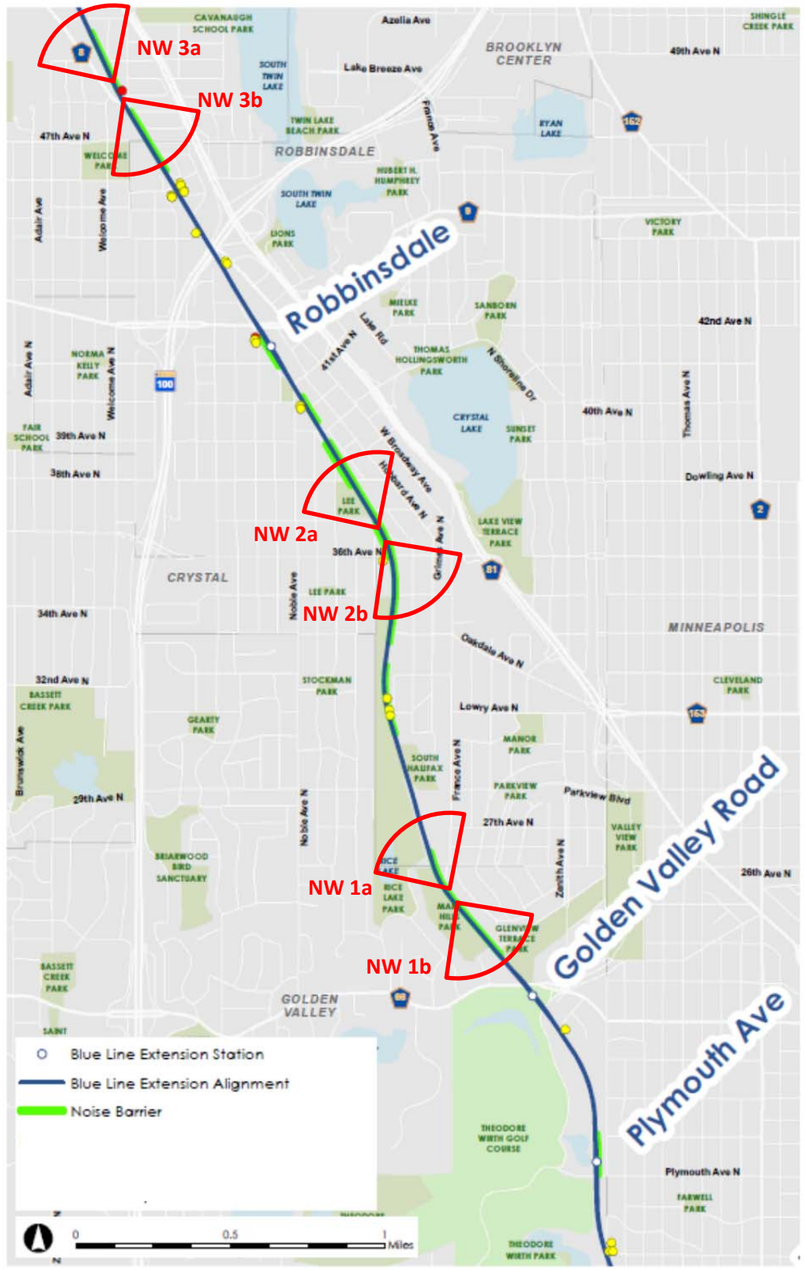


OMH 1a: Existing view of Olson Memorial Highway median; View to the east toward Penn Avenue



OMH 1b: Sketchup view of Olson Memorial Highway median with project

Proposed Noise Wall Location Photographs





NW 1a: View to the northwest - noise wall would be on the east side of the corridor (right in the photo)



NW 1b: View to the southeast - noise wall would be on the east side in the background (left of the corridor in the photo)



NW 2a: View to the northwest - noise walls would be on the east and west sides of the corridor



NW 2b: View to the southeast - noise wall would be on the east side of the corridor (left in the photo)



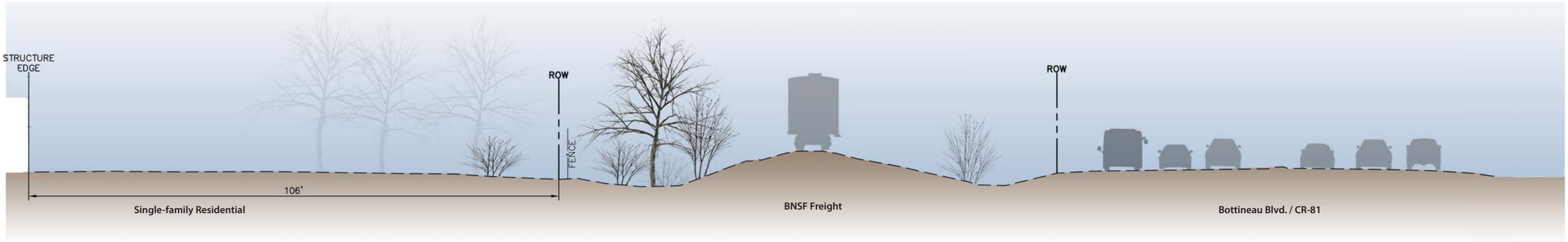
NW 3a: View to the northwest - noise wall would be on the east side of the corridor (right in the photo)



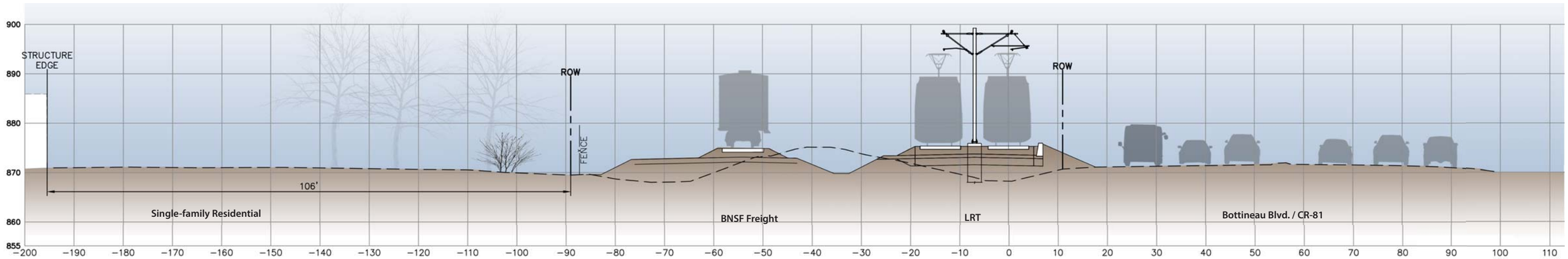
NW 3b: View to the southeast - noise wall would be on the east side of the corridor (left of the rails in the photo)



Light Vegetation - Existing Condition



Freight Corridor - Existing Condition



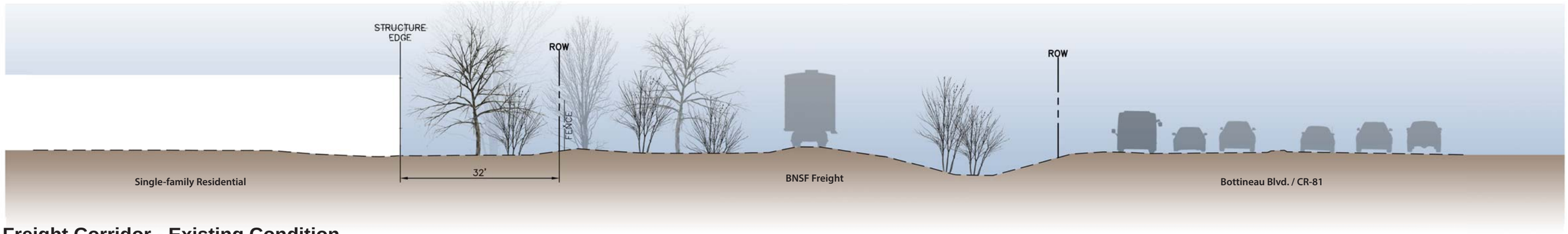
Freight & Light Rail Corridor

DRAFT-WORK IN PROCESS

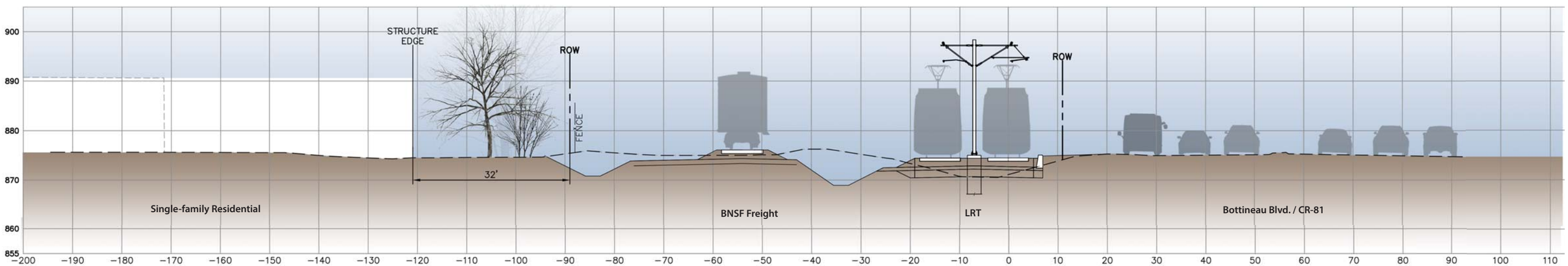
METRO BLUE LINE EXTENSION Bottineau LRT	BLUE LINE LRT EXTENSION CITY OF CRYSTAL BNSF RAILWAY CORRIDOR - TYPICAL SECTIONS VEGETATION REVIEW - LIGHT CONDITION	SHEET 1 OF 3	Rev 0 02/10/2016	0 10' 20'	METROPOLITAN COUNCIL · Kimley»Horn · SRF Consulting Group, Inc. · miller dunwiddie ARCHITECTURE



Moderate Vegetation - Existing Condition



Freight Corridor - Existing Condition



Freight & Light Rail Corridor

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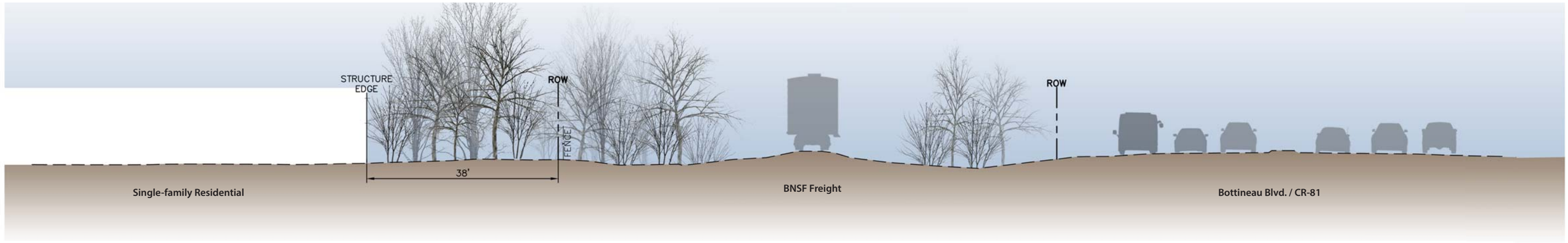
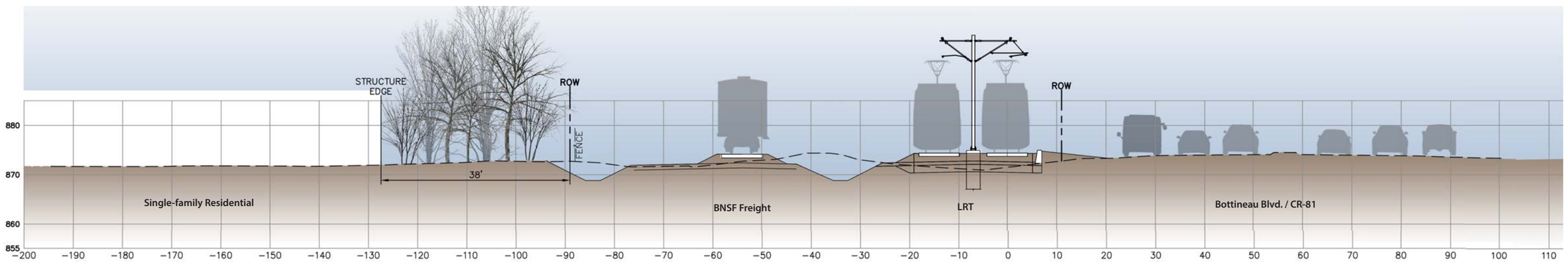
METRO BLUE LINE EXTENSION Bottineau LRT	BLUE LINE LRT EXTENSION CITY OF CRYSTAL BNSF RAILWAY CORRIDOR - TYPICAL SECTIONS VEGETATION REVIEW -MODERATE CONDITION	SHEET 2 OF 3	Rev 0 02/10/2016	0 10' 20'	METROPOLITAN COUNCIL · Kimley»Horn · SRF Consulting Group, Inc. · miller dunwiddie ARCHITECTURE



Dense Vegetation - Existing Condition



Freight Corridor - Existing Condition



Freight & Light Rail Corridor

DRAFT-WORK IN PROCESS

METRO BLUE LINE EXTENSION Bottineau LRT

BLUE LINE LRT EXTENSION

CITY OF CRYSTAL
BNSF RAILWAY CORRIDOR - TYPICAL SECTIONS
VEGETATION REVIEW - DENSE CONDITION

SHEET 3 OF 3

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Appendix F
Supporting Technical Reports

F.4 Economic Impacts of Bottineau LRT

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Internal Memorandum

DATE: December 21, 2015

TO: Caroline Miller, MetroTransit
Kathryn O'Brien, MetroTransit

FROM: Todd Graham, Regional Policy and Research (602-1322)

SUBJECT: Economic impacts of Bottineau LRT

This memo describes a Bottineau LRT economic impact analysis, prepared to inform the project's EIS. A baseline and an alternative build scenario are specified in Metropolitan Council's REMI-PI economic model. This model returns the following impacts representing our expectations for Bottineau LRT.

During the construction phase, 2018-20:

- Minnesota employment (jobs) will expand **+3,762 more *jobXyears*** for the 2018-20 period.
- Personal income for the 3-year period will be **+$349 million higher** than in the base case. (All figures expressed in constant 2015 $)
- Workers employed will come from both the metro region and Greater Minnesota: $223 million (58%) of the personal income gained will situate in the metro region, $125 million (32%) in Greater Minnesota, and $38 million (10%) will be earned by workers from out-of-state.
- Gross domestic product for the state (GSP), representing the size of the Minnesota economy, will be **+$593 million higher** than in the base case.
- Of that **$593 million** of additional economic activity, 93% will be situated at businesses in the metro region; 7% in Greater Minnesota.

Over the long-term:

- The economic impact of Bottineau LRT will be small initially, but will grow as accessibility gains and mode shifts bring benefits to the metro industries.
- Minnesota employment (jobs) will be **+279 jobs higher** in 2030 than in the base case.
- Annual personal income will be **+$30 million higher** in 2030 than in the base case.
- Gross domestic product for the state (GSP) will be **+$118 million higher** in 2030 than in the base case.
- The cumulative additional GSP grows from **$593 million** for 2018-2020 to **$1.197 Billion** for 2018-2030 to **$3.012 Billion** for 2018-2040. It takes 15 years of accessibility gains and mode shift benefits for the project to "pay for itself" through economic returns.

Economic impact analysis. Metropolitan Council uses a REMI-PI model for economic impact analyses. For the Bottineau LRT project, I have prepared a scenario to represent the Bottineau LRT project as a major infrastructure investment, which may generate spillover economic activity. In the short-term, 2018-20, the construction phase provides an economic stimulus to the regional economy.

In the long-term, beyond 2020, the Bottineau LRT marginally improves transit accessibility for commuting workers who use the expanded transit system, and also marginally mitigates car ownership and associated costs.

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In this scenario, I assume:

- The new LRT improves labor accessibility, specifically for transit-dependent residents who are newly connected to worksite locations because of Bottineau LRT service. Overall regional labor accessibility improves +0.03% in the first year of service, rising to +0.04% in the second year, and beyond.
- Additionally, there will be a small fraction of new frequent riders who are motivated to reduce their car ownership. After five years, the new LRT will reduce regional car ownership by -1,200 and car-ownership costs by $10 million per year.
- Household expense for transit will increase. Given the transportation forecast of 12,100 net new daily trips, the corresponding transit costs are higher by $6.1 million per year.
- The Bottineau LRT has no effect on roadways drive times and congestion, and no benefit to freight movement. While Bottineau LRT will mitigate 200,000 regional vehicle miles traveled (VMT) per day, a separate transportation model analysis find that drive times do not improve as a result.

For comparison with the build scenario, the *base case* is the economic growth path found in Metropolitan Council's long-range forecast to 2040.

Data inputs. Data inputs needed to construct the build scenario are drawn from the project's environmental impact statement:

- $1.293 Billion of transitway capital investment during 2018-20, including.
    - $860 million for construction.
    - $433 million for administration, design, engineering, and other professional services.
- $748 million in local and state taxes collected *in Minnesota* to fund the construction phase.
    - In economic modeling, taxes are a debit against disposable personal income, and can slow economic growth. Still, in the case of Bottineau LRT, an equal-sized investment comes from a national revenue pool – this is external investment.
    - For expediency, the build scenario assumes that the timing of local and state tax revenues coincides with the spending of same.
- Following the conclusion of the construction phase, Bottineau LRT will have permanent employment of 145 jobs for operations and maintenance.
    - For this modeling, I specify a fixed public sector budget scenario in which the operation and maintenance of Bottineau LRT is a fiscal substitute for other public spending and employment that would have occurred in a *no-build* scenario.
    - Infrastructure maintenance for Bottineau LRT is assumed to be 1% of the initial cost and is credited as annual expenditure to maintain the nonresidential capital stock. (The infrastructure maintenance estimate does not include operations.)

Not considered in the scenario. The modeling accounts for the local, metro and state taxes raised and directed to the Bottineau LRT project. Other factors and costs expected during the construction phase have *not* been introduced to the model.

- $136 million budgeted for LRT-vehicles is *not* considered as a stimulus factor. The LRT-vehicles are manufactured out of state; thus their manufacture induces no additional economic activity here.
- $67 million for purchase of right of way does not by itself generate economic activity, and so is also *not* considered as a stimulus factor.

- While the FEIS acknowledges disruptions to business (noise, disrupted access to local streets), those costs have not been quantified, and have not been introduced to the model.

Short-term economic impact results. Short-term impacts, now to 2020, are substantially positive during the construction phase – and this is mainly a windfall gain from the external (federal government) investment in the region.

Table 1. Net effects of construction (short-term) activity

External investment (US FTA investment)	$748,000,000
2018-20 Economic Impact	
• Output	$1,135,000,000
• Gross State Product	$593,000,000
• Personal Income	$349,000,000
• Employment (jobs x years)	3,762
Impact compared to external investment	
• Output	1.517 x external invest.
• Gross State Product	0.792 x external invest.
• Personal Income	0.467 x external invest.
• Employment (jobs x years)	5.03 per $1 million

Source: Metropolitan Council analysis.

In response to the direct stimulus of the construction phase:

- ***Metro region.*** Cumulative employment located in the metro region during 2018-20 will be +3,275 more *jobXyears* in the build scenario than the base case. The construction and professional services industries will account for the largest share of this new employment.
- The REMI-PI model estimates that Bottineau LRT project itself accounts for 4,850 construction industry *jobXyears*. The construction resources needed to accomplish Bottineau LRT are diverted during this period to an extent that some other projects and some industries lose employment temporarily.
- Cumulative personal income for the metro region during 2018-20 will be +$223 million larger (constant 2015 $) in the build scenario than the base case.
- Cumulative gross domestic product for the metro (GMP) will be larger by +$556 million (constant 2015 $) for the three-year period 2018-20.

- ***Greater Minnesota.*** Cumulative employment located in the rest of Minnesota during 2018-20 will be +487 more *jobXyears* in the build scenario than the base case. This is all indirect and induced economic growth.
- Cumulative personal income for the rest of Minnesota during 2018-20 will be +$125 million larger (constant 2015 $) in the build scenario than the base case; most of this personal income gain are paycheck earnings from worksites in the metro region, brought back by commuters to home locations in Greater Minnesota.
- Cumulative gross domestic product for the rest of Minnesota will be larger by +$37 million (constant 2015 $) for the three-year period 2018-20; this amount only accounts production situated in Greater Minnesota.

- ***Minnesota, statewide.*** Cumulative employment for the state during 2018-20 will be +3,762 more *jobXyears* in the build scenario than the base case.
- Cumulative personal income for the state during 2018-20 will be +$349 million larger (constant 2015 $) in the build scenario than the base case.
- Workers employed will come from both the metro region and Greater Minnesota: $223 million (58%) of the personal income gained will situate in the metro region, $125 million (32%) in Greater Minnesota, and $38 million (10%) will be earned by workers from out-of-state.
- Cumulative gross domestic product for the state (GSP) will be larger by +$593 million (constant 2015 $) for the three-year period 2018-20. Of that $593 million of additional economic activity, 94% will be situated at businesses in the metro region; 6% in Greater Minnesota.

Long-term economic impact results. Following the conclusion of the construction phase, *after* 2020, the indirect and induced impacts of the construction itself will quickly taper off.

Residents will enjoy improved accessibility to workplaces and other destinations. Overall labor accessibility (the metro region average number of workers within commute distance of workplaces) improves slightly. Some transit-dependent workers are enabled to reach workplaces they could not have reached prior. At higher levels of labor accessibility improvement, the region's industries are more successful in finding and hiring workers who best fit industries' talent needs.

Long-term economic impact derives from these marginal accessibility gains and also car ownership mitigation. These adjustments to the economy should mature 5-7 years after the start of Bottineau LRT operation.

Table 2. Long-term net impacts of Bottineau LRT

	2018-20	2021-30	2031-40
	3 years	10 years	10 years
• Gross State Product	$593,000,000	$603,000,000	$1,815,000,000
o Construction	$636,000,000	-$115,000,000	$33,000,000
o Professional and technical services	$52,000,000	$155,000,000	$210,000,000
o All other private sector	-$95,000,000	$477,000,000	$1,422,000,000
o Transit and ground passenger transportation	0	$75,000,000	$80,000,000
o All other government	0	$11,000,000	$70,000,000
• Personal Income	$349,000,000	$114,000,000	$561,000,000
• Employment (jobs x years)	3,762	751	5,260

Source: Metropolitan Council analysis.

- ***Minnesota employment.*** In the 10th year of Bottineau LRT operation (2030), state total employment will be +279 jobs higher than the base case.
    - Throughout the forecast period, the transit industry itself is the largest employment gainer, with 145 directly created jobs in the metro region. Initially, during 2021-27, transit's gain is balanced by slight losses in other industries.

    - Beyond that, as industries absorb the benefit of the improved labor accessibility, the long-term employment gains are broad-based, spread among all industry sectors.
- ***Annual personal income.*** Closely related to employment, annual personal income in 2030 will be +$30 million higher (constant 2015 $) than the base case.
- ***Gross domestic product for the state (GSP).*** The most complete measure of the economy's expansion due to Bottineau LRT is gross domestic product. Gross domestic product is a summarization of "final goods and services" production, removing duplication of intermediate inputs and supplies. Gross domestic product in 2030 will be +$118 million higher (constant 2015 $) than the base case.
    - Summarizing all of the economic gains, the cumulative additional GSP grows from $593 million for 2018-2020 to $1.197 Billion for 2018-2030 to $3.012 Billion for 2018-2040.
    - In the first years of operation, all of the economic impacts from accessibility improvements and car ownership mitigation will be situated in the metro region. Gradually, the metro's economic growth spills over. For the entire period 2018-2040, 96% of the additional economic activity is situated at businesses in the metro region; 4% in Greater Minnesota.

An Excel spreadsheet accompanying this memo provides a time-series of results for each year, 2018 to 2044.

Assumptions details. Projections of the economic return from labor accessibility gain are based on average economic returns observed historically and in other regions – data available to the REMI-PI model. The eventual Twin Cities results for the forecast period could be higher or lower than the historically-based, average, generic case.

Beyond the construction phase economic stimulus, Bottineau LRT's economic impact depends on what it does for the greater transportation system, providing residents expanded transit. These outcomes are introduced to the REMI-PI model as factors affecting economic performance.

From a separate transportation modeling analysis, SRF Consulting forecasts that Bottineau LRT will prompt 12,100 net new trips by transit. Most of that new transit use will be for work commutes (5,800 net new home-based work trips). For economic modeling purposes, these trips only constitute a labor accessibility gain if they connect workers to workplaces that the workers could not reach prior, but for the new LRT service.

Additionally, SRF Consulting forecasts that Bottineau LRT will prompt a reduction of 200,000 daily vehicle miles traveled, due to travel mode shift; equivalent to -0.2% of daily VMT in the region. However, there will be no improvement in average roadway speeds, and no measureable improvement to overall accessibility *on roadways*.

For economic modeling, the build scenario assumes a +0.03% regionwide labor accessibility improvement in the first full year of service, with the improvement growing to +0.04% in the second year, and beyond. I arrive at this estimated improvement by considering the transit accessibility improvement for the workforce most certain to benefit:

- From analysis of Census data, an estimated 0.08% of the metro workforce is both transit-dependent (no vehicles) *and* living in the immediate area of Bottineau LRT stations.
- Within these station areas, SRF Consulting finds that transit accessibility will improve by 47%.
- The multiplicative product of these two variables is 0.04%.

The assumption of accessibility gains is an exogenous input to the REMI-PI model, not a prediction of the model. (REMI-PI is not a transportation model designed to project accessibility and transportation network outcomes.) This and all of the exogenous inputs and have leverage on the economic model results. The economic impact of Bottineau LRT is most sensitive to the extent of regional labor accessibility improvement. Attentive to this, the specific assumption – a +0.03% to 0.04% improvement in regionwide labor accessibility improvement – is deliberately conservative.

The regional economy may benefit in another way as well: There will be new frequent transit riders who are motivated to reduce their car ownership. For this analysis, after five years the new LRT will reduce total regional car ownership by -0.05% (or -1,200 vehicles) and associated car-ownership costs by $10 million per year. This mitigated spending by households outweighs the increased spending on transit fares (12,100 net new trips / 2 trips per day X $85 monthly pass X 12 months = $6.1 million per year), and the balance allows other uses or savings. Long-term economic benefits result.

Appendix F
Supporting Technical Reports

F.5 Preliminary Floodplain Impacts and Mitigation Strategies

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To:	Nick Landwer, P.E. Director of Design and Engineering, Blue Line LRT Extension Project
From:	Lisa Goddard, PE, LEED AP Water Resources Sub-Task Lead, SRF Consulting Group Erin Hunker, PE, CFM Water Resources Lead Engineer, SRF Consulting Group
Date:	January 6, 2016
Subject:	Preliminary Floodplain Impacts and Mitigation Strategies

1.0 Introduction

1.1 Project Location

The METRO Blue Line LRT Extension (BLRT) project will extend light rail passenger service from the Target Field Station in Minneapolis to Oak Grove Parkway/101st Avenue N in Brooklyn Park. The project corridor is approximately 13 miles and runs through the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The project has been divided into six segments corresponding with municipal boundaries where possible, which have been labeled according to city. The portion within Brooklyn Park has been further divided into two segments: Brooklyn Park 1, which is the northernmost segment, and Brooklyn Park 2.

Roughly eight miles of the proposed project will be constructed within the existing BNSF Railway corridor. However, most of the Minneapolis segment is located within the median of TH 55 (Olson Memorial Highway), and portions of the two Brooklyn Park segments are within the median of CSAH 103 (West Broadway Avenue). The proposed project also includes the construction and/or reconstruction of affected roadways, construction of station platforms, several park-and-ride facilities, and an operations and maintenance facility (OMF).

Hennepin County is in the preliminary design phase of a portion of CSAH 103 (West Broadway Avenue) that coincides with a portion of the Brooklyn Park 1 segment. A separate environmental assessment worksheet (EAW) and preliminary stormwater design have been completed for the Hennepin County project, which incorporates the floodplain and wetland impacts and stormwater treatment best management practices (BMPs) required to treat runoff from the BLRT Extension project. These have been documented in the EAW and in supporting technical memoranda.

1.2 Purpose

This *Floodplain Technical Memorandum* has been prepared in support of the BLRT Extension project Final Environmental Impact Statement (Final EIS). The objective of this memorandum is to evaluate the BLRT Extension project's potential impacts to floodplains within the study area and to identify potential mitigation measures. This includes the following:

- Identify regulatory requirements that will set forth mitigation standards that are specific to floodplain management.
- Identify potential mitigation areas that would be used to compensate for the floodplain impacts along the BLRT Extension project corridor.

This report contains qualitative and quantitative design recommendations for the BLRT Extension project corridor that will be used by the consultant team preparing the Final EIS and will provide information on how the project would meet the various regulatory requirements.

1.3 Data Collection

The Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) and the Flood Insurance Rate Maps (FIRMS) for Hennepin County (panel numbers 27053C0182E, 27053C0201E, 27053C0203E, 27053C0212E, 27053C0214E, and 27053C0352E) dated September 4, 2004, were used to identify floodplains and floodways within the BLRT Extension project corridor. The floodplains within the project area are associated with Bassett Creek, Grimes Avenue Pond, North Rice Pond, Shingle Creek, and the Century Channel Ponds. Note that the latter two water bodies fall within the purview of the CSAH 103 (West Broadway Avenue) EAW.

All floodplain elevations were adjusted from National Geodetic Vertical Datum 1929 (NGVD 29) to North American Vertical Datum 1988 (NAVD 88) by adding 0.20 feet to the NGVD 29 elevations. FEMA 100-year floodplain and floodway GIS shapefiles were downloaded from the DNR floodplain/floodway file transfer site and used to determine the impacts of the BLRT Extension project. The floodplain and floodway areas are shown on **Figures 1 to 12** in Appendix A. The DNR shapefiles had the following discrepancies:

- Century Channel Ponds 7 and 8 (DNR Wetland #559W) and a portion of the Shingle Creek floodplain had been omitted from the digitized GIS shapefile. These floodplain shapes were added by Engineering Services Consultant (ESC) team, based on the LiDAR contours below the adjusted 100-year floodplain elevations listed in FIS 27053CV001A. These areas are shown on **Figures 9 and 10** in Appendix A.
- The City of Brooklyn Park is in the process of applying for a Letter of Map Revision (LOMR) from FEMA for a portion of the Shingle Creek floodplain on the west side of CSAH 103 (West Broadway Avenue), adjacent to the creek crossing. It is assumed that the LOMR will be approved, and the annotated DFIRM and hydraulic modeling prepared for the LOMR was used to determine the floodplain impacts at this location. The GIS shapefiles will be updated to reflect the LOMR once it has been approved.
- The floodplain boundary for Pond 5, which is located in the northeast quadrant of 93rd Avenue N and CSAH 103 (West Broadway Avenue), has also changed. The 610 Commerce Site was recently constructed at this location, and it is unknown at this time if the floodplain elevation has been altered. Based upon discussions with City Staff, a LOMR was not submitted for the impact to the floodplain of Pond 5, but based on aerial imagery, it is clear that the boundary shown on the FIRM is no longer accurate due to locations of buildings and parking lots.

2.0 Regulatory Environment

Regulatory and permitting authority for floodplain impacts falls to the Local Government Unit (LGU), which is typically the municipality. Watershed management organizations (WMOs) also regulate floodplain impacts to waters within their jurisdictional authority. In addition to the LGUs and WMOs, FEMA and the DNR play a role in floodplain management and impacts to water resources within the study area. These include:

- Federal Emergency Management Agency (FEMA)
- Minnesota Department of Natural Resources (MnDNR)
- Mississippi Watershed Management Organization (MWMO)
- Bassett Creek Watershed Management Commission (BCWMC)
- Shingle Creek and West Mississippi Watershed Management Commissions (SCWMC and WMWMC, or SCWM WMC when referred to in reference to their joint watershed management plan)
- City of Minneapolis

- City of Golden Valley
- City of Robbinsdale
- City of Crystal
- City of Brooklyn Park

2.1 Federal Emergency Management Agency

FEMA, under the National Flood Insurance Program (NFIP) has the authority to regulate floodplains and floodways. Executive Order (EO) 11988 requires all federal agencies to evaluate and, to the extent possible, avoid adverse impacts to floodplain areas which may result in action they administer, regulate, or fund. EO 11988 specifically requires floodplain impacts to be considered in the preparation of environmental documents. This document identifies that the following four areas must be adequately addressed in the Final EIS:

1) No significant potential for interruption of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route.
2) No significant impact on natural or beneficial floodplain values.
3) No significant increased risk of flooding will result.
4) Will the project support and/or result in incompatible floodplain development?

These four areas are addressed in the 'Floodplain Impacts and Mitigation' section of this memo.

Executive Order 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, was implemented on January 30, 2015. The EO 13690 amends EO 11988 and states that the floodplain shall be:

1) The elevation and flood hazard area that result from using a climate-informed science approach that uses the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science. This approach will also include an emphasis on whether the action is a critical action as one of the factors to be considered when conducting the analysis.
    a. This could mean using flow rates based on the new precipitation intensity-duration-frequency curves, called Atlas 14, or using flows based on regression equations using more recent stream gage data. However, according to the FAQ section of the National Oceanic Atmospheric Administration (NOAA) website (http://www.nws.noaa.gov/oh/hdsc/FAQ.html#1.5), Atlas 14 volumes are "based on the assumption of stationary climate." It appears that the project's use of Atlas 14 precipitation frequencies would not qualify as a climate-informed science approach based on NOAA guidance.
2) The elevation and flood hazard area that result from using the freeboard value, reached by adding an additional two feet to the base flood elevation for non-critical actions and by adding an additional three feet to the base flood elevation for critical actions. The term 'critical action' shall mean any activity for which even a slight chance of flooding would be too great.
3) The area subject to flooding by the 0.2 percent (500-year) annual chance flood.
4) The elevation and flood hazard area that results from using any other method identified in an update to the Federal Flood Risk Management Standard (FFRMS).

The ESC team and the Final EIS team met with the Federal Transit Authority to discuss which of the above options would be most appropriate for the BLRT extension project to use. Based on that meeting, as well as a conversation with the Metropolitan Planning Organization, the BLRT Extension project is using Option 2, Noncritical Action (100-year elevation plus two feet of freeboard) to determine the elevation of the roadway profile, which will ensure the intent for resilient infrastructure in EO 13690 is met.

Rivers and streams for which FEMA has prepared detailed engineering studies may have designated floodways. The floodway is the area of the floodplain that must remain free from obstruction so that the 100-year flood can be conveyed downstream. Placing fill or buildings in the floodway may block the flow of water and increase flood elevations. Such activities in the floodway are generally restricted and require mitigation in the form of compensatory storage volume to offset the lost floodway storage. Similarly, activities in the floodplain that reduce flood storage capacity are also restricted and would require compensatory storage volume. A project in a floodway must be reviewed to determine if the project will increase flood heights. An engineering analysis must be conducted before a permit can be issued. The community's permit file must have a record of the results of this analysis, which is in the form of a No-Rise Certification. The No-Rise certification must be supported by technical data and signed by a registered professional engineer.

2.2 Minnesota Department of Natural Resources

On behalf of FEMA, the MnDNR, and the local government units (i.e., the cities and watershed management organizations) also regulate activities that may impact floodplains, including activities such as construction, excavation, or deposition of materials over, or under waters that may affect flood stage, floodplain, or floodway boundaries.

The MnDNR has developed regulatory standards for floodplain development within the State. Local government units must, at a minimum, adopt these standards. The requirement for allowing fill within the flood fringe is that it generally cannot:

- Increase the 100-year flood elevation more than ½ foot above the preexisting, natural unobstructed condition, or
- Increase the 100-year flood elevation if the filling would negatively impact existing floodplain development (even if the increase would be less than ½ foot)

The floodplain requirements of each community and WMO located along the project corridor meet or exceed the guidance provide by the MnDNR.

2.3 Local Government Units

The project is located within the Bassett Creek Water Management Commission, Mississippi Watershed Management Organization, the Shingle Creek and West Mississippi Water Management Commission; and within the Cities of Minneapolis, Golden Valley, Crystal, Robbinsdale, and Brooklyn Park. Each of these cities and WMOs has rules and ordinances that address floodplain impacts and mitigation. Please see the Regulatory Matrix in Appendix B for more details on the floodplain regulations that pertain to this project.

2.3.1 Mississippi Watershed Management Organization

The MWMO manages waters within its boundaries through its Watershed Management Plan that was amended in 2011. This plan complies with the water resource protection requirements under Minnesota Statutes 103A through 103G in conformance with Minnesota Rules Chapters 8410 and 8420. The communities within the boundaries include parts of Lauderdale, Minneapolis, St. Anthony, and St. Paul, as well as property owned by the Minneapolis Park and Recreation Board (MPRB).

The MWMO does not issue permits or provide approval letters for construction projects, but works with the member communities to ensure the implementation of its standards. MWMO's floodplain standards are that public roadways shall not flood when adjacent to stormwater storage basins or subsurface stormwater management BMPs designed to store the 100-year event.

2.3.2 Bassett Creek Water Management Commission

The BCWMC manages waters within its boundaries through its 2015 – 2025 Watershed Management Plan. This Plan complies with the water resource protection requirements under Minnesota Statutes 103A through 103G in conformance with Minnesota Rules Chapters 8410 and 8420. The BCWMC is governed by a Joint Powers Agreement that is held between the watershed organization and the member communities that are located within the boundaries of the WMO. The member municipalities include Crystal, Golden Valley, Medicine Lake, Minneapolis, Minnetonka, New Hope, Plymouth, Robbinsdale, and St. Louis Park.

The BCWMC's rules address floodplain alteration within the watershed. The rules prohibit new structures or improvements in the floodplain, which would be subject to damage by the 100-year flood, including basements, public utilities, and streets. Where streets, utilities, and structures currently exist below the 100-year floodplain, BCWMC encourage member cities to remove these features as development/redevelopment allows. Projects within the floodplain must maintain no net loss to floodplain storage and no increase in flood level at any point along the trunk system. The BCWMC defines the trunk system as including the Bassett Creek Main Stem (including the East Channel), Grimes Pond, North Rice Pond, South Rice Pond, and inundations areas in Mary Hills Nature Area and Theodore Wirth Regional Park (TWRP). The BCWMC rules prohibit expansion of existing non-conforming land uses within the floodplain unless fully flood-proofed.

2.3.3 Shingle Creek and West Mississippi Watershed Management Commissions

The SCWMC and WMWMC are two separate WMOs; however, they plan and conduct business jointly, managing waters within its boundaries. Each is governed by a Joint Powers Agreement that is held between the watershed organization and the communities/members that are located within the boundaries of the WMOs. The communities within the boundaries include parts of Brooklyn Center, Brooklyn Park, Crystal, Maple Grove, Minneapolis, New Hope, Osseo, Plymouth, Robbinsdale, and Champlin.

The SCWM WMC manages waters through its Third Generation Watershed Management Plan, which was adopted in 2013. This Plan complies with the water resource protection requirements under Minnesota Statutes 103A through 103G in conformance with Minnesota Rules Chapters 8410 and 8420.

The SCWM WMC's rules address floodplain alteration within the watershed. No person or political subdivision shall alter or fill land below the 100-year critical flood elevation of any public waters, public waters wetland, or other wetland without first obtaining an approved project review from the Commission. Floodplain alteration or filling shall not cause a net decrease in flood storage capacity below the projected 100-year critical flood elevation unless it is shown that the proposed alteration or filling, together with the alteration or filling of all other land on the affected reach of the waterbody to the same degree of encroachment as proposed by the applicant, will not cause high water or aggravate flooding on other land and will not unduly restrict flood flows. The SCWM WMC also requires compensatory storage for floodplain fill.

The SCWM WMC also requires approval of a project review of any new or improved crossing of Shingle Creek. The crossings shall retain adequate hydraulic capacity based on the hydraulic model of the creek, not adversely affect water quality, represent the "minimal impact" solution to a specific need with respect to all reasonable alternatives, and allow for future erosion, scour, and sedimentation maintenance considerations.

2.3.4 City of Minneapolis

The City of Minneapolis' Floodplain Overlay District Ordinance (Chapter 551) includes regulations for managing land uses in the mapped floodplain. The ordinance states that linear projects within the floodplain shall be designed to minimize the increases in flood elevations and shall be compatible with local comprehensive floodplain development plans. Protection to the regulatory flood protection elevation (RFPE) shall be provided where failure or interruption of public facilities would result in danger to public health or safety where facilities are essential to

orderly functioning of the area. Conditional uses in the Floodway District are allowed provided such uses shall have a low flood damage potential, shall not cause an increase in the stage of the regional flood, or cause an increase in flood damages in the reach(es) affected.

2.3.5 City of Golden Valley

The City of Golden Valley's Floodplain Management Zoning Overlay District Ordinance (Section 11.60) states that linear projects may be located in the floodplain provided they are designed to minimize increases in flood elevation and are compatible with the BCWMC Management Plan. These uses can cause no increase in stage to the 100-year flood within the floodway and cannot increase the floodplain elevation by more than ½ foot in a designated Zone A or AE where a floodway has not been designated. Protection to the RFPE shall be provided where failure or interruption of these public facilities would endanger the public health or safety or where such facilities are essential to the orderly functioning of the area.

2.3.6 City of Robbinsdale

The City of Robbinsdale's Floodplain Management District Ordinance (Section 530.01) states that no structure, fill (including for roads and levees), deposit, obstruction, storage of materials or equipment, or other uses may be allowed as a conditional use in the floodway that will cause any increase in the stage of the 100-year regional flood or cause an increase in flood damages in the reach(es) affected. Floodplain development shall not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system where a floodway or other encroachment limit has not been specified on the Official Zoning Map.

2.3.7 City of Crystal

The City of Crystal's Floodplain Overlay Ordinance (Chapter 515.61) states that no structure, fill (including for roads and levees), deposit, obstruction, storage of materials or equipment, or other uses may be allowed as a conditional use in the floodway that will cause any increase in the stage of the 100-year regional flood or cause an increase in flood damages in the reach(es) affected. Floodplain development shall not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system where a floodway or other encroachment limit has not been specified on the Official Zoning Map.

2.3.8 City of Brooklyn Park

The City of Brooklyn Park has adopted zoning regulations to manage land uses in the mapped floodplain. These regulations include the minimum federal and state regulations, which are enforced in the 1-percent chance (100-year) floodplain that is mapped on the Flood Insurance Rate Map (FIRM) for Brooklyn Park. The Brooklyn Park ordinance requires that no fill, excavation, or storage of materials or equipment that obstruct flows or increase flood elevations will be permitted within the flood fringe or floodway.

3.0 Floodplain Impacts and Mitigation

There are several floodplains within the project area that will be impacted by the construction of the BLRT Extension project. Floodplain impacts were estimated based on a conceptual (10 percent) design of the project corridor. The floodplain impacts may be revised as the design for the project progresses, but they are not expected to increase. The following sections include a summary of the impacts and identify potential on-site floodplain storage mitigation areas that have been preliminarily evaluated for the project. **Table 1, Floodplain Impacts by Water Body**, provides a summary of the floodplain impacts throughout the corridor.

Table 1. Floodplain Impacts by Water Body

Water Body	Type of Encroachment	Length (ft)	Volume of Floodplain Impact (cy)
Bassett Creek	Longitudinal	5,310 (1)	16,800
Grimes and North Rice Ponds	Transverse	1,200 (2)	200
Shingle Creek	Transverse	(3)	(3)
Setzler Pond	Transverse	(3)	(3)
DNR Wetland #559W	Transverse	(3)	(3)

(1) Impacts listed are on the east and west sides of the BLRT guideways.
(2) Impacts listed include the bridge piers and the south abutment.
(3) See West Broadway EAW for detailed floodplain fill impacts (see www.hennepin.us/westbroadway for a link to the EAW).

3.1 Bassett Creek

3.1.1 Affected Environment

The Bassett Creek Main Stem is located on the west side of the BNSF Railway and BLRT corridor through TWRP from south of TH 55 (Olson Memorial Highway) to Bassett Creek Drive, within portions of the Minneapolis and Golden Valley segments. The East Channel of Bassett Creek is located on the east side of the existing BNSF Railway corridor, and is connected by existing culverts that cross the existing Canadian Pacific (CP) and BNSF Railway corridors. There is also a flood control structure located on Bassett Creek on the north side of TH 55 (Olson Memorial Highway). This structure is not expected to be impacted by the project. See **Figures 2 and 3** for the location.

The ESC team received the FEMA-approved HEC-2 models for Bassett Creek from the MnDNR, and from Ferris Chamberlain, who did the last updates to the modeling for the United States Army Corps of Engineers (USACE) in the late 1990s. The model sets were identical, and are the basis of the 100-year floodplain and floodway boundaries shown on the FIRMs for Bassett Creek, which are the regulated boundaries for the creek. The creek's large floodplain includes both a conveyance element as well as a large storage element due to the flood control structure. As such, the floodway extents in TWRP were "administratively determined" by the Bassett Creek Flood Control Commission, the MnDNR, the City of Golden Valley, and FEMA as part of a management "envelope" to limit development within areas necessary for flood control.

The ESC team converted the models into HEC-RAS to create duplicate-effective models, which will be corrected to match existing conditions once all the survey data has been collected. The proposed conditions model will be refined as the project design progresses.

3.1.2 Proposed Conditions

As part of the BLRT Extension project, the existing BNSF track will be shifted to the western 50 feet of the existing 100 foot rail corridor. This will result in impacts to the Bassett Creek floodplain. An access road will be constructed on the west side of the proposed BNSF track from TH 55 (Olson Memorial Highway) to Theodore Wirth Parkway. Due to poor soils and wetlands, the access road has been eliminated from Theodore Wirth Parkway to the northern end of the Golden Valley segment. Westbound TH 55 (Olson Memorial Highway) will be realigned to the north to accommodate the BLRT guideway, extending into the area adjacent to the East Channel Bassett Creek. A retaining wall is proposed to limit the amount of fill placed into the area near the upstream end of the culvert crossing the highway.

The preliminary floodplain strategy has been to include impacts and mitigation for the access road, which is generally where potential expansion of the BNSF Railway would occur. The existing culverts that convey the East Channel Bassett Creek under the BNSF Railway corridor will be reconstructed to accommodate the freight and LRT tracks. The existing culvert that conveys the East Channel Bassett Creek will be studied for capacity to determine if it needs to be reconstructed. The cross-sections from the HEC-RAS models have been compared against LiDAR data for the area and are very similar. The ESC team conducted a sensitivity analysis in the HEC-RAS models by incorporating the potential floodplain fill from the proposed project. The sensitivity analysis resulted in no increase to the 100-year water surface elevation. This is understandable given the large size of the floodplain relative to the project impacts, and that the floodplain elevation is controlled by both the flood control structure at TH 55 (Olson Memorial Highway) and the overflow provided by a low point in TH 55 (Olson Memorial Highway).

The total proposed floodplain fill within the Bassett Creek floodplain, is 16,800 cubic yards. These include impacts to the Main Stem and East Channel Bassett Creek between TH 55 (Olson Memorial Highway) and Bassett Creek Drive. A floodplain mitigation area has been identified within TWRP, between Bassett Creek Main Stem and the BLRT and BNSF Railway corridor. The City of Minneapolis owns an easement over the mitigation area, as well as other areas within TWRP. The mitigation would include excavation of adjacent ground below the 100-year floodplain elevation to provide compensatory floodplain storage for the fill placed within the floodplain. The mitigation site will be designed in collaboration with MPRB and the City of Minneapolis. See **Figure 2** for the location of the potential floodplain mitigation area.

3.2 Grimes and North Rice Ponds

3.2.1 Affected Environment

Grimes and North Rice Ponds are located within the BCWMC north of Golden Valley Road in the City of Robbinsdale. The existing BNSF Railway corridor transects the Grimes and North Rice Ponds, which discharge to Bassett Creek Main Stem. The BNSF track is located on embankment between the two ponds, and is located above the 100-year floodplain elevation. The floodplain boundary shown on the FIRM includes portions of residential properties and roadways on the north side of Grimes Pond. The City Engineer confirmed that these areas are within the 100-year floodplain.

3.2.2 Proposed Conditions

The BLRT Extension project will result in widening of the existing corridor. The BLRT guideway will be constructed on a new bridge due to poor soils, and in order to reduce floodplain impacts. The BNSF track will remain on the current embankment. There will be minor floodplain fill at the south end of the bridge and from the bridge piers.

3.3 Shingle Creek

3.3.1 Affected Environment

The 100-year floodplain and floodway associated with Shingle Creek crosses the BLRT Extension project at the existing culvert crossing at CSAH 103 (West Broadway Avenue). The mapped floodplain is wider on the upstream (west) and downstream (east) ends of the crossing than it is immediately at the crossing. As mentioned previously, the City of Brooklyn Park is in the process of obtaining a LOMR approval for this area, which reduces the floodplain extents on the upstream side of the culvert to account for fill that was placed within the property directly adjacent to CSAH 103 (West Broadway Avenue) on the south side of Shingle Creek and a floodplain mitigation area that was constructed on the opposite side of the Creek from the impacted property.

3.3.2 Proposed Conditions

As part of a separate project, Hennepin County will be reconstructing CSAH 103 (West Broadway Avenue) from approximately Candlewood Drive N to approximate northbound station 2651+15. The BLRT corridor will be located within the median of the CSAH 103 (West Broadway Avenue) corridor. A separate Environmental Assessment Worksheet (EAW) has been prepared for the CSAH 103 (West Broadway Avenue) project, and includes information on the floodplain impacts within that project area. There are no floodplain impacts to Shingle Creek associated with the BLRT Extension project. See the CSAH 103 (West Broadway Avenue) EAW for more information on the impacts and mitigation associated with that project.

3.4 Century Channel Ponds

3.4.1 Affected Environment

The Century Channel Ponds include Setzler Pond, DNR Wetland #559W, and Pond 5. Historically, these basins were part of Century Channel, which now consists of a series of wetlands, ponds, and culverts also known as Edinbrook Channel that discharge to Mattson Brook east of CSAH 103 (West Broadway Avenue), and ultimately to the Mississippi River. The Century Channel Ponds were added to the Hennepin County FIS and FIRM through a LOMR in the early 2000s. Setzler Pond is located in the northwest quadrant of the intersection of 89th Avenue N and CSAH 103 (West Broadway Avenue). DNR Wetland #559W is located between 92nd Avenue N and Setzler Parkway, and is bisected by CSAH 103 (West Broadway Avenue). Pond 5 of the Century Channel Ponds is located in the northeast quadrant of CSAH 30 (93rd Avenue N) and CSAH 103 (West Broadway Avenue).

3.4.2 Proposed Conditions

There are no floodplain impacts to Setzler Pond or DNR Wetland #559W associated with the BLRT Extension project. See the CSAH 103 (West Broadway Avenue) EAW for more information on the impacts and mitigation impacts associated with that project. The Pond 5 floodplain was recently impacted by development, and it is unknown at this time if the floodplain elevation or boundary has been altered.

3.5 Impact Analysis

This project will not result in any significant floodplain impacts for the following reasons:

1) No significant interruption of termination of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route.
    a. All major roadways, including TH 55 (Olson Memorial Highway) and CSAH 103 (West Broadway Avenue), and BLRT guideway grades will be designed to be two feet above the 100-year floodplain elevation, in order to be in compliance with EO 13690.
2) No significant adverse impact on natural and beneficial floodplain values should result from this project.
    a. No fisheries impacts are anticipated. Construction operations in the creeks will not occur during fish spawning and migration periods.
    b. The wetland impacts and mitigation are discussed in a separate wetland technical memorandum.
    c. No threatened or endangered plants or animals have been identified in the floodplains.
    d. Appropriate turf establishment and erosion control measures will be used.
3) No significant increased risk of flooding will result.
    a. No significant change in 100-year water surface elevations is anticipated as a result of the BLRT Extension project. Hydraulic analysis indicates that the proposed fill within the Bassett Creek floodplain will not result in an increase to the 100-year floodplain elevation, and a 'No-Rise Certificate' will be completed, which states that there will be no rise in the floodplain elevation.
4) This project should not result in any incompatible floodplain development.

a. The LGUs and WMOs located throughout the corridor have floodplain ordinances that regulate floodplain development. The ordinances conform to the MnDNR Floodplain Management guidelines. No new access to a floodplain area is being created by the BLRT Extension project.

4.0 Conclusion

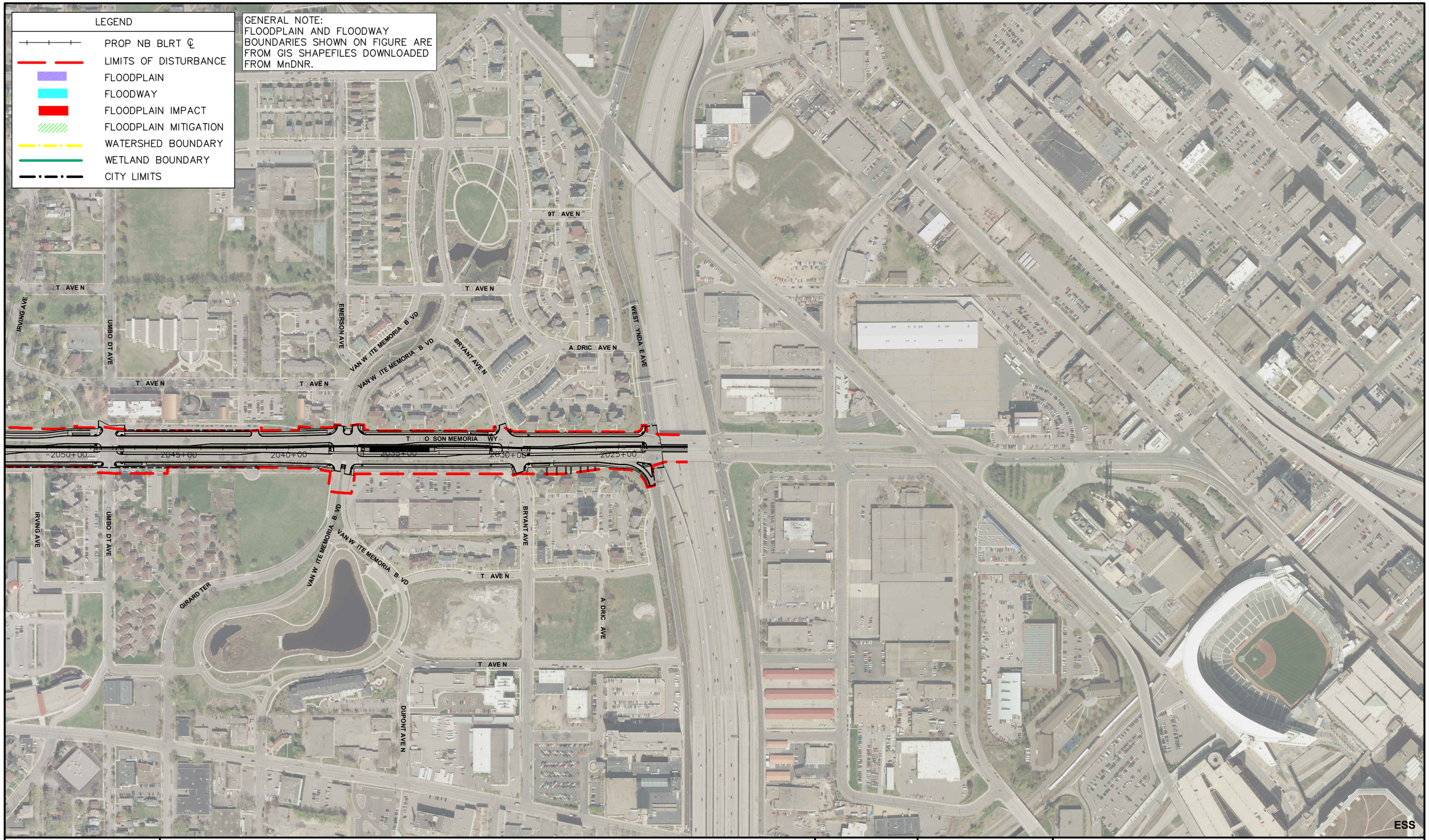
The *Floodplain Technical Memorandum* has been prepared in support of the Final EIS for the BLRT Extension project. The memorandum includes a summary of the regulatory environment for floodplain management within the project area, a summary of the proposed floodplain impacts from the project, and identifies potential floodplain mitigation areas within the project corridor. **Figures 1 through 12** in Appendix A show the locations of the floodplains, proposed impacts, and potential mitigation sites. The information in the memorandum will be used by the consultant team preparing the Final EIS and will provide information on how the project would meet various regulatory requirements.

APPENDIX A. FLOODPLAIN FIGURES

LEGEND

- PROP NB BLRT ℄
- LIMITS OF DISTURBANCE
- FLOODPLAIN
- FLOODWAY
- FLOODPLAIN IMPACT
- FLOODPLAIN MITIGATION
- WATERSHED BOUNDARY
- WETLAND BOUNDARY
- CITY LIMITS

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.



BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STATEGIES
FIGURE 1 OF 12

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METROPOLITAN COUNCIL

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GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

LEGEND
- PROP NB BLRT ℄
- LIMITS OF DISTURBANCE
- FLOODPLAIN
- FLOODWAY
- FLOODPLAIN IMPACT
- FLOODPLAIN MITIGATION
- WATERSHED BOUNDARY
- WETLAND BOUNDARY
- CITY LIMITS

SEGMENT GV
SEGMENT M
THEODORE WIRTH REGIONAL PARK
BASSETT CREEK
BASSETT CREEK FLOOD CONTROL STRUCTURE
EAST CHANNEL BASSETT CREEK
WIRTH LAKE
THEODORE WIRTH REGIONAL PARK
CITY OF GOLDEN VALLEY
CITY OF MINNEAPOLIS
EAST CHANNEL BASSETT CREEK
BASSETT CREEK WMC
MISSISSIPPI WMO
OAK PARK AVE
T AVE N
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FARWE AVE
WAS BURN AVE
VINCENT AVE
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BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES
FIGURE 2 OF 12

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METROPOLITAN COUNCIL

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LEGEND

- PROP NB BLRT ℄
- LIMITS OF DISTURBANCE
- FLOODPLAIN
- FLOODWAY
- FLOODPLAIN IMPACT
- FLOODPLAIN MITIGATION
- WATERSHED BOUNDARY
- WETLAND BOUNDARY
- CITY LIMITS

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

BASSETT CREEK
SWEENEY LAKE
BRANCH

THEODORE WIRTH
REGIONAL PARK

BASSETT CREEK

MARY HILLS NATURE AREA

BASSETT CREEK

BASSETT CREEK DR
MARY L S DR
GO DEN VA EY RD
BONNIE ANE
KEWANEE WAY
BYRD AVE N
CRESTVIEW AVE
M NAIR DR
MANOR DR
PARKVIEW B VD
T EODORE WIRT PKWY
P YMOUT AVE
YORK AVE
EP YR P
ER ES AVE
FARME AVE
WAS BURN AVE
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16T AVEN

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2110+00
2115+00
2120+00
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2175+00
2180+00

CITY OF GOLDEN VALLEY
CITY OF MINNEAPOLIS

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BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES
FIGURE 3 OF 12

10/7/2015

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METROPOLITAN COUNCIL

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SRF Consulting Group, Inc.

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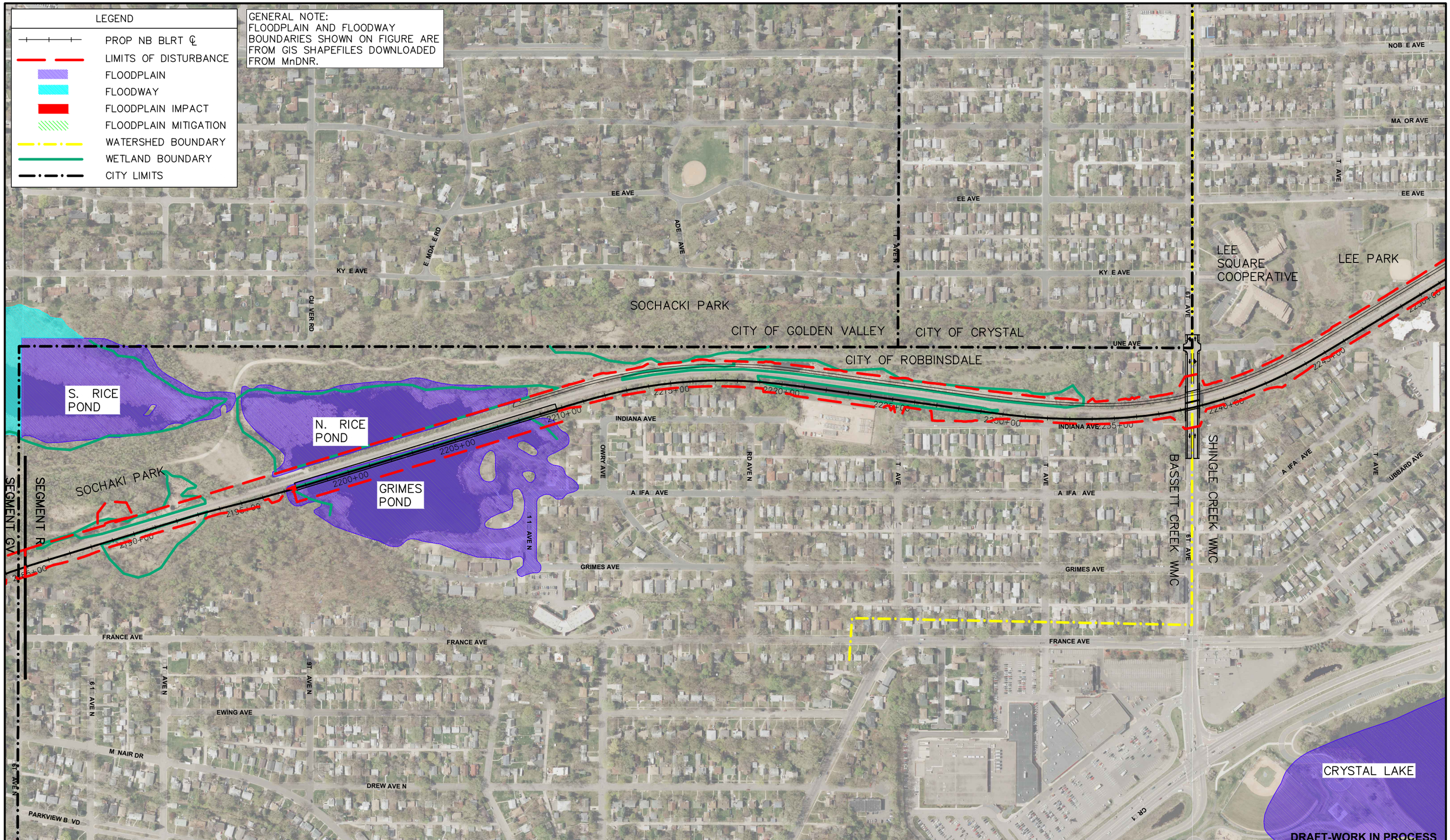

BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES

FIGURE 4 OF 12

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NORTH

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METROPOLITAN COUNCIL

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SRF Consulting Group, Inc.

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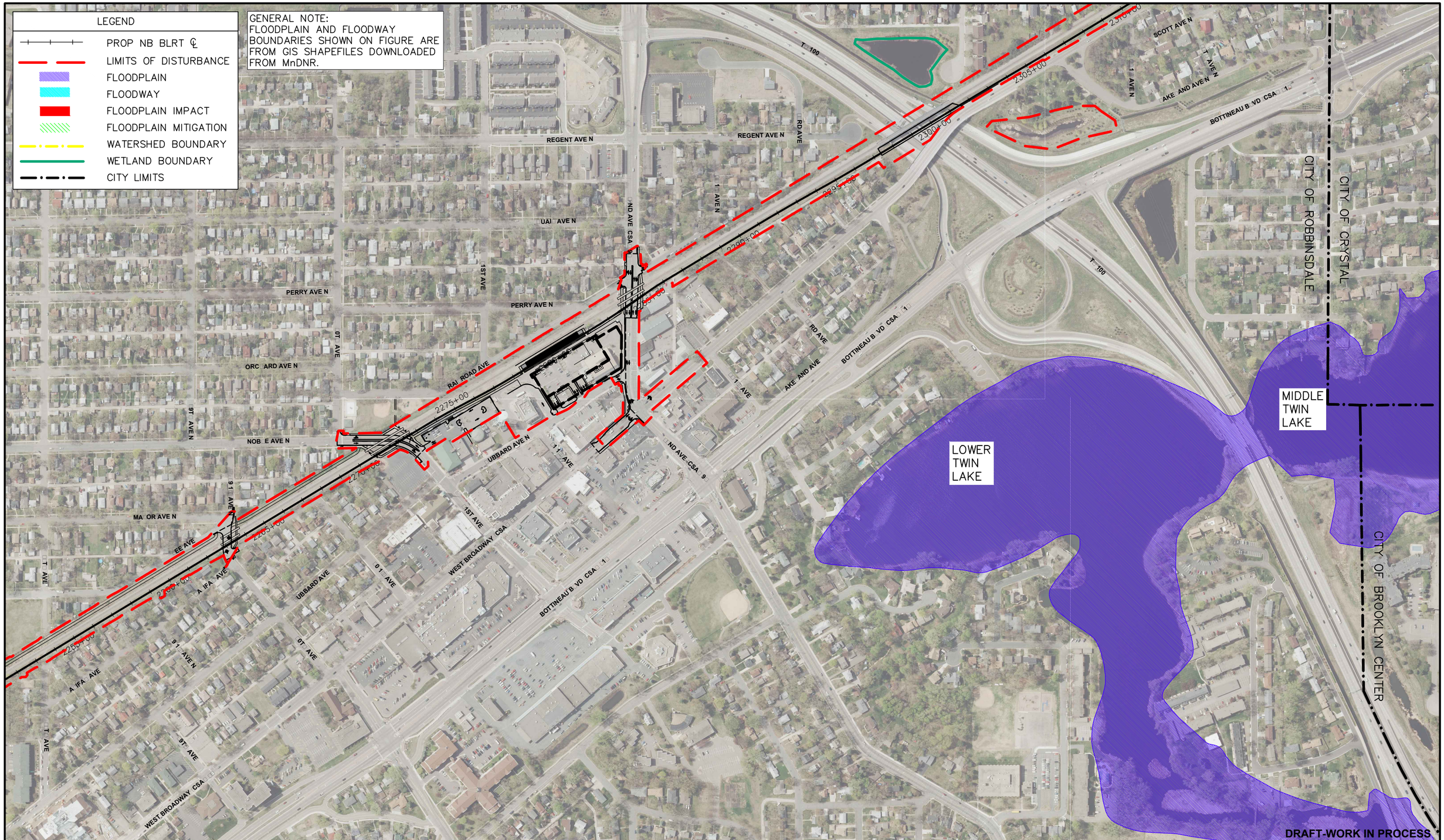

BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STAREGIES

FIGURE 5 OF 12

10/7/2015

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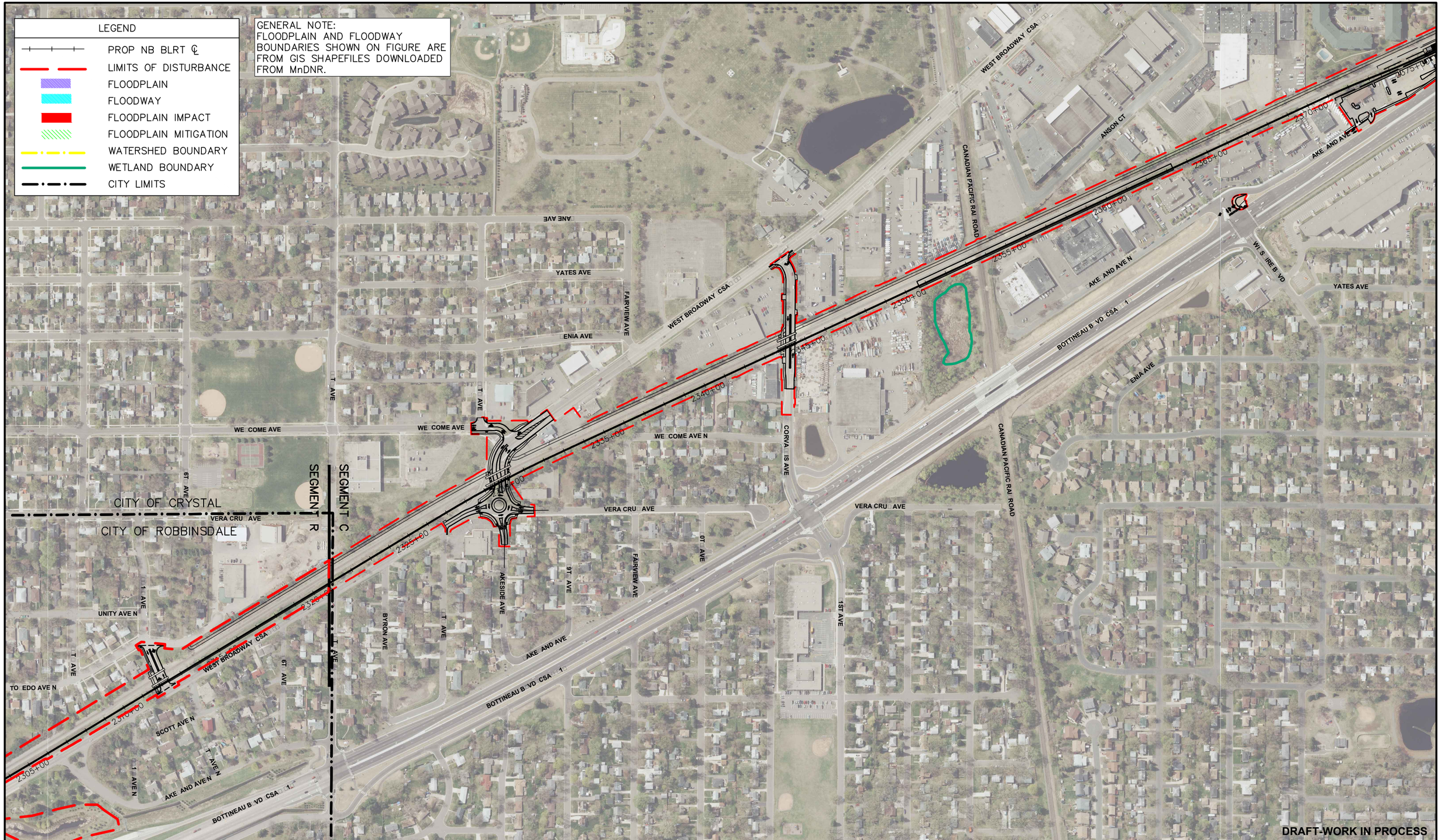
LEGEND

- PROP NB BLRT ℄
- LIMITS OF DISTURBANCE
- FLOODPLAIN
- FLOODWAY
- FLOODPLAIN IMPACT
- FLOODPLAIN MITIGATION
- WATERSHED BOUNDARY
- WETLAND BOUNDARY
- CITY LIMITS

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.



BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES
FIGURE 6 OF 12

10/7/2015

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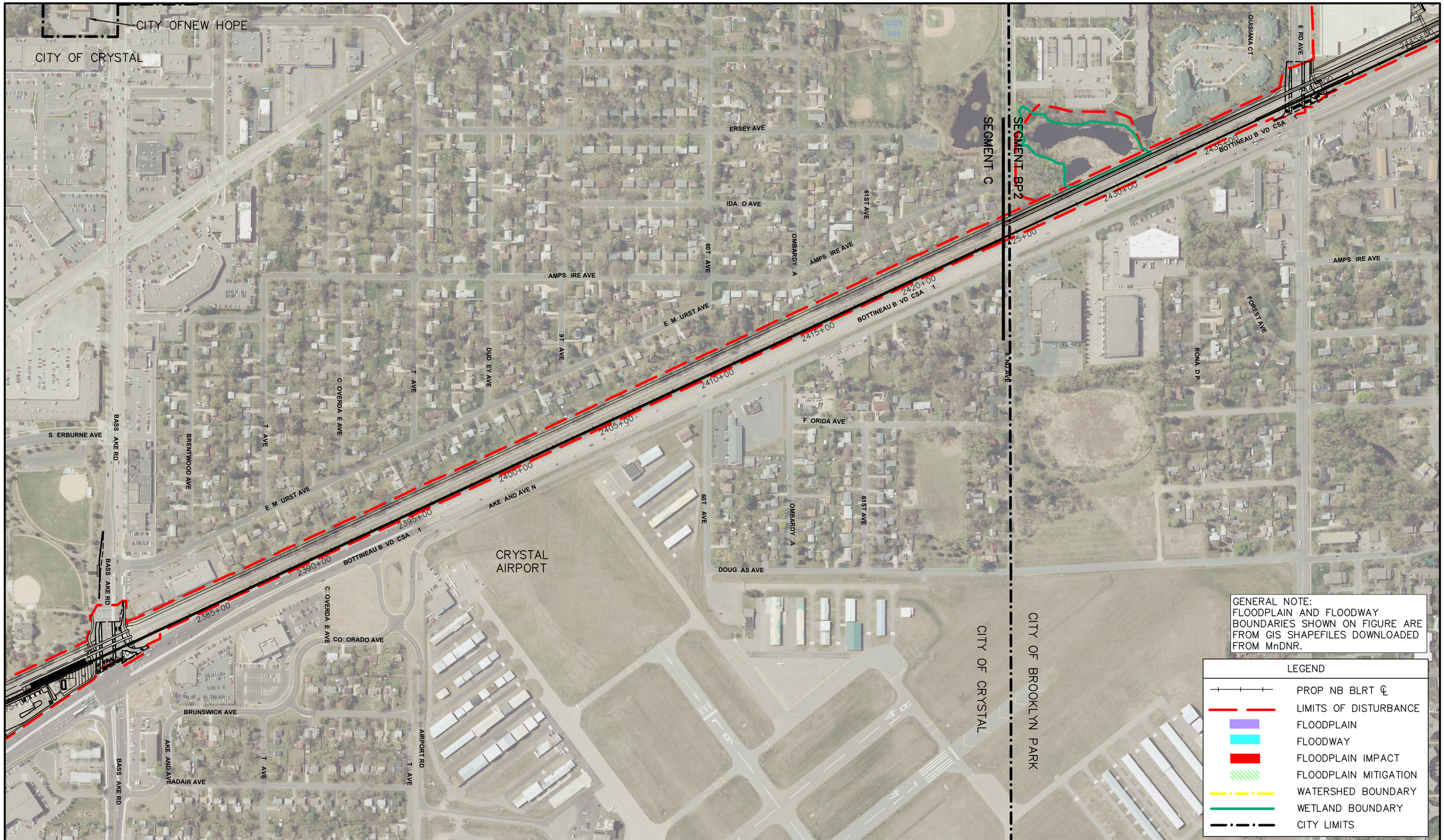

BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES

FIGURE 7 OF 12

10/7/2015

METRO BLUE LINE EXTENSION Bottineau LRT

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LEGEND

- PROP NB BLRT ℄
- LIMITS OF DISTURBANCE
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- CITY LIMITS

GENERAL NOTE:
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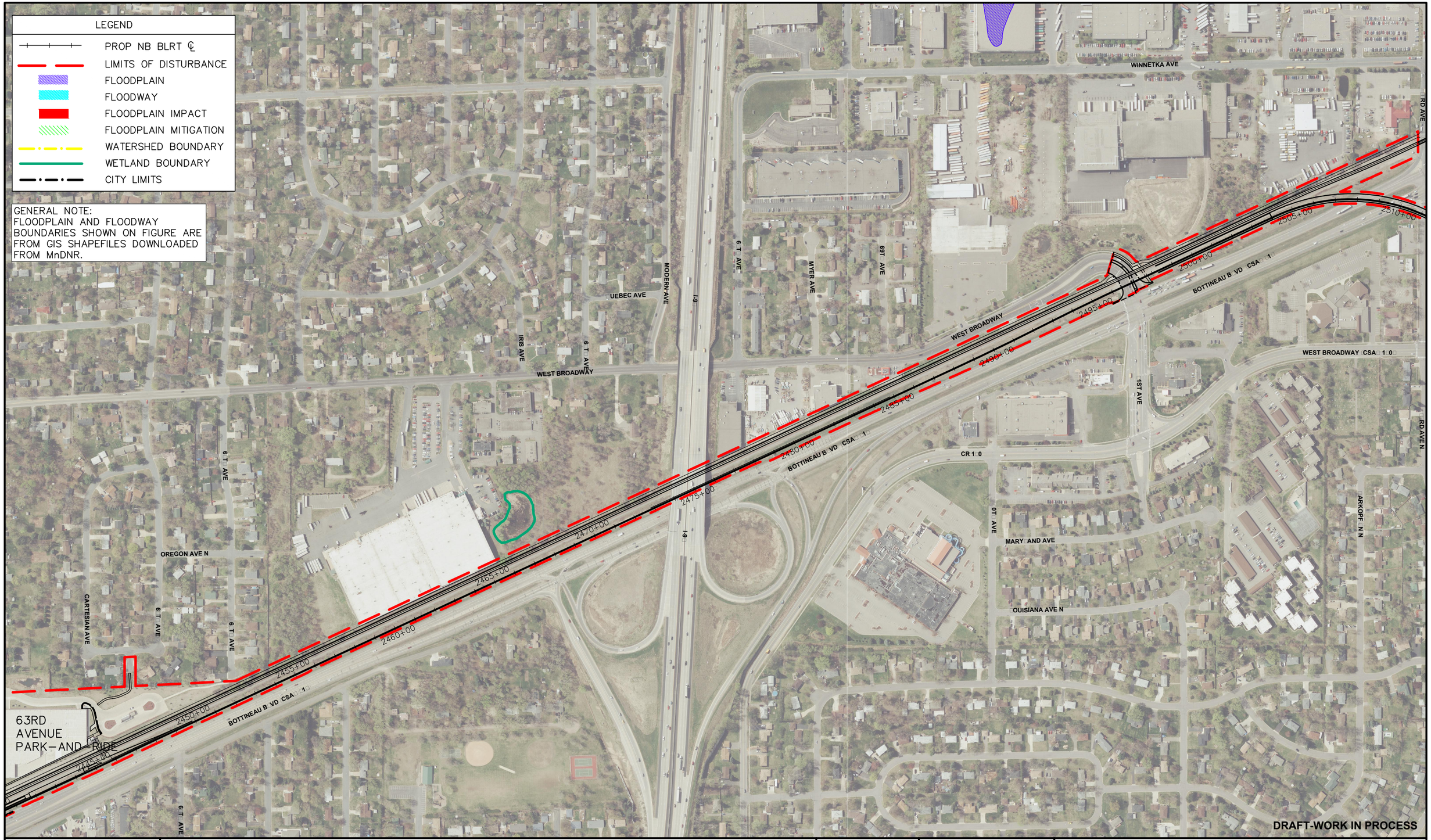

BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES
FIGURE 8 OF 12

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NORTH
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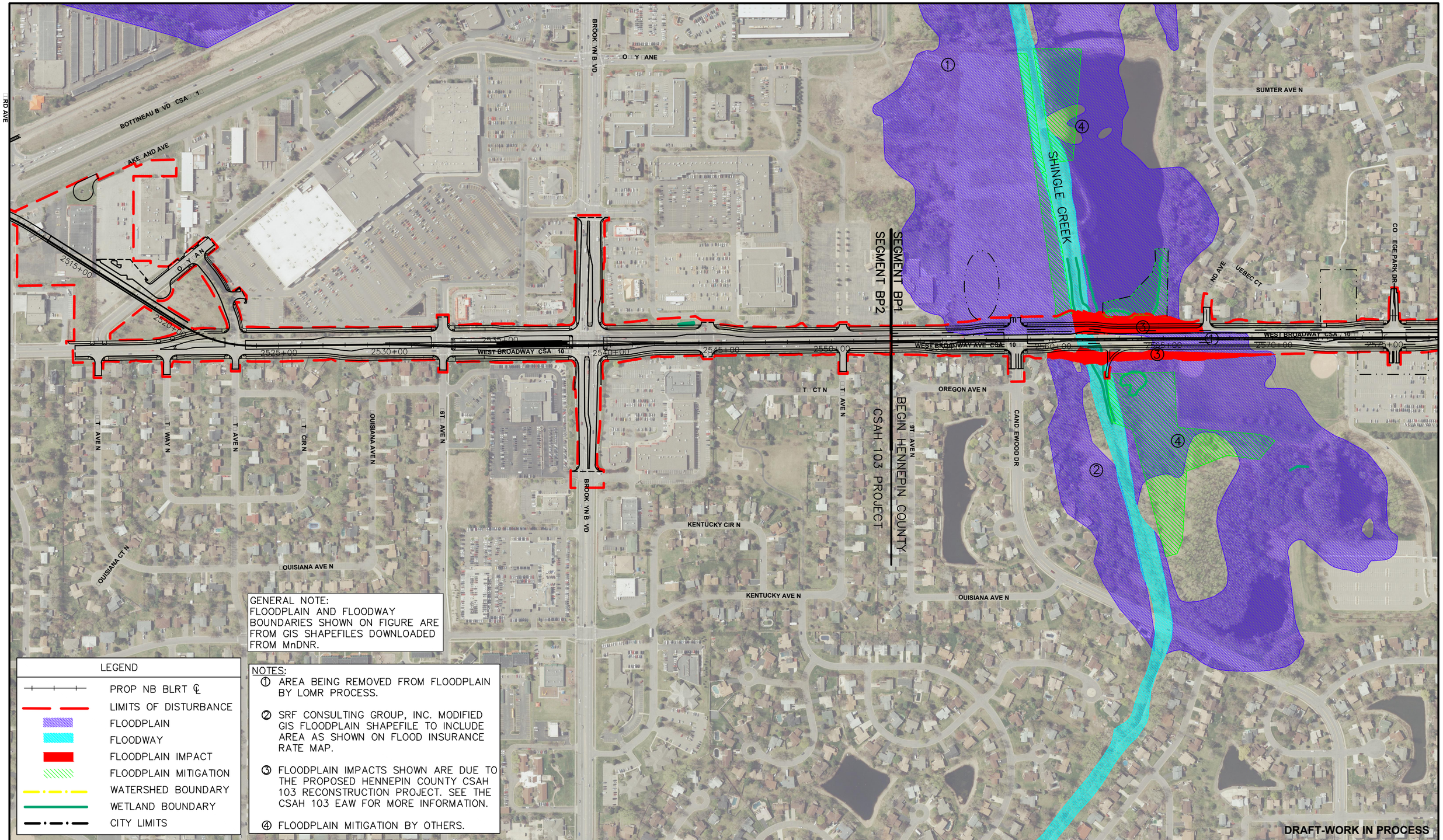

BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES
FIGURE 9 OF 12

10/7/2015

NORTH
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MARY AND AVE N
MARY AND CT N
9T AVE
9T TRAI N
90T TRAI N
90T AVE N
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OUISIANA AVE N
KENTUCKY AVE N
ERSEY AVE N
SHINGLE CREEK WMC
W. MISSISSIPPI WMC
DNR #559W
DRAFT-WORK IN PROCESS

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

LEGEND

- PROP NB BLRT ℄
- LIMITS OF DISTURBANCE
- FLOODPLAIN
- FLOODWAY
- FLOODPLAIN IMPACT
- FLOODPLAIN MITIGATION
- WATERSHED BOUNDARY
- WETLAND BOUNDARY
- CITY LIMITS

NOTES:

1. SRF CONSULTING GROUP, INC. MODIFIED GIS FLOODPLAIN SHAPEFILE TO INCLUDE AREA AS SHOWN ON FLOOD INSURANCE RATE MAP.
2. FLOODPLAIN IMPACTS SHOWN ARE DUE TO THE PROPOSED HENNEPIN COUNTY CSAH 103 RECONSTRUCTION PROJECT. SEE THE CSAH 103 EAW FOR MORE INFORMATION.
3. FLOODPLAIN MITIGATION BY OTHERS.

BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES
FIGURE 10 OF 12

10/7/2015

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NOTES:
1. LIMITS OF DISTURBANCE HAVE NOT BEEN DEFINED NORTH OF 94TH AVENUE AS OF 10/6/2015.
2. AREA IMPACTED BY DEVELOPMENT.
3. NO IMPACTS ARE EXPECTED TO FLOODPLAINS WITHIN TH 610 INTERCHANGE.

WINNETKA AVE N
T 610
9 T AVE
WEST BROADWAY AVE CSAH 10
2655+00
2660+00
2665+00
2670+00
2675+00
2680+00
2685+00
2690+00
2695+00
2700+00
2705+00
271
101st AVE N
OAK GROVE PARK-AND-RIDE
OAK GROVE PARKWAY
POND 5
END HENNEPIN COUNTY CSAH 103 PROJECT
SITE UNDER CONSTRUCTION
SITE UNDER CONSTRUCTION
TARGET NORTH CAMPUS
①
②
③

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

LEGEND
- PROP NB BLRT ℄
- LIMITS OF DISTURBANCE
- FLOODPLAIN
- FLOODWAY
- FLOODPLAIN IMPACT
- FLOODPLAIN MITIGATION
- WATERSHED BOUNDARY
- WETLAND BOUNDARY
- CITY LIMITS

BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES
FIGURE 11 OF 12

10/7/2015

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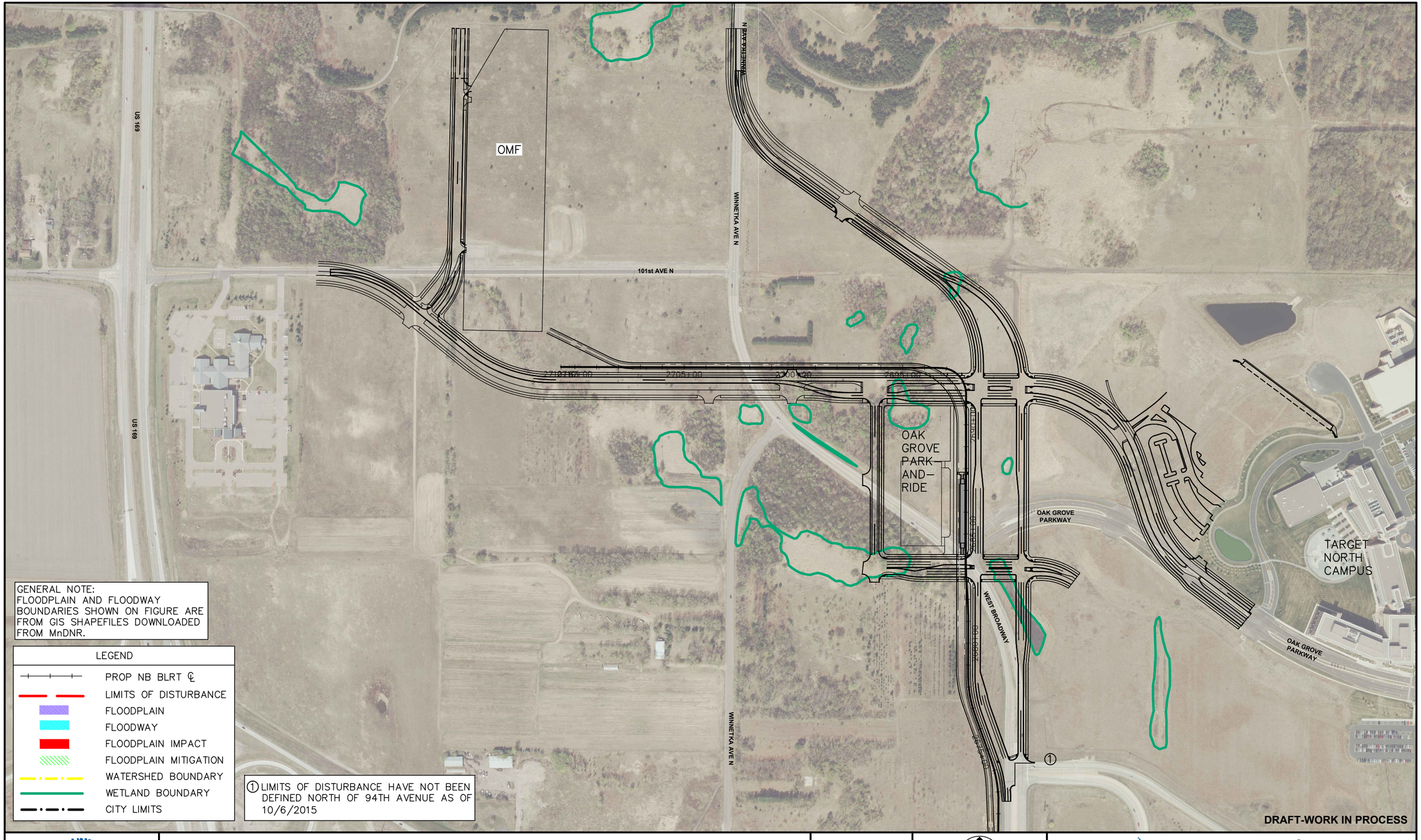

BLUE LINE LRT EXTENSION

FLOODPLAIN IMPACTS AND MITIGATION STRATEGIES
FIGURE 12 OF 12

10/7/2015

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APPENDIX B. SUMMARY OF REGULATORY CRITERIA

Blue Line LRT Extension
Water Resources - Regulatory Matrix - DRAFT
2/5/2015
Revised 10/5/2015

RFPE = Regulatory Flood Protection Elevation [2]

Requirements Summary								
Organization	**Applies to**	**Rainfall Data**	**Rate Control**	**Water Quality (1)**	**Volume Control**	**Floodplain/Flood Control Requirements**	**Plan Review Process**	**Comments**
MWMO MWMO Watershed Management Plan 2011-2021, dated May 10, 2011	Segment M	TP-40 or "subsequent revisions"	Match pre-development rates for 2-, 10-, and 100-year; may be restricted to less than pre-development rates when the capacity of the downstream conveyance system is limited	Remove 90% TSS from 95th percentile daily rainfall total (1.17 in. over 24 hrs) over entire project area, or Alternate Compliance which involves payments and/or credits and is summarized in MWMO standards document	Includes statement: placeholder for future volume standard by ~ 2013	Public Roadway Condition - roadway shall not flood when adjacent to stormwater storage basin or subsurface stormwater managmeent BMP designed to store the 100-year event. Freeboard requirement set by road authority. Alternative - minimum freeboard requirement above the 100-year HWL may be calculated as the height determined by adding depth of volume of runoff received by BMP from two-year event over the BMP.	The MWMO works with the member communities to ensure the implementation of its standards. The MWMO recommends members adopt its ordinance-ready MWMO Standards language into their local ordinances.	Note in the Standards Section that the MWMO will be working with agencies and its member organizations over the next 2.5 years to review or determine new water quality and volume standards.
BCWMC BCWMC 2015-2025 Watershed Management Plan, dated September 2015	Segment GV and Segment R	Atlas 14	Match existing rates for 2-, 10-, and 100-year events	Meet MIDS performance goals FOR LINEAR PROJECTS: Retention of whichever is greater: - 0.55 in from new or fully reconstructed areas or -1.1 in from the net increase in impervious areas If the MIDS performance goal is not feasible and/or is not allowed for a proposed project, then the project must implement the MIDS flexible treatment options, as shown in the MIDS Design Sequence Flow Chart	Meet MIDS performance goals FOR LINEAR PROJECTS: Retention of whichever is greater: - 0.55 in from new or fully reconstructed areas or -1.1 in from the net increase in impervious areas If the MIDS performance goal is not feasible and/or is not allowed for a proposed project, then the project must implement the MIDS flexible treatment options, as shown in the MIDS Design Sequence Flow Chart	Prohibits new structures or improvements in the floodplain, which would be subject to damage by the 100-year flood, including basements, public utilities, and streets. Where streets, utilities, and structures currently exist below the 100-year floodplain, BCWMC encourages member cities to remove these features as development/redevelopment allows. Projects within the floodplain must maintain no net loss to floodplain storage and no increase in flood level at any point along the trunk system. Prohibits expansion of existing non-conforming land uses within floodplain unless fully flood-proofed. OLD REQUIREMENTS DOC: Filling will generally not be allowed within the floodplain. Proposals to fill within the established floodplain must obtain BCWMC approval and must provide compensating storage and/or channel improvement so that the flood level shall not be increased at any point along the trunk system due to the fill	BCWMC reviews development/redevelopment proposals after project receives preliminary review by municipality indicating general compliance with existing local water management plan. Complex projects may require additional review time. All submittals involving floodplains, Bassett Creek trunk system, appropriations, variances, underground wet vaults or other alternative BMPs are presented at the BCWMC meetings.	Requirements for Improvements and Development Proposals' document has not been updated to match the revised standards in the 2015 Draft plan.

Requirements Summary								
Organization	**Applies to**	**Rainfall Data**	**Rate Control**	**Water Quality (1)**	**Volume Control**	**Floodplain/Flood Control Requirements**	**Plan Review Process**	**Comments**
SCWMC SCWMC Rules and Standards, dated April 2013	Segment C, Segment BP2, and Segment BP1	Atlas 14	Match existing rates for 2-, 10-, and 100-year events	Remove 60% of P and 85% of TSS Use NURP ponds or infiltrate all site runoff from 1.3-inch event NURP pond dead storage requirement is runoff from 2.5-inch storm event over the contributing drainage area Linear projects that create one acre or more of new impervious surface must meet all Commission requirements for the **net new impervious surface.**	1-inch of runoff from impervious surfaces. Linear projects that create one acre or more of new impervious surface must meet all Commission requirements for the **net new impervious surface.**	Floodplain alteration/filling shall not cause a net decrease in flood storage capacity below the 100-year critical flood elevation unless it is shown that the proposed alteration or filling, together with the alteration or filling of all other land on the affected reach to the same degree of encroachment will not cause high water or aggravate flooding on other land and will not unduly restrict flood flows.	The Commission reviews proposed land development and redevelopment projects affecting water resources. Projects are reviewed in accordance with the management standards and policies of the SCWMC and recommendations are made to the member City in which the project is located. It is the City's responsibility to enforce the Commission's recommendations. Linear projects that create one acre or more of new impervious surface must meet all Commission requirements for the **net new impervious surface**. Projects impacting wetlands where Commission is LGU must be reviewed regardless of size. Plans for developemtn within the 100-year floodplain as defined by the FIS must be reviewed.	
MPCA (via NPDES permit issued 8/1/2013) As of 2/5/2015, the impaired and special waters within 1 mile of corridor include: Shingle Creek Upper Twin Lake Middle Twin Lake Lower Twin Lake Crystal Lake Bassett Creek Mississippi River	All segments	N/A	N/A	Water quality volume of 1-inch of runoff from new impervious surfaces must be retained on site. If infiltration is prohibited,must use other methods of volume reduction and the water quality volume (or remainder if some volume reduction is achieved) must be treated by a wet sedimentation basin, filtration system, regional ponding or equivalent methods prior to discharge of stormwater to surface waters. If use wet sedimentation pond to provide treatment, dead storage requirement is 1800 cubic feet per acre of surface area drained.	Retain on site 1-inch of runoff from new impervious surfaces. If infiltration is prohibited, must use other methods of volume reduction and the water quality volume (or remainder if some volume reduction is achieved) must be treated by a wet sedimentation basin, filtration system, regional ponding or equivalent methods prior to discharge of stormwater to surface waters. NOTE: infiltration BMPs are prohibited when soil infiltration rates are > 8.3 in/hr unless the soil is amended to slow it down. See permit for other conditions that prohibit infiltration.	N/A	SWPPP must be submitted to MPCA for review if the project size is 50 acres or more and will discharge to special or impaired waters. Application and SWPPP must be submitted at least 30 days before the start of the construction activity.	The General Permit used to develop this matrix expires on 8/1/2018. It will be necessary to verify how any proposed changes in the permit would apply to this project.
Minnesota B3 Guidelines	OMF and park-and-ride buildings in all segments		Match runoff rates for the native soil and vegetation conditions for 2- and 10-year, 24 hr design storms	Remove 80% of post development TSS Remove 60% of post development TP	Retain 1.1 inches from all new or redeveloped impervious	N/A	N/A	Minimize the negative impacts of the project, both on and off site, by maintaining a more natural hydrologic cycle through infiltration, evapotranspiration, and reuse.

Requirements Summary								
Organization	**Applies to**	**Rainfall Data**	**Rate Control**	**Water Quality (1)**	**Volume Control**	**Floodplain/Flood Control Requirements**	**Plan Review Process**	**Comments**
City of Minneapolis Email from Jeremy Strehlo, dated 1/23/15 Minneapolis Floodplain Overlay District Ordinance (Chapter 551.540) Minneapolis Erosion and Sediment Control and Drainage Ordinance (Chapter 52) Minneapolis Stormwater Ordinance (Chapter 54)	Segment M		Maintain discharge rates at or below the existing rates. May be restricted to less than existing rates when the capacity of the downstream conveyance system is limited	Remove 70% TSS	N/A	Linear projects within the floodplain shall be designed to minimize increases in flood elevations and shall be compatible with local comprehensive floodplain development plans. Protection to the RFPE shall be provided where failure or interruption of public facilities would result in danger to public health or safety where facilities are essential to orderly functioning of the area. Conditional uses in Floodway District allowed provided such uses shall have a low flood damage potential, shall not cause an increase in the stage of the regional flood or cause an increase in flood damages in the reach(es) affected.	Must submit application and obtain approval for Storm Water Management Plan from the city engineer. Requirements are included in Chapter 54.70 of City Code.	
City of Golden Valley	Segment GV		Must meet BCWMC standards.	Must meet BCWMC standards.	Must meet BCWMC standards.	Linear projects may be located in the floodplain provided they are designed to minimize increases in flood elevation and are compatible with the BCWMC Management Plan. These uses can cause no increase in stage to the 100-year flood within the floodway and cannot increase the floodplain elevation by more than 1/2 foot in a designated Zone A or AE where a floodway has not been designated. Protection to the RFPE shall be provided where failure or interruption of these public facilities would endanger the public health or safety or where such facilities are essential to the orderly functioning of the area.	See BCWMC plan review process for information on stormwater management review. Floodplain alteration permit will be submitted to the City, which will then submit the information to the DNR Commisssioner and BCWMC for review.	

Requirements Summary								
Organization	**Applies to**	**Rainfall Data**	**Rate Control**	**Water Quality (1)**	**Volume Control**	**Floodplain/Flood Control Requirements**	**Plan Review Process**	**Comments**
City of Robbinsdale Robbinsdale 2030 Comprehensive Plan - Appendix IIIA Storm Water Management Plan	Segment R		Must meet SCWMC and BCWMC standards.	Must meet SCWMC and BCWMC standards.	Must meet SCWMC and BCWMC standards.	No structure, fill (including for roads and levees),…, or other uses may be allowed as a conditional use in the **floodway** that will cause any increase in the stage of the 100-year regional flood or cause an increase in flood damages in the reach(es) affected. Floodplain developments shall not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system where a floodway or other encroachment limit has not been specified on the Official Zoning Map.	See SCWMC and BCWMC plan review process for stormwater management. Floodplain Alteration - must submit application for review to the City's Zoning Administrator and obtain all necessary State and Federal permits.	
City of Crystal 2009 Local Surface Water Management Plan and Land Use and Planning Ordinance	Segment C		Existing rates for 2-, 10-, and 100-year events; accelerated channel erosion will not occur as a result of the proposed land disturbing or development activity.	Detention facilities should have permanent pond surface area = to 2% of impervious area draining to pond, or 1% of entire area draining to pond, whichever is greater; Or as an alternative, the volume of permanent pool shall be equal to or greater than the runoff from a 2.0-inch rainfall for the fully developed site. Sequencing of preferred treatment options: infiltration, flow attenuation by using open space, stormwater retention, stormwater detention	LSWMP includes text that the City's ordinances need to be revised to include volume control standard that is in line with most restrictive between SCWMC and MPCA as it relates to discharge to impaired waters.	No structure, fill (including for roads and levees),…, or other uses may be allowed as a conditional use in the **floodway** that will cause any increase in the stage of the 100-year regional flood or cause an increase in flood damages in the reach(es) affected. Floodplain developments shall not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system where a floodway or other encroachment limit has not been specified on the Official Zoning Map.	SCWMC and BCWMC review projects that fall within the watershed review authority. Crystal forwards development plans to the applicable watershed when received at the City.	
City of Brooklyn Park Email from Kevin Larson (City), dated 2/4/14 Flood Hazard Area Overlay Ordinance (152.510)	Segment BP1 and Segment BP2		Must meet SCWMC standards.	Must meet SCWMC standards.	Must meet SCWMC standards.	Railroad tracks, roads, and bridges must be elevated above the regulatory flood protection elevation where failure of facilities would result in danger to public healthy/safety or where facilities are essential to orderly function of area. None of these uses shall increase flood elevations. No fill, excavation, or storage of materials or equipment that obstruct flows or increase flood elevations will be permitted.	Must submit application to City Manager. SCWMC will review projects that fall within watershed review authority.	

(1) Wet stormwater pond design should follow the guidelines in the MPCA Stormwater Manual for dead storage depth, side slopes, and benches.
(2) Refers to an elevation 1 foot (minimum) above the 100-year flood plus any stage increase due to the designation of flood fringe areas. In Minnesota, the floodplain management ordinances (local regulations) require that the elevation of the surface of the lowest floor of a dwelling be at or above the regulatory flood protection elevation. Local regulations will also require the top of the access road elevations to be within 2 feet of the flood protection elevation.
All regulatory entities will have requirements for erosion and sediment control and at a minimum will refer back to the NPDES requirements.

Appendix F
Supporting Technical Reports

F.6 Wetlands Technical Report

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Wetlands Technical Report

May 2016

Blue Line Extension Project Technical Report

METROPOLITAN COUNCIL

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Executive Summary

This technical report summarizes Water Resources within the proposed METRO Blue Line Light Rail (BLRT) Extension project area. The intent of this technical report is to support and augment the Final Environmental Impact Statement (Final EIS) being prepared for this project. Wetlands, floodplains and other aquatic resources within the proposed BLRT Extension project area were examined during 2015 with field work and published data sources. Impacts to wetlands and aquatic resources, described in this technical report, were established based on the limits of disturbance for the proposed BLRT Extension project. Floodplains and floodways are described in the *Floodplain Technical Memorandum* (January 2016). Some delineated basins within the proposed BLRT Extension project area are clearly natural wetlands; whereas, others have been excavated in uplands for the purpose of stormwater management.

Some wetlands are regulated by the Wetland Conservation Act (WCA) and others are not. Some wetlands are regulated by the US Army Corps of Engineers (USACE), and others, such as "non–Waters of the United States (non-WOUS)" and isolated basins are not regulated by USACE. Impacts to wetland basins requiring mitigation per WCA are 6.2815 acres. Impacts to wetland basins requiring USACE mitigation are 4.1623 acres. Required mitigation for wetland impacts will be a combination of on-site wetland mitigation and credit purchases from suitable private wetland mitigation banks. Jurisdiction of delineated basins per WCA and USACE has been established based on agency review and concurrence with conclusions in the *Technical Memorandum: Jurisdictional Issues Associated with Delineated Basins; Blue Line Extension LRT*.

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1.2 Report Purpose 1

1.3 Data Collection 1

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1 Introduction

This technical report supplements the Final Environmental Impact Statement (Final EIS) associated with the proposed METRO Blue Line Light Rail (BLRT) Extension project.

Figure 1 on page 23 shows a general location map. **Figure 2** beginning on page 25 shows a 24-page mapbook of water resources throughout the proposed BLRT Extension project area including aerial imagery, delineated wetland boundaries, updated National Wetland Inventory (NWI), Public Waters Inventory, municipal and watershed boundaries, and floodplains and floodways. **Figure 3** beginning on page 49 shows a 24-page mapbook that focuses on water resources, mapped hydric soils and LiDAR 2-foot contours.

1.1 Project Limits

The proposed BLRT Extension project connects Brooklyn Park north of 101st Avenue North southward along West Broadway Avenue (County State-Aid Highway 103) to approximately 74th Avenue North, then southwest adjacent to existing BNSF Railway (BNSF) freight rail tracks to Olson Memorial Highway (Trunk Highway [TH] 55), then eastward along Olson Memorial Highway to the Target Field Station in downtown Minneapolis.

The area that lies roughly between 94th Avenue North and Candlewood Drive North is part of the separate West Broadway Avenue Reconstruction project. A description of water resources within this area is provided in the Environmental Assessment Worksheet (EAW) and associated technical memoranda for the West Broadway Avenue Reconstruction project.

1.2 Report Purpose

The purpose of this technical report is to summarize water resources within the proposed BLRT Extension project area and describe their regulatory context and potential impacts to them and mitigation for their impacts. Existing and proposed stormwater management within the proposed BLRT Extension project area is described in a separate *Stormwater Technical Memorandum* (January 2016). A description of floodplains and floodways and proposed impacts to and mitigation for them is described in a separate *Preliminary Floodplain Impacts and Mitigation Strategies Technical Memorandum* (January 2016), or *Floodplain Technical Memorandum*.

1.3 Data Collection

Various geo-referenced data were collected to inform the assessment of water resources within the proposed BLRT Extension project area. These data sources include aerial imagery, the updated NWI, the Hennepin County Soil Survey, Public Waters Inventory maps, floodplain and floodway maps, LiDAR two-foot contour maps, parcel maps, and municipal and watershed boundary maps.

Additional data were collected in the field and locations were recorded in field notes and with global positioning system (GPS) units capable of sub-foot accuracy. These data were added to geographic information systems (GIS) files and depicted in figures associated with this technical report.

2 Wetlands, Streams and Other Aquatic Resources

2.1 Regulatory Context

Wetlands and other aquatic resources in the proposed BLRT Extension project area are regulated by several agencies at the local, state, and federal levels including the US Army Corps of Engineers (USACE) and the US Environmental Protection Agency (EPA) at the federal level; the Minnesota Board of Water and Soil Resources (BWSR) and the Minnesota Pollution Control Agency (MPCA) at the state level; and the Minnesota Wetland Conservation Act (WCA) Local Governmental Unit (LGU) at the local level. Any proposed work below the ordinary high water (OHW) elevation in public waters, public waters wetlands, or unnumbered public watercourses is regulated by the Minnesota Department of Natural Resources (DNR).

2.1.1 Federal Regulation

Wetlands are defined in federal Executive Order 11990 as follows:

> Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

USACE regulates wetlands per the Clean Water Act. According to the USACE Wetlands Delineation Manual (USACE, 1987) and the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Midwest Region (USACE, 2012) one positive indicator (except in certain situations) from each of three elements must be present in order to make a positive wetland determination, which are as follows:

- Greater than 50 percent dominance of hydrophytic plant species.
- Presence of hydric soil.
- The area is either permanently or periodically inundated, or soil is saturated to the surface during the growing season of the dominant vegetation.

USACE regulates those areas that meet the definition of wetlands. Those wetland basins that are isolated hydrologically on the landscape, i.e., those with no inlets or outlets, are not typically regulated by USACE. However, if a Preliminary Jurisdictional Determination is requested, then USACE will assume jurisdiction regardless of hydrologic connection.

2.1.2 State Regulation

BWSR is the lead state agency that administers the WCA. WCA LGUs are delegated by the WCA to issue Notices of Decision regarding concurrence on delineated wetland boundaries and types, and approvals for wetland replacement plans. The WCA LGU has jurisdiction over portions of wetlands that lie above the OHW level.

DNR has jurisdiction over public waters and public waters wetlands. The upper elevation limit of public waters and public waters wetlands is the OHW mark. In some cases, the elevation of the OHW has been calculated with hydraulic modeling. In other cases, the OHW is estimated through examination of evidence of hydrology and vegetation. Sometimes the bankfull streambank elevation serves as the demarcation of DNR jurisdiction.

Minnesota public waters and public waters wetlands are defined by Minnesota Statute 103G.005 as follows:

- **Public waters** are all waterbasins and watercourses that meet the criteria set forth in Minnesota Statutes, Section 103G.005, subd. 15 that are identified on Public Waters Inventory maps authorized by Minnesota Statutes, Section 103G.201.
- **Public waters wetlands** are all types 3, 4, and 5 wetlands as defined in US Fish and Wildlife Service (USFWS) Circular No. 39 (1971 edition), not included within the definition of public waters, that are 10 or more acres in size in unincorporated areas or 2.5 acres or more in incorporated areas.

2.1.3 Local Regulation

Relevant WCA LGUs in the proposed BLRT Extension project area include:

- City of Golden Valley
- Shingle Creek Watershed Management Commission
- City of Crystal
- Bassett Creek Watershed Management Commission
- City of Minneapolis

For purposes of the proposed BLRT Extension project, the WCA LGUs listed above retain their approval authority; however, in order to simplify the approval process, the WCA approvals are being processed by two representatives of the WCA LGUs. One representative will process approvals on behalf of the relevant WCA LGUs for water resources north of 36th Avenue North in the City of Robbinsdale and the other representative will process approvals on behalf of relevant WCA LGUs for water resources south of 36th Avenue North in the City of Robbinsdale and east to the Target Field Station.

2.2 Affected Environment

2.2.1 Wetlands

Forty-four basins were delineated within the proposed BLRT Extension project area. Additional basins, delineated within the West Broadway Avenue Reconstruction project limits, are not described in this document. The four 4 proposed BLRT Extension project area basins are depicted in **Figures 2 and 3**. Some of the delineated basins are natural wetlands whereas others are excavated in uplands for the purpose of stormwater management. Delineated basins are described in narrative below and summarized in **Table 1** on page 8.

2.2.1.1 Wetlands Numbers 1 to 13

These hydrologically isolated basins all are located north of TH 610 and have been mapped by the updated NWI variously as PEM1A, PEM1C, and PFO1A. Wetland Numbers 4, 9, 10, and 12 were not mapped by the updated NWI. These basins are fully or partially underlain by hydric soils and have been hydrologically modified as a result of dwindling ground water over the past several decades. Most of these basins are dominated by invasive plant species such as reed canary grass.

2.2.1.2 Wetland Number 51

Wetland Number 51 is located just north of Oak Grove Parkway in the City of Brooklyn Park on the Target Corporation campus. The updated NWI has mapped Wetland Number 51 as PEM1A. The majority of this basin is mapped as being underlain with hydric soil. This basin was excavated in 2004 to provide a wetland mitigation bank to compensate for wetland impacts that resulted from construction of the Target Corporation campus. Perpetual conservation easements have been recorded for Wetland Number 51. A wetland delineation conducted in W51 revealed that only the southern portion of this area meets the criteria of wetlands. Several feet of soil were removed from this basin in order to allow portions of it to function as a restored wetland.

2.2.1.3 Wetland Number 52

Wetland Number 52 is located on the south side of 101st Avenue North within the area associated with the Operations and Maintenance Facility (OMF). Wetland Number 52 was not mapped by the NWI; however, it is mapped in what is predominantly hydric soil. Wetland Number 52 appears to be a natural isolated basin.

2.2.1.4 Wetlands Numbers 14 to 17

These basins are located north of and south of TH 610 and have been excavated for stormwater management. Wetlands Numbers 14 and 15 were excavated in an area that is underlain by hydric soils. Wetlands Numbers 16 and 17 were excavated in non-hydric soils. The updated NWI mapped Wetland Number 14 as PEM1A though it was found based on field data to be a PUBGx, and Wetland Number 16 as PUBGx/PEM1C. The updated NWI did not map Wetlands 15 and 17 but they were both found to be PSS1A.

2.2.1.5 Wetlands Numbers 18 to 25 and 43

These wetlands are described in the Wetland Delineation Report for the West Broadway Avenue Reconstruction project and are not included in this report.

2.2.1.6 Wetland Number 26

Wetland Number 26 is a small isolated roadside ditch located approximately 500 feet north of Brooklyn Boulevard on the west side of West Broadway Avenue. This ditch was not mapped by the updated NWI and it is not underlain by mapped hydric soils. Wetland Number 26 was field verified to be a PEM1A. It was excavated in uplands for the purpose of stormwater management associated with the parking lots to the west.

2.2.1.7 Wetlands Numbers 27 to 30

Wetlands Numbers 27 to 30 are used for stormwater management and are located between Interstate 94 and Highway 100. Wetland Number 27 is mapped by the updated NWI as PEM1C and is not underlain by hydric soils. Wetland Number 28 is mapped by the NWI as PABGx/PEM1C (field verified to be PFO1A) and is underlain by hydric soils. Wetland Number 29 is mapped by the NWI as PEM1C (and field verified as such) and is underlain by hydric soils. Wetland Number 30 is mapped by the NWI as PUBG/PEM1A (and field verified as such) and is not underlain by hydric soils.

2.2.1.8 Wetland Number 31 (an extension of Wetland Number 32)

Wetland Number 31 is a long linear ditch that extends along the west side of the existing BNSF tracks in the City of Robbinsdale, roughly between Lowry Avenue North and 35th Avenue North. The updated NWI has mapped this basin as PSS1A/PABG/PEM1A (field verified as PSS1A) and it is not underlain by mapped hydric soils. This railroad ditch was created long ago and the plant communities that have developed over time have matured into a functioning mosaic of wetland types.

2.2.1.9 Wetlands Numbers 32, 33, and 45

This wetland complex is located within the City of Robbinsdale along the west side (Wetlands Numbers 32 and 45) and the east side (Wetland Number 33) of the BNSF tracks. The updated NWI has mapped this complex as PUBG/PFO1A/PSS1C/PEM1C/PEM1F/PABG. These wetlands were field verified to be PFO1A, PUBGx, and PFO1A, respectively. The southern tip of Wetland Numbers 32 and 45 is underlain with mapped hydric soil; however, the middle and northern portion of this complex is not mapped with hydric soils. Wetland Number 33 is not underlain with mapped hydric soils. Wetland Number 32 lies partly within Walter Sochacki Park. Wetland Number 33 is also known as Grimes Pond and is in part within South Halifax Park.

2.2.1.10 Wetland Number 34

Wetland Number 34 is located approximately 350 feet west of the BNSF tracks partly within the City of Robbinsdale and partly within the City of Golden Valley. The updated NWI has mapped Wetland 34 as PABG, PEM1F, PEM1A, and PFO1A. Field data revealed that the mosaic of wetland

types present in this large complex is similar to what is mapped by the updated NWI. Most of this wetland is underlain with mapped hydric soils. Wetland Number 34, also known as South Rice Pond, lies within Walter Sochacki Park.

2.2.1.11 Wetlands Numbers 35 and 36

Wetlands Numbers 35 and 36 are located within the City of Robbinsdale, roughly between 26th Avenue North and 29th Avenue North, on the west side (Wetland 35) and east side (Wetland 36) of the BNSF tracks. Wetland Number 35 is mapped by the updated NWI as PEM1F (field verified as PFO1A) and Wetland Number 36 is mapped as PSS1A (field verified as the same). Neither wetland is mapped as being underlain by hydric soils. Wetlands Numbers 35 and 36 were excavated as ditches for stormwater management.

2.2.1.12 Wetland Number 37

Wetland Number 37 is a linear ditch along the west side of the BNSF tracks and the east side Kewanee Way in the City of Golden Valley. The updated NWI has not mapped this ditch as a wetland and the soil survey has not mapped hydric soils here. Field data verified this wetland to be a PEM1A. Wetland Number 37 was excavated in uplands for stormwater management.

2.2.1.13 Wetland Numbers 38 and 39

Wetlands Numbers 38 and 39 are located in the City of Golden Valley just north of Golden Valley Road on the west side (Wetland Number 38) and east side (Wetland Number 39) of the BNSF tracks. The updated NWI has mapped these basins as PUBG, PABG and PFO1A. Field verifications confirmed both basins to be PUBGx. The soil survey has not mapped hydric soils in these basins. Wetland 38 lies within Sochacki Park: Mary Hills Management Unit. Wetland Number 39 lies partly within Minneapolis Park and Recreation Board land.

2.2.1.14 Wetlands Numbers 40 and 50

Wetlands 40 and 50 are parts of a linear ditch along the east side of the existing BNSF tracks, near 16th Avenue North, in the City of Golden Valley. The updated NWI mapped Wetland Number 40 as PFO1A and did not map Wetland Number 50. The soil survey did not map hydric soils in this ditch. Wetlands Numbers 40 and 50 were excavated in uplands for stormwater management.

2.2.1.15 Wetland Number 41

Wetland 41 is a linear ditch located along the east side of the BNSF tracks, just north of Plymouth Avenue North, in the City of Golden Valley. Wetland 41 was not mapped as wetland by the updated NWI. This wetland was field verified to be a PEM1A. The soil survey did not map hydric soils within Wetland 41. Wetland 41 was excavated in uplands for stormwater management.

2.2.1.16 Wetlands Numbers 42 and 49

Wetlands Numbers 42 and 49 are both part of a linear ditches that are located along the east side (Wetland Number 42) and the west side (Wetland Number 49) of the existing BNSF tracks, partly within the City of Golden Valley and partly within the City of Minneapolis. These ditches are located

near the intersection of Xerxes Avenue North and Oak Park Avenue North. Wetland Number 42 was not mapped by the updated NWI though it was field verified to be PSS1A. Wetland Number 49 is mapped by the NWI as PABGx and PFO1A and field verified to be PFO1A. The soil survey did not map hydric soils within these ditches. These ditches were excavated in uplands for stormwater management.

2.2.1.17 Wetland Number 44

Wetland Number 44 is located along the east side of the BNSF tracks between 33rd Avenue North and 35th Avenue North in the City of Robbinsdale, just downslope from the Xcel Indiana substation. Wetland Number 44 is a linear railroad ditch. The updated NWI mapped Wetland Number 44 as PABG (field verified to be PUBGx) and the soil survey did not map hydric soils here.

2.2.1.18 Wetlands Numbers 46 and 47

Wetlands Numbers 46 and 47 are located along the west side of the BNSF tracks, north and south of Plymouth Avenue North, in the City of Golden Valley. This wetland complex is adjacent to Bassett Creek and associated backwaters. The updated NWI has mapped this complex as PFO1A, PEM1A, PEM1C and riverine. These basins were field verified to be mostly PFO1A. The soil survey has not mapped hydric soils within this complex.

2.2.1.19 Wetland Number 48

Wetland Number48 is located on the east and west sides of the existing BNSF tracks, just north of Olson Memorial Highway, in the City of Minneapolis. Wetland Number 48 is an old channel of Bassett Creek. Wetland Number 48 is mapped by the updated NWI as riverine (R2UBG or R2UBGx) and field verified as such. The soil survey has mapped Wetland Number 48 as non-hydric. Wetland Number 48, now used for stormwater management, enters a large culvert which flows south under Olson Memorial Highway.

2.2.1.20 Pond East of Wetland Number 30

The Pond East of Wetland Number 30 is located in the City of Robbinsdale. This pond appears to have been constructed in uplands for the purpose of stormwater management and is not underlain by mapped hydric soils. The updated NWI has mapped this pond as PUBG.

Table 1. Summary of Delineated Basins within and near the Proposed BLRT Extension Project

Wetland ID	Updated NWI Mapping	Hydric Soil Mapping	Field Verified Cowardin Class.	Eggers & Reed Class.[1]	Circ. 39 Class.[2]	Sheet Number (see Figure 2)	Notes
W1	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
W2	PEM1C	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W3	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
W4	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W5	PFO1A	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W6	PFO1A	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W7	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W8	PFO1A	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W9	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W10	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	2	Roadside ditch
W11	PEM1A	Partially	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W12	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W13	PEM1A	Partially	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W14	PEM1A	Yes	PUBGx	Deep marsh	Type 4	3	Excavated for stormwater management
W15	Not mapped	Yes	PSS1A	Shrub carr	Type 6	3	Excavated for stormwater management
W16	PUBGx/PEM1C	No	PUBGx	Deep marsh	Type 4	4	Excavated for stormwater management
W17	Not mapped	No	PSS1A	Shrub carr	Type 6	4	Excavated for stormwater management
W18–W25 are part of the West Broadway Avenue Reconstruction project	See Wetland Delineation Report for the West Broadway Avenue Reconstruction project						—
W26	Not mapped	No	PEM1A	Seas. flooded basin	Type 1	8	Excavated for stormwater management

Table 1. Summary of Delineated Basins within and near the Proposed BLRT Extension Project

Wetland ID	Updated NWI Mapping	Hydric Soil Mapping	Field Verified Cowardin Class.	Eggers & Reed Class.[1]	Circ. 39 Class.[2]	Sheet Number (see Figure 2)	Notes
W27	PEM1C	No	PEM1A	Seas. flooded basin	Type 1	10	Excavated for stormwater management
W28	PABGx/PEM1C	Yes	PFO1A	Seas. flooded basin	Type 1	11	Excavated for stormwater management
W29	PEM1C	Yes	PEM1C	Shallow marsh	Type 3	13	Natural basin, likely excavated to augment stormwater management
W30	PUBG/PEM1A	No	PUBGx	Open water	Type 5	14	Excavated for stormwater management
W31	PSS1A	No	PSS1A	Shrub carr	Type 6	16	Natural basin
W32	PFO1A	Partial	PFO1A	Seas. flooded basin	Type 1	17	Natural basin
W33	PABG	No	PUBGx	Open water	Type 5	17	Natural basin, enhanced for stormwater management
W34	PEM1F/PABG	Yes	PEM1F	Deep marsh	Type 4	17	Natural basin, perhaps excavated to augment stormwater management
W35	PEM1F	No	PFO1A	Seas. flooded basin	Type 1	17	Natural basin, enhanced for stormwater management
W36	PSS1A	No	PSS1A	Shrub carr	Type 6	17	Natural basin
W37	Not mapped	No	PEM1A	Seas. flooded basin	Type 1	17	Railroad ditch
W38	PFO1A/PABG	No	PUBGx	Open water	Type 5	18	Excavated for stormwater management
W39	PFO1A	No	PUBGx	Open water	Type 5	18	Natural basin, enhanced for stormwater management
W40	PFO1A	No	PEM1A	Seas. flooded basin	Type 1	19	Natural basin
W41	Not mapped	No	PEM1A	Seas. flooded basin	Type 1	19	Railroad ditch, stormwater management

Table 1. Summary of Delineated Basins within and near the Proposed BLRT Extension Project

Wetland ID	Updated NWI Mapping	Hydric Soil Mapping	Field Verified Cowardin Class.	Eggers & Reed Class.[1]	Circ. 39 Class.[2]	Sheet Number (see Figure 2)	Notes
W42	Not mapped	No	PSS1A	Shrub carr	Type 6	20	Railroad ditch, stormwater management
W43 is part of the West Broadway Avenue Reconstruction project	See Wetland Delineation Report for the West Broadway Avenue Reconstruction project						—
W44	PABG	No	PUBGx	Open water	Type 5	16	Natural basin
W45	Not mapped	Partial	PFO1A	Seas. flooded basin	Type 1	16	Natural basin
W46	PFO1A	No	PFO1A	Seas. flooded basin	Type 1	19	Partially natural basin, partially excavated for stormwater management
W46 (riverine)	R2UBG	Yes	R2UBG	Riverine	Riverine	19	Channel of Bassett Creek
W47	PEM1C	No	PFO1A	Seas. flooded basin	Type 1	19	Partially natural basin, partially excavated for stormwater management
W48	R2UBG	No	R2UBGx	Riverine	Type 4	20	Old backwater of Bassett Creek, partially excavated to augment stormwater management
W49	PFO1A	No	PFO1A	Seas. flooded basin	Type 1	20	Railroad ditch
W50	PFO1A	No	PEM1A	Seas. flooded basin	Type 1	19	Natural basin
W51	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	3	Wetland Mitigation Bank for Target Corporation
W52	Not mapped	Partial	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
Pond east of W30	PUBG	No	PUBG	Open water	Type 4	14	Excavated for stormwater management

[1] Wetland types based on *Wetland Plants and Plant Communities of Minnesota and Wisconsin* by Eggers and Reed (USACE St. Paul District).
[2] Wetland types classified based on US Fish and Wildlife Circular 39.

2.2.2 Streams and Other Aquatic Resources

Bassett Creek and associated backwaters flow through and near a large portion of the proposed BLRT Extension project from North Rice Pond south to Olson Memorial Highway. The headwaters of Bassett Creek is Medicine Lake in Plymouth, and its confluence with the Mississippi River is in the City of Minneapolis. Along its entire length, Bassett Creek is currently listed on the MPCA 303(d) List of Impaired Waters. Aquatic recreation is impaired as a result of high fecal coliform. Aquatic life is impaired as a result of high chloride and stressors affecting the fish community in Bassett Creek.

Table 2 summarizes those areas within the proposed BLRT Extension project area that are designated as DNR public waters, public waters wetlands, or public watercourses.

Table 2. Summary of DNR Public Waters, Public Waters Wetlands, and Public Watercourses within the Proposed BLRT Extension Project Area

Public Waters ID[1]	Wetland Basin ID	Notes
644W	Wetlands 32 and 33	North Rice Pond and Grimes Pond
651P	Wetland 46	Backwaters of Bassett Creek near Plymouth Avenue
36P	Wetland 48	Backwaters of Bassett Creek near Olson Memorial Highway
Bassett Creek	Adjacent to Wetland 46	Channel of Bassett Creek

Source: DNR Public Waters Inventory

[1] "W" indicates DNR public waters wetlands; "P" indicates public waters; unnumbered waterbodies indicate public watercourses.

2.2.3 Notable Aquatic Habitats within the Proposed BLRT Extension Project Area

Table 3 summarizes characteristics and locations of four notable aquatic habitats within and near the proposed BLRT Extension project; the North and South Rice Ponds Complex, Grimes Pond, Golden Valley Ponds Complex, and the Theodore Wirth Regional Park Complex (Bassett Creek and associated backwaters). In the context of this technical report, the term *notable* is used in a general sense and signifies larger wetlands with a variety of wetland habitats and functions.

Table 3. Notable Aquatic Habitats within and near the Proposed BLRT Extension Project Area

Aquatic Habitat	Location	Total Size (ac)	Wildlife Associations
North and South Rice Ponds	Cities of Robbinsdale and Golden Valley on west side of existing BNSF tracks	24.72	Habitat for frogs and toads, turtles, snakes, potential habitat for common rough fish species
Grimes Pond	City of Robbinsdale on the east side of existing BNSF tracks	7.41	Habitat for frogs and toads, turtles, snakes, potential habitat for common rough fish species
Golden Valley Road Ponds	North side of Golden Valley Road on both sides of the existing BNSF tracks	5.08	Habitat for frogs and toads, turtles, snakes, potential habitat for common rough fish species
Theodore Wirth Regional Park (Bassett Creek and backwater)	North and south of the Plymouth Avenue Bridge on the west side of the existing BNSF tracks	11.85	Habitat for frogs and toads, turtles, snakes, potential habitat for common rough fish species

Sources: Field data collection (Council, 2015) and the National Wetland Inventory (updated 2013)

2.3 Environmental Consequences

2.3.1 Wetland Impacts within the Proposed BLRT Extension Project Area

Wetlands were delineated along the proposed BLRT Extension project and associated facilities during the spring and summer of 2015. The wetlands inventoried along with potential impacts by wetland type are summarized in **Table 4**. **Table 4** also describes a portion of the delineated basins as being currently used as stormwater ponds and others as being natural wetland basins. The jurisdictional status of all delineated basins in the proposed BLRT Extension project area with respect to WCA and USACE has been established based on agency review and concurrence with conclusions in the *Technical Memorandum: Jurisdictional Issues Associated with Delineated Basins; Blue Line Extension LRT*. **Table 5** summarizes wetland impacts data per delineated basin. Impact areas are shown in **Figure 2** beginning on page 25.

Standard erosion control best management practices (BMPs) would be used for work within adjacent wetland and aquatic resources where necessary, minimizing impacts to the waterbodies down slope and to aquatic wildlife.

Table 4. Disturbance or Fill in Delineated Basins for the Proposed BLRT Extension Project by Wetland Type

Wetland Type (Circular 39)[1]	Wetland Type (Eggers and Reed)[2]	Total Impacts (acres)	Impacts Requiring Mitigation for WCA (acres)	Impacts Requiring Mitigation for USACE (acres)
Type 1	Seasonally Flooded Basin	6.5824	4.2731	2.5166
Type 4	Deep Marsh	2.4892	0.1038	1.0138
Type 5	Open Water	3.6152	1.6922	0.4195
Type 6	Shrub Carr	0.5010	0.2124	0.2124
Riverine	Riverine	450 linear feet (Bassett Creek)	450 liner feet (Bassett Creek)	450 linear feet (Bassett Creek)
	Total	**13.1878**	**6.2815**	**4.1623**

[1] Wetland types classified based on US Fish and Wildlife Circular 39.

[2] Plant communities classified based on *Wetland Plants and Plant Communities of Minnesota and Wisconsin* by Eggers and Reed (USACE St. Paul District).

Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. [1]	Circ. 39 Class. [2]	Sheet Number (See Figure 2)	Notes
W1	0.0000	—	Yes	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
W2	0.0000	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W3	0.0000	—	Yes	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
W4	0.1357	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W5	0.0000	—	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W6	0.0000	—	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W7	0.2869	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W8	0.0254	—	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W9	0.0012	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W10	—	0.0000	Yes	PEM1A	Seas. flooded basin	Type 1	2	Roadside ditch
W11	0.0000	—	Partially	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W12	0.0565	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W13	0.5333	—	Partially	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W14	—	0.6058	Yes	PUBGx	Deep marsh	Type 4	3	Excavated for stormwater management
W15	—	0.0000	Yes	PSS1A	Shrub carr	Type 6	3	Excavated for stormwater management
W16	—	0.8194	No	PUBGx	Deep marsh	Type 4	4	Excavated for stormwater management
W17	—	0.0000	No	PSS1A	Shrub carr	Type 6	4	Excavated for stormwater management

Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. [1]	Circ. 39 Class. [2]	Sheet Number (See Figure 2)	Notes
W18–W25 are part of the West Broadway Avenue Reconstruction project	—	—	—	—	—	—	—	—
W26	—	0.0100	No	PEM1A	Seas. flooded basin	Type 1	8	Excavated for stormwater management
W27	—	0.0000	No	PEM1A	Seas. flooded basin	Type 1	10	Excavated for stormwater management
W28	0.4303	—	Yes	PFO1A	Seas. flooded basin	Type 1	11	Excavated for stormwater management
W29	—	0.0000	Yes	PEM1C	Shallow marsh	Type 3		Natural basin, likely excavated to augment stormwater management
W30	—	0.0000	No	PUBGx	Open water	Type 5	14	Excavated for stormwater management
W31	part of W32	—	No	PSS1A	Shrub carr	Type 6	16	Excavated for stormwater management
W32	1.2544	—	No	PFO1A	Seas. flooded basin	Type 1	17	Excavated for stormwater management

Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. [1]	Circ. 39 Class. [2]	Sheet Number (See Figure 2)	Notes
W33	1.692 [3]	—	No	PUBGx	Open water	Type 5	17	Excavated for stormwater management many years ago.
W34	0.0000	—	Yes	PEM1F	Deep marsh	Type 4	17	Natural basin, perhaps excavated to augment stormwater management
W35	0.4033	—	No	PFO1A	Seas. flooded basin	Type 1	17	Mostly a railroad ditch excavated for ballast
W36	0.2124	—	No	PSS1A	Shrub carr	Type 6	17	Mostly a wide railroad ditch excavated for ballast
W37	—	0.0755	No	PEM1A	Seas. flooded basin	Type 1	17	Railroad ditch
W38	0.0000	—	No	PUBGx	Open water	Type 5	18	Excavated for stormwater management
W39	1.051	—	No	PUBGx	Open water	Type 5	18	Excavated for stormwater management
W40	0.3127	—	No	PEM1A	Seas. flooded basin	Type 1	19	Railroad ditch
W41	—	0.1917	No	PEM1A	Seas. flooded basin	Type 1	19	Railroad ditch
W42	—	0.2886	No	PSS1A	Shrub carr	Type 6	20	Railroad ditch

Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. [1]	Circ. 39 Class. [2]	Sheet Number (See Figure 2)	Notes
W43 is part of the West Broadway Avenue Reconstruction project	—	—						
W44	0.8722	—	No	PUBGx	Open water	Type 5	16	Railroad ditch
W45	1.3465	—	No	PFO1A	Seas. flooded basin	Type 1	16	Excavated for stormwater management
W46 (riverine)	Riverine	—	Yes	Riverine	Riverine	Riverine	19	Channel of Bassett Creek
W46	1.0440	—	No	PFO1A	Seas. flooded basin	Type 1	19	Partially natural basin, partially excavated for stormwater management
W47	(included with W46)	—	No	PFO1A	Seas. flooded basin	Type 1	19	Partially natural basin, partially excavated for stormwater management
W48	0.1540	—	No	R2UBGx	Riverine	Type 4	20	Old backwater of Bassett Creek, partially excavated to augment stormwater management

Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. [1]	Circ. 39 Class. [2]	Sheet Number (See Figure 2)	Notes
W49	—	0.1018	No	PFO1A	Seas. flooded basin	Type 1	20	Railroad ditch
W50	0.1176	—	No	PEM1A	Seas. flooded basin	Type 1	19	Railroad ditch
W51	0.2095	—	Yes	PEMA	Seas. flooded basin	Type 1	3	Wetland Mitigation Bank for Target Corporation
W52	0.0461	—	Yes	PEMA	Seas. flooded basin	Type 1	1	Natural basin (disturbed)
Near Wetland 30, not delineated	—	0.91	No	PEMF	Deep marsh	Type 4	14	MnDOT Stormpond

[1] Wetland types classified based on *Wetland Plants and Plant Communities of Minnesota and Wisconsin* by Eggers and Reed (USACE St. Paul District).

[2] Wetland types classified based on US Fish and Wildlife Circular 39.

[3] Wetland impacts of 1.692 acres are the area of the elevated platform above Grimes Pond. Actual impacts are assumed to be less than 1.692 acres and would be the cumulative footprint of the cross-sections of the support piers.

2.3.2 Stream and Other Aquatic Resource Impacts within the Proposed BLRT Extension Project Area

A portion of Bassett Creek, a stream reach of approximately 450 feet total length, near the Plymouth Avenue bridge would be relocated to accommodate the Blue Line Extension LRT and associated infrastructure. The upstream limit of the stream relocation would be approximately 200 feet north of the Plymouth Avenue centerline, and the downstream limit would be approximately 250 feet south of the Plymouth Avenue bridge centerline. This reach of Bassett Creek would be moved approximately 20 feet west. The final design of the creek realignment will include considerations for construction staging to ensure that flow rates are managed and to ensure safe discharge of the flows during construction. These may include diversion and pumping and scheduling the construction during winter when the flows are typically low.

Table 6 summarizes impacts to those areas within the proposed BLRT Extension project area that are designated as DNR public waters, public waters wetlands, or public watercourses.

Table 6. Summary of DNR Public Waters, Public Waters Wetlands, and Public Watercourses within the Proposed BLRT Extension Project Area

Public Waters ID[1]	Wetland Basin ID	Potential Impacts (acres or linear feet)	Notes
644W	Wetlands 32 and 33	1.692 [2]	North Rice Pond and Grimes Pond
651P	Wetland 46	1.0440	Backwaters of Bassett Creek near Plymouth Avenue
36P	Wetland 48	0.1540	Backwaters of Bassett Creek near Olson Memorial Highway
Bassett Creek	Adjacent to Wetland 46	Approximately 450 linear feet of Bassett Creek	Channel of Bassett Creek

Source: DNR Public Waters Inventory

[1] "W" indicates DNR public waters wetlands; "P" indicates public waters; unnumbered waterbodies indicate public watercourses.

[2] Impacts reported here are based on the area of the elevated rail platform. Actual impacts would likely be less and would be based on the cumulative footprint of the support pillars within the public water.

2.4 Potential Mitigation

Throughout the planning and design phases of the proposed BLRT Extension project, wetland impacts will be avoided and minimized to the extent practicable. For those wetland impacts that cannot be avoided, suitable wetland mitigation will be required.

The current replacement ratio for wetland credits in the Twin Cities Metropolitan Area including the proposed BLRT Extension project study area is 2.5 to 1, although under certain conditions it may be reduced to 2 to 1. Such conditions include the use of mitigation that is functioning prior to wetland impacts, mitigation using the same wetland type as the impacts and mitigation geographically close to the impacts. The final amount, type, and location of wetland replacement or bank credits will be determined by the respective permitting agencies during final design and the permit review process.

Wetland mitigation for the proposed BLRT Extension project will be accomplished through a combination of on-site wetland mitigation and purchases of private wetland credits from existing mitigation banks in suitable Major Watersheds and Bank Service Areas. As presented in the Minnesota Interagency Water Resource Application (the joint Section 404/WCA wetland permit application—see **Appendix I** of the Final EIS) 4.1623 acres of the wetland impacts within the proposed BLRT Extension project will require mitigation under USACE requirements, and 6.2815 acres of wetland impacts will require mitigation under WCA requirements. Much of the USACE and WCA jurisdictional impacts overlap; the wetland permit application notes that about 12–14 acres of wetland mitigation will be required. The remainder of delineated basins are stormponds and would require storm volume replacement but not wetland mitigation. Given the urbanized and rapidly urbanizing nature of the proposed BLRT Extension project area, on-site wetland mitigation opportunities are somewhat limited. Some mitigation opportunities are being considered within Theodore Wirth Regional Park within the proposed floodplain mitigation area associated with Bassett Creek. Opportunities to combine wetland mitigation and floodplain mitigation are being studied.

The entire proposed BLRT Extension project alignment lies within the "<50 percent area" of Minnesota, Major Watershed #20 (Mississippi River – Twin Cities) and Bank Service Area (BSA) 7. Thus, purchases of private wetland mitigation credits will first be sought within the "<50 percent area" of Minnesota, BSA 7 and Major Watershed #20. Purchase of credits form Hennepin County banks will be prioritized. However, as a result of the scarcity of suitable credits within Hennepin County, additional suitable credits will likely be purchased from banks in Carver County. The search for suitable private wetland credits will be expanded to adjacent BSAs and Major Watersheds if needed, though a mitigation ratio higher than 2:1 would typically apply in this scenario.

The reach of Bassett Creek near the Plymouth Avenue Bridge will be moved several feet to the west. During construction, this reach of Bassett Creek will be diverted to accommodate the required in-stream work. Mitigation for these impacts to Bassett Creek will use appropriate erosion control and stream restoration methods.

Standard erosion control BMPs will be used for work within adjacent wetland and aquatic resources where necessary, minimizing impacts to the waterbodies down slope and to aquatic wildlife.

3 References

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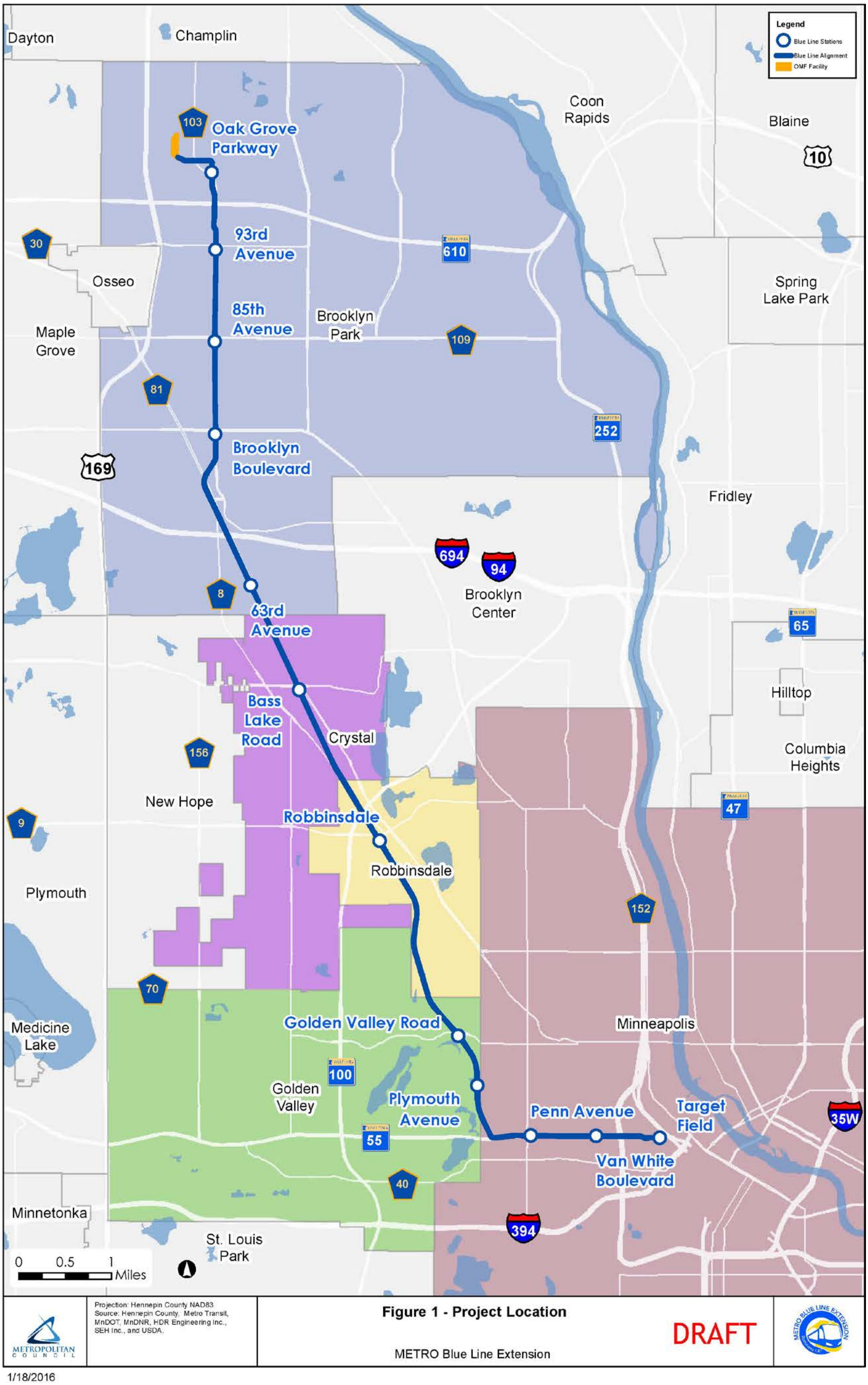
Figure 1. General Location Map



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Legend

Wetland_Del_Jurisdictional_Impacts

Blue Line Stations

Limits of Disturbance

Area of Wetland Investigation

Wetland Impact Footprint

Wetland Sample Point

Delineated Wetland

Wetland Impacts

Permanant

Temporary

West Broadway

OMF Facility

Dividing Line between Watershed Districts

Wetland 1

Wetland 3

Wetland 52

Wetland 52
0.05 Acres

101ST AVE N

HIGHWAY 169 N

Wetland 1

Coon Rapids
Brooklyn Park
Brooklyn Center
Fridley
New Hope
Crystal
Minneapolis
Golden Valley

0 150 300 Feet

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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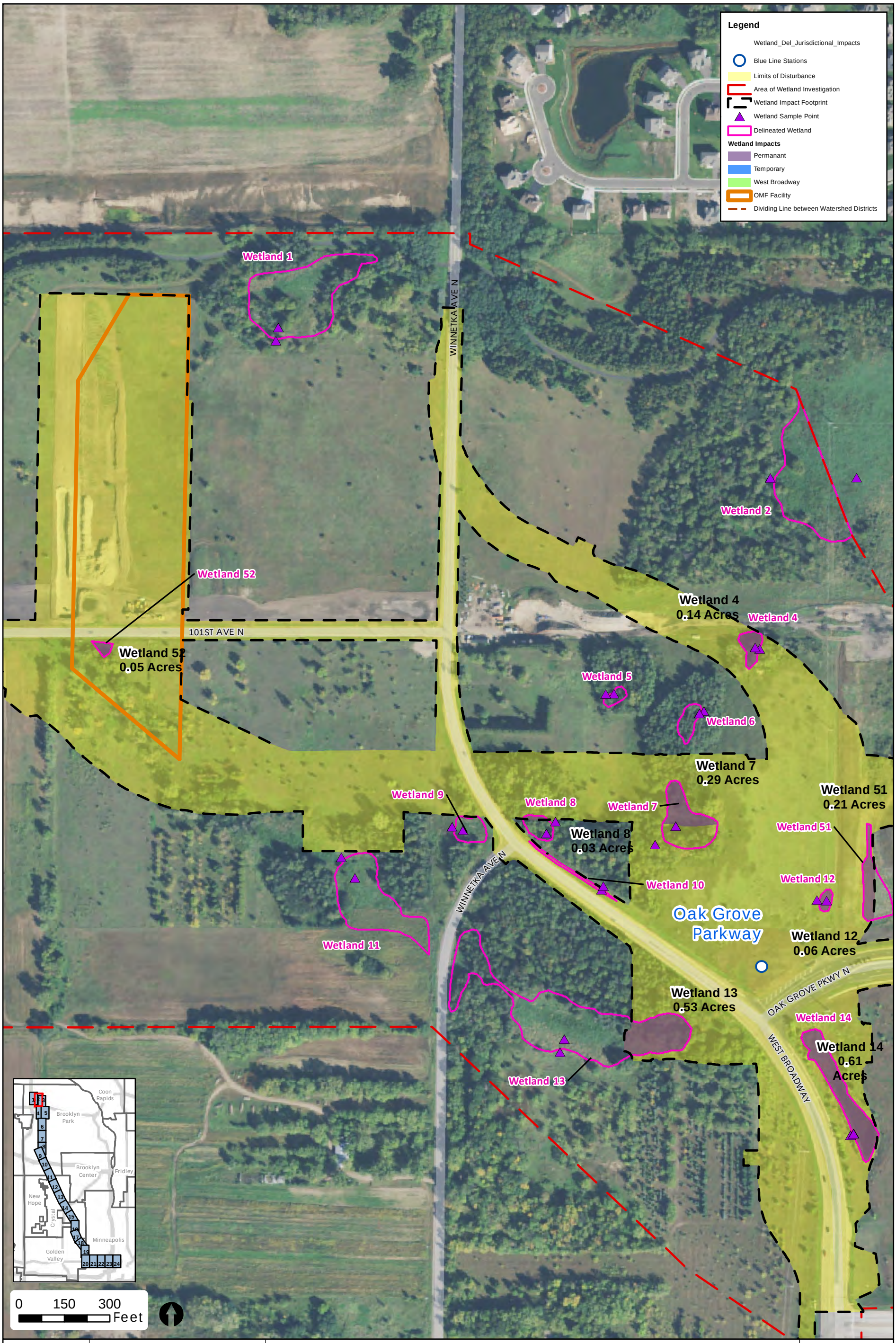

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Figure 2 - Wetlands
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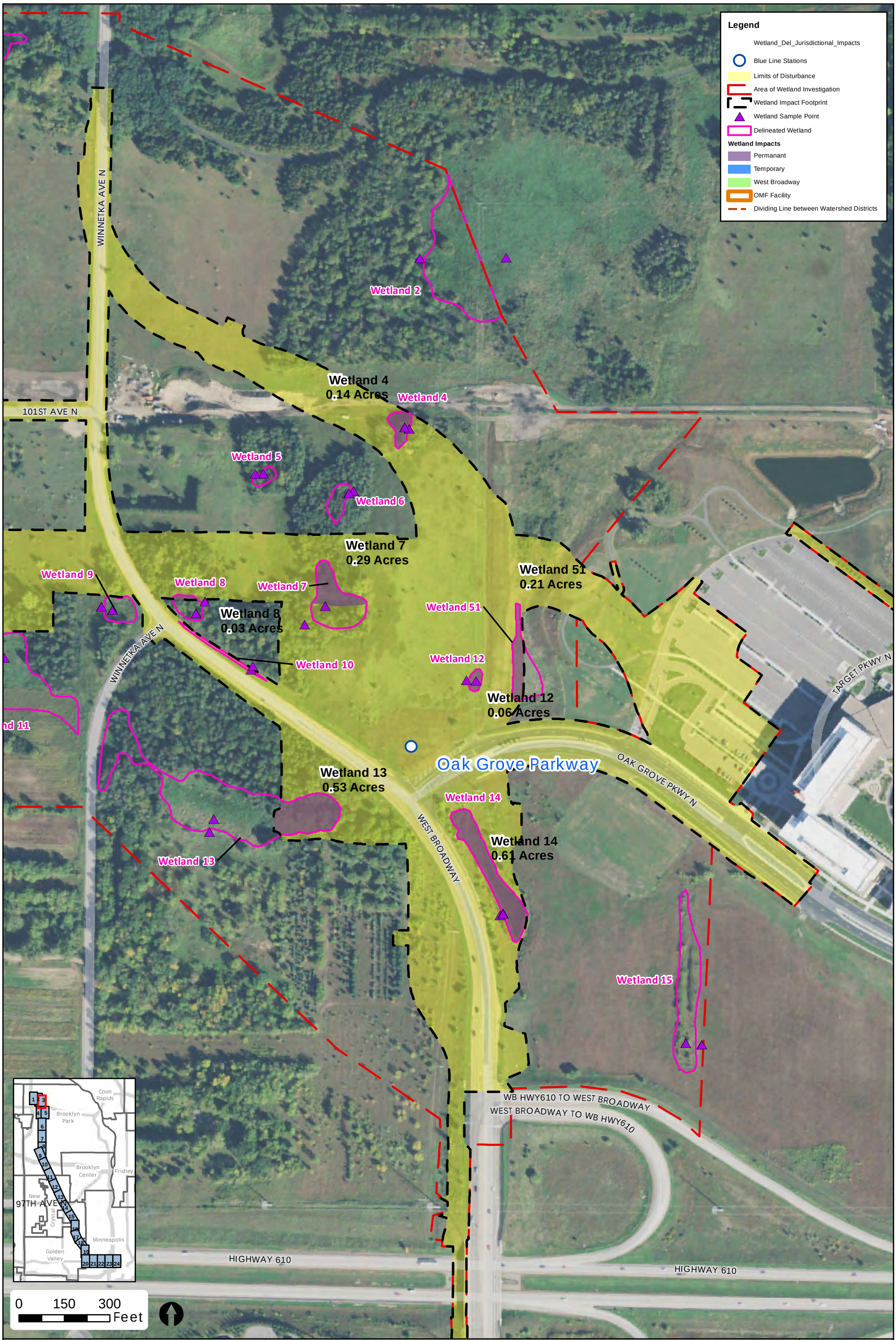

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Figure 2 - Wetlands
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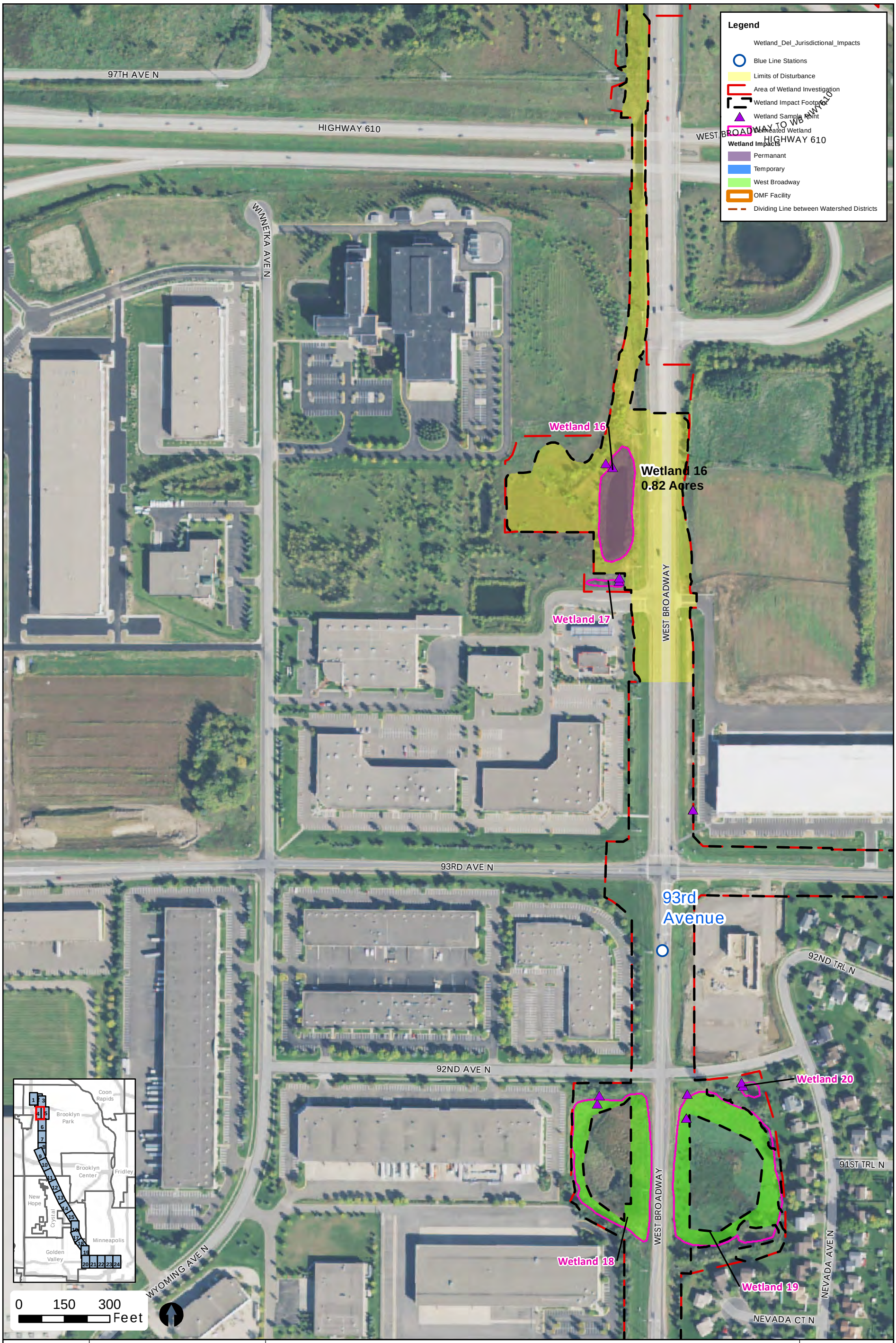

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Figure 2 - Wetlands
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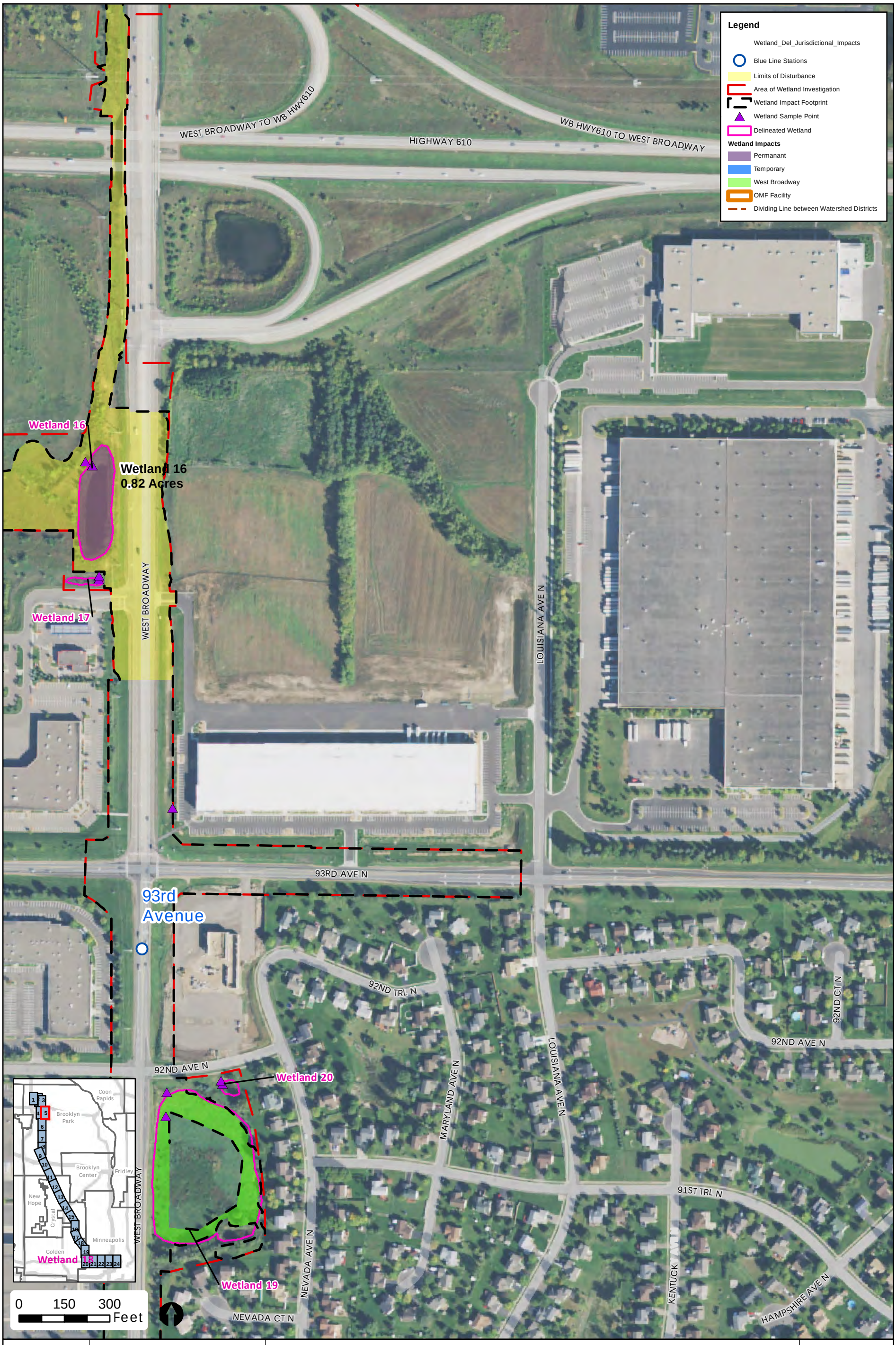

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Figure 2 - Wetlands
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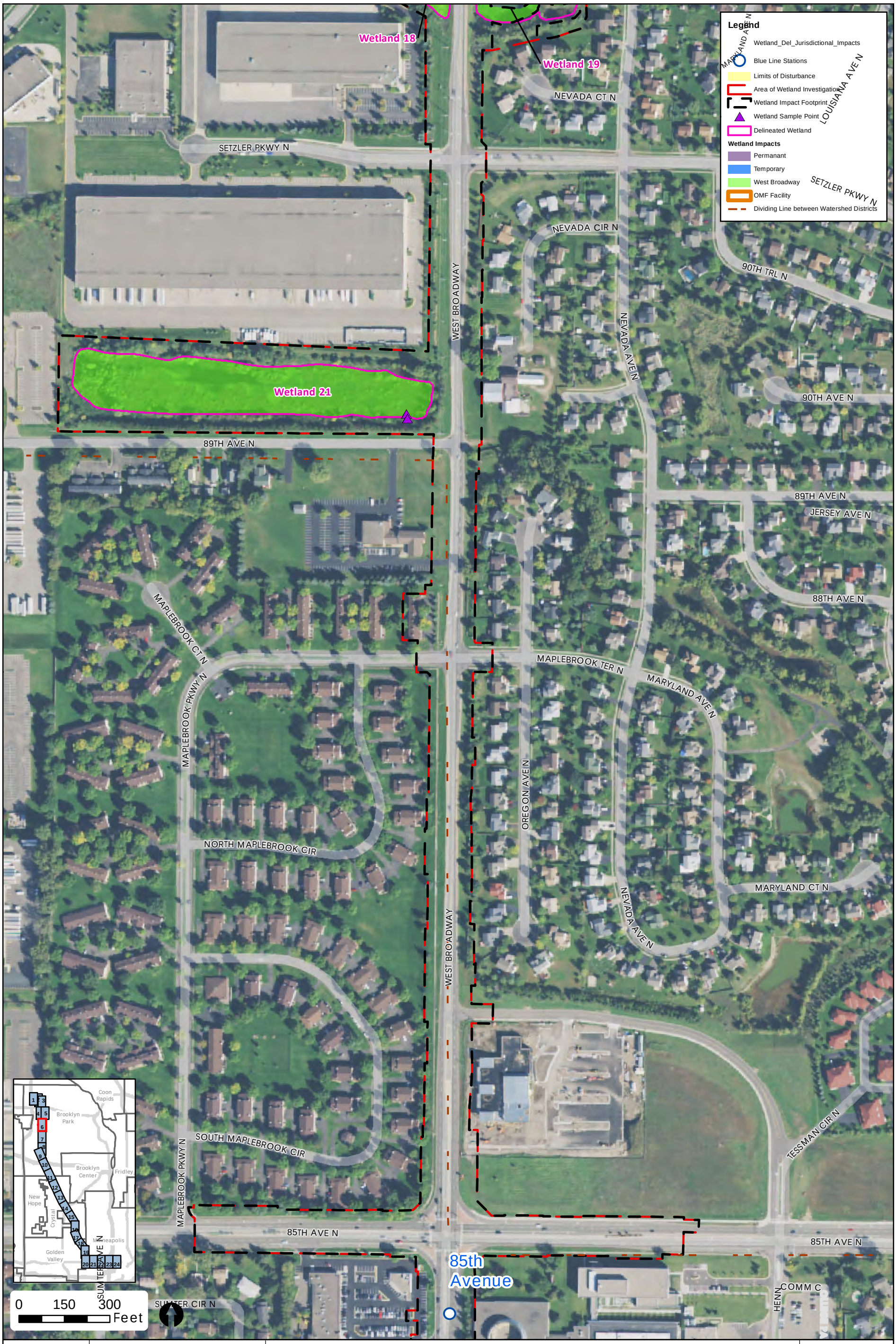

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Figure 2 - Wetlands
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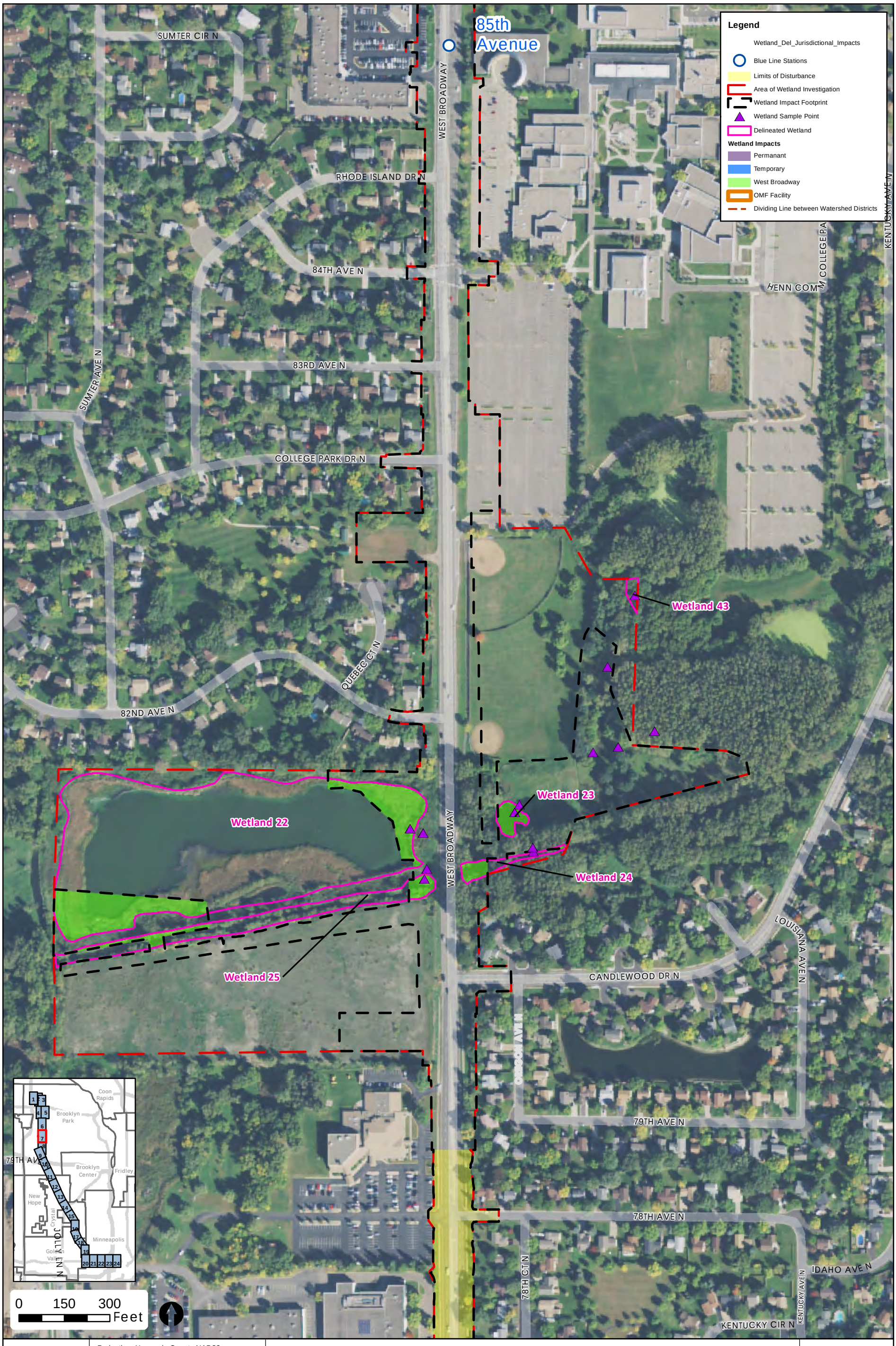

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Figure 2 - Wetlands
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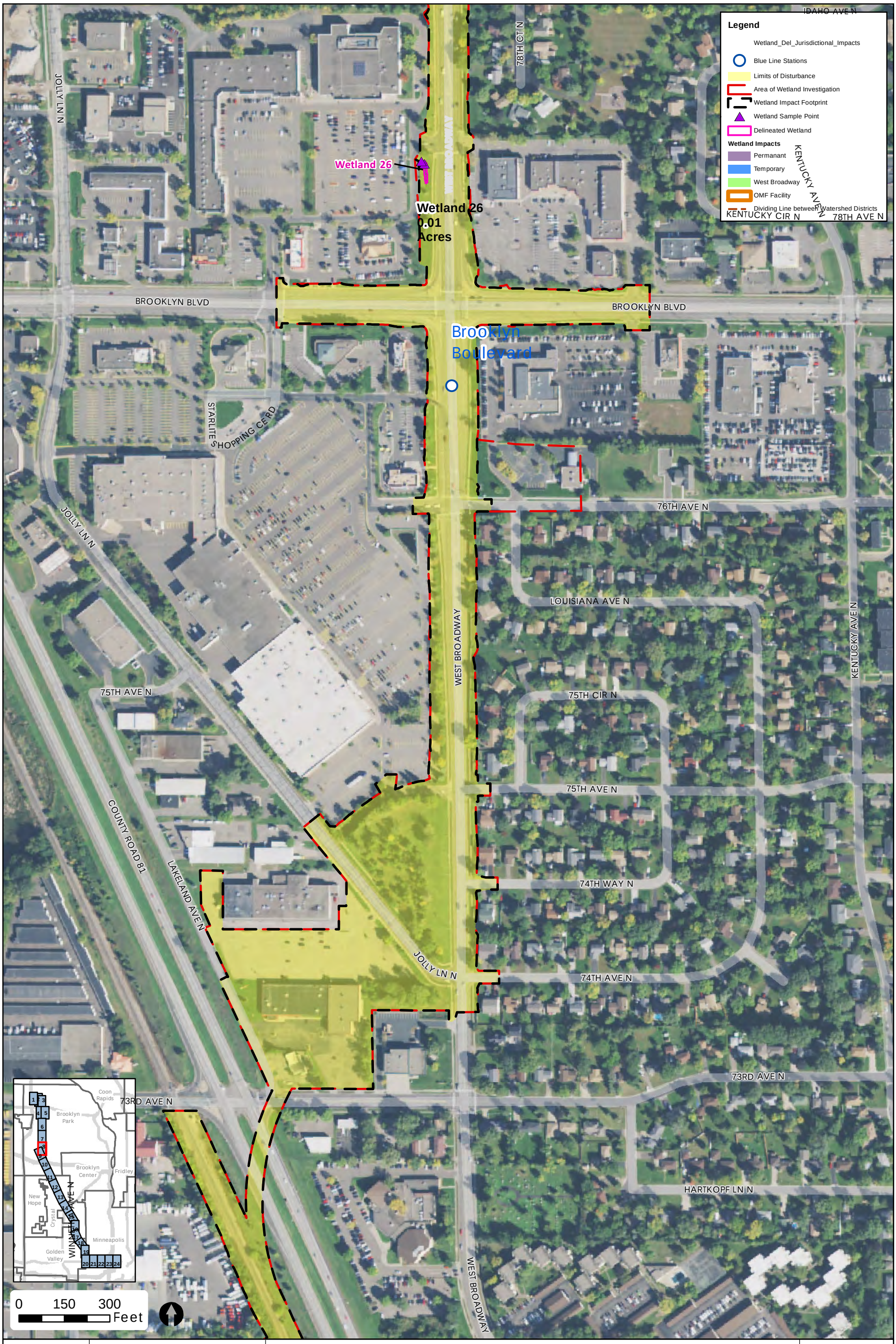

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Figure 2 - Wetlands
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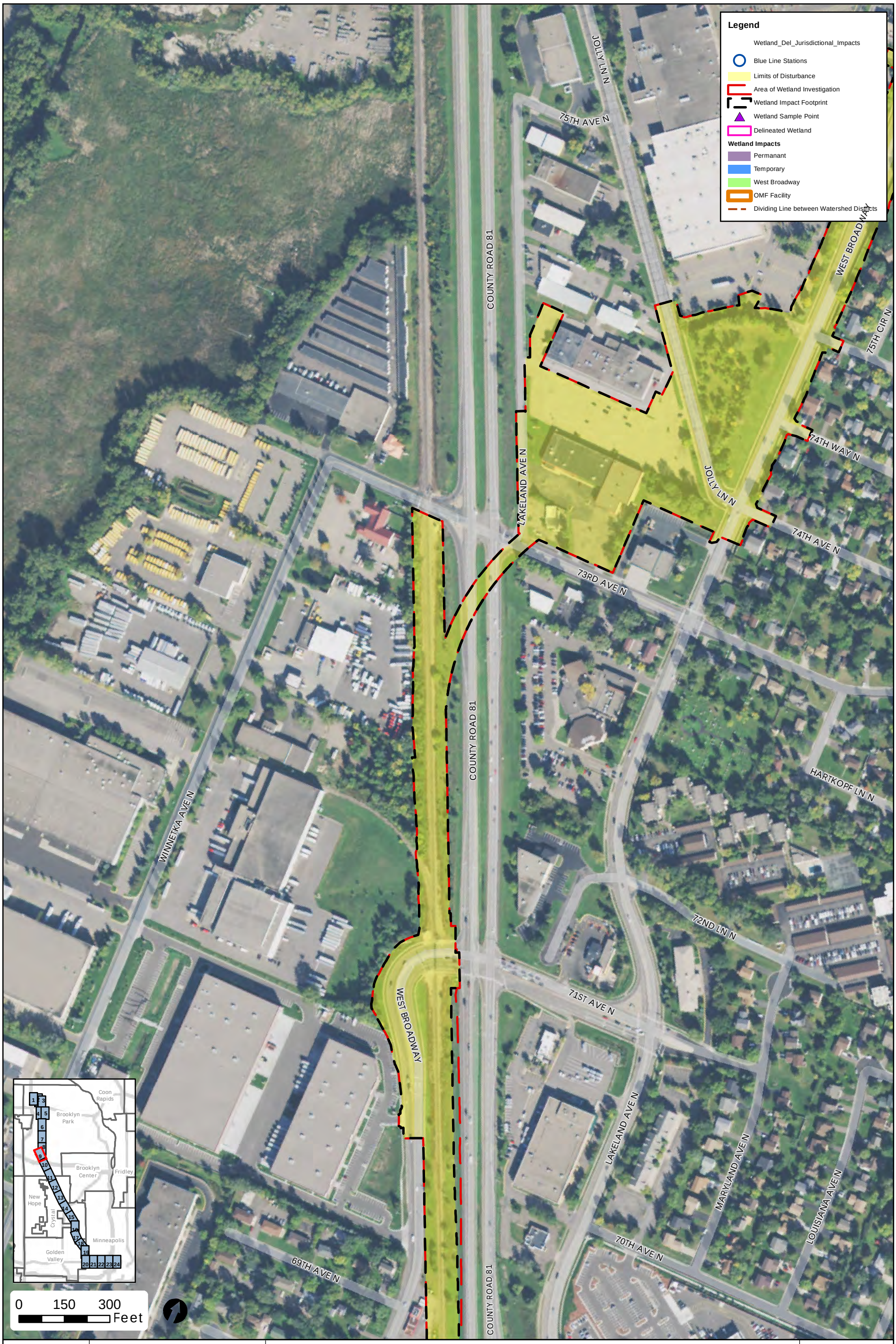

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Figure 2 - Wetlands
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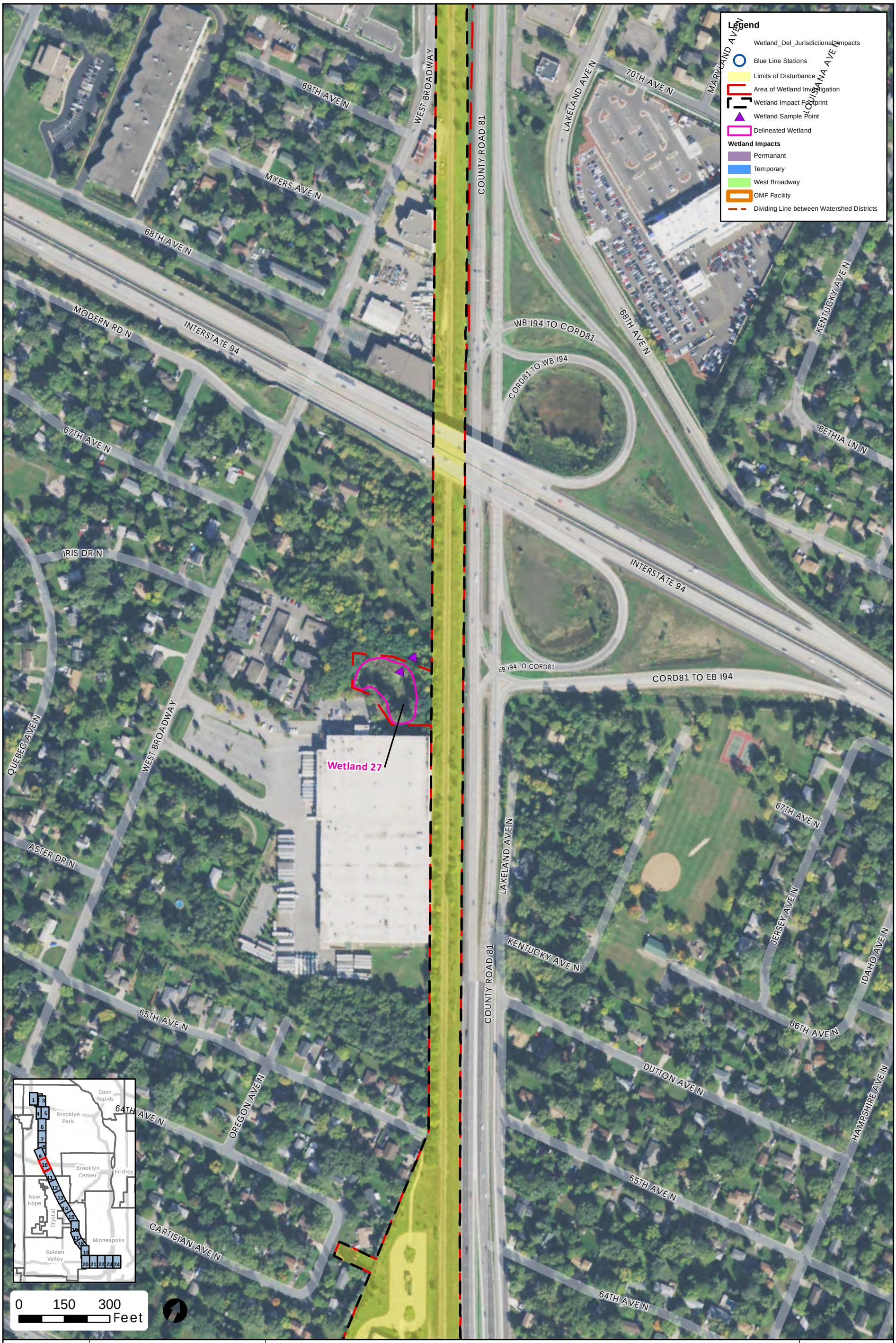

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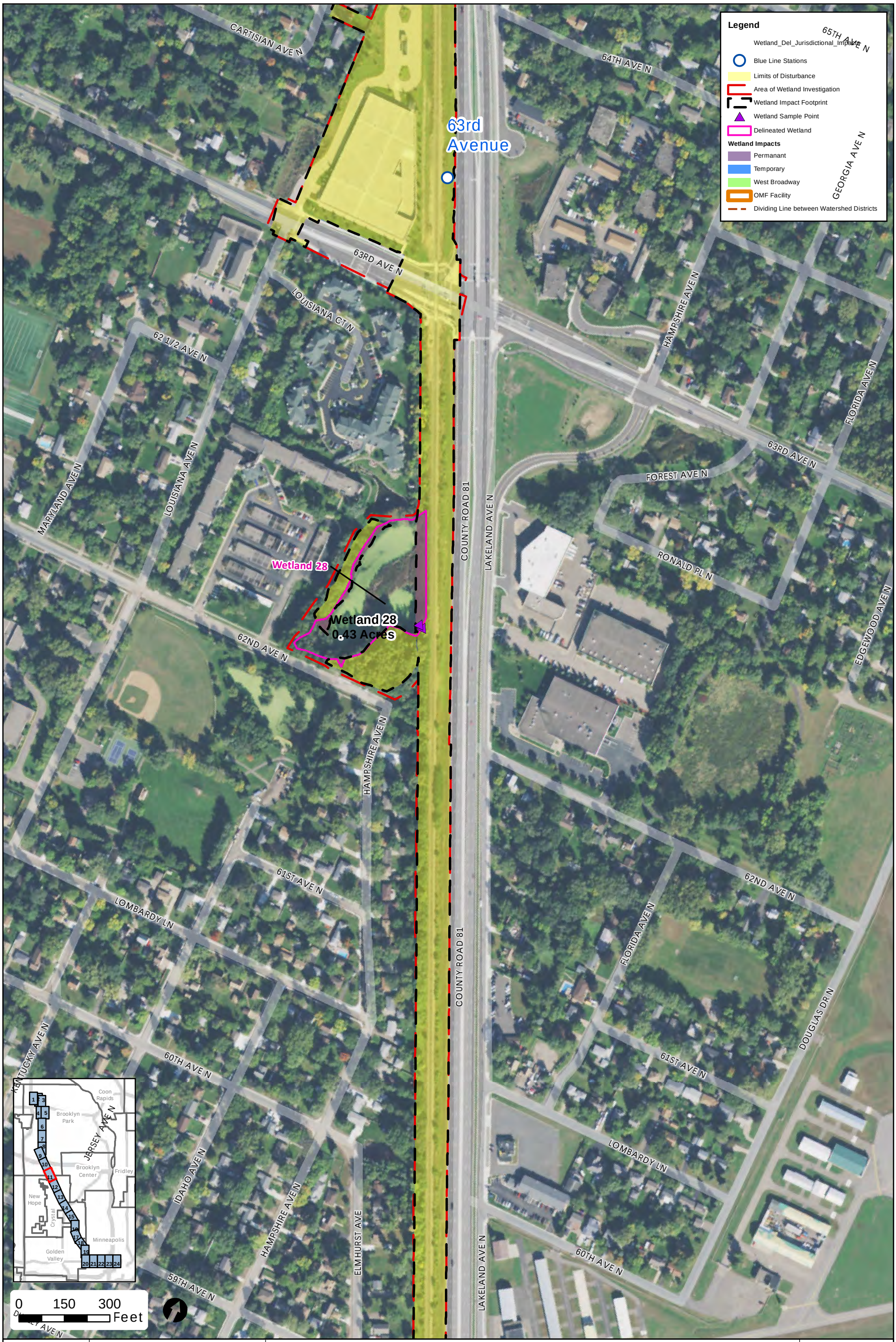

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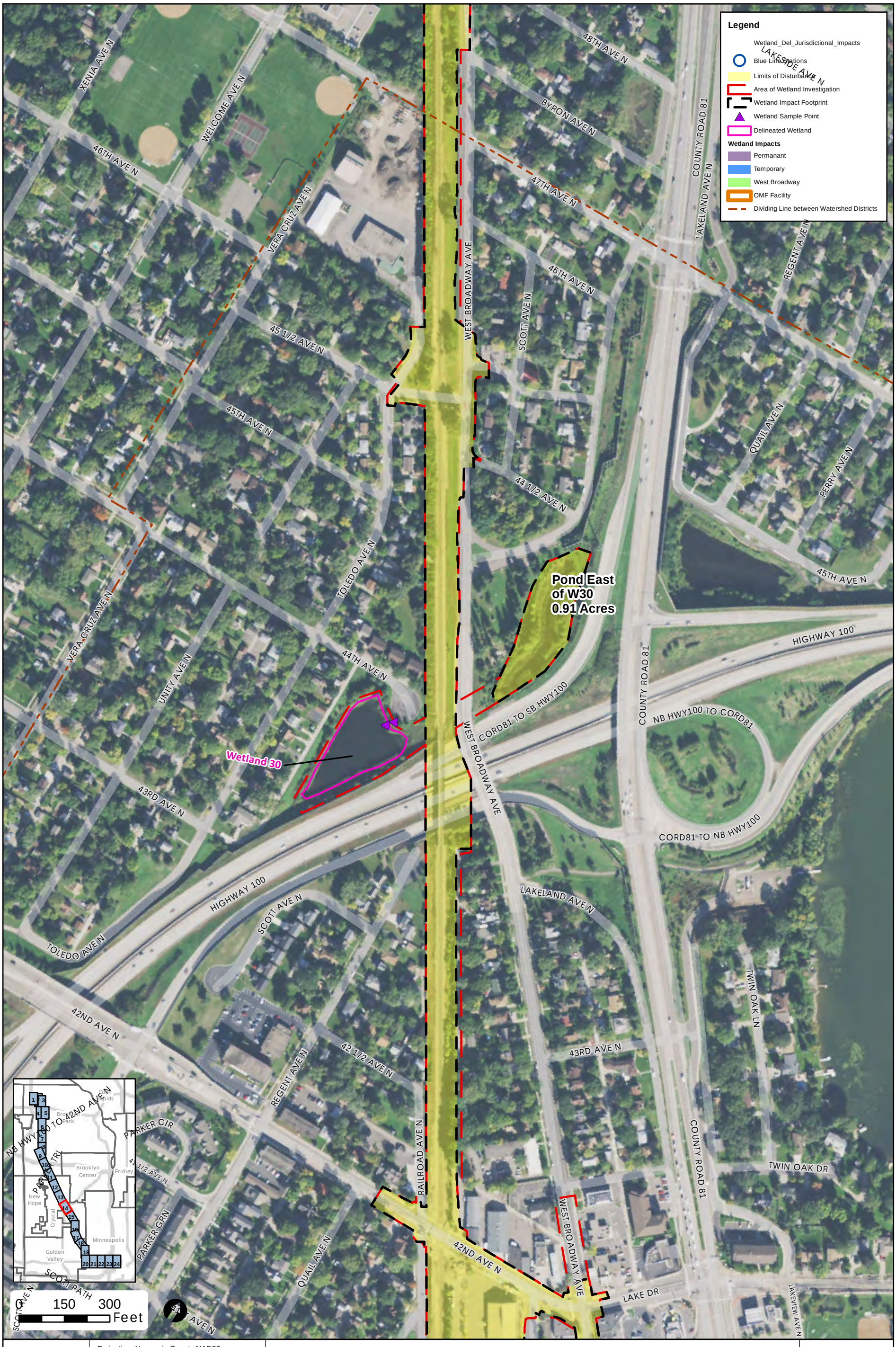

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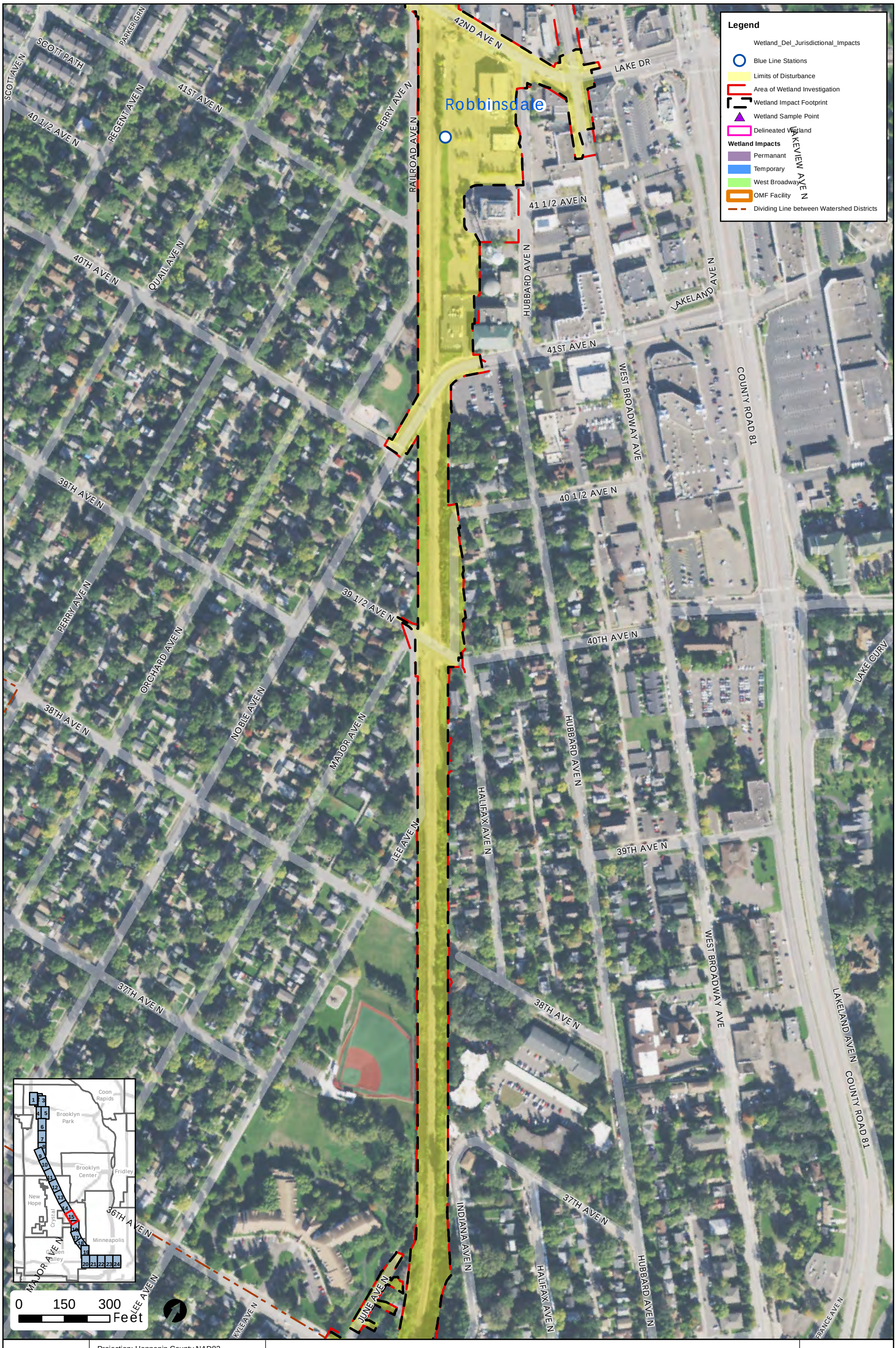

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Figure 2 - Wetlands

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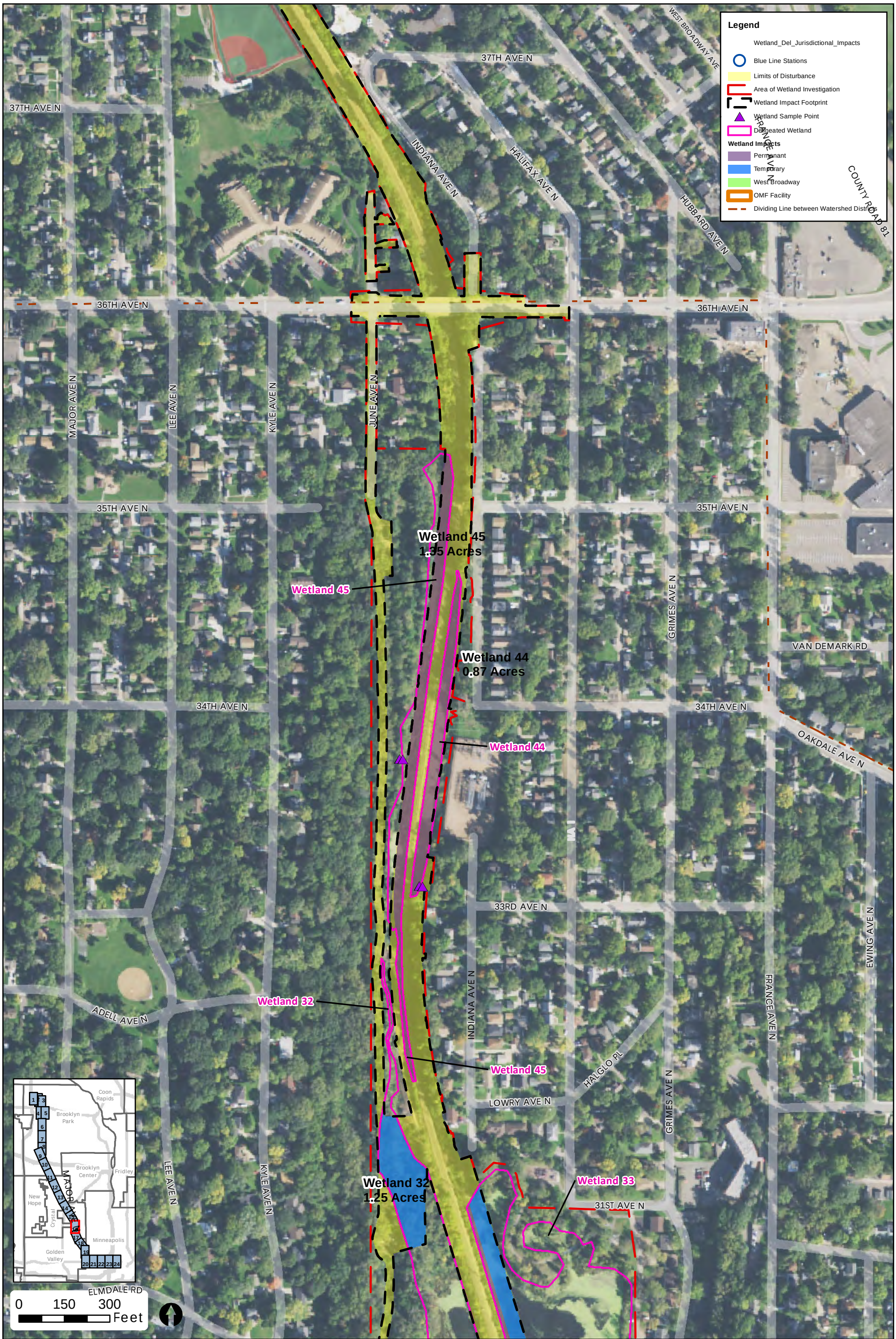

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Legend
Wetland_Del_Jurisdictional_Impacts
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Wetland 35
0.4 Acres
Wetland 34
Wetland 37
Wetland 37
0.08 Acres
33RD AVE N
LEE AVE N
KYLE AVE N
INDIANA AVE N
HALIFAX AVE N
LOWRY AVE N
HALGLO PL
ELMDALE RD
MAJOR AVE N
GRIMES AVE N
31ST AVE N
CULVER RD
JUNE AVE N
27TH AVE N
FRANCE AVE N
EWING AVE N
29TH AVE N
DREW AVE N
MCNAIR DR
26 1/2 AVE N
26TH AVE N
KEWANEE WAY
BYRD AVE N
PARKVIEW BLVD
MERIDIAN DR
TERRACE LN
BASSETT CREEK DR
DRESDEN LN
LEGEND DR
Brooklyn Park
Brooklyn Center
Fridley
New Hope
Crystal
Minneapolis
Golden Valley
0 150 300 Feet

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Figure 2 - Wetlands
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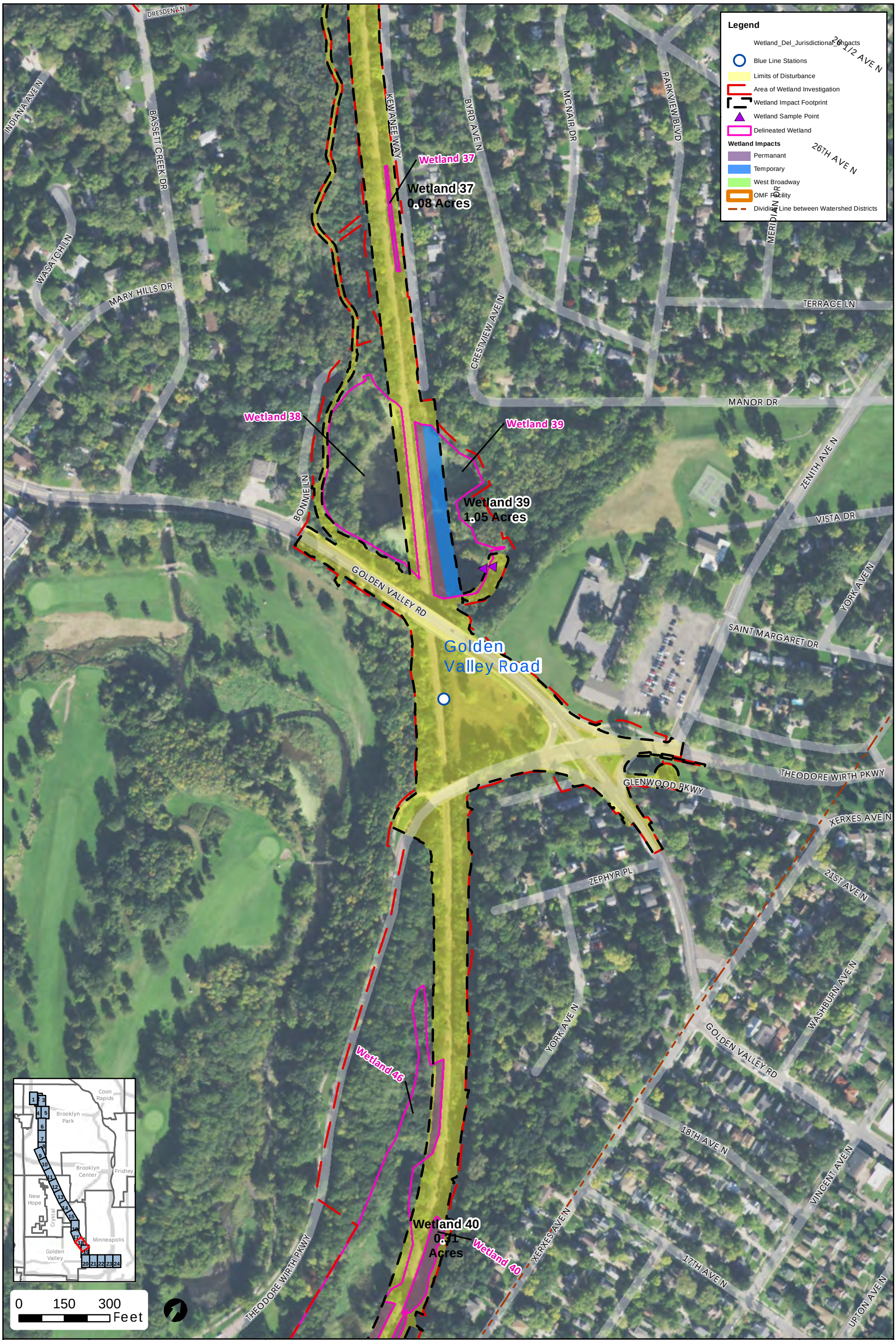

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Figure 2 - Wetlands

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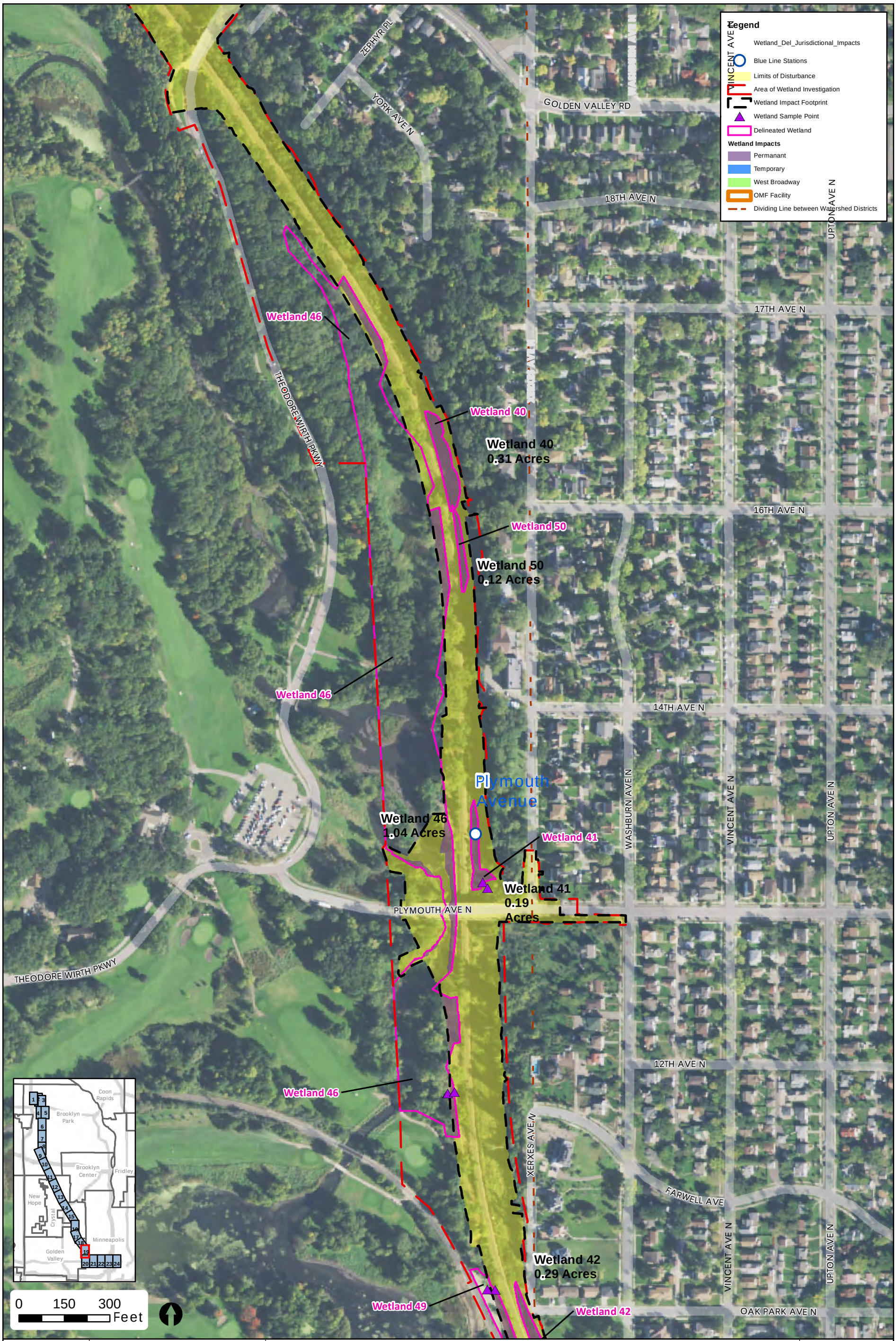

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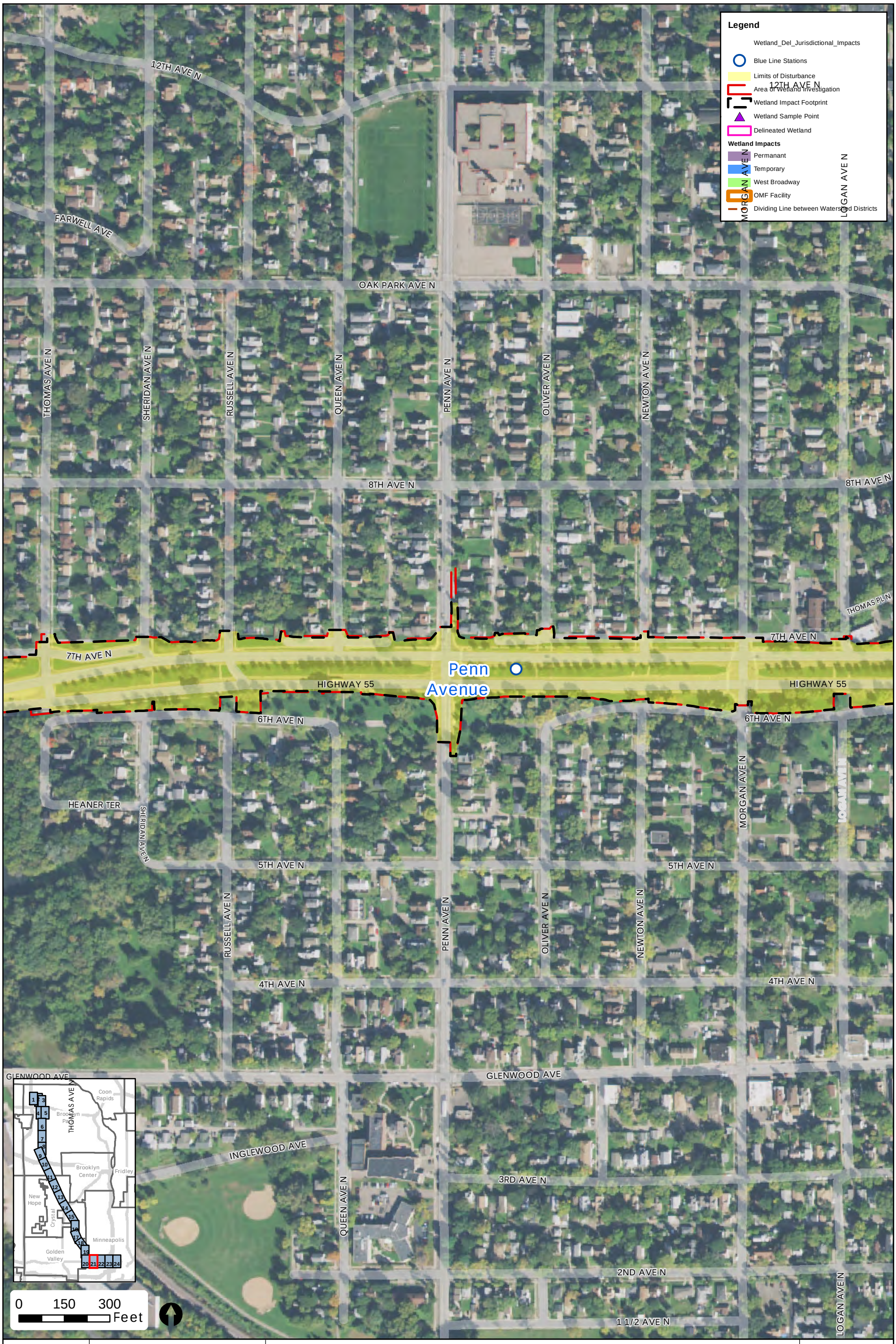

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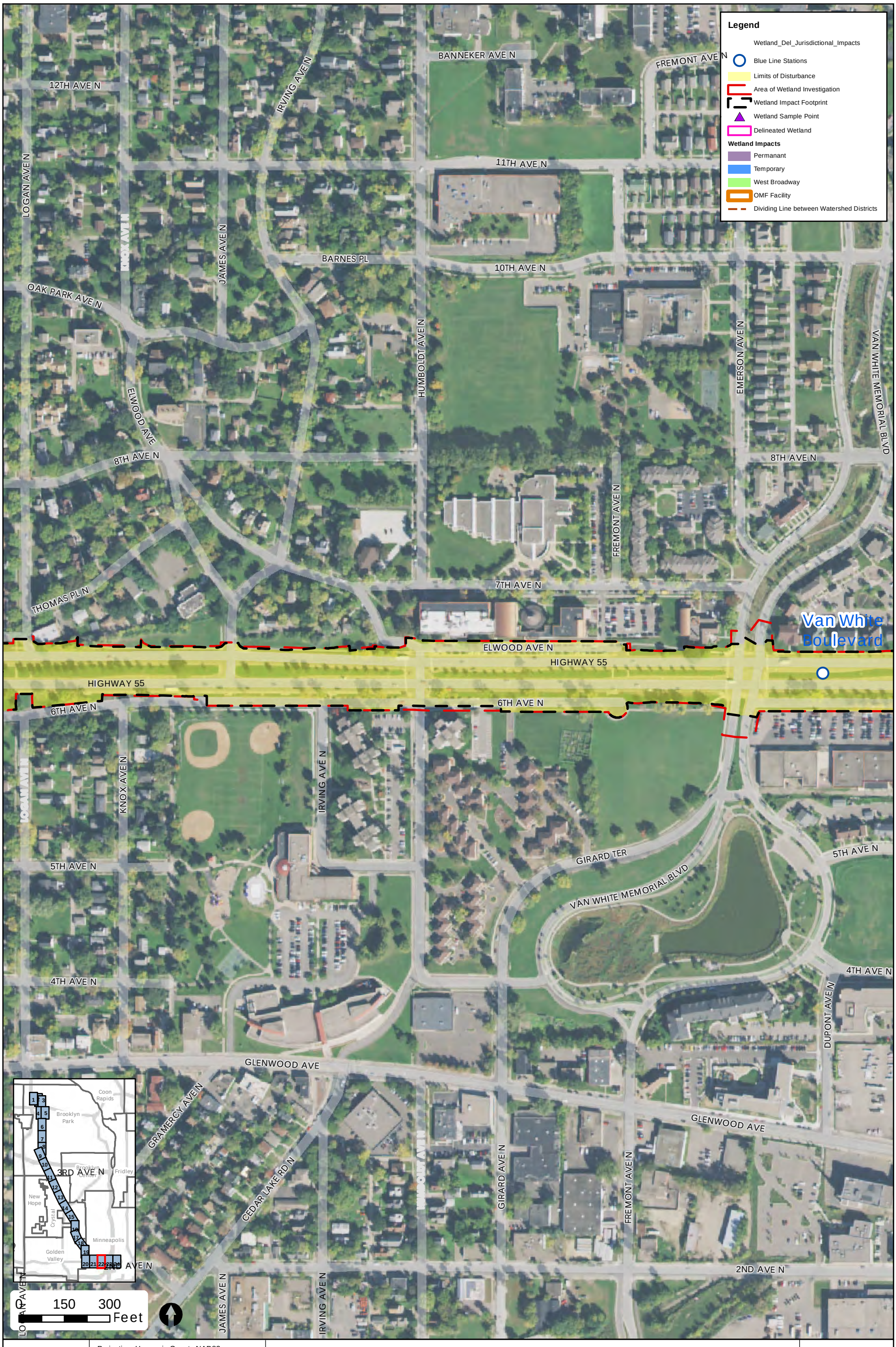

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
Page 22

METRO Blue Line Extension

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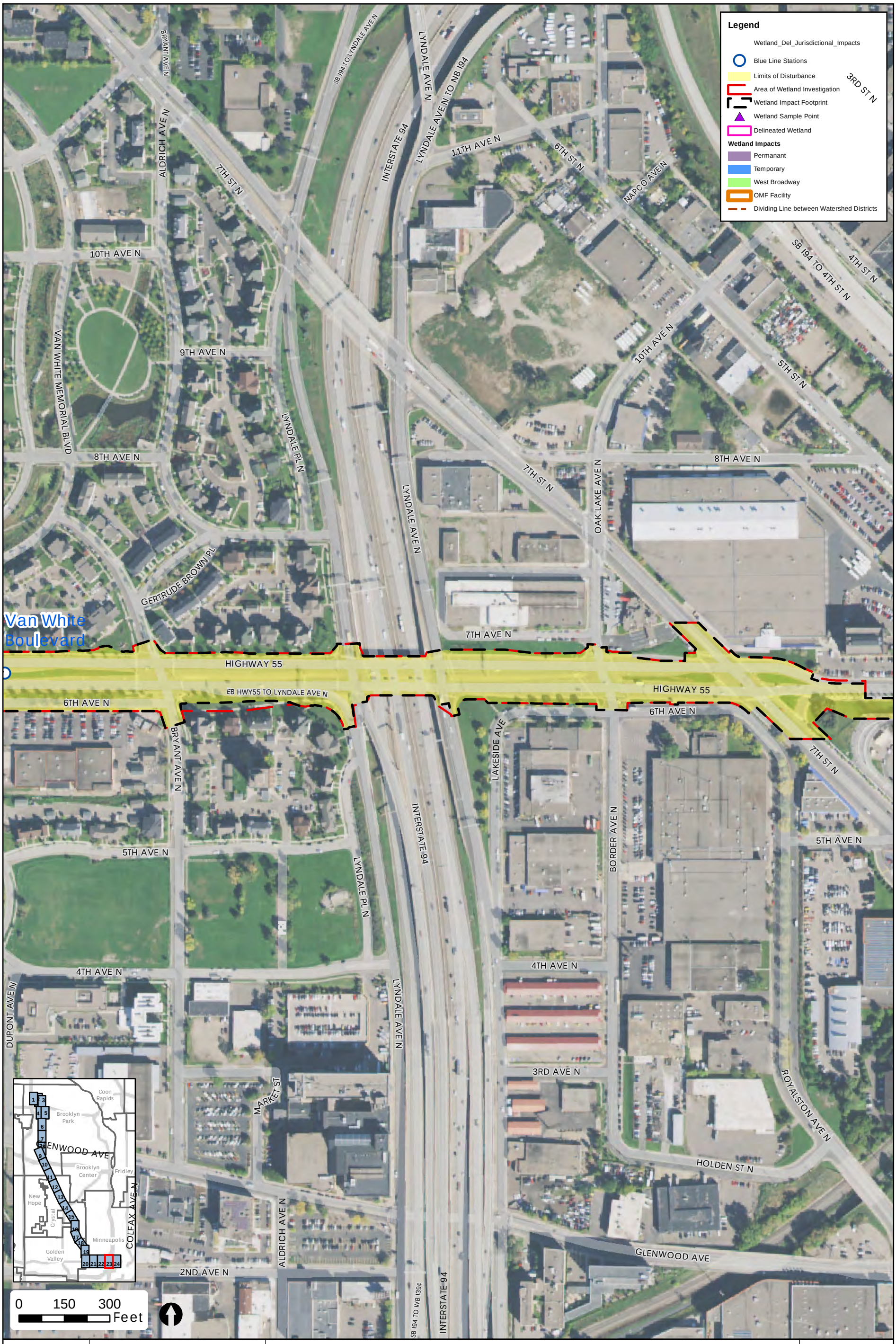

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
Page 23

METRO Blue Line Extension

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Date:5/16/2016

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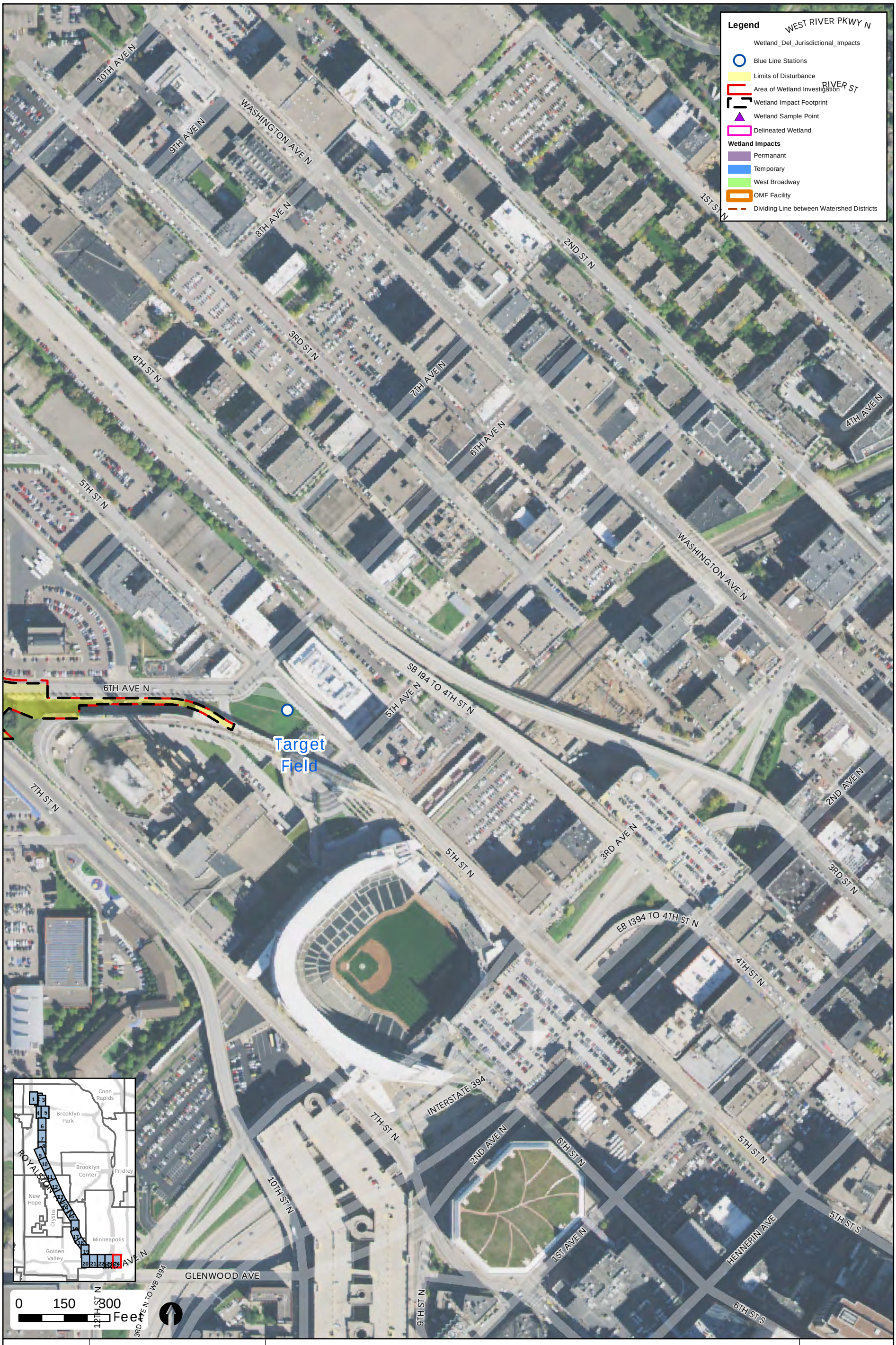

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
Page 24

METRO Blue Line Extension

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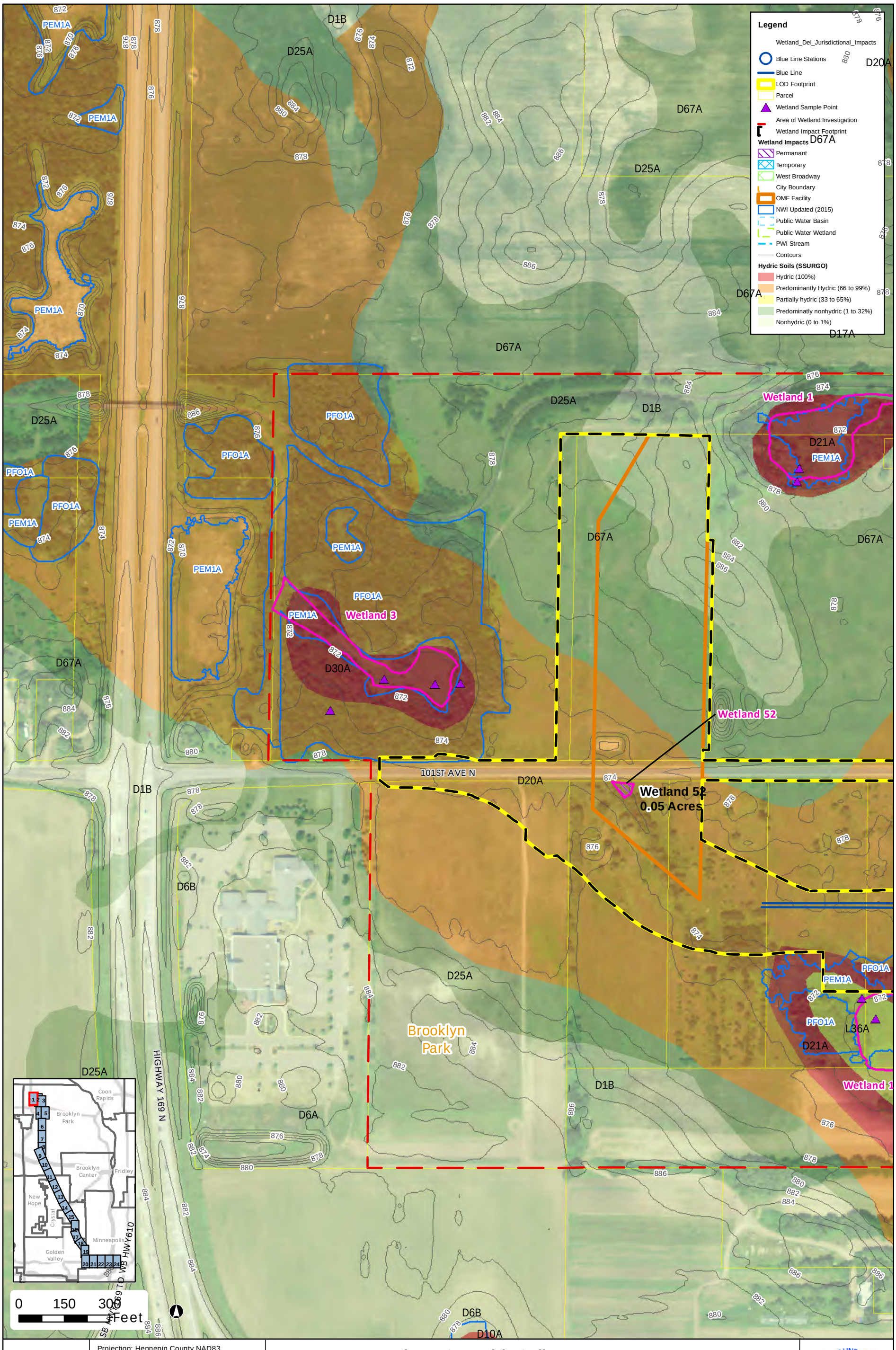

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 1

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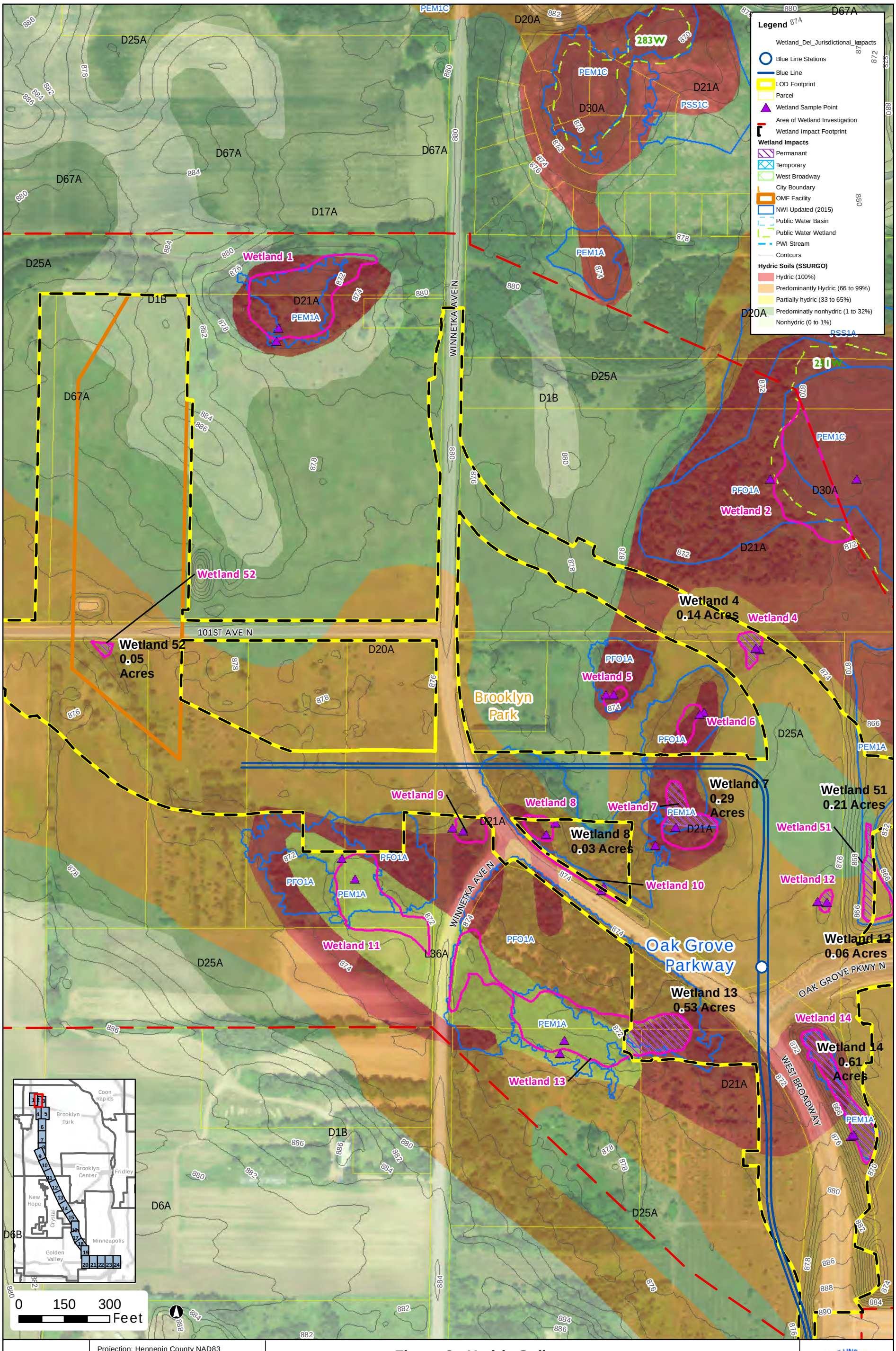

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 2

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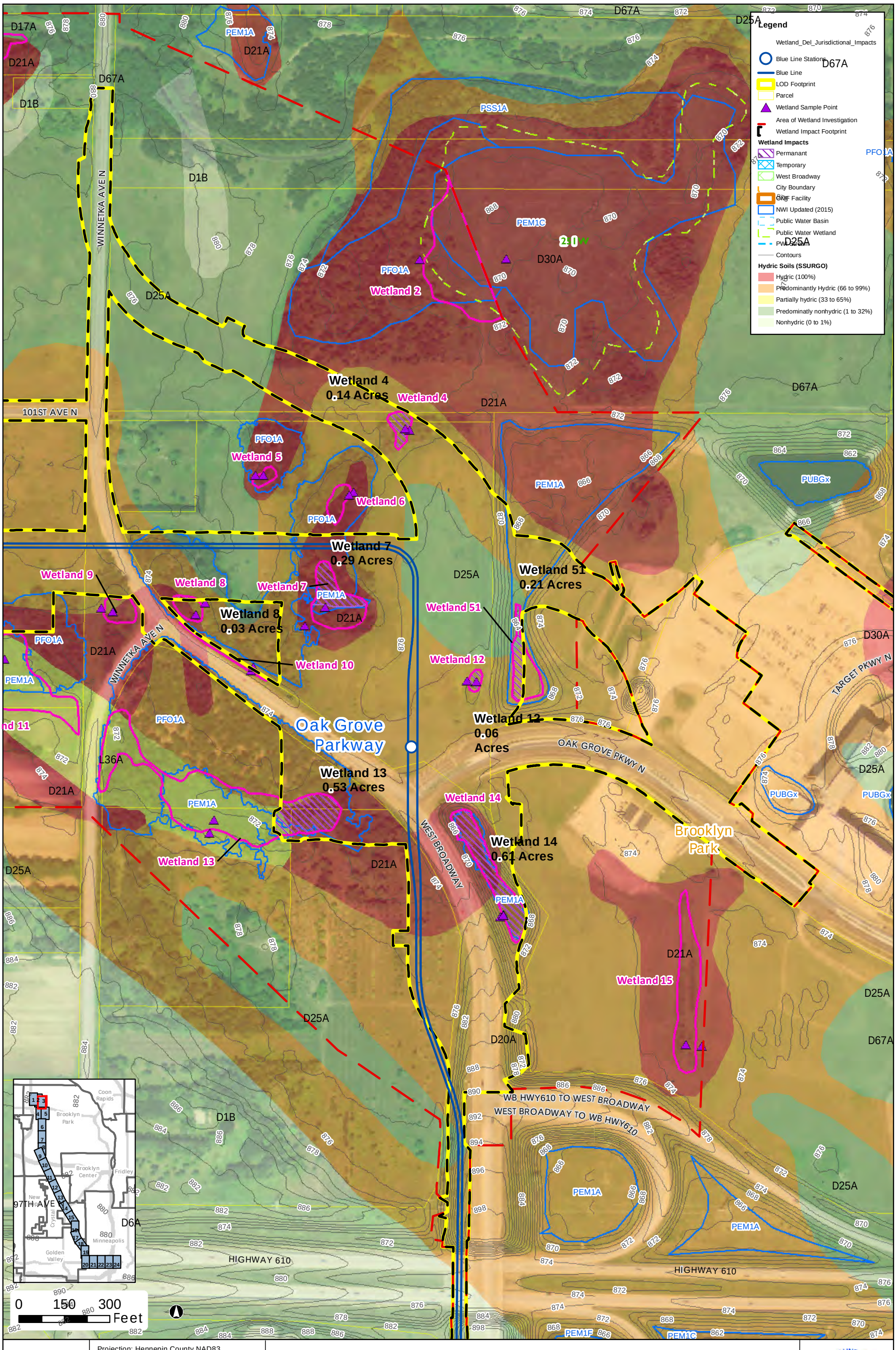

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Figure 3 - Hydric Soils
Page 3

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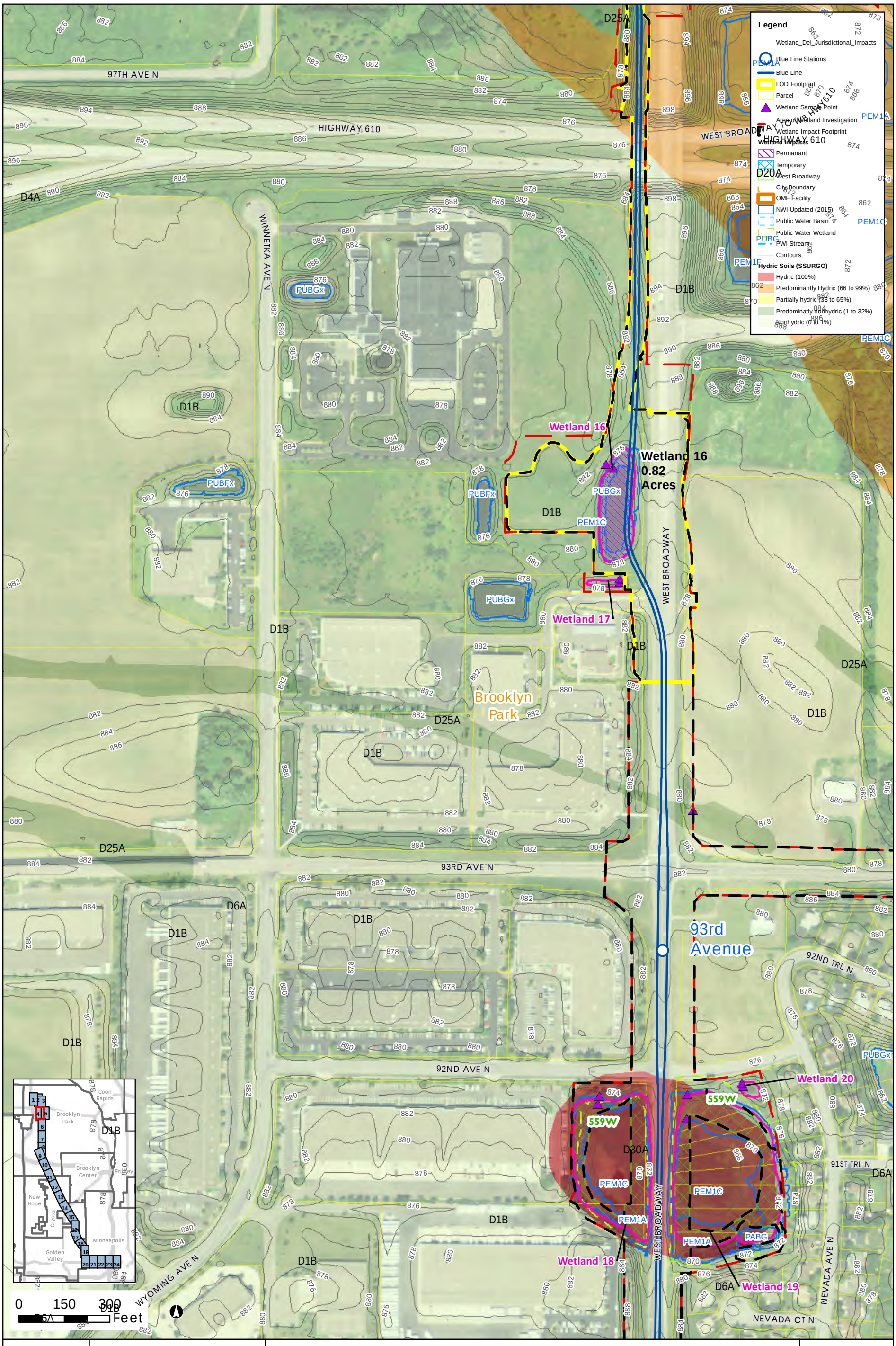

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 4

METRO Blue Line Extension

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Legend
Wetland_Del_Jurisdictional_Impacts
Blue Line Stations
Blue Line
LOD Footprint
Parcel
Wetland Sample Point
Area of Wetland Investigation
Wetland Impact Footprint
Wetland Impacts
Permanant
Temporary
West Broadway
City Boundary
OMF Facility
NWI Updated (2015)
Public Water Basin
Public Water Wetland
PWI Stream
Contours
Hydric Soils (SSURGO)
Hydric (100%)
Predominantly Hydric (66 to 99%)
Partially hydric (33 to 65%)
Predominatly nonhydric (1 to 32%)
Nonhydric (0 to 1%)
PEM1A
PEM1C
PEM1F
PUBG
PUBGx
PUBF
PABG
D25A
D20A
D1B
D6A
D30A
Wetland 16
0.82 Acres
Wetland 17
Wetland 18
Wetland 19
Wetland 20
559W
WEST BROADWAY TO WB HWY610
WB HWY610 TO WEST BROADWAY
HIGHWAY 610
WEST BROADWAY
LOUISIANA AVE N
MARYLAND AVE N
NEVADA AVE N
KENTUCK
HAMPSHIRE AVE N
93RD AVE N
92ND AVE N
92ND TRL N
92ND CT N
91ST TRL N
NEVADA CT N
Brooklyn Park
93rd Avenue
Coon Rapids
Brooklyn Center
Fridley
New Hope
Crystal
Minneapolis
Golden Valley
0 150 300 Feet

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
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METRO Blue Line Extension

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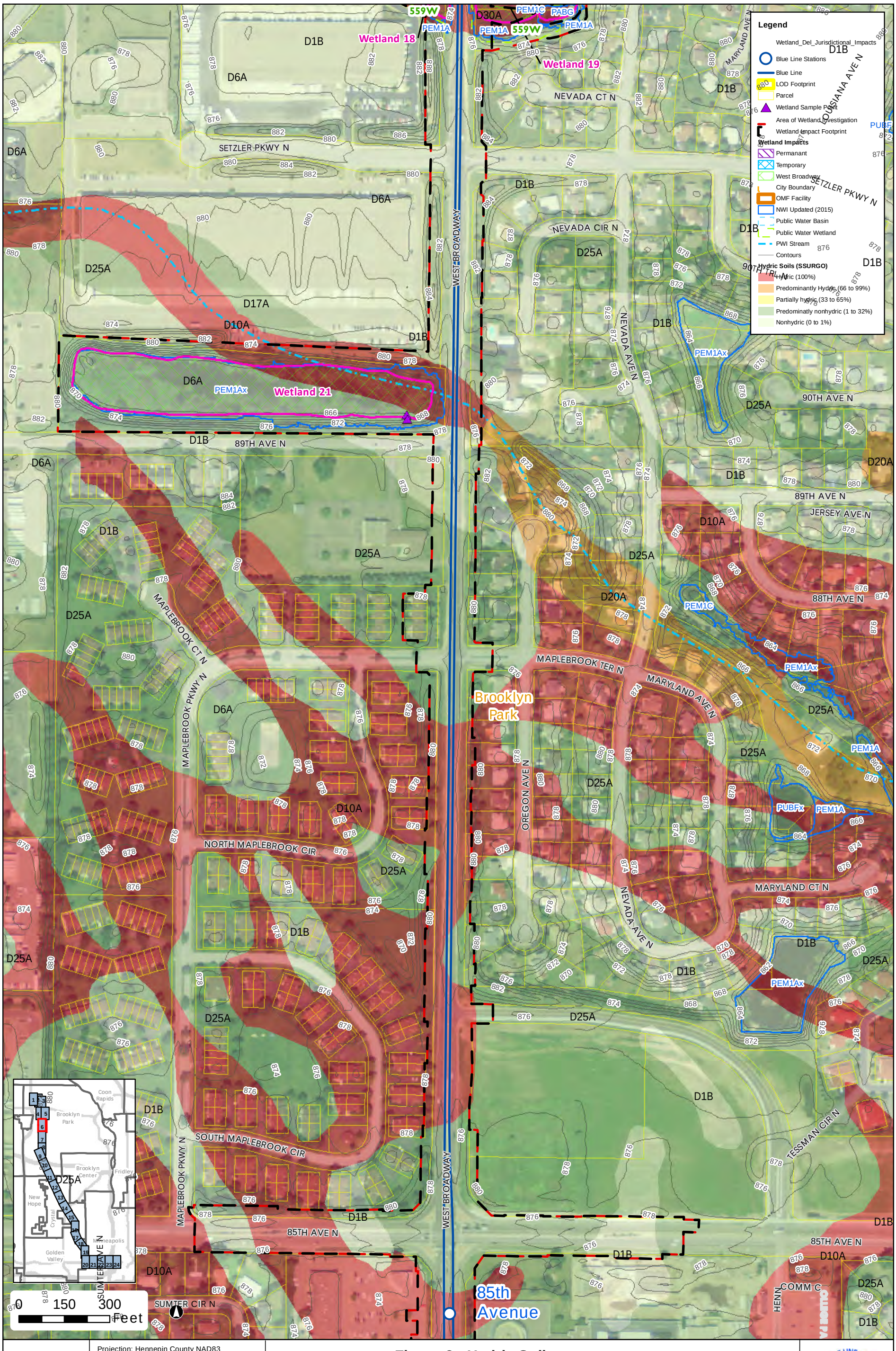

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils

Page 6

METRO Blue Line Extension

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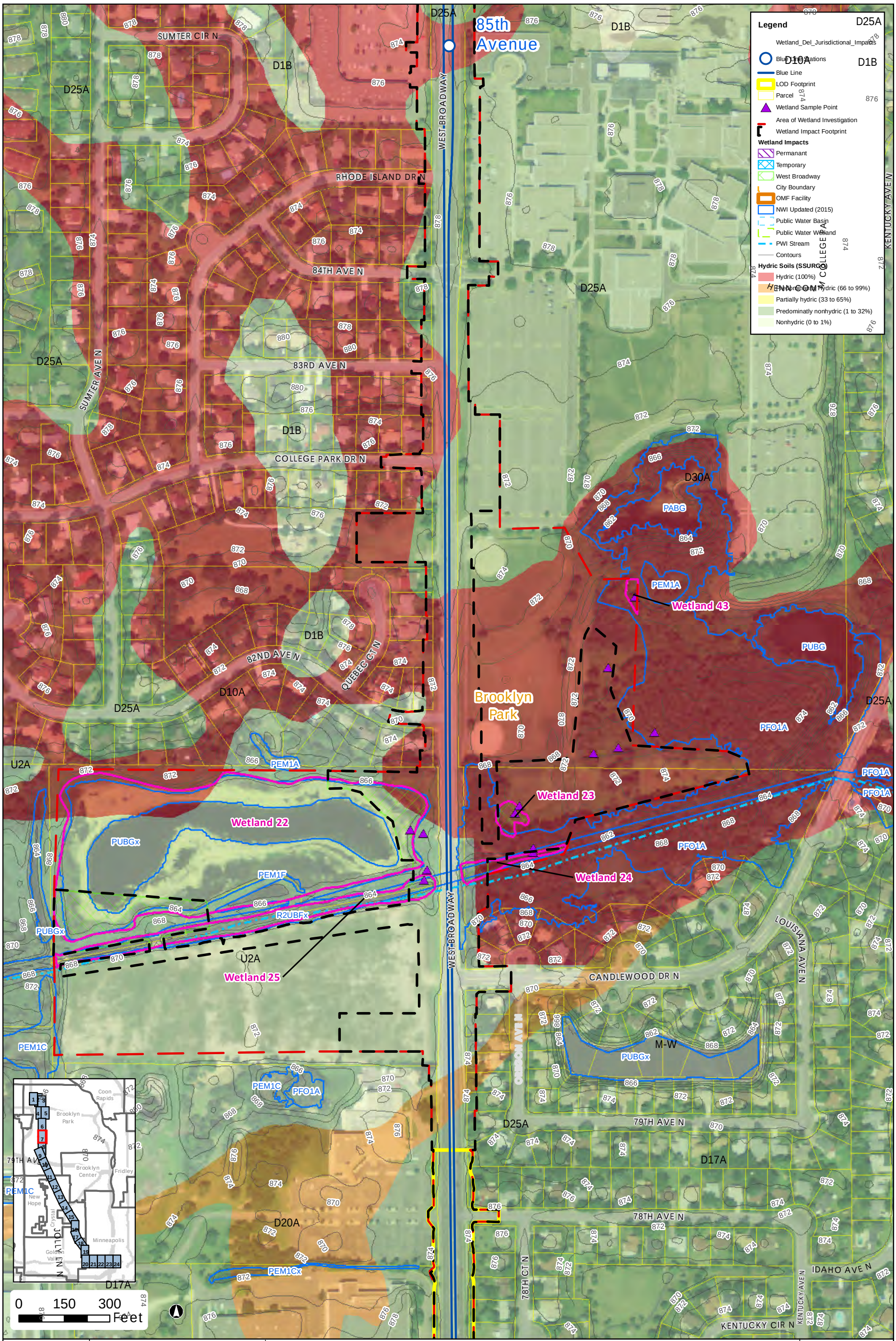

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 7

METRO Blue Line Extension

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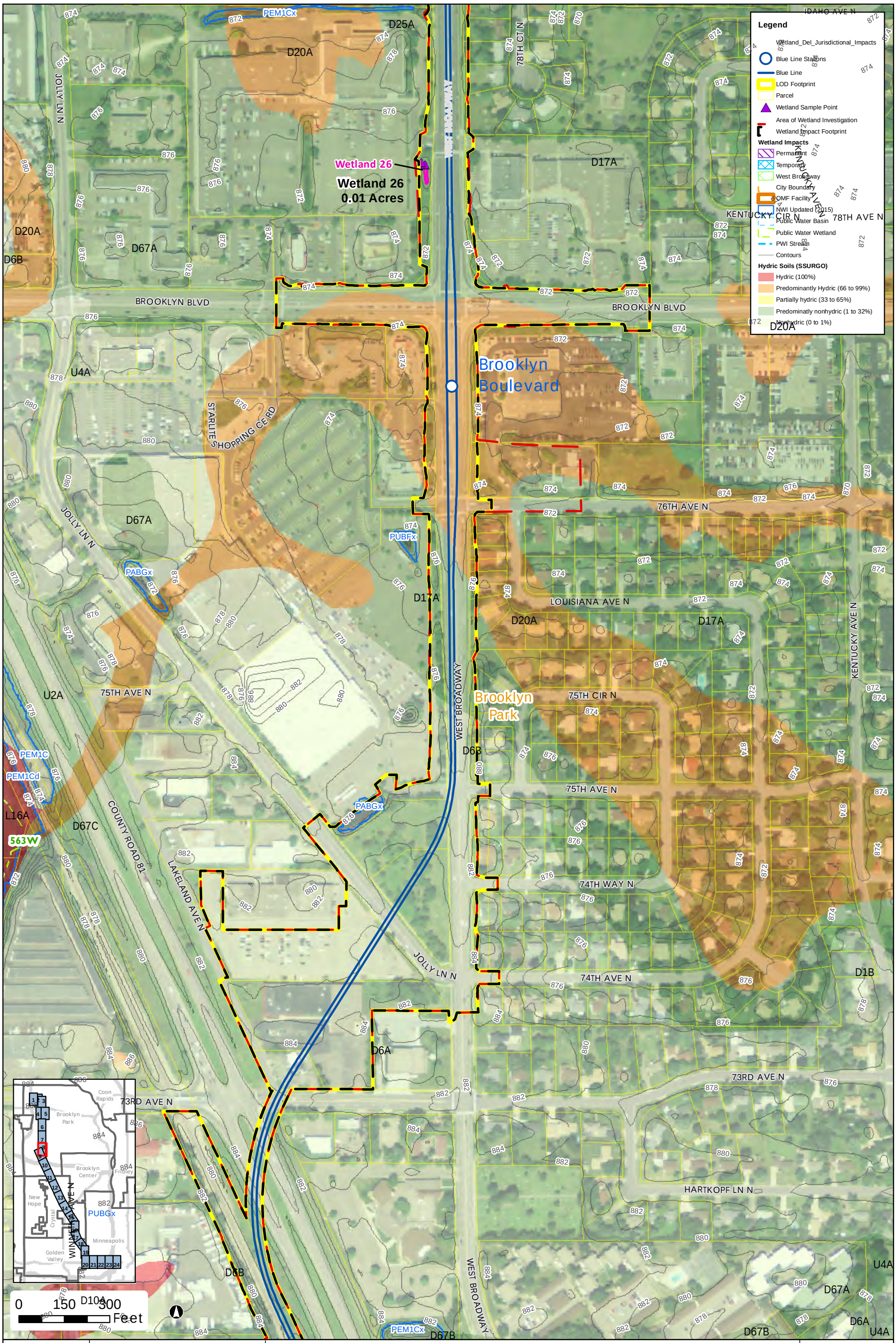

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 8

METRO Blue Line Extension

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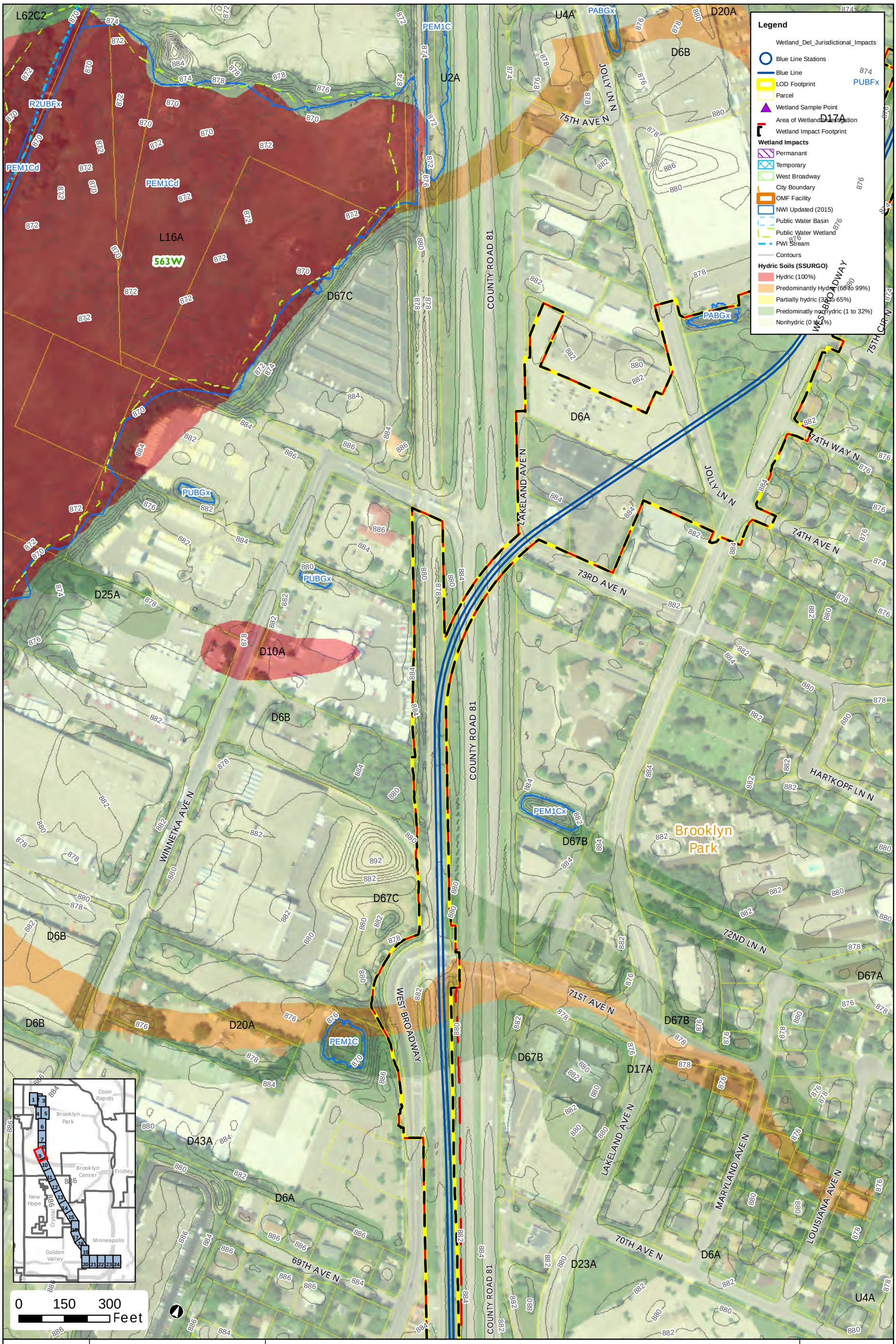

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils

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METRO Blue Line Extension

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METROPOLITAN COUNCIL

METRO BLUE LINE EXTENSION

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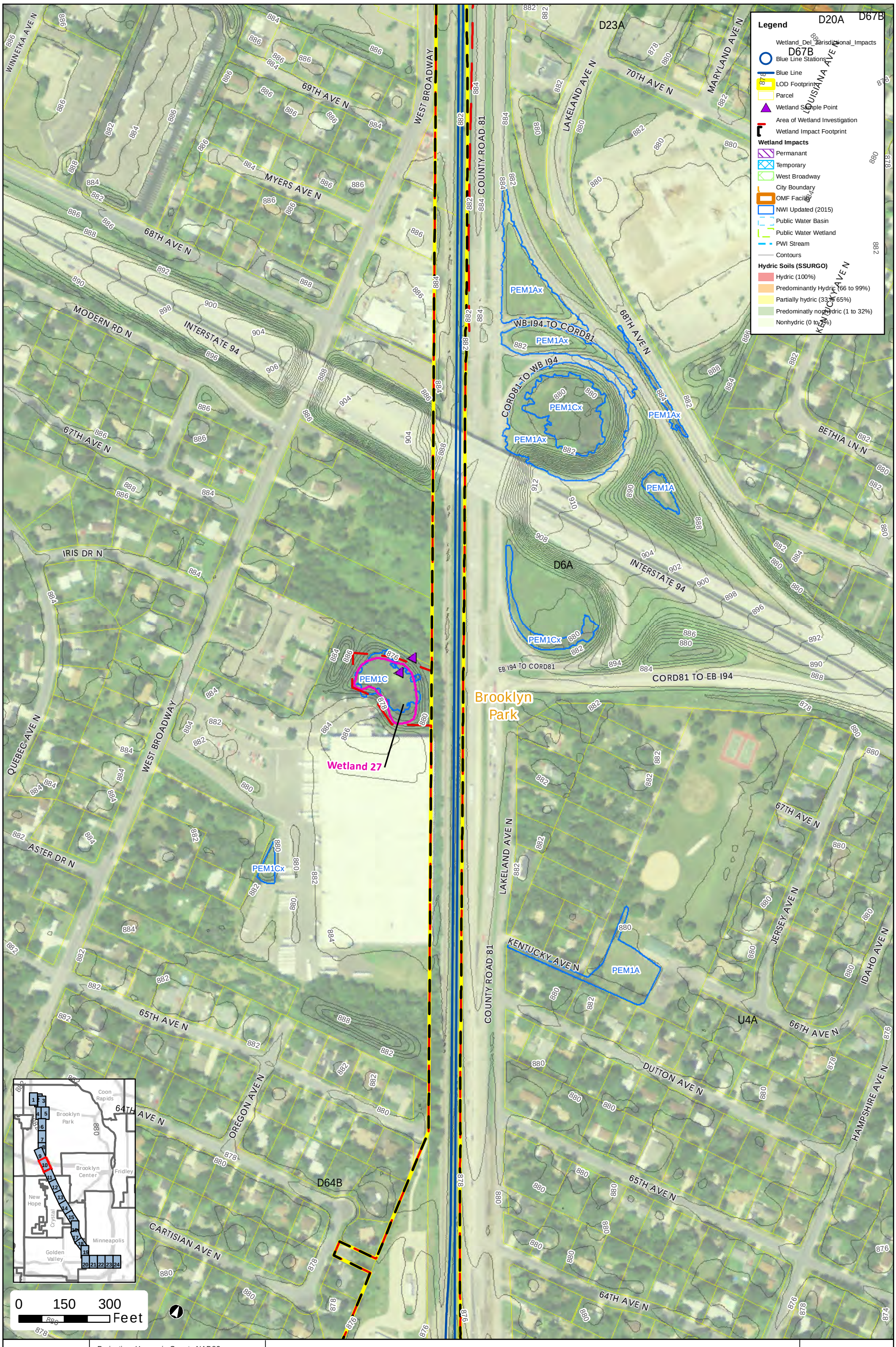

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils

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METRO Blue Line Extension

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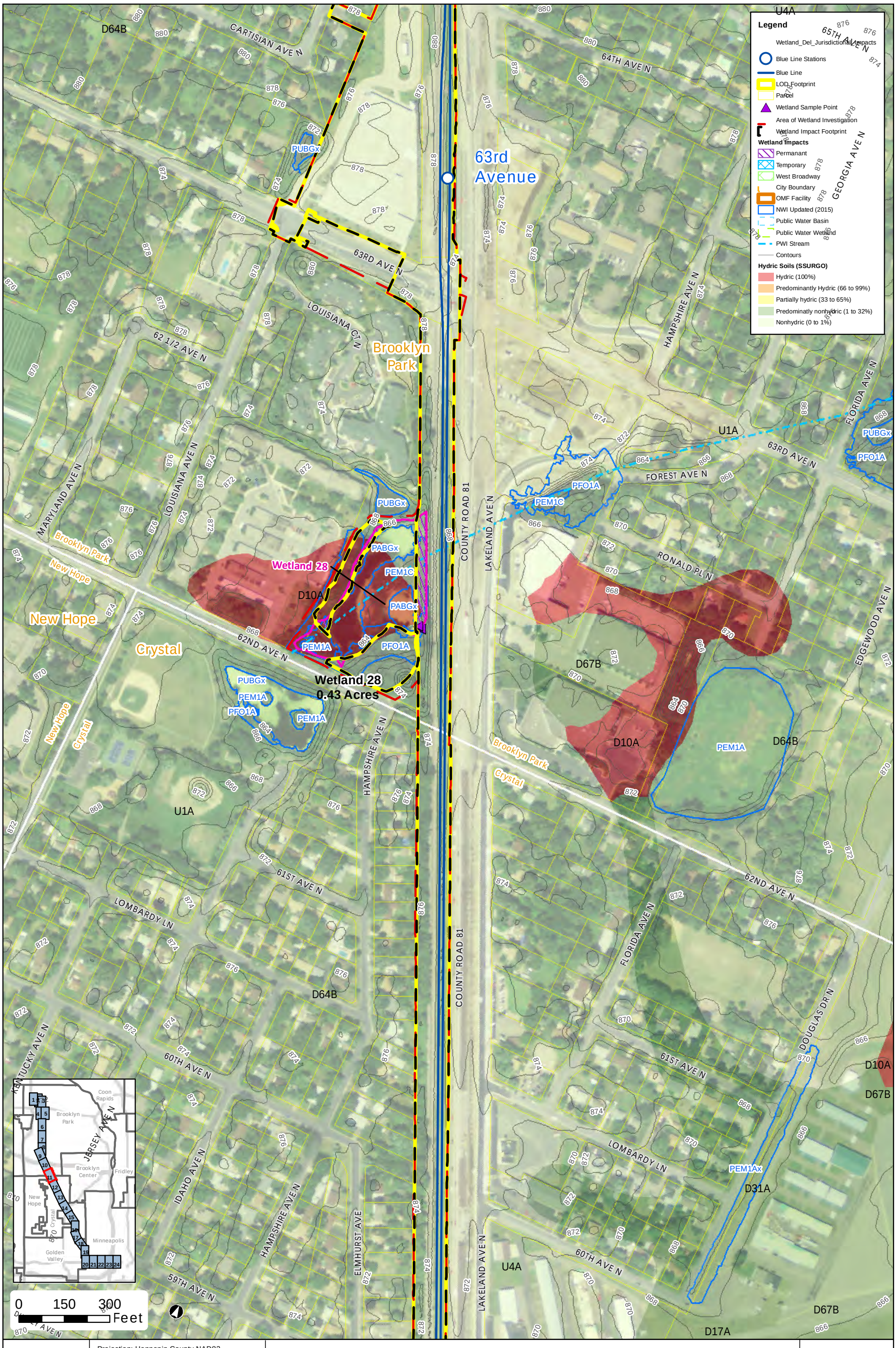

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils

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METRO Blue Line Extension

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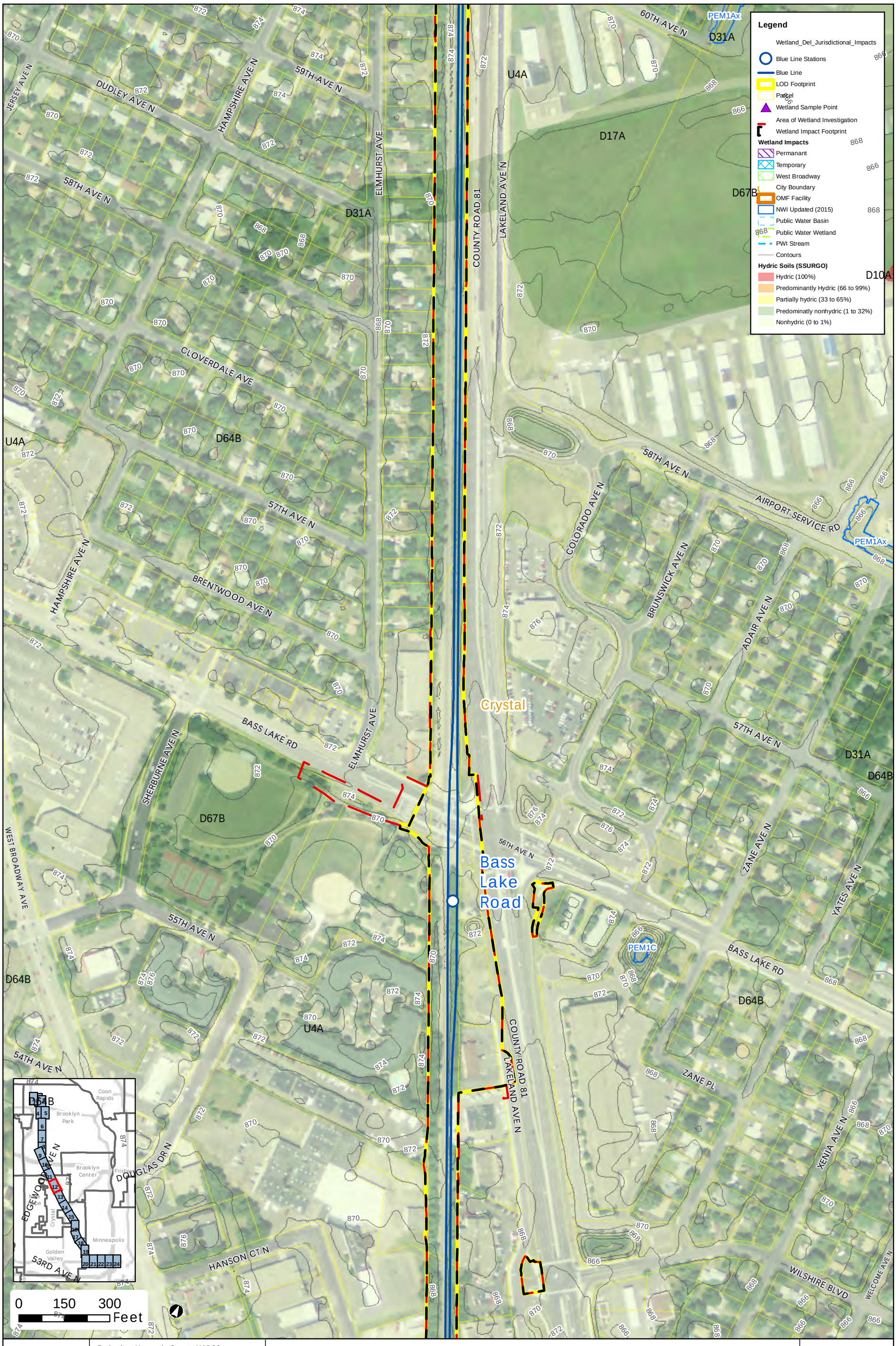

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils

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METRO Blue Line Extension

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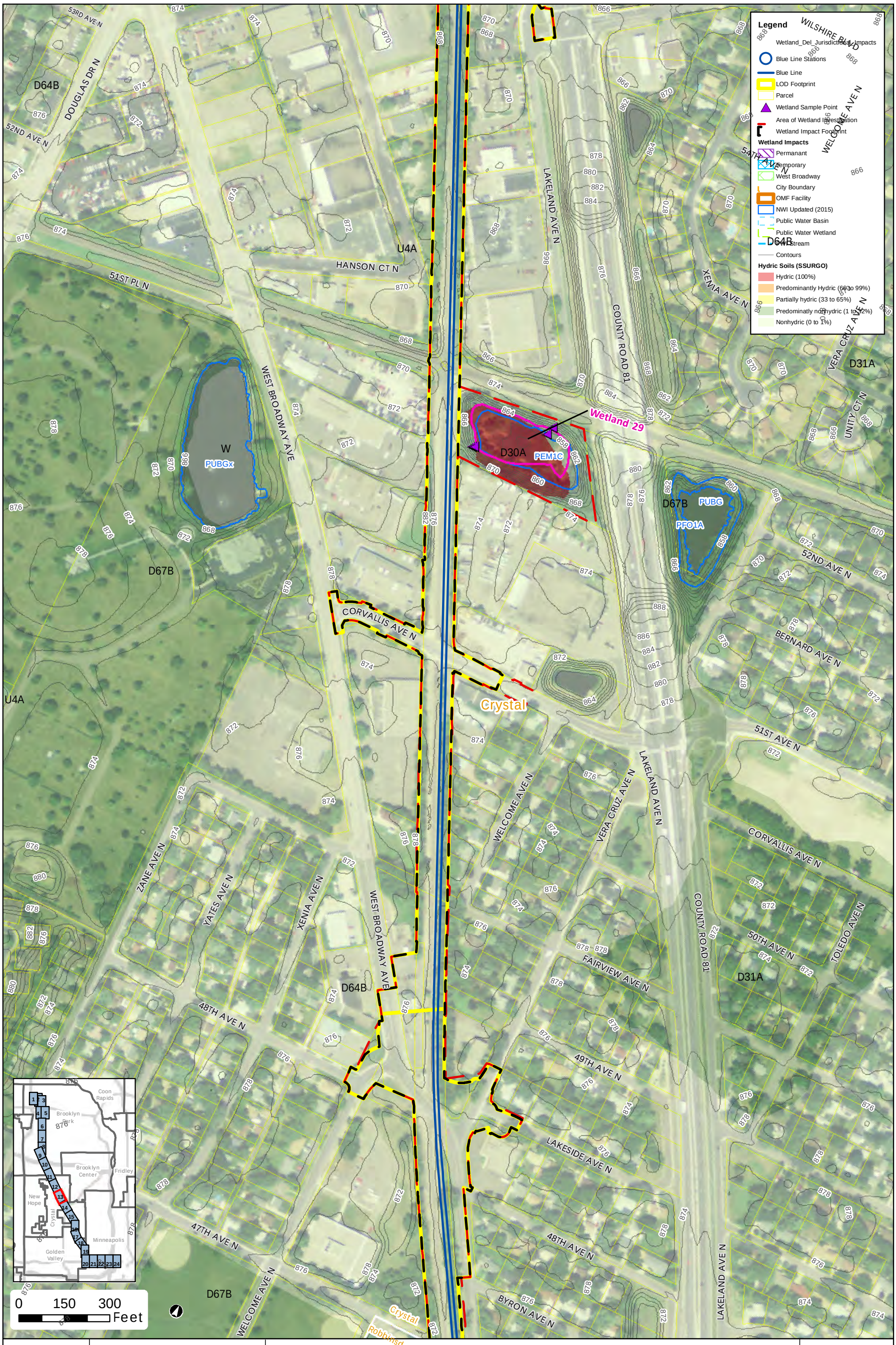

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 13

METRO Blue Line Extension

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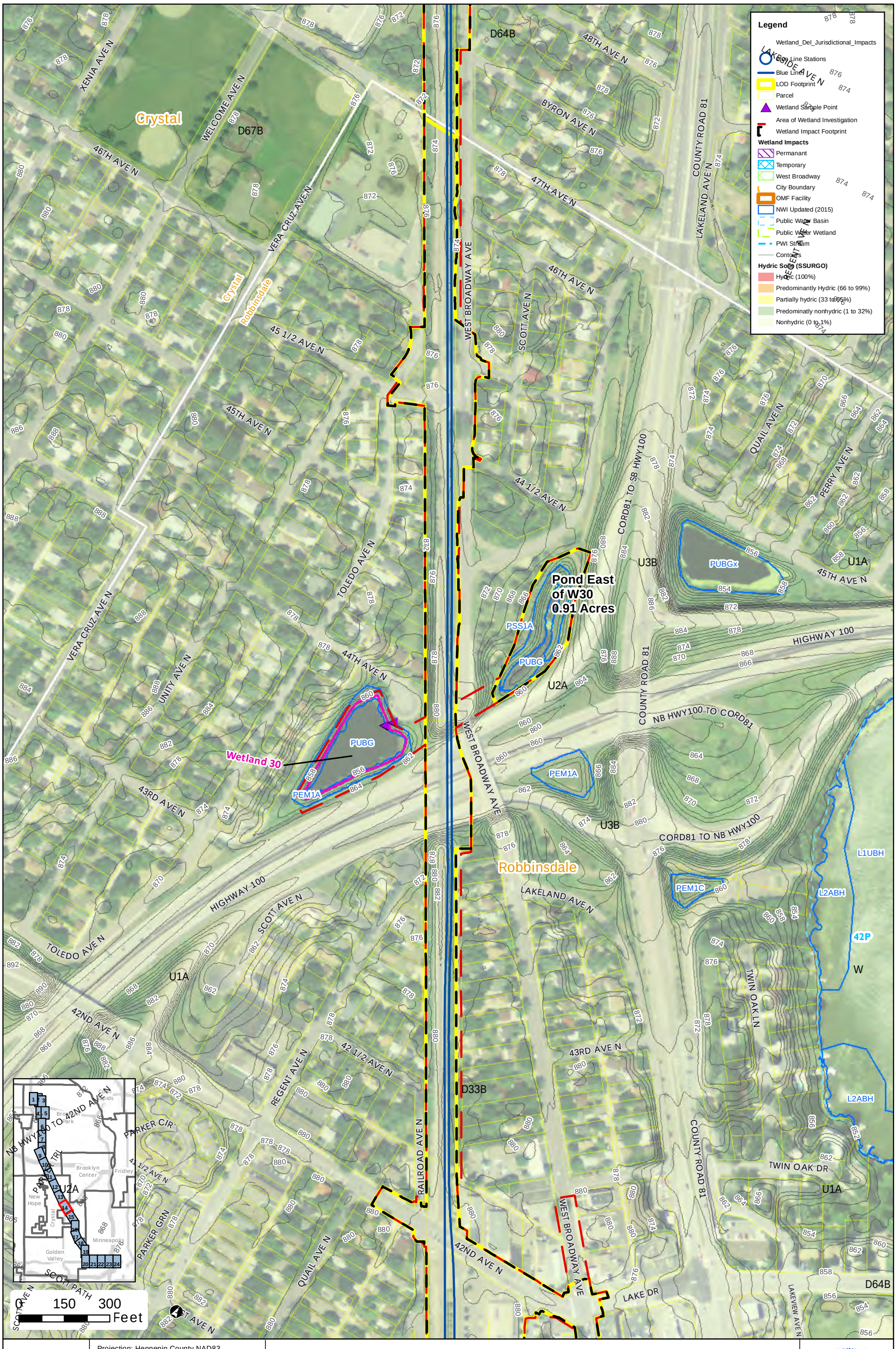

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Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 14

METRO Blue Line Extension

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Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
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5/16/2016

Legend
34P
Wetland_Del_Jurisdictional_Impacts
Blue Line Stations
Blue Line
PSS1A
LOD Footprint
Parcel
L2UBH
Wetland Sample Point
Area of Wetland Investigation
U2A
Wetland Impact Footprint
Wetland Impacts
PUBG
Permanant
Temporary
West Broadway
City Boundary
OMF Facility
NWI Updated (2015)
Public Water Basin
Public Water Wetland
PWI Stream
Contours
Hydric Soils (SSURGO)
Hydric (100%)
Predominantly Hydric (66 to 99%)
Partially hydric (33 to 65%)
Predominatly nonhydric (1 to 32%)
Nonhydric (0 to 1%)

Wetland 45
1.35 Acres

Wetland 44
0.87 Acres

Wetland 32
1.25 Acres

Wetland 33

644W

37TH AVE N
36TH AVE N
35TH AVE N
34TH AVE N
33RD AVE N
31ST AVE N
LOWRY AVE N
ADELL AVE N
ELMDALE RD
VAN DEMARK RD
OAKDALE AVE N
INDIANA AVE N
HALIFAX AVE N
HUBBARD AVE N
COUNTY ROAD 81
WEST BROADWAY AVE
MAJOR AVE N
LEE AVE N
KYLE AVE N
JUNE AVE N
GRIMES AVE N
HAIGLO PL
FRANCE AVE N
EWING AVE N
Crystal
Robbinsdale
Golden Valley
Brooklyn Park
Brooklyn Center
Coon Rapids
Fridley
New Hope
Minneapolis
U1A
U2A
U3B
U6B
D33B
L52C
L54A
L52E

0 150 300 Feet

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
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METRO Blue Line Extension

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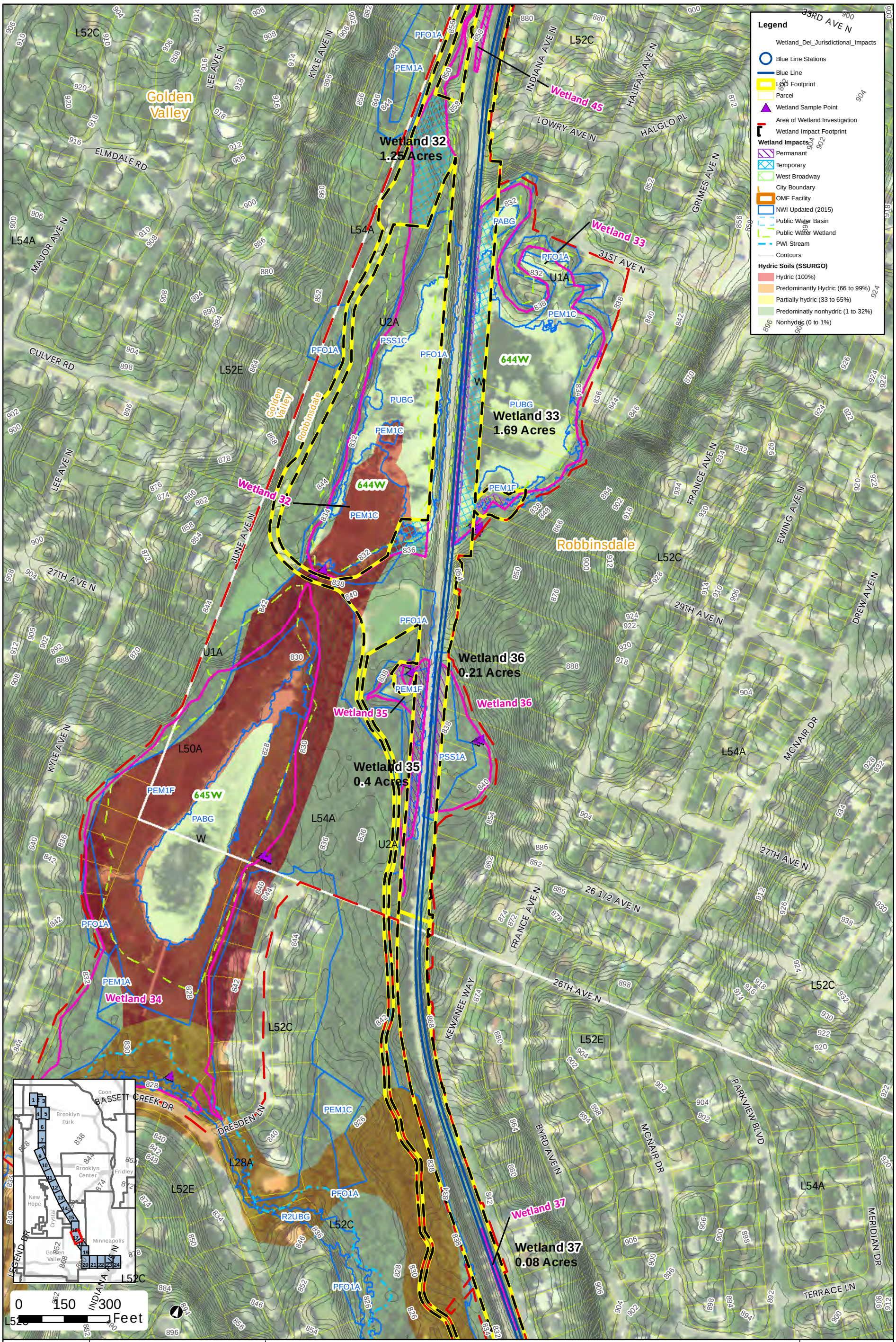

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils

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METRO Blue Line Extension

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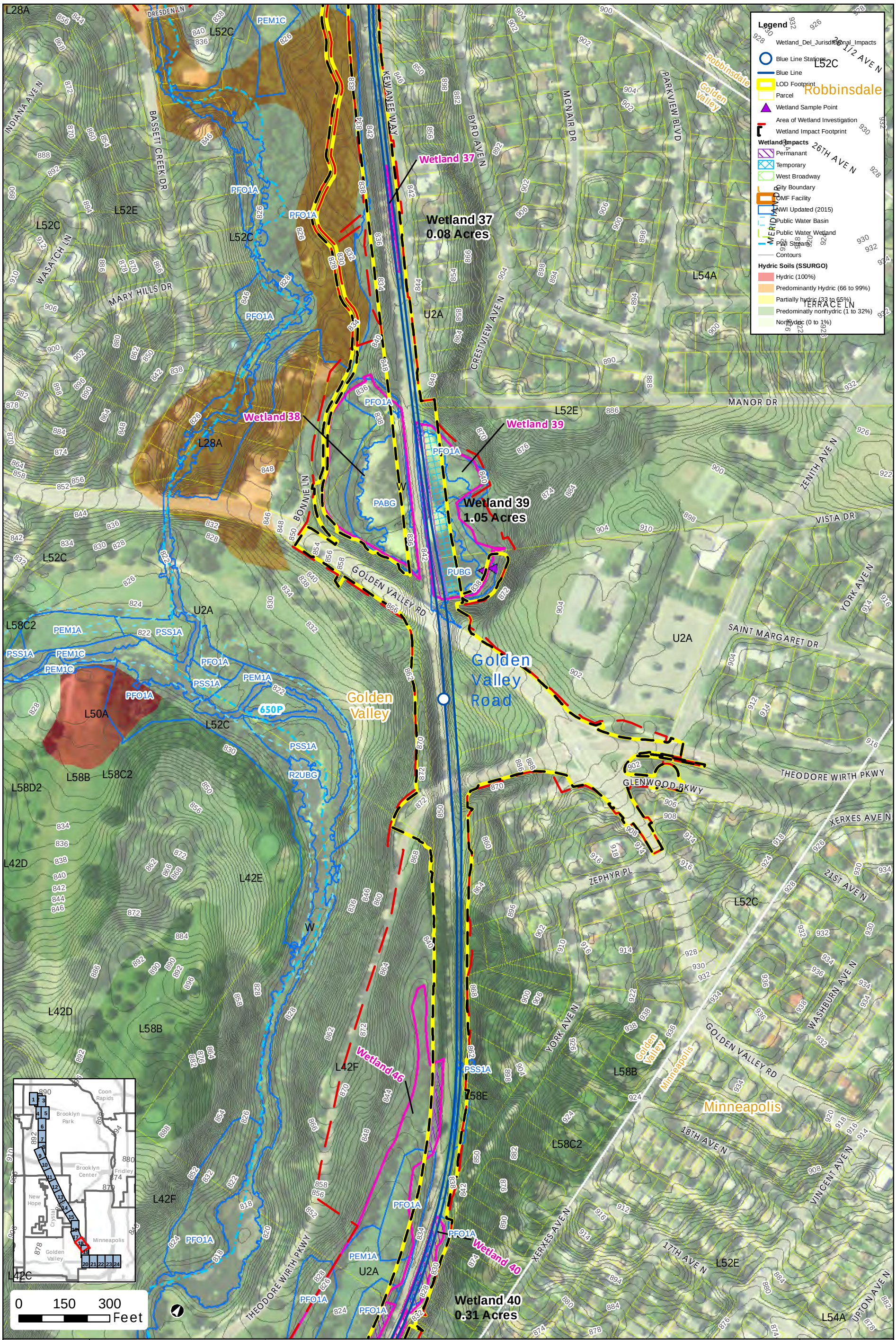

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils

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METRO Blue Line Extension

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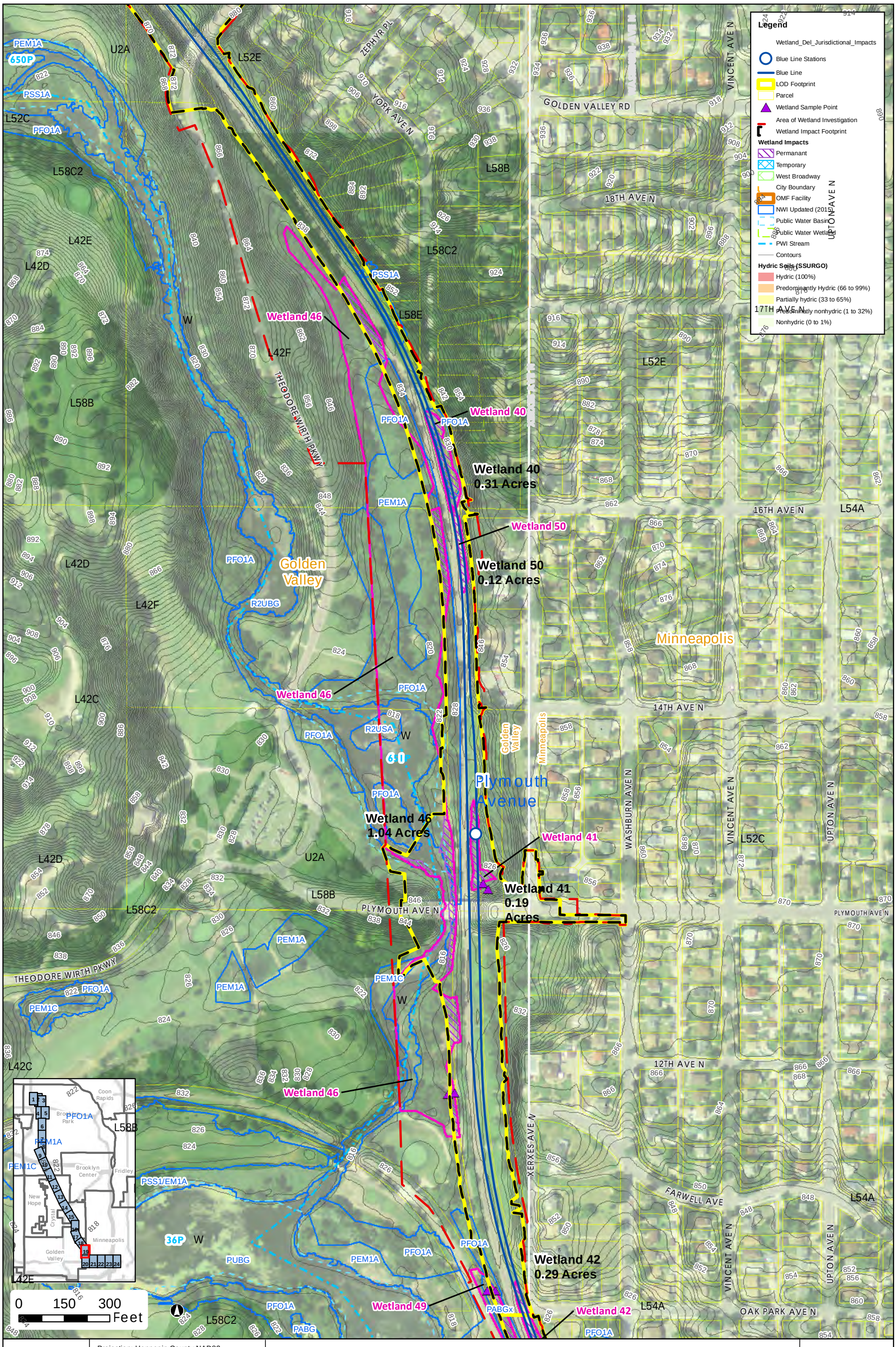

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Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils

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METRO Blue Line Extension

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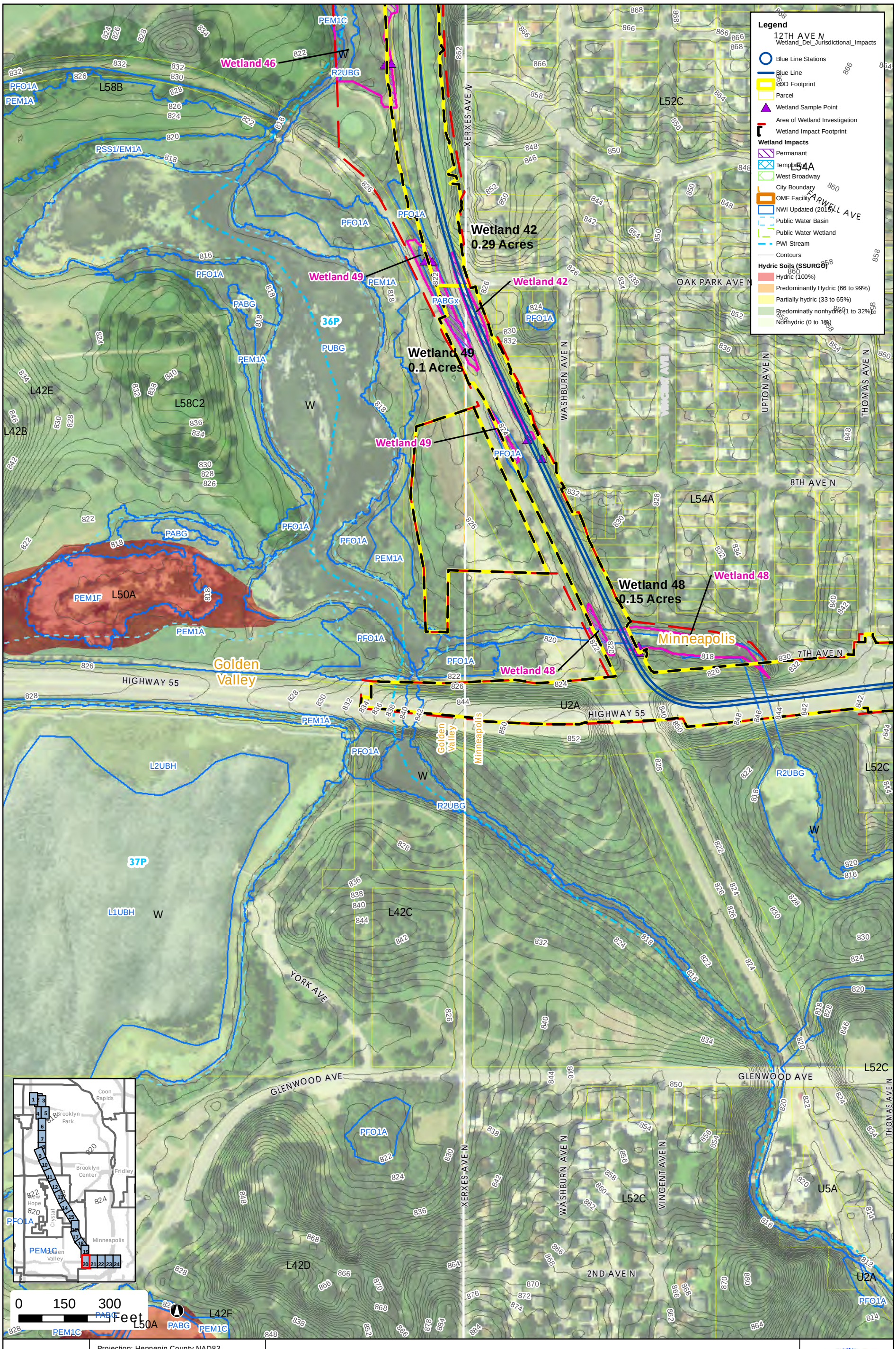

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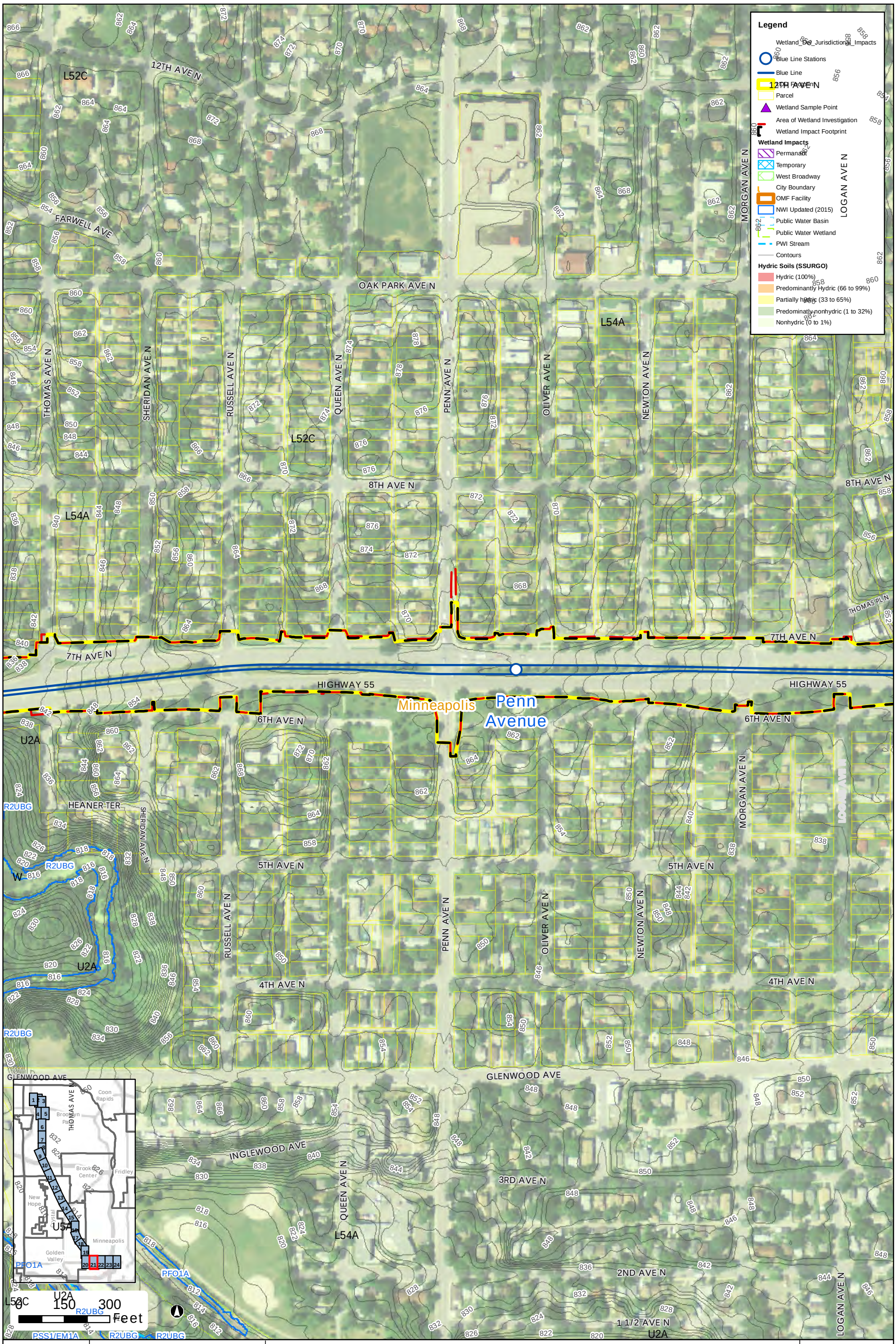

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
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METRO Blue Line Extension

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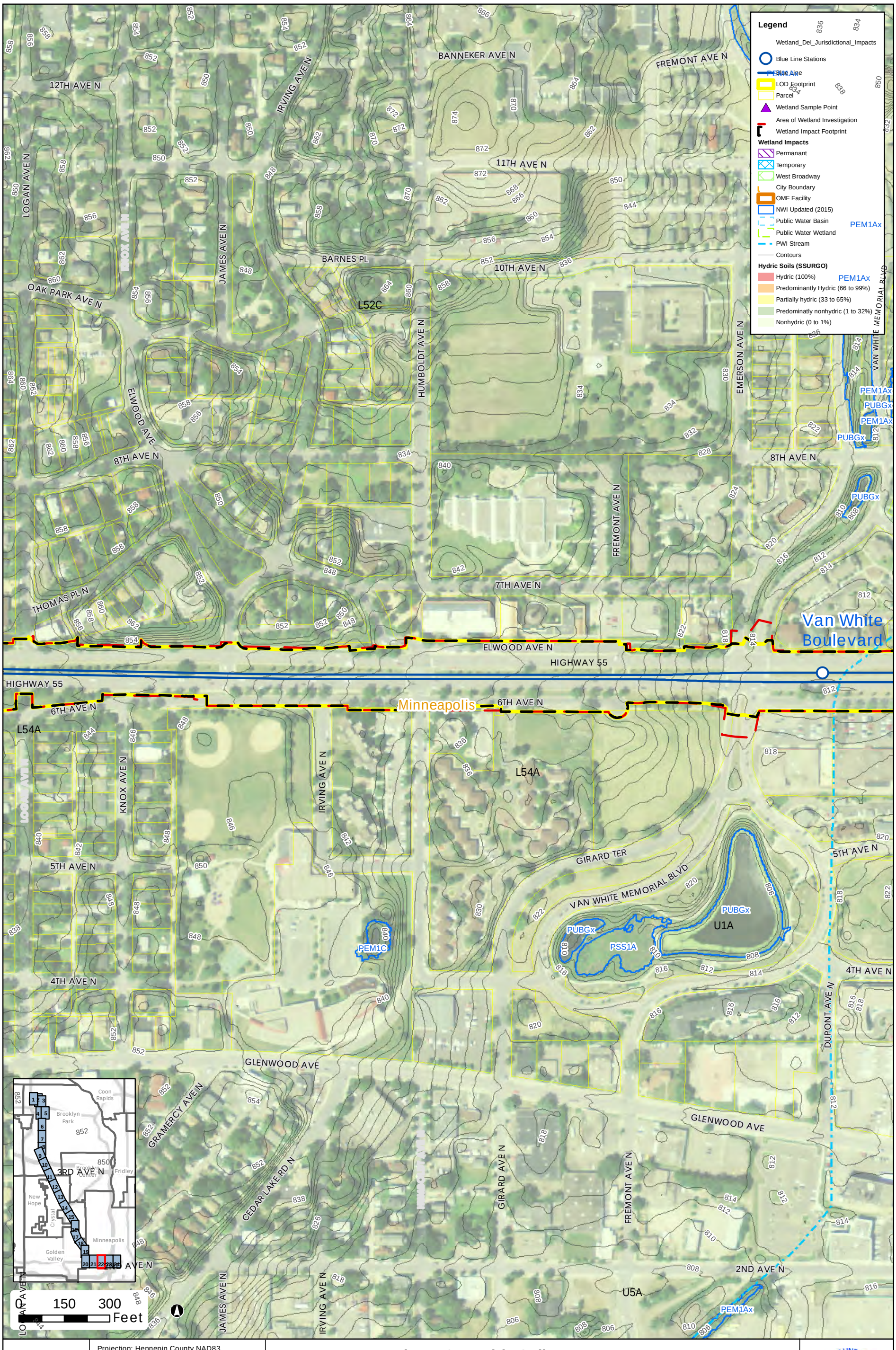

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
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METRO Blue Line Extension

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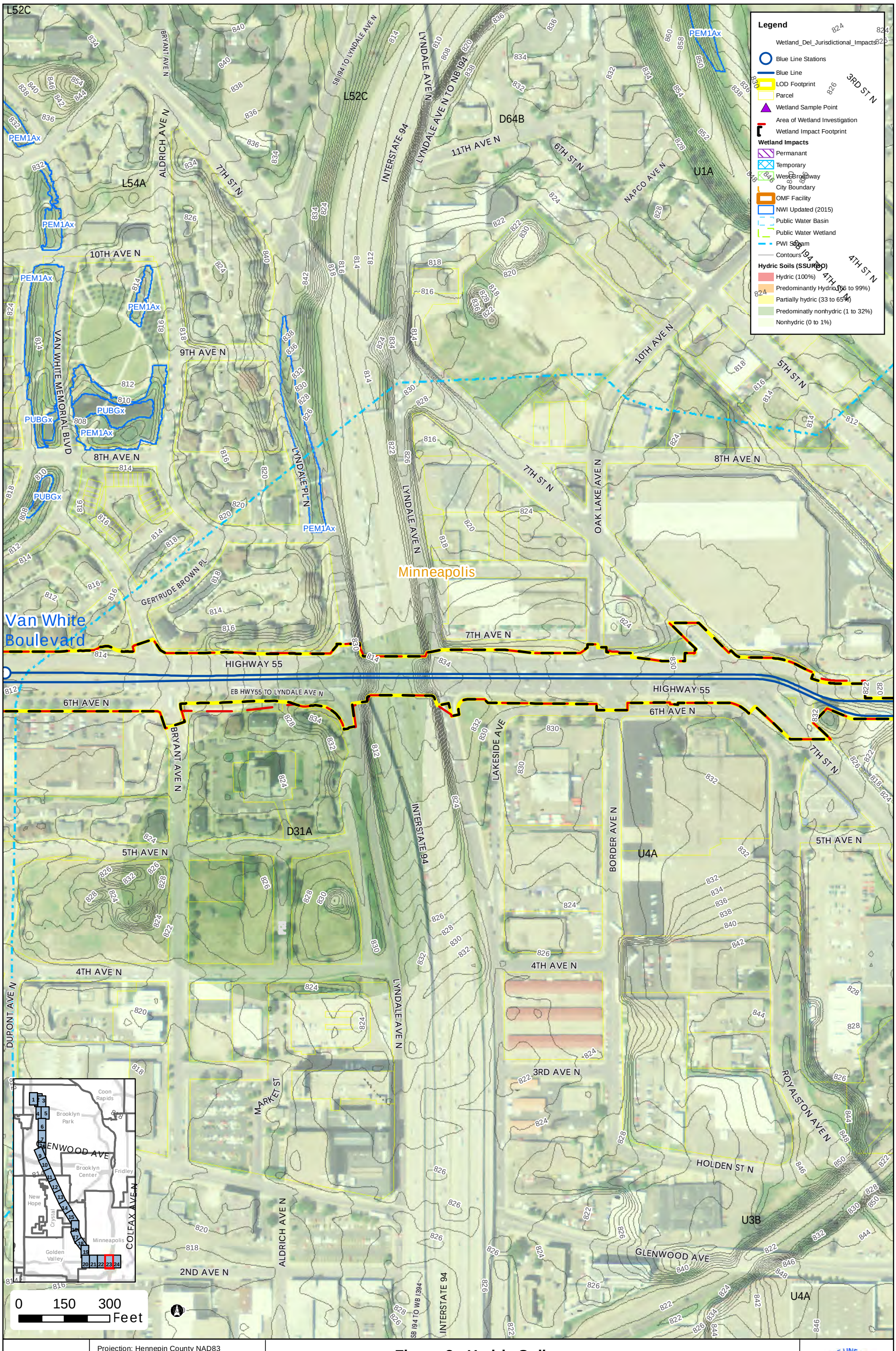

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
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METRO Blue Line Extension

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Figure 3 - Hydric Soils

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METRO Blue Line Extension

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Appendix F
Supporting Technical Reports

F.7 Modified Phase I Environmental Site Assessment

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Modified Phase I Environmental Site Assessment

Metro Blue Line Extension Light Rail Transit Project
Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park, Minnesota
Metropolitan Council Contract Number: 14P232

Prepared For

Metropolitan Council
And
Minnesota Department of Transportation



Project B1502383
October 22, 2015
Braun Intertec Corporation

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The Science You Build On.

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October 22, 2015 Project B1502383

Kathryn O'Brien
Metropolitan Council
Blue Line Extension Project Office
5514 West Broadway Avenue, Suite 200
Crystal, MN 55428

Re: Modified Phase I Environmental Site Assessment
Metro Blue Line Extension Light Rail Transit (BLRT) Project
Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park, Minnesota
Metropolitan Council Contract Number: 14P232

Dear Ms. O'Brien:

In accordance with Metropolitan Council Contract 14P232, Braun Intertec Corporation conducted a Modified Phase I Environmental Site Assessment (ESA) of the above-referenced site (Corridor). The objective of the Modified Phase I ESA was to serve as a screening tool to identify, to the extent possible, existing sources of contamination (based on present or former uses) at locations that could impact future construction of the Corridor.

The Modified Phase I ESA was prepared on behalf of and for use by Metropolitan Council and the Minnesota Department of Transportation (MnDOT). No other party has a right to rely on the contents of the Modified Phase I ESA without written authorization by Braun Intertec. Please refer to the attached report for the scope, methods, and conclusions of this assessment.

Braun Intertec appreciates the opportunity to provide professional services to you for this project. If you have any questions regarding this letter or the attached report, please contact Joseph Foline at 952.995.2484 or Jaclyn Dylla at 952.995.2490.

Sincerely,

BRAUN INTERTEC CORPORATION

Jennifer B. Wolff, PG, CPG
Senior Scientist

Jaclyn E. Dylla, CHMM
Principal – Senior Scientist

Attachment:
Modified Phase I Environmental Site Assessment Report

cc: James L. DeLuca, Minnesota Department of Transportation

AA/EOE

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Executive Summary

Braun Intertec received authorization from the Metropolitan Council (Met Council) to conduct a Modified Phase I Environmental Site Assessment (ESA) for the planned Metro Blue Line Extension Light Rail Transit (LRT) Project along the locally preferred alternative (LPA) from Target Field Station located in Minneapolis, Minnesota north to the Oak Grove Parkway Park and Ride facility in Brooklyn Park, Minnesota, and including an Operation and Maintenance Facility (OMF) located north of the Oak Grove Parkway Park and Ride facility (Corridor). For the purposes of this report, the Corridor includes the LPA, the OMF site, and the area within 500 feet of the LPA and OMF site. The Corridor is located in the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park, in Hennepin County, Minnesota, a distance of approximately 13 miles.

This Modified Phase I ESA was divided into six segments based on municipality:

- Segment M, located within the City of Minneapolis, a distance of approximately 2 miles
- Segment GV, located within the City of Golden Valley, a distance of approximately 1.4 miles
- Segment R, located within the City of Robbinsdale, a distance of approximately 2.6 miles
- Segment C, located within the City of Crystal, a distance of approximately 1.9 miles
- Segment BP2, located within the City of Brooklyn Park, a distance of approximately 2.6 miles
- Segment BP1, located within the City of Brooklyn Park, a distance of approximately 2.4 miles

Please refer to the Corridor Location Map attached as Figure 1 and the Project Corridor Feature Maps attached as Figure 2 for a depiction of the Corridor location, as well as the locations of the above-listed segments.

The Modified Phase I ESA was completed in anticipation of preliminary design and future construction activities and included the area within 500 feet of the proposed centerline of the Corridor. The Modified Phase I ESA was completed in conformance with the scope of services outlined by Metropolitan Council Contract Number 14P232, as well as the United States Environmental Protection Agency (USEPA) All Appropriate Inquiry and ASTM 1527-13, as modified by the Minnesota Department of Transportation (MnDOT) for transportation projects. The modified approach includes ranking identified parcels within the Corridor as having a low, medium, or high potential for contamination. The objective of the Modified Phase I ESA was to serve as a screening tool to identify, to the extent possible, existing sources of contamination (based on present or former uses) at locations that could impact future construction of the Corridor.

At the time of this assessment, the majority of the Corridor was developed with residential and commercial parcels.

Specifically, the M (Minneapolis) Segment has been developed since the 1880s, with residential and park areas on the west end and commercial development on the east end. In the GV, R, C, and BP2 Segments, the Corridor follows an existing BNSF railroad track, which has been present since the 1880s. The remainder of the GV (Golden Valley) Segment has been residential and park areas since the 1930s, with additional development in the 1960s and 1970s. The R (Robbinsdale) Segment was mixed residential and farmland until the 1960s when the commercial district in the central portion of the segment and additional residences replaced the farmland. The C (Crystal) Segment includes the Crystal Airport in the central portion of the segment, with commercial and residential in the remainder of the segment. This area was developed in the 1950s and 1960s. The Corridor follows the railroad until the central portion of the BP2 Segment, when the Corridor trends to the east. The BP2 and BP1 (Brooklyn Park) Segments were cultivated farmland until the 1950s and 1960s when the areas were converted to commercial with some residential areas. The northern end of the Corridor, in the BP1 Segment, has some formerly cultivated areas, which are currently undeveloped.

Braun Intertec evaluated all parcels in the Corridor to determine if they met the ranking criteria established by MnDOT as having a low, medium, or high potential for contamination. Parcels summaries were prepared for parcels that were determined to have a low, medium, or high potential for contamination. A parcel summary table of these ranked parcels and the corresponding parcel summaries are included in Appendices A and E, respectively. Corridor Sketches depicting the locations of the ranked parcels with a low, medium, or high potential for contamination are included as Figure 2. The parcel summaries provide an overview of the regulatory and historical review of the information attached as Appendices G through J.

Some parcels were evaluated but were determined not to have a low, medium, or high potential for contamination. These additional parcels are summarized in Appendix F. Parcel summaries for these additional parcels were not prepared and these parcels are not further discussed in this report.

Based on Braun Intertec's assessment, 271 parcels were identified within the Corridor as having a low, medium, or high potential for contamination. More specifically, 47 parcels were identified within the M Segment, 9 parcels were identified within the GV Segment, 67 parcels were identified in the R Segment, 63 parcels were identified in the C Segment, 54 parcels were identified in the BP2 Segment, and 31 parcels were identified in the BP1 Segment.

The following is a discussion of the parcel ranking criteria and the corresponding parcels identified within each segment of the Corridor with a low, medium, or high potential for contamination.

Low Potential for Contamination Parcels include parcels that are hazardous waste generators (HWGS), light industrial facilities, and possibly some parcels where site reconnaissance showed poor housekeeping or soil disturbance, etc. Braun Intertec identified 112 *Low Potential for Contamination Parcels* within the Corridor. Specifically, 9 parcels were identified within the M segment, 3 parcels were identified in the GV segment, 37 parcels were identified in the R segment, 20 parcels were identified in the C segment, 24 parcels were identified in the BP2 Segment, and 19 parcels were identified in the BP1 Segment. The specific parcels identified are included in the Parcel Summary Table in Appendix A and on the Parcel Summary Table – Low Potential for Contamination Sites in Appendix B.

Medium Potential for Contamination Parcels include parcels with closed leaking underground or aboveground storage tanks (LUASTs), all parcels with underground or aboveground storage tanks (UASTs), all parcels with historic or current vehicle and/or auto body repair activities and petroleum use or storage, and unintentional hazardous materials release (HMIRSR05) sites. Braun Intertec identified 135 *Medium Potential for Contamination Parcels* within the Corridor. Specifically, 28 parcels were identified within the M segment, 6 parcels were identified in the GV segment, 23 parcels were identified within the R segment, 41 parcels were identified within the C segment, 26 parcels were identified within the BP2 Segment, and 11 parcels were identified within the BP1 Segment. The specific parcels identified are included in the Parcel Summary Table in Appendix A and on the Parcel Summary Table – Medium Potential for Contamination Sites in Appendix C.

High Potential for Contamination Parcels include all active and inactive Voluntary Investigation and Cleanup Program (VIC), Minnesota Environmental Response and Liability Act (MERLA) sites, all heavy industry sites, all active and inactive dumpsites, all Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) sites, and all active LUAST sites. Braun Intertec identified 24 *High Potential for Contamination Parcels* within the Corridor. Specifically, 10 parcels were identified within the M segment, 7 parcels were identified within the R segment, 2 parcels were identified within the C segment, 4 parcels were identified within the BP2 Segment, and 1 parcel was identified within the BP1 Segment. The specific parcels identified are included in the Parcel Summary Table in Appendix A and on the Parcel Summary Table – High Potential for Contamination Sites in Appendix D.

The following table provides a summary of the ranked sites by segment:

Table 1. Parcels with Low, Medium, or High Potential for contamination by segment

Segment	# of Parcels with Low potential	# Parcels with Medium potential	# Parcels with High potential	Totals
M	9	28	10	**47**
GV	3	6	0	**9**
R	37	23	7	**67**
C	20	41	2	**63**
BP 2	24	26	4	**54**
BP-1	19	11	1	**31**
TOTAL	**112**	**135**	**24**	**271**

Additional Considerations

Based on a review of historical information, many properties within the Corridor were farmsteads prior to the 1930s or have been residences since the 1880s. Fuel oil tanks or other hazardous materials may be present within these parcels. In those cases where the historical information confirmed the presence of tanks or other contaminants, the parcel was assigned a parcel number and was ranked in accordance with the MnDOT definitions of having a low, medium, or high potential for contamination. For those parcels where the historical information did not confirm tanks or hazardous materials were present, the parcels were not assigned a parcel number and were not ranked. These additional parcels are summarized on the table in Appendix F.

Drilling Investigation activities, including the collection and analysis of soil and groundwater samples, are recommended along the Corridor where a medium or high potential for contamination is both adjacent to or in close proximity to the Corridor or where significant amounts of fill materials will be excavated during future construction.

A. Introduction

A.1. Purpose

Braun Intertec received authorization from the Metropolitan Council (Met Council) to conduct a Modified Phase I Environmental Site Assessment (ESA) for the planned Metro Blue Line Extension Light Rail Transit (LRT) Project along the locally preferred alternative (LPA) from Target Field Station located in Minneapolis, Minnesota north to the Oak Grove Parkway Park and Ride facility in Brooklyn Park, Minnesota, and including an Operation and Maintenance Facility (OMF) located north of the Oak Grove Parkway Park and Ride facility (Corridor). For the purposes of this report, the Corridor includes the LPA, the OMF site, and the area within 500 feet of the LPA and OMF site. The Corridor is located in the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park, in Hennepin County, Minnesota, a distance of approximately 13 miles.

This Modified Phase I ESA divided into six segments based on municipality:

- Segment M, located within the City of Minneapolis, a distance of approximately 2 miles
- Segment GV, located within the City of Golden Valley, a distance of approximately 1.4 miles
- Segment R, located within the City of Robbinsdale, a distance of approximately 2.6 miles
- Segment C, located within the City of Crystal, a distance of approximately 1.9 miles
- Segment BP2, located within the City of Brooklyn Park, a distance of approximately 2.6 miles
- Segment BP1, located within the City of Brooklyn Park, a distance of approximately 2.4 miles

The Modified Phase I ESA was completed in conformance with the United States Environmental Protection Agency (USEPA) All Appropriate Inquiry and ASTM 1527-13, as modified by the Minnesota Department of Transportation (MnDOT) for transportation projects, including ranking identified parcels within the Corridor as having a low, medium, or high potential for contamination. The objective of the Modified Phase I ESA was to serve as a screening tool to identify, to the extent possible, existing sources of contamination (based on present or former uses) at locations that could impact future construction of the Corridor.

The Modified Phase I ESA was prepared on behalf of and for the use by Met Council and MnDOT in accordance with Contract number 14P232 between Met Council and Braun Intertec. No other party has a right to rely on the contents of the Modified Phase I ESA without written authorization by Braun Intertec. All authorized parties are entitled to rely on the attached report according to Braun Intertec's contract with Met Council, and under the same terms, conditions and circumstances.

A.2. Scope of Services

Services provided for this assessment included:

- Prepared a description of the Corridor location and current uses of properties within the Corridor.
- Prepared a general description of the topography, soils, geology, and groundwater flow direction at the Corridor.
- Reviewed reasonably ascertainable and practically reviewable regulatory information published by state and federal agencies, health, and/or environmental agencies.
- Determined the location/boundaries of any Wellhead Protection Areas that exist in the vicinity of the Corridor.
- Reviewed Minnesota Pollution Control Agency (MPCA) or Minnesota Department of Agriculture (MDA) files to obtain additional information about the magnitude and extent of known contamination and the regulatory status of parcels in the Corridor.
- Reviewed the history of the Corridor, including aerial photographs, directories, and other readily available Corridor development data.
- Conducted a reconnaissance of the Corridor, which included, at a minimum, drive- and walk-by reviews.
- Interviewed local government officials or agencies having jurisdiction over hazardous waste disposal or other environmental matters in the area of the Corridor.
- Ranked all identified parcels within the Corridor as having low, medium, or high potential for contamination based on criteria established by MnDOT.

A.3. General Definitions

The following are definitions of terms used in this report:

- Corridor: The area and parcels located within 500 feet of the Metro Blue Line Extension LRT project northbound track centerline. This includes parcels that are only partially located within 500 feet of the proposed boundaries.
- Light Rail Line (LRT): The proposed light rail line alignment subject to this Modified Phase I ESA.
- Parcel: A property, or portion of a property, located within the Corridor that has been evaluated.
- Site: A parcel or group of parcels that were collectively investigated or documented within a regulatory listing.
- Facility: A building, business, or land use located on the parcel.
- Right-of-Way: The land adjacent to the Corridor, which may be acquired by the Met Council/MnDOT to facilitate project construction. Public right-of-way is land adjacent to currently publicly owned roadways.

A.4. Corridor Ranking Definitions

As indicated, identified parcels within the Corridor were ranked as having a low, medium, and high potential for contamination to the project area using criteria established by MnDOT. Braun Intertec amended the definitions to ensure consistency with ranking and include situations not originally covered by the MnDOT criteria. The rankings, defined by MnDOT and amended by Braun Intertec, are as follows:

Low Potential for Contamination Parcels include parcels that are hazardous waste generators, light industrial facilities, and possibly some parcels where site reconnaissance showed poor housekeeping or soil disturbance, etc.

Medium Potential for Contamination Parcels include parcels with closed leaking underground storage tanks (LUASTs), all parcels with underground or aboveground storage tanks (UASTs), all parcels with historic or current vehicle and/or auto body repair activities and petroleum use or storage, and unintentional hazardous materials release sites.

High Potential for Contamination Parcels include all active and inactive Voluntary Investigation and Cleanup Program (VIC) sites, all active Petroleum Brownfields Program (PBP) sites, Minnesota Environmental Response and Liability Act (MERLA) sites, all heavy industry sites, all active and inactive dumpsites, all Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) sites, and all active LUAST sites.

Please refer to Appendix A for a Parcel Summary Table for parcels which were identified within the Corridor as having a low, medium, or high potential for contamination. Parcels that did not meet the criteria as having a low, medium, or high potential for contamination are summarized in the Additional Parcel Summary Table in Appendix F.

B. General Corridor Description and Location

The total length of the Corridor is approximately 13 miles. The length of each segment is as follows:

- Segment M: approximately 2 miles
- Segment GV: approximately 1.4 miles
- Segment R: approximately 2.6 miles
- Segment C: approximately 1.9 miles
- Segment BP2: approximately 2.6 miles
- Segment BP1: approximately 2.4 miles

The Corridor is a proposed LRT project that will provide for transit improvements in the northwest area of the Twin Cities. The Metro Blue Line Extension LRT project will include up to 11 new stations, three of which will include new or renovated park and ride lots. Traction Power Substations (TPSS) are proposed to be located along the Corridor on limited-access sites. The TPSS buildings are the sites in which the alternating current (AC) of the power grid is converted by rotary transformers into the voltage and direct current (DC) that is required by the electric trains. The current is routed to the trains via a utility duct bank that connects to the overhead catenary (contact) systems poles.

To facilitate construction, the project may include the acquisition of new right of way and parcels for park and rides. For the purposes of this report, the Modified Phase I ESA study area included the area within 500 feet of the proposed alignment of the Corridor. Please refer to the Corridor Location Map and Project Corridor Features, attached as Figures 1 and 2, for a depiction of the Corridor location.

At the time of this assessment, the majority of the Corridor was developed with residential and commercial parcels.

Specifically, the M (Minneapolis) Segment has been developed since the 1880s, with residential, park areas on the west end, and commercial development on the east end. In the GV, R, C, and BP2 Segments, the Corridor follows an existing BNSF railroad track, which has been present since the 1880s. The remainder of the GV (Golden Valley) Segment has been residential and park areas since the 1930s, with additional development in the 1960s and 1970s. The R (Robbinsdale) Segment was mixed residential and farmland until the 1960s when the commercial district in the central portion of the segment and additional residences replaced the farmland. The C (Crystal) Segment includes the Crystal Airport in the central portion of the segment, with commercial and residential in the remainder of the segment. This area was developed in the 1950s and 1960s. The Corridor follows the railroad until the central portion of the BP2 Segment, when the Corridor trends to the east. The BP2 and BP1 (Brooklyn Park) Segments were cultivated farmland until the 1950s and 1960s when the areas were converted to commercial with some residential areas. The northern end of the Corridor, in the BP1 Segment, has some formerly cultivated areas, which are currently undeveloped.

C. Records Review

C.1. Physical Setting Information

C.1.a. Topography

The Corridor is located on the Anoka, Coon Rapids, Minneapolis North, Minneapolis South, and Osseo the United States Geological Survey (USGS) 7.5-minute topographic map series.

According to the USGS 7.5-minute topographic map series, the elevation along the Corridor is generally level, ranging from to 840 – 850 feet above mean sea level (amsl) at the south/east end (in Segments GV and M) to 880 – 900 feet amsl along the north end (in Segments BP1, BP2, C, and R).

C.1.b. Geology and Hydrogeology by Segment

M Segment

- The unconsolidated sediment beneath the Corridor in the M Segment starts with Pleistocene age middle-terrace deposits, which consist of sand, gravelly sand, and loamy sand with thin deposits of silt, loam, or organic sediment on top, and transitions to postglacial lacustrine deposits, which consist of sand, loamy sand, and loam with local organic-rich layers, and then

upper-terrace deposits, which consist of sand, gravelly sand and loamy sand (Meyer and Hobbs, 1989). The west or north end of the M Segment contains Pleistocene age loamy till deposits, which are loam in texture with a few beds and lenses of stratified sediment, underlain by Superior lobe stratified sediment or till and are generally at a depth of more than 50 feet, including small areas of thick, fine, loamy colluvium sediment, and also by postglacial organic deposits. The organic deposits have largely been drained and filled (Meyer and Hobbs, 1989).

- The uppermost bedrock unit beneath the east/south end of the M Segment is the Middle Ordovician, St. Peter Sandstone (Olsen and Bloomgren, 1989). The St. Peter Sandstone is described as a fine- to medium-grained, friable quartz sandstone in the upper half to two thirds of the unit. The lower part of the St. Peter Sandstone contains multicolored beds of mudstone, siltstone and shale with interbedded, very coarse sandstone. The central portion of the M Segment is the Lower Ordovician, Prairie du Chien Group (Olsen and Bloomgren, 1989). The Prairie du Chien Group is described as Dolostone that varies greatly in thickness because its top is a major erosional surface. The lower part of the section is less sandy except within 10 to 15 feet of the base. The west or north end of the M Segment is underlain by the Middle Ordovician, Platteville and Glenwood Formation (Olsen and Bloomgren, 1989). The Platteville Formation is described as fine-grained limestone containing thin shale partings near the top and base, underlain by green, sandy shale of the Glenwood Formation, which is very thin.

- In general, the depth to bedrock beneath the M Segment ranges from approximately 51 to 100 feet below the land surface. A southwest-northeast trending bedrock valley is present along the south and east end of the M Segment.

- According to published geologic information, the depth to groundwater beneath the M Segment ranges from approximately 10 to 20 feet below land surface. The regional groundwater flow direction beneath the segment is to the east toward the Mississippi River.

GV Segment

- The unconsolidated sediment beneath the GV Segment of the Corridor is postglacial organic deposits at the south end, transitioning to Pleistocene age till of mixed composition deposits, which are complexly intermixed yellowish brown to gray and reddish brown to reddish gray in color, loam to sandy loam. Reddish colored till or stratified sediment are commonly within 20

feet of the surface. Locally, this deposit includes small areas of thick reddish brown-colored till and thick loamy to sandy colluvium. Lenses of stratified sediment, primarily sand and gravel, are common (Meyer and Hobbs, 1989).

- The uppermost bedrock unit beneath the GV Segment is the Platteville and Glenwood Formation along the south end of the GV Segment, replaced by the St. Peter Sandstone in the north end. Bedrock descriptions are provided in the M Segment geology discussion above.

- In general, the depth to bedrock beneath the GV Segment ranges from approximately 101 to 200 feet below the land surface, with the depth along the majority of the Segment between 151 and 200 feet below land surface.

- According to published geologic information, the depth to groundwater beneath the GV Segment ranges from approximately 10 to 20 feet below land surface. The regional groundwater flow direction beneath the segment is to the east toward the Mississippi River.

R Segment

- The unconsolidated sediment beneath the R Segment of the Corridor is Pleistocene age till on the south end, and then Pleistocene age sandy till deposits that consist of loam to sandy loam and are commonly capped by and interbedded with thin deposits of silty to gravely stratified sediment. This deposit includes small areas of thick loamy to sandy colluviums in the central area, followed by the Pleistocene age upper-terrace deposits.

- The uppermost bedrock beneath the R Segment is the St. Peter Sandstone. Bedrock descriptions are provided in the M Segment geology discussion above.

- In general, the depth to bedrock beneath the R Segment ranges from approximately 101 to 200 feet below the land surface, with the depth along the majority of the segment between 151 and 200 feet below land surface.

- According to published geologic information, the depth to groundwater beneath the R Segment ranges from approximately 30 to 60 feet below land surface. The regional groundwater flow direction beneath the segment is to the east toward the Mississippi River.

C Segment

- The unconsolidated sediment beneath the C Segment is Pleistocene age upper-terrace deposits (Meyer and Hobbs, 1989). A description of the Pleistocene age upper-terrace deposits is provided in the M Segment geology discussion above.

- The uppermost bedrock beneath the C Segment is the St. Peter Sandstone. Bedrock descriptions are provided in the M Segment geology discussion above.

- In general, the depth to bedrock beneath the C Segment ranges from approximately 51 to 200 feet below the land surface, with the depth along the majority of the segment between 151 and 200 feet below land surface.

- According to published geologic information, the depth to groundwater beneath the C Segment ranges from approximately 30 to 60 feet below land surface. The regional groundwater flow direction beneath the segment is to the east toward the Mississippi River.

BP2 Segment

- The unconsolidated sediment beneath the BP2 Segment is Pleistocene age upper-terrace deposits (Meyer and Hobbs, 1989). A description of the Pleistocene age upper-terrace deposits is provided in the M Segment geology discussion above.

- The uppermost bedrock unit beneath the BP2 Segment is the St. Peter Sandstone at the south end, replaced by the Prairie du Chien Group in the central portion; the northern portion is underlain by the Upper Cambrian, Jordan Sandstone (Olsen and Bloomgren, 1989). A description of the St. Peter Sandstone and the Prairie du Chien Group is provided in the M Segment geology discussed above. The Jordan Sandstone is described as quartzose sandstone that is carbonate cemented in the upper 10 to 15 feet of the deposit. The middle part of the deposit is coarse grained, and the basal 10 to 20 feet is finer grained and may contain minor amounts of shale.

- In general, the depth to bedrock beneath the BP2 Segment ranges from approximately 51 to 150 feet below the land surface, with the depth along the majority of the Corridor between 101 and 150 feet below land surface.

- According to published geologic information, the depth to groundwater beneath the BP2 Segment ranges from approximately 20 to 60 feet below land surface. The regional groundwater flow direction beneath the segment is to the east/southeast toward the Mississippi River.

BP1 Segment

- The unconsolidated sediment beneath the BP1 Segment is Pleistocene age upper-terrace deposits (Meyer and Hobbs, 1989). A description of the Pleistocene age upper-terrace deposits is provided in the M Segment geology discussion above.

- The uppermost bedrock unit beneath the BP1 Segment is the Jordan Sandstone on the south end, which is replaced in the north by the Upper Cambrian, St. Lawrence and Franconia Formations (Olsen and Bloomgren, 1989). The St. Lawrence Formation consists of dolomitic siltstone and shale in eastern Hennepin County. The fine-grained, glauconitic sandstone and shale of the Franconia becomes dolomitic in western Hennepin County, where the two units are distinguishable only by the higher glauconite content of the Franconia. Fine- to medium-grained quartzose sandstone with minor amounts of white or light-colored shale forms the upper part of the Franconia in parts of the north and west.

- In general, the depth to bedrock beneath the BP1 Segment ranges from approximately 101 to 200 feet below land surface, with the depth along the majority of the Corridor between 151 and 200 feet below land surface. An east-west trending bedrock valley crosses the BP1 Segment in the northern portion.

- According to published geologic information, the depth to groundwater beneath the BP1 Segment ranges from approximately 20 to 40 feet below land surface. The regional groundwater flow direction beneath the segment is to the east/southeast toward the Mississippi River.

The groundwater flow was identified in some parcel summaries through review of available data, but was the Corridor-specific groundwater flow direction was not determined through direct measurement during this Modified Phase I ESA. Additional field investigation, beyond the Scope of Services of this Modified Phase I ESA, would be required to determine this information.

C.2. Regulatory Information

Braun Intertec obtained regulatory information pertaining to the Corridor and surrounding area from GeoSearch. The GeoSearch report is a compilation of records of facilities that are included on current federal and state environmental regulatory databases. The databases were searched to a distance of one-quarter mile from the Corridor. Braun Intertec reviewed the GeoSearch report to identify records that indicate known or potential environmental hazards within the Corridor and/or surrounding area and to evaluate the likelihood for those hazards to impact the Corridor. Information obtained from the GeoSearch report was used to determine which facilities are located within the Corridor and have known or potential contamination associated with current and/or past uses. The GeoSearch report also includes a description, source reference, and date of acquisition.

In addition to the information obtained from the GeoSearch report, Braun Intertec reviewed select files at the MPCA. Pertinent information obtained from GeoSearch or the MPCA file review is included in the parcel summaries in Appendix E. Copies of the GeoSearch report and information reviewed as part of the MPCA file review are included as Appendices G and H, respectively.

C.2.a. Corridor

Parcels along the Corridor are listed on the following federal and/or state databases in the GeoSearch report:

Table 2: Regulatory Database Summary

Database Name	Parcel Numbers Identified
Resource Conservation and Recovery Act (RCRA) Hazardous Waste Generators (RCRAGR05)	1, 2, 3, 7, 10, 11, 14, 15, 16, 18, 26, 28, 43, 46, 68, 72,75, 76, 81, 82, 83, 86, 93, 109, 110, 111, 116, 117, 122, 123, 133, 134, 135, 138, 139, 140, 141, 142, 143, 144, 148, 149, 151, 152, 155, 157, 159, 162, 163, 173, 174, 181, 182, 185, 188, 193, 195, 196, 197, 199, 202, 209, 210, 212, 214, 225, 226, 227, 232, 236, 241, 243, 250, 251, 257, 258, 259
Facility Registry System (FRS)	1, 2, 3, 5, 6, 7, 8, 10, 12, 13, 14, 16, 17, 18, 21, 23, 24, 26, 28, 31, 43, 53, 62, 65, 68, 72, 75, 76, 78, 81, 83, 93, 97, 104, 110, 111, 114, 116, 117, 122, 123, 125, 127, 131, 132, 133, 134, 138, 139, 140, 141, 142, 143, 144, 148, 149, 150, 151, 152, 153, 154, 155, 157, 158, 159, 162, 163, 172, 172, 173, 174, 179, 181, 182, 185, 188, 191, 195, 196, 197, 199, 201, 209, 210, 212, 214, 225, 230, 232, 233, 236, 237, 243, 247, 250, 253, 257

Database Name	Parcel Numbers Identified
RCRA No Longer Regulated Facility (NLRRCRAG)	1, 2, 5, 6, 8, 11, 12, 13, 17, 21, 23, 41, 75, 97, 132, 148, 151, 155, 171, 179, 181, 205, 207, 230, 233, 237
Hazardous Waste Generator Site (HWGS)	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 23, 24, 26, 28, 43, 46, 62, 68, 72, 75, 76, 78, 81, 82, 83, 86, 87, 93, 97, 109, 110, 111, 116, 117, 122, 123, 125, 127, 131, 132, 133, 134, 135, 138, 139, 140, 141, 142, 143, 144, 148, 149, 150, 151, 152, 153, 155, 157, 158, 159, 162, 163, 166, 171, 172, 173, 179, 181, 182, 185, 193, 195, 196, 197, 199, 201, 202, 205, 207, 208?, 209, 210, 212, 214, 225, 226, 227, 230, 232, 236, 237, 241, 243, 246, 247, 250, 258, 259, 260
Registered Storage Tanks (UAST)	1, 2, 3, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 21, 22, 23, 30, 32, 46, 53, 66, 68, 72, 75, 76, 84, 90, 102, 105, 109, 110, 111, 123, 125, 126, 139, 142, 153, 156, 157, 160, 162, 163, 166, 169, 171, 174, 179, 181, 189, 192, 193, 195, 196, 197, 199, 201, 202, 205, 207, 208, 210, 214, 230, 237, 241, 243, 256, 257, 258, 260
Spills Listings (PCASPILLS)	1, 2, 3, 6, 10, 16, 17, 21, 26, 29, 38, 39, 40, 42, 49, 50, 56, 58, 60, 64, 69, 70, 78, 101, 110, 111, 126, 129, 136, 149, 155, 156, 162, 173, 181, 191, 194, 195, 196, 199, 209, 211, 214, 231, 239, 240, 242, 243, 255, 256, 257
Tier II Facility Listing (TIERII)	3, 7, 10, 16, 78, 72, 105, 125, 209, 214, 247, 257
Water Discharge Permit (WDP)	1, 3, 5, 6, 7, 8, 10, 15, 17, 20, 21, 26, 75, 123, 126, 149, 157, 179, 181, 195, 196, 199, 202, 209, 212, 241, 256, 257, 260
National Pollutant Discharge Elimination System (NPDESR05)	257
Permit Compliance System (PCSR05)	3, 257
Registered Leaking Storage Tanks (LUAST)	1, 2, 3, 5, 6, 7, 10, 11, 2, 13, 16, 17, 21, 25, 30, 31, 32, 38, 46, 66, 74, 75, 76, 96, 109, 110, 111, 123, 125, 126, 156, 160, 169, 174, 181, 189, 195, 196, 197, 199, 201, 202, 205, 207, 208, 210, 241, 243, 258, 260
Petroleum Brownfields Program (PBF)	2, 3, 5, 8, 75, 162, 172, 195, 196, 219, 258, 260,
Voluntary Investigation and Cleanup Program (VIC)	1, 2, 3, 5, 7, 8, 12, 17, 21, 47, 59, 75, 76, 88, 90, 107, 172, 190, 192, 195, 196, 258,
Site Response Section (SRS)	1, 2, 3, 7, 8, 17, 21, 59, 75, 192, 195, 196, 258
Industrial Stormwater Permit	250, 251, 259, 260
Construction Stormwater Permit	132, 244, 251, 269, 251
Registered drycleaning facilities (CLEANERS)	76, 109, 243

Database Name	Parcel Numbers Identified
Biennial Reporting System (BRS)	13, 225
Permitted Air Facilities (AIRS)	2, 3, 7, 16, 138, 141, 142, 151, 154, 193, 251, 260
Aerometric Information Retrieval System/Air Facility Subsystem (AIRSAFS)	1, 10, 17, 138, 141, 142, 148, 151, 154
Integrated Compliance Information System (ICIS)	1, 3, 105
Institutional Controls (IC)	7, 59
Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)	3, 76,
CERCLIS NO Further Response Actions Planned (NFRAP)	3, 76,
State Superfund Site (SF)	76
Unpermitted Dumps (UNPERMDUMPS)	58
State Assessment Site (SAS)	7, 8, 58,
MDA Spills (AGSpills)	46, 58, 198
Toxic Release Inventory (TRI)	7
Open Solid Waste Facilities (SWF)	3
Emergency Response Notification System (ERNS)	52

Sites 1 – 47 are located within the M Segment, 48 – 56 are within the GV Segment, 57 – 123 are within the R Segment, 124 – 186 are within the C Segment, 187 – 240 are within the BP2 Segment, and 241 – 271 are within the BP1 Segment.

Pertinent information obtained from GeoSearch report is included in the parcel summaries in Appendix E.

Sites identified in the GeoSearch report that were determined to be located within or partially within the Corridor are presented in the table above.

Of these sites, Braun Intertec requested to review the MPCA files for 84 LUAST/PBF listings and 50 VIC/SRS listings that were identified in the GeoSearch report and were determined by Braun Intertec to be located within or partially within the Corridor. Supplemental environmental information was obtained from the MPCA Tank and Leak and/or VIC databases. Due to the volume of information obtained from the current assessment of MPCA file reviews, it was deemed impractical to include hard copies of the information as appendices to the bound hard copy of this report. However, this information is provided as Appendix H in the pdf version of this report included on the attached CD. Select diagrams and tables referencing the MPCA files subsurface investigations are included under the regulatory review narrative in the parcel summaries included as Appendix E.

C.2.b. Adjoining Properties

We reviewed the GeoSearch report for properties that adjoin the Corridor and are located within the approximate minimum search distances on the standard environmental records sources as specified in the ASTM Standard that may indicate a release or likely release of hazardous substances and/or petroleum products that may impact the Corridor. Based on factors that include regulatory status, distance from the Corridor, and/or location relative to the regional groundwater flow direction, as referenced in Section C.1., no facilities are identified in the GeoSearch report that warrant further consideration as potential for contamination.

C.2.c. Unmapped Sites

The GeoSearch report did not identify any "orphan" sites, which, because of poor or inadequate address information could not be mapped by GeoSearch.

C.3. Additional Government Records

C.3.a. Interviews

Braun Intertec made inquiry to the following individuals to obtain knowledge or records of historical and current land-use information regarding the Corridor and surrounding area:

- Gilbert Gabanski, Hennepin County Public Works, Environment and Energy Department, Land and Water, Contaminated Lands Unit
- Jim DeLuca, MnDOT Office of Environmental Stewardship
- John Crelly, Fire Chief, City of Golden Valley
- Mark Fairchild, Fire Chief, City of Robbinsdale
- Shelby Wolf, Deputy Fire Marshal, City of Crystal
- Kenneth Prillaman, Fire Chief, City of Brooklyn Park

Section D of this report provides the discussion of the results of Braun Intertec inquiry and presents any applicable information obtained.

C.3.b. Met Council

Braun Intertec obtained information regarding the project location and proposed construction plans from Met Council.

C.3.c. Minnesota County Well Index

The Minnesota Geological Survey (MGS) maintains the Minnesota County Well Index (MCWI), which is a limited database of water well records. The MCWI was accessed through the Minnesota Department of Health (MDH) website. Several private wells were identified within the Corridor. The locations of the wells are indicated on Figure 2.

Braun Intertec also accessed the MCWI to determine the location/boundaries of any Wellhead Protection Areas (WPA) that exist within the Corridor. According to the MCWI, four WPAs that intersect the Corridor were identified. The locations of these WPAs are shown on the sheet index in Figure 2.

C.3.d. State Regulatory Web Pages

Braun Intertec accessed MPCA's Aboveground/Underground Storage Tank Site Search web page, MDA's "What's In My Neighborhood" Agricultural Interactive Mapping web page, MPCA's Petroleum Remediation Program "What's In My Neighborhood" web page, and MPCA's "What's In My Neighborhood" web pages for information regarding the potential for sites located within the Corridor to be of environmental concern that were not identified in the GeoSearch report. The additional facilities identified that were not included in the GeoSearch report are included in the parcel summaries in Appendix E.

C.4. Historical-Use Information

The objective of the historical-use information review was to develop a history of the previous uses of properties located within the Corridor in order to help evaluate the likelihood of past uses having led to environmental issues that may affect the Corridor. Braun Intertec consulted only those historical sources that were readily available, practically reviewable, and likely to be useful to develop a history of previous uses of the Corridor and surrounding area within the time and cost constraints of this Modified Phase I ESA.

C.4.a. Aerial Photographs

Braun Intertec retained Historic Information Gatherers (HIG) to obtain aerial photographs for the Corridor and surrounding areas. Braun Intertec obtained aerial photographs from HIG for years 1937, 1947, 1956, 1960-62 (partial), 1966-67, 1970-71, 1978, 1984, 1987, 1994, 1997, 200, 2004, 2009, and 2012. Information obtained for low, medium, and high potential for contamination parcels from the aerial photographs review are included in the parcel summaries in Appendix E. Copies of the aerial photographs are attached in Appendix I.

C.4.b. City Directory Information

Braun Intertec retained HIG to obtain city directory information for streets within the Corridor. HIG provided city directories for approximate five-year intervals between the years 1930 and 2012. Braun Intertec reviewed the city directories to assist in identifying properties by name alone that could impact the Corridor. Information obtained for low, medium, and high potential for contamination parcels from the city directory review are included in the parcel summaries in Appendix E.

C.4.c. Fire Insurance Maps

Braun Intertec retained HIG to obtain historical fire insurance maps within the Corridor. Fire insurance maps were produced by private fire insurance companies and indicated uses of properties at specific dates. The information noted on the maps commonly includes uses of individual structures, locations of fuel and/or chemical storage tanks, and storage of other toxic substances. Maps were provided for the years 1885, 1892, 1904, 1912, 1914, 1924, 1929, 1930, 1940, 1950, 1952, and 1963. Each map may not provide coverage for the entire Corridor. Information obtained for low, medium, and high potential for contamination parcels from the review of the fire insurance maps are included in the parcel summaries in Appendix E. Copies of fire insurance maps are attached as Appendix J.

C.4.d. Historical Topographic Maps

The USGS topographic maps for the Corridor were reviewed for the years 1896, 1901, 1902, 1952, 1954, 1955, 1967, 1972, 1977, 1980, 1993, and 2013. Each map may not provide coverage for the entire Corridor. Information obtained for low, medium, and high potential for contamination parcels from review of the topographic maps are included in the parcel summaries in Appendix E. Copies of historical topographic maps are included in Appendix K.

C.4.e. Hennepin County Information

The Hennepin County Property Information website provides information on Hennepin County properties including but not limited to taxes due (tax statement), current and prior year taxes, assessment values, tax parcel description, and sales information. Property Identification Numbers (PINs) and other property information obtained for low, medium, and high potential for contamination parcels from review of the topographic maps are included in the parcel summaries in Appendix E. A list of the PINs for low, medium, and high potential for contamination parcels is included in Appendix L.

D. Interviews

Braun Intertec made inquiry to the following local government officials to obtain knowledge or records of historical and current land-use information regarding the Corridor and surrounding area:

- Gilbert Gabanski, Hennepin County Public Works, Environment and Energy Department, Land and Water, Contaminated Lands Unit
- Jim DeLuca, MnDOT Office of Environmental Stewardship
- John Crelly, Fire Chief, City of Golden Valley
- Mark Fairchild, Fire Chief, City of Robbinsdale
- Shelby Wolf, Deputy Fire Marshal, City of Crystal
- Kenneth Prillaman, Fire Chief, City of Brooklyn Park

No additional environmental concerns within the Corridor were identified during the interviews that were not already addressed in the GeoSearch report and included in this report for Sections B, C, and D.

E. Corridor Reconnaissance

Braun Intertec environmental professional Kelly Brown conducted reconnaissance of the Corridor on May 8, 21 and 27, June 22 and 24, and July 9, 2015. General observations were made along the length of the Corridor from public areas such as roads, sidewalks, retail/commercial buildings, and other publicly accessible areas. Observations of the facilities included, but were not limited to:

- Occupant/property use
- Type of structure
- Evidence of water wells and/or septic systems
- Evidence of storage tanks
- Evidence of use and/or storage of hazardous substances and/or petroleum products
- Evidence of spills or releases of hazardous substances and/or petroleum products
- Evidence of dumping, landfilling, or non-native fill

Specific observations of the parcels with a low, medium, and high potential for contamination parcels within the Corridor are included in Appendix E.

F. Current and Historical Corridor Land-Use

At the time of this assessment, the Corridor passed through primarily residential and commercial areas of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park.

Specifically, the M (Minneapolis) Segment has been developed since the 1880s, with residential and park areas on the west end, and commercial development on the east end. In the GV, R, C, and BP2 Segments, the Corridor follows an existing BNSF railroad track, which has been present since the 1880s. The remainder of the GV (Golden Valley) Segment has been residential and park areas since the 1930s, with additional development in the 1960s and 1970s. The R (Robbinsdale) Segment was mixed residential and farmland until the 1960s when the commercial district in the central portion of the segment and additional residences replaced the farmland. The C (Crystal) Segment includes the Crystal Airport in the central portion of the segment, with commercial and residential in the remainder of the segment. This area was developed in the 1950s and 1960s. The Corridor follows the railroad until the

central portion of the BP2 Segment, when the Corridor trends to the east. The BP2 and BP1 (Brooklyn Park) Segments were cultivated farmland until the 1950s and 1960s when the areas were converted to commercial with some residential areas. The northern end of the Corridor, in the BP1 Segment, has some formerly cultivated areas, which are currently undeveloped.

G. MnDOT Contamination Potential Ranking

As indicated, identified parcels within the Corridor were ranked/classified as having a low, medium, or high potential for contamination to the Corridor using criteria established by MnDOT, as amended and discussed in Section A.4. The remaining parcels, which were evaluated but did not meet the ranking criteria, are summarized in Appendix F, but are not otherwise included within this report. The rankings, defined by MnDOT, and amended for this project, and the number of parcels identified within each criterion is discussed in the following sections. A complete listing of these parcels is provided in Appendix A.

Low Potential for Contamination Parcels include parcels that are hazardous waste generators (HWGS), light industrial facilities, and possibly some parcels where site reconnaissance showed poor housekeeping or soil disturbance, etc.

Medium Potential for Contamination Parcels include parcels with closed leaking underground or aboveground storage tanks (LUASTs), all parcels with underground or aboveground storage tanks (UASTs), all parcels with historic or current vehicle and/or auto body repair activities and petroleum use or storage, and unintentional hazardous materials release sites.

High Potential for Contamination Parcels include all active and inactive Voluntary Investigation and Cleanup Program (VIC), all active Petroleum Brownfields Program (PBP) sites, Minnesota Environmental Response and Liability Act (MERLA) sites, all heavy industry sites, all active and inactive dumpsites, all Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) sites, and all active LUAST sites.

Based on Braun Intertec's assessment, 271 parcels were identified within the Corridor as having a low, medium, or high potential for contamination. More specifically, 47 parcels were identified within the M Segment, 9 parcels were identified within the GV Segment, 67 parcels were identified in the R Segment, 63 parcels were identified in the C Segment, 54 parcels were identified in the BP2 Segment, and 31 parcels were identified in the BP1 Segment. The following table provides a summary of the ranked sites by segment:

Table 1. Parcels with Low, Medium, or High Potential for contamination by segment

Segment	# of Parcels with Low potential	# Parcels with Medium potential	# Parcels with High potential	Totals
M	9	28	10	**47**
GV	3	6	0	**9**
R	37	23	7	**67**
C	20	41	2	**63**
BP 2	24	26	4	**54**
BP-1	19	11	1	**31**
TOTAL	**112**	**135**	**24**	**271**

G.1. Parcels with Low Potential for Contamination

Braun Intertec identified 112 parcels with *Low Potential for Contamination* within the Corridor, as shown on Table 1 above. Specifically, 9 parcels were identified within the M segment, 3 parcels were identified in the GV segment, 37 parcels were identified in the R segment, 20 parcels were identified in the C segment, 24 parcels were identified in the BP2 Segment, and 19 parcels were identified in the BP1 Segment. The specific parcels identified are included in the Parcel Summary Table in Appendix A and on the Parcel Summary Table – Low Potential for Contamination Sites in Appendix B.

G.2. Parcels with Medium Potential for Contamination

Braun Intertec identified 135 parcels with *Medium Potential for Contamination* within the Corridor, as shown on Table 1 above. Specifically, 28 parcels were identified within the M segment, 6 parcels were identified in the GV segment, 23 parcels were identified within the R segment, 41 parcels were identified within the C segment, 26 parcels were identified within the BP2 Segment, and 11 parcels were identified within the BP1 Segment. The specific parcels identified are included in the Parcel Summary Table in Appendix A and on the Parcel Summary Table – Medium Potential for Contamination Sites in Appendix C.

G.3. Parcels with High Potential for Contamination

Braun Intertec identified 24 parcels with *High Potential for Contamination* within the Corridor, as shown on Table 1 above. Specifically, 10 parcels were identified within the M segment, seven parcels were identified within the R segment, two parcels were identified within the C segment, four parcels were identified within the BP2 Segment, and one parcel was identified within the BP1 Segment. The specific parcels identified are included in the Parcel Summary Table in Appendix A and on the Parcel Summary Table – High Potential for Contamination Sites in Appendix D.

H. Limitations and Data Gaps

This assessment was conducted in conformance with the USEPA All Appropriate Inquiry and ASTM 1527-13, as modified by MnDOT. The conclusions presented in this report are based on inquiries with public officials, available literature cited in this report, conditions noted at the time of the reconnaissance, and Braun Intertec's interpretation of the information obtained as part of this Modified Phase I ESA. Braun Intertec's conclusions are limited to the specific project and properties described in this report and by the accuracy and completeness of information provided by others.

An environmental site assessment cannot wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property within reasonable limits of time and cost.

Braun Intertec's visual observations of portions of the Corridor were limited to public road right-of-ways, sidewalks, commercial/retail properties, and other areas that are accessible to the public. None of the buildings on the Corridor were inspected by Braun Intertec, as it was not within the scope of this Modified Phase I ESA. Contaminant sources and/or hazardous materials and substances may exist within the buildings in the Corridor or on areas of the parcels that were not visible from public areas.

Braun Intertec's review of historical sources was limited to those which were reasonably ascertainable and which were likely to be useful, accurate, or complete in terms of identifying obvious past uses and activities in the Corridor. In addition, Braun Intertec reviewed only as many historical sources that were needed to meet this objective.

No data gaps were identified during the Modified Phase I ESA process, with the exception that Braun Intertec did not interview property owners located within the Corridor.

The identified data gaps did not affect the environmental professional's ability to render opinions regarding conditions indicative of a release or threatened release. Information requested during the Modified Phase I ESA and received after issuance of the report will be forwarded to all parties relying on this report. An addendum will be provided if the information received alters the findings of the report.

I. Additional Considerations

Based on a review of historical information, many properties within the Corridor were farmsteads prior to the 1930s or have been residences since the 1880s. Fuel oil tanks or other hazardous materials may be present within these parcels. In those cases where the historical information confirmed the presence

of tanks or other contaminants, the parcel was assigned a parcel number and was ranked in accordance with the MnDOT definitions of having a low, medium, or high potential for contamination. For those parcels where the historical information did not confirm tanks or hazardous materials were present, the parcels were not assigned a parcel number and were not ranked. These additional parcels are summarized on the table in Appendix F.

J. Recommendations

Drilling Investigation activities, including the collection and analysis of soil and groundwater samples, are recommended along the Corridor where a medium or high potential for contamination is both adjacent to or in close proximity to the Corridor or where significant amounts of fill materials will be excavated during future construction.

K. References

References are listed in Appendix M.

L. Statement and Qualifications

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject area. The Modified Phase I ESA was conducted in general conformance with the USEPA All Appropriate Inquiry and ASTM 1527-13, as modified by MnDOT for transportation projects.

BRAUN INTERTEC CORPORATION

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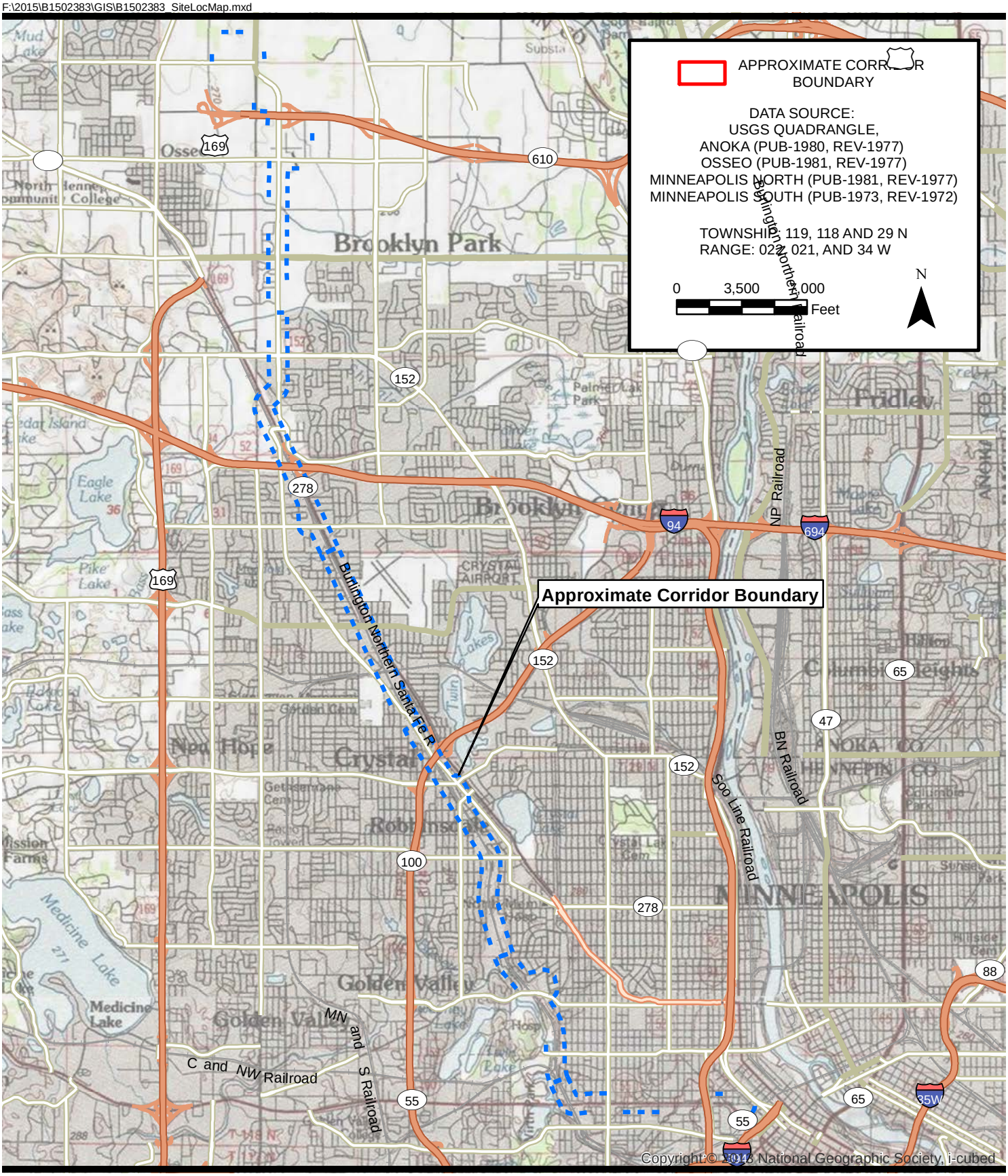
Jaclyn E. Dylla, CHMM
Principal – in-Charge

Figures

F:\2015\B1502383\GIS\B1502383_SiteLocMap.mxd



Sheet: 1 of 1

Fig. 1

Project No: B1502383

Drawing No. B1502383_SiteLocMap

Scale:	1 in = 7,000 ft
Drawn By:	CMF
Date Drawn:	08/31/2015
Checked By:	JW
Last Modified:	8/31/15

CORRIDOR LOCATION MAP

Phase I Environmental Site Assessment
Metro Blue Line tension LRT ro ect
Hennepin County, Minnesota

BRAUN INTERTEC
11001 Hampshire Avenue So.
Minneapolis, MN 55438
PH. (952) 995-2000
FAX (952) 995-2020

LEGEND

- Layout Sheets
- 500 ft. Buffer
- Corridor Alignment
- Wellhead Protection Areas

N / W / E / S

0 2,100 4,200
Feet

BP1-14 (49)
BP1-13 (48)
BP1-12 (47)
BP1-11 (46)
BP1-10 (45)
BP1-9 (44)
BP1-8 (43)
BP1-7 (42)
BP1-6 (41)
BP1-5 (40)
BP1-4 (39)
BP1-3 (38)
BP1-2 (37)
BP1-1 (36)
BP2-8 (35)
BP2-7 (34)
BP2-6 (33)
BP2-5 (32)
BP2-4 (31)
BP2-3 (30)
BP2-2 (29)
BP2-1 (28)
C-6 (27)
C-5 (26)
C-4 (25)
C-3 (24)
C-2 (23)
C-1 (22)
R-8 (21)
R-7 (20)
R-6 (19)
R-5 (18)
R-4 (17)
R-3 (16)
R-2 (15)
R-1 (14)
GV-5 (13)
GV-4 (12)
(11)
GV-2 (10)
GV-1 (9)
M-8 (8)
M-7 (7)
M-6 (6)
M-5 (5)
M-4 (4)
M-3 (3)
M-2 (2)
M-1 (1)

103 81 30 610 109 14 252 152 6 130 8 694 10 156 101 47 1 57 77 9 2 169 102 100 278 94 23 153 70 55 65 394

Google
Imagery ©2015 , DigitalGlobe, Sanborn, U.S. Geological Survey, USDA Farm Service Agency

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Drawn By:	CMF
Date Drawn:	08/31/2015
Checked By:	JW
Last Modified:	08/31/15

METROPOLITAN COUNCIL
METRO BLUE LINE EXTENSION

PROJECT CORRIDOR FEATURES

Sheet Overview - Phase I Environmental Site Assessment
Metro Blue Line tension LRT ro ect
Hennepin County, Minnesota

BRAUN INTERTEC
The Science You Build On.

Figure 2

The following detailed figures are not included in this version of the Modified Phase I ESA report due to volume.

They are available for viewing at the Blue Line Extension Project Office at 5514 West Broadway Ave, Suite 200, Crystal, MN 55428. Or, can be requested by contacting Robin Caufman at (651) 602-1457**.**

Figures of “Project Corridor Features” for the following segments:
Minneapolis
Golden Valley
Robbinsdale
Crystal
Brooklyn Park 1
Brooklyn Park 2

Appendix A

Parcel Summary Table

Segment	Parcel	Figure Number	Name	Rank	Rationale
M	1	2-M, sheet 1	Ford Center	High	ASTs, closed LUST, closed spill, inactive VIC, hazardous waste generator
M	2	2-M, sheets 1 & 2	Be The Match	High	AST, closed LUST, closed spill, active VIC, active PBF, hazardous waste generator
M	3	2-M, sheet 1	Hennepin County Energy Recovery Center and Caribou Coffee	High	Past filling stations and auto repair facilities, ASTs, USTs, closed LUST, closed spill, inactive VIC, inactive PBP, inactive CERCLIS, hazardous waste generator
M	4	2-M, sheet 2	Fulton Brewing	Low	Past and current commercial uses
M	5	2-M, sheet 2	Parcel Under Construction	High	ASTs, USTs, closed LUST, active VIC, active PBP, hazardous waste generator
M	6	2-M, sheets 1 & 2	Holiday Gasoline Station/Convenience Store	Medium	Past and current auto repair and filling station, USTs, closed LUST, closed spill, hazardous waste generator
M	7	2-M, sheet 2	Weather Rite	High	Past and commercial uses including machine shop, metal manufacturing, waste (garbage) management, and automotive repair and junkyard, USTs, closed LUST, inactive VIC, active SAS, hazardous waste generator
M	8	2-M, sheet 2	Junction Flats	High	Past auto repair and junkyard, ASTs, USTs, active VIC, inactive PBP, active SR, hazardous waste generator
M	9	2-M, sheet 1	Mary My Hope Children's Center	Medium	Past commercial uses including auto repair activities
M	10	2-M, sheets 1 & 2	Metro Transit Garage and Offices	Medium	Past and current auto repair activities, ASTs, USTs, closed LUST, closed spill, hazardous waste generator
M	11	2-M, sheet 1	City of Minneapolis Department of Public Works Royalston Maintenance Facility	Medium	Past coal yard, ASTs, USTs, closed LUST, hazardous waste generator
M	12	2-M, sheet 1	Sharing and Caring Hands	High	Past auto repair and filling stations, UST, closed LUST, inactive VIC, hazardous waste generator
M	13	2-M, sheet 1	Commercial Buildings	Medium	USTs, closed LUST, hazardous waste generator
M	14	2-M, sheet 2	Wells Fargo Bank	Medium	Storage tanks, hazardous waste generator
M	15	2-M, sheet 1	Commercial Building	Medium	ASTs, hazardous waste generator
M	16	2-M, sheet 1	G&K Services	Medium	ASTs, USTs, closed LUST, closed spill site, hazardous waste generator
M	17	2-M, sheet 2	Velocity Express	High	ASTs, USTs, closed LUST, closed spill site, active VIC, hazardous waste generator
M	18	2-M, sheet 2	Commercial Building	Low	Hazardous waste generator
M	19	2-M, sheet 2	Velocity Express	Low	Past and current commercial uses
M	20	2-M, sheet 3	Heritage Park	Medium	Former filling station
M	21	2-M, sheet 4	Heritage Park II	High	Past commercial uses, USTs, closed LUST, closed spill, inactive VIC, hazardous waste generator
M	22	2-M, sheet 3	Apartment Building	Medium	AST, USTs
M	23	2-M, sheet 3	Commercial Buildings	Medium	Past filling station, USTs, hazardous waste generator
M	24	2-M, sheet 3	Commercial Building	Medium	Past dry cleaner, automotive service training school, hazardous waste generator
M	25	2-M, sheet 4	Hennepin County Sumner Library	Medium	Closed LUST site
M	26	2-M, sheet 3	Undeveloped Parcel	Medium	Past filling station, closed spill site, hazardous waste generator
M	27	2-M, sheet 4	Harvest Preparatory School and A.M.W. Church	Medium	Past commercial uses including filling stations

Segment	Parcel	Figure Number	Name	Rank	Rationale
M	28	2-M, sheet 4	Donal Fraser Early Childhood Family Development Center	Low	Past commercial uses, hazardous waste generator
M	29	2-M, sheet 3	Olson Townhomes	Medium	Closed spill site
M	30	2-M, sheet 3	Park Plaza Apartments II	Medium	UST and closed LUST
M	31	2-M, sheet 4	Seed Academy/Harvest Prep School	Medium	Past and current commercial uses including auto repair, closed LUST
M	32	2-M, sheet 3	Park Plaza Apartments	Medium	Past commercial uses including a filling station, UST, closed LUST
M	33	2-M, sheet 4	Kingdom of Jehovah's Witnesses	Low	Past and current use as a church
M	34	2-M, sheet 4	Residential Duplex	Medium	Past filling station
M	35	2-M, sheet 5	Harrison Park	Medium	Past commercial uses including filling stations
M	36	2-M, sheet 6	Zion Baptist Church	Low	Past and current commercial use
M	37	2-M, sheet 6	La Crèche Early Childhood Center	Low	Past and current commercial uses including manufacturing
M	38	2-M, sheet 5	Bruns Residence	Medium	Closed spill site, closed LUST
M	39	2-M, sheet 5	Tompkins Residence	Medium	Closed spill site
M	40	2-M, sheet 5	Skoug Residence	Medium	Closed spill site
M	41	2-M, sheet 6	Baur Residence	Low	Hazardous waste generator
M	42	2-M, sheet 6	Hoang Residence	Medium	Closed spill site
M	43	2-M, sheet 7	Moen Property	Low	Hazardous waste generator
M	44	2-M, sheets 7 & 8	Former Railroad Area	Medium	Former commercial buildings and railroad tracks
M	45	2-M, sheet 7	Railroad Right of Way	Medium	Past and current railroad use
M	46	2-M, sheets 7-8	Theodore Wirth Park Golf Course	Medium	Past and current use as golf course, ASTs, USTs, closed LUST, closed MDA spill, hazardous waste generator
M	47	2-M, sheet 8	Undeveloped Parcels	High	Inactive VIC site
GV	48	2-GV, sheets 1-5	Railroad Right of Way	Medium	Past and current railroad use
GV	49	2-GV, sheet 1	Wilson Residence	Medium	Closed spill site
GV	50	2-GV, Sheet 2	Krawczyk Residence	Medium	Closed spill site
GV	51	2-GV, sheet 2	The Family Partnership	Low	Past and current commercial use for offices
GV	52	2-GV, sheets 2 & 3	Runion Residence	Low	Identified on ERNS
GV	53	2-GV, sheet 4	St. Margaret Mary Catholic Church	Medium	Past and current use as a church, USTs, and ground disturbance and fill of unknown origin
GV	54	2-GV, sheet 4	Golden Valley Fire Station	Low	Current use as a fire station
GV	55	2-GV, sheets 4 and 5	Mary Hills Nature Area	Medium	Possible past dumping or fill activities
GV	56	2-GV, Sheet 5	Single Family Residences	Medium	Closed spill site
R	57	2-R, sheets 1-8	Railroad Right of Way	Medium	Past and current railroad use
R	58	2-R, sheets 1-4	Walter Sochacki Community Park	High	Unpermitted dump site, active Sate Assessment site, closed spill site
R	59	2-R, sheet 2	South Halifax park	High	Inactive VIC site, inactive SRS site, restrictive covenant
R	60	2-R, sheet 3	Bratsch Residence	Medium	Closed spill site
R	61	2-R, sheet 3	Xcel Energy Indiana Substation	Medium	Current use as an electric substation
R	62	2-R, sheet 3	Markeson Residence	Low	Non-generator of hazardous waste
R	63	2-R, sheet 4	Lee Square	Low	Past use as a school
R	64	2-R, sheet 4	Gray Residence	Medium	Closed spill site
R	65	2-R, sheet 4	Lee Park	Low	Past use as a school
R	66	2-R, sheets 4 & 5	Windsor Court	Medium	USTs, closed LUST
R	67	2-R, sheet 5	Bridgeway Apartments	Low	Past commercial uses
R	68	2-R, sheet 5	Undeveloped Land	Medium	Past bus garage, USTs, hazardous waste generator
R	69	2-R, sheet 5	Beard Residence	Medium	Closed spill site
R	70	2-R, sheet 5	Kasprick Residence	Medium	Closed spill site
R	71	2-R, sheets 5 & 6	Park	Low	Past and current use as park with swimming pool

Segment	Parcel	Figure Number	Name	Rank	Rationale
R	72	2-R, sheet 6	Sacred Heart Catholic Church & School	Medium	USTs, hazardous waste generator
R	73	2-R, sheet 6	P&D Mechanical Contractor	Low	Past and current commercial uses
R	74	2-R, sheet 6	Parking Lot	Medium	Past commercial uses, closed LUST
R	75	2-R, sheet 6	Walgreens	High	Past commercial uses include filling station and auto repair facilities, ASTs, USTs, closed LUST, PBP site, inactive VIC site, hazardous waste generator
R	76	2-R, sheet 6	Broadway Court Apartments	High	Former gasoline station and dry cleaner, USTs, closed LUST, inactive VIC, inactive CERCLIS, inactive Superfund, hazardous waste generator
R	77	2-R, sheet 6	Robin Hotel	Low	Past and current commercial use
R	78	2-R, sheet 6	Robbinsdale Police and Fire Department and Water Filtration Plant #1	Medium	Hazardous waste generator, closed spill site
R	79	2-R, sheet 6	Papa John's Pizza/Payday	Low	Past and current commercial uses (mainly retail)
R	80	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses (mainly retail)
R	81	2-R, sheet 6	Lions Gym & Wellness Center	Low	Hazardous waste generator
R	82	2-R, sheet 6	Minnesota Dental Group	Low	Current commercial use, hazardous waste generator
R	83	2-R, sheet 6	Strait Stuff Screen Printing	Low	Hazardous waste generator
R	84	2-R, sheet 6	Pawn America	Medium	Past commercial uses including filling station, USTs
R	85	2-R, sheet 6	Chestnut Café	Medium	Past and current commercial uses including dry cleaning
R	86	2-R, sheet 6	Robbinsdale Marine	Medium	Past and current commercial use as boat sales and service, hazardous waste generator
R	87	2-R, sheet 6	Hirshfields/Ace Hardware	Low	Past and current commercial use (retail hardware), hazardous waste generator
R	88	2-R, sheet 6	Wuollet Bakery & Espresso	High	Past and current commercial uses, former dry cleaner, inactive VIC site
R	89	2-R, sheet 6	Home Options	Low	Past and current commercial uses
R	90	2-R, sheet 6	Hubbard Market Place	High	Past auto repair activities, USTs, inactive VIC
R	91	2-R, sheet 6	Parking Lot	Low	Past commercial uses (retail and restaurants)
R	92	2-R, sheet 6	Outdoor Patio	Low	Past commercial uses
R	93	2-R, sheet 6	Commercial Building	Low	Hazardous waste generator
R	94	2-R, sheet 6	Canton Garden Restaurant	Low	Past and current commercial uses
R	95	2-R, sheet 6	McDonalds	Low	Past commercial uses including a car wash
R	96	2-R, sheet 6	Retail Commercial Building	Medium	Past and current commercial uses (mainly retail), closed LUST
R	97	2-R, sheet 6	Golden Age Design	Low	Hazardous waste generator
R	98	2-R, sheet 6	Parking Lot	Low	Past commercial uses
R	99	2-R, sheet 6	Hackenmueller's Meat Market	Low	Past and current commercial uses
R	100	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses
R	101	2-R, sheet 6	Northside Oriental	Medium	Past auto repair activities, closed spill site
R	102	2-R, sheet 6	Nonna Rosa's	Medium	Past commercial use include dry cleaner, USTs
R	103	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses
R	104	2-R, sheet 6	EMI Audio	Low	Past and current commercial uses
R	105	2-R, sheet 6	Commercial Building	Medium	Past and current commercial uses, UST
R	106	2-R, sheet 6	Tailor Shop	Medium	Past cleaners
R	107	2-R, sheet 6	The Steinhauser Group	High	Past dry cleaner, inactive VIC site
R	108	2-R, sheet 6	Robbinsdale Gallery of Art/Historical Museum/Library	Low	Past and current commercial uses

Segment	Parcel	Figure Number	Name	Rank	Rationale
R	109	2-R, sheet 6	Pilgrim Cleaners	Medium	Past commercial uses including gasoline station, current dry cleaner, USTs, closed LUST, hazardous waste generator
R	110	2-R, sheet 6	Sipe's Shell	Medium	Past and current use as a gasoline station, UST, closed LUST, spill site, hazardous waste generator
R	111	2-R, sheet 6	BP Gas Station	Medium	Past and current use as a gasoline station, USTs, closed LUST, spill site, hazardous waste generator
R	112	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses
R	113	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses
R	114	2-R, sheet 6	Metro Building Companies	Low	Past and current commercial uses
R	115	2-R, sheet 6	Sawhorse Designers & Builders	Low	Past and current commercial uses
R	116	2-R, sheet 6	Chirocenter Robbinsdale Chiropractic	Low	Hazardous waste generator
R	117	2-R, sheet 6	A Gentle Dental Center	Low	Hazardous waste generator
R	118	2-R, sheet 6	Redeemer Evangelical Lutheran Church	Low	Past and current use as a church
R	119	2-R, sheet 6	TCF Bank	Low	Past and current commercial use
R	120	2-R, sheet 6	Washburn & McReavy Robbinsdale Chapel	Low	Past and current use as a funeral center
R	121	2-R, sheet 6	Robbinsdale Masonic Center	Low	Past and current commercial use
R	122	2-R, sheet 8	Osterhus Bibles, Books & Gifts	Low	Hazardous waste generator
R	123	2-R, sheet 8	City of Robbinsdale Municipal Shop	Medium	AST, UST, closed LUST, hazardous waste generator
C	124	2-C, sheets 1-6	Railroad Right of Way	Medium	Past and current railroad use
C	125	2-C, sheet 1	Century Link	Medium	ASTs, USTs, closed LUST, hazardous waste generator.
C	126	2-C, sheet 1	Blind Installation & Repair	Medium	USTs, closed LUST
C	127	2-C, sheet 1	Commercial Building	Low	Hazardous waste generator
C	128	2-C, sheet 1	Steve O's Bar & Grill	Low	Past and current commercial use
C	129	2-C, sheet 1	Full Proof Ministry and Thomas Tool & Supply	Medium	Closed spill site
C	130	2-C, sheets 1 & 2	Crystal Wine & Spirits	Low	Past and current commercial use
C	131	2-C, sheets 1 & 2	O'Reilly Auto Parts	Low	Hazardous waste generator
C	132	2-C, sheet 2	Crystal Public Works Facility	Low	Hazardous waste generator
C	133	2-C, sheet 2	Doyle's Bowling & Lounge	Low	Hazardous waste generator
C	134	2-C, sheet 2	Fun Services	Medium	Past commercial uses including a machine shop, hazardous waste generator
C	135	2-C, sheet 2	Washburn-McReavy Funeral Chapel	Low	Hazardous waste generator
C	136	2-C, sheet 2	Stormwater pond	Medium	Former auto repair activities, closed spill site
C	137	2-C, sheet 2	Tim's Tree Service	Low	Past and current commercial use
C	138	2-C, sheet 2	Crystal Collision Center and Car Wash	Medium	Auto repair activities, hazardous waste generator
C	139	2-C, sheet 2	Kilmer Electric	Medium	Auto repair activities, AST, UST, hazardous waste generator
C	140	2-C, sheet 2	Auto Plus Auto Parts	Medium	Automotive machine shop and other possible auto repair activities, hazardous waste generator
C	141	2-C, sheet 2	Midwest Motor Craft	Medium	Auto repair activities, hazardous waste generator
C	142	2-C, sheet 2	North Suburban Towing and Thomas Auto Body & Collision	Medium	Auto repair activities, ASTs, hazardous waste generator

Segment	Parcel	Figure Number	Name	Rank	Rationale
C	143	2-C, sheet 3	Bill's Economy Glass	Medium	Past and current commercial uses including machine shop and manufacturing, hazardous waste generator
C	144	2-C, sheet 3	Multi-Tenant Commercial Building	Medium	Auto repair activities, hazardous waste generator
C	145	2-C, sheets 2 & 3	Vacant Parcel	Low	Historical ground disturbance areas
C	146	2-C, sheets 2 & 3	The Phone Guys/S&S Communications	Low	Past and current commercial uses
C	147	2-C, sheets 2 & 3	Golden Valley Heating & Air	Medium	Past and current commercial uses including manufacturing
C	148	2-C, sheet 3	BGD Companies	Medium	Past use as foundry, hazardous waste generator
C	149	2-C, sheet 3	Vacant Parcel	Medium	Past foundry and auto repair activities, closed spill site, hazardous waste generator
C	150	2-C, sheet 3	All American Storage	Medium	Past and current commercial uses including machine shops and manufacturing, hazardous waste generator
C	151	2-C, sheet 3	Collision Masters	Medium	Auto repair activities, past use as a tool manufacturer, hazardous waste generator
C	152	2-C, sheet 3	Standard Water Control Systems	Medium	Metal fabrication operations, hazardous waste generator
C	153	2-C, sheet 3	Skip's Auto Repair	Medium	Auto repair activities, AST, hazardous waste generator
C	154	2-C, sheet 3	CBF by Pierre	Low	Air permit site
C	155	2-C, sheet 3	Miller Diversified Machining	Medium	Auto repair activities, closed spill site, hazardous waste generator
C	156	2-C, sheet 3	Creative Partnership/Rise	Medium	UST, close LUST, close spill site
C	157	2-C, sheet 3	Curbside Waste	Medium	ASTs, USTs, waste services, hazardous waste generator.
C	158	2-C, sheet 3	Industrial Stainless Supply Inc.	Medium	Machine shop and manufacturing, potential dump or fill site, hazardous waste generator
C	159	2-C, sheet 3	Beaver Machine	Medium	Potential dump or fill site, machine shop use, hazardous waste generator
C	160	2-C, sheet 3	Holiday	Medium	Gasoline station, USTs, closed LUST
C	161	2-C, sheet 3	Car Hop	Medium	Former gasoline station
C	162	2-C, sheet 3	Commercial Building	High	USTs, closed spill site, active PBP site, hazardous waste generator, machine shops
C	163	2-C, sheets 3 & 4	Crystal Business Commons	Medium	Automotive, AST, hazardous waste generator
C	164	2-C, sheet 3	Max It Pawn Shop	Low	Past and current commercial uses
C	165	2-C, sheet 3	Steen Engineering and Douglas Storage	Medium	Past commercial uses including repair activities and past outdoor storage of unknown materials
C	166	2-C, sheet 3	U-Haul Center	Medium	USTs, hazardous waste generator
C	167	2-C, sheets 3 & 4	Cedarwood Apartments	Medium	Past commercial uses including repair facility
C	168	2-C, sheets 3 & 4	The Schrader Building	Medium	Past and current commercial uses including auto sales and outdoor storage
C	169	2-C, sheet 4	Undeveloped Land	Medium	former gasoline station, UST, closed LUST
C	170	2-C, sheet 4	Becker Park and Crystal Arts and Activity Center	Medium	Former gasoline station
C	171	2-C, sheet 4	Undeveloped Land	Medium	AST, hazardous waste generator
C	172	2-C, sheet 4	Cell Tower and Undeveloped Land	High	Former gasoline station and auto repair, inactive VIC site, inactive PBP site, hazardous waste generator
C	173	2-C, sheet 4	Bass Lake Center	Medium	Closed spill site, hazardous waste generator
C	174	2-C, sheet 4	Undeveloped Land	Medium	Gasoline station, USTs, closed LUST, hazardous waste generator
C	175	2-C, sheet 4	Multi-Tenant Commercial Buildings	Low	Past and current commercial (mainly retail) uses
C	176	2-C, sheet 4	Parking Lot	Medium	Former gasoline station
C	177	2-C, sheet 4	Retail Stores	Low	Past and current commercial uses

Segment	Parcel	Figure Number	Name	Rank	Rationale
C	178	2-C, sheet 4	Cities Auto	Low	Current commercial uses
C	179	2-C, sheet 4	Crystal Medical Center	Medium	AST, hazardous waste generator
C	180	2-C, sheets 4 & 5	Undeveloped Land	Low	Past commercial uses
C	181	2-C, sheets 5 & 6	Crystal Airport	Medium	ASTs, USTs, closed LUST, closed spill site, hazardous waste generator
C	182	2-C, sheet 5	Moy Residence	Low	Hazardous waste generator
C	183	2-C, sheets 5 & 6	North Star Inn & Suites	Low	Past and current commercial uses
C	184	2-C, sheet 6	Rostamo's Bar	Low	Past and current commercial (restaurant and bar) uses
C	185	2-C, sheet 6	Jack's Auto Sales	Medium	Auto repair activities, hazardous waste generator
C	186	2-C, sheet 6	Premier Motors	Low	Past and current commercial uses
BP2	187	2-BP2, sheets 1-6	Railroad Right of Way	Medium	Past and current railroad use
BP2	188	2-BP2, sheet 1	Minneapolis LU539 Pipefitters	Low	Hazardous waste generator
BP2	189	2-BP2, sheet 1	The Waterford	Medium	USTs, closed LUSTs
BP2	190	2-BP2, sheet 1	Former Latzke Iron Works	High	Inactive VIC site
BP2	191	2-BP2, sheet 1	Multi-Tenant Commercial Building	Medium	Closed spill site, hazardous waste generator
BP2	192	2-BP2, sheet 1	Waterford Senior Townhomes	High	ASTs, USTs, inactive VIC
BP2	193	2-BP2, sheet 1	Stormwater Pond and Undeveloped Land	Medium	USTs, hazardous waste generator
BP2	194	2-BP2, sheet 2	The Groves Apartments	Medium	Closed spill site
BP2	195	2-BP2, sheet 2	Stormwater Pond	High	USTs, closed LUST, closed spill site, active PBP, active VIC, hazardous waste generator, exterminating company
BP2	196	2-BP2, sheet 2	Metro Transit Bottineau & 63rd Park & Ride	High	ASTs, USTs, closed LUST, closed PBP, inactive VIC, hazardous waste generator
BP2	197	2-BP2, sheet 2	TN Transportation and Automotive	Medium	Auto repair facilities, ASTs, USTs, closed LUST, hazardous waste generator
BP2	198	2-BP2, sheet 2	Nguyen Residence	Medium	Closed AgSpill
BP2	199	2-BP2, sheets 2 & 3	O'Reilly Auto Parts	Medium	ASTs, USTs, closed LUST, closed spill site, hazardous waste generator
BP2	200	2-BP2, sheet 3	OMCM Marketing Solutions	Low	Current commercial use
BP2	201	2-BP2, sheet 4	Broadway Rentals	Medium	USTs, ASTs, closed LUST, hazardous waste generator
BP2	202	2-BP2, sheet 4	Carmax	Medium	USTs, ASTs, closed LUST, hazardous waste generator
BP2	203	2-BP2, sheet 4	Lights on Broadway	Low	Past and current commercial uses
BP2	204	2-BP2, sheet 4	Wagner's Drive In	Low	Past and current commercial uses
BP2	205		Interstate North Business Center	Medium	USTs, closed LUST, hazardous waste generator
BP2	206	2-BP2, sheet 4	All American Recreation	Low	Past and current commercial uses
BP2	207	2-BP2, sheet 4	U-Haul	Medium	Former gasoline station, USTs, closed LUST, hazardous waste generator
BP2	208	2-BP2, sheet 4	Wendy's	Medium	Former gasoline station, USTs, closed LUST, hazardous waste generator
BP2	209	2-BP2, sheets 4 & 5	Americold Distribution	Medium	Closed spill site, hazardous waste generator
BP2	210	2-BP2, sheet 5	Mister Carwash	Medium	Former gasoline station, USTs, closed LUST, hazardous waste generator
BP2	211	2-BP2, sheet 5	Consignment Central	Medium	Former motorcycle sales and service, closed spill site
BP2	212	2-BP2, sheet 5	North American Gear & Forge	Medium	Past and current commercial uses including machine shop, hazardous waste generator
BP2	213	2-BP2, sheet 5	Prince of Peace Lutheran Church	Low	Past residential and commercial uses

Segment	Parcel	Figure Number	Name	Rank	Rationale
BP2	214	2-BP2, sheet 5	Penske	Medium	UST, AST, closed spill site, hazardous waste generator
BP2	215	2-BP2, sheet 5	Mayer Electric	Low	Past and current commercial uses
BP2	216	2-BP2, sheet 5	Lots Survey Company	Low	Past and current commercial uses
BP2	217	2-BP2, sheet 5	Distinguished Landscape	Low	Past and current commercial uses
BP2	218	2-BP2, sheet 5	Brooklyn Park West Fire Station	Low	Current commercial uses
BP2	219	2-BP2, sheet 5	American Furniture Market	Medium	Inactive PBP site
BP2	220	2-BP2, sheet 5	Modern Dental Studio	Medium	Former filling/service station
BP2	221	2-BP2, sheets 5 & 6	Public Storage	Low	Current commercial uses
BP2	222	2-BP2, sheet 6	Sisaket Plaza	Low	Past and current commercial uses
BP2	223	2-BP2, sheet 6	Broadway Party & Tent Rental	Low	Past and current commercial uses
BP2	224	2-BP2, sheet 6	Magic Carpets Flooring Center	Low	Past and current commercial uses
BP2	225	2-BP2, sheet 6	Target	Low	Current commercial use, hazardous waste generator
BP2	226	2-BP2, sheet 6	Funk Animal Hospital	Low	Hazardous waste generator
BP2	227	2-BP2, sheets 6 & 7	Cub Foods	Low	Past and current commercial uses, hazardous waste generator
BP2	228	2-BP2, sheet 6	US Bank	Low	Current commercial uses
BP2	229	2-BP2, sheets 6 & 7	McDonalds	Low	Current commercial uses
BP2	230	2-BP2, sheet 7	Buerkle Acura	Medium	ASTs, USTs, hazardous waste generator.
BP2	231	2-BP2, sheet 7	Popeye's	Medium	Closed spill site
BP2	232	2-BP2, sheet 7	Wells Fargo Bank	Low	Past and current commercial uses, hazardous waste generator
BP2	233	2-BP2, sheet 7	Northwind Plaza	Medium	Former dry cleaner
BP2	234	2-BP2, sheet 7	Baker's Square	Low	Current commercial uses
BP2	235	2-BP2, sheet 7	Arby's	Low	Current commercial uses
BP2	236	2-BP2, sheet 7	CVS Pharmacy 4597	Low	Hazardous waste generator
BP2	237	2-BP2, sheet 7	Park Square	Medium	UST, hazardous waste generator, past use as a possible dry cleaners
BP2	238	2-BP2, sheet 8	Brooklyn Park Evangelical Free Church	Low	Past residential and agricultural use, current church use
BP2	239	2-BP2, sheet 8	Residential Dwelling	Medium	Closed spill site
BP2	240	2-BP2, sheet 8	Prusinowski Residence	Medium	Closed spill site
BP1	241	2-BP1, sheets 1 & 2	North Hennepin Community College	Medium	ASTs, USTs, closed LUST, hazardous waste generator
BP1	242	2-BP1, sheet 2	Ronning Residence	Medium	Closed spill site
BP1	243	2-BP1, sheet 2	Broadway Square	Medium	Former gasoline station and drycleaner, USTs, closed LUST, closed spill, hazardous waste generator
BP1	244	2-BP1, sheet 3	Hennepin County Library	Low	Soil disturbance
BP1	245	2-BP1, sheet 4	Berean Baptist Church	Low	Church and residential uses
BP1	246	2-BP1, sheets 4 & 5	Commercial Building	Low	Hazardous waste generator, on-site generator
BP1	247	2-BP1, sheet 5	Commercial Building	Low	Hazardous waste generator
BP1	248	2-BP1, sheet 5	Crosstown North Business Center	Low	Current commercial uses
BP1	249	2-BP1, sheet 5	Commercial Building	Low	Past and current unknown uses of parcel
BP1	250	2-BP1, sheet 5	Crosstown North Business Center	Low	Hazardous waste generator
BP1	251	2-BP1, sheet 7	Liberty Carton and Star Exhibits	Low	Hazardous waste generator
BP1	252	2-BP1, sheet 6	Commercial Building	Low	Current commercial uses
BP1	253	2-BP1, sheet 6	Biotest Laboratories	Low	Hazardous waste generator
BP1	254	2-BP1, sheet 6	Undeveloped Land	Low	Past construction staging area
BP1	255	2-BP1, sheet 6	Northwest EMC	Medium	Closed spill site
BP1	256	2-BP1, sheet 6	Holiday	Medium	gasoline station, USTs, closed spill site

Segment	Parcel	Figure Number	Name	Rank	Rationale
BP1	257	2-BP1, sheets 6 & 8	Baxter Healthcare	Medium	ASTs, closed spill site, hazardous waste generator
BP1	258	2-BP1, sheet 6	Undeveloped Land	High	USTs, closed LUST, PBP site, VIC site, hazardous waste generator
BP1	259	2-BP1, sheets 7 & 9	Olympus Surgical Technologies America	Low	Hazardous waste generator
BP1	260	2-BP1, sheets 9, 11 & 12	Target Corporation	Medium	USTs, closed LUST, PBP site, hazardous waste generator
BP1	261	2-BP1, sheets 8, 9 & 11	Undeveloped Land	Low	Former farmstead
BP1	262	2-BP1, sheets 8 & 11	Undeveloped Land	Low	Past farmstead and commercial uses
BP1	263	2-BP1, sheets 8 & 11	Undeveloped Land	Medium	Former farmstead and greenhouse/nursery
BP1	264	2-BP1, sheet 11	Undeveloped Land	Medium	Former multi-building residence
BP1	265	2-BP1, sheet 10	Undeveloped Land	Low	Former residence
BP1	266	2-BP1, sheet 10	Undeveloped Land	Low	Former residence
BP1	267	2-BP1, sheet 10	Undeveloped Land	Low	Former residence
BP1	268	2-BP1, sheet 14	Three Rivers Park District Rush Creek Regional Trail	Low	Former farmstead
BP1	269	2-BP1, sheet 10	Grace Fellowship Church	Medium	AST
BP1	270	2-BP1, sheet 14	Undeveloped Land	Low	Former farmstead
BP1	271	2-BP1, sheets 13 & 14	Three Rivers Park District Rush Creek Regional Trail	Medium	Former farmstead

Appendix B

Parcel Summary Table – Low Potential for Contamination Sites

Segment	Parcel	Figure Number	Name	Rank	Rationale
M	4	2-M, sheet 2	Fulton Brewing	Low	Past and current commercial uses
M	18	2-M, sheet 2	Commercial Building	Low	Hazardous waste generator
M	19	2-M, sheet 2	Velocity Express	Low	Past and current commercial uses
M	28	2-M, sheet 4	Donal Fraser Early Childhood Family Development Center	Low	Past commercial uses, hazardous waste generator
M	33	2-M, sheet 4	Kingdom of Jehovah's Witnesses	Low	Past and current use as a church
M	36	2-M, sheet 6	Zion Baptist Church	Low	Past and current commercial use
M	37	2-M, sheet 6	La Crèche Early Childhood Center	Low	Past and current commercial uses including manufacturing
M	41	2-M, sheet 6	Baur Residence	Low	Hazardous waste generator
M	43	2-M, sheet 7	Moen Property	Low	Hazardous waste generator
GV	51	2-GV, sheet 2	The Family Partnership	Low	Past and current commercial use for offices
GV	52	2-GV, sheets 2 & 3	Runion Residence	Low	Identified on ERNS
GV	54	2-GV, sheet 4	Golden Valley Fire Station	Low	Current use as a fire station
R	62	2-R, sheet 3	Markeson Residence	Low	Non-generator of hazardous waste
R	63	2-R, sheet 4	Lee Square	Low	Past use as a school
R	65	2-R, sheet 4	Lee Park	Low	Past use as a school
R	67	2-R, sheet 5	Bridgeway Apartments	Low	Past commercial uses
R	71	2-R, sheets 5 & 6	Park	Low	Past and current use as park with swimming pool
R	73	2-R, sheet 6	P&D Mechanical Contractor	Low	Past and current commercial uses
R	77	2-R, sheet 6	Robin Hotel	Low	Past and current commercial use
R	79	2-R, sheet 6	Papa John's Pizza/Payday	Low	Past and current commercial uses (mainly retail)
R	80	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses (mainly retail)
R	81	2-R, sheet 6	Lions Gym & Wellness Center	Low	Hazardous waste generator
R	82	2-R, sheet 6	Minnesota Dental Group	Low	Current commercial use, hazardous waste generator
R	83	2-R, sheet 6	Strait Stuff Screen Printing	Low	Hazardous waste generator
R	87	2-R, sheet 6	Hirshfields/Ace Hardware	Low	Past and current commercial use (retail hardware), hazardous waste generator
R	89	2-R, sheet 6	Home Options	Low	Past and current commercial uses
R	91	2-R, sheet 6	Parking Lot	Low	Past commercial uses (retail and restaurants)
R	92	2-R, sheet 6	Outdoor Patio	Low	Past commercial uses
R	93	2-R, sheet 6	Commercial Building	Low	Hazardous waste generator
R	94	2-R, sheet 6	Canton Garden Restaurant	Low	Past and current commercial uses
R	95	2-R, sheet 6	McDonalds	Low	Past commercial uses including a car wash
R	97	2-R, sheet 6	Golden Age Design	Low	Hazardous waste generator
R	98	2-R, sheet 6	Parking Lot	Low	Past commercial uses
R	99	2-R, sheet 6	Hackenmueller's Meat Market	Low	Past and current commercial uses
R	100	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses
R	103	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses
R	104	2-R, sheet 6	EMI Audio	Low	Past and current commercial uses
R	108	2-R, sheet 6	Robbinsdale Gallery of Art/Historical Museum/Library	Low	Past and current commercial uses
R	112	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses
R	113	2-R, sheet 6	Commercial Building	Low	Past and current commercial uses
R	114	2-R, sheet 6	Metro Building Companies	Low	Past and current commercial uses
R	115	2-R, sheet 6	Sawhorse Designers & Builders	Low	Past and current commercial uses
R	116	2-R, sheet 6	Chirocenter Robbinsdale Chiropractic	Low	Hazardous waste generator
R	117	2-R, sheet 6	A Gentle Dental Center	Low	Hazardous waste generator

Segment	Parcel	Figure Number	Name	Rank	Rationale
R	118	2-R, sheet 6	Redeemer Evangelical Lutheran Church	Low	Past and current use as a church
R	119	2-R, sheet 6	TCF Bank	Low	Past and current commercial use
R	120	2-R, sheet 6	Washburn & McReavy Robbinsdale Chapel	Low	Past and current use as a funeral center
R	121	2-R, sheet 6	Robbinsdale Masonic Center	Low	Past and current commercial use
R	122	2-R, sheet 8	Osterhus Bibles, Books & Gifts	Low	Hazardous waste generator
C	127	2-C, sheet 1	Commercial Building	Low	Hazardous waste generator
C	128	2-C, sheet 1	Steve O's Bar & Grill	Low	Past and current commercial use
C	130	2-C, sheets 1 & 2	Crystal Wine & Spirits	Low	Past and current commercial use
C	131	2-C, sheets 1 & 2	O'Reilly Auto Parts	Low	Hazardous waste generator
C	132	2-C, sheet 2	Crystal Public Works Facility	Low	Hazardous waste generator
C	133	2-C, sheet 2	Doyle's Bowling & Lounge	Low	Hazardous waste generator
C	135	2-C, sheet 2	Washburn-McReavy Funeral Chapel	Low	Hazardous waste generator
C	137	2-C, sheet 2	Tim's Tree Service	Low	Past and current commercial use
C	145	2-C, sheets 2 & 3	Vacant Parcel	Low	Historical ground disturbance areas
C	146	2-C, sheets 2 & 3	The Phone Guys/S&S Communications	Low	Past and current commercial uses
C	154	2-C, sheet 3	CBF by Pierre	Low	Air permit site
C	164	2-C, sheet 3	Max It Pawn Shop	Low	Past and current commercial uses
C	175	2-C, sheet 4	Multi-Tenant Commercial Buildings	Low	Past and current commercial (mainly retail) uses
C	177	2-C, sheet 4	Retail Stores	Low	Past and current commercial uses
C	178	2-C, sheet 4	Cities Auto	Low	Current commercial uses
C	180	2-C, sheets 4 & 5	Undeveloped Land	Low	Past commercial uses
C	182	2-C, sheet 5	Moy Residence	Low	Hazardous waste generator
C	183	2-C, sheets 5 & 6	North Star Inn & Suites	Low	Past and current commercial uses
C	184	2-C, sheet 6	Rostamo's Bar	Low	Past and current commercial (restaurant and bar) uses
C	186	2-C, sheet 6	Premier Motors	Low	Past and current commercial uses
BP2	188	2-BP2, sheet 1	Minneapolis LU539 Pipefitters	Low	Hazardous waste generator
BP2	200	2-BP2, sheet 3	OMCM Marketing Solutions	Low	Current commercial use
BP2	203	2-BP2, sheet 4	Lights on Broadway	Low	Past and current commercial uses
BP2	204	2-BP2, sheet 4	Wagner's Drive In	Low	Past and current commercial uses
BP2	206	2-BP2, sheet 4	All American Recreation	Low	Past and current commercial uses
BP2	213	2-BP2, sheet 5	Prince of Peace Lutheran Church	Low	Past residential and commercial uses
BP2	215	2-BP2, sheet 5	Mayer Electric	Low	Past and current commercial uses
BP2	216	2-BP2, sheet 5	Lots Survey Company	Low	Past and current commercial uses
BP2	217	2-BP2, sheet 5	Distinguished Landscape	Low	Past and current commercial uses
BP2	218	2-BP2, sheet 5	Brooklyn Park West Fire Station	Low	Current commercial uses
BP2	221	2-BP2, sheets 5 & 6	Public Storage	Low	Current commercial uses
BP2	222	2-BP2, sheet 6	Sisaket Plaza	Low	Past and current commercial uses
BP2	223	2-BP2, sheet 6	Broadway Party & Tent Rental	Low	Past and current commercial uses
BP2	224	2-BP2, sheet 6	Magic Carpets Flooring Center	Low	Past and current commercial uses
BP2	225	2-BP2, sheet 6	Target	Low	Current commercial use, hazardous waste generator
BP2	226	2-BP2, sheet 6	Funk Animal Hospital	Low	Hazardous waste generator
BP2	227	2-BP2, sheets 6 & 7	Cub Foods	Low	Past and current commercial uses, hazardous waste generator
BP2	228	2-BP2, sheet 6	US Bank	Low	Current commercial uses

Segment	Parcel	Figure Number	Name	Rank	Rationale
BP2	229	2-BP2, sheets 6 & 7	McDonalds	Low	Current commercial uses
BP2	232	2-BP2, sheet 7	Wells Fargo Bank	Low	Past and current commercial uses, hazardous waste generator
BP2	234	2-BP2, sheet 7	Baker's Square	Low	Current commercial uses
BP2	235	2-BP2, sheet 7	Arby's	Low	Current commercial uses
BP2	236	2-BP2, sheet 7	CVS Pharmacy 4597	Low	Hazardous waste generator
BP2	238	2-BP2, sheet 8	Brooklyn Park Evangelical Free Church	Low	Past residential and agricultural use, current church use
BP1	244	2-BP1, sheet 3	Hennepin County Library	Low	Soil disturbance
BP1	245	2-BP1, sheet 4	Berean Baptist Church	Low	Church and residential uses
BP1	246	2-BP1, sheets 4 & 5	Commercial Building	Low	Hazardous waste generator, on-site generator
BP1	247	2-BP1, sheet 5	Commercial Building	Low	Hazardous waste generator
BP1	248	2-BP1, sheet 5	Crosstown North Business Center	Low	Current commercial uses
BP1	249	2-BP1, sheet 5	Commercial Building	Low	Past and current unknown uses of parcel
BP1	250	2-BP1, sheet 5	Crosstown North Business Center	Low	Hazardous waste generator
BP1	251	2-BP1, sheet 7	Liberty Carton and Star Exhibits	Low	Hazardous waste generator
BP1	252	2-BP1, sheet 6	Commercial Building	Low	Current commercial uses
BP1	253	2-BP1, sheet 6	Biotest Laboratories	Low	Hazardous waste generator
BP1	254	2-BP1, sheet 6	Undeveloped Land	Low	Past construction staging area
BP1	259	2-BP1, sheets 7 & 9	Olympus Surgical Technologies America	Low	Hazardous waste generator
BP1	261	2-BP1, sheets 8, 9 & 11	Undeveloped Land	Low	Former farmstead
BP1	262	2-BP1, sheets 8 & 11	Undeveloped Land	Low	Past farmstead and commercial uses
BP1	265	2-BP1, sheet 10	Undeveloped Land	Low	Former residence
BP1	266	2-BP1, sheet 10	Undeveloped Land	Low	Former residence
BP1	267	2-BP1, sheet 10	Undeveloped Land	Low	Former residence
BP1	268	2-BP1, sheet 14	Three Rivers Park District Rush Creek Regional Trail	Low	Former farmstead
BP1	270	2-BP1, sheet 14	Undeveloped Land	Low	Former farmstead

Appendix C

Parcel Summary Table – Medium Potential for Contamination Sites

Segment	Parcel	Figure Number	Name	Rank	Rationale
M	6	2-M, sheets 1 & 2	Holiday Gasoline Station/Convenience Store	Medium	Past and current auto repair and filling station, USTs, closed LUST, closed spill, hazardous waste generator
M	9	2-M, sheet 1	Mary My Hope Children's Center	Medium	Past commercial uses including auto repair activities
M	10	2-M, sheets 1 & 2	Metro Transit Garage and Offices	Medium	Past and current auto repair activities, ASTs, USTs, closed LUST, closed spill, hazardous waste generator
M	11	2-M, sheet 1	City of Minneapolis Department of Public Works Royalston Maintenance Facility	Medium	Past coal yard, ASTs, USTs, closed LUST, hazardous waste generator
M	13	2-M, sheet 1	Commercial Buildings	Medium	USTs, closed LUST, hazardous waste generator
M	14	2-M, sheet 2	Wells Fargo Bank	Medium	Storage tanks, hazardous waste generator
M	15	2-M, sheet 1	Commercial Building	Medium	ASTs, hazardous waste generator
M	16	2-M, sheet 1	G&K Services	Medium	ASTs, USTs, closed LUST, closed spill site, hazardous waste generator
M	20	2-M, sheet 3	Heritage Park	Medium	Former filling station
M	22	2-M, sheet 3	Apartment Building	Medium	AST, USTs
M	23	2-M, sheet 3	Commercial Buildings	Medium	Past filling station, USTs, hazardous waste generator
M	24	2-M, sheet 3	Commercial Building	Medium	Past dry cleaner, automotive service training school, hazardous waste generator
M	25	2-M, sheet 4	Hennepin County Sumner Library	Medium	Closed LUST site
M	26	2-M, sheet 3	Undeveloped Parcel	Medium	Past filling station, closed spill site, hazardous waste generator
M	27	2-M, sheet 4	Harvest Preparatory School and A.M.W. Church	Medium	Past commercial uses including filling stations
M	29	2-M, sheet 3	Olson Townhomes	Medium	Closed spill site
M	30	2-M, sheet 3	Park Plaza Apartments II	Medium	UST and closed LUST
M	31	2-M, sheet 4	Seed Academy/Harvest Prep School	Medium	Past and current commercial uses including auto repair, closed LUST
M	32	2-M, sheet 3	Park Plaza Apartments	Medium	Past commercial uses including a filling station, UST, closed LUST
M	34	2-M, sheet 4	Residential Duplex	Medium	Past filling station
M	35	2-M, sheet 5	Harrison Park	Medium	Past commercial uses including filling stations
M	38	2-M, sheet 5	Bruns Residence	Medium	Closed spill site, closed LUST
M	39	2-M, sheet 5	Tompkins Residence	Medium	Closed spill site
M	40	2-M, sheet 5	Skoug Residence	Medium	Closed spill site
M	42	2-M, sheet 6	Hoang Residence	Medium	Closed spill site
M	44	2-M, sheets 7 & 8	Former Railroad Area	Medium	Former commercial buildings and railroad tracks
M	45	2-M, sheet 7	Railroad Right of Way	Medium	Past and current railroad use
M	46	2-M, sheets 7-8	Theodore Wirth Park Golf Course	Medium	Past and current use as golf course, ASTs, USTs, closed LUST, closed MDA spill, hazardous waste generator
GV	48	2-GV, sheets 1-5	Railroad Right of Way	Medium	Past and current railroad use
GV	49	2-GV, sheet 1	Wilson Residence	Medium	Closed spill site
GV	50	2-GV, Sheet 2	Krawczyk Residence	Medium	Closed spill site
GV	53	2-GV, sheet 4	St. Margaret Mary Catholic Church	Medium	Past and current use as a church, USTs, and ground disturbance and fill of unknown origin
GV	55	2-GV, sheets 4 and 5	Mary Hills Nature Area	Medium	Possible past dumping or fill activities
GV	56	2-GV, Sheet 5	Single Family Residences	Medium	Closed spill site
R	57	2-R, sheets 1-8	Railroad Right of Way	Medium	Past and current railroad use
R	60	2-R, sheet 3	Bratsch Residence	Medium	Closed spill site
R	61	2-R, sheet 3	Xcel Energy Indiana Substation	Medium	Current use as an electric substation
R	64	2-R, sheet 4	Gray Residence	Medium	Closed spill site

Segment	Parcel	Figure Number	Name	Rank	Rationale
R	66	2-R, sheets 4 & 5	Windsor Court	Medium	USTs, closed LUST
R	68	2-R, sheet 5	Undeveloped Land	Medium	Past bus garage, USTs, hazardous waste generator
R	69	2-R, sheet 5	Beard Residence	Medium	Closed spill site
R	70	2-R, sheet 5	Kasprick Residence	Medium	Closed spill site
R	72	2-R, sheet 6	Sacred Heart Catholic Church & School	Medium	USTs, hazardous waste generator
R	74	2-R, sheet 6	Parking Lot	Medium	Past commercial uses, closed LUST
R	78	2-R, sheet 6	Robbinsdale Police and Fire Department and Water Filtration Plant #1	Medium	Hazardous waste generator, closed spill site
R	84	2-R, sheet 6	Pawn America	Medium	Past commercial uses including filling station, USTs
R	85	2-R, sheet 6	Chestnut Café	Medium	Past and current commercial uses including dry cleaning
R	86	2-R, sheet 6	Robbinsdale Marine	Medium	Past and current commercial use as boat sales and service, hazardous waste generator
R	96	2-R, sheet 6	Retail Commercial Building	Medium	Past and current commercial uses (mainly retail), closed LUST
R	101	2-R, sheet 6	Northside Oriental	Medium	Past auto repair activities, closed spill site
R	102	2-R, sheet 6	Nonna Rosa's	Medium	Past commercial use include dry cleaner, USTs
R	105	2-R, sheet 6	Commercial Building	Medium	Past and current commercial uses, UST
R	106	2-R, sheet 6	Tailor Shop	Medium	Past cleaners
R	109	2-R, sheet 6	Pilgrim Cleaners	Medium	Past commercial uses including gasoline station, current dry cleaner, USTs, closed LUST, hazardous waste generator
R	110	2-R, sheet 6	Sipe's Shell	Medium	Past and current use as a gasoline station, UST, closed LUST, spill site, hazardous waste generator
R	111	2-R, sheet 6	BP Gas Station	Medium	Past and current use as a gasoline station, USTs, closed LUST, spill site, hazardous waste generator
R	123	2-R, sheet 8	City of Robbinsdale Municipal Shop	Medium	AST, UST, closed LUST, hazardous waste generator
C	124	2-C, sheets 1-6	Railroad Right of Way	Medium	Past and current railroad use
C	125	2-C, sheet 1	Century Link	Medium	ASTs, USTs, closed LUST, hazardous waste generator.
C	126	2-C, sheet 1	Blind Installation & Repair	Medium	USTs, closed LUST
C	129	2-C, sheet 1	Full Proof Ministry and Thomas Tool & Supply	Medium	Closed spill site
C	134	2-C, sheet 2	Fun Services	Medium	Past commercial uses including a machine shop, hazardous waste generator
C	136	2-C, sheet 2	Stormwater pond	Medium	Former auto repair activities, closed spill site
C	138	2-C, sheet 2	Crystal Collision Center and Car Wash	Medium	Auto repair activities, hazardous waste generator
C	139	2-C, sheet 2	Kilmer Electric	Medium	Auto repair activities, AST, UST, hazardous waste generator
C	140	2-C, sheet 2	Auto Plus Auto Parts	Medium	Automotive machine shop and other possible auto repair activities, hazardous waste generator
C	141	2-C, sheet 2	Midwest Motor Craft	Medium	Auto repair activities, hazardous waste generator
C	142	2-C, sheet 2	North Suburban Towing and Thomas Auto Body & Collision	Medium	Auto repair activities, ASTs, hazardous waste generator
C	143	2-C, sheet 3	Bill's Economy Glass	Medium	Past and current commercial uses including machine shop and manufacturing, hazardous waste generator

Segment	Parcel	Figure Number	Name	Rank	Rationale
C	144	2-C, sheet 3	Multi-Tenant Commercial Building	Medium	Auto repair activities, hazardous waste generator
C	147	2-C, sheets 2 & 3	Golden Valley Heating & Air	Medium	Past and current commercial uses including manufacturing
C	148	2-C, sheet 3	BGD Companies	Medium	Past use as foundry, hazardous waste generator
C	149	2-C, sheet 3	Vacant Parcel	Medium	Past foundry and auto repair activities, closed spill site, hazardous waste generator
C	150	2-C, sheet 3	All American Storage	Medium	Past and current commercial uses including machine shops and manufacturing, hazardous waste generator
C	151	2-C, sheet 3	Collision Masters	Medium	Auto repair activities, past use as a tool manufacturer, hazardous waste generator
C	152	2-C, sheet 3	Standard Water Control Systems	Medium	Metal fabrication operations, hazardous waste generator
C	153	2-C, sheet 3	Skip's Auto Repair	Medium	Auto repair activities, AST, hazardous waste generator
C	155	2-C, sheet 3	Miller Diversified Machining	Medium	Auto repair activities, closed spill site, hazardous waste generator
C	156	2-C, sheet 3	Creative Partnership/Rise	Medium	UST, close LUST, close spill site
C	157	2-C, sheet 3	Curbside Waste	Medium	ASTs, USTs, waste services, hazardous waste generator.
C	158	2-C, sheet 3	Industrial Stainless Supply Inc.	Medium	Machine shop and manufacturing, potential dump or fill site, hazardous waste generator
C	159	2-C, sheet 3	Beaver Machine	Medium	Potential dump or fill site, machine shop use, hazardous waste generator
C	160	2-C, sheet 3	Holiday	Medium	Gasoline station, USTs, closed LUST
C	161	2-C, sheet 3	Car Hop	Medium	Former gasoline station
C	163	2-C, sheets 3 & 4	Crystal Business Commons	Medium	Automotive, AST, hazardous waste generator
C	165	2-C, sheet 3	Steen Engineering and Douglas Storage	Medium	Past commercial uses including repair activities and past outdoor storage of unknown materials
C	166	2-C, sheet 3	U-Haul Center	Medium	USTs, hazardous waste generator
C	167	2-C, sheets 3 & 4	Cedarwood Apartments	Medium	Past commercial uses including repair facility
C	168	2-C, sheets 3 & 4	The Schrader Building	Medium	Past and current commercial uses including auto sales and outdoor storage
C	169	2-C, sheet 4	Undeveloped Land	Medium	former gasoline station, UST, closed LUST
C	170	2-C, sheet 4	Becker Park and Crystal Arts and Activity Center	Medium	Former gasoline station
C	171	2-C, sheet 4	Undeveloped Land	Medium	AST, hazardous waste generator
C	173	2-C, sheet 4	Bass Lake Center	Medium	Closed spill site, hazardous waste generator
C	174	2-C, sheet 4	Undeveloped Land	Medium	Gasoline station, USTs, closed LUST, hazardous waste generator
C	176	2-C, sheet 4	Parking Lot	Medium	Former gasoline station
C	179	2-C, sheet 4	Crystal Medical Center	Medium	AST, hazardous waste generator
C	181	2-C, sheets 5 & 6	Crystal Airport	Medium	ASTs, USTs, closed LUST, closed spill site, hazardous waste generator
C	185	2-C, sheet 6	Jack's Auto Sales	Medium	Auto repair activities, hazardous waste generator
BP2	187	2-BP2, sheets 1-6	Railroad Right of Way	Medium	Past and current railroad use
BP2	189	2-BP2, sheet 1	The Waterford	Medium	USTs, closed LUSTs
BP2	191	2-BP2, sheet 1	Multi-Tenant Commercial Building	Medium	Closed spill site, hazardous waste generator
BP2	193	2-BP2, sheet 1	Stormwater Pond and Undeveloped Land	Medium	USTs, hazardous waste generator
BP2	194	2-BP2, sheet 2	The Groves Apartments	Medium	Closed spill site
BP2	197	2-BP2, sheet 2	TN Transportation and Automotive	Medium	Auto repair facilities, ASTs, USTs, closed LUST, hazardous waste generator
BP2	198	2-BP2, sheet 2	Nguyen Residence	Medium	Closed AgSpill

Segment	Parcel	Figure Number	Name	Rank	Rationale
BP2	199	2-BP2, sheets 2 & 3	O'Reilly Auto Parts	Medium	ASTs, USTs, closed LUST, closed spill site, hazardous waste generator
BP2	201	2-BP2, sheet 4	Broadway Rentals	Medium	USTs, ASTs, closed LUST, hazardous waste generator
BP2	202	2-BP2, sheet 4	Carmax	Medium	USTs, ASTs, closed LUST, hazardous waste generator
BP2	205		Interstate North Business Center	Medium	USTs, closed LUST, hazardous waste generator
BP2	207	2-BP2, sheet 4	U-Haul	Medium	Former gasoline station, USTs, closed LUST, hazardous waste generator
BP2	208	2-BP2, sheet 4	Wendy's	Medium	Former gasoline station, USTs, closed LUST, hazardous waste generator
BP2	209	2-BP2, sheets 4 & 5	Americold Distribution	Medium	Closed spill site, hazardous waste generator
BP2	210	2-BP2, sheet 5	Mister Carwash	Medium	Former gasoline station, USTs, closed LUST, hazardous waste generator
BP2	211	2-BP2, sheet 5	Consignment Central	Medium	Former motorcycle sales and service, closed spill site
BP2	212	2-BP2, sheet 5	North American Gear & Forge	Medium	Past and current commercial uses including machine shop, hazardous waste generator
BP2	214	2-BP2, sheet 5	Penske	Medium	UST, AST, closed spill site, hazardous waste generator
BP2	219	2-BP2, sheet 5	American Furniture Market	Medium	Inactive PBP site
BP2	220	2-BP2, sheet 5	Modern Dental Studio	Medium	Former filling/service station
BP2	230	2-BP2, sheet 7	Buerkle Acura	Medium	ASTs, USTs, hazardous waste generator.
BP2	231	2-BP2, sheet 7	Popeye's	Medium	Closed spill site
BP2	233	2-BP2, sheet 7	Northwind Plaza	Medium	Former dry cleaner
BP2	237	2-BP2, sheet 7	Park Square	Medium	UST, hazardous waste generator, past use as a possible dry cleaners
BP2	239	2-BP2, sheet 8	Residential Dwelling	Medium	Closed spill site
BP2	240	2-BP2, sheet 8	Prusinowski Residence	Medium	Closed spill site
BP1	241	2-BP1, sheets 1 & 2	North Hennepin Community College	Medium	ASTs, USTs, closed LUST, hazardous waste generator
BP1	242	2-BP1, sheet 2	Ronning Residence	Medium	Closed spill site
BP1	243	2-BP1, sheet 2	Broadway Square	Medium	Former gasoline station and drycleaner, USTs, closed LUST, closed spill, hazardous waste generator
BP1	255	2-BP1, sheet 6	Northwest EMC	Medium	Closed spill site
BP1	256	2-BP1, sheet 6	Holiday	Medium	gasoline station, USTs, closed spill site
BP1	257	2-BP1, sheets 6 & 8	Baxter Healthcare	Medium	ASTs, closed spill site, hazardous waste generator
BP1	260	2-BP1, sheets 9, 11 & 12	Target Corporation	Medium	USTs, closed LUST, PBP site, hazardous waste generator
BP1	263	2-BP1, sheets 8 & 11	Undeveloped Land	Medium	Former farmstead and greenhouse/nursery
BP1	264	2-BP1, sheet 11	Undeveloped Land	Medium	Former multi-building residence
BP1	269	2-BP1, sheet 10	Grace Fellowship Church	Medium	AST
BP1	271	2-BP1, sheets 13 & 14	Three Rivers Park District Rush Creek Regional Trail	Medium	Former farmstead

Appendix D

Parcel Summary Table – High Potential for Contamination Sites

Segment	Parcel	Figure Number	Name	Rank	Rationale
M	1	2-M, sheet 1	Ford Center	High	ASTs, closed LUST, closed spill, inactive VIC, hazardous waste generator
M	2	2-M, sheets 1 & 2	Be The Match	High	AST, closed LUST, closed spill, active VIC, active PBF, hazardous waste generator
M	3	2-M, sheet 1	Hennepin County Energy Recovery Center and Caribou Coffee	High	Past filling stations and auto repair facilities, ASTs, USTs, closed LUST, closed spill, inactive VIC, inactive PBP, inactive CERCLIS, hazardous waste generator
M	5	2-M, sheet 2	Parcel Under Construction	High	ASTs, USTs, closed LUST, active VIC, active PBP, hazardous waste generator
M	7	2-M, sheet 2	Weather Rite	High	Past and commercial uses including machine shop, metal manufacturing, waste (garbage) management, and automotive repair and junkyard, USTs, closed LUST, inactive VIC, active SAS, hazardous waste generator
M	8	2-M, sheet 2	Junction Flats	High	Past auto repair and junkyard, ASTs, USTs, active VIC, inactive PBP, active SR, hazardous waste generator
M	12	2-M, sheet 1	Sharing and Caring Hands	High	Past auto repair and filling stations, UST, closed LUST, inactive VIC, hazardous waste generator
M	17	2-M, sheet 2	Velocity Express	High	ASTs, USTs, closed LUST, closed spill site, active VIC, hazardous waste generator
M	21	2-M, sheet 4	Heritage Park II	High	Past commercial uses, USTs, closed LUST, closed spill, inactive VIC, hazardous waste generator
M	47	2-M, sheet 8	Undeveloped Parcels	High	Inactive VIC site
R	58	2-R, sheets 1-4	Walter Sochacki Community Park	High	Unpermitted dump site, active Sate Assessment site, closed spill site
R	59	2-R, sheet 2	South Halifax park	High	Inactive VIC site, inactive SRS site, restrictive covenant
R	75	2-R, sheet 6	Walgreens	High	Past commercial uses include filling station and auto repair facilities, ASTs, USTs, closed LUST, PBP site, inactive VIC site, hazardous waste generator
R	76	2-R, sheet 6	Broadway Court Apartments	High	Former gasoline station and dry cleaner, USTs, closed LUST, inactive VIC, inactive CERCLIS, inactive Superfund, hazardous waste generator
R	88	2-R, sheet 6	Wuollet Bakery & Espresso	High	Past and current commercial uses, former dry cleaner, inactive VIC site
R	90	2-R, sheet 6	Hubbard Market Place	High	Past auto repair activities, USTs, inactive VIC
R	107	2-R, sheet 6	The Steinhauser Group	High	Past dry cleaner, inactive VIC site
C	162	2-C, sheet 3	Commercial Building	High	USTs, closed spill site, active PBP site, hazardous waste generator, machine shops
C	172	2-C, sheet 4	Cell Tower and Undeveloped Land	High	Former gasoline station and auto repair, inactive VIC site, inactive PBP site, hazardous waste generator
BP2	190	2-BP2, sheet 1	Former Latzke Iron Works	High	Inactive VIC site
BP2	192	2-BP2, sheet 1	Waterford Senior Townhomes	High	ASTs, USTs, inactive VIC
BP2	195	2-BP2, sheet 2	Stormwater Pond	High	USTs, closed LUST, closed spill site, active PBP, active VIC, hazardous waste generator, exterminating company
BP2	196	2-BP2, sheet 2	Metro Transit Bottineau & 63rd Park & Ride	High	ASTs, USTs, closed LUST, closed PBP, inactive VIC, hazardous waste generator
BP1	258	2-BP1, sheet 6	Undeveloped Land	High	USTs, closed LUST, PBP site, VIC site, hazardous waste generator

The following appendices are not included in this version of the Modified Phase I ESA report due to volume.

They are available for viewing at the Blue Line Extension Project Office at 5514 West Broadway Ave, Suite 200, Crystal, MN 55428. Or, can be requested by contacting Robin Caufman at (651) 602-1457**.**

Appendix E: Parcel Summaries
Appendix F: Additional Parcel Summary Table (on CD)
Appendix G: GeoSearch Regulatory Report (on CD)
Appendix H: MPCA File Review Information (on CD)
Appendix I: Aerial Photographs (on CD)
Appendix J: Fire Insurance Maps (on CD)
Appendix K: Topographic Maps (on CD)

Appendix L

Parcel Summary Table with PIN Information

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
M	*1*	053-2202924420035	Ford Center	420	5TH ST N	MINNEAPOLIS	High
M	*2*	053-2202924240100	Be The Match	524	5TH ST N	MINNEAPOLIS	High
M	*3*	053-2202924310067	Hennepin County Energy Recovery Center and Caribou Coffee	505	6TH AVE N	MINNEAPOLIS	High
M	*3*	053-2202924310068	Hennepin County Energy Recovery Center and Caribou Coffee	435	5TH ST N	MINNEAPOLIS	High
M	*4*	053-2202924240027	Fulton Brewing	414	6TH AVE N	MINNEAPOLIS	Low
M	*5*	053-2202924240098	Parcel Under Construction	600	5TH ST N	MINNEAPOLIS	High
M	*6*	053-2202924240005	Holiday Gasoline Station/Convenience Store	601	5TH ST N	MINNEAPOLIS	Medium
M	*6*	053-2202924240008	Holiday Gasoline Station/Convenience Store	508	6TH AVE N	MINNEAPOLIS	Medium
M	*7*	053-2202924240031	Weather Rite	616	5TH ST N	MINNEAPOLIS	High
M	*7*	053-2202924240032	Weather Rite	620	5TH ST N	MINNEAPOLIS	High
M	*8*	053-2202924240099	Junction Flats	643	5TH ST N	MINNEAPOLIS	High
M	*9*	053-2202924310047	Mary My Hope Children's Center	425	7TH ST N	MINNEAPOLIS	Medium
M	*9*	053-2202924310050	Mary My Hope Children's Center	401	7TH ST N	MINNEAPOLIS	Medium
M	*10*	053-2202924230140	Metro Transit Garage and Offices	560	6TH AVE N	MINNEAPOLIS	Medium
M	*11*	053-2202924310036	City of Minneapolis Department of Public Works Royalston Maintenance Facility	661	5TH AVE N	MINNEAPOLIS	Medium
M	*12*	053-2202924310011	Sharing and Caring Hands	525	7TH ST N	MINNEAPOLIS	High
M	*13*	053-2202924320024	Commercial Buildings	415	ROYALSTON AVE N	MINNEAPOLIS	Medium
M	*13*	053-2202924320025	Commercial Buildings	501	ROYALSTON AVE N	MINNEAPOLIS	Medium
M	*14*	053-2202924230135	Wells Fargo Bank	615	7TH ST N	MINNEAPOLIS	Medium
M	*15*	053-2202924320004	Commercial Building	434	LAKESIDE AVE	MINNEAPOLIS	Medium
M	*16*	053-2202924320002	G&K Services	621	OLSON MEMORIAL HWY	MINNEAPOLIS	Medium
M	*17*	053-2202924230131	Velocity Express	620	OLSON MEMORIAL HWY	MINNEAPOLIS	High
M	*18*	053-2202924230033	Commercial Building	618	7TH AVE N	MINNEAPOLIS	Low
M	*18*	053-2202924230034	Commercial Building	701	7TH ST N	MINNEAPOLIS	Low
M	*19*	053-2202924230032	Velocity Express	622	7TH AVE N	MINNEAPOLIS	Low
M	*19*	053-2202924230143	Velocity Express	634	7TH AVE N	MINNEAPOLIS	Low
M	*19*	053-2202924230144	Velocity Express	638	7TH AVE N	MINNEAPOLIS	Low
M	*20*	053-2102924410034	Heritage Park	1004	5TH AVE N	MINNEAPOLIS	Medium
M	*20*	053-2102924410033	Heritage Park	851	OLSON MEMORIAL HWY	MINNEAPOLIS	Medium
M	*21*	053-2102924140069	Heritage Park II	652	BRYANT AVE N	MINNEAPOLIS	High
M	*21*	053-2102924130025	Heritage Park II	740	EMERSON AVE N	MINNEAPOLIS	High
M	*21*	053-2102924140068	Heritage Park II	651	BRYANT AVE N	MINNEAPOLIS	High
M	*21*	053-2102924140095	Heritage Park II	636	VAN WHITE MEM BLVD	MINNEAPOLIS	High
M	*21*	053-2102924140098	Heritage Park II	832	GERTRUDE BROWN PL	MINNEAPOLIS	High
M	*21*	053-2102924140099	Heritage Park II	710	BRYANT AVE N	MINNEAPOLIS	High
M	*21*	053-2102924140100	Heritage Park II	712	BRYANT AVE N	MINNEAPOLIS	High
M	*21*	053-2102924140101	Heritage Park II	714	BRYANT AVE N	MINNEAPOLIS	High
M	*21*	053-2102924140102	Heritage Park II	716	BRYANT AVE N	MINNEAPOLIS	High
M	*22*	053-2102924410032	Apartment Building	800	5TH AVE N	MINNEAPOLIS	Medium
M	*23*	053-2102924410022	Commercial Buildings	901	OLSON MEMORIAL HWY	MINNEAPOLIS	Medium
M	*24*	053-2102924410023	Commercial Building	921	OLSON MEMORIAL HWY	MINNEAPOLIS	Medium
M	*24*	053-2102924420022	Commercial Building	1101	OLSON MEMORIAL HWY	MINNEAPOLIS	Medium
M	*25*	053-2102924130014	Hennepin County Sumner Library	611	VAN WHITE MEM BLVD	MINNEAPOLIS	Medium
M	*26*	053-2102924420020	Undeveloped Parcel	501	GIRARD TER	MINNEAPOLIS	Medium
M	*27*	053-2102924130006	Harvest Preparatory School and Wayman A.M.W. Church	1200	OLSON MEMORIAL HWY	MINNEAPOLIS	Medium
M	*27*	053-2102924130010	Harvest Preparatory School and Wayman A.M.W. Church	1221	7TH AVE N	MINNEAPOLIS	Medium
M	*28*	053-2102924130004	Donald Fraser Early Childhood Family Development Center	700	HUMBOLDT AVE N	MINNEAPOLIS	Low

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
M	*29*	053-2102924420021	Olson Townhomes	461	GIRARD TER	MINNEAPOLIS	Medium
M	*30*	053-2102924420009	Park Plaza Apartments II	1315	OLSON MEMORIAL HWY	MINNEAPOLIS	Medium
M	*31*	053-2102924130011	Seed Academy/Harvest Prep School	1300	OLSON MEMORIAL HWY	MINNEAPOLIS	Medium
M	*31*	053-2102924240131	Seed Academy/Harvest Prep School	609	HUMBOLDT AVE N	MINNEAPOLIS	Medium
M	*32*	053-2102924310003	Park Plaza Apartments	525	HUMBOLDT AVE N	MINNEAPOLIS	Medium
M	*33*	053-2102924240125	Kingdom of Jehovah's Witnesses	701	HUMBOLDT AVE N	MINNEAPOLIS	Low
M	*34*	053-2102924240200	Residential Duplex	613	ELWOOD AVE N	MINNEAPOLIS	Medium
M	*35*	053-2102924310085	Harrison Park	1518	5TH AVE N	MINNEAPOLIS	Medium
M	*36*	053-2102924240122	Zion Baptist Church	621	ELWOOD AVE N	MINNEAPOLIS	Low
M	*37*	053-2102924230252	La Creche Early Childhood Center	1800	OLSON MEMORIAL HWY	MINNEAPOLIS	Low
M	*38*	053-2102924320224	Bruns Residence	512	NEWTON AVE N	MINNEAPOLIS	Medium
M	*39*	053-2102924320019	Tompkins Residence	518	NEWTON AVE N	MINNEAPOLIS	Medium
M	*40*	053-2102924320027	Skoug Residence	527	NEWTON AVE N	MINNEAPOLIS	Medium
M	*41*	053-2102924230058	Baur Residence	624	OLIVER AVE N	MINNEAPOLIS	Low
M	*42*	053-2102924230060	Hoang Residence	706	OLIVER AVE N	MINNEAPOLIS	Medium
M	*43*	053-2002924410099	Moen Residence	507	SHERIDAN AVE N	MINNEAPOLIS	Low
M	*44*	053-2002924220006	Former Railroad Area	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*44*	053-2002924130045	Former Railroad Area	700	XERXES AVE N	MINNEAPOLIS	Medium
M	*44*	053-2002924130138	Former Railroad Area	600	XERXES AVE N	MINNEAPOLIS	Medium
M	*45*	053-2002924420003	Railroad Right of Way	300	UPTON AVE N	MINNEAPOLIS	Medium
M	*45*	053-2002924440072	Railroad Right of Way	2615	GLENWOOD AVE N	MINNEAPOLIS	Medium
M	*45*	053-2002924130002	Railroad Right of Way	2901	8TH AVE N	MINNEAPOLIS	Medium
M	*46*	053-1702924340006	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-1702924310001	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-1702924320001	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-1702924330001	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-1702924340008	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-1702924230005	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-1702924240002	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-1702924240003	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-2002924230002	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-2002924330003	Theodore Wirth Park Golf Course	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
M	*46*	053-2002924420010	Theodore Wirth Park Golf Course	2500	GLENWOOD AVE N	MINNEAPOLIS	Medium
M	*47*	053-2002924130041	Undeveloped Parcels	827	WASHBURN AVE N	MINNEAPOLIS	High
M	*47*	053-2002924130042	Undeveloped Parcels	821	WASHBURN AVE N	MINNEAPOLIS	High
M	*47*	053-2002924130043	Undeveloped Parcels	815	WASHBURN AVE N	MINNEAPOLIS	High
M	*47*	053-2002924130044	Undeveloped Parcels	801	WASHBURN AVE N	MINNEAPOLIS	High
M	*47*	053-2002924130122	Undeveloped Parcels	2901	OAK PARK AVE	MINNEAPOLIS	High
M	*47*	053-2002924130123	Undeveloped Parcels	2905	OAK PARK AVE	MINNEAPOLIS	High
M	*47*	053-2002924130124	Undeveloped Parcels	2909	OAK PARK AVE	MINNEAPOLIS	High
M	*47*	053-2002924130125	Undeveloped Parcels	2913	OAK PARK AVE	MINNEAPOLIS	High
M	*47*	053-2002924130126	Undeveloped Parcels	2917	OAK PARK AVE	MINNEAPOLIS	High
M	*47*	053-2002924130127	Undeveloped Parcels	2921	OAK PARK AVE	MINNEAPOLIS	High
M	*47*	053-2002924130128	Undeveloped Parcels	913	WASHBURN AVE N	MINNEAPOLIS	High
M	*47*	053-2002924130129	Undeveloped Parcels	909	WASHBURN AVE N	MINNEAPOLIS	High
M	*47*	053-2002924130130	Undeveloped Parcels	905	WASHBURN AVE N	MINNEAPOLIS	High
M	*47*	053-2002924130131	Undeveloped Parcels	901	WASHBURN AVE N	MINNEAPOLIS	High
M	*48*	053-1702924340010	Railroad Right of Way	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
GV	*48*	053-2002924210004	Railroad Right of Way	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
GV	*48*	053-1702924340009	Railroad Right of Way	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
GV	*48*	053-1802924110008	Railroad Right of Way	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
GV	*49*	053-2002924120116	Wilson Residence	1020	WASHBURN AVE N	MINNEAPOLIS	Medium
GV	*50*	053-2002924120128	Krawczyk Residence	1223	WASHBURN AVE N	MINNEAPOLIS	Medium

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
GV	*51*	053-1702924340004	The Family Partnership	1501	XERXES AVE N	GOLDEN VALLEY	Low
GV	*51*	053-1702924340005	The Family Partnership	1501	XERXES AVE N	GOLDEN VALLEY	Low
GV	*52*	053-1702924430011	Runion Residence	1508	XERXES AVE N	MINNEAPOLIS	Low
GV	*53*	053-1702924240001	St Margaret Mary Catholic Church	2225	ZENITH AVE N	GOLDEN VALLEY	Medium
GV	*53*	053-1702924210002	St Margaret Mary Catholic Church	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
GV	*54*	053-1702924230020	Golden Valley Fire Station #3	3700	GOLDEN VALLEY RD	GOLDEN VALLEY	Low
GV	*55*	053-1802924110050	Mary Hills Nature Area	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
GV	*55*	053-1702924230004	Mary Hills Nature Area	28	ADDRESS UNASSIGNED	GOLDEN VALLEY	Medium
GV	*56*	053-1702924220057	Single-Family Residence	2537	MCNAIR DR	GOLDEN VALLEY	Medium
GV	*56*	053-1702924220076	Single-Family Residence	2500	BYRD AVE N	GOLDEN VALLEY	Medium
GV	*56*	053-1702924220077	Single-Family Residence	2508	BYRD AVE N	GOLDEN VALLEY	Medium
GV	*56*	053-1702924220078	Single-Family Residence	2520	BYRD AVE N	GOLDEN VALLEY	Medium
GV	*56*	053-1702924220079	Single-Family Residence	2528	BYRD AVE N	GOLDEN VALLEY	Medium
R	*57*	053-0702924110174	Railroad Right of Way	44	ADDRESS UNASSIGNED	ROBBINSDALE	Medium
R	*57*	053-1611821120026	Railroad Right of Way	44	ADDRESS UNASSIGNED	ROBBINSDALE	Medium
R	*57*	053-0602924210110	Railroad Right of Way	44	ADDRESS UNASSIGNED	ROBBINSDALE	Medium
R	*57*	053-0602924240141	Railroad Right of Way	44	ADDRESS UNASSIGNED	ROBBINSDALE	Medium
R	*57*	053-0911821430086	Railroad Right of Way	44	ADDRESS UNASSIGNED	ROBBINSDALE	Medium
R	*58*	053-0702924120184	Walter Sochacki Community Park	3449	JUNE AVE N	CRYSTAL	High
R	*58*	053-0702924120185	Walter Sochacki Community Park	3445	JUNE AVE N	CRYSTAL	High
R	*58*	053-0702924120186	Walter Sochacki Community Park	3441	JUNE AVE N	CRYSTAL	High
R	*58*	053-0702924120187	Walter Sochacki Community Park	3437	JUNE AVE N	CRYSTAL	High
R	*58*	053-0702924120014	Walter Sochacki Community Park	3501	JUNE AVE N	CRYSTAL	High
R	*58*	053-0702924120182	Walter Sochacki Community Park	3457	JUNE AVE N	CRYSTAL	High
R	*58*	053-0702924120183	Walter Sochacki Community Park	3453	JUNE AVE N	CRYSTAL	High
R	*58*	053-0702924110009	Walter Sochacki Community Park	3516	JUNE AVE N	ROBBINSDALE	High
R	*58*	053-0702924110186	Walter Sochacki Community Park	3500	JUNE AVE N	ROBBINSDALE	High
R	*58*	053-0702924410063	Walter Sochacki Community Park	3500	JUNE AVE N	ROBBINSDALE	High
R	*59*	053-0702924410046	South Halifax Park	44	ADDRESS UNASSIGNED	ROBBINSDALE	High
R	*59*	053-0702924410064	South Halifax Park	3101	HALIFAX AVE N	ROBBINSDALE	High
R	*60*	053-0702924140145	Bratsch Residence	3235	INDIANA AVE N	ROBBINSDALE	Medium
R	*61*	053-0702924140174	Xcel Energy Indiana Substation	3333	INDIANA AVE N	ROBBINSDALE	Medium
R	*62*	053-0702924140037	Markeson Residence	3308	INDIANA AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430111	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430112	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430113	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430114	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430115	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430116	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430117	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430118	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430119	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430120	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430121	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430122	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430123	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430124	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430125	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430126	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
R	*63*	053-0602924430127	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430128	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430129	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430130	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430131	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430132	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430133	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430134	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430135	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430136	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430137	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430138	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430139	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430140	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430141	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430142	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430143	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430144	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430145	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430146	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430147	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430148	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430149	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430150	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430151	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430152	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430153	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430154	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430155	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430156	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430157	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430158	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430159	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430160	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430161	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430162	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430163	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430164	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430165	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430166	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430167	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430168	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430169	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430170	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430171	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430172	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430173	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430174	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430175	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430176	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430177	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430178	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430179	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430180	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430181	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430182	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430183	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430184	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430185	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430186	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430187	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430188	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430189	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430190	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430191	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430192	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430193	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430194	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430195	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430196	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430197	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430198	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
R	*63*	053-0602924430199	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430200	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430201	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430202	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430203	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430204	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430205	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430206	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430207	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430208	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430209	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430210	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430211	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430212	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430213	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430214	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430215	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430216	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430217	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430218	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430219	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430220	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430221	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430222	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430223	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430224	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430225	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430226	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430227	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430228	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430229	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430230	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430231	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430232	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*63*	053-0602924430233	Lee Square	4400	36TH AVE N	ROBBINSDALE	Low
R	*64*	053-0602924440111	Gray Residence	3618	INDIANA AVE N	ROBBINSDALE	Medium
R	*65*	053-0602924430109	Lee Park	3648	LEE AVE N	ROBBINSDALE	Low
R	*66*	053-0602924440013	Windsor Court	4024	37TH AVE N	ROBBINSDALE	Medium
R	*66*	053-0602924440014	Windsor Court	3737	HUBBARD AVE N	ROBBINSDALE	Medium
R	*67*	053-0602924440015	Bridgeway Apartments	3755	HUBBARD AVE N	ROBBINSDALE	Low
R	*68*	053-0602924430106	Undeveloped Land	3760	LEE AVE N	ROBBINSDALE	Medium
R	*69*	053-0602924420031	Beard Residence	3965	HUBBARD AVE N	ROBBINSDALE	Medium
R	*70*	053-0602924420040	Kasprick Residence	4029	HUBBARD AVE N	ROBBINSDALE	Medium
R	*71*	053-0602924240059	Park	4001	NOBLE AVE N	ROBBINSDALE	Low
R	*72*	053-0602924130031	Sacred Heart Catholic Church & School	4087	WEST BROADWAY	ROBBINSDALE	Medium
R	*72*	053-0602924130032	Sacred Heart Catholic Church & School	4099	HUBBARD AVE N	ROBBINSDALE	Medium
R	*72*	053-0602924130033	Sacred Heart Catholic Church & School	4095	HUBBARD AVE N	ROBBINSDALE	Medium
R	*72*	053-0602924130034	Sacred Heart Catholic Church & School	4089	HUBBARD AVE N	ROBBINSDALE	Medium
R	*73*	053-0602924130030	P&D Mechanical Contractor	4089	WEST BROADWAY	ROBBINSDALE	Low
R	*74*	053-0602924240133	Parking Lot	4125	RAILROAD AVE N	ROBBINSDALE	Medium
R	*75*	053-0602924130146	Walgreens	4100	WEST BROADWAY	ROBBINSDALE	High
R	*76*	053-0602924130139	Broadway Court Apartments	4600	41ST AVE N	ROBBINSDALE	High
R	*77*	053-0602924130029	Robin Hotel	4628	41ST AVE N	ROBBINSDALE	Low
R	*78*	053-0602924130009	Robbinsdale Police and Fire Department and Water Filtration Plan #1	4127	HUBBARD AVE N	ROBBINSDALE	Medium
R	*78*	053-0602924130010	Robbinsdale Police and Fire Department and Water Filtration Plant #1	4101	HUBBARD AVE N	ROBBINSDALE	Medium
R	*78*	053-0602924130011	Robbinsdale Police and Fire Department and Water Filtration Plant #1	4101	HUBBARD AVE N	ROBBINSDALE	Medium

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
R	*79*	053-0602924130003	Papa John's Pizza/Payday	4121	LAKELAND AVE N	ROBBINSDALE	Low
R	*80*	053-0602924130147	Commercial Building	4124	WEST BROADWAY	ROBBINSDALE	Low
R	*81*	053-0602924130021	Lions Gym & Wellness Center	4123	WEST BROADWAY	ROBBINSDALE	Low
R	*82*	053-0602924130106	Minnesota Dental Group	4125	LAKELAND AVE N	ROBBINSDALE	Low
R	*83*	053-0602924130019	Strait Stuff Screen Printing	4129	WEST BROADWAY	ROBBINSDALE	Low
R	*83*	053-0602924130020	Strait Stuff Screen Printing	4127	WEST BROADWAY	ROBBINSDALE	Low
R	*84*	053-0602924130119	Pawn America	4132	WEST BROADWAY	ROBBINSDALE	Medium
R	*85*	053-0602924130017	Chestnut Café	4131	WEST BROADWAY	ROBBINSDALE	Medium
R	*85*	053-0602924130144	Chestnut Café	4135	WEST BROADWAY	ROBBINSDALE	Medium
R	*86*	053-0602924130101	Robbinsdale Marine	4139	LAKELAND AVE N	ROBBINSDALE	Medium
R	*86*	053-0602924130102	Robbinsdale Marine	4137	LAKELAND AVE N	ROBBINSDALE	Medium
R	*87*	053-0602924130109	Hirshfields/Ace Hardware	4140	WEST BROADWAY	ROBBINSDALE	Low
R	*87*	053-0602924130110	Hirshfields/Ace Hardware	4142	WEST BROADWAY	ROBBINSDALE	Low
R	*88*	053-0602924130111	Wuollet Bakery & Espresso	4609	41 1/2 AVE N	ROBBINSDALE	High
R	*89*	053-0602924130143	Home Options	4140	HUBBARD AVE N	ROBBINSDALE	Low
R	*90*	053-0602924240015	Hubbard Market Place	4139	HUBBARD AVE N	ROBBINSDALE	High
R	*90*	053-0602924240135	Hubbard Market Place	4145	HUBBARD AVE N	ROBBINSDALE	High
R	*91*	053-0602924120122	Parking lot	4611	42ND AVE N	ROBBINSDALE	Low
R	*91*	053-0602924130135	Parking lot	4165	LAKELAND AVE N	ROBBINSDALE	Low
R	*91*	053-0602924130138	Parking lot	4148	WEST BROADWAY	ROBBINSDALE	Low
R	*91*	053-0602924130141	Parking lot	4170	WEST BROADWAY	ROBBINSDALE	Low
R	*92*	053-0602924130014	Outdoor Patio	4151	WEST BROADWAY	ROBBINSDALE	Low
R	*93*	053-0602924240137	Commercial Building	4614	41 1/2 AVE N	ROBBINSDALE	Low
R	*94*	053-0602924130013	Canton Garden Restaurant	4153	WEST BROADWAY	ROBBINSDALE	Low
R	*95*	053-0602924120116	McDonalds	4601	LAKE DR	ROBBINSDALE	Low
R	*96*	053-0602924130137	Retail Commercial Building	4150	WEST BROADWAY	ROBBINSDALE	Medium
R	*97*	053-0602924240017	Golden Age Design	4157	WEST BROADWAY	ROBBINSDALE	Low
R	*98*	053-0602924240136	Parking Lot	4155	HUBBARD AVE N	ROBBINSDALE	Low
R	*99*	053-0602924240018	Hackenmueller's Meat Market	4159	WEST BROADWAY	ROBBINSDALE	Low
R	*100*	053-0602924240016	Commercial Building	4165	WEST BROADWAY	ROBBINSDALE	Low
R	*101*	053-0602924240012	Northside Oriental	4165	HUBBARD AVE N	ROBBINSDALE	Medium
R	*101*	053-0602924240013	Northside Oriental	4719	42ND AVE N	ROBBINSDALE	Medium
R	*102*	053-0602924130140	Nonna Rosa's	4168	WEST BROADWAY	ROBBINSDALE	Medium
R	*102*	053-0602924130142	Nonna Rosa's	4160	WEST BROADWAY	ROBBINSDALE	Medium
R	*103*	053-0602924240008	Commercial Building	4175	WEST BROADWAY	ROBBINSDALE	Low
R	*104*	053-0602924240010	EMI Audio	4719	42ND AVE N	ROBBINSDALE	Low
R	*105*	053-0602924120121	Commercial Building	4180	WEST BROADWAY	ROBBINSDALE	Medium
R	*106*	053-0602924240007	Tailor Shop	4179	WEST BROADWAY	ROBBINSDALE	Medium
R	*107*	053-0602924240140	The Steinhauser Group	4707	42ND AVE N	ROBBINSDALE	High
R	*108*	053-0602924240139	Robbinsdale Gallery of Art/Historical Museum/Library	4915	42ND AVE N	ROBBINSDALE	Low
R	*109*	053-0602924120032	Pilgrim Cleaners	4606	LAKE DR	ROBBINSDALE	Medium
R	*110*	053-0602924210113	Sipe's Shell	4200	WEST BROADWAY	ROBBINSDALE	Medium
R	*111*	053-0602924210036	BP Gas Station	4205	WEST BROADWAY	ROBBINSDALE	Medium
R	*112*	053-0602924210037	Commercial Building	4716	42ND AVE N	ROBBINSDALE	Low
R	*113*	053-0602924210038	Commercial Building	4718	42ND AVE N	ROBBINSDALE	Low
R	*114*	053-0602924210032	Metro Building Companies	44	ADDRESS UNASSIGNED	ROBBINSDALE	Low
R	*114*	053-0602924210114	Metro Building Companies	4738	42ND AVE N	ROBBINSDALE	Low
R	*115*	053-0602924210041	Sawhorse Designers & Builders	4740	42ND AVE N	ROBBINSDALE	Low
R	*115*	053-0602924210042	Sawhorse Designers & Builders	4740	42ND AVE N	ROBBINSDALE	Low
R	*115*	053-0602924210120	Sawhorse Designers & Builders	4750	42ND AVE N	ROBBINSDALE	Low
R	*116*	053-0602924210070	Chirocenter Robbinsdale Chiropractic	4926	42ND AVE N	ROBBINSDALE	Low

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
R	*117*	053-0602924210069	A Gentle Dental Center	4930	42ND AVE N	ROBBINSDALE	Low
R	*118*	053-0602924220003	Redeemer Evangelical Lutheran Church	4201	REGENT AVE N	ROBBINSDALE	Low
R	*118*	053-0602924220002	Redeemer Evangelical Lutheran Church	4233	REGENT AVE N	ROBBINSDALE	Low
R	*119*	053-0602924210112	TCF Bank	4222	WEST BROADWAY	ROBBINSDALE	Low
R	*120*	053-0602924210118	Washburn & McReavy Robbinsdale Chapel	4239	WEST BROADWAY	ROBBINSDALE	Low
R	*121*	053-0602924210102	Robbinsdale Masonic Center	4228	WEST BROADWAY	ROBBINSDALE	Low
R	*122*	053-0911821430017	Osterhus Bibles, Books & Gifts	4500	WEST BROADWAY	ROBBINSDALE	Low
R	*123*	053-0911821430001	City of Robbinsdale Municipal Shop	4601	TOLEDO AVE N	ROBBINSDALE	Medium
C	*124*	053-0511821140069	Railroad Right of Way	54	ADDRESS UNASSIGNED	CRYSTAL	Medium
C	*124*	053-0911821240022	Railroad Right of Way	54	ADDRESS UNASSIGNED	CRYSTAL	Medium
C	*124*	053-0411821330035	Railroad Right of Way	54	ADDRESS UNASSIGNED	CRYSTAL	Medium
C	*124*	053-0911821310125	Railroad Right of Way	54	ADDRESS UNASSIGNED	CRYSTAL	Medium
R	*125*	053-0911821310009	Century Link	4700	WELCOME AVE N	CRYSTAL	Medium
R	*126*	053-0911821420066	Blind Installation & Repair	5421	LAKESIDE AVE N	CRYSTAL	Medium
R	*127*	053-0911821310027	Commercial Building	4801	WELCOME AVE N	CRYSTAL	Low
R	*127*	053-0911821310028	Commercial Building	4801	WELCOME AVE N	CRYSTAL	Low
R	*128*	053-0911821310007	Steve O's Bar & Grill	4900	WEST BROADWAY	CRYSTAL	Low
R	*129*	053-0911821310121	Full Proof Ministry and Thomas Tool & Supply	4835	WEST BROADWAY	CRYSTAL	Medium
C	*130*	053-0911821310006	Crystal Wine & Spirits	4920	WEST BROADWAY	CRYSTAL	Low
C	*131*	053-0911821310126	O'Reilly Auto Parts	4905	WEST BROADWAY	CRYSTAL	Low
C	*132*	053-0911821240066	Crystal Public Works Facility	5001	WEST BROADWAY	CRYSTAL	Low
C	*133*	053-0911821240057	Doyle's Bowling & Lounge	5000	WEST BROADWAY	CRYSTAL	Low
C	*134*	053-0911821240056	Fun Services	5617	CORVALLIS AVE N	CRYSTAL	Medium
C	*135*	053-0911821230005	Washburn-McReavy Funeral Chapel	5125	WEST BROADWAY	CRYSTAL	Low
C	*136*	053-0911821240025	Stormwater Pond	5101	LAKELAND AVE N	CRYSTAL	Medium
C	*137*	053-0911821240003	Tim's Tree Service	5612	CORVALLIS AVE N	CRYSTAL	Low
C	*138*	053-0911821240065	Crystal Collision Center and Car Wash	5108	WEST BROADWAY	CRYSTAL	Medium
C	*139*	053-0911821240001	Kilmer Electric	54	ADDRESS UNASSIGNED	CRYSTAL	Medium
C	*139*	053-0911821240002	Kilmer Electric	5141	LAKELAND AVE N	CRYSTAL	Medium
C	*140*	053-0911821240024	Auto Plus Auto Parts	5140	WEST BROADWAY	CRYSTAL	Medium
C	*141*	053-0911821240023	Midwest Motor Craft	5160	WEST BROADWAY	CRYSTAL	Medium
C	*142*	053-0911821220008	North Suburban Towing and Thomas Auto Body & Collision	5170	WEST BROADWAY	CRYSTAL	Medium
C	*143*	053-0911821210009	Bill's Economy Glass	5201	LAKELAND AVE N	CRYSTAL	Medium
C	*144*	053-0911821210010	Multi-Tenant Commercial Building	5221	LAKELAND AVE N	CRYSTAL	Medium
C	*145*	053-0911821220041	Vacant Parcel	5128	HANSON CT N	CRYSTAL	Low
C	*146*	053-0911821220040	The Phone Guys/S&S Communications	5124	HANSON CT N	CRYSTAL	Low
C	*147*	053-0911821220039	Golden Valley Heating & Air	5182	WEST BROADWAY	CRYSTAL	Medium
C	*148*	053-0911821210004	BGD Companies	5323	LAKELAND AVE N	CRYSTAL	Medium
C	*149*	053-0911821220021	Vacant Parcel	5208	HANSON CT N	CRYSTAL	Medium
C	*150*	053-0911821220046	All American Storage	5217	HANSON CT N	CRYSTAL	Medium
C	*150*	053-0911821220010	All American Storage	5225	HANSON CT N	CRYSTAL	Medium
C	*151*	053-0911821220028	Collision Masters	5115	HANSON CT N	CRYSTAL	Low
C	*152*	053-0911821210006	Standard Water Control Systems	5333	LAKELAND AVE N	CRYSTAL	Medium
C	*153*	053-0911821210060	Skip's Auto Repair	5343	LAKELAND AVE N	CRYSTAL	Medium
C	*154*	053-0911821220019	CBF by Pierre	5224	HANSON CT N	CRYSTAL	Low
C	*155*	053-0911821220009	Miller Diversified Machining	5241	HANSON CT N	CRYSTAL	Medium
C	*156*	053-0911821220056	Creative Partnership/Rise	5353	LAKELAND AVE N	CRYSTAL	Medium
C	*157*	053-0911821220017	Curbside Waste	5240	HANSON CT N	CRYSTAL	Medium
C	*157*	053-0911821220018	Curbside Waste	5232	HANSON CT N	CRYSTAL	Medium

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
C	*158*	053-0911821220058	Industrial Stainless Supply Inc	5265	HANSON CT N	CRYSTAL	Medium
C	*159*	053-0911821220022	Beaver Machine	5273	HANSON CT N	CRYSTAL	Medium
C	*160*	053-0411821340061	Holiday	5402	LAKELAND AVE N	CRYSTAL	Medium
C	*160*	053-0411821340062	Holiday	5410	LAKELAND AVE N	CRYSTAL	Medium
C	*160*	053-0411821340063	Holiday	5410	LAKELAND AVE N	CRYSTAL	Medium
C	*161*	053-0411821330042	Car Hop	5417	LAKELAND AVE N	CRYSTAL	Medium
C	*162*	053-0411821330032	Commercial Building	5400	DOUGLAS DR N	CRYSTAL	High
C	*162*	053-0411821330022	Commercial Building	5431	LAKELAND AVE N	CRYSTAL	High
C	*162*	053-0411821330023	Commercial Building	5425	LAKELAND AVE N	CRYSTAL	High
C	*163*	053-0411821330043	Crystal Business Commons	5500	LAKELAND AVE N	CRYSTAL	Medium
C	*164*	053-0411821330004	Max It Pawn Shop	5445	LAKELAND AVE N	CRYSTAL	Low
C	*165*	053-0411821330039	Steen Engineering and Douglas Storage	5430	DOUGLAS DR N	CRYSTAL	Low
C	*166*	053-0411821330005	U-Haul Center	5465	LAKELAND AVE N	CRYSTAL	Medium
C	*167*	053-0411821330040	Cedarwoods Apartments	5450	DOUGLAS DR N	CRYSTAL	Medium
C	*168*	053-0411821330001	The Schrader Building	5501	LAKELAND AVE N	CRYSTAL	Medium
C	*169*	053-0411821330010	Undeveloped Land	5521	LAKELAND AVE N	CRYSTAL	Medium
C	*170*	053-0411821330041	Becker Park and Crystal Arts and Activity Center	6225	56TH AVE N	CRYSTAL	Medium
C	*171*	053-0411821330009	Undeveloped Land	5531	LAKELAND AVE N	CRYSTAL	Medium
C	*172*	053-0411821330006	Cell Tower and Undeveloped Land	5561	LAKELAND AVE N	CRYSTAL	High
C	*172*	053-0411821330007	Cell Tower and Undeveloped Land	5551	LAKELAND AVE N	CRYSTAL	High
	173	053-0411821320112	Bass Lake Center	6000	56TH AVE N	CRYSTAL	Medium
C	*174*	053-0411821320109	Undeveloped Land	5602	LAKELAND AVE N	CRYSTAL	Medium
C	*175*	053-0411821320105	Multi-Tenant Commercial Buildings	6200	56TH AVE N	CRYSTAL	Low
C	*175*	053-0411821320106	Multi-Tenant Commercial Buildings	6230	56TH AVE N	CRYSTAL	Low
C	*175*	053-0411821320107	Multi-Tenant Commercial Buildings	6230	56TH AVE N	CRYSTAL	Low
C	*176*	053-0511821410108	Parking Lot	6306	56TH AVE N	CRYSTAL	Medium
C	*177*	053-0511821410106	Retail Stores	6320	56TH AVE N	CRYSTAL	Low
C	*177*	053-0511821410107	Retail Stores	6316	56TH AVE N	CRYSTAL	Low
C	*178*	053-0411821320103	Cities Auto	5630	LAKELAND AVE N	CRYSTAL	Low
	179	053-0411821320113	Crystal Medical Center	5700	BOTTINEAU BLVD	CRYSTAL	Medium
C	*180*	053-0411821320025	Undeveloped Land	5736	LAKELAND AVE N	CRYSTAL	Low
C	*181*	053-0511821140001	Crystal Airport	54	ADDRESS UNASSIGNED	CRYSTAL	Medium
C	*181*	053-0411821110001	Crystal Airport	5800	CRYSTAL AIRPORT RD	CRYSTAL	Medium
C	*182*	053-0511821140040	Moy Residence	6519	DUDLEY AVE N	CRYSTAL	Low
C	*183*	053-0511821110098	North Star Inn & Suites	6000	LAKELAND AVE N	CRYSTAL	Low
C	*184*	053-0511821110096	Rostamo's Bar	6014	LAKELAND AVE N	CRYSTAL	Low
C	*185*	053-0511821110104	Jack's Auto Sales	6043	FLORIDA AVE N	CRYSTAL	Low
C	*185*	053-0511821110037	Jack's Auto Sales	6030	LAKELAND AVE N	CRYSTAL	Low
C	*186*	053-0511821110071	Premier Motors	6048	LAKELAND AVE N	CRYSTAL	Low
C	*186*	053-0511821110087	Premier Motors	6058	LAKELAND AVE N	CRYSTAL	Low
BP2	*187*	053-3211921210001	Railroad Right of Way	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Medium
BP2	*187*	053-3211921240020	Railroad Right of Way	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Medium
BP2	*187*	053-3211921420049	Railroad Right of Way	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Medium
BP2	*187*	053-2911921230015	Railroad Right of Way	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Medium
BP2	*188*	053-3211921440081	Minneapolis LU539 Pipefitters	6200	LAKELAND AVE N	BROOKLYN PARK	Low
BP2	*189*	053-3211921430015	The Waterford	7000	62ND AVE N	BROOKLYN PARK	Medium
BP2	*190*	053-3211921440077	Former Latzke Iron Works	6224	LAKELAND AVE N	BROOKLYN PARK	High
BP2	*191*	053-3211921430029	Multi-Tenant Commercial Building	6248	LAKELAND AVE N	BROOKLYN PARK	Medium
BP2	*192*	053-3211921430030	Waterford Senior Townhomes	6280	LOUISIANA CT N	BROOKLYN PARK	High
BP2	*193*	053-3211921430007	Stormwater Pond and Undeveloped Land	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Medium
BP2	*193*	053-3211921430027	Stormwater Pond and Undeveloped Land	6280	LAKELAND AVE N	BROOKLYN PARK	Medium
BP2	*193*	053-3211921430028	Stormwater Pond and Undeveloped Land	6260	LAKELAND AVE N	BROOKLYN PARK	Medium

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
BP2	*193*	053-3211921430001	Stormwater Pond and Undeveloped Land	6288	LAKELAND AVE N	BROOKLYN PARK	Medium
BP2	*193*	053-3211921430002	Stormwater Pond and Undeveloped Land	6725	63RD AVE N	BROOKLYN PARK	Medium
BP2	*193*	053-3211921430003	Stormwater Pond and Undeveloped Land	6721	63RD AVE N	BROOKLYN PARK	Medium
BP2	*193*	053-3211921430025	Stormwater Pond and Undeveloped Land	6701	63RD AVE N	BROOKLYN PARK	Medium
BP2	*193*	053-3211921430026	Stormwater Pond and Undeveloped Land	6705	63RD AVE N	BROOKLYN PARK	Medium
BP2	*194*	053-3211921420054	The Groves Apartments	6800	63RD AVE N	BROOKLYN PARK	Medium
BP2	*195*	053-3211921420002	Stormwater Pond	6300	LAKELAND AVE N	BROOKLYN PARK	High
BP2	*195*	053-3211921420003	Stormwater Pond	6308	LAKELAND AVE N	BROOKLYN PARK	High
BP2	*195*	053-3211921420006	Stormwater Pond	6332	LAKELAND AVE N	BROOKLYN PARK	High
BP2	*195*	053-3211921420053	Stormwater Pond	6324	LAKELAND AVE N	BROOKLYN PARK	High
BP2	*196*	053-3211921420012	Metro Transit Bottineau & 63rd Park & Ride	7000	63RD AVE N	BROOKLYN PARK	High
BP2	*197*	053-3211921420007	TN Transportation and Automotive	6400	LAKELAND AVE N	BROOKLYN PARK	Medium
BP2	*198*	053-3211921420009	Nguyen Residence	6416	LAKELAND AVE N	BROOKLYN PARK	Medium
BP2	*199*	053-3211921240024	O'Reilly Auto Parts	6600	WEST BROADWAY	BROOKLYN PARK	Medium
BP2	*200*	053-3211921210004	OMCM Marketing Solutions	6748	WEST BROADWAY	BROOKLYN PARK	Low
BP2	*201*	053-3211921210003	Broadway Rentals	6800	WEST BROADWAY	BROOKLYN PARK	Medium
BP2	*202*	053-2911921340004	Carmax	6900	LAKELAND AVE N	BROOKLYN PARK	Medium
BP2	*203*	053-3211921210002	Lights on Broadway	6900	WEST BROADWAY	BROOKLYN PARK	Low
BP2	*204*	053-2911921340005	Wagner's Drive In	7000	WEST BROADWAY	BROOKLYN PARK	Low
BP2	*205*	053-2911921330005	Interstate North Business Center	6965	WEST BROADWAY	BROOKLYN PARK	Medium
BP2	*205*	053-2911921330006	Interstate North Business Center	6973	WEST BROADWAY	BROOKLYN PARK	Medium
BP2	*205*	053-2911921330007	Interstate North Business Center	7040	WINNETKA AVE N	BROOKLYN PARK	Medium
BP2	*205*	053-2911921330008	Interstate North Business Center	7044	WINNETKA AVE N	BROOKLYN PARK	Medium
BP2	*206*	053-2911921340003	All American Recreation	6948	LAKELAND AVE N	BROOKLYN PARK	Low
BP2	*207*	053-2911921340051	U-Haul	7007	LAKELAND AVE N	BROOKLYN PARK	Medium
BP2	*208*	053-2911921340048	Wendy's	7445	71ST AVE N	BROOKLYN PARK	Medium
BP2	*209*	053-2911921320016	Americold Distribution	7130	WINNETKA AVE N	BROOKLYN PARK	Medium
BP2	*210*	053-2911921310290	Mister Carwash	7100	WEST BROADWAY	BROOKLYN PARK	Medium
BP2	*211*	053-2911921320019	Consignment Central	7111	WEST BROADWAY	BROOKLYN PARK	Medium
BP2	*212*	053-2911921320020	North American Gear & Forge	7204	WINNETKA AVE N	BROOKLYN PARK	Medium
BP2	*213*	053-2911921320003	Prince of Peace Lutheran Church	7517	73RD AVE N	BROOKLYN PARK	Low
BP2	*213*	053-2911921320022	Prince of Peace Lutheran Church	7217	WEST BROADWAY	BROOKLYN PARK	Low
BP2	*214*	053-2911921320021	Penske	7214	WINNETKA AVE N	BROOKLYN PARK	Medium
BP2	*215*	053-2911921320015	Mayer Electric	7224	WINNETKA AVE N	BROOKLYN PARK	Low
BP2	*216*	053-2911921320004	Lots Survey Company	7601	73RD AVE N	BROOKLYN PARK	Low
BP2	*217*	053-2911921320005	Distinguished Landscape	7609	73RD AVE N	BROOKLYN PARK	Low
BP2	*218*	053-2911921230019	Brooklyn Park West Fire Station	7301	WEST BROADWAY	BROOKLYN PARK	Low
BP2	*219*	053-2911921230009	American Furniture Market	7308	LAKELAND AVE N	BROOKLYN PARK	Medium
BP2	*220*	053-2911921230010	Modern Dental Studio	7300	LAKELAND AVE N	BROOKLYN PARK	Medium
BP2	*221*	053-3011921140006	Public Storage	7800	73RD AVE N	BROOKLYN PARK	Low
BP2	*222*	053-2911921230008	Sisaket Plaza	7316	LAKELAND AVE N	BROOKLYN PARK	Low
BP2	*223*	053-2911921230007	Broadway Party & Tent Rental	7409	JOLLY LA N	BROOKLYN PARK	Low
BP2	*224*	053-2911921230006	Magic Carpets Flooring Center	7400	LAKELAND AVE N	BROOKLYN PARK	Low
BP2	*225*	053-2911921220024	Target	7535	WEST BROADWAY	BROOKLYN PARK	Low
BP2	*226*	053-2911921230004	Funk Animal Hospital	7425	JOLLY LA N	BROOKLYN PARK	Low
BP2	*227*	053-2911921220023	Cub Foods	7555	WEST BROADWAY	BROOKLYN PARK	Low
BP2	*228*	053-2911921210106	US Bank	7600	WEST BROADWAY	BROOKLYN PARK	Low
BP2	*229*	053-2911921220022	McDonald's	7685	WEST BROADWAY	BROOKLYN PARK	Low

Segment	*Parcel*	PIN	Site Name	Building Number	Street Name	City	Ranking
BP2	*230*	053-2911921210096	Buerkle Acura	7925	BROOKLYN BLVD	BROOKLYN PARK	Medium
BP2	*231*	053-2911921220012	Popeye's	8025	BROOKLYN BLVD	BROOKLYN PARK	Medium
BP2	*232*	053-2911921220011	Wells Fargo Bank	8041	BROOKLYN BLVD	BROOKLYN PARK	Low
BP2	*233*	053-2011921340002	Northwind Plaza	7944	BROOKLYN BLVD	BROOKLYN PARK	Medium
BP2	*233*	053-2011921340079	Northwind Plaza	7944	BROOKLYN BLVD	BROOKLYN PARK	Medium
BP2	*234*	053-2011921330005	Baker's Square	8000	BROOKLYN BLVD	BROOKLYN PARK	Low
BP2	*235*	053-2011921330004	Arby's	8016	BROOKLYN BLVD	BROOKLYN PARK	Low
BP2	*236*	053-2011921340080	CVS Pharmacy 4597	7996	BROOKLYN BLVD	BROOKLYN PARK	Low
BP2	*237*	053-2011921330006	Park Square	8020	BROOKLYN BLVD	BROOKLYN PARK	Medium
BP2	*238*	053-2011921320010	Brooklyn Park Evangelical Free Church	7901	WEST BROADWAY	BROOKLYN PARK	Low
BP2	*239*	053-2011921310089	Residential Dwelling	7325	79TH AVE N	BROOKLYN PARK	Medium
BP1	*240*	053-2011921310005	Prusinowski Residence	7325	CANDLEWOOD DR N	BROOKLYN PARK	Medium
BP1	*241*	053-2011921210001	North Hennepin Community College	7411	85TH AVE N	BROOKLYN PARK	Medium
BP1	*242*	053-2011921220068	Ronning Residence	8441	RHODE ISLAND DR N	BROOKLYN PARK	Medium
BP1	*243*	053-2011921220096	Broadway Square	8401	WEST BROADWAY	BROOKLYN PARK	Medium
BP1	*244*	053-1711921340052	Hennepin County Library	8500	WEST BROADWAY	BROOKLYN PARK	Low
BP1	*245*	053-1711921320205	Berean Baptist Church	8825	WEST BROADWAY	BROOKLYN PARK	Low
BP1	*246*	053-1711921230011	Commercial Building	7601	SETZLER PKWY N	BROOKLYN PARK	Low
BP1	*247*	053-1711921230006	Commercial Building	7500	SETZLER PKWY N	BROOKLYN PARK	Low
BP1	*248*	053-1711921220012	Crosstown North Business Center	9100	WYOMING AVE N	BROOKLYN PARK	Low
BP1	*249*	053-1711921210081	Commercial Building	9200	WEST BROADWAY	BROOKLYN PARK	Low
BP1	*250*	053-1711921220010	Crosstown North Business Center	9201	WEST BROADWAY	BROOKLYN PARK	Low
BP1	*251*	053-0811921430002	Liberty Carton and Star Exhibits	6900	93RD AVE N	BROOKLYN PARK	Low
BP1	*252*	053-0811921340007	Commercial Building	7200	93RD AVE N	BROOKLYN PARK	Low
BP1	*253*	053-0811921330024	Biotest Laboratories	9303	WEST BROADWAY	BROOKLYN PARK	Low
BP1	*254*	053-0811921340004	Undeveloped Land	9301	LOUISIANA AVE N	BROOKLYN PARK	Low
BP1	*254*	053-0811921310003	Undeveloped Land	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Low
BP1	*254*	053-0811921310005	Undeveloped Land	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Low
BP1	*254*	053-0811921340001	Undeveloped Land	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Low
BP1	*254*	053-0811921340005	Undeveloped Land	48	ADDRESS PENDING	BROOKLYN PARK	Low
BP1	*254*	053-0811921310010	Undeveloped Land	9400	WEST BROADWAY	BROOKLYN PARK	Low
BP1	*254*	053-0811921340008	Undeveloped Land	9350	WEST BROADWAY	BROOKLYN PARK	Low
BP1	*255*	053-0811921330023	Northwest EMC	9349	WEST BROADWAY	BROOKLYN PARK	Medium
BP1	*256*	053-0811921330012	Holiday	9399	WEST BROADWAY	BROOKLYN PARK	Medium
BP1	*257*	053-0811921320004	Baxter Healthcare	9450	WINNETKA AVE N	BROOKLYN PARK	Medium
BP1	*257*	053-0811921330020	Baxter Healthcare	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Medium
BP1	*258*	053-0811921330018	Undeveloped Land	9400	WINNETKA AVE N	BROOKLYN PARK	High
BP1	*259*	053-0811921420003	Olympus Surgical Technologies America	9600	LOUISIANA AVE N	BROOKLYN PARK	Low
BP1	*260*	053-0811921130004	Target Corporation	6901	OAK GROVE PKWY N	BROOKLYN PARK	Medium
BP1	*260*	053-0811921120006	Target Corporation	7000	TARGET PKWY N	BROOKLYN PARK	Medium
BP1	*260*	053-0811921210005	Target Corporation	7010	TARGET PKWY N	BROOKLYN PARK	Medium
BP-1	*260*	053-0811921130003	Target Corporation	6801	OAK GROVE PKWY N	BROOKLYN PARK	Medium
BP1	*261*	053-0811921240004	Undeveloped Land	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Low
BP1	*262*	053-0811921230004	Undeveloped Land	9730	WINNETKA AVE N	BROOKLYN PARK	Low
BP1	*263*	053-0811921230002	Undeveloped Land	9800	WINNETKA AVE N	BROOKLYN PARK	Medium
BP1	*264*	053-0811921220001	Undeveloped Land	10032	WINNETKA AVE N	BROOKLYN PARK	Medium
BP1	*265*	053-0711921110004	Undeveloped Land	8005	101ST AVE N	BROOKLYN PARK	Low
BP1	*266*	053-0711921110003	Undeveloped Land	8201	101ST AVE N	BROOKLYN PARK	Low
BP1	*267*	053-0711921110002	Undeveloped Land	8249	101ST AVE N	BROOKLYN PARK	Low
BP1	*268*	053-0511921340001	Three Rivers Park District Rush Creek Regional Trail	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Low
BP1	*269*	053-0711921120004	Grace Fellowship Church	8601	101ST AVE N	BROOKLYN PARK	Medium
BP1	*270*	053-0611921440001	Undeveloped Land	10225	WINNETKA AVE N	BROOKLYN PARK	Low
BP1	*271*	053-0611921430006	Three Rivers Park District Rush Creek Regional Trail	48	ADDRESS UNASSIGNED	BROOKLYN PARK	Medium

Appendix M

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Appendix F
Supporting Technical Reports

F.8 Noise and Vibration Technical Report

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Noise and Vibration Technical Report

May 2016

Blue Line Extension Project Technical Report

METROPOLITAN COUNCIL

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Executive Summary

This Noise and Vibration Technical Report has been prepared as a supplement to the Final Environmental Impact Statement (EIS) document, to provide additional information on the noise and vibration impact assessment for the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project. The technical report contains detailed information regarding the criteria, methodology, noise and vibration measurements, impact assessment results, and proposed mitigation measures. Additional information regarding the measurements and other technical data is found in the appendices to this report. Supplemental information regarding proposed BLRT Extension project specific information is also contained in the Draft EIS Noise and Vibration Technical Report, which is referenced where appropriate.

The results of the noise and vibration assessment for the proposed BLRT Extension project indicate that with the proposed mitigation measures, most residential noise impacts which meet the threshold for mitigation will be eliminated, and all vibration impacts will be eliminated from the proposed BLRT Extension project. The majority of the noise impacts from the proposed BLRT Extension project will be eliminated through the use of Quiet Zones or wayside devices. The vibration impacts from the proposed BLRT Extension project are localized to three areas and will be mitigated through conventional mitigation measures. **Section 1** of the report provides a summary of the impacts and mitigation measures for the proposed BLRT Extension project.

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1 Introduction and Summary

Cross-Spectrum Acoustics, Inc. (CSA) conducted a noise and vibration impact assessment for the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project. Noise and vibration have been assessed in accordance with guidelines specified in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* guidance manual (FTA, 2006). The assessment was carried out in support of the Final Environmental Impact Statement (Final EIS). The objective of the assessment was to document the noise and vibration impacts at sensitive locations and identify mitigation measures as a part of the proposed BLRT Extension project.

A summary of the assessment results are described below in **Section 1**. **Section 2** provides a discussion of the regulatory context, including noise and vibration basics and details regarding the noise and vibration criteria used to assess impact. **Section 3** describes the methodology used to assess noise and vibration impact. **Section 4** discusses the existing conditions, including a description of the noise and vibration sensitive land uses and the measurements conducted to determine the existing noise and vibration conditions. **Section 5** includes the results of the noise and vibration impact assessment. Mitigation measures are discussed in **Section 6**. A**ppendices A and B** contain detailed information on the supplemental noise measurements conducted for the Final EIS. **Appendices C and D** contain figures showing the location of noise and vibration impacts, respectively. Where appropriate, references are made to the *Bottineau Transitway Draft EIS Noise and Vibration Technical Report* (December 2012).

Based on the screening distances provided in Chapters 4 and 9 of the FTA guidance manual *Transit Noise and Vibration Impact Assessment* (May 2006), the noise and vibration study area for the proposed BLRT Extension project was typically within 300 feet of the proposed BLRT Extension project except for areas near shared Federal Railroad Administration (FRA) grade crossings, where land uses within 800 feet were identified. This extended distance takes into account the light rail transit (LRT) horn sounding required at these crossings.

1.1 Noise

Prior to mitigation, there would be 366 moderate and 618 severe noise impacts at residential and institutional locations along the proposed BLRT Extension project. The majority of the noise impacts are due to the sounding of LRT horns at at-grade crossings, primarily those shared with existing freight operations. The remaining noise impacts are due primarily to the proximity of sensitive receptors to the proposed alignment.

Mitigation measures, as detailed in **Section 6**, will eliminate most residential noise impacts with meet the threshold for mitigation, based on FTA criteria, at locations throughout the proposed BLRT Extension project corridor. The primary mitigation measure will be the implementation of Quiet Zones at the shared at-grade crossings. This will eliminate the LRT horn sounding and will have the added benefit of eliminating the freight horns as well. Other mitigation measures may include wayside horns, wayside noise barriers, and sound insulation improvements. Details regarding specific mitigation measures are contained in **Section 6**.

1.2 Vibration

Prior to mitigation, there would be 28 residential vibration impacts at various locations along the proposed BLRT Extension project. Mitigation measures, as detailed in **Section 6**, will eliminate all vibration impacts at locations throughout the proposed BLRT Extension project corridor. The primary mitigation measure will be the use of ballast mats or equivalent mitigation measures. Details regarding specific mitigation measures are contained in **Section 6**.

2 Regulatory Context

2.1 Noise

2.1.1 Noise Basics

Sound is defined as small changes in air pressure above and below the standard atmospheric pressure and noise is usually considered to be unwanted sounds. The three parameters that define noise include:

- **Level:** The level of sound is the magnitude of air pressure change above and below atmospheric pressure, and is expressed in decibels (dB). Typical sounds fall within a range between 0 dB (the lower limits of human hearing) and 120 dB (the highest sound levels experienced in the environment). A 3-dB change in sound level is perceived as a barely noticeable change outdoors and a 10-dB change in sound level is perceived as a doubling (or halving) of the sound level.
- **Frequency:** The frequency (pitch or tone) of sound is the rate of air pressure changes and is expressed in cycles per second, or Hertz (Hz). Human ears can detect a wide range of frequencies from around 20 Hz to 20,000 Hz; however, human hearing is not effective at high and low frequencies, and the A-weighting system (dBA) is used to correlate with human response to noise. The A-weighted sound level has been widely adopted by acousticians as the most appropriate descriptor for environmental noise.
- **Time Pattern:** Because environmental noise is constantly changing, it is common to condense all of this information into a single number, called the "equivalent" sound level (L_{eq}). The L_{eq} represents the changing sound level over a period of time, typically 1 hour or 24-hours in transit noise assessments. For LRT and freight rail projects, the Day-Night Sound Level (L_{dn}) is the common noise descriptor used, and has been adopted by most agencies as the best way to describe how people respond to noise in their environment. L_{dn} is a 24-hour cumulative A-weighted noise level that includes all noises that happen within a day, with a 10 dB penalty for nighttime noise (10 p.m. to 7 a.m.). This nighttime penalty means that any noise events at night are equivalent to ten similar events during the day. Typical L_{dn} values for various transit and freight operations are shown in **Figure 2-1**.

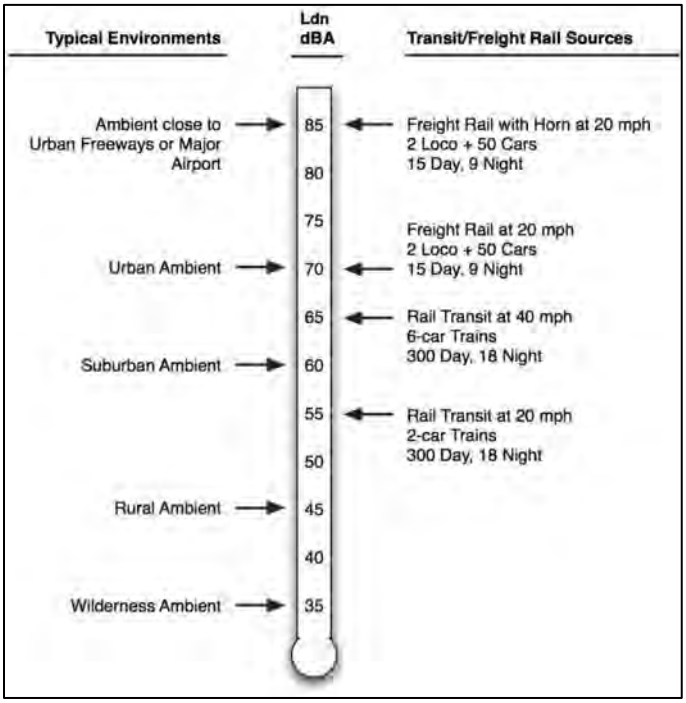
2.1.2 Noise Impact Criteria

2.1.2.1 FTA Transit Noise Criteria

The noise impact criteria used for the proposed BLRT Extension project are based on the information contained in Chapter 3 of the FTA noise and vibration guidance manual.[1] The FTA noise impact criteria are based on well-documented research on community response to noise and are based on both the existing level of noise and the change in noise exposure due to a project. The FTA noise criteria compare the proposed BLRT Extension project noise with the existing noise (not the No-Build noise).

The FTA noise criteria are based on the land use category of the sensitive receptor, and use L_{dn} for locations where people sleep (Category 2) and L_{eq} for locations with daytime and/or evening use (Category 1 or 3), as shown in **Table 2-1**.

Figure 2-1. Cumulative Noise Levels from LRT and Freight Rail



Source: CSA, 2015

[1] US Federal Transit Administration, "Transit Noise and Vibration Impact Assessment." Report FTA-VA-90-1003-06, May 2006.

The noise impact criteria are defined by the two curves shown in **Figure 2-2**, which allow increasing project noise as existing noise levels increase, up to a point at which impact is determined based on project noise alone. The FTA noise impact criteria include three levels of impact, as shown in **Figure 2-2**. The three levels of impact include:

- **No Impact:** In this range, the proposed BLRT Extension project is considered to have no impact since, on average the introduction of the proposed BLRT Extension project would result in an insignificant increase in the number of people highly annoyed by the proposed BLRT Extension project noise.
- **Moderate Impact:** At the moderate impact range, changes in the cumulative noise level are noticeable to most people, but may not be sufficient to cause strong, adverse reactions from the community. In this transitional area, other proposed BLRT Extension project–specific factors must be considered to determine the magnitude of the impact and the need for mitigation, such as the existing noise level, predicted level of increase over existing noise levels and the types and numbers of noise-sensitive land uses affected.
- **Severe Impact:** At the severe impact range, a significant percentage of people would be highly annoyed by the proposed BLRT Extension project noise. Severe noise impacts are considered to be "significant" under the National Environmental Policy Act, and should be avoided if possible. Noise mitigation should be applied for severe impacts where feasible.

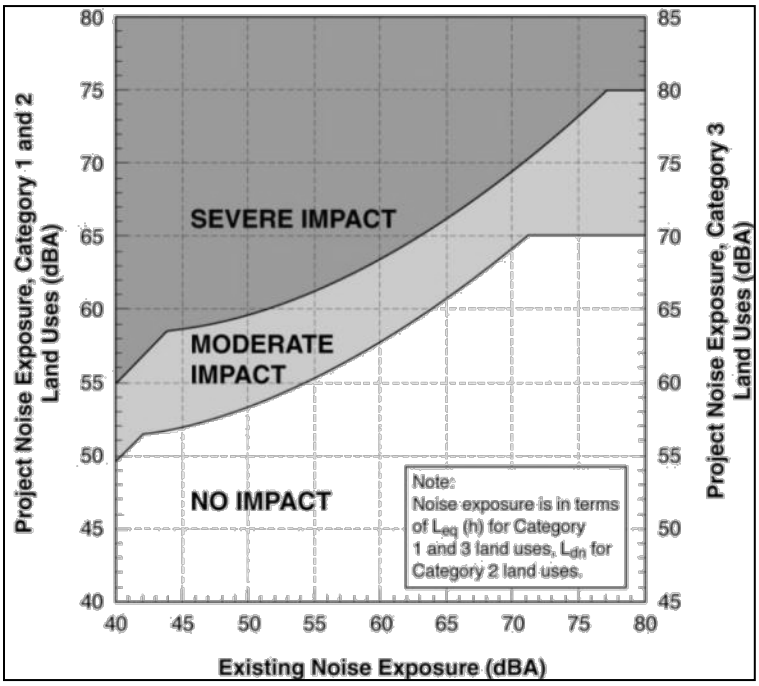
Table 2-1. Land Use Categories and Metrics for Transit Noise Impact Criteria

Land Use Category	Noise Metric (dBA)	Description of Land Use Category
1	Outdoor $L_{eq}(h)$ [1]	Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use. Also included are recording studios and concert halls.
2	Outdoor L_{dn}	Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
3	Outdoor $L_{eq}(h)$ [1]	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, museums, campgrounds and recreational facilities can also be considered to be in this category. Certain historical sites and parks are also included.

Source: FTA, 2006

[1] L_{eq} for the noisiest hour of transit-related activity during hours of noise sensitivity.

Figure 2-2. FTA Noise Impact Criteria



Source: FTA, 2006

2.1.2.2 Cultural Resources

Under FTA guidance, historic sites are designated as noise sensitive depending on the land use of the site, not their designation as historic. Sites of national significance with considerable outdoor use required for site interpretation would be in Category 1.[2] Historic sites that are currently used as residences would be in Category 2. Historic buildings with indoor use of an interpretive nature involving meditation and study would be in Category 3. These include museums, significant birthplaces and buildings in which significant historical events occurred.

Most downtown areas have buildings which are historically significant because they represent a particular architectural style or are prime examples of the work of a historically significant designer. If the buildings or structures are used for commercial or industrial purposes and are located in busy commercial areas, they are not considered noise sensitive and the impact criteria do not apply.

Similarly, historical transportation structures, such as terminals and railroad depots, are not considered noise sensitive land uses. These buildings or structures may however be afforded special protection under Section 4(f) of the Department of Transportation (DOT) Act and Section 106 of the National Historic Preservation Act.

In the Section 106 process protecting historic and cultural properties, noise may or may not be considered an "adverse effect" depending on the individual circumstances and whether or not the

[2] Transit Noise and Vibration Impact Assessment, Chapter 3 (FTA, 2006)

use is noise sensitive, because, as previously noted, historic and cultural properties are only noise sensitive based on how they are used. The regulatory processes stemming from these statutes require coordination and consultation with agencies and organizations having jurisdiction over these resources. Their views on the proposed BLRT Extension project's impact on protected resources are given careful consideration by FTA and the proposed BLRT Extension project sponsor, and their recommendations may influence the decision to adopt noise reduction measures.[3]

2.1.2.3 Minnesota Pollution Control Agency Noise Standards

The Minnesota Pollution Control Agency (MPCA) has an established set of Noise Standards (Minnesota Rules, Chapter 7030), which provide limits on environmental noise using the L_{10} and L_{50} descriptors, which represent the noise level exceeded 10 percent (6 minutes) and 50 percent (30 minutes) of the time during an hour, respectively. The standards include both daytime and nighttime limits for three different categories of land use or noise area classification, with residential lands included in noise area classification 1. Classifications 2 and 3 are generally for commercial and industrial land uses, respectively. The standards are shown in **Table 2-2**.

Table 2-2. MPCA Noise Standards

Noise Area Classification	Daytime		Nighttime	
	L_{10} (dBA)	L_{50} (dBA)	L_{10} (dBA)	L_{50} (dBA)
1	65	60	55	50
2	70	65	70	65
3	80	75	80	75

Source: Minnesota Rules, Chapter 7030, Noise Pollution

Because of the time limit component of the MPCA noise standards, the proposed BLRT Extension project would not exceed the standards under the proposed operating conditions. Light rail vehicles would pass by a location for approximately 10 seconds 12 times an hour (based on the operating assumptions of 10 minute headways in each direction) for a total of 120 seconds, or 2 minutes. Because the duration of exposure to LRT noise does not exceed the L_{10} (6 minutes) and L_{50} (30 minutes) time components, there is no potential for the proposed BLRT Extension project to exceed MPCA thresholds. Because the proposed BLRT Extension project would not exceed the MPCA thresholds, the FTA noise impact criteria described previously are more protective than the MPCA standards and have been used to assess and mitigate noise impacts identified within this Final EIS.

[3] For historic or cultural resources, the following two circumstances in assessing impacts and mitigation measures: (1) The noise sensitivity of the property. While Table 1 gives a comprehensive list of noise sensitive land uses, there can be differences in noise sensitivity depending on individual circumstances. For example, a historic park or recreational area could vary in its sensitivity to noise depending on the type of use of the park (active versus passive recreation) and the settings in which it is located. (2) Special protection provided by law. Section 106 of the National Historic Preservation Act and Section 4(f) of the DOT Act (which protects historic sites, as well as publicly owned parks, recreation areas, wildlife, and waterfowl refuges) come into play frequently during the environmental review of transit projects. See pages 3-12 and 3-13 of the FTA Transit Noise and Vibration Impact Assessment for additional information on considerations given to resources that have special protection provided by law.

Information regarding the existing noise levels, which are not included in the MPCA assessment, in the proposed BLRT Extension project corridor and any exceedances of the MPCA standards is described in **Section 4.1.2**.

2.1.2.4 FTA Construction Noise Criteria

FTA's construction noise criteria, summarized in **Table 2-3**, were used for the short-term noise impact analysis. The FTA construction noise criteria provide adequate protection for short-term noise impacts and allow for reasonable mitigation measures to be applied to the proposed BLRT Extension project. Additionally, MPCA noise criteria were evaluated for the proposed BLRT Extension project, and the Metropolitan Council (Council) will work with local jurisdictions to ensure that reasonable measures are taken to limit construction noise.

Table 2-3. FTA Construction Noise Criteria

	8-hour L_{eq}, dBA		Noise Exposure, dBA
Land Use	Day	Night	30-day Average
Residential	80	70	75
Commercial	85	85	80
Industrial	90	90	85

Source: FTA, 2006

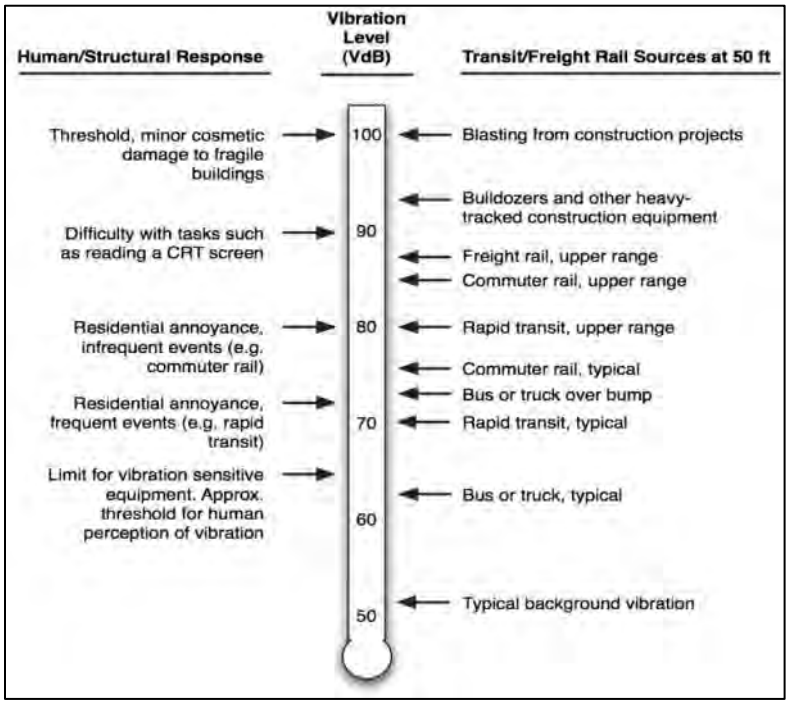
2.2 Vibration

Ground-borne vibration is the motion of the ground transmitted into a building that can be described in terms of displacement, velocity, or acceleration. Vibration velocity is used in transit and freight rail and is defined by the following:

- **Level:** Vibration is expressed in terms of vibration velocity level, using vibration decibels (VdB), with a reference of 1 micro-inch per second. The level of vibration represents how much the ground is moving. The threshold of human perception to transit and freight rail vibration is approximately 65 VdB and annoyance begins to occur for frequent events at vibration levels over 70 VdB.
- **Frequency:** Vibration frequency is expressed in Hertz (Hz). Human response to vibration is typically from about 6 Hz to 200 Hz.
- **Time Pattern:** Environmental vibration changes all the time and human response is roughly correlated to the number of vibration events during the day. The more events that occur, the more sensitive humans are to the vibration.

Figure 2-3 shows typical ground-borne vibration levels for transit and freight projects as well as the corresponding human and structural responses to vibration.

Figure 2-3. Vibration Levels from LRT and Freight Rail



Source: CSA, 2015

2.2.1 Vibration Impact Criteria

2.2.1.1 FTA Transit Vibration Criteria

The vibration impact criteria used for the proposed BLRT Extension project are based on the information contained in Chapter 8 of the FTA noise and vibration guidance manual. The criteria for a general vibration assessment are based on land use and train frequency, as shown in **Table 2-4**. Some buildings, such as concert halls, recording studios and theaters, can have a higher sensitivity to vibration (or ground-borne noise) but do not fit into the three categories listed in **Table 2-4**. Because of the sensitivity of these buildings, special attention is paid to these buildings during the environmental assessment of a project. **Table 2-5** shows the FTA criteria for acceptable levels of vibration for several types of special buildings.

Tables 2-4 and 2-5 include additional criteria for ground-borne noise, which is a low-frequency noise that is radiated from the motion of room surfaces, such as walls and ceilings in buildings due to ground-borne vibration. Ground-borne noise is defined in terms of dBA, which emphasizes middle and high frequencies, which are more audible to human ears. The criteria for ground-borne noise are much lower than for airborne noise to account for the low-frequency character of ground-borne noise; however, because airborne noise typically masks ground-borne noise for above

ground (at-grade or elevated) transit systems, ground-borne noise is only assessed for operations in tunnels, where airborne noise is not a factor, or at locations such as recording studios, which are well insulated from airborne noise.

Table 2-4. Ground-Borne Vibration and Ground-Borne Noise Impact Criteria for General Assessment

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re 1 micro-inch/sec)			Ground-Borne Noise Impact Levels (dBA re 20 micro-Pascals)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65[4]	65[4]	65[4]	N/A[5]	N/A[5]	N/A[5]
Category 2: Residences and buildings where people normally sleep.	72	75	80	35	38	43
Category 3: Institutional land uses with primarily daytime use.	75	78	83	40	43	48

Source: FTA, 2006

[1] "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.

[2] "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.

[3] "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

[4] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

[5] Vibration-sensitive equipment is generally not sensitive to ground-borne noise.

Table 2-5. Ground-Borne Vibration and Ground-Borne Noise Impact Criteria for Special Buildings

Type of Building or Room	Ground-Borne Vibration Impact Levels (VdB re 1 micro-inch/sec)		Ground-Borne Noise Impact Levels (dBA re 20 micro Pascals)	
	Frequent Events[1]	Occasional or Infrequent Events[2]	Frequent Events[1]	Occasional or Infrequent Events[2]
Concert halls	65	65	25	25
TV studios	65	65	25	25
Recording studios	65	65	25	25
Auditoriums	72	80	30	38
Theaters	72	80	35	43

Source: FTA, 2006

[1] "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

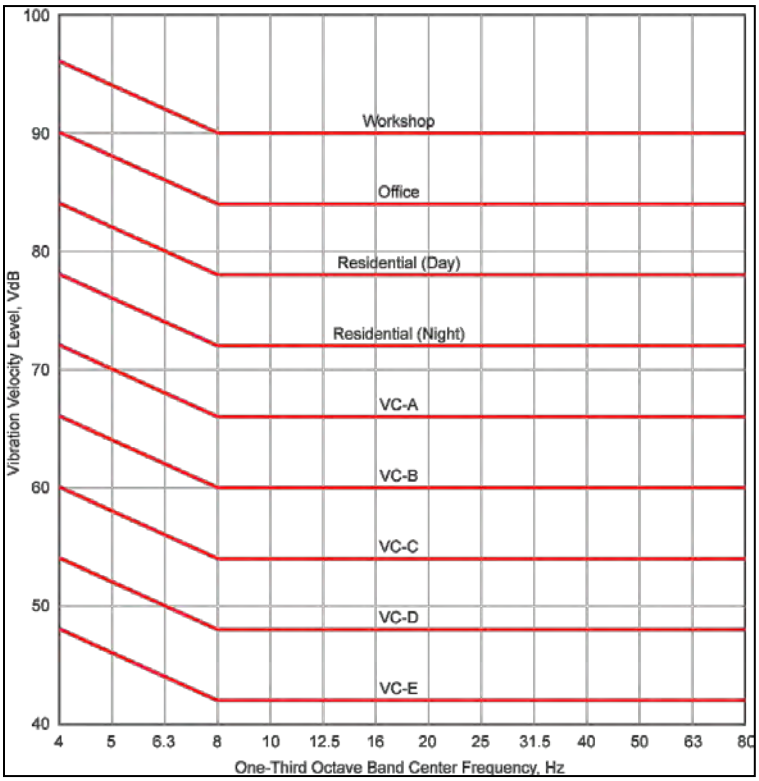
[2] "Occasional or Infrequent Events" is defined as fewer than 70 vibration events per day. This category includes most commuter rail systems.

If the building will rarely be occupied when the trains are operating, there is no need to consider impact. As an example, consider locating a commuter rail line next to a concert hall. If no commuter trains would operate after 7 p.m., it should be rare that the trains interfere with the use of the hall.

The criteria for a detailed vibration assessment are shown in **Figure 2-4** and descriptions of the curves are shown in **Table 2-6**. The curves in **Figure 2-4** are applied to the projected vibration spectrum for the proposed BLRT Extension project. If the vibration level at any one frequency exceeds the criteria, there would be impact. Conversely, if the entire proposed vibration spectrum of the proposed BLRT Extension project is below the curve, there would be no impact.

For the proposed BLRT Extension project, the general vibration assessment criteria will be used at special buildings. The detailed vibration assessment criteria will be used to assess LRT ground-borne vibration.

Figure 2-4. Detailed Vibration Criteria



Source: FTA, 2006

Table 2-6. Interpretation of Vibration Criteria for Detailed Analysis

Criterion Curve (see Figure 2-4)	Max Level (VdB)[1]	Description of Use
Workshop	90	Distinctly feelable vibration. Appropriate to workshops and non-sensitive areas.
Office	84	Feelable vibration. Appropriate to offices and non-sensitive areas.
Residential Day	78	Barely feelable vibration. Adequate for computer equipment and low-power optical microscopes (up to 20×).
Residential Night, Operating Rooms	72	Vibration not feelable, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power optical microscopes (100×) and other equipment of low sensitivity.
VC-A	66	Adequate for medium- to high-power optical microscopes (400×), microbalances, optical balances, and similar specialized equipment.
VC-B	60	Adequate for high-power optical microscopes (1,000×), inspection and lithography equipment to 3 micron line widths.
VC-C	54	Appropriate for most lithography and inspection equipment to 1 micron detail size.
VC-D	48	Suitable in most instances for the most demanding equipment, including electron microscopes operating to the limits of their capability.
VC-E	42	The most demanding criterion for extremely vibration-sensitive equipment.

Source: FTA, 2006

[1] As measured in 1/3-octave bands of frequency over the frequency range 8 to 80 Hz.

2.2.1.2 Cultural Resources

Under FTA guidance, historic sites are designated as vibration sensitive depending on the land use of the site, not their designation as historic. Historical sites that are currently used as residences will be in Category 2. Historic buildings with indoor use of an interpretive nature involving meditation and study will be in Category 3. These include museums, significant birthplaces, and buildings in which significant historical events occurred. One difference between noise and vibration is that outdoor land uses are not considered vibration sensitive. Only indoor land uses are considered vibration sensitive.

Most downtown areas have buildings which are historically significant because they represent a particular architectural style or are prime examples of the work of a historically significant designer. If the buildings or structures are used for commercial or industrial purposes and are located in busy commercial areas, they are not considered vibration sensitive and the impact criteria do not apply.

Similarly, historical transportation structures, such as terminals and railroad depots, are not considered vibration-sensitive land uses. These buildings or structures may however be afforded special protection under Section 4(f) of the DOT Act and Section 106 of the National Historic Preservation Act.

In the Section 106 process protecting historic and cultural properties, vibration may or may not be considered an “adverse effect” depending on the individual circumstances and whether or not the

use is vibration sensitive, because, as previously noted, historic and cultural properties are only vibration sensitive based on how they are used. The regulatory processes stemming from these statutes require coordination and consultation with agencies and organizations having jurisdiction over these resources. Their views on the project's impact on protected resources are given careful consideration by FTA and the project sponsor, and their recommendations may influence the decision to adopt vibration reduction measures.

2.2.1.3 FTA Construction Vibration Criteria

In addition to the vibration criteria for human annoyance and interference with equipment and spaces described above, there are also vibration criteria for damage from construction activities. Typical transit operations do not have the potential for damage, so only certain construction activities are assessed for damage.

The thresholds for damage to structures are typically several orders of magnitude above the thresholds for human response to vibration. **Table 2-7** shows the FTA criteria for vibration damage to structures. This is based on the structure and construction type (and not a designation as historic). **Table 2-7** includes criteria in both VdB and peak particle velocity (PPV).

Table 2-7. FTA Vibration Damage Criteria from Construction

Building Category	PPV (in/sec)	Approximate Lv[1]
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA, 2006

[1] RMS velocity in VdB re 1 micro-inch/second

3 Impact Assessment Methodology

3.1 Noise

This section describes the methodology for assessing the potential impact from the proposed BLRT Extension project.

Projected noise levels for the Final EIS Detailed Noise Analysis are based on noise measurements of the METRO Blue Line vehicles, which were conducted for the Central Corridor project, and the operating characteristics and current design of the proposed BLRT Extension project. Specific inputs used in the noise impact assessment include the following:

- Light rail train speeds would generally range from 20 miles per hour (mph) to 65 mph for revenue operations, except for entry and exit from station areas. Light rail train speeds are based on modeled speed profiles in both directions (i.e., inbound and outbound) that reflect train operating characteristics, track geometry, and station locations.
- Light rail trains would comprise three rail cars during hours of operation.
- The operating hours and headways[4] would be as follows:
  - Early morning hours (12:15 a.m. to 2:00 a.m.): 60-minute headways
  - Morning hours (4:00 a.m. to 5:30 a.m.): 30-minute headways
  - Early peak morning operating hours (5:30 a.m. to 6:30 a.m.) 15-minute headways
  - Peak operating hours (6:30 a.m. to 9:00 p.m.): 10-minute headways
  - Evening hours (9:00 p.m. to 10:15 p.m.): 20-minute headways
  - Late evening hours (10:15 p.m. to 12:15 a.m.): 30-minute headways
- The reference noise levels are shown in **Table 3-1**.

[4] Headways are the average time between transit vehicles operating in the same direction by a common point over a given period of time (e.g., four inbound light rail trains passing by a station within 1 hour will result in a 15-minute headway).

Table 3-1. Blue Line Reference Noise Levels

Noise Source	Sound Exposure Level,[1] 50 feet (dBA)
LRT on embedded track	84
LRT on ballast-and-tie track	81
Crossing bells	76[2]
LRT bells	86/87[3]
LRT horn	109/115[4]

Source: CSA, 2015

[1] The sound exposure level (SEL) is the cumulative noise from a single event, taking into account both the level and duration of the sound.

[2] The maximum noise level from crossing bells is 77 dBA at 10 feet. Crossing bells will be sounded for 20 seconds for each light rail vehicle at an at-grade crossing.

[3] The maximum noise level from LRT bells is 80 dBA at 50 feet. LRT bells will be sounded 3 times when entering and exiting stations (86 dBA SEL) and will be sounded for 5 seconds at each non-FRA at-grade crossing (8 dBA SEL).

[4] The maximum noise level from LRT horns is 96 dBA at 100 feet. LRT horns will be sounded for 5 seconds at certain higher speed at-grade crossings (109 dBA SEL) and for 15 seconds at all FRA at-grade crossings (115 dBA SEL).

- Locations of elevated structures, crossovers and embedded track were identified based on plan and profile maps provided by the engineering team.
- Crossovers increase the noise levels by up to 6 dB for nearby sensitive receptors due to the gap in the track.
- Elevated structures increase the noise levels by 4 dB for nearby sensitive receptors due to structure-borne noise.
- Anticipated use of bells and horns at each at-grade crossing and station was determined by Metro Transit Operations and proposed BLRT Extension project staff based on the following considerations:
  - Light rail vehicle bells will be sounded three times when entering and exiting station platforms
  - Light rail vehicle horns or bells will be sounded at at-grade crossings – horn or bell usage will be determined by Metro Transit Operations and will be based on a variety of factors, including train speeds at the crossing, type of crossing warning devices, at-grade crossing and adjacent roadway geometry, proximity to a freight rail crossing under the jurisdiction of FRA (the light rail vehicle horn or bell will be sounded for 5 seconds at non-FRA crossings; the light rail vehicle horn or bell will be sounded long, long, short, long for 15 seconds at FRA crossings) and other relevant factors
  - Grade crossing bells will be used at at-grade crossings for 20 seconds for each light rail train where there will be flashing lights and gates at the crossing.

- Light rail bells or horns will be sounded in the following manner for locations with stations directly adjacent to at-grade crossings:
  - For the side opposite the station, vehicles will sound their horns or bells in accordance with the procedures above for a grade crossing. No additional sounding will occur upon entering the station.
  - For the side with the station, vehicles will sound their bells in accordance with the procedure above upon entering the station. The vehicle will then sound either the horn or bell upon exiting the station until the front of the vehicle passes through the far side of the crossing.

3.2 Vibration

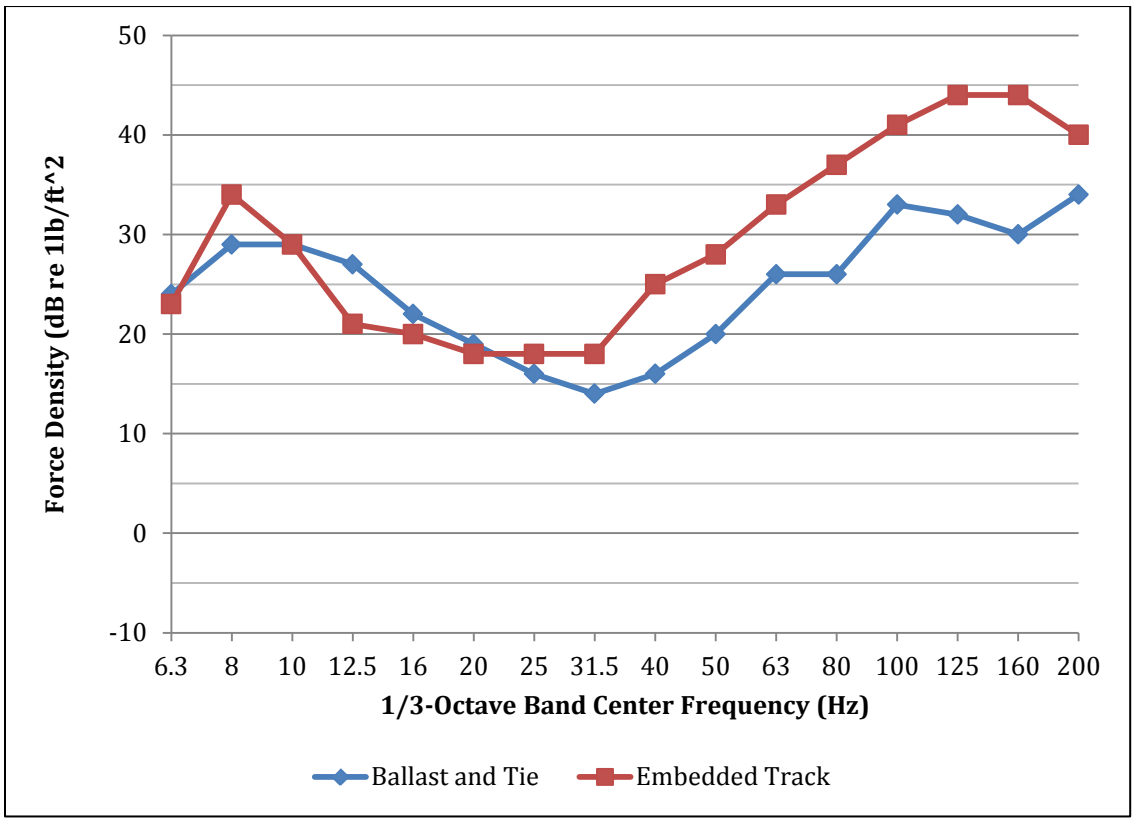
This section describes the methodology for assessing the potential impact from the proposed BLRT Extension project. Specific inputs used in the vibration impact assessment include the following:

- Projected LRT operating speeds would range from approximately 20 mph to 65 mph for LRT revenue operations, except for entry and exit from station areas. Light rail train speeds are based on modeled speed profiles in both directions (i.e., inbound and outbound) that reflect train operating characteristics, track geometry, and station locations.
- All light rail trains would consist of three cars during hours of operation.
- The operating hours and headways are described in **Section 3.1**, which would result in "frequent" events, as defined in the vibration criteria section.
- Locations of elevated structures, crossovers, and embedded track were identified based on plan and profile maps provided by the engineering team.
- Crossovers increase the vibration levels by up to 10 dB for nearby sensitive receptors due to the gap in the track.
- Elevated structures decrease the vibration levels by 10 dB for nearby sensitive receptors.
- Future vibration levels from LRT operations were based on a combination of the force density (vehicle) and propagation (soil) data at sensitive locations. The procedure for projecting future vibration levels is to measure the vibration propagation characteristics of the soil (line source transfer mobility [LSTM]) and combine that information with the vehicle information independent of the soil (force density [FD]). The formula for calculating the future vibration levels is:

  Lv = FD + LSTM

  Where: Lv is the projected train vibration level, FD is the vehicle force density, and LSTM is the line source transfer mobility at a site.
- Vehicle force density levels were based on measurements conducted for the Central Corridor LRT project (ATS Consulting, 2008) for both ballast-and-tie and embedded track. Representative force density spectra for both ballast-and-tie and embedded track are shown in **Figure 3-1**.
- Vibration propagation measurements were conducted at representative locations throughout the proposed BLRT Extension project vicinity during the Draft EIS.

Figure 3-1. Force Density Levels at 40 mph



Source: ATS, 2008

4 Affected Environment

4.1 Noise

4.1.1 Noise Sensitive Land Use

Noise-sensitive land use for the Final EIS was identified based on aerial photography, proposed BLRT Extension project drawings, and a site survey. Based on the information from these sources, the noise-sensitive land use, from south to north by city is as follows.

4.1.1.1 Minneapolis

The noise-sensitive land uses for the City of Minneapolis includes Mary's Place, Summit Academy, Sumner Branch Library, Wayman African Methodist Episcopal (AME) Church, Seed Academy, Zion Baptist Church, La Creche Early Childhood Center and a mixture of single-family and multi-family residences. The dominant noise sources are traffic on Olson Memorial Highway (Trunk Highway [TH] 55) and local street traffic for areas off Olson Memorial Highway.

4.1.1.2 Golden Valley

The noise-sensitive land uses for the City of Golden Valley includes Theodore Wirth Park, The Chalet at Theodore Wirth Park, The Family Partnership, Saint Margaret Mary Church, Loveworks Academy and primarily single-family residences with some multi-family residences as well. The dominant noise source is traffic on local streets.

4.1.1.3 Robbinsdale

The noise-sensitive land uses for the City of Robbinsdale includes Bethel World Outreach Church, Elim Lutheran Church, Sacred Heart Catholic Church and School, Robbinsdale Library Branch, Washburn McReavy Funeral Home, a Masonic Lodge, Redeemer Lutheran Church and a mixture of single-family and multi-family residences. The dominant noise sources are occasional freight trains and traffic on local streets.

4.1.1.4 Crystal

The noise-sensitive land uses for the City of Crystal includes Crystal Medical Center, Little Folks Daycare and a mixture of single-family and multi-family residences. The dominant noise sources are occasional freight trains, traffic on Bottineau Boulevard (County Road 81) and flight operations at Crystal Airport.

4.1.1.5 Brooklyn Park

The noise-sensitive land uses for the City of Brooklyn Park includes Brooklyn Crystal Cemetery, Prince of Peace Lutheran Church, Brooklyn Park Evangelical Free Church, North Hennepin Community College, Step by Step Montessori School, Berean Baptist Church, Ebenezer Community Church and a mixture of single-family and multi-family residences. The dominant noise sources are occasional freight trains, and traffic on Bottineau Boulevard and West Broadway Avenue (County State-Aid Highway 103).

4.1.2 Existing Noise Measurements

4.1.2.1 Noise Measurement Procedures and Equipment

In order to supplement the existing noise measurements conducted during the Draft EIS, a series of noise measurements were conducted during May 2015 at nine locations along the proposed BLRT Extension project corridor to refine the existing noise levels and to respond to comments received on the Draft EIS.

Because the thresholds for impact in the FTA noise criteria are based on the existing noise levels, measuring the existing noise and characterizing noise levels at sensitive locations along the corridor is an important step in the impact assessment. The noise measurements included both long-term (24-hour) and short-term (1-hour) monitoring of the A-weighted sound level at noise-sensitive locations near the proposed BLRT Extension project.

The additional noise measurements conducted during the Final EIS were performed with NTi Audio model XL2 noise monitors that conform to American National Standard Institute (ANSI) standards for Type 1 (precision) sound measurement equipment. Calibrations, traceable to the National Institute of Standards and Technology (NIST) were conducted before and after each measurement. The noise monitors were set to continuously monitor and record multiple noise level metrics, as well as obtain audio recordings during the measurement periods.

4.1.2.2 Noise Measurement Locations and Results

Table 4-1 summarizes the results of the existing noise measurement program and **Figure 4-1** shows the location of the 21 long-term noise monitoring sites (LT) and eight short-term noise monitoring sites (ST) for the proposed BLRT Extension project. The long-term noise measurements were used to characterize the existing noise at residential locations because the FTA assessment methodology uses L_{dn} (24-hour noise descriptor) for all residential locations, and the short-term noise measurements were used to characterize the existing noise at non-residential locations because the FTA assessment methodology uses L_{eq} (1-hour noise descriptor) for all non-residential locations.

At each site, the measurement was conducted at the approximate set back of the building or buildings relative to the proposed BLRT Extension project location. The results of the existing noise measurements program are used to determine the existing noise levels for all the noise-sensitive locations. The noise measurement results at each Final EIS site (which are identified by letters) are described below. See the Draft EIS Noise and Vibration Technical Report for information regarding the Draft EIS noise measurement results (which are identified by numbers).

Detailed information regarding the Final EIS noise measurement results are contained in **Appendix A** and photographs of noise measurement sites are contained in **Appendix B**.

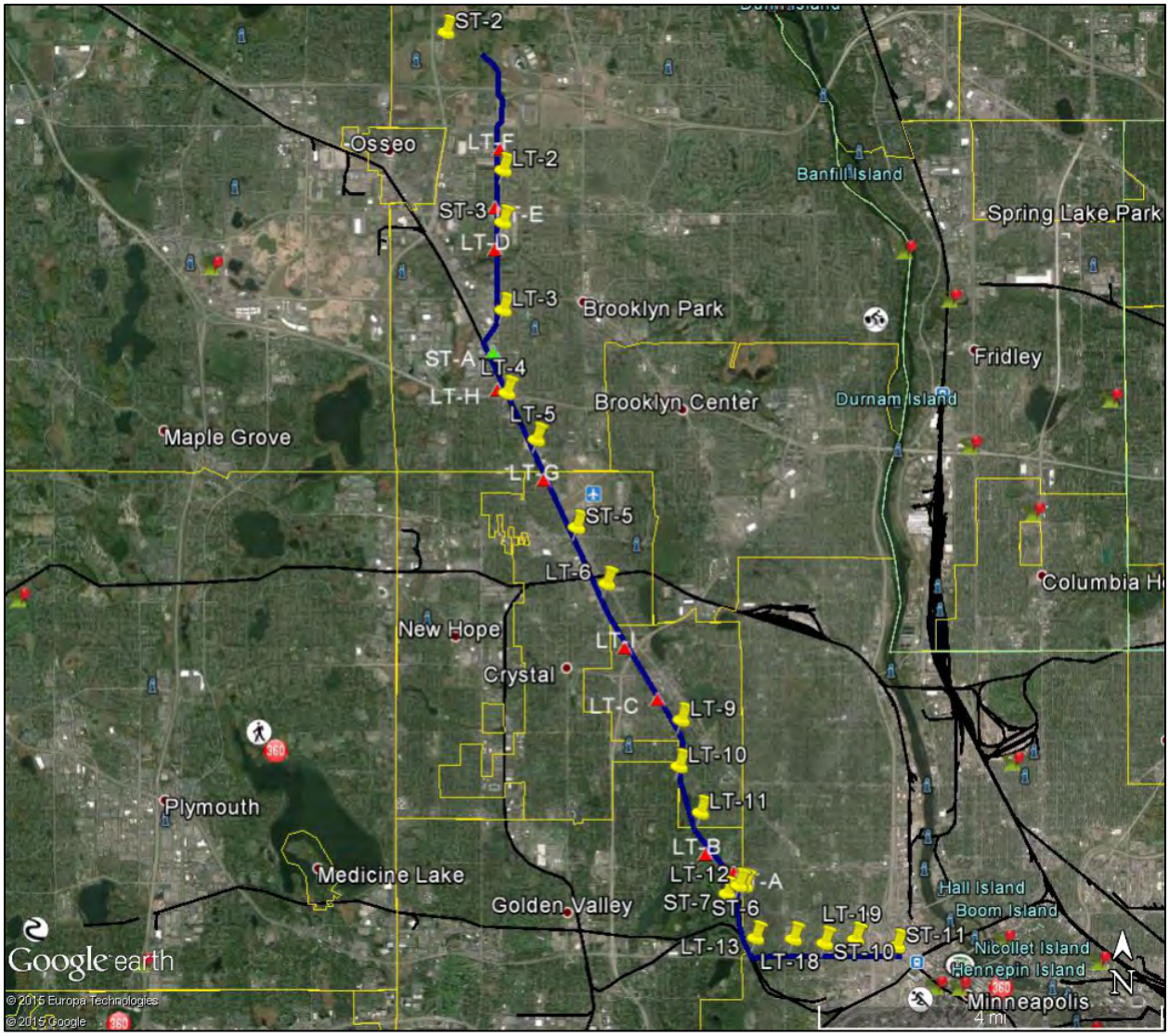
Table 4-1. Summary of Existing Noise Level Measurements

Site No.	City	Measurement Location	DEIS/ FEIS	Measurement Start		Meas. Dur. (hr)	Noise Level (dBA)[1]	
				Date	Time		L_{dn}	L_{eq}
ST-11	Minneapolis	Mary My Hope Children's Center	DEIS	5/17/12	16:09	1	65	67
LT-19	Minneapolis	1000 Olson Memorial Highway Heritage Park	DEIS	5/15/12	18:00	24	65	61
ST-10	Minneapolis	Harrison Education Center	DEIS	5/15/12	16:07	1	60	62
LT-18	Minneapolis	611 Oliver Avenue North	DEIS	5/17/12	12:00	24	62	59
LT-13	Minneapolis	623 Vincent Avenue North	DEIS	5/16/12	17:00	24	56	50
ST-6	Golden Valley	Theodore Wirth Regional Park	DEIS	5/18/12	10:01	1	47	49
ST-7	Golden Valley	The Chalet at Theodore Wirth Regional Park	DEIS	5/18/12	11:20	1	53	55
LT-12	Golden Valley	1501 Xerxes Avenue North	DEIS	7/14/11	16:00	24	55	50
LT-A	Golden Valley	1821 York Avenue	FEIS	5/11/15	16:00	24	54	47
LT-B	Golden Valley	2145 Bonnie Lane	FEIS	5/11/15	16:00	24	53	50
LT-11	Robbinsdale	3912 26th Avenue North	DEIS	7/13/11	16:00	24	50	45
LT-10	Golden Valley	3230 Kyle Avenue North	DEIS	5/5/12	14:00	24	51	45
LT-9	Robbinsdale	4400 36th Avenue North	DEIS	5/15/12	15:00	24	54	48
LT-C	Robbinsdale	3954 Noble Avenue	FEIS	5/11/15	17:00	24	55	52
LT-I	Robbinsdale	4416 Toledo Avenue North	FEIS	5/13/15	18:00	24	61	59
LT-6	Crystal	5001 Welcome Avenue North	DEIS	7/14/11	15:00	24	54	48
ST-5	Crystal	Becker Park	DEIS	5/17/12	13:51	1	54	56
LT-G	Crystal	6102 Hampshire Avenue North	FEIS	5/13/15	16:00	24	62	61
LT-5	Brooklyn Park	6288 Louisiana Court North	DEIS	5/14/12	12:00	24	63	58
LT-4	Brooklyn Park	6648 West Broadway Avenue	DEIS	5/15/12	13:00	24	61	61
LT-H	Brooklyn Park	7501 Myers Avenue	FEIS	5/13/15	16:00	24	69	68
ST-A	Brooklyn Park	Prince of Peace Lutheran Church	FEIS	5/12/15	08:38	1	60	62
LT-3	Brooklyn Park	7428 75th Circle North	DEIS	5/14/12	13:00	24	60	55
LT-D	Brooklyn Park	8220 Quebec Court North	FEIS	5/12/15	14:00	24	65	62
ST-3	Brooklyn Park	North Hennepin Community College	DEIS	5/14/12	15:33	1	58	60
LT-E	Brooklyn Park	8558 S. Maplebrook Circle	FEIS	5/12/15	17:00	24	65	62
LT-2	Brooklyn Park	8745 Oregon Avenue North	DEIS	7/14/11	10:00	24	66	62
LT-F	Brooklyn Park	9125 Nevada Court	FEIS	5/12/15	18:00	24	57	51
ST-2	Brooklyn Park	Grace Fellowship Church	DEIS	5/14/12	17:00	1	55	57

Sources: CSA, 2015; HMMH, 2012

[1] L_{dn} is used for Category 2 (residential) land use and L_{eq} is used for Category 3 (institutional) land use.

Figure 4-1. Existing Noise Measurement Locations



Sources: CSA, 2015; HMMH, 2012

Golden Valley

Site LT-A – 1821 York Avenue: The L_{dn} measured at this location was 54 dBA. The dominant noise source was traffic on local streets and distant aircraft. Noise levels were measured for 24 hours in the backyard of the residence.

Site LT-B – 2145 Bonnie Lane: The L_{dn} measured at this location was 53 dBA. The dominant noise source was traffic on local streets and distant aircraft. Noise levels were measured for 24 hours in the front yard of the residence.

Robbinsdale

Site LT-C – 3954 Noble Avenue: The L_{dn} measured at this location was 55 dBA. The dominant noise source was traffic on local streets, freight operations and distant aircraft. Noise levels were measured for 24 hours in the back yard of the residence.

Site LT-I – 4416 Toledo Avenue North: The L_{dn} measured at this location was 61 dBA. The dominant noise source was traffic on Highway 100. Other sources of noise included traffic on local streets, freight operations and distant aircraft. Noise levels were measured for 24 hours in the back yard of the residence.

Crystal

Site LT-G – 6102 Hampshire Avenue North: The L_{dn} measured at this location was 62 dBA. The dominant noise source was traffic on Bottineau Boulevard. Other sources of noise included traffic on local streets, freight operations and aircraft operations at Crystal Airport. Noise levels were measured for 24 hours in the back yard of the residence.

Brooklyn Park

Site LT-H – 7501 Myers Avenue: The L_{dn} measured at this location was 62 dBA. The dominant noise source was traffic on Bottineau Boulevard and Interstate 94. Other sources of noise included traffic on local streets and freight operations. Noise levels were measured for 24 hours in the front yard of the residence.

Site ST-A – Prince of Peace Lutheran Church: The L_{eq} measured at this location was 62 dBA. The dominant noise source was traffic on Bottineau Boulevard. Noise levels were measured for 1 hour in the parking lot of the church.

Site LT-D – 8220 Quebec Court North: The L_{dn} measured at this location was 65 dBA. The dominant noise source was traffic on West Broadway. Noise levels were measured for 24 hours in the back yard of the residence.

Site LT-E – 8558 S. Maplebrook Circle: The L_{dn} measured at this location was 65 dBA. The dominant noise source was traffic on West Broadway. Noise levels were measured for 24 hours in the front yard of the residence.

Site LT-F – 9125 Nevada Court: The L_{dn} measured at this location was 57 dBA. The dominant noise source was traffic on West Broadway. Noise levels were measured for 24 hours in the back yard of the residence.

4.1.2.3 MPCA Noise Standards Analysis

Using the noise measurement data gathered during the Draft and Final EIS at the long-term noise measurement sites described above, an analysis was also conducted using the MPCA L_{10} and L_{50} noise standards. At each location where a long-term noise measurement was conducted, the maximum L_{10} and L_{50} over a 24-hour period were calculated.

The results, shown in **Table 4-2**, show that at most locations along the proposed BLRT Extension project corridor, the L_{10} and L_{50} standards are already being exceeded by existing noise sources. Most of the exceedances are due to exempt noise sources, such as roadway noise and aircraft overflights. The higher existing L_{10} and L_{50} noise levels are at locations close to major roadways along the proposed BLRT Extension project corridor. At locations further from roadways, the L_{10} and L_{50} noise levels are lower.

Table 4-2. Summary of Existing L_{10} and L_{50} Noise Levels at Long-Term Noise Measurement Locations

Site No.	City	Measurement Location	Draft EIS/ Final EIS	Max L_{10} (dBA)[1]	Max L_{50} (dBA)[1]
LT-19	Minneapolis	1000 Olson Memorial Highway Heritage Park	Draft EIS	65	59
LT-18	Minneapolis	611 Oliver Avenue North	Draft EIS	68	63
LT-13	Minneapolis	623 Vincent Avenue North	Draft EIS	51	46
LT-12	Golden Valley	1501 Xerxes Avenue North	Draft EIS	65	63
LT-A	Golden Valley	1821 York Avenue	Final EIS	57	51
LT-B	Golden Valley	2145 Bonnie Lane	Final EIS	54	51
LT-11	Robbinsdale	3912 26th Avenue North	Draft EIS	65	53
LT-10	Golden Valley	3230 Kyle Avenue North	Draft EIS	61	55
LT-9	Robbinsdale	4400 36th Avenue North	Draft EIS	65	60
LT-C	Robbinsdale	3954 Noble Avenue	Final EIS	56	52
LT-I	Robbinsdale	4416 Toledo Avenue North	Final EIS	63	61
LT-6	Crystal	5001 Welcome Avenue North	Draft EIS	69	60
LT-G	Crystal	6102 Hampshire Avenue North	Final EIS	65	62
LT-5	Brooklyn Park	6288 Louisiana Court North	Draft EIS	67	59
LT-4	Brooklyn Park	6648 West Broadway Avenue	Draft EIS	70	65
LT-H	Brooklyn Park	7501 Myers Avenue	Final EIS	71	67
LT-3	Brooklyn Park	7428 75th Circle North	Draft EIS	56	50
LT-D	Brooklyn Park	8220 Quebec Court North	Final EIS	68	62
LT-E	Brooklyn Park	8558 S. Maplebrook Circle	Final EIS	66	61
LT-2	Brooklyn Park	8745 Oregon Avenue North	Draft EIS	71	64
LT-F	Brooklyn Park	9125 Nevada Court	Final EIS	60	55

Sources: CSA, 2015; HMMH, 2012

[1] The L_{10} descriptor represents noise levels exceeded 10 percent (6 minutes) of the time during an hour (60 minutes). This standard includes both daytime and nighttime limits.

[2] The L_{50} descriptor represents noise levels exceeded 50 percent (30 minutes) of the time during an hour (60 minutes). This standard includes both daytime and nighttime limits.

4.2 Vibration

4.2.1 Vibration Sensitive Land Use

Vibration-sensitive land use for the Final EIS was identified based on aerial photography, proposed BLRT Extension project drawings, and a site survey. Based on the information from these sources, the vibration-sensitive land use, from south to north by city is as follows.

4.2.1.1 Minneapolis

The vibration-sensitive land uses for the City of Minneapolis include Mary's Place, Summit Academy, Sumner Branch Library, Wayman AME Church, Seed Academy, Zion Baptist Church, La Creche Early Childhood Center and a mixture of single-family and multi-family residences.

4.2.1.2 Golden Valley

The vibration-sensitive land uses for the City of Golden Valley include The Chalet at Theodore Wirth Regional Park, The Family Partnership, Saint Margaret Mary Church, Loveworks Academy and primarily single-family residences with some multi-family residences as well.

4.2.1.3 Robbinsdale

The vibration-sensitive land uses for the City of Robbinsdale include Bethel World Outreach Church, Elim Lutheran Church, Sacred Heart Catholic Church and School, Robbinsdale Library Branch, Washburn McReavy Funeral Home, a Masonic Lodge, Redeemer Lutheran Church and a mixture of single-family and multi-family residences.

4.2.1.4 Crystal

The vibration-sensitive land uses for the City of Crystal include Crystal Medical Center, Little Folks Daycare and a mixture of single-family and multi-family residences.

4.2.1.5 Brooklyn Park

The vibration-sensitive land uses for the City of Brooklyn Park include Prince of Peace Lutheran Church, Brooklyn Park Evangelical Free Church, North Hennepin Community College, Step by Step Montessori School, Berean Baptist Church, Ebenezer Community Church and a mixture of single-family and multi-family residences.

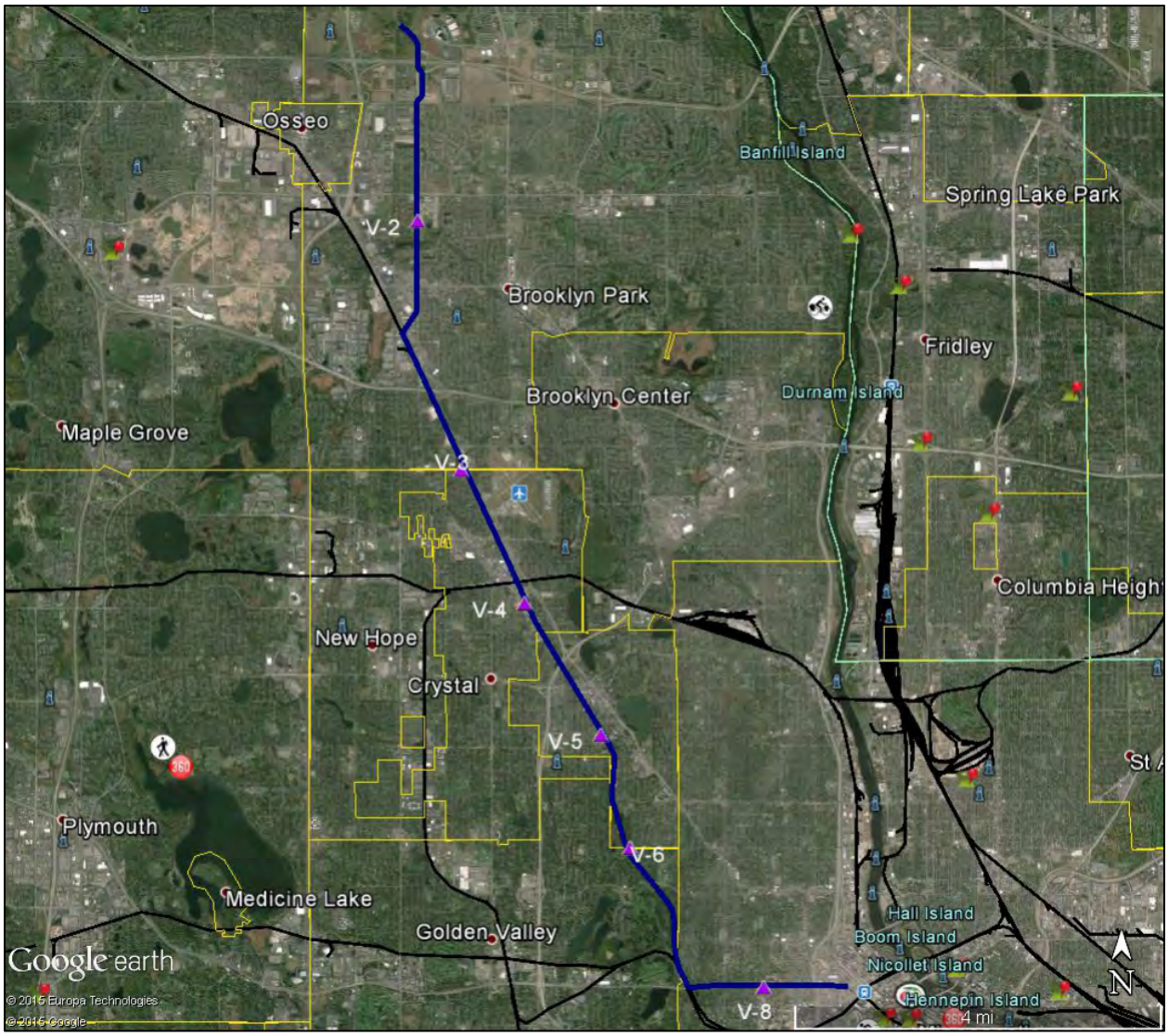
4.2.2 Existing Vibration Measurements

The existing vibration measurements for the proposed BLRT Extension project were conducted during the Draft EIS phase of the proposed BLRT Extension project. Specific information regarding instrumentation, procedures, analysis methods and measurement locations are available in the Draft EIS Noise and Vibration Technical Report. Detailed information regarding the vibration propagation measurement results are contained in the appendices of the Draft EIS Noise and Vibration Technical Report.

The vibration measurements conducted for the Draft EIS were used to characterize the response of the soil at locations within the proposed BLRT Extension project corridor. At each site, vibration propagation tests were conducted by impacting the ground with an instrumented weight and measuring the response of the soil and/or building foundations at various distances (LSTM). The results of the vibration propagation tests were combined with the force density (vehicle input force) to project vibration levels from LRT operations at locations along the proposed BLRT Extension project corridor.

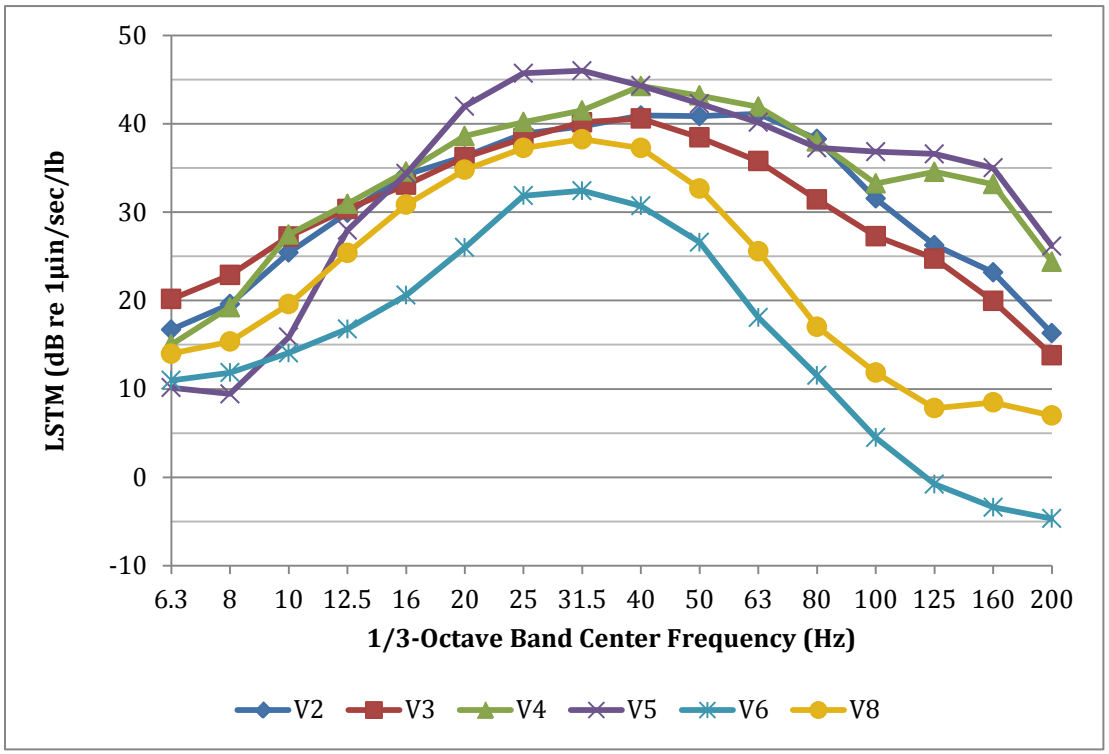
The locations of the six vibration measurement sites used in the Final EIS are shown in **Figure 4-2**. The results of the LSTM tests for the Final EIS are shown in **Figure 4-3**. **Figures 4-4 and 4-5** show the projected vibration levels (combining the force density and transfer mobility data) for the proposed BLRT Extension project for ballast-and-tie and embedded track, respectively.

Figure 4-2. Vibration Propagation Measurement Locations



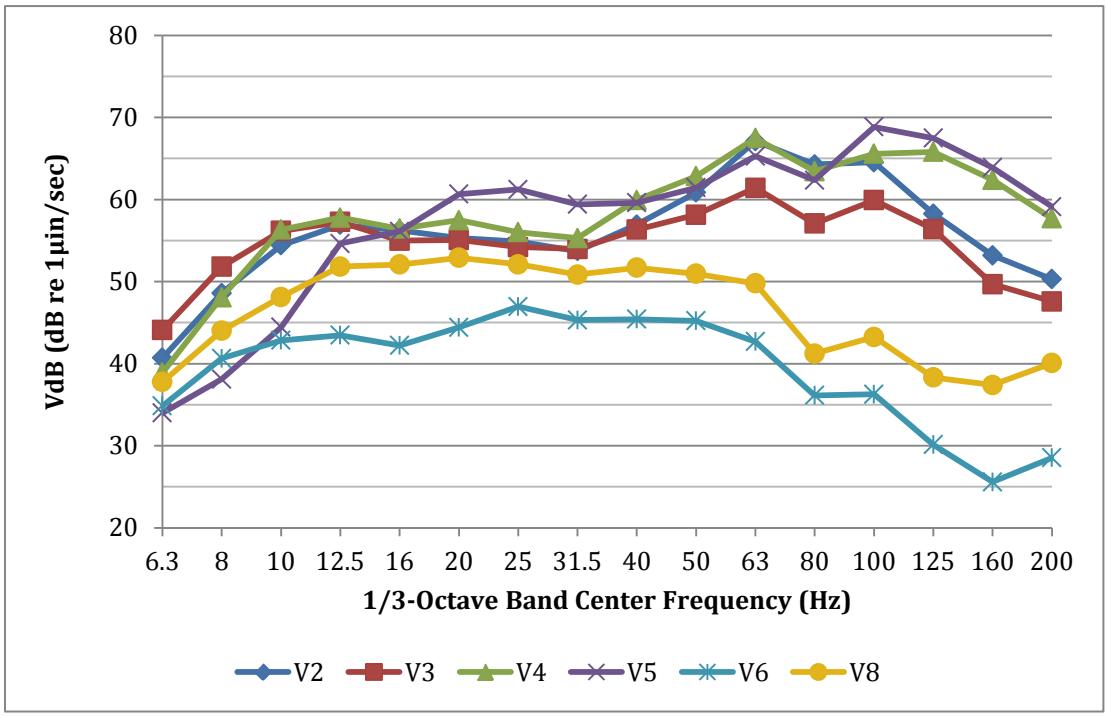
Sources: CSA, 2015; HMMH, 2012

Figure 4-3. Line Source Transfer Mobility Results at 50 feet



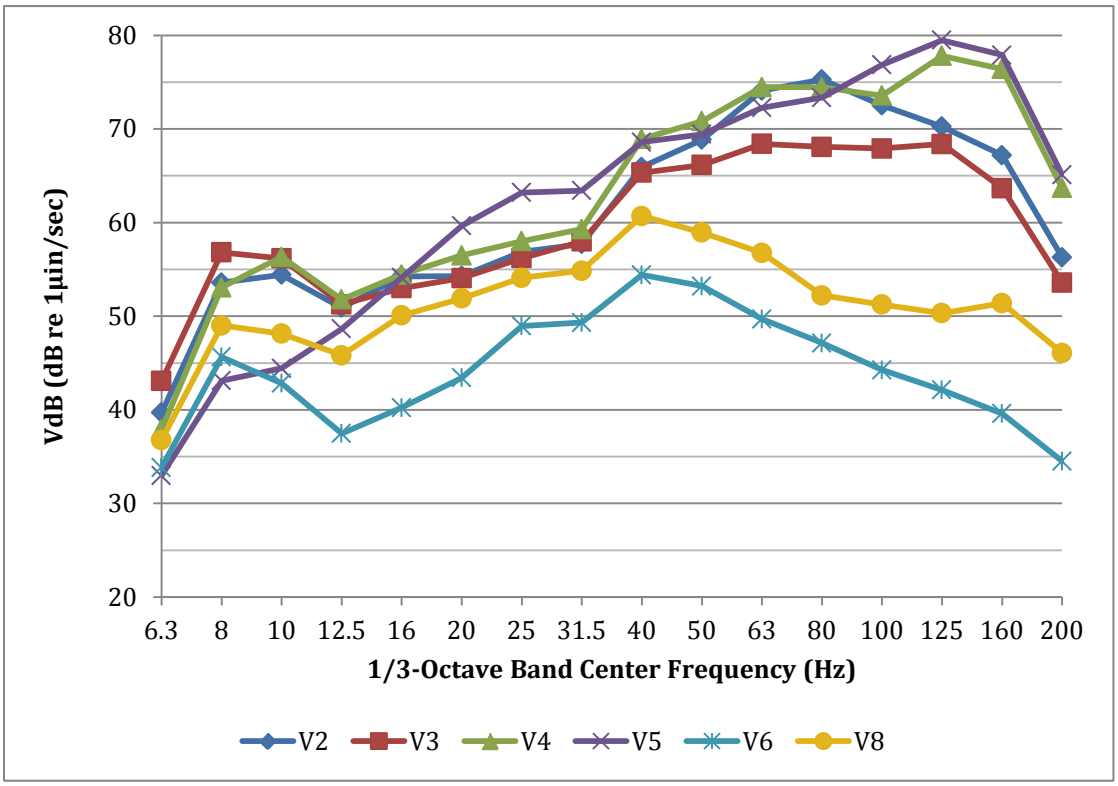
Sources: CSA, 2015; HMMH, 2012; ATS, 2008

Figure 4-4. Vibration Levels at 50 feet, Ballast and Tie Track



Sources: CSA, 2015; HMMH, 2012; ATS, 2008

Figure 4-5. Vibration Levels at 50 feet, Embedded Track



Sources: CSA, 2015; HMMH, 2012; ATS, 2008

5 Environmental Consequences

5.1 Noise

The FTA guidance manual on noise and vibration (FTA, 2006) is the primary source for the noise methodology. Noise impact has been evaluated using the Detailed Noise Assessment methodology contained in Chapter 6 of the FTA guidance manual (FTA, 2006). The noise assessment included the following steps:

- Identified noise-sensitive land uses in the proposed BLRT Extension project corridor using aerial photography, GIS data and field surveys, typically within 300 feet of the alignment.
- Measured the existing noise levels in the proposed BLRT Extension project corridor at sensitive receptors (see **Section 4.1 – Affected Environment**).
- Projected proposed BLRT Extension project noise levels from transit operations, using proposed BLRT Extension project drawings provided by the engineering team, and information on speeds, headways, track type, vehicle type, and at-grade-crossing operations.
- Assessed the impact from transit by comparing the proposed BLRT Extension project noise with the existing noise using the FTA noise impact criteria in Chapter 3 of the FTA guidance manual (FTA, 2006).
- Recommended mitigation at locations where proposed BLRT Extension project noise levels exceed the impact criteria.

5.1.1 Proposed BLRT Extension Project Noise

This section describes the noise impacts for the proposed BLRT Extension project. The results of the Detailed Noise Analysis are presented in **Tables 5-1 and 5-2** for residential and institutional (e.g., churches and schools) land uses, respectively.

The results include a tabulation of location information for each sensitive receptor group, the existing noise levels, the projections of future noise levels, the impact criteria, and whether there would be noise impacts. The tables also show the total number of moderate and severe noise impacts for each location, without mitigation measures. Because the proposed BLRT Extension project would never exceed the MPCA standards, the FTA criteria are more protective in assessing impacts from the proposed BLRT Extension project.

As shown in **Table 5-1**, the proposed BLRT Extension project would result in 366 moderate noise impacts and 618 severe noise impacts for residential land uses with the inclusion of LRT horns (see **Appendix C** for locations of impacts). The impacts represent the number of impacted units (including those in multi-family buildings), not the number of buildings. The majority of the noise impacts are related to LRT horn sounding at FRA-shared at-grade crossings in the proposed BLRT Extension project corridor. With the implementation of Quiet Zones[5] at all FRA-shared at-grade

[5] Quiet Zones are locations, at least one-half mile in length, where the routine sounding of horns has been eliminated because of safety improvements at at-grade crossings, including modifications to the streets, raised median barriers, four quadrant gates, and other improvements designed and implemented as a part of the proposed BLRT Extension

crossings, the proposed BLRT Extension project would result in 176 moderate noise impacts and 120 severe noise impacts, as shown in **Table 5-1**. A summary of each location that would experience noise impacts follows. However, if any of the municipalities decide not to apply to FRA for Quiet Zones, this decrease in moderate and severe noise impacts would not be achieved and residual noise impacts would not be mitigated.

Table 5-1. Summary of Noise Impacts for Residential Land Use – LRT With and Without Quiet Zones

Location	City	Side of Track	Near Track Dist. (ft)	Speed (mph)	Exist Noise Level L_{dn} (dBA)	Proposed BLRT Extension Project Noise Levels- L_{dn}, (dBA)			Type and # of Impacts	
						Proposed BLRT Extension Project	FTA Criteria		Mod	Sev
							Mod	Sev		
Interstate High-way 94 (I-94) to Humboldt Ave N	Minneapolis	NB	95	20	65	62	61	66	16	0
I-94 to Humboldt Ave N	Minneapolis	SB	130	40	65	55	61	66	0	0
Humboldt Ave N to Penn Ave N	Minneapolis	NB	100	40	62	62	59	64	9	0
Humboldt Ave N to Penn Ave N	Minneapolis	SB	190	40	62	57	59	64	0	0
Penn Ave N to Upton Ave N	Minneapolis	NB	145	35	56	54	56	62	0	0
Penn Ave N to BNSF Railway (BNSF) freight tracks	Minneapolis	SB	160	40	56	53	56	62	0	0
Olson Mem Hwy to Oak Park Ave N	Minneapolis	NB	35	35	56	61	56	62	1	0
Oak Park Ave N to Plymouth Ave N	Minneapolis	NB	60	55	55	61	55	61	3	0
Plymouth Ave N to 16th Ave N	Golden Valley	NB	220	20	55	56	55	61	9	0
16th Ave N to Golden Valley Rd	Golden Valley	NB	30	45	54	64	55	61	1	0
Golden Valley Rd to 26th Ave N	Golden Valley	NB	80	55	50	65	53	60	9	14
26th Ave N to 31½ Ave N	Robbinsdale	NB	90	55	50	59	53	60	3	0
31½ Ave N to 34th Ave N	Robbinsdale	NB	20	55	50	70	53	60	4	12

project and consistent with Quiet Zone readiness. Horns are sounded in emergency situations at these locations. Municipalities must apply to FRA for approval of Quiet Zones. If the municipality fails to apply for a Quiet Zone or FRA fails to approve the Quiet Zone, the proposed BLRT Extension project may result in residual noise impacts.

Table 5-1. Summary of Noise Impacts for Residential Land Use – LRT With and Without Quiet Zones

Location	City	Side of Track	Near Track Dist. (ft)	Speed (mph)	Exist Noise Level L_{dn} (dBA)	Proposed BLRT Extension Project Noise Levels- L_{dn}, (dBA)			Type and # of Impacts	
						Proposed BLRT Extension Project	FTA Criteria		Mod	Sev
							Mod	Sev		
34th Ave N to 36th Ave N	Robbinsdale	NB	60	55	54	62	55	61	20	5
34th Ave N to 36th Ave N	Robbinsdale	SB	140	55	54	56	55	61	1	0
36th Ave N to 38th Ave N	Robbinsdale	NB	40	55	54	91	55	61	8	27
36th Ave N to 38th Ave N	Robbinsdale	SB	295	55	54	68	55	61	15 (4)	7 (0)
38th Ave N to 40½ Ave N	Robbinsdale	NB	35	55	55	92	55	61	22 (3)	66 (20)
38th Ave N to 40th Ave N	Robbinsdale	SB	70	45	55	87	55	61	37 (20)	68 (5)
40½ Ave N to 42nd Ave N	Robbinsdale	NB	65	45	55	87	55	61	0 (5)	57 (2)
40th Ave N to 42nd Ave N	Robbinsdale	SB	130	30	55	78	55	61	34 (13)	40 (2)
42nd Ave N to MN-100	Robbinsdale	NB	115	30	61	78	59	64	9 (2)	28 (0)
42nd Ave N to MN-100	Robbinsdale	SB	100	40	61	81	59	64	14 (2)	10 (1)
MN-100 to 47th Ave N	Robbinsdale	NB	95	55	61	84	59	64	12 (10)	20 (1)
MN-100 to 47th Ave N	Robbinsdale	SB	80	55	61	82	59	64	19 (8)	39 (0)
47th Ave N to Canadian Pacific Railway (CP) rail crossing	Crystal	NB	35	55	54	94	55	61	35 (11)	93 (31)
47th Ave N to CP rail crossing	Crystal	SB	120	55	54	81	55	61	26 (0)	24 (0)
CP rail crossing to 56th Ave N	Crystal	NB	795	55	62	58	59	64	0 (0)	0 (0)
CP rail crossing to 56th Ave N	Crystal	SB	80	25	62	52	59	64	0 (0)	0 (0)
56th Ave N to 60th Ave N	Crystal	NB	440	20	62	63	59	64	5 (0)	0 (0)
56th Ave N to 60th Ave N	Crystal	SB	160	35	62	76	59	64	4 (0)	2 (0)
60th Ave N to 63rd Ave N	Crystal	NB	200	35	63	73	60	65	1 (0)	1 (0)

Table 5-1. Summary of Noise Impacts for Residential Land Use – LRT With and Without Quiet Zones

Location	City	Side of Track	Near Track Dist. (ft)	Speed (mph)	Exist Noise Level L_{dn} (dBA)	Proposed BLRT Extension Project Noise Levels- L_{dn}, (dBA)			Type and # of Impacts	
						Proposed BLRT Extension Project	FTA Criteria		Mod	Sev
							Mod	Sev		
60th Ave N to 63rd Ave N	Crystal	SB	125	40	63	77	60	65	24 (0)	84 (0)
63rd Ave N to Interstate Highway 694 (I-694)	Brooklyn Park	NB	315	25	63	68	60	65	1 (0)	18 (0)
63rd Ave N to I-694	Brooklyn Park	SB	140	35	63	52	60	65	0 (0)	0 (0)
I-694 to 73rd Ave N	Brooklyn Park	NB	700	40	60	59	58	63	8 (0)	0 (0)
I-694 to 73rd Ave N	Brooklyn Park	SB	170	55	69	74	64	69	2 (0)	3 (0)
73rd Ave N to Brooklyn Blvd	Brooklyn Park	NB	80	35	60	59	58	63	4	0
Brooklyn Blvd to Shingle Creek	Brooklyn Park	NB	85	45	65	59	61	66	0	0
Shingle Creek to 85th Ave N	Brooklyn Park	SB	70	40	65	65	61	66	5	0
85th Ave N to 89th Ave N	Brooklyn Park	NB	85	45	66	58	61	67	0	0
85th Ave N to 89th Ave N	Brooklyn Park	SB	90	45	66	59	61	67	0	0
89th Ave N to 93rd Ave N	Brooklyn Park	NB	120	45	57	57	56	62	5	0
								Total	**366 (176)**	**618 (120)**

Source: CSA, 2015

The "Type and # of Impacts" column identifies whether the LRT noise level exceeds FTA's moderate or severe noise impact criteria thresholds, which are found under the "Proposed BLRT Extension project Noise Levels" column. It also reports the number of units that experience a moderate or severe noise impact. The numbers in parentheses represent the number of impacts remaining after implementation of Quiet Zones.

Predicted noise levels for each location are highest for each location. Projected noise levels at other receptors within each location are lower.

The reported noise levels are rounded to the nearest decibel.

Mod = moderate; Sev = severe.

- **I-94 to Humboldt Avenue North, Minneapolis.** There are sixteen multi-family residences located on the northbound side of the proposed alignment along the Olson Memorial Highway projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the sounding of bells at grade crossings.
- **Humboldt Avenue North to Penn Avenue North, Minneapolis**. There are nine single- and multi-family residences located on the northbound side of the proposed alignment along the Olson Memorial Highway projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks to the residences and the sounding of bells at grade crossings.
- **Olson Memorial Highway to Oak Park Avenue North, Minneapolis**. There is one single-family residence located on the northbound side of the proposed alignment at 8th Avenue and Washburn Avenue projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks to the residence.
- **Oak Park Avenue North to Plymouth Avenue North, Minneapolis**. There are three single-family residences located on the northbound side of the proposed alignment at Xerxes Avenue and Oak Park Avenue projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks to the residences.
- **Plymouth Avenue North to 16th Avenue North, Golden Valley**. There are nine single-family residences located on the northbound side of the proposed alignment along Xerxes Avenue projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to noise from the Plymouth Avenue Station.
- **16th Avenue North to Golden Valley Road, Golden Valley**. There is one single-family residence located on the northbound side of the proposed alignment along York Avenue projected to have moderate noise impact, without noise mitigation. The noise impact at this location would be due to the proximity of the tracks to the residence.
- **Golden Valley Road to 26th Avenue North, Golden Valley**. There are 23 single-family residences located on the northbound side of the proposed alignment along Kewanee Way projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks to the residences and the presence of a crossover.
- **26th Avenue North to 31½ Avenue North, Robbinsdale**. There are three single- and multi-family residences located on the northbound side of the proposed alignment just north of Kewanee Way projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks to the residences.
- **31½ Avenue North to 34th Avenue North, Robbinsdale**. There are sixteen single- and multi-family residences located on the northbound side of the proposed alignment along Indiana Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks to the residences.

- **34th Avenue North to 36th Avenue North, Robbinsdale**. There are 25 single-family residences located on the northbound side of the proposed alignment between 34th Avenue and 36th Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks to the residences.
- **34th Avenue North to 36th Avenue North, Robbinsdale**. There is one single-family residence located on the southbound side of the proposed alignment between 34th Avenue and 36th Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impact at this location would be due to the proximity of the tracks to the residence.
- **36th Avenue North to 38th Avenue North, Robbinsdale.** There are 35 single- and multi-family residences located on the northbound side of the proposed alignment al between 36th Avenue and 38th Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks at the southern portion of this area and the sounding of horns at grade crossings in the northern portion of this area.
- **36th Avenue North to 38th Avenue North, Robbinsdale**. There are 22 single-family residences located on the southbound side of the proposed alignment al between 36th Avenue and 38th Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks at the southern portion of this area and the sounding of horns at grade crossings in the northern portion of this area.
- **38th Avenue North to 40½ Avenue North, Robbinsdale**. There are 88 single-family residences located on the northbound side of the proposed alignment al between 38th Avenue and 40½ Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.
- **38th Avenue North to 40th Avenue North, Robbinsdale**. There are 105 single- and multi-family residences located on the southbound side of the proposed alignment al between 38th Avenue and 40½ Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.
- **40½ Avenue North to 42nd Avenue North, Robbinsdale**. There are 57single- and multi-family residences located on the northbound side of the proposed alignment between 40½ Avenue and 42nd Avenue projected to have severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.
- **40th Avenue North to 42nd Avenue North, Robbinsdale**. There are 74 single- and multi-family residences located on the southbound side of the proposed alignment between 40½ Avenue and 42nd Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.

- **42nd Avenue North to MN-100, Robbinsdale**. There are 37 single- and multi-family residences located on the northbound side of the proposed alignment between 42nd Avenue and MN-100 projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.
- **42nd Avenue North to MN-100, Robbinsdale**. There are 24 single- and multi-family residences located on the southbound side of the proposed alignment between 42nd Avenue and MN-100 projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.
- **MN-100 to 47th Avenue North, Robbinsdale**. There are 32 single-family residences located on the northbound side of the proposed alignment between MN-100 and 47th Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.
- **MN-100 to 47th Avenue North, Robbinsdale**. There are 58 single- and multi-family residences located on the southbound side of the proposed alignment between MN-100 and 47th Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.
- **47th Avenue North to CP Rail Crossing, Crystal**. There are 128 single- and multi-family residences located on the northbound side of the proposed alignment between 47th Avenue and the freight track crossing projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.
- **47th Avenue North to CP Rail Crossing, Crystal**. There are 50 single- and multi-family residences located on the southbound side of the proposed alignment between 47th Avenue and the freight track crossing projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of horns at grade crossings.
- **56th Avenue North to 60th Avenue North, Crystal**. There are five single-family residences located on the northbound side of the proposed alignment between 56th Avenue and 60th Avenue projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the sounding of horns at the Bass Lake Road grade crossing.
- **56th Avenue North to 60th Avenue North, Crystal**. There are six single-family residences located on the northbound side of the proposed alignment between 56th Avenue and 60th Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the sounding of horns at the Bass Lake Road grade crossing.

- **60th Avenue North to 63rd Avenue North, Crystal**. There is one single-family residence and a motel located on the northbound side of the proposed alignment between 60th Avenue and 63rd Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the sounding of horns at the 63rd Avenue grade crossing.
- **60th Avenue North to 63rd Avenue North, Crystal**. There are 108 multi-family residences located on the southbound side of the proposed alignment between 60th Avenue and 63rd Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the sounding of horns at the 63rd Avenue grade crossing.
- **63rd Avenue North to I-694, Brooklyn Park**. There are nineteen single- and multi-family residences located on the northbound side of the proposed alignment between 63rd Avenue and I-694 projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the sounding of horns at the 63rd Avenue grade crossing.
- **I-694 to 73rd Avenue North, Brooklyn Park**. There are eight multi-family residences located on the northbound side of the proposed alignment between I-694 and 73rd Avenue projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the sounding of horns at the West Broadway grade crossing.
- **I-694 to 73rd Avenue North, Brooklyn Park**. There are five single- and multi-family residences located on the southbound side of the proposed alignment between I-694 and 73rd Avenue projected to have moderate and severe noise impacts, without noise mitigation. The noise impacts at this location would be due to the sounding of horns at the West Broadway grade crossing.
- **73rd Avenue North to Brooklyn Blvd, Brooklyn Park**. There are four multi-family residences located on the northbound side of the proposed alignment to the south of 76th Avenue projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and sounding of bells at the 76th Avenue grade crossing.
- **Shingle Creek to 85th Avenue North, Brooklyn Park**. There are five single-family residences located on the southbound side of the proposed alignment across from the North Hennepin Community College projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the presence of a crossover and noise from the nearby station.
- **89th Avenue North to 93rd Avenue North, Brooklyn Park**. There are five single-family residences located on the northbound side of the proposed alignment near Seltzer Parkway projected to have moderate noise impacts, without noise mitigation. The noise impacts at this location would be due to the proximity of the tracks and the sounding of bells at the Seltzer Parkway grade crossing.

As shown in **Table 5-2**, the proposed BLRT Extension project would result in one moderate noise impact and five severe noise impacts for institutional land uses (see **Appendix C** for locations of impacts). All of the noise impacts are related to LRT horn sounding at FRA-shared at-grade crossings in the proposed BLRT Extension project corridor. There would be no remaining impacts at institutional locations with the implementation of Quiet Zones. A summary of each institutional location that would experience noise impacts follows.

Table 5-2. Summary of Noise Impacts for Institutional Land Use - LRT

Location	City	Side of Track	Near Track Dist. (ft)	Speed (mph)	Exist Noise Level L_{eq} (dBA)	Proposed BLRT Extension Project Noise Levels – L_{eq} (dBA)			Type and # of Impacts	
						Proposed BLRT Extension Project	FTA Criteria		Mod	Sev
							Mod	Sev		
Sumner Library	Minneapolis	NB	110	20	62	50	64	70	0	0
Wayman AME Church	Minneapolis	NB	135	30	62	47	64	70	0	0
Seed Academy	Minneapolis	NB	135	40	62	52	64	70	0	0
Summit Academy	Minneapolis	SB	225	20	62	54	64	70	0	0
Zion Baptist Church	Minneapolis	NB	185	40	62	55	64	70	0	0
Le Creche Early Childhood Center	Minneapolis	NB	135	40	62	52	64	70	0	0
The Family Partnership	Golden Valley	NB	55	35	50	54	58	65	0	0
Theodore Wirth Regional Park[1]	Golden Valley	SB	230	35	49	44	53	59	0	0
The Chalet[1]	Golden Valley	SB	925	20	55	31	56	61	0	0
Bethel World Outreach	Robbinsdale	NB	520	55	52	52	59	65	0	0
Elim Lutheran Church	Robbinsdale	NB	800	50	52	46	59	65	0	0
Sacred Heart Church	Robbinsdale	NB	300	35	52	68	59	65	0	1
Robbins Gallery	Robbinsdale	SB	110	20	52	77	59	65	0	1
Washburn McReavy Funeral Home	Crystal	NB	255	25	52	67	59	65	0	1
Masonic Lodge	Robbinsdale	NB	455	30	59	56	62	68	0	0
Redeemer Lutheran Church	Robbinsdale	SB	505	40	59	54	62	68	0	0
Glen Haven Memorial Gardens	Crystal	SB	610	55	48	58	58	64	1	0
Crystal Medical Center	Crystal	NB	180	30	61	71	63	69	0	1

Table 5-2. Summary of Noise Impacts for Institutional Land Use - LRT

Location	City	Side of Track	Near Track Dist. (ft)	Speed (mph)	Exist Noise Level L_{eq} (dBA)	Proposed BLRT Extension Project Noise Levels – L_{eq} (dBA)			Type and # of Impacts	
						Proposed BLRT Extension Project	FTA Criteria		Mod	Sev
							Mod	Sev		
Little Folks Daycare	Crystal	SB	85	25	56	80	61	66	0	1
Brooklyn Crystal Cemetery	Brooklyn Park	NB	385	35	55	52	60	66	0	0
Prince of Peace Lutheran Church	Brooklyn Park	NB	385	35	62	63	64	70	0	0
Brooklyn Park Evangelical Free Church	Brooklyn Park	SB	145	45	60	51	63	68	0	0
North Hennepin Community College	Brooklyn Park	NB	75	20	60	61	63	68	0	0
Step by Step Montessori School	Brooklyn Park	SB	285	25	60	51	63	68	0	0
Berean Baptist Church	Brooklyn Park	SB	80	45	62	55	64	70	0	0
Ebenezer Community Church	Brooklyn Park	NB	135	20	51	58	59	65	0	0
								Total	**1**	**5**

Source: CSA, 2015

[1] These receptors were assessed as land use category 1 receptors. All other institutional receptors were assessed as land use category 3 receptors.

The reported noise levels are rounded to the nearest decibel.

Mod = moderate; Sev = severe.

- **Sacred Heart Church.** The Sacred Heart Church is projected to have severe noise impact, without noise mitigation. The noise impact at this location is due to the sounding of the LRT horn at grade crossings in the shared freight corridor.
- **Robbins Gallery.** The Robbins Gallery is projected to have severe noise impact, without noise mitigation. The noise impact at this location is due to the sounding of the LRT horn at grade crossings in the shared freight corridor.
- **Washburn McReavy Funeral Home.** The Washburn McReavy Funeral Home is projected to have severe noise impact, without noise mitigation. The noise impact at this location is due to the sounding of the LRT horn at grade crossings in the shared freight corridor.
- **Glen Haven Memorial Garden.** The Glen Haven Memorial Garden is projected to have moderate noise impact, without noise mitigation. The noise impact at this location is due to the sounding of the LRT horn at grade crossings in the shared freight corridor.
- **Crystal Medical Center.** The Crystal Medical Center is projected to have severe noise impact, without noise mitigation. The noise impact at this location is due to the sounding of the LRT horn at grade crossings in the shared freight corridor.
- **Little Folks Daycare.** The Little Folks Daycare is projected to have severe noise impact, without noise mitigation. The noise impact at this location is due to the sounding of the LRT horn at grade crossings in the shared freight corridor.

5.1.2 Cultural Resources

Based on data provided by the Minnesota Department of Transportation (MnDOT) Cultural Resources Unit (CRU) of listed and eligible historic properties within the proposed BLRT Extension project vicinity, an assessment of the historic and cultural resources was conducted for the proposed BLRT Extension project. The assessment was conducted to determine the noise sensitivity of the resources along the proposed BLRT Extension project corridor. For each resource site, a determination was made regarding the noise sensitivity of the use and the FTA category it would fall under based on FTA guidance.

The result of the assessment, which is summarized in **Table 5-3**, shows that there would be noise impacts at the West Broadway Avenue Residential Historic District, Former Hennepin County Library, Robbinsdale Branch, Sacred Heart Catholic Church and Homewood Residential Historic District. However, with Quiet Zones, only five residences within the two residential historic districts would have moderate noise impacts remaining. Each of these locations was assessed for impact as a part of the noise assessment detailed in **Section 5.1.1**.

Table 5-3. Summary of Historic and Cultural Resources Noise Assessment

Inventory #	Property Name	City	FTA Noise Cat.[1]	Notes
HE-CRC-199	Minneapolis & Pacific Railway Historic District (Soo Line)	Crystal	N/A	Not noise sensitive.
HE-RBC-264	Jones-Osterhus Barn	Robbinsdale	N/A	Not noise sensitive.
HE-RBC-158	West Broadway Avenue Residential Historic District	Robbinsdale	2	Severe noise impacts. Two moderate noise impacts remaining with Quiet Zone.
HE-RBC-024	Former Hennepin County Library, Robbinsdale Branch	Robbinsdale	3	Severe noise impact. No impact with Quiet Zone.
HE-RBC-286	Robbinsdale Waterworks	Robbinsdale	N/A	Not noise sensitive.
HE-RBC-1462	Sacred Heart Catholic Church	Robbinsdale	3	Severe noise impact. No impact with Quiet Zone.
XX-PRK-001	Grand Rounds Historic District – Theodore Wirth Park Segment	Golden Valley, Minneapolis	3, N/A	No noise impacts.
HE-GVC-0050	Bridge No. L9327	Golden Valley	N/A	Not noise sensitive.
HE-MPC-12101	Homewood Residential Historic District	Minneapolis	2	Three moderate noise impacts at southwestern corner of the district.
HE-MPC-9013	Floyd B. Olson Memorial Statue	Minneapolis	N/A	Not noise sensitive.
HE-MPC-7553	Labor Lyceum	Minneapolis	3	No noise impacts.
HE-MPC-8290	Wayman AME Church	Minneapolis	3	No noise impacts.
HE-MPC-8081	Sumner Branch Library	Minneapolis	3	No noise impacts.
HE-MPC-8125	Northwestern Knitting Company Factory	Minneapolis	2	No noise impacts.
HE-MPC-0441	Minneapolis Warehouse Historic District	Minneapolis	2	No noise impacts.
XX-RRD-010 (district)	St. Paul, Minneapolis & Manitoba (StPM&M)/Great Northern (GN) Railway Historic District	Minneapolis	N/A	Not noise sensitive.
Including HE-RRD-002; HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389	Osseo Branch of the StPM&M/GN Railway Historic District	Minneapolis, Golden Valley, Robbinsdale, Crystal, Brooklyn Park	N/A	Not noise sensitive.

Source: CSA, 2015

[1] N/A - Not included in any of the FTA noise-sensitive categories. Not noise sensitive.

5.1.3 Stations

The major noise source at stations, other than LRT operations, is the sounding of the LRT bells as the trains enter and exit the stations. The noise from the LRT bells has been captured in the proposed BLRT Extension project noise assessment detailed above.

5.1.4 Operations and Maintenance Facility

The operations and maintenance facility (OMF) is located more than 1,000 feet from any noise-sensitive receptors and therefore no noise impact is projected.

5.1.5 Construction Noise

This section describes the short-term (construction-phase) noise impacts of the proposed BLRT Extension project.

Construction noise levels are subject to local noise ordinances and noise rules administered by MPCA (Minnesota Rules, Chapter 7030). MPCA administers these noise rules to establish maximum allowable noise levels; where applicable, MPCA procedures allow for the issuance of noise variances. To address both the applicable local noise ordinances and the MPCA noise rules, the Council will develop a Noise Control Plan. The Noise Control Plan will contain information regarding when advanced notice of construction activities will be provided to affected communities. The Noise Control Plan will also contain other stipulations to help avoid or minimize construction noise impacts. For example, the Noise Control Plan will require that construction equipment used by contractors be properly muffled and in proper working order. Most of the construction will consist of site preparation and laying new tracks, which should occur primarily during daytime hours, except when required and allowable within local noise ordinance procedures.

Construction noise varies greatly depending on the type of construction activities, equipment used, staging of the construction process, the layout of the construction site, and the distance to sensitive receptors. Elevated noise levels during construction are, to a degree, unavoidable for this type of project, and short-term noise during construction of the proposed BLRT Extension project can be intrusive to residents near the construction sites. For most construction equipment, diesel engines are typically the dominant noise source. For other activities, such as impact pile driving and jackhammering, noise generated by the actual process dominates. The contractor will provide specific information on equipment and methods as a part of the Noise Control Plan for construction of the proposed BLRT Extension project. The contractor will also indicate whether or not the proposed BLRT Extension project would pursue a noise variance in any municipality along the proposed BLRT Extension project corridor. The Council will review noise variance requests prior to submittal to MPCA for approval.

Advanced notice will be provided to affected communities of any planned abnormally loud construction activities. In general, construction would occur within daytime hours. However, night construction may sometimes be required, for example to minimize traffic impacts or to improve safety. If nighttime construction is deemed necessary, during the proposed BLRT Extension

project's final design and construction stages, a nighttime construction mitigation plan will be developed.

Table 5-4 shows noise levels of typical construction equipment from the FTA guidance manual, in terms of the maximum levels at 50 feet. Construction noise predictions at noise-sensitive locations depends on the amount of noise during each construction phase, the duration of the noise, and the distance from the construction activities to the sensitive receptor. Conducting a construction noise impact assessment requires knowledge of the equipment likely to be used, the duration of its use, and the way it will be used by a contractor. The L_{eq} for a particular set of assumptions is estimated using typical noise levels from **Table 5-4**.

Table 5-4. Typical Construction Noise Levels

Equipment Type	Typical Noise Level (dBA) 50 ft
Backhoe	80
Compactor	82
Concrete mixer	85
Concrete pump	82
Crane, derrick	88
Crane, mobile	83
Dozer	85
Grader	85
Loader	85
Paver	89
Pump	76
Roller	74
Truck	88

Source: FTA, 2006

Table 5-5 provides an example of a construction noise projection for typical at-grade track construction. Using these assumptions, an 8-hour L_{eq} of 88 dBA would be projected at a distance of 50 feet from the construction site.

Using the criteria in **Section 2.1.2** and the example for at-grade construction in **Table 5-4**, screening distances for at-grade track construction noise impact can be determined. For residential land use, the potential for short-term at-grade track construction noise (**Table 5-5**) impact could extend to approximately 120 feet from the proposed BLRT Extension project corridor; however, if nighttime construction is conducted, the potential for short-term noise impact from at-grade construction could extend to approximately 380 feet from the proposed BLRT Extension project corridor.

See **Section 6.1.2** for more information regarding the approach to mitigating construction noise.

Table 5-5. Typical Construction Scenario, At-Grade Track Construction

Equipment Type	Typical Noise Level (dBA) 50 ft	Equipment Utilization Factor (%)	L_{eq} (dBA)
Grader	85	50	82
Backhoe	80	40	76
Compactor	82	20	75
Loader	85	20	78
Roller	74	20	67
Truck	88	40	84
Crane, mobile	83	20	76
		Total 8-hour workday L_{eq} at 50 ft	**88**

Source: CSA, 2015

5.2 Vibration

The FTA guidance manual on noise and vibration (FTA, 2006) is the primary source for the vibration methodology. The Final EIS uses a Detailed Vibration Assessment methodology, as described in Chapter 11 of the FTA guidance manual (FTA, 2006).

The vibration assessment steps employed included the following:

- Identified vibration-sensitive land uses in the proposed BLRT Extension project corridor using aerial photography, GIS data, and field surveys, typically within 300 feet of the alignment.
- Measured vibration-propagation characteristics of the soil in the proposed BLRT Extension project corridor at sensitive receptors (see **Section 4.2.2 – Affected Environment**).
- Projected proposed BLRT Extension project vibration levels from transit operations, using proposed BLRT Extension project drawings provided by the engineering team, and information on speeds, headways, track type, and vehicle vibration characteristics.
- Assessed the impact from transit by comparing the proposed BLRT Extension project vibration with the FTA vibration impact criteria in Chapter 8 of the FTA guidance manual (FTA, 2006).
- Recommended mitigation at locations where proposed BLRT Extension project vibration levels exceed the impact criteria.

5.2.1 Proposed BLRT Extension Project Vibration

This section describes the vibration impacts for the proposed BLRT Extension project. The proposed BLRT Extension project team conducted a Detailed Vibration Analysis and summaries of the analysis results are presented in **Tables 5-6 and 5-7** for residential and institutional (e.g., churches and schools) land uses, respectively.

The results include a tabulation of location information for each sensitive receptor group, the projections of future vibration levels, the impact criteria, and whether there would be vibration

impacts. The tables also show the total number vibration impacts for each location, without mitigation measures.

As shown in **Table 5-6**, the proposed BLRT Extension project would result in 28 vibration impacts for residential land uses (see **Appendix D** for locations of impacts). A summary of each residential location that would experience vibration impacts follows.

Table 5-6. Summary of Vibration Impacts for Residential Land Use

Location	City	Side of Track	Near Track Dist. (ft)	Speed (mph)	Proposed BLRT Extension Project Vibration Levels (VdB)		# of Impacts
					Proposed BLRT Extension Project	FTA Impact Criterion	
I-94 to Humboldt Ave N	Minneapolis	NB	205	30	54	72	0
I-94 to Humboldt Ave N	Minneapolis	SB	170	30	55	72	0
Humboldt Ave N to Penn Ave N	Minneapolis	NB	100	40	58	72	0
Humboldt Ave N to Penn Ave N	Minneapolis	SB	190	40	55	72	0
Penn Ave N to Upton Ave N	Minneapolis	NB	110	35	48	72	0
Penn Ave N to BNSF freight tracks	Minneapolis	SB	155	40	46	72	0
Olson Mem Hwy to Oak Park Ave N	Minneapolis	NB	35	35	58	72	0
Oak Park Ave N to Plymouth Ave N	Minneapolis	NB	60	55	49	72	0
Plymouth Ave N to 16th Ave N	Golden Valley	NB	265	45	43	72	0
16th Ave N to Golden Valley Rd	Golden Valley	NB	30	45	55	72	0
Golden Valley Rd to 26th Ave N	Golden Valley	NB	80	55	56	72	0
26th Ave N to 31½ Ave N	Robbinsdale	NB	90	55	45	72	0
31½ Ave N to 34th Ave N	Robbinsdale	NB	20	55	66	72	0
34th Ave N to 36th Ave N	Robbinsdale	NB	60	55	67	72	0
34th Ave N to 36th Ave N	Robbinsdale	SB	140	55	54	72	0
36th Ave N to 38th Ave N	Robbinsdale	NB	35	55	77	72	26
36th Ave N to 38th Ave N	Robbinsdale	SB	75	55	63	72	0
38th Ave N to 40½ Ave N	Robbinsdale	NB	35	55	76	72	1
38th Ave N to 40th Ave N	Robbinsdale	SB	70	45	64	72	0
40½ Ave N to 42nd Ave N	Robbinsdale	NB	90	45	60	72	0
40th Ave N to 42nd Ave N	Robbinsdale	SB	130	30	57	72	0
42nd Ave N to MN-100	Robbinsdale	NB	90	50	61	72	0
42nd Ave N to MN-100	Robbinsdale	SB	70	40	61	72	0
MN-100 to 47th Ave N	Robbinsdale	NB	120	55	68	72	0
MN-100 to 47th Ave N	Robbinsdale	SB	80	55	62	72	0
47th Ave N to CP rail crossing	Crystal	NB	35	55	72	72	1
47th Ave N to CP rail crossing	Crystal	SB	120	55	58	72	0
CP rail crossing to 56th Ave N	Crystal	NB	735	40	55	72	0
CP rail crossing to 56th Ave N	Crystal	SB	80	25	57	72	0

Table 5-6. Summary of Vibration Impacts for Residential Land Use

Location	City	Side of Track	Near Track Dist. (ft)	Speed (mph)	Proposed BLRT Extension Project Vibration Levels (VdB)		# of Impacts
					Proposed BLRT Extension Project	FTA Impact Criterion	
56th Ave N to 60th Ave N	Crystal	NB	695	30	51	72	0
56th Ave N to 60th Ave N	Crystal	SB	165	55	55	72	0
60th Ave N to 63rd Ave N	Crystal	NB	180	55	55	72	0
60th Ave N to 63rd Ave N	Crystal	SB	135	55	56	72	0
63rd Ave N to I-694	Brooklyn Park	NB	280	55	54	72	0
63rd Ave N to I-694	Brooklyn Park	SB	140	35	53	72	0
I-694 to 73rd Ave N	Brooklyn Park	NB	735	55	51	72	0
I-694 to 73rd Ave N	Brooklyn Park	SB	170	55	63	72	0
73rd Ave N to Brooklyn Blvd	Brooklyn Park	NB	75	35	57	72	0
Brooklyn Blvd to Shingle Creek	Brooklyn Park	NB	80	45	60	72	0
Shingle Creek to 85th Ave N	Brooklyn Park	SB	70	40	71	72	0
85th Ave N to 89th Ave N	Brooklyn Park	NB	85	45	59	72	0
89th Ave N to 93rd Ave N	Brooklyn Park	NB	70	45	62	72	0
						Total	**28**

Source: CSA, 2015
The vibration levels for each location are the highest levels projected for that location. Vibration projections at other receptors within each location would be lower. The threshold of human perception to LRT vibration is approximately 65 VdB or less, and annoyance begins to occur for frequent events at vibration levels over 70 VdB.

- **36th Avenue North to 38th Avenue North.** The vibration impacts at this location include the Windsor Court Apartments and a duplex to the north of the apartments. The residences are located to the east of the alignment. The impacts at this location are due to the speed of the LRT and the proximity of the residences to the proposed LRT alignment.
- **38th Avenue North to 40½ Avenue North.** The vibration impacts at this location include one single-family residence located to the east of the alignment. The impacts at this location are due to the speed of the LRT and the proximity of the residence to the proposed LRT alignment.
- **47th Avenue North to CP Rail Crossing.** The vibration impacts at this location include one single-family residence located to the east of the alignment. The impacts at this location are due to the speed of the LRT and the proximity of the residence to the proposed LRT alignment.

As shown in **Table 5-7**, the proposed BLRT Extension project would result in no vibration impacts for institutional land uses.

Table 5-7. Summary of Vibration Impacts for Institutional Land Use

Location	City	Side of Track	Near Track Dist. (ft)	Speed (mph)	Proposed BLRT Extension Project Vibration Levels (VdB)		# of Impacts
					Proposed BLRT Extension Project	FTA Impact Criterion	
Sumner Library	Minneapolis	NB	110	20	45	78	0
Wayman AME Church	Minneapolis	NB	135	30	46	78	0
Seed Academy	Minneapolis	NB	135	40	47	78	0
Summit Academy	Minneapolis	SB	225	20	41	78	0
Zion Baptist Church	Minneapolis	NB	185	40	55	78	0
Le Creche Early Childhood Center	Minneapolis	NB	135	40	47	78	0
The Family Partnership	Golden Valley	NB	55	35	46	78	0
The Chalet	Golden Valley	SB	925	20	38	78	0
Bethel World Outreach	Robbinsdale	NB	520	55	51	78	0
Elim Lutheran Church	Robbinsdale	NB	800	50	51	78	0
Sacred Heart Church	Robbinsdale	NB	300	35	53	78	0
Robbins Gallery	Robbinsdale	SB	110	20	53	78	0
Washburn McReavy Funeral Home	Crystal	NB	255	25	51	78	0
Masonic Lodge	Robbinsdale	NB	455	30	51	78	0
Redeemer Lutheran Church	Robbinsdale	SB	505	40	55	78	0
Crystal Medical Center	Crystal	NB	180	30	51	78	0
Little Folks Daycare	Crystal	SB	85	25	53	78	0
Prince of Peace Lutheran Church	Brooklyn Park	NB	385	35	39	78	0
Brooklyn Park Evangelical Free Church	Brooklyn Park	SB	145	45	52	78	0
North Hennepin Community College	Brooklyn Park	NB	75	20	56	78	0
Step by Step Montessori School	Brooklyn Park	SB	285	25	47	78	0
Berean Baptist Church	Brooklyn Park	SB	80	45	60	78	0
Ebenezer Community Church	Brooklyn Park	NB	135	20	49	78	0

Source: CSA, 2015

The vibration levels for each location are the highest levels projected for that location. Vibration projections at other receptors within each location would be lower. The threshold of human perception to LRT vibration is approximately 65 VdB or less, and annoyance begins to occur for frequent events at vibration levels over 70 VdB.

5.2.2 Cultural Resources

Based on data provided by MnDOT CRU of listed and eligible historic properties within the proposed BLRT Extension project vicinity, an assessment of the historic and cultural resources was conducted for the proposed BLRT Extension project. The assessment was conducted to determine the vibration sensitivity of the resources along the proposed BLRT Extension project corridor. For each resource site, a determination was made regarding the vibration sensitivity of the use and the FTA category it would fall under based on FTA guidance. The result of the assessment, which is summarized in **Table 5-8**, is that there are no vibration impacts at any historic or cultural resources along the proposed BLRT Extension project corridor.

In addition to the operational (long-term) assessment described above, an assessment for the potential for vibration-related construction (short-term) impacts also was conducted. The criteria for construction vibration impacts to damage buildings are based on the building category and fragility of the building, not its designation or use as a historic resource. In most cases, vibration generated by construction activities does approach levels high enough to cause damage, even for fragile buildings. The exceptions to this can be for activities such as vibratory rolling and impact pile driving. At distances within approximately 50 feet, these activities have the potential for damage to the most sensitive structures. Based on the list of the structures in **Table 5-7**, they would either not be included in the most stringent category or would not be close enough for there to be any potential for damage. Therefore additional assessment is not warranted.

5.2.3 Stations

There is no additional vibration associated with stations, and no vibration assessment for stations has been conducted.

5.2.4 Operations and Maintenance Facility

The operations and maintenance facility (OMF) is located more than 1,000 feet from any vibration-sensitive receptors and therefore no vibration impact is projected.

Table 5-8. Summary of Historic and Cultural Resources Vibration Assessment

Inventory #	Property Name	City	FTA Noise Cat.[1]	Notes
HE-CRC-199	Minneapolis & Pacific Railway Historic District (Soo Line)	Crystal	N/A	Not vibration sensitive.
HE-RBC-264	Jones-Osterhus Barn	Robbinsdale	N/A	Not vibration sensitive.
HE-RBC-158	West Broadway Avenue Residential Historic District	Robbinsdale	2	No vibration impact.
HE-RBC-024	Former Hennepin County Library, Robbinsdale Branch	Robbinsdale	3	No vibration impact.
HE-RBC-286	Robbinsdale Waterworks	Robbinsdale	N/A	Not vibration sensitive.
HE-RBC-1462	Sacred Heart Catholic Church	Robbinsdale	3	No vibration impact.
XX-PRK-001	Grand Rounds Historic District – Theodore Wirth Park Segment	Golden Valley, Minneapolis	N/A	Not vibration sensitive.
HE-GVC-0050	Bridge No. L9327	Golden Valley	N/A	Not vibration sensitive.
HE-MPC-12101	Homewood Residential Historic District	Minneapolis	2	No vibration impact.
HE-MPC-9013	Floyd B. Olson Memorial Statue	Minneapolis	N/A	Not vibration sensitive.
HE-MPC-7553	Labor Lyceum	Minneapolis	3	No vibration impact.
HE-MPC-8290	Wayman AME Church	Minneapolis	3	No vibration impact.
HE-MPC-8081	Sumner Branch Library	Minneapolis	3	No vibration impact.
HE-MPC-8125	Northwestern Knitting Company Factory	Minneapolis	2	No vibration impact.
HE-MPC-0441	Minneapolis Warehouse Historic District	Minneapolis	2	No vibration impact.
XX-RRD-010 (district)	St. Paul, Minneapolis & Manitoba (StPM&M)/Great Northern (GN) Railway Historic District	Minneapolis	N/A	Not vibration sensitive.
Including HE-RRD-002; HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389	Osseo Branch of the StPM&M/GN Railway Historic District	Minneapolis, Golden Valley, Robbinsdale, Crystal, Brooklyn Park	N/A	Not vibration sensitive.

Source: CSA, 2015

[1] N/A - Not included in any of the FTA vibration-sensitive categories. Not vibration sensitive.

5.2.5 Construction Vibration

Unlike typical LRT operations, there is the potential for damage to nearby structures at close distances due to construction vibration from activities such as pile driving, hoe rams, vibratory compaction and loaded trucks. Most limits on construction vibration are based on reducing the potential for damage to nearby structures. Although construction vibrations are only temporary, it is still reasonable to assess the potential for human annoyance and damage.

Since most of the buildings in the study area are typical engineered concrete and masonry or reinforced concrete, steel or timber construction, a vibration criterion of 98 VdB has been used to asses potential damage impact and 72 VdB has been used to assess potential vibration annoyance from construction activities. Vibration source levels at 25 feet and the distances to potential residential annoyance and potential damage are shown in **Table 5-9**. With the exception of impact pile driving, the potential for damage is limited to within 20 feet of construction activities. For impact pile driving, the distance for the potential for damage is up to 40 feet.

Because the exact location of construction equipment is important in projecting vibration levels, a more detailed assessment of potential vibration damage will be performed during final design when more accurate equipment locations are known. It is important to note that this assessment does not address potential damage to structures due to soil settlement or displacement due to construction activities. A summary of geological conditions and soils is found in Section 5.4 of the Final EIS. Section 4.3 of the Final EIS addresses issues related to potential displacement of residents and businesses resulting from the proposed BLRT Extension project.

Table 5-9. Summary of Potential Construction Vibration Impacts

Equipment	Vibration Level at 25 ft (VdB)	Distance to Potential Damage (98 VdB), ft	Distance to Potential Annoyance (72 VdB), ft
Impact pile driving	104	40	300
Push piling	84	8	62
Hoe ram	87	10	80
Caisson drilling	87	10	80
Loaded trucks	86	10	75
Clam shovel	94	20	135
Vibratory roller	94	20	135

Source: CSA, 2015

6 Mitigation Measures

6.1 Noise

FTA guidance states that severe noise impacts should be mitigated unless there are no feasible or practical means to do so (FTA, 2006). For moderate impacts, discretion should be used, and proposed BLRT Extension project–specific factors should be included in the consideration of mitigation. The proposed BLRT Extension project–specific factors can include both the existing noise levels and the projected increase in noise levels; the types and number of noise-sensitive land uses with impacts; existing sound insulation of buildings; and the cost-effectiveness of providing noise mitigation. The Council has adopted a mitigation approach that details which moderate impacts will qualify for mitigation. This approach is detailed in **Section 6.1.1** below.

6.1.1 Metro Transit Noise Mitigation Approach

6.1.1.1 Noise Mitigation Thresholds (Part A)

Per FTA guidance, noise mitigation will be provided for all "Severe" impacts that meet the criteria for reasonableness, feasibility, and cost-effectiveness, as defined under Part B below.

At the "Moderate" impact level, FTA guidance requires the proposed BLRT Extension project sponsor to consider mitigation based on a number of factors, as defined in the FTA guidance manual. For the proposed BLRT Extension project, noise mitigation will be provided for all "Moderate" impacts, caused by the proposed BLRT Extension project, that meet the criteria for reasonableness, feasibility, and cost-effectiveness, as defined under Part B below, and at locations where the proposed BLRT Extension project has a "Moderate" impact and one of the following thresholds are exceeded:

1. Location(s) where the existing noise levels without the proposed BLRT Extension project are already 65 dBA L_{dn} or greater (see Exhibit 2.1-1).[6]
2. Location(s) where there is an increase of 3 dB or more in the L_{dn} over the existing level due to the proposed BLRT Extension project.[7]
3. The predicted increase in the L_{dn} over the existing level is less than 3 dB, the location is adjacent to an area with either "Severe Impact" or "Moderate Impact" with an increase in the L_{dn} of 3 dB or greater, and the inclusion of the adjacent properties will provide a logical and equitable terminus to the mitigation.

[6] A noise level of 65 dBA or greater is considered a "normally unacceptable" noise environment by the US Department of Housing and Urban Development. This threshold is also used by the Federal Aviation Administration for compatible land use.

[7] An increase in noise of 3 dB is generally considered the threshold for a noticeable change in noise in an outdoor setting and falls roughly at the midpoint of the "Moderate" impact range. This is a common threshold used in transit agency noise mitigation policies for an increase requiring mitigation.

6.1.1.2 Noise Mitigation Criteria (Part B)

Criteria for reasonableness, feasibility, and cost-effectiveness as included in FTA guidance are described below.

1. **Reasonableness:** For noise mitigation to be considered reasonable, it must provide at least a 5-dB reduction in proposed BLRT Extension project noise.[8]
2. **Feasibility:**
   - For noise mitigation to be considered feasible it must be practical from engineering, operations, and safety standpoints.
   - Other proposed BLRT Extension project factors may need to be considered in determining feasibility of mitigation. These could include community input, visual impacts and other proposed BLRT Extension project features that might limit mitigation.
3. **Cost-Effectiveness:** For noise mitigation to be considered cost-effective, the cost per benefited should be approximately what it would cost to build a 10-foot-high noise wall.

6.1.2 Noise Mitigation Methods

Several options exist for providing noise mitigation at the source, path or receiver. The most common noise mitigation measures are described below.

6.1.2.1 Source

Resilient or Damped Wheels: Using either resilient or damped wheels can achieve approximately a 2-dB reduction in wheel/rail noise from transit vehicles on typical track sections.

Track Dampers: Using damping materials on tracks can achieve an approximately 1–3-dB reduction in noise radiated from the tracks on typical track sections.

Vehicle Design: Certain design features of transit vehicles can provide some shielding and/or absorption of the noise generated by the vehicle. Acoustical absorption under the car can provide up to a 5-dB reduction in wheel/rail noise and propulsion-system noise on rapid transit trains. Similarly, vehicle skirts (which the existing Metro Transit vehicles have) over the wheels can provide up to 5 dB of reduction in noise.

Special Trackwork: Gaps in the rails at crossovers and turnouts generates around 6 dB of increased noise for locations close to the track. If crossover are located in sensitive areas and cannot be moved, one approach is to use special trackwork, such as spring-rail, moveable point, or flange bearing frogs to eliminate the gap in the rail at the crossover.

Quiet Zones: Quiet Zones are locations, as least one-half mile in length, where the sounding of horns has been eliminated because of safety improvements at at-grade crossings, including modifications

[8] 5 dB is a typical minimum reduction used by many agencies for mitigation to be considered an effective and reasonable mitigation measure.

to the streets, raised median barriers, four quadrant gates, and other improvements. Horns will only be sounded in emergency situations at these locations.

Wayside Devices: Wayside devices are mounted at the at-grade-crossing, directed down the roadway instead of mounted on the vehicle. The wayside devices are directive and provide warning to motorists and pedestrians at the at-grade crossing while limiting the noise exposure to areas adjacent to the crossing.

6.1.2.2 Path

Noise Barriers: This is the most common approach to reducing noise impacts from transit and rail projects. For noise barriers to be effective, they must break the line-of-sight between the source of the noise and the receiver. Additionally, the barrier must be made of a material that has a minimum surface density of 4 pounds/square foot and not have any gaps or holes that could degrade the performance of the barrier. Noise barriers can be made of virtually any material that meets these requirements, and can typically provide between 5 and 10 dB of reduction, depending on the design of the barrier. Proposed BLRT Extension project features, such as retaining walls or crash walls can act as effective noise barriers.

Berms: Berms are another approach to mitigating noise at the path. Berms work in much the same way as barriers, and need to block the line of sight between the source and the receiver to be effective. Berms can also provide between 5 and 10 dB of reduction, but are not commonly used in transit applications due to the space requirements (a berm typically must be twice as wide as it is tall).

6.1.2.3 Receiver

Sound Insulation: In locations where noise barriers are not feasible or practical, for multi-story buildings, or at locations where there is no exterior use, sound insulation of buildings can be an effective approach to noise mitigation. While it does not provide mitigation for exterior use, it can be very effective for indoor uses and provide between 5 and 10 dB of reduction. Sound insulation typically focuses on improvements to windows and doors, sealing any gaps or holes and providing central ventilation and air conditioning so that windows can remain closed. The criterion for indoor noise levels is 45 dBA L_{dn}.

6.1.3 Proposed BLRT Extension Project Noise Mitigation

The results in **Table 6-1** indicate that most residential noise impacts which meet the threshold for mitigation will be eliminated, based on FTA criteria, with the proposed mitigation measures. Quiet Zones, which allow for the use of LRT bells instead of horns at at-grade crossings, will eliminate most noise impacts. Additionally, the Quiet Zones will have the additional benefit of eliminating the existing freight horns as well. Additional mitigation measures required after implementation of Quiet Zones are shown in **Table 6-1**. More detailed descriptions of the noise mitigation measures are provided below.

Table 6-1. Summary of Residential Noise Mitigation Measures

Location	City	Side of Track	Type and # of Impacts without Mitigation[1]		Noise Level Increase[2] (dB)	Proposed Mitigation Measure[3]	Residual Impacts with Mitigation	
			Mod	Sev			Mod	Sev
I-94 to Humboldt Ave N	Minneapolis	NB	16	0	0 to 1.8	None[4]	N/A	N/A
Humboldt Ave N to Penn Ave N	Minneapolis	NB	9	0	0 to 2.9	None[4]	N/A	N/A
Olson Mem Hwy to Oak Park Ave N	Minneapolis	NB	1	0	0.1 to 5.8	Interior testing to determine mitigation measure[5]	0	0
Oak Park Ave N to Plymouth Ave N	Minneapolis	NB	3	0	1.3 to 6.8	Interior testing to determine mitigation measure[5]	0	0
Plymouth Ave N to 16th Ave N	Golden Valley	NB	9	0	0.1 to 5.6	Interior testing to determine mitigation measure[5]	0	0
16th Ave N to Golden Valley Rd	Golden Valley	NB	1	0	0.2 to 3.5	Interior testing to determine mitigation measure[5]	0	0
Golden Valley Rd to 26th Ave N	Golden Valley	NB	9	14	0.9 to 15.2	Noise barrier E-2: 10 feet tall, 2,540 feet long	1	1
26th Ave N to 31½ Ave N	Robbinsdale	NB	3	0	3.8 to 9.6	Noise barrier E-2: 10 feet tall, 2,540 feet long	0	0
31½ Ave N to 34th Ave N	Robbinsdale	NB	4	12	1.8 to 19.4	Noise barrier E-3: 10 feet tall, 1,200 feet long	4	1
34th Ave N to 36th Ave N	Robbinsdale	NB	20	5	0.7 to 8.3	Noise barrier E-4: 8 feet tall, 1,325 feet long	0	0
34th Ave N to 36th Ave N	Robbinsdale	SB	1	0	2.7 to 4.1	Interior testing to determine mitigation measure[5]	0	0
36th Ave N to 38th Ave N	Robbinsdale	NB	8	27	0.9 to 16.7	Noise barrier E-6: 8 feet tall, 3,110 feet long	0	0
36th Ave N to 38th Ave N	Robbinsdale	SB	4	0	0.1 to 9.0	Noise barrier W-5: 6 feet tall, 650 feet long	0	0
38th Ave N to 40½ Ave N	Robbinsdale	NB	3	20	0 to 16.6	Noise barrier E-6: 8 feet tall, 3,110 feet long	0	0

Table 6-1. Summary of Residential Noise Mitigation Measures

Location	City	Side of Track	Type and # of Impacts without Mitigation[1]		Noise Level Increase[2] (dB)	Proposed Mitigation Measure[3]	Residual Impacts with Mitigation	
			Mod	Sev			Mod	Sev
38th Ave N to 40th Ave N	Robbinsdale	SB	20	5	0 to 11.1	Noise barrier W-7: 6 feet tall, 1,850 feet long and interior testing to determine mitigation measure	0	0
40½ Ave N to 42nd Ave N	Robbinsdale	NB	5	2	0.1 to 11.6	Wayside device and noise barrier E-6: 8 feet tall, 3,110 feet long	0	0
40th Ave N to 42nd Ave N	Robbinsdale	SB	13	2	0 to 7.3	Wayside device and interior testing to determine mitigation measure[5]	0	0
42nd Ave N to MN-100	Robbinsdale	NB	2	0	0 to 3.4	Interior testing to determine mitigation measure[5]	0	0
42nd Ave N to MN-100	Robbinsdale	SB	2	1	0 to 4.6	Wayside device	0	0
MN-100 to 47th Ave N	Robbinsdale	NB	10	1	0.1 to 5.0	Wayside device and noise barrier E-10: 10 feet tall, 1,300 feet long and interior testing to determine mitigation measure	0	0
MN-100 to 47th Ave N	Robbinsdale	SB	8	0	0 to 3.6	Wayside device and interior testing to determine mitigation measure[5]	0	0
47th Ave N to freight tracks	Crystal	NB	11	31	0 to 18.5	Wayside device, noise barrier E-10: 10 feet tall, 1,300 feet long, noise barrier E-11: 10 feet tall, 1,100 feet long, and interior testing to determine mitigation measure	0	0
47th Ave N to freight tracks	Crystal	SB	0	0	0.1 to 1.8	None required	0	0
56th Ave N to 60th Ave N	Crystal	NB	0	0	0 to 0.4	None required	0	0
56th Ave N to 60th Ave N	Crystal	SB	0	0	0 to 4.6	None required	0	0

Table 6-1. Summary of Residential Noise Mitigation Measures

Location	City	Side of Track	Type and # of Impacts without Mitigation[1]		Noise Level Increase[2] (dB)	Proposed Mitigation Measure[3]	Residual Impacts with Mitigation	
			Mod	Sev			Mod	Sev
60th Ave N to 63rd Ave N	Crystal	NB	0	0	0 to 0.7	None required	0	0
60th Ave N to 63rd Ave N	Crystal	SB	0	0	0 to 1.1	None required	0	0
63rd Ave N to I-694	Brooklyn Park	NB	0	0	0 to 0.3	None required	0	0
I-694 to 73rd Ave N	Brooklyn Park	NB	0	0	0 to 0.6	None required	0	0
I-694 to 73rd Ave N	Brooklyn Park	SB	0	0	0 to 0.7	None required	0	0
73rd Ave N to Brooklyn Blvd	Brooklyn Park	NB	4	0	0 to 2.4	None[4]	N/A	N/A
Shingle Creek to 85th Ave N	Brooklyn Park	SB	5	0 (0)	0 to 2.9	None[4]	N/A	N/A
89th Ave N to 93rd Ave N	Brooklyn Park	NB	5	0 (0)	0.3 to 0.8	None[4]	N/A	N/A

Source: CSA, 2015

N/A = not applicable

[1] The number of impacts without mitigation reflects the implementation of Quiet Zones. Quiet Zones are locations, at least one-half mile in length, where the routine sounding of horns has been eliminated because of safety improvements at at-grade crossings, including modifications to the streets, raised median barriers, four quadrant gates, and other improvements designed and implemented by the proposed BLRT Extension project and consistent with Quiet Zone readiness. Horns are sounded in emergency situations at these locations. Municipalities must apply to FRA for approval of Quiet Zones.

[2] The reported noise level increases are the range of increases in noise levels (without mitigation) due to the proposed BLRT Extension project for each location.

[3] If the proposed noise mitigation does not meet the reasonableness criteria as defined in the Regional Transitways Guidelines (March 2016) (see **Appendix F** of the Final EIS), or if the property owner(s) does not approve sound insulation, the proposed BLRT Extension project will result in additional residual noise impacts.

[4] The moderate impacts at these locations do not meet the threshold for mitigation as defined by the Regional Transitways Guidelines (March 2016) (see **Appendix F** of the Final EIS).

[5] The Council has determined that a noise barrier at these locations would not meet the reasonableness criteria for noise mitigation as defined in the Regional Transitways Guidelines (March 2016); specifically, a noise barrier at these locations does not meet cost-effectiveness criteria. As such, no noise barrier will be constructed to mitigate impacts to these residences. Final determination of mitigation measures for these residences will be assessed with on-site testing to determine if the residences meet the interior noise level criteria. Based on the results, the Council will identify the noise mitigation to be implemented for these residences during Engineering and once on-site measurements are completed. If an exceedance of interior noise level is identified at these locations, the Council will work with property owners on applicable mitigation. This could include implementation of sound insulation, which would still require approval by the property owner(s).

- **Olson Memorial Highway to Oak Park Avenue North, Minneapolis**. The potential mitigation measure at this location would include on-site testing to determine if the residences meet the interior noise level criteria.
- **Oak Park Avenue North to Plymouth Avenue North, Minneapolis**. The potential mitigation measure at this location would include on-site testing to determine if the residences meet the interior noise level criteria.

- **Plymouth Avenue North to 16th Avenue North, Golden Valley**. The potential mitigation measure at this location would include on-site testing to determine if the residences meet the interior noise level criteria.
- **16th Avenue North to Golden Valley Road, Golden Valley**. The potential mitigation measure at this location would include on-site testing to determine if the residences meet the interior noise level criteria.
- **Golden Valley Road to 26th Avenue North, Golden Valley**. The potential mitigation measure at this location would include a 10-foot-high, 2,540-foot-long noise barrier.
- **26th Avenue North to 31½ Avenue North, Robbinsdale**. The potential mitigation measure at this location would include a 10-foot-high, 2,540-foot-long noise barrier.
- **31½ Avenue North to 34th Avenue North, Robbinsdale**. The potential mitigation measure at this location would include a 10-foot-high, 1,200-foot-long noise barrier.
- **34th Avenue North to 36th Avenue North (NB), Robbinsdale**. The potential mitigation measure at this location would include an 8-foot-high, 1,325-foot-long noise barrier.
- **34th Avenue North to 36th Avenue North (SB), Robbinsdale**. The potential mitigation measure at this location would include on-site testing to determine if the residences meet the interior noise level criteria.
- **36th Avenue North to 38th Avenue North (NB), Robbinsdale.** The potential mitigation measure at this location would include an 8-foot-high, 3,110-foot-long noise barrier.
- **36th Avenue North to 38th Avenue North (SB), Robbinsdale**. The potential mitigation measure at this location would include a 6-foot-high, 650-foot-long noise barrier.
- **38th Avenue North to 40½ Avenue North, Robbinsdale**. The potential mitigation measure at this location would include an 8-foot-high, 3,110-foot-long noise barrier.
- **38th Avenue North to 40th Avenue North, Robbinsdale**. The potential mitigation measures at this location would include a 6-foot-high, 1,850-foot-long noise barrier and on-site testing to determine if the residences meet the interior noise level criteria.
- **40½ Avenue North to 42nd Avenue North, Robbinsdale**. The potential mitigation measures at this location would include a wayside device and an 8-foot-high, 3,110-foot-long noise barrier.
- **40th Avenue North to 42nd Avenue North, Robbinsdale**. The potential mitigation measures at this location would include a wayside device and on-site testing to determine if the residences meet the interior noise level criteria.
- **42nd Avenue North to MN-100 (NB), Robbinsdale**. The potential mitigation measure at this location would include on-site testing to determine if the residences meet the interior noise level criteria.
- **42nd Avenue North to MN-100 (SB), Robbinsdale**. The potential mitigation measure at this location would include a wayside device.

- **MN-100 to 47th Avenue North, Robbinsdale (NB)**. The potential mitigation measures at this location would include a wayside device, a 10-foot-high, 1,300-foot-long noise barrier, and on-site testing to determine if the residences meet the interior noise level criteria.
- **MN-100 to 47th Avenue North, Robbinsdale (SB)**. The potential mitigation measures at this location would include a wayside device and on-site testing to determine if the residences meet the interior noise level criteria.
- **47th Avenue North to CP Rail Crossing, Crystal**. The potential mitigation measures at this location would include a wayside device, a 10-foot-high, 1,300-foot-long noise barrier, and a 10-foot-high, 1,100-foot-long noise barrier and on-site testing to determine if the residences meet the interior noise level criteria.

The results of the noise assessment indicate that residential noise impacts at two locations (Golden Valley Road to 26th Avenue North and 31½ Avenue North to 34th Avenue North) are not mitigated, and that residual noise impacts would remain at these locations after mitigation. The results also indicate that all institutional noise impacts will be eliminated with the proposed mitigation measures. At all institutional locations, Quiet Zones, which allow for the use of LRT bells instead of horns at at-grade crossings, will eliminate the noise impacts. Additionally, the Quiet Zones will have the additional benefit of eliminating the existing freight horns as well. However, if the municipality fails to apply to FRA for Quiet Zone or if FRA fails to approve the Quiet Zone, the proposed BLRT Extension project would result in residual noise impacts at the associated locations.

6.1.4 Construction Noise Mitigation

The primary means of mitigating noise from construction activities is to require the contractors to prepare a detailed Noise Control Plan. A noise control engineer or acoustician will work with the contractor to prepare a Noise Control Plan in conjunction with the contractor's specific equipment and methods of construction. Key elements of a Plan include:

- Contractor's specific equipment types
- Schedule and methods of construction
- Maximum noise limits for each piece of equipment with certification testing
- Prohibitions on certain types of equipment and processes during the nighttime hours without local agency coordination and approved variances
- Identification of specific sensitive sites where near construction sites
- Methods for projecting construction noise levels
- Implementation of noise control measures where appropriate
- Methods for responding to community complaints

6.2 Vibration

Vibration and ground-borne noise impacts that exceed the FTA criteria are considered significant and should be mitigated unless there are no feasible or practical means to do so. Vibration mitigation is primarily applied at the source, generally the track structure, and is dependent on the frequency content of the vibration and any resonances of the materials. The most common vibration mitigation measures are described below.

6.2.1 Vibration Mitigation Methods

Ballast Mats: A ballast mat is a pad made of rubber or other material placed underneath the ballast and mounted on top of an asphalt or concrete base. Ballast mats provide a modest reduction in vibration levels at frequencies above 40 Hz.

Tire Derived Aggregate: Tire Derived Aggregate, or shredded tires, consists of a layer of tire shreds wrapped in geotechnical fabric placed underneath the ballast and placed on hard packed ground. This is a low-cost, but still unproven mitigation option that provides a reduction in vibration levels at frequencies above 25 Hz.

Resilient Rail Fasteners: Resilient fasteners are typically used on direct fixation track on aerial structures or in tunnels. They include a resilient component in the fastener to provide vibration isolation. Resilient rail fasteners provide a reduction in vibration at frequencies above 40 Hz.

Resiliently Supported Concrete Ties: Resiliently supported concrete ties, or undertie pads, consist of a rubber pad mounted on the bottom of a concrete tie. The pads provide vibration isolation at frequencies above 25 Hz.

Floating Slabs: Floating slabs consist of thick concrete slabs mounted on rubber or steel springs pads on a concrete foundation. Floating slabs can provide vibration isolation at very low frequencies, but are expensive to build and maintain.

Special Trackwork: Gaps in the rails at crossovers and turnouts generates around 10 dB of increased vibration for locations close to the track. If crossovers are located in sensitive areas and cannot be moved, one approach is to use special trackwork, such as spring-rail, moveable point, or flange bearing frogs to eliminate the gap in the rail at the crossover.

6.2.2 Proposed BLRT Extension Project Vibration Mitigation

The results in **Table 6-2** indicate that all residential vibration impacts will be eliminated with the proposed mitigation measures (there are no projected institutional vibration impacts). Ballast mats or the equivalent will eliminate the vibration impacts at all locations. Detailed descriptions of the noise mitigation measures are provided below.

Table 6-2. Summary of Residential Vibration Mitigation Measures

Location	City	# of Impacts without Mitigation	Proposed Mitigation Measure	Residual Impacts with Mitigation
6th Ave N to 38th Ave N	Robbinsdale	26	700-foot ballast mat	0
38th Ave N to 40½ Ave N	Robbinsdale	1	300-foot ballast mat	0
47th Ave N to CP rail crossing	Crystal	1	300-foot ballast mat	0
	Total	**28**	**1,300-foot ballast mat**	**0**

Source: CSA, 2015

- **36th Avenue North to 38th Avenue North.** The proposed mitigation at this location would be a ballast mat 700 feet in length under both tracks from Station 2246+50 to Station 2253+50. The ballast mat should be designed to provide at least 5 dB of reduction in vibration levels at 100 Hz and higher.
- **38th Avenue North to 40½ Avenue North.** The proposed mitigation at this location would be a ballast mat 300 feet in length under both tracks from Station 2260+00 to Station 2263+00. The ballast mat should be designed to provide at least 5 dB of reduction in vibration levels at 100 Hz and higher.
- **47th Avenue North to CP Rail Crossing.** The proposed mitigation at this location would be a ballast mat 300 feet in length under both tracks from Station 2335+50 to Station 2338+50. The ballast mat should be designed to provide at least 5 dB of reduction in vibration levels at 100 Hz and higher.

6.2.3 Construction Vibration Mitigation

The most effective methods for minimizing the impact from construction vibration is to limit the use of high-vibration activities such as impact pile driving and vibratory rolling and to include vibration limits in the construction specifications. To mitigate potential vibration impact from construction activities, the following measures will be applied where feasible:

- **Limit Construction Hours:** Prohibit high-vibration activities at night.
- **Construction Specifications:** Include limits on vibration in the construction specifications, especially at locations where high-vibration activities such as impact pile driving may occur.
- **Alternative Construction Methods:** Minimize the use of impact and vibratory equipment, where possible and appropriate. Use low vibration alternatives, such as push piling or pre-drilled holes for piling.
- **Truck Routes:** Use truck haul routes that minimize exposure to sensitive receptors and minimizes damage to roadway surfaces, where appropriate.
- **Pre-Construction Survey:** Perform pre-construction surveys to document the existing conditions of all structures in the vicinity of sites where high-vibration construction activities will be performed.
- **Vibration Monitoring:** If a construction activity has the potential to exceed the damage criteria at any building, the contractor is required to conduct for vibration monitoring and, if the vibration exceeds the limit, the activity must be modified or terminated.

7 References

Federal Transit Administration (FTA), 2006, *Transit Noise and Vibration Impact Assessment* guidance manual (FTA, 2006)

Vibration Measurements and Predictions for Central Corridor LRT Project, ATS Consulting, 2008

Bottineau Transitway Draft EIS, Noise and Vibration Technical Report, HMMH, 2012.

West Broadway Avenue Reconstruction Project Environmental Assessment Worksheet, Hennepin County, 2015

Appendix A. Noise Measurement Data

Figure A-1. Long-Term Noise Measurement Data – Site LT-A

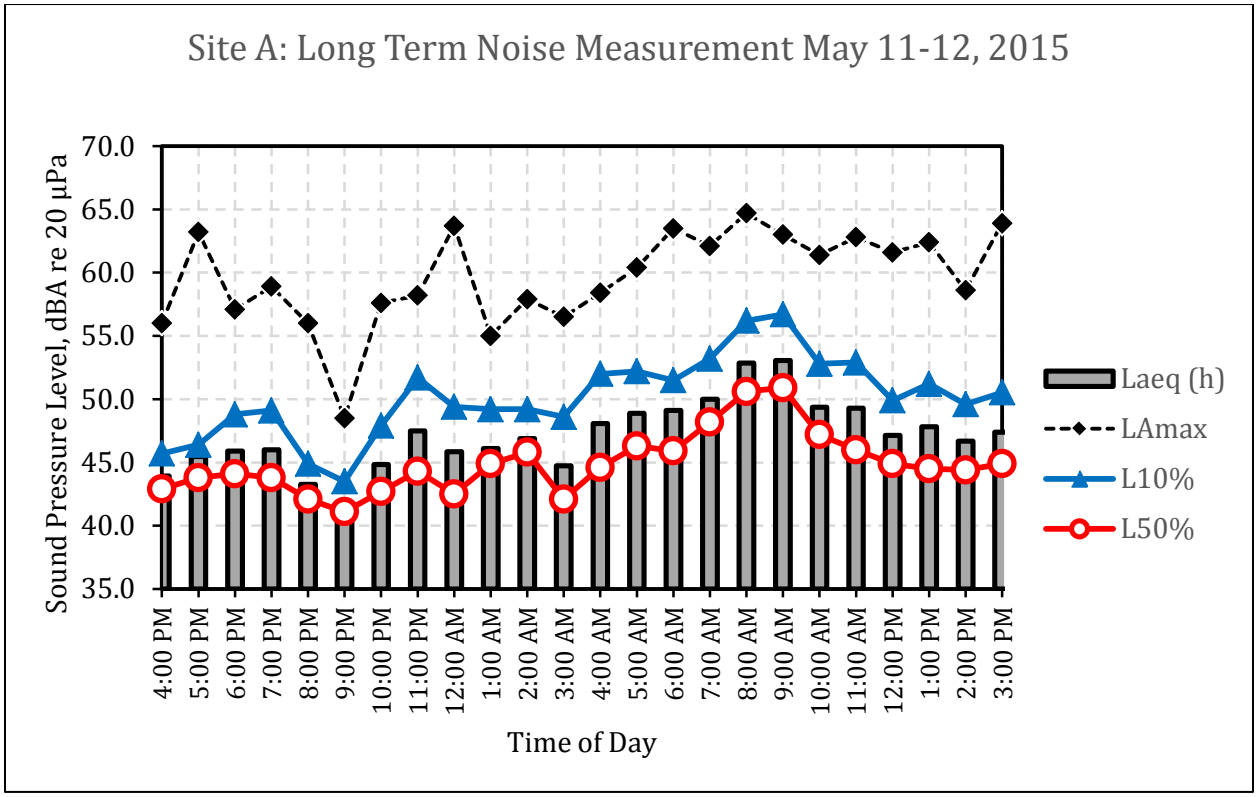


Figure A-2. Long-Term Noise Measurement Data – Site LT-B

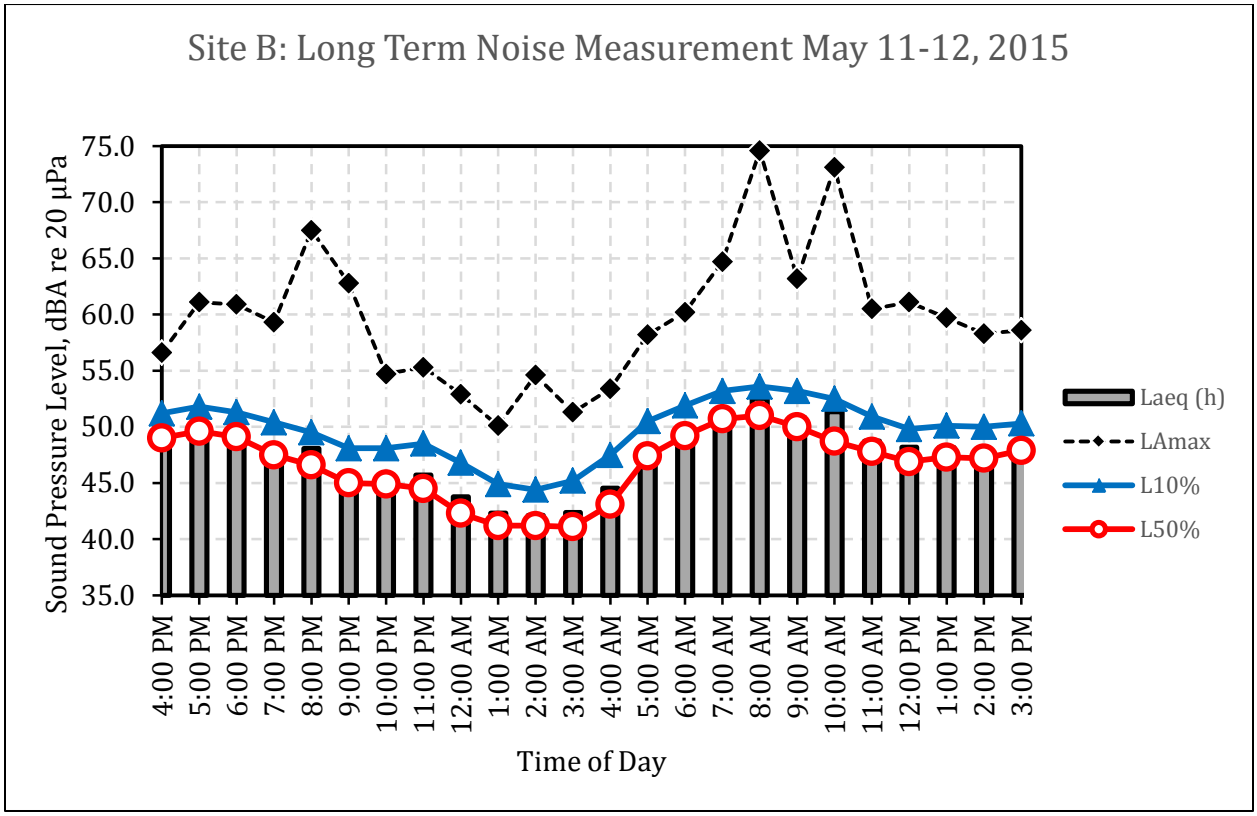


Figure A-3. Long-Term Noise Measurement Data – Site LT-C

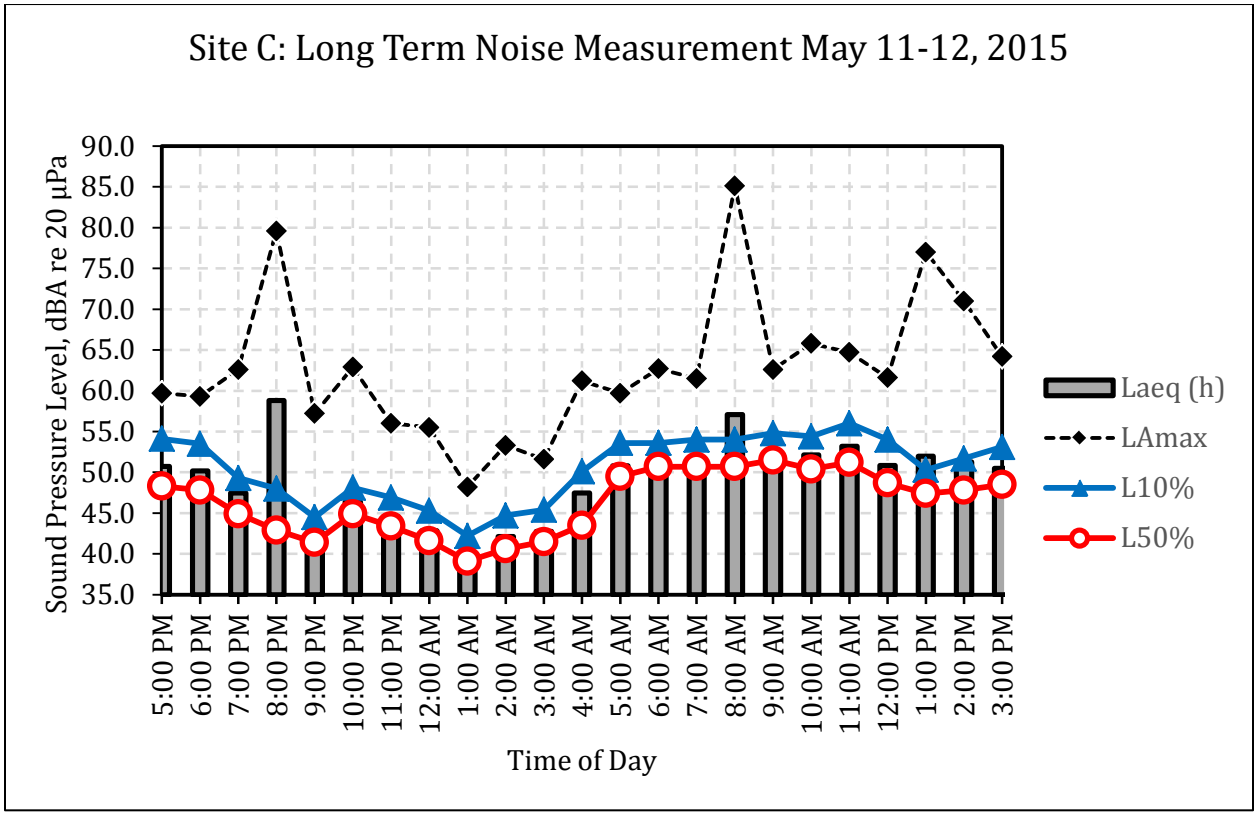
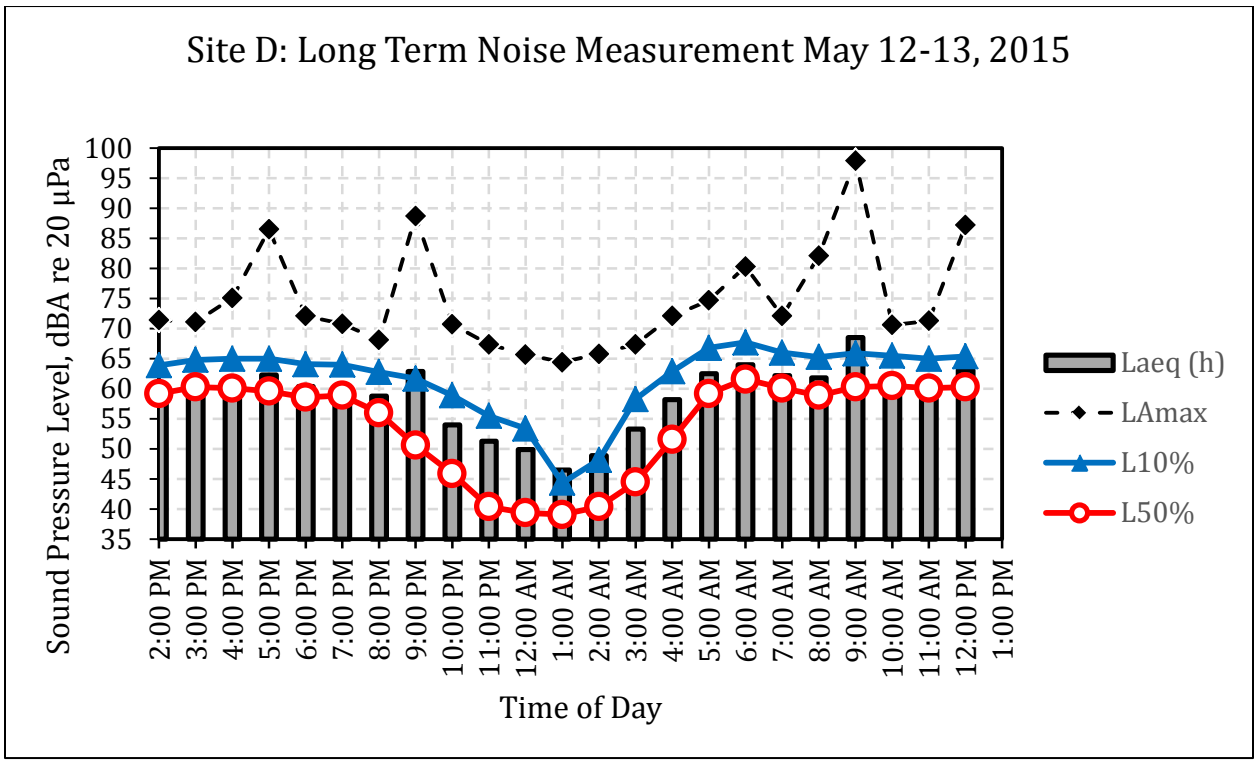


Figure A-4. Long-Term Noise Measurement Data – Site LT-D



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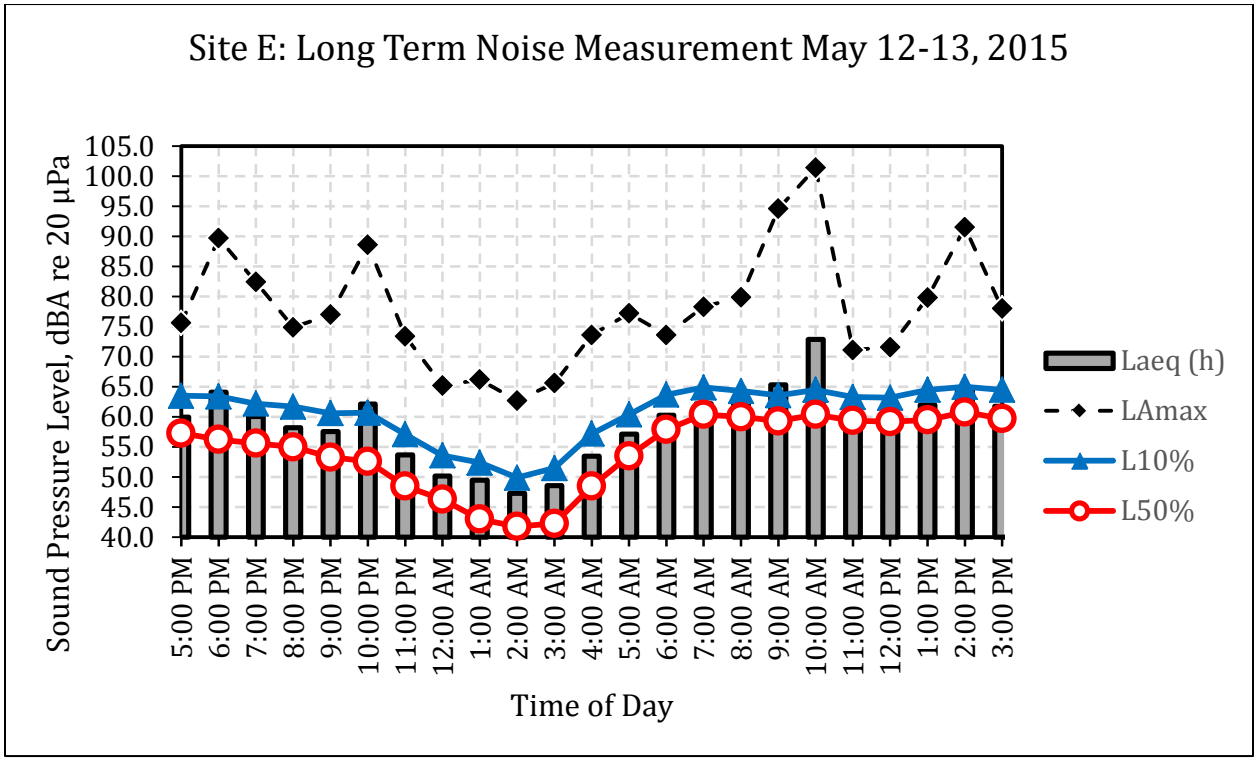


Figure A-6. Long-Term Noise Measurement Data – Site LT-F

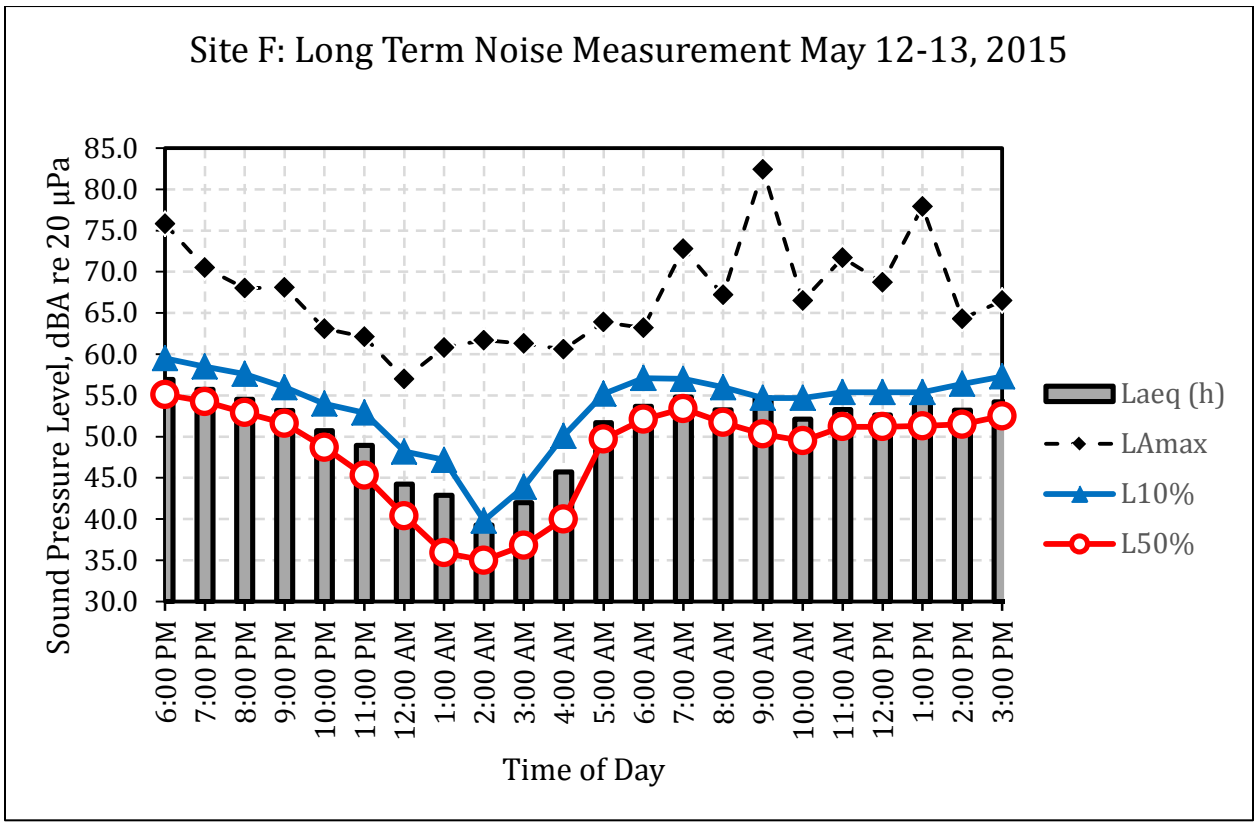


Figure A-7. Long-Term Noise Measurement Data – Site LT-G

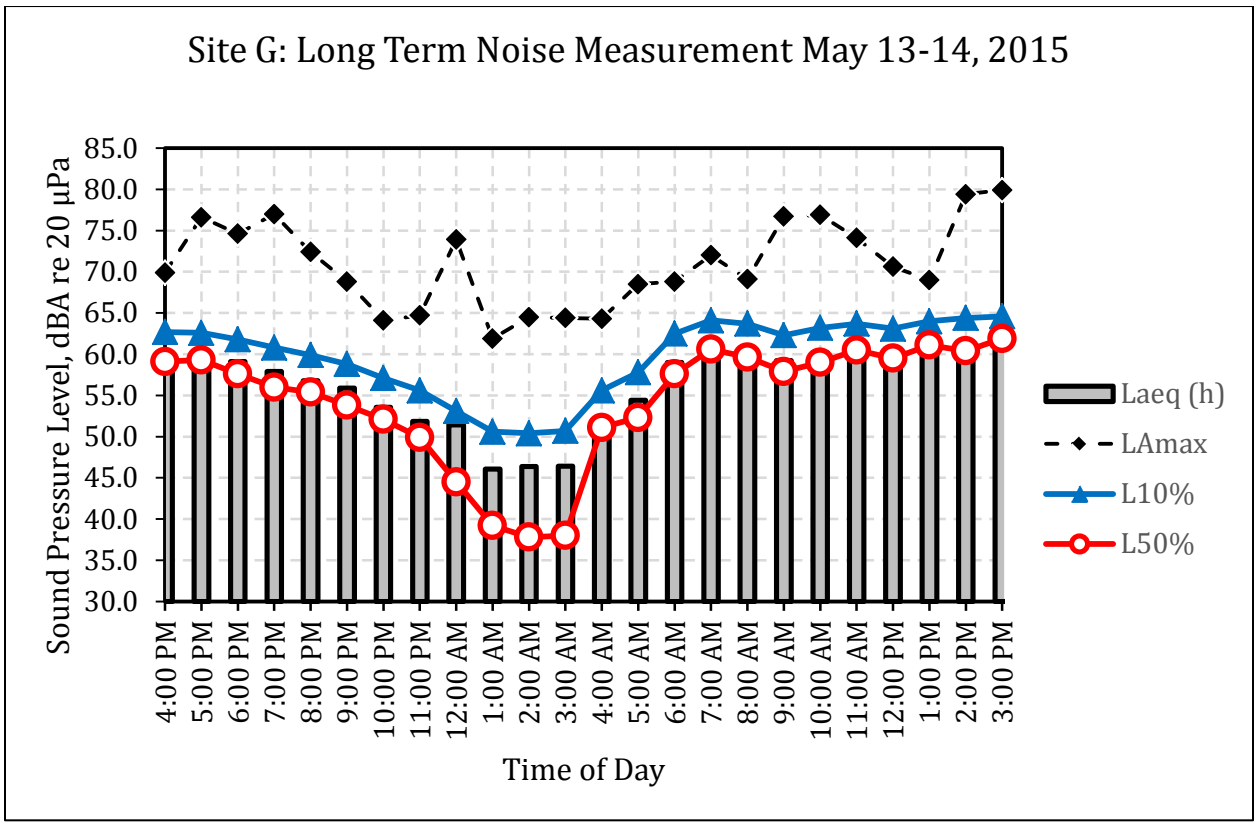


Figure A-8. Long-Term Noise Measurement Data – Site LT-H

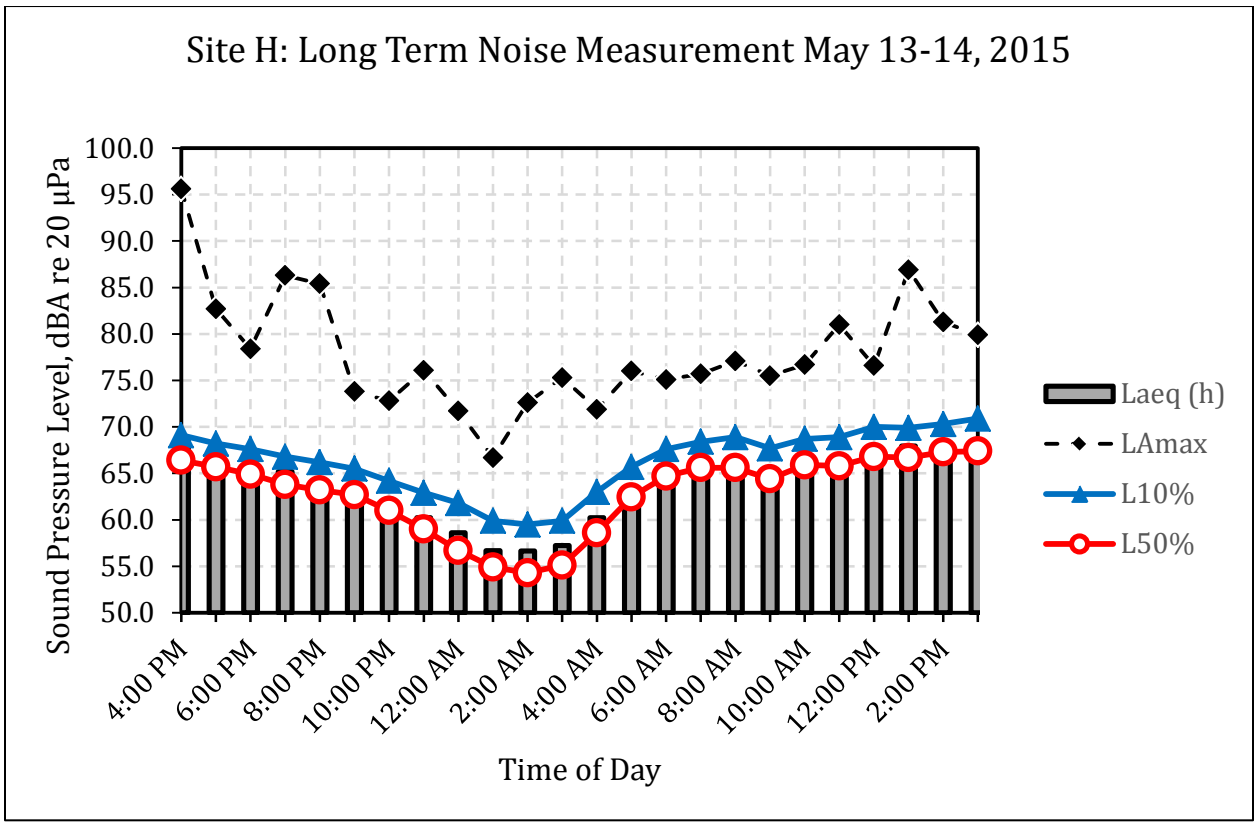
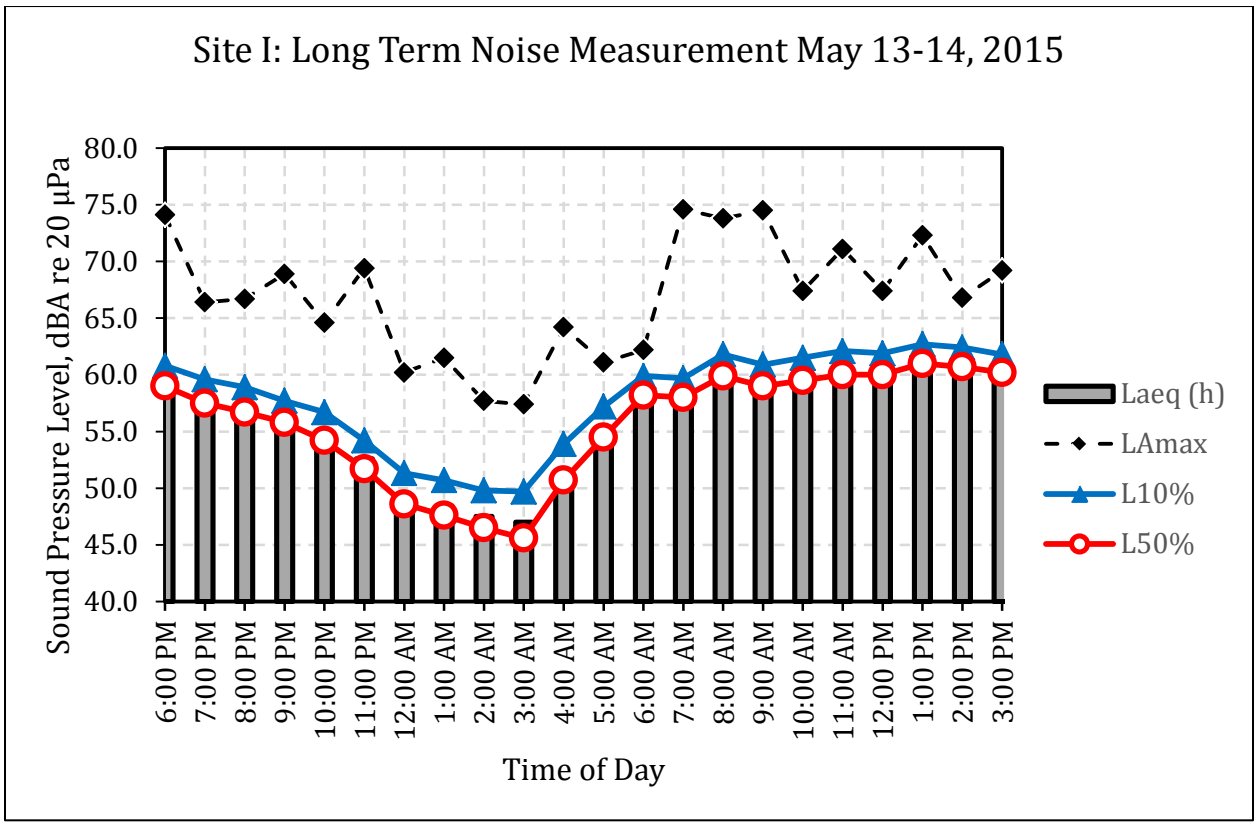


Figure A-9. Long-Term Noise Measurement Data – Site LT-I



Appendix B. Noise Measurement Site Photographs

Figure B-10. Noise Measurement Site LT-A – 1821 York Avenue



Figure B-11. Noise Measurement Site LT-B – 2145 Bonnie Lane



Figure B-12. Noise Measurement Site LT-C – 3954 Noble Avenue



Figure B-13. Noise Measurement Site LT-D – 8820 Quebec Court North



Figure B-14. Noise Measurement Site LT-E – 8558 S. Maplebrook Circle



Figure B-15. Noise Measurement Site LT-F – 9125 Nevada Court



Figure B-16. Noise Measurement Site LT-G – 6102 Hampshire Avenue North



Figure B-17. Noise Measurement Site LT-H – 7501 Myers Avenue



Figure B-18. Noise Measurement Site LT-I – 4416 Toledo Avenue North



Appendix C. Noise Impact Location Exhibits

Figure C-19. Noise Impact Locations – LRT

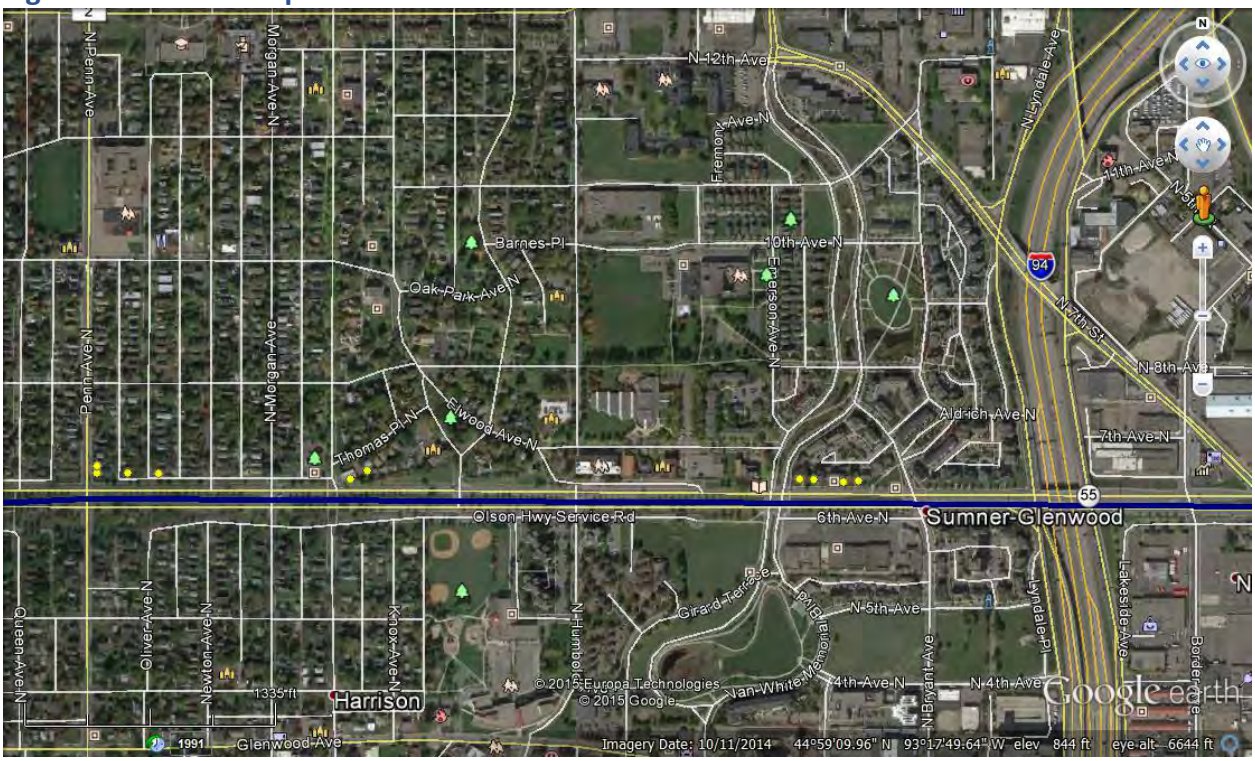


Figure C-20. Noise Impact Locations – LRT

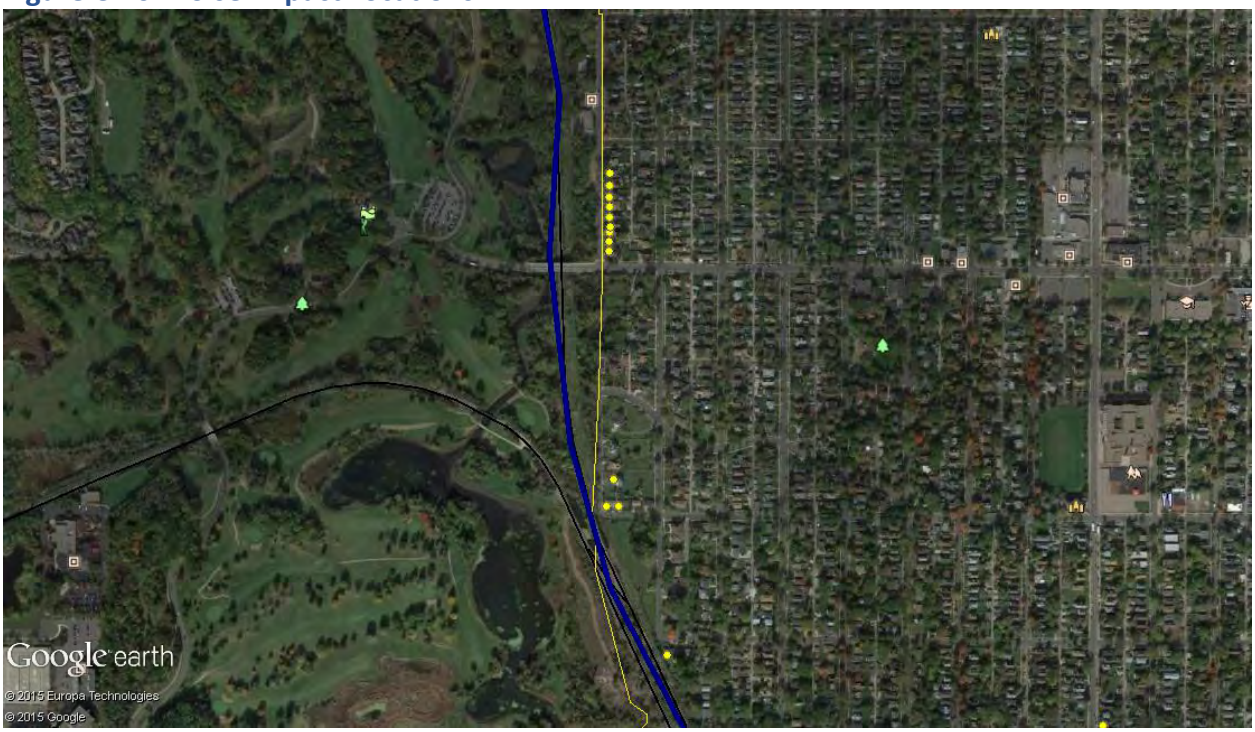


Figure C-21. Noise Impact Locations – LRT

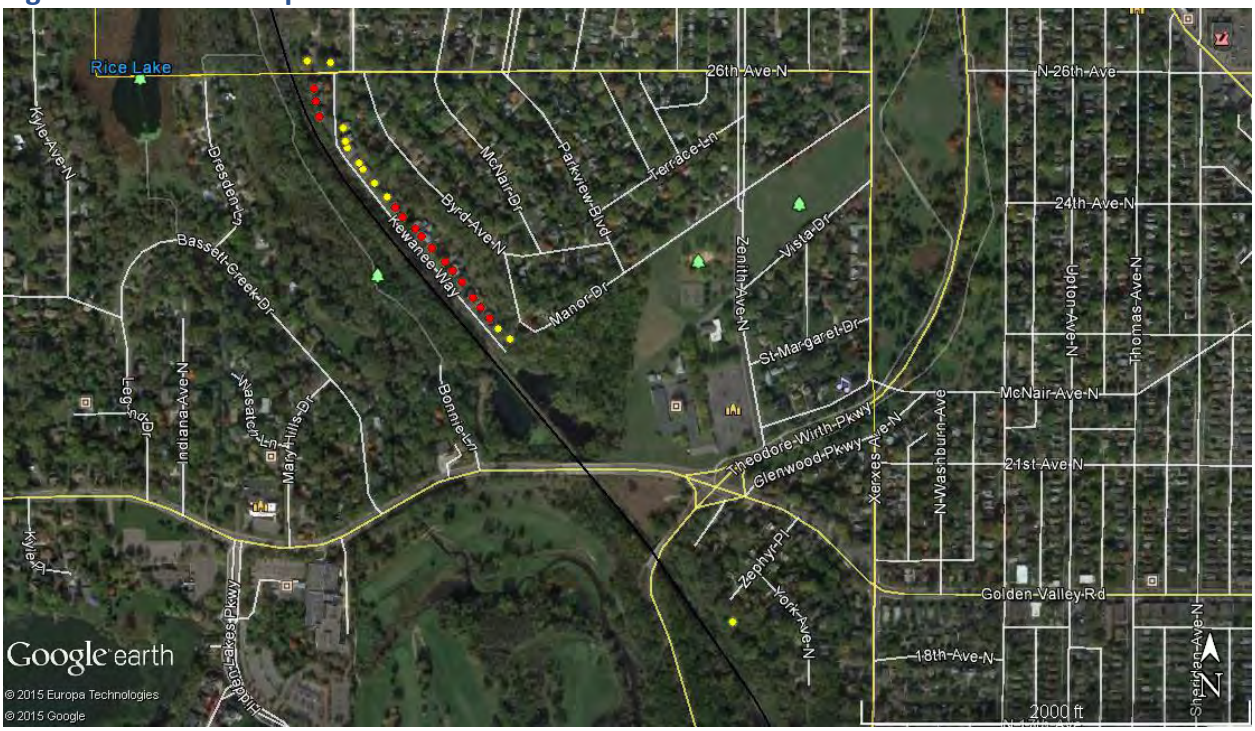


Figure C-22. Noise Impact Locations – LRT

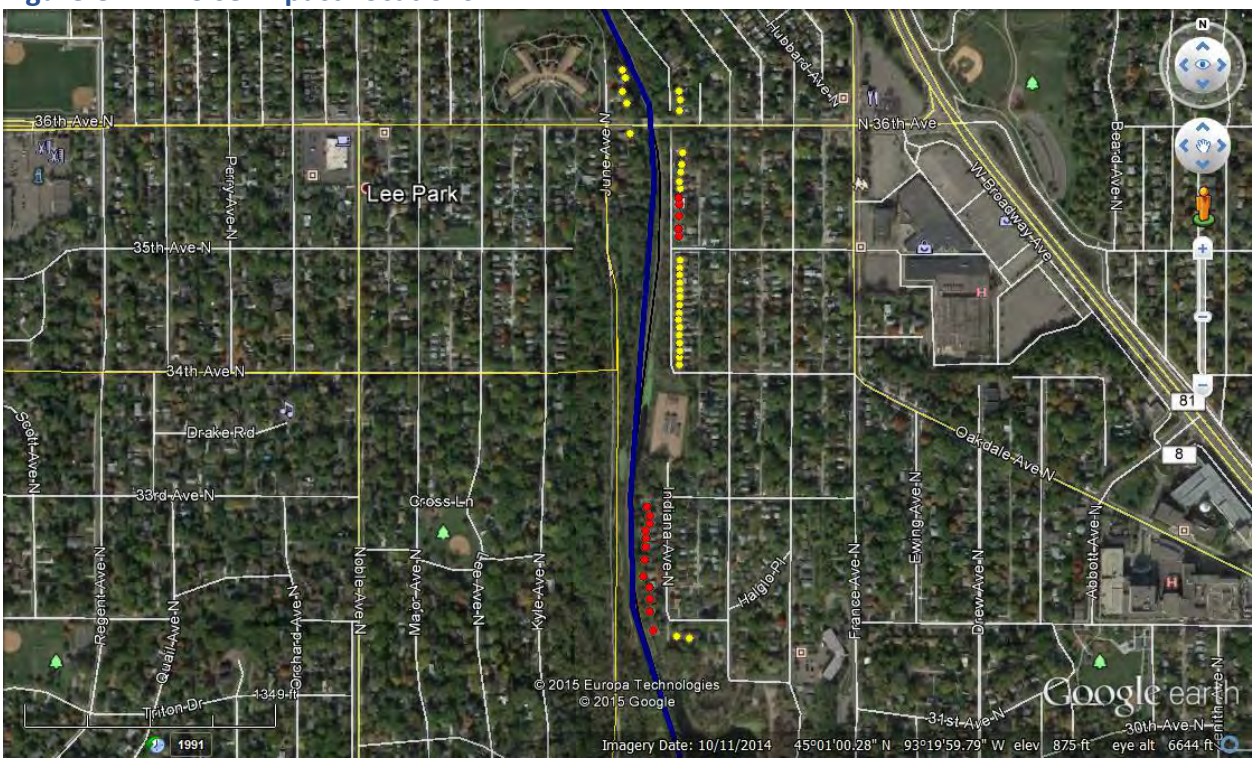


Figure C-23. Noise Impact Locations – LRT

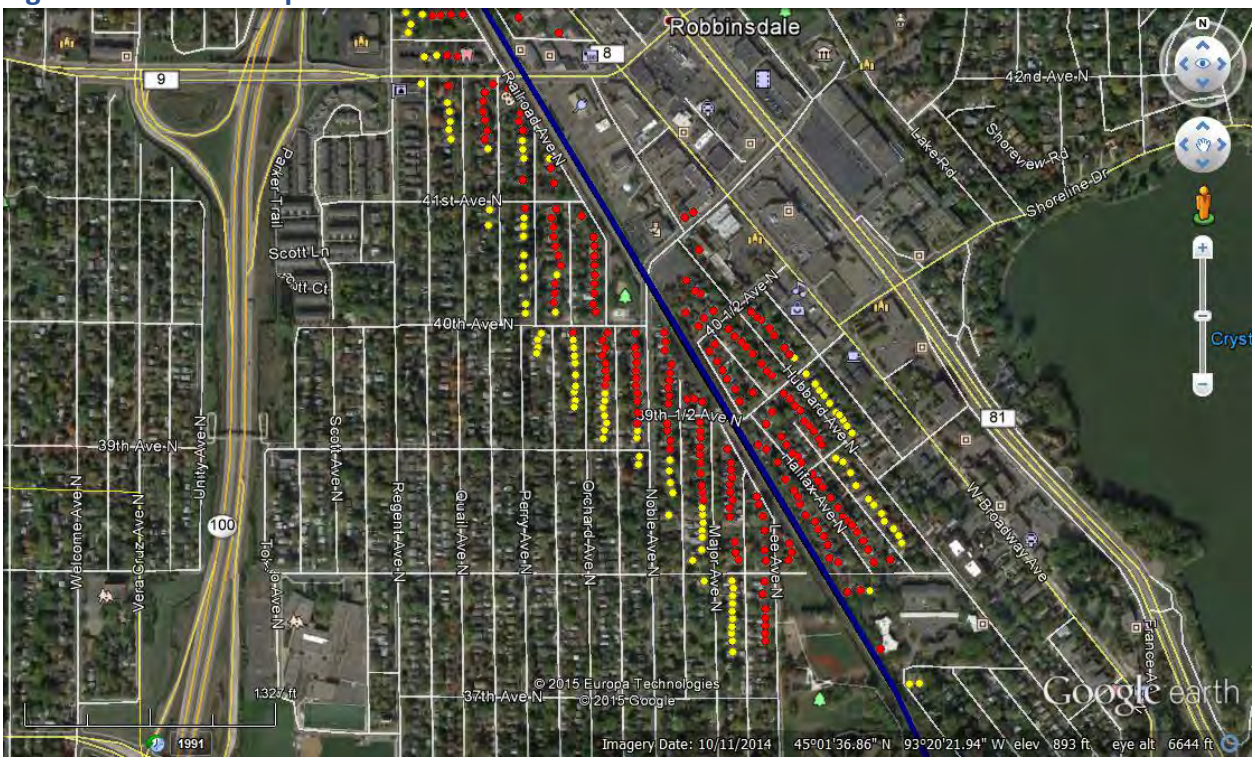


Figure C-24. Noise Impact Locations – LRT

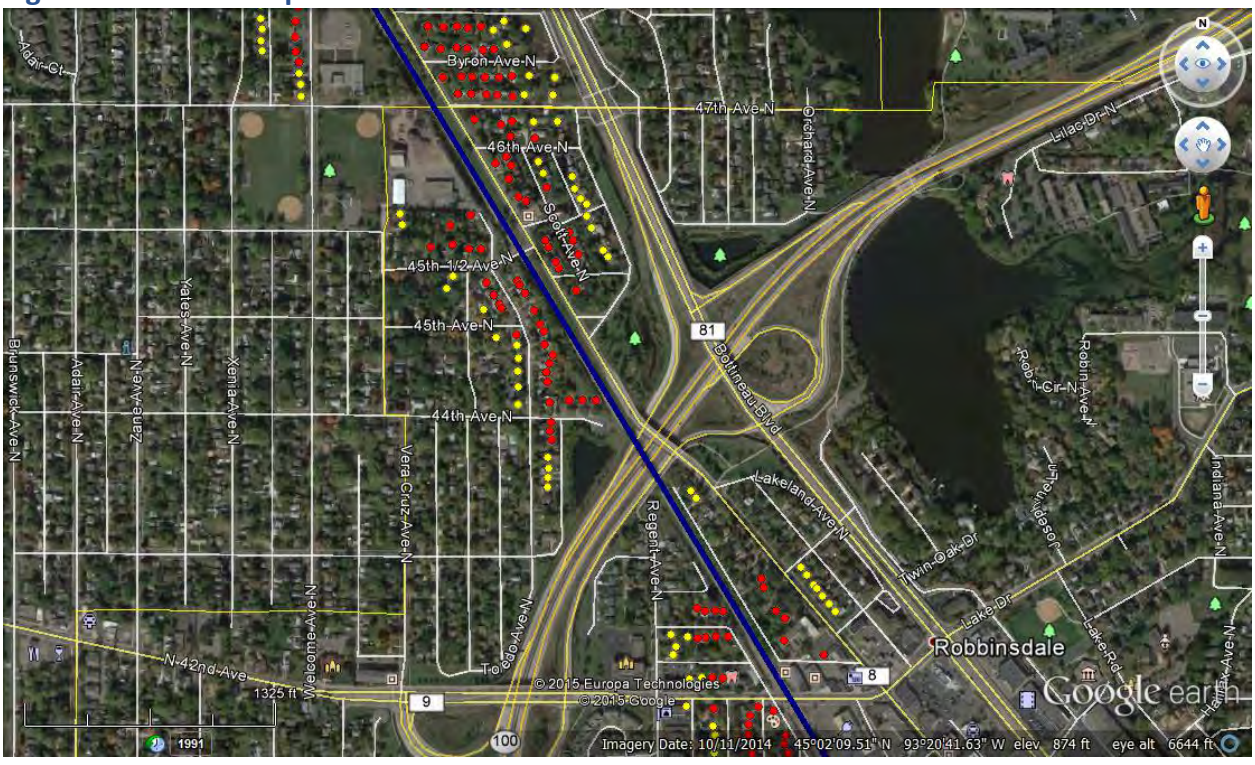


Figure C-25. Noise Impact Locations – LRT



Figure C-26. Noise Impact Locations – LRT

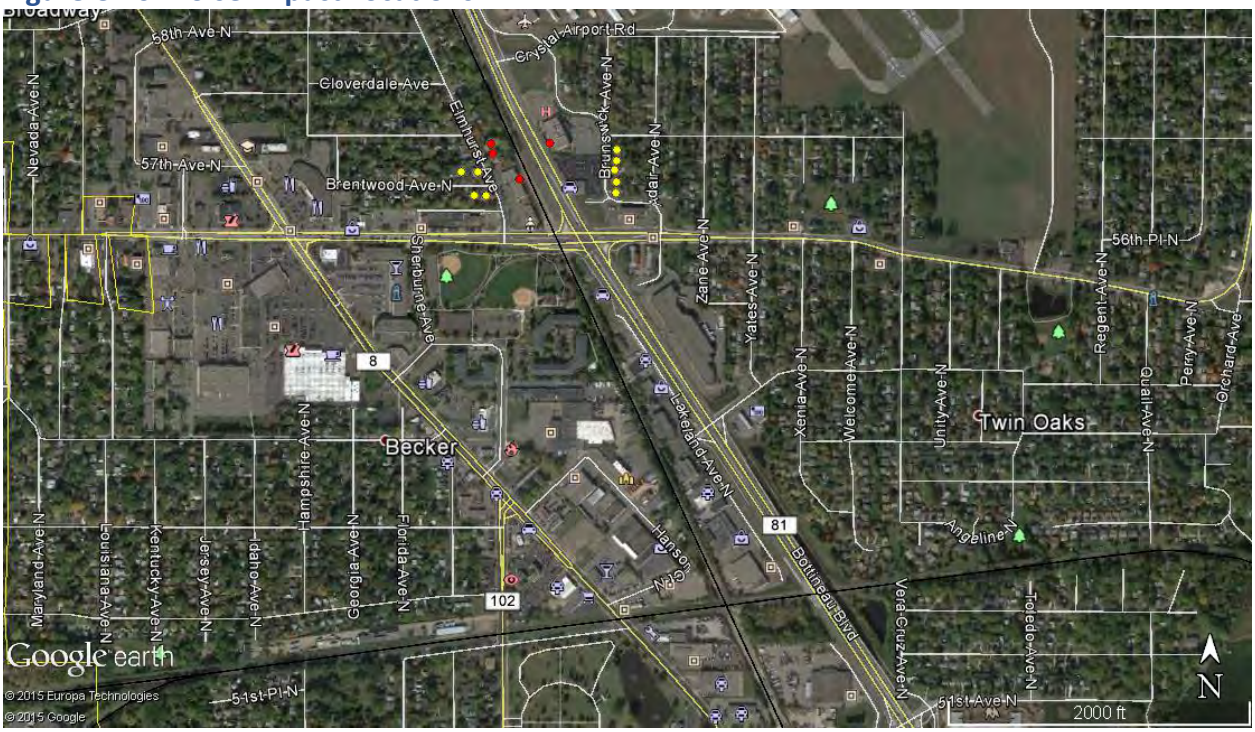


Figure C-27. Noise Impact Locations – LRT

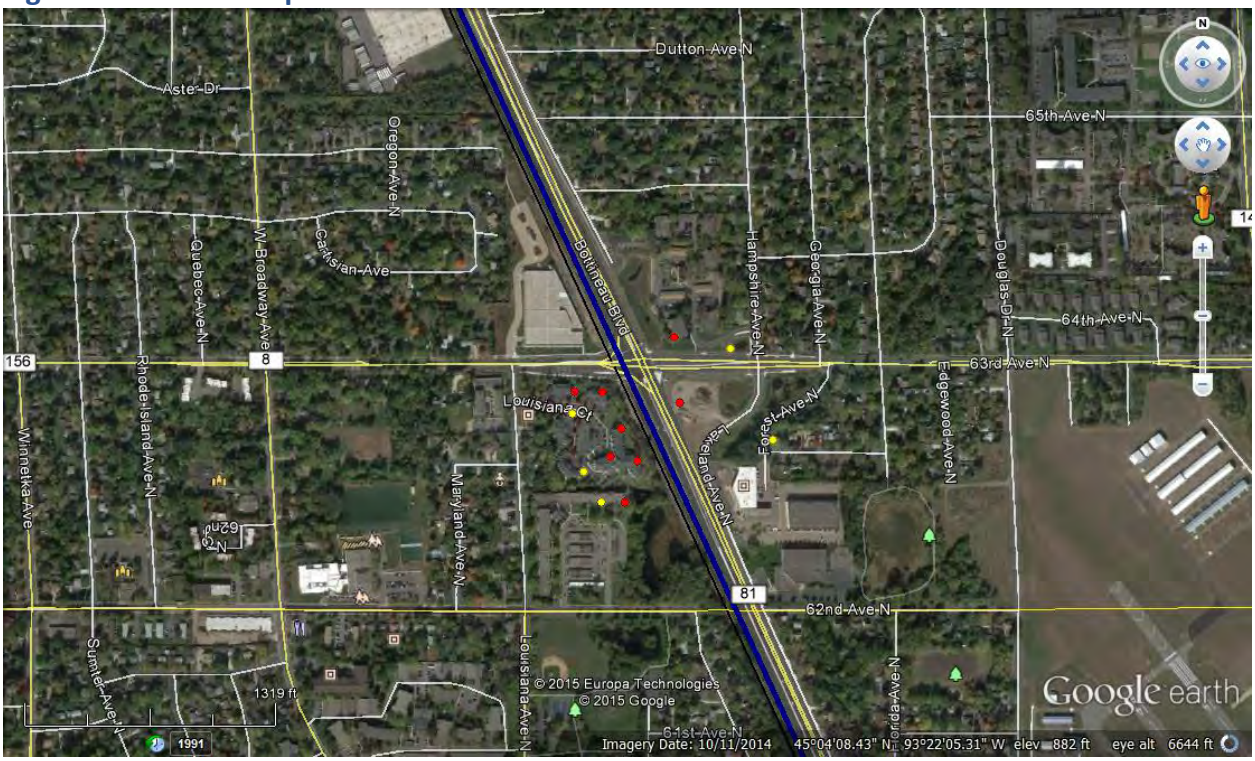


Figure C-28. Noise Impact Locations – LRT



Figure C-29. Noise Impact Locations – LRT

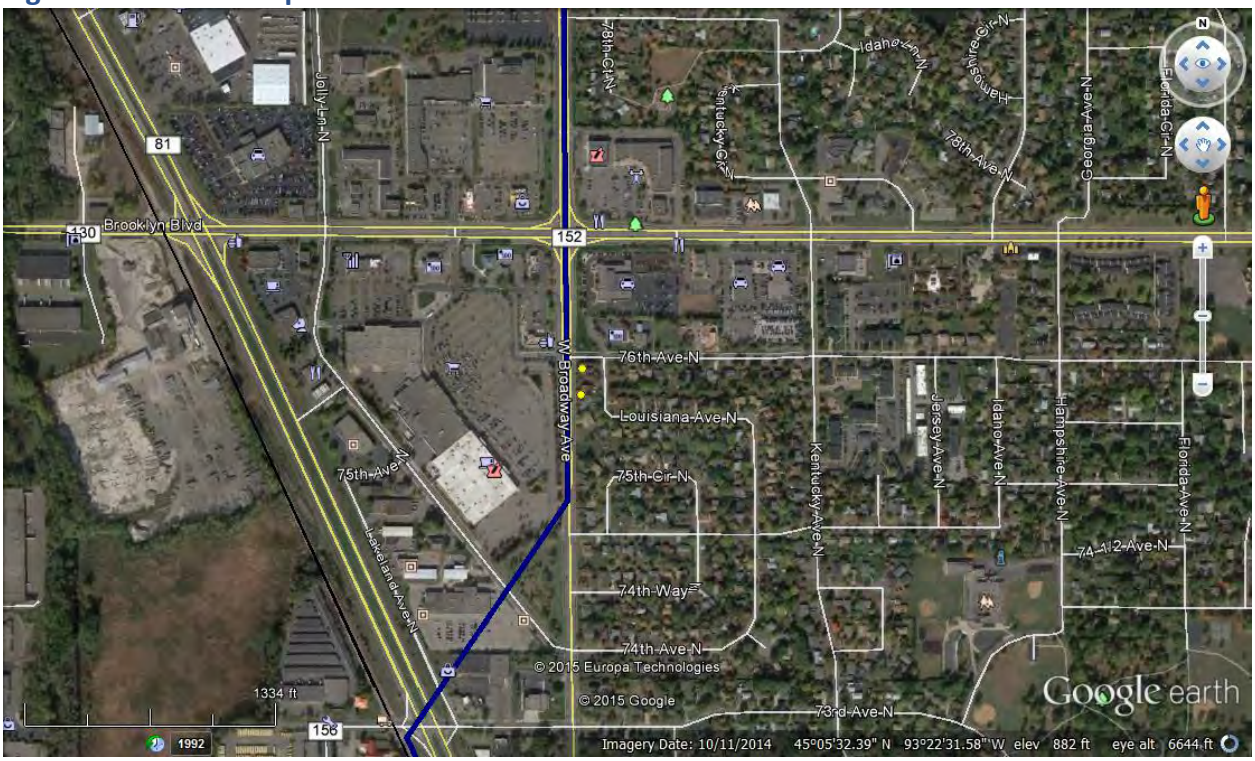


Figure C-30. Noise Impact Locations – LRT

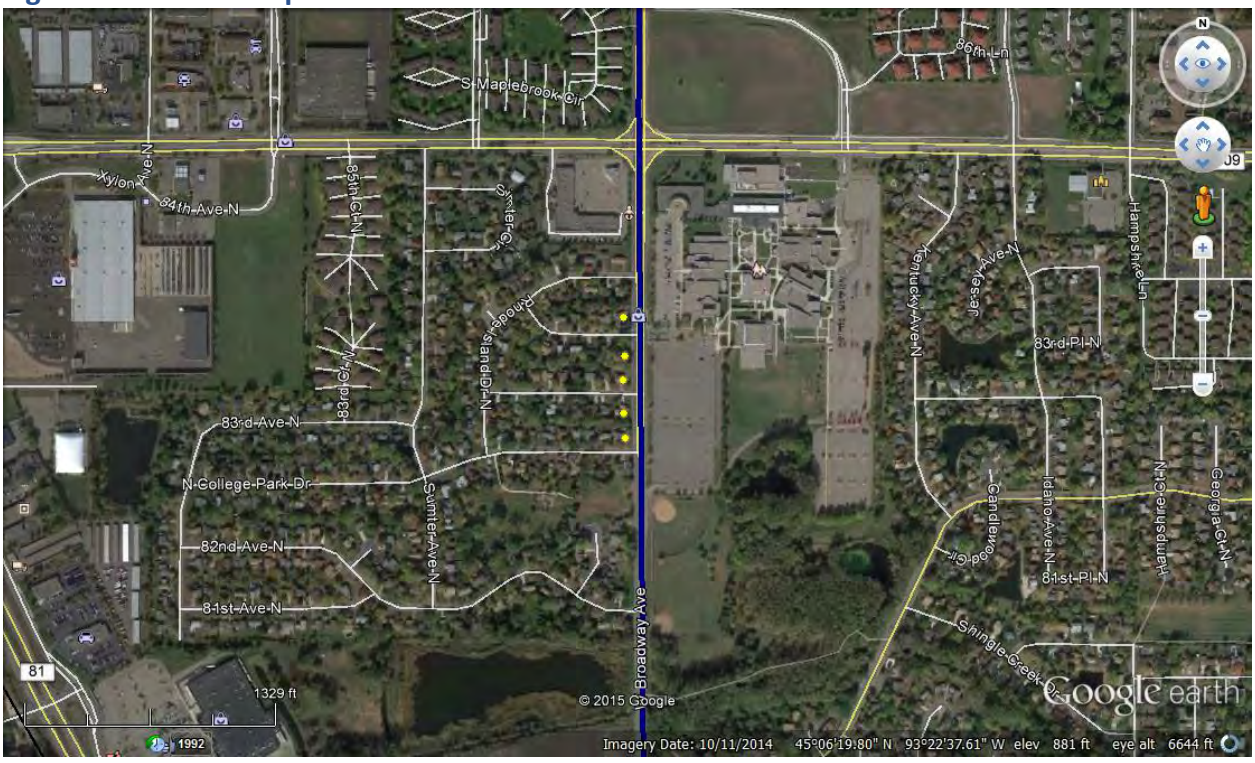


Figure C-31. Noise Impact Locations – LRT

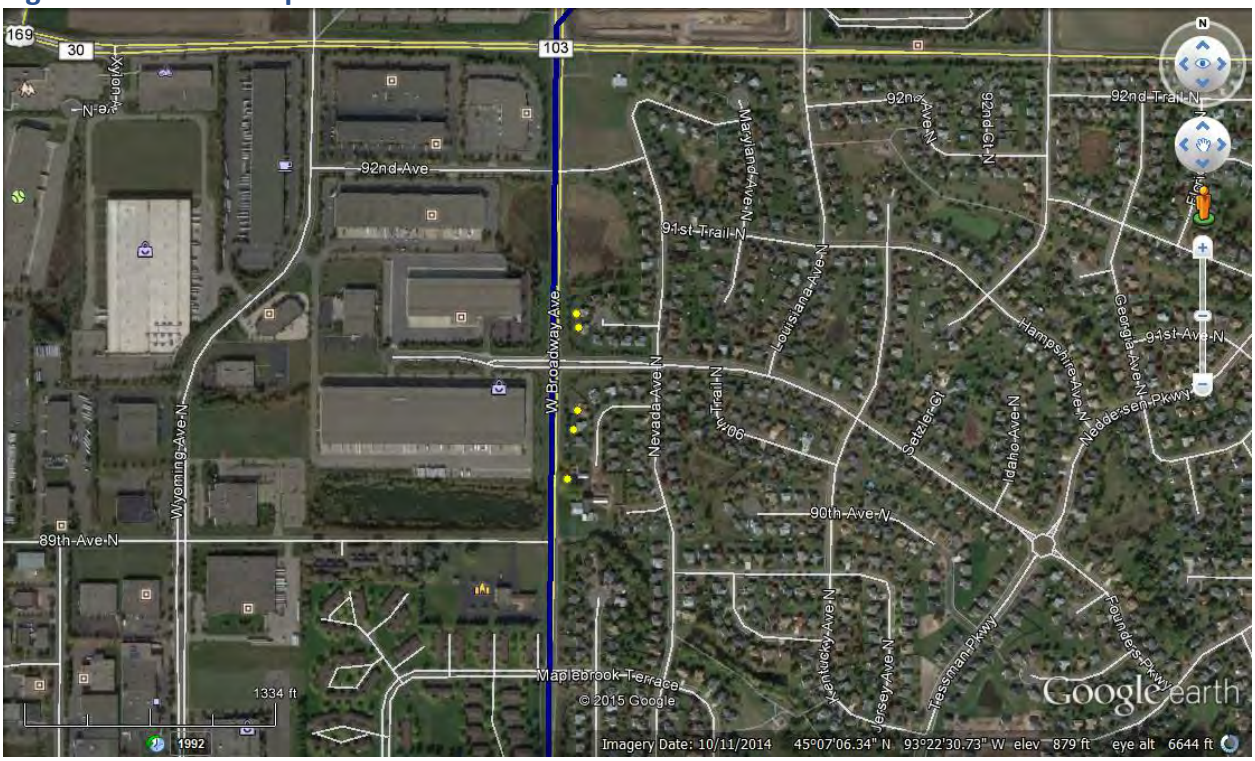
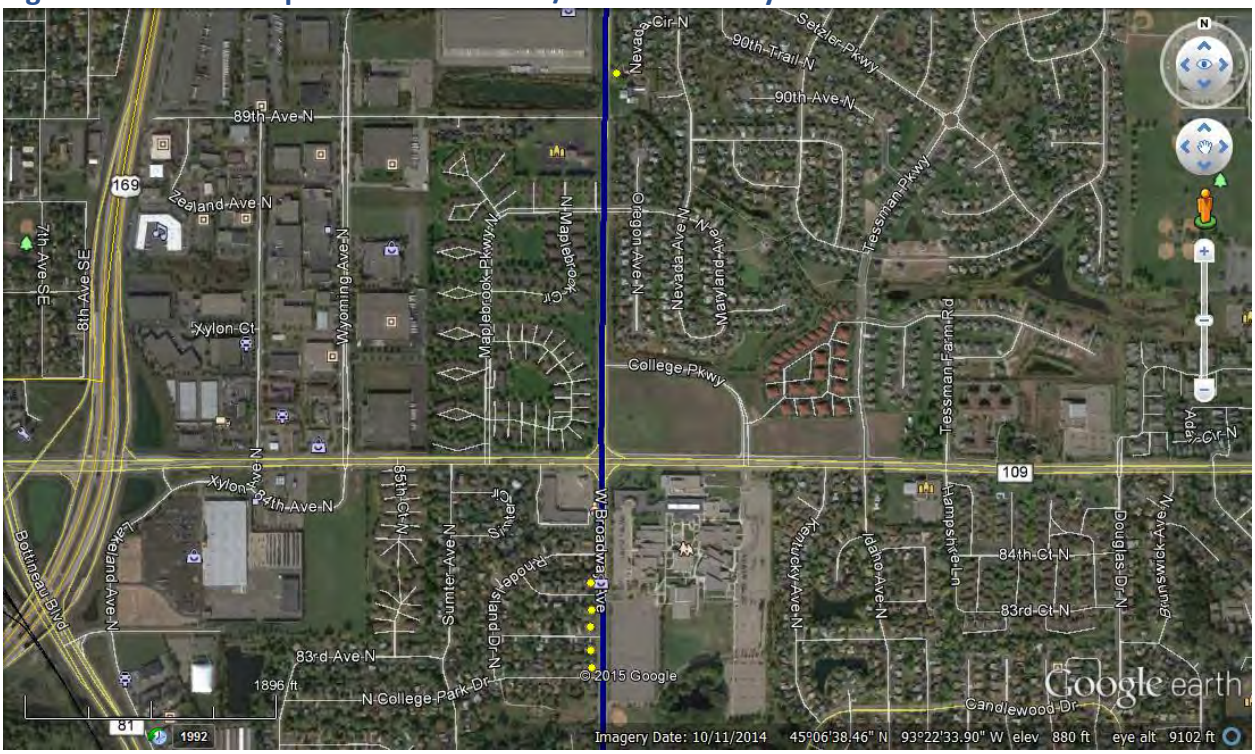


Figure C-32. Noise Impact Locations – LRT/West Broadway Avenue Cumulative



Appendix D. Vibration Impact Location Exhibits

Figure D-33. Vibration Impact Locations

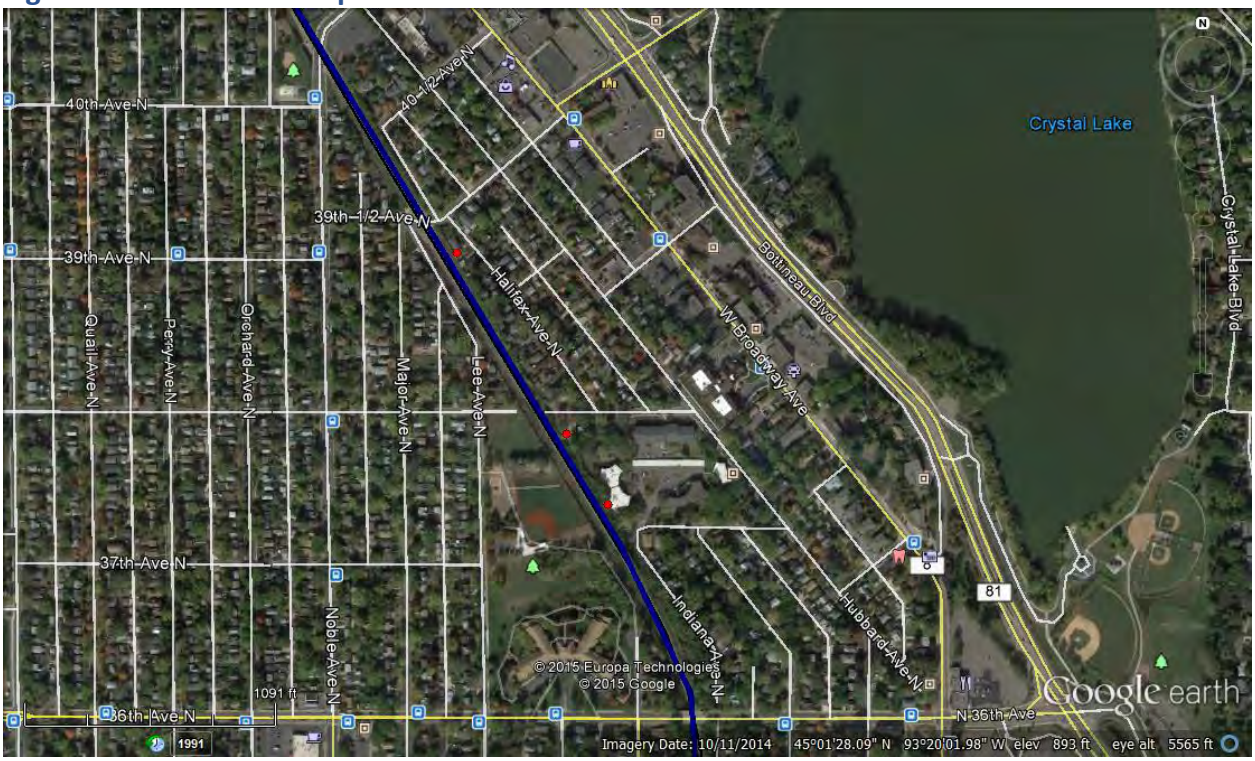
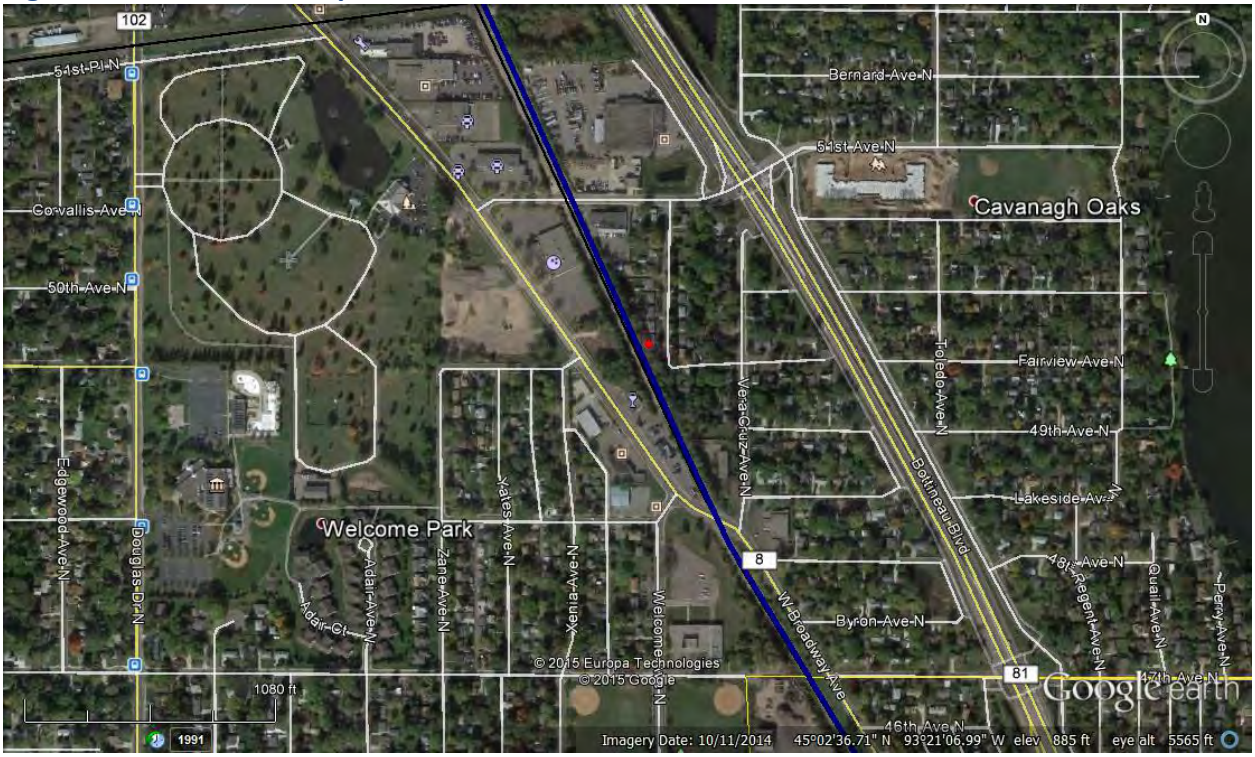


Figure D-34. Vibration Impact Locations



Appendix F
Supporting Technical Reports

F.9 Biological Environment Technical Report

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Biological Environment Technical Report

May 2016

Blue Line Extension Project Technical Report

METROPOLITAN COUNCIL

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Executive Summary

This technical report summarizes the biological environment within the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project area. The intent of this technical report is to support and augment the Final Environmental Impact Statement (Final EIS) being prepared for the proposed BLRT Extension project. Federally listed or monitored species potentially within the proposed BLRT Extension project corridor included the northern long-eared bat (*Myotis septentrionalis*; Federally Threatened) and the bald eagle (*Haliaeetus leucocephalus*; de-listed but on the "Watchlist"). State-listed species potentially within the proposed BLRT Extension project corridor include Blanding's turtle (*Emydoidea blandingii*; State Threatened). Several swallows nests were identified under proposed BLRT Extension project area bridges, though the numbers of nests are very low. Swallows are under the purview of the Migratory Bird Treaty Act. Habitats throughout the proposed BLRT Extension project area are generally highly disturbed. As a result of disturbance, a variety of noxious weed species have infested undeveloped habitats throughout the proposed BLRT Extension project area.

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1 Introduction

1.1 Report Purpose

The purpose of this technical report is to augment the Final Environmental Impact Statement (Final EIS) that was prepared for the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project. This technical report:

- Summarizes biological resources in and near the proposed BLRT Extension project area
- Discusses the potential for impacts to biological resources as a result of the proposed BLRT Extension project and the regulatory context associated with them
- Discusses measures to avoid, minimize and mitigate for potential impacts to biological resources within the proposed BLRT Extension project area

This report discusses both aquatic and terrestrial biological resources within the proposed BLRT Extension project area. Additional information concerning related aquatic resources in the proposed BLRT Extension project area is included in the Water Resources Technical Report (SEH, 2015).

1.2 Project Limits

The proposed BLRT Extension project includes a corridor from the Target Field Station in the City of Minneapolis that extends westward along Olson Memorial Highway (Trunk Highway [TH] 55) to the BNSF Railway (BNSF) rail corridor, then north and west along the BNSF rail corridor to approximately 73rd Avenue in the City of Brooklyn Park, then northeastward to West Broadway Avenue (County State-Aid Highway 103), then north to an area just north of TH 610. A portion of the alignment is within the separate West Broadway Avenue Reconstruction project which is being developed by Hennepin County. Biological resources within the West Broadway Avenue Reconstruction segment are described in the Environmental Assessment Worksheet (EAW) prepared for that Hennepin County project.

Figure 1 on page 17 provides a general location map for the proposed BLRT Extension project area. **Figure 2** starting on page 21 is a 24-page mapbook of the proposed BLRT Extension project area showing aerial imagery and notable terrestrial habitats within and near the proposed BLRT Extension project area.

2 Affected Environment and Environmental Consequences

Section 2.1 – **Affected Environment** discusses biological resources that have been documented, historically or recently, within or near the proposed BLRT Extension project area. In this section, each notable species or feature is assessed as to whether there is some potential for impact as a result of the proposed BLRT Extension project. Those species or features that have a negligible potential for impact as a result of the proposed BLRT Extension project are not discussed further, while those species or features for which impacts may potentially occur are discussed further (**Section 2.2** – **Environmental Consequences**).

2.1 Affected Environment

Generally, the proposed BLRT Extension project area is characterized as fully urbanized land use from downtown Minneapolis west and north to TH 610, and urbanizing rural land use north of TH 610. Land north of TH 610 is a mosaic of agricultural fields, abandoned old agricultural fields, scattered forest patches, a manicured corporate campus, and limited development.

The portion of the proposed BLRT Extension project area from Theodore Wirth Regional Park (TWRP) eastward into downtown Minneapolis is highly urbanized with no natural habitat types present.

The large central portion of the proposed BLRT Extension project area from Olson Memorial Highway to approximately 36th Avenue North (cities of Minneapolis, Golden Valley, and Robbinsdale) is characterized by abundant parkland with a mosaic of forested habitat types and aquatic resources.

The portion of the proposed BLRT Extension project area that lies between approximately 36th Avenue North and TH 610 (cities of Robbinsdale, Crystal, and Brooklyn Park) is highly urbanized residential and industrial land with sparse open lands. Undeveloped property tends to be heavily disturbed, vacant land, or utilized for stormwater treatment.

The proposed BLRT Extension project area north of TH 610 lies at the southern edge of the Anoka Sand Plain. As such, existing plant communities are underlain by thick deposits of sand. The extent of wetlands within the Anoka Sand Plain has been diminishing over time as a result of sinking water tables.

2.1.1 Federally Listed Species (Endangered Species Act)

2.1.1.1 Regulatory Context

Rare species are regulated at the federal level by the US Fish and Wildlife Service (USFWS) under the Endangered Species Act and several related laws. The Endangered Species Act classifies species as Endangered, Threatened, or as Watchlist; “Endangered” meaning a species is in danger of extinction throughout all or a significant portion of its range, “Threatened” meaning a species is likely to become endangered within the foreseeable future and “Watchlist” meaning species that are rigorously monitored prior to listing or after de-listing.

Potential impacts to federally listed species require coordination with USFWS in a process known as Section 7 Endangered Species Act consultation. The end result of the Section 7 Endangered Species Act consultation is a determination of:

- **No Effect.** No impacts positive or negative on the subject species.
- **May Affect, Not Likely to Adversely Affect.** Any potential impacts are either beneficial, insignificant, or discountable.
- **May Affect, Likely to Adversely Affect.** Any potential impacts would be negative and beyond an insignificant or discountable level.

2.1.1.2 Potential Documented Species

Northern Long-Eared Bat (*Myotis septentrionalis*). The northern long-eared bat (NLEB) has a biogeographical range that includes all counties in Minnesota. The NLEB was listed as Federally Threatened in May 2015. The NLEB typically winters in large groups within caves (hibernacula) and migrates to forested areas for the spring, summer, and early fall. Known hibernacula are not present within the proposed BLRT Extension project area; however, several are known along the Mississippi River in the vicinity of the Twin Cities (USFWS, 2015). Known hibernacula would not be impacted as a result of the proposed BLRT Extension project. Pregnant female NLEB congregate in maternity colonies, often under the bark or in cavities of maternity roost trees. The NLEB then disperses to other forested areas to forage before migrating back to the hibernacula in the fall (USFWS, 2015a). There are no documented maternity roost trees in Hennepin County (NHIS, 2015). Typical summer foraging habitat (non maternity colonies) for the NLEB consists of larger forested area and forest remnants. Summer habitat may consist of any of approximately 35 tree species of a size 3 inches diameter at breast height (DBH) or larger.

Summer habitat (forest remnants) for the NLEB is present throughout portions of the proposed BLRT Extension project area. Some tree clearing and grubbing would be required for the proposed BLRT Extension project; therefore, it is discussed further in **Section 2.2 – Environmental Consequences**.

Bald Eagle (*Haliaeetus leucocephalus*). Some forested habitat adjacent to aquatic resources could be suitable for bald eagle nesting in and near the proposed BLRT Extension project. There are no nests currently known within the immediate vicinity of the proposed BLRT Extension project area; however, a single nest has been documented approximately 1 mile east of the proposed BLRT Extension project area. Bald eagle nest locations change over time; therefore, the bald eagle is discussed further in **Section 2.2 – Environmental Consequences**.

Dwarf Trout Lily (*Erythronium propullans*). Based on field data collection throughout the spring and summer of 2015, habitat for the dwarf trout lily is not likely present in the proposed BLRT Extension project area. However, this documented population of dwarf trout lilies was transplanted to the Eloise Butler Wildflower Sanctuary (part of TWRP about ½ to ¾ mile southwest of the proposed BLRT Extension project) early in the 20th century from a population in southern Minnesota. The dwarf trout lily typically requires rich maple basswood forest and relatively undisturbed elm and cottonwood dominated floodplain forests. Forests throughout the proposed

BLRT Extension project area are highly disturbed and not suitable habitat for this rare plant species.

Table 1 summarizes federally listed species discussed in this technical report (NHIS, 2015).

Table 1. Summary of Federally Listed Species Documented near the Proposed BLRT Extension Project Area

Species	Federal Status	Notes
Northern long-eared bat (*Myotis septenrtionalis*)	Threatened	Listed per the Endangered Species Act in May 2015. Forested areas throughout Minnesota potentially used for summer roosting habitat.
Bald eagle (*Haliaeetus leucocephalus*)	Watchlist	De-listed from the federal list of threatened and endangered species; population still monitored. Documented nest east of the proposed BLRT Extension project.
Dwarf trout lily (*Erythronium propullans*)	Endangered	Re-discovered in 2005 in TWRP in the Eloise Butler Wildflower Garden well to the southwest of the proposed BLRT Extension project area (south of Olson Memorial Highway).

Source: Natural Heritage Information System database search (Licensing Agreement 722_2014)

2.1.2 Migratory Bird Treaty Act

2.1.2.1 Regulatory Context

The Migratory Bird Treaty Act (MBTA) was enacted in 1918 as a means of protecting migratory bird populations from over-harvesting. USFWS oversees and enforces the MBTA. USFWS issues depredation permits for destruction of active nests of species covered under the MBTA. A depredation permit is not needed for destruction of nests that are not active. The Minnesota Department of Natural Resources (DNR) also has permit authority over the destruction of active bird nests.

2.1.2.2 Potential Documented Species

A large number of migratory bird species are covered under the MBTA. These species may pass through or nest in or near the proposed BLRT Extension project area as part of their seasonal migrations. Some species may nest in vegetated habitats and others, like the Barn Swallow and Cliff Swallow, have adapted to building mud nests under bridges and on other human-made structures.

Bridges and structures were examined during the summer of 2015 for the presence of barn and cliff swallows and nests. Several empty and occupied nests were observed on the underside of proposed BLRT Extension project area bridges; however, the number of nests was low. **Table 2** summarizes swallow nest locations and characteristics.

Table 2. Summary of Observed Swallow Nests within the Proposed BLRT Extension Project Area

Location	Nests Observed	Notes
Golden Valley Road Bridge	2 nests	Observed on June 10, 2015. No swallows were present.
Theodore Wirth Parkway Bridge	0 nests	Observed on June 10, 2015. No nests or swallows were observed.
Plymouth Avenue Bridge	1 nest	Observed on June 10, 2015. Swallow observed sitting on electrical conduit next to nest.
36th Avenue Bridge	0 nests	Observed on June 10, 2015. No swallows observed.

Source: Metropolitan Council (Council) Field Observations (2015)

2.1.3 State-Listed Species and Other Element Occurrences

2.1.3.1 Regulatory Context

Minnesota's Endangered Species Statute (Minnesota Statutes, Section 84.0895) requires DNR to adopt rules designating species meeting the statutory definitions of endangered, threatened, or species of special concern. The resulting List of Endangered, Threatened, and Special Concern Species is codified as Minnesota Rules, Chapter 6134. The Endangered Species Statute also authorizes DNR to adopt rules that regulate treatment of species designated as endangered and threatened. These regulations are codified as Minnesota Rules, Parts 6212.1800 to 6212.2300.

Data concerning rare species and element occurrences derive from the Natural Heritage Information System (NHIS, 2015) and are summarized below per rules restricting the public disclosure of exact locations of rare species and features.

2.1.3.2 Potential Documented Species

The following species have been historically documented within approximately a 1 mile buffer of the proposed BLRT Extension project.

Long-Bearded Hawkweed (*Heiraceum longipilum*). Long-bearded hawkweed may be present in dry old field habitat north of TH 610, it is not State-listed; therefore, it is not discussed further in **Section 2.2 – Environmental Consequences**.

Water Willow (*Decodon verticillatus*). Water willow is not likely present in the proposed BLRT Extension project area and it is not a State-listed species; therefore, it is not discussed further in **Section 2.2**.

Valerian (*Valerian edulis* var. *ciliata*). The valerian, last observed in 1891 near but outside the proposed BLRT Extension project area, is not likely present; therefore, it will not be discussed further in **Section 2.2**.

Least Darter (*Etheostoma microperca*). The least darter is not likely present in the proposed BLRT Extension project area and it is not a State-listed species; therefore, it is not discussed further in **Section 2.2**.

Hooded Warbler (*Setophaga citrina*). The hooded warbler may be present in the proposed BLRT Extension project area; however, it is not a State-listed species; therefore, it is not discussed further in **Section 2.2**.

Bullfrog (*Lithobates catesbeiana*). The bullfrog is may be present in the proposed BLRT Extension project area; however, it is not a State-listed species; therefore, it is not discussed further in **Section 2.2**.

Peregrine Falcon (*Falco peregrinus*). The peregrine falcon is not likely present in the proposed BLRT Extension project area; therefore, it is not discussed further in **Section 2.2**.

Blanding's Turtle (*Emydoidea blandingii*). The Blanding's turtle is potentially present in the proposed BLRT Extension project area; therefore, it is discussed further in **Section 2.2**.

Table 3 summarizes status and documented observations of species listed as State Endangered, State Threatened, or state Special Concern (NHIS, 2015).

Table 3. Summary of State-Endangered, State-Threatened and State Special Concern Species Documented Near the Proposed BLRT Extension Project

Species	State Status	Notes
Long-bearded hawkweed (*Hieracium longipilum*)	Not-listed (State Watchlist)	Known from two dry prairie/old field locations north and east of the northern terminus of the proposed BLRT Extension project area.
Water willow (*Decodon verticillatus*)	Special Concern	Observed in the 1940s and 1950s in two lakes in the City of Robbinsdale outside (east) of the proposed BLRT Extension project area.
Valerian (*Valeriana edulis* var. *ciliata*)	Threatened	Last observed in 1891 outside (southwest) of the proposed BLRT Extension project area.
Least darter (*Etheostoma microperca*)	Special Concern	Observed in 1931 in a lake in the City of Robbinsdale outside (east) of the proposed BLRT Extension project area.
Hooded warbler (*Setophaga citrina*)	Special Concern	Observed during breeding season in 1979 in TWRP.
Bullfrog (*Lithobates catesbeianus*)	Not-listed (State Watchlist)	Observed in 2003, 2008, and 2011 in a shallow pond connected to Bassett Creek.
Peregrine falcon (*Falco peregrinus*)	Special Concern	Observed nesting in 2000, 2003 and 2011 in downtown Minneapolis on several skyscraper buildings.
Blanding's turtle (*Emydoidea blandingii*)	Threatened	A dead female Blanding's turtle was observed in 2000 on Olson Memorial Highway near TWRP.

Source: Natural Heritage Information System database search (Licensing Agreement # LA722_2014)

2.1.3.3 Documented Other Element Occurrences

Colonial Waterbird Nesting Areas. Colonial Waterbird Nesting Areas are not currently present in the proposed BLRT Extension project area; however, rookery locations do change over time and therefore locations will be monitored. Locations of colonial waterbird nesting areas are not discussed further in **Section 2.2 – Environmental Consequences**. Occupied rookeries, typically occupied by Great Blue Herons and Double-Crested Cormorants, are usually quite obvious. Rookery locations will be monitored over the course of planning and construction of the proposed BLRT Extension project.

Tamarack Swamp (Southern) Type. The Tamarack Swamp identified in the Natural Heritage database is not located within the proposed BLRT Extension project area; therefore, it is not discussed further in **Section 2.2**.

Table 4 summarizes rare features that have documented near the proposed BLRT Extension project area.

Table 4. Summary of Rare Features Documented near the Proposed BLRT Extension Project Area

Element Occurrence	State Status	Notes
Colonial Waterbird Nesting Area	Tracked by DNR Natural Heritage Program	Two locations observed in 1997, 1998 and 2010 outside (east and west) of the proposed BLRT Extension project area.
Tamarack Swamp (Southern) Type	Tracked by DNR Natural Heritage Program	Observed in 1998 within TWRP outside (southwest) of the proposed BLRT Extension project area.

Source: Natural Heritage Information System, 2015 (Licensing Agreement # LA 722_2014)

2.1.4 Noxious Weeds

The Minnesota and Federal Noxious and Prohibited Weed List (updated May 15, 2014) (DNR, 2014) was reviewed to determine the status of invasive species encountered during spring and summer (2015) fieldwork by SEH within the proposed BLRT Extension project area and associated facilities.

The urbanized and highly disturbed nature of much of the proposed BLRT Extension project area provides abundant suitable habitat for infestations of noxious and invasive plant species.

Table 5 summarizes common noxious plant species, their status, and general locations observed during fieldwork.

Table 5. Noxious Plant Species Observed within the Proposed BLRT Extension Project Area

Plant Species	Noxious Status[1]	Notes
Garlic mustard (*Alliaria petiolata*)	RN	Ubiquitous in forested plant communities throughout the proposed BLRT Extension study area.
Spotted knapweed (*Centaurea stoebe* ssp. *micranthos*)	SN	Common on railroad ballast and adjacent dry ditches.
Canada thistle (*Cirsium arvense*)	SN	Common throughout the proposed BLRT Extension project area.
Leafy spurge (*Euphorbia esula*)	SN	Common on railroad ballast and adjacent dry ditches.
Wild parsnip (*Pastinaca sativa*)	SN	Common on disturbed embankments throughout the proposed BLRT Extension project area.
Japanese knotweed (*Polygonum cuspidatum*)	SN	Observed in highly disturbed forest.
European buckthorn (*Rhamnus cathartica*)	RN	Ubiquitous in the herbaceous, shrub and tree strata of forested areas throughout the proposed BLRT Extension project area and associated facilities.
Poison ivy (*Toxicodendron radicans*)	SN	Common in vegetated areas throughout the proposed BLRT Extension project area and associated facilities.

Source: The Minnesota and Federal Noxious and Prohibited Weed List (May 15, 2015, update) and field observations.

[1] RN = Restricted Noxious Weed, SN = State Noxious Weed

2.1.5 Notable Terrestrial and Aquatic Habitats within and near the Proposed BLRT Extension Project Area

Wildlife species that inhabit fallow land, terrestrial or aquatic, within and near the proposed BLRT Extension project area are generalist species adapted to urbanized conditions. These species are generally more tolerant of human presence and activities, including traffic (pedestrian, rail, and vehicular), and have demonstrated by their presence that they adapt readily to the human environment. **Table 6** and text below describe notable terrestrial and aquatic habitats, respectively.

The notable terrestrial habitats within and near the proposed BLRT Extension project area are relatively large forested areas in an urbanized setting. As such they provide feeding, loafing and resting habitat for generalist species adapted to urbanized conditions. Common generalist wildlife species that thrive in such urbanized terrestrial habitat include white-tailed deer, rabbit, coyote, red fox, raccoon, opossum, grey squirrel, chipmunk, wild turkey, red-tailed hawk, and a variety of common songbirds and migration stopover habitat for neo-tropical migratory songbird species. Additionally, notable terrestrial habitats within and near the proposed BLRT Extension project area may provide summer roosting habitat for the NLEB, a Federally Threatened species. The total acreage of notable terrestrial habitats in and near the proposed BLRT Extension project is approximately 269 acres.

Notable terrestrial habitats (i.e., large contiguous forest complexes) within and near the proposed BLRT Extension project area were identified with a combination of Minnesota Land Cover Classification System (MLCCS) and field data collection. MLCCS forest polygons were identified within approximately ¼ mile of the proposed BLRT Extension project. These polygons were compared to recent aerial photography to identify areas where forest had been cleared after the MLCCS data were gathered. The MLCCS polygons were trimmed accordingly. Areas of large contiguously forested areas were classified as notable terrestrial habitats (see **Table 6**).

The notable aquatic habitats identified in the proposed BLRT Extension project area provide refuge for a variety of frogs and toads, turtles, snakes, waterfowl and songbird species. The total acreage of notable aquatic habitat in and near the proposed BLRT Extension project area is approximately 49 acres. Notable aquatic habitats within and near the proposed BLRT Extension project area were identified through fieldwork conducted in the spring and summer of 2015.

MLCCS data did not identify any natural habitat within the proposed BLRT Extension project area of greater than a D letter grade. The majority of the habitat quality was given a grade of NN or NA as the habitat is considered non-native, altered, or disturbed. Field data collection during 2015 verified the disturbed nature of habitats within and near the proposed BLRT Extension project area.

Table 6. Notable Terrestrial and Aquatic Habitats within and near the Proposed BLRT Extension Project Area

Notable Habitat ID	Location	Total Size (ac)
101st Avenue North Complex (**Terrestrial**)	Northwest quadrant of Highway 169 and 101st Avenue North	16.8
Target Corp #1 Complex (**Terrestrial**)	North of TH 610 and east of Winnetka Avenue East	20.4
Target Corp #2 Complex (**Terrestrial**)	Adjacent to intersection of Winnetka Avenue North and West Broadway Avenue	23.2
Shingle Creek Complex (near the proposed BLRT Extension project) (**Terrestrial**)	Adjacent to Shingle Creek near the proposed BLRT Extension project	20.7
North Rice Pond – Sochacki Park Complex (**Terrestrial**)	West side of BNSF tracks from ~35th Avenue North to Golden Valley Road	57.5
Grimes Pond Complex (**Terrestrial**)	East side of BNSF tracks just south of Grimes Pond	11.9
Saint Mary Margaret – MPRB Complex (**Terrestrial**)	East side of BNSF tracks just north of Golden Valley Road	6.9
Theodore Wirth Complex (**Terrestrial**)	Both side of BNSF tracks from Golden Valley Road south to Olson Memorial Highway	62.1
Olson Memorial Highway Complex **(Terrestrial)**	South side of Olson Memorial Highway on both sides of existing BNSF tracks	24.7
Xerxes Complex (**Terrestrial**)	South side of Olson Memorial Highway near Glenwood Avenue and Xerxes Avenue North	24.9
North and South Rice Ponds (**Aquatic**)	Cities of Robbinsdale and Golden Valley on west side of existing BNSF tracks	24.72
Grimes Pond (**Aquatic**)	City of Robbinsdale on the east side of existing BNSF tracks	7.41
Golden Valley Road Ponds (**Aquatic**)	North side of Golden Valley Road on both sides of the existing BNSF tracks	5.08
TWRP (Bassett Creek and backwater) (**Aquatic**)	North and south of the Plymouth Avenue Bridge on the west side of the existing BNSF tracks	11.85

Source: MLCCS and field data collection (Council, 2015)

2.2 Environmental Consequences

2.2.1 Federally Listed Species

Species that are federally listed or on the Federal "Watchlist" that could potentially be affected by the proposed BLRT Extension project include the NLEB (Federally Threatened) and the bald eagle (on the federal "Watchlist").

2.2.1.1 Measures to Avoid and Minimize Impacts

Northern Long-Eared Bat (*Myotis septentrionalis*). Potential impacts to the NLEB can be minimized by avoiding tree clearing and grubbing. For forested areas 15 acres or larger that cannot be avoided, tree clearing would be restricted between April 1 and October 1 as prescribed in the Interim 4(d) Guidelines developed for the NLEB (USFWS, 2015c). The proposed BLRT Extension project team is working closely with USFWS in order to assure that potential impacts to the NLEB are minimized to the extent practicable.

Bald Eagle (*Haliaeetus leucocephalus*). Though the bald eagle has been de-listed from the ESA, it is still protected under several other federal laws. Bald eagle nest locations change over time and there is the potential for bald eagles to nest in and near the proposed BLRT Extension project area. Bald eagles are particularly vulnerable during the nesting season which extends from late January to late July. The non-nesting season is from August to mid-January. Nest locations will be monitored throughout the planning and construction phases of the proposed BLRT Extension project. If new bald eagle nests are observed in close proximity to the construction limits of the proposed BLRT Extension project during the planning and construction phases of the proposed BLRT Extension project, USFWS will be consulted to determine appropriate actions or restrictions that may apply.

2.2.1.2 Unavoidable Impacts

Northern Long-Eared Bat. Based on its analysis of proposed tree clearing in the proposed BLRT Extension project area and adherence to the Final "4(d) Rule," USFWS has concurred with the Federal Transit Administration's (FTA) determination that the proposed BLRT Extension project merits a determination of "may affect, Incidental Take Not Prohibited" with respect to the NLEB.

Bald Eagle. With ongoing nest reconnaissance and adherence to acceptable permit provisions and seasonal work windows, the proposed action is not likely to negatively impact the bald eagle.

2.2.2 Migratory Bird Treaty Act

2.2.2.1 Measures to Avoid and Minimize Impacts

Generally, USFWS and DNR require seasonal work windows in order to comply with the MBTA and the DNR General Permit 2004 – 0001 provisions. The following measures are acceptable to USFWS and DNR:

- Bridge work may be performed (started and finished) outside of the nesting season (i.e., before May 15 or after September 1). No permit would be required for this activity.
- Bridge work may begin after May 15 and nest completion can be prevented by removing the nests (at least three times per week) as they are being built, or through the use of barriers to prevent nest establishment from occurring. The success of this measure depends on the number of nests on a bridge, and the ability to restrict access. If the bridge contains only a few nests, the birds should be easily deterred from nesting. Removal of unfinished nests is acceptable to USFWS, which considers this to be non-lethal harassment. No permits would be required for this activity.

Very few swallow nests were observed on bridge structures within the proposed BLRT Extension project area. Therefore, it should be feasible to remove existing nests or exclude new nest establishment during a seasonal period when they are inactive. During construction of the proposed BLRT Extension project, nest building should be prevented on the underside of bridge structures by removing nests as they are built, if needed.

2.2.2.2 Unavoidable Impacts

With the implementation of acceptable measures to minimize (**Section 2.2.2.1**) there would be no impacts resulting from the proposed BLRT Extension project to species covered under the MBTA.

2.2.3 State-Listed Species and Other Element Occurrences

2.2.3.1 Measures to Avoid and Minimize Impacts

DNR has issued guidelines on measures to minimize potential impacts to Blanding's turtle. These measures include provisions such as seasonal work windows, installation and removal of silt fences, and educational materials to use at the construction site to inform the contractor and workers what the look for, and how to handle occurrences.

2.2.3.2 Unavoidable Impacts

Blanding's Turtle. The Blanding's turtle may be present within the proposed BLRT Extension project area. With adherence to the DNR guidelines concerning minimization of impacts to Blanding's turtle, we conclude that potential impacts to this species would likely be negligible.

Other Element Occurrences. The proposed subject project would not impact any rare plant communities or animal aggregation areas (i.e., colonial waterbird nesting areas) that have been inventoried by DNR.

2.2.4 Noxious Weeds

Given the urban and highly disturbed nature of the proposed BLRT Extension LRT project area, noxious weeds are ubiquitous. Some measures, such as spot spraying with appropriate herbicides, can be taken to control invasive species within construction areas and staging areas. A vegetation management plan will be developed to include measures like these to control noxious weeds along the proposed BLRT Extension project. However, permanent eradication of invasive or noxious weeds within the proposed BLRT Extension project area will not be feasible.

2.2.5 Notable Terrestrial and Aquatic Habitats within the Proposed BLRT Extension Project Area

2.2.5.1 Measures to Avoid and Minimize Impacts

Complete avoidance of impacts to notable terrestrial and aquatic habitats within the proposed BLRT Extension project area was not feasible. Several opportunities to minimize impacts are under consideration in the design process, summarized as follows:

- **Rail bridge across Golden Valley Ponds.** The proposed BLRT Extension project will use a bridge to cross Golden Valley Ponds, an identified notable aquatic resource. The alternative design would have used a continuous embankment of fill which would have caused considerably more impacts to this aquatic resource.
- **Rail bridge across Grimes Pond.** The proposed BLRT Extension project will use a bridge to cross Grimes Pond, an identified notable aquatic resource. The alternative design would have used a continuous embankment of fill which would have had considerably more impacts to this aquatic resource.
- **Pre-treatment storm BMPs.** Several BMPs, such as infiltration, retention and detention will be part of the proposed BLRT Extension project and associated facilities. These BMPs will serve to improve the water quality of downslope or downstream aquatic resources.
- **Design of on-site mitigation areas that would minimize impacts to forested areas and existing aquatic resources.** Several on-site mitigation areas have been identified that would require negligible tree clearing and would restore aquatic habitat that has been lost as a result of fill or diminished hydrology.

2.2.5.2 Unavoidable Impacts

Notable terrestrial habitats (i.e., large contiguous forest complexes) identified within and near the proposed BLRT Extension project area may provide suitable summer roosting habitat for the NLEB as well as foraging and resting habitat for a variety of generalist wildlife species. Notable aquatic habitats identified within and near the proposed BLRT Extension project area provide refuge for a variety of frogs and toads, turtles, waterfowl, and songbirds. **Table 7** summarizes total size and potential impacts to Forest Complexes within and near the proposed BLRT Extension project area.

In addition to impacts to notable terrestrial habitat summarized in **Table 7**, 194 acres of numerous small forest remnants (76 forest patches) are present within approximately ¼ mile of the proposed

BLRT Extension project. Of these remnants, approximately 17 acres would be impacted by the proposed BLRT Extension project.

Table 7. Notable Terrestrial and Aquatic Habitat Impacts within the Proposed BLRT Extension Project Area

	Location	Total Size (ac)	Total Impacts (ac)
Terrestrial Habitats			
101st Avenue North Complex	Northwest quadrant of Highway 169 and 101st Avenue North	16.8	0.0
Target Corp #1 Complex	North of TH 610 and east of Winnetka Avenue East	20.4	0.51
Target Corp #2 Complex	Adjacent to intersection of Winnetka Avenue North and West Broadway Avenue	23.2	4.70
Shingle Creek Complex	Adjacent to Shingle Creek near the Blue Line LRT Extension project alignment	20.7	Part of West Broadway Avenue
North Rice Pond – Sochacki Park Complex	West side of BNSF tracks from ~35th Avenue North to Golden Valley Road	57.5	3.30
Grimes Pond Complex	East side of BNSF tracks just south of Grimes Pond	11.9	0.06
Saint Mary Margaret – MPRB Complex	East side of BNSF tracks just north of Golden Valley Road	6.9	0.29
Theodore Wirth Complex	Both side of BNSF tracks from Golden Valley Road south to Olson Memorial Highway	62.1	8.69
Olson Memorial Highway Complex	South side of Olson Memorial Highway on both sides of existing BNSF tracks	24.7	0.38
Xerxes Complex	South side of Olson Memorial Highway near Glenwood Avenue and Xerxes Avenue North	24.9	0.00
	Total notable terrestrial habitat and potential impacts	269	17.93
Aquatic Habitats			
North and South Rice Ponds	Cities of Robbinsdale and Golden Valley on west side of existing BNSF tracks	24.72	0.01
Grimes Pond	City of Robbinsdale on the east side of existing BNSF tracks	7.41	1.63
Golden Valley Road Ponds	North side of Golden Valley Road on both sides of the existing BNSF tracks	5.08	0.90
TWRP (Bassett Creek and backwater)	North and south of the Plymouth Avenue Bridge on the west side of the existing BNSF tracks	11.85	1.79
	Total notable aquatic habitat and potential impacts	**49.06**	**4.33**

Source: MLCCS Dataset and recent aerial photography

2.2.5.3 Mitigation for Unavoidable Impacts

Mitigation for unavoidable impacts to aquatic habitat will be accomplished through a combination of on-site wetland mitigation and purchase of suitable wetland credits from an established wetland mitigation bank.

Mitigation for unavoidable impacts to notable terrestrial habitat will be accomplished through some tree plantings in and around TWRP and a few selected areas throughout the proposed BLRT Extension project area.

Where effective and feasible, suitable wildlife crossings will be accommodated within proposed culverts to allow some wildlife species to cross from one side of the proposed BLRT Extension project and freight rail tracks to the other.

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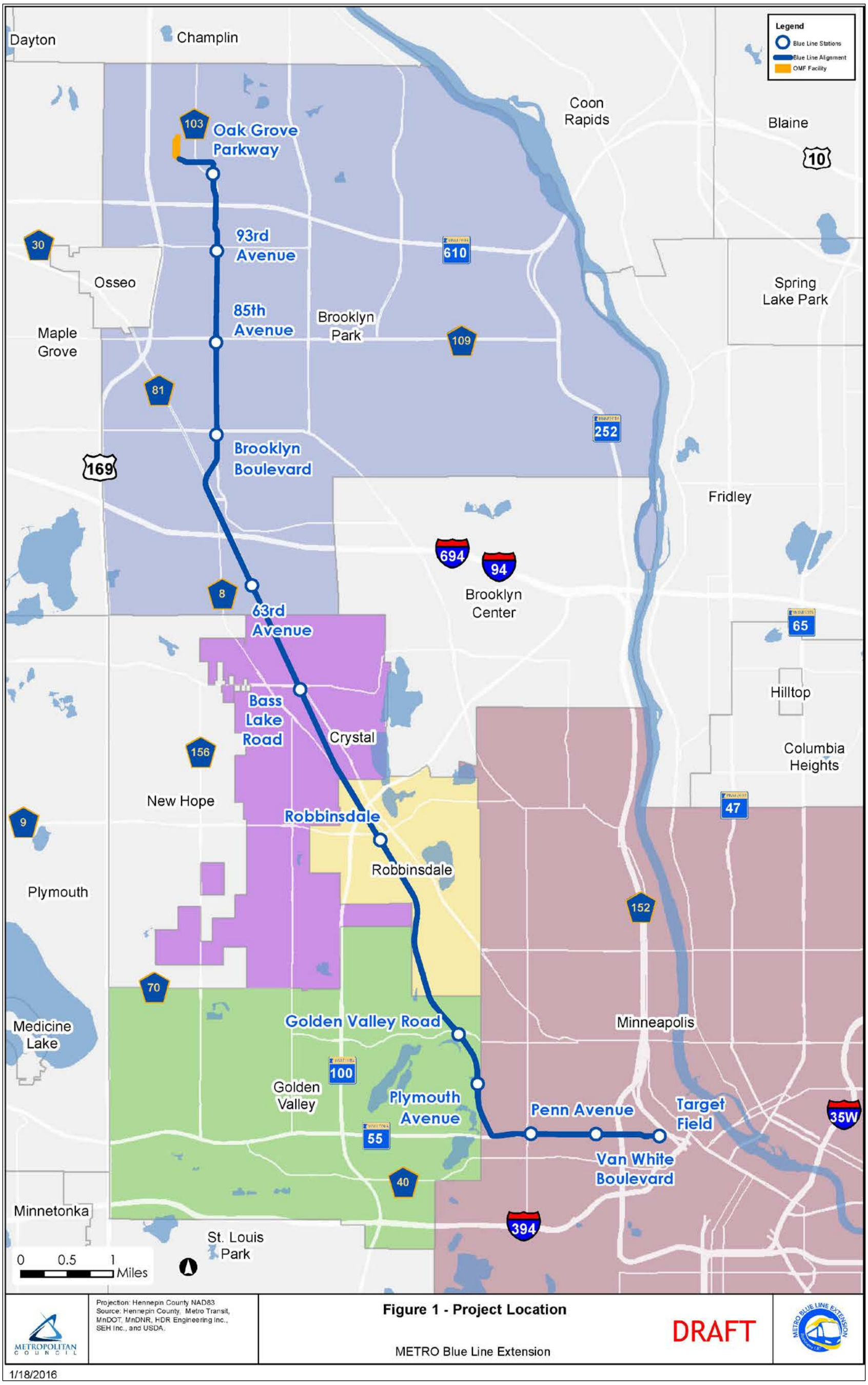
Figure 1. General Location Map of the Proposed BLRT Extension Project



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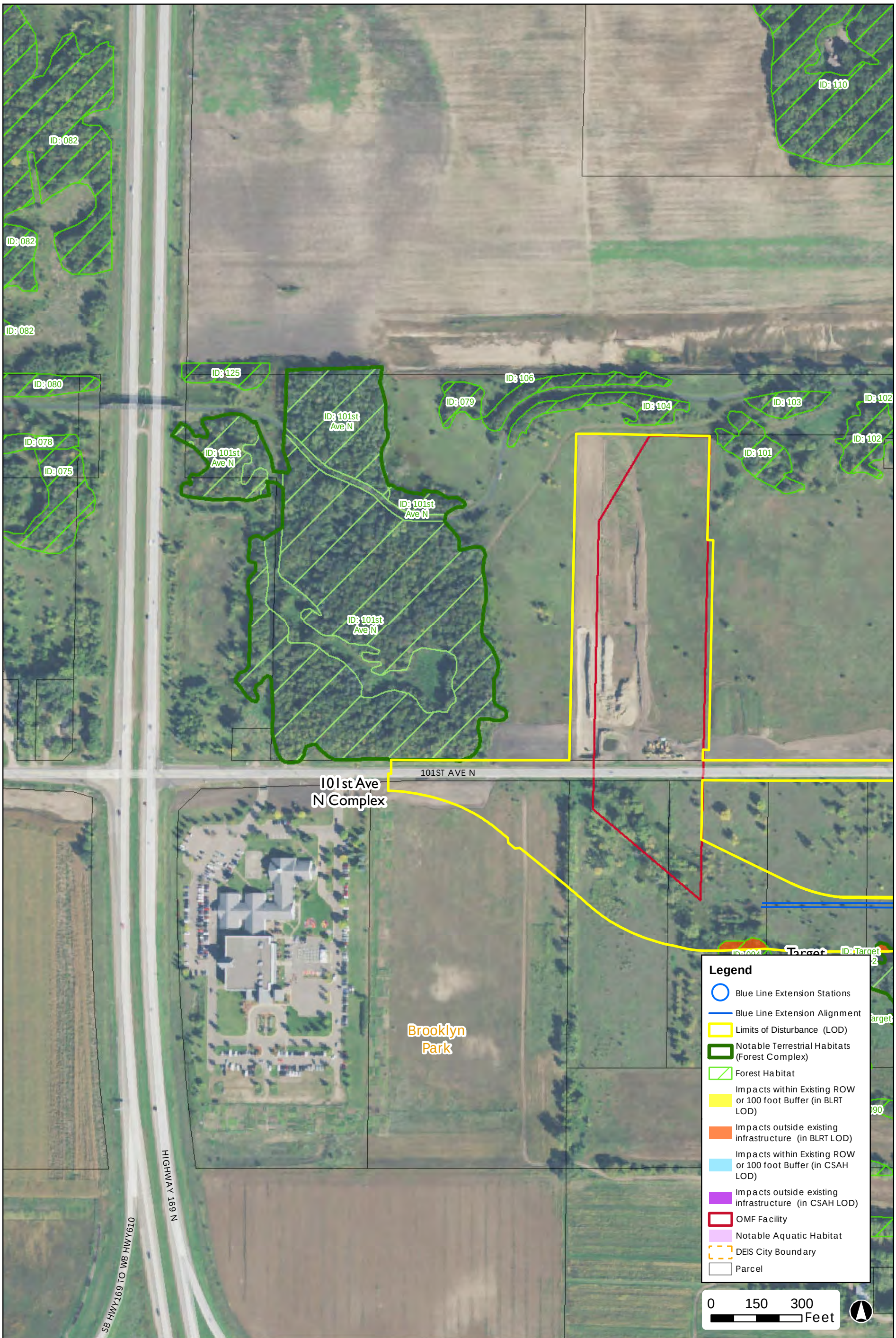

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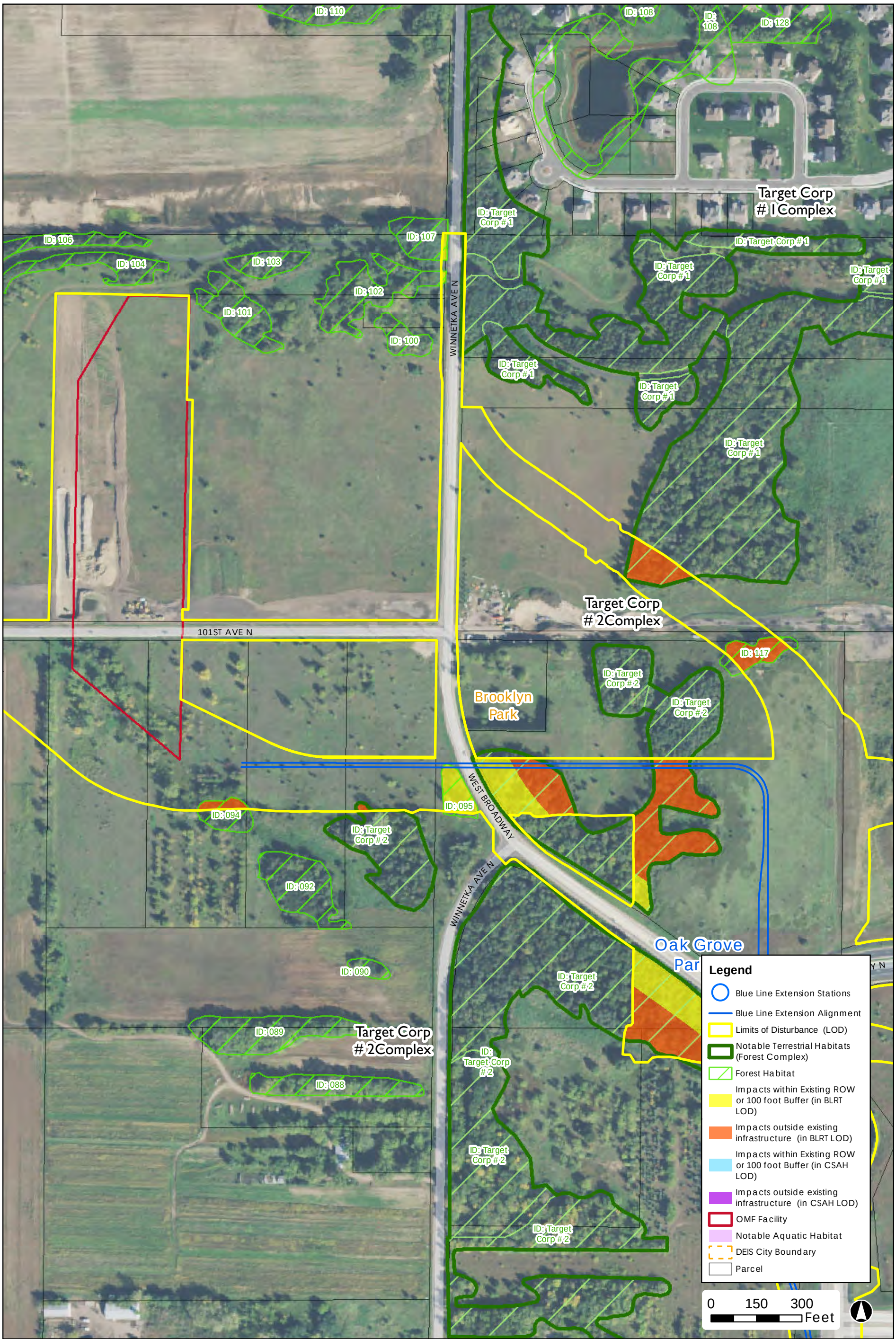

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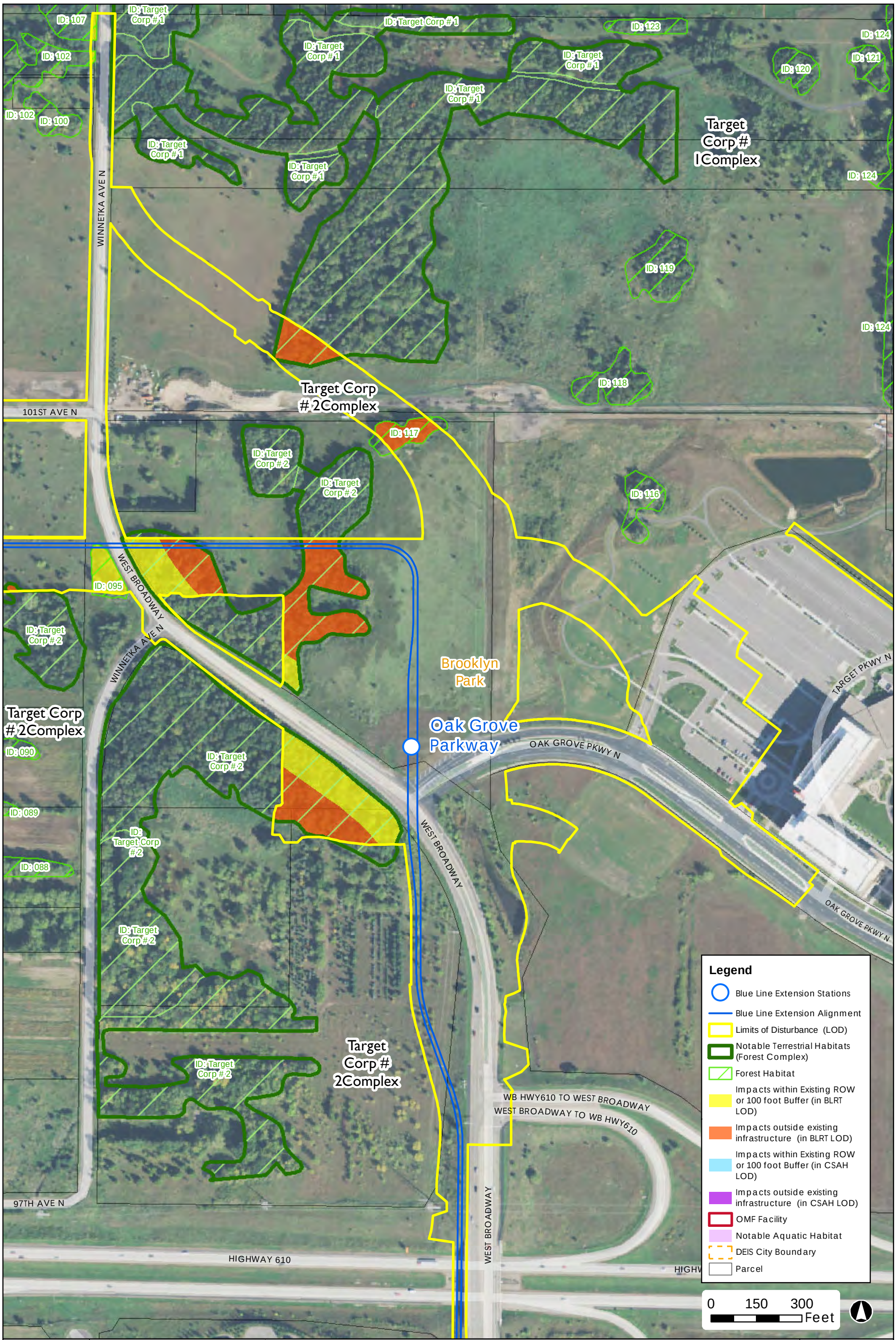

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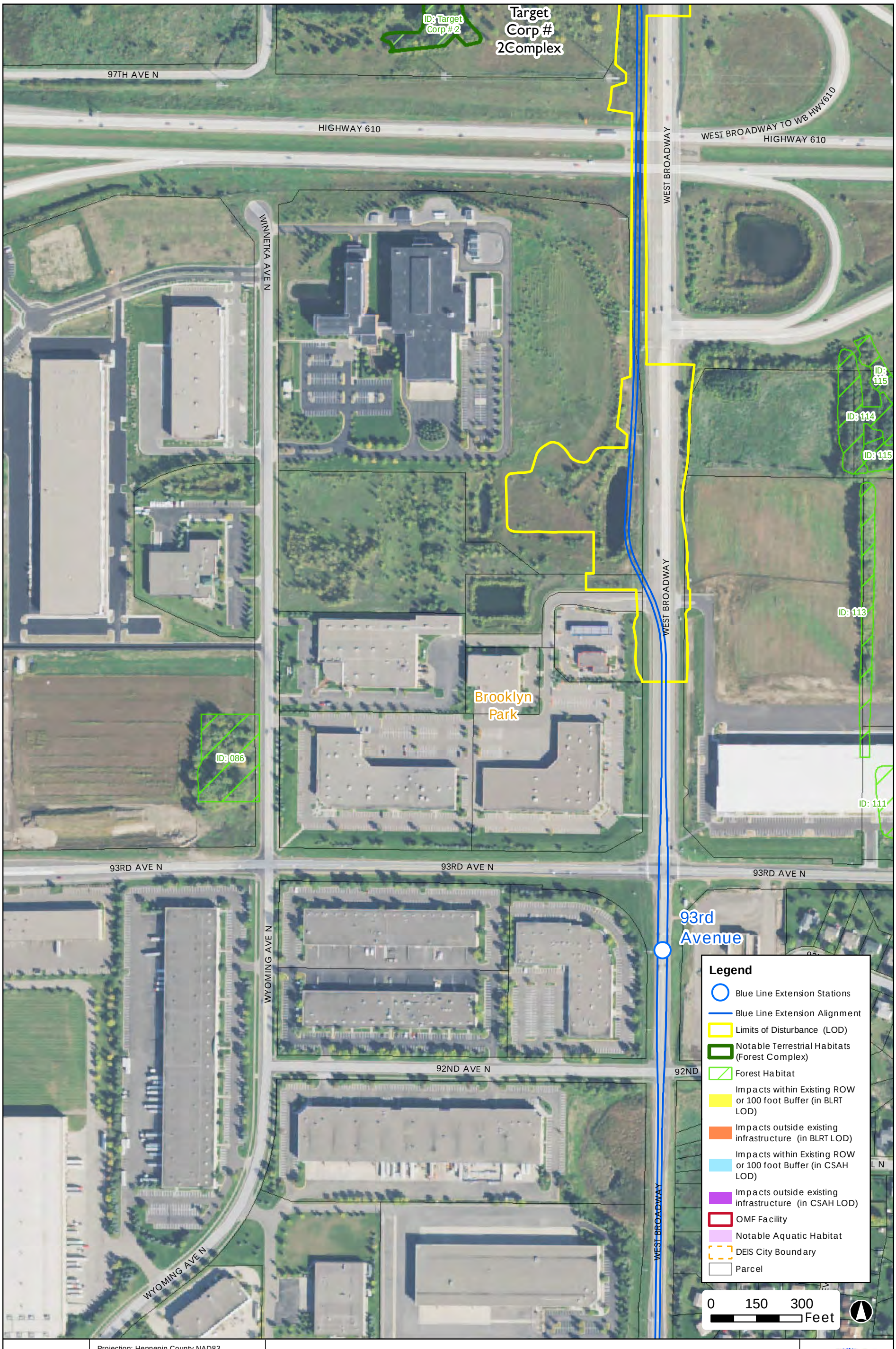

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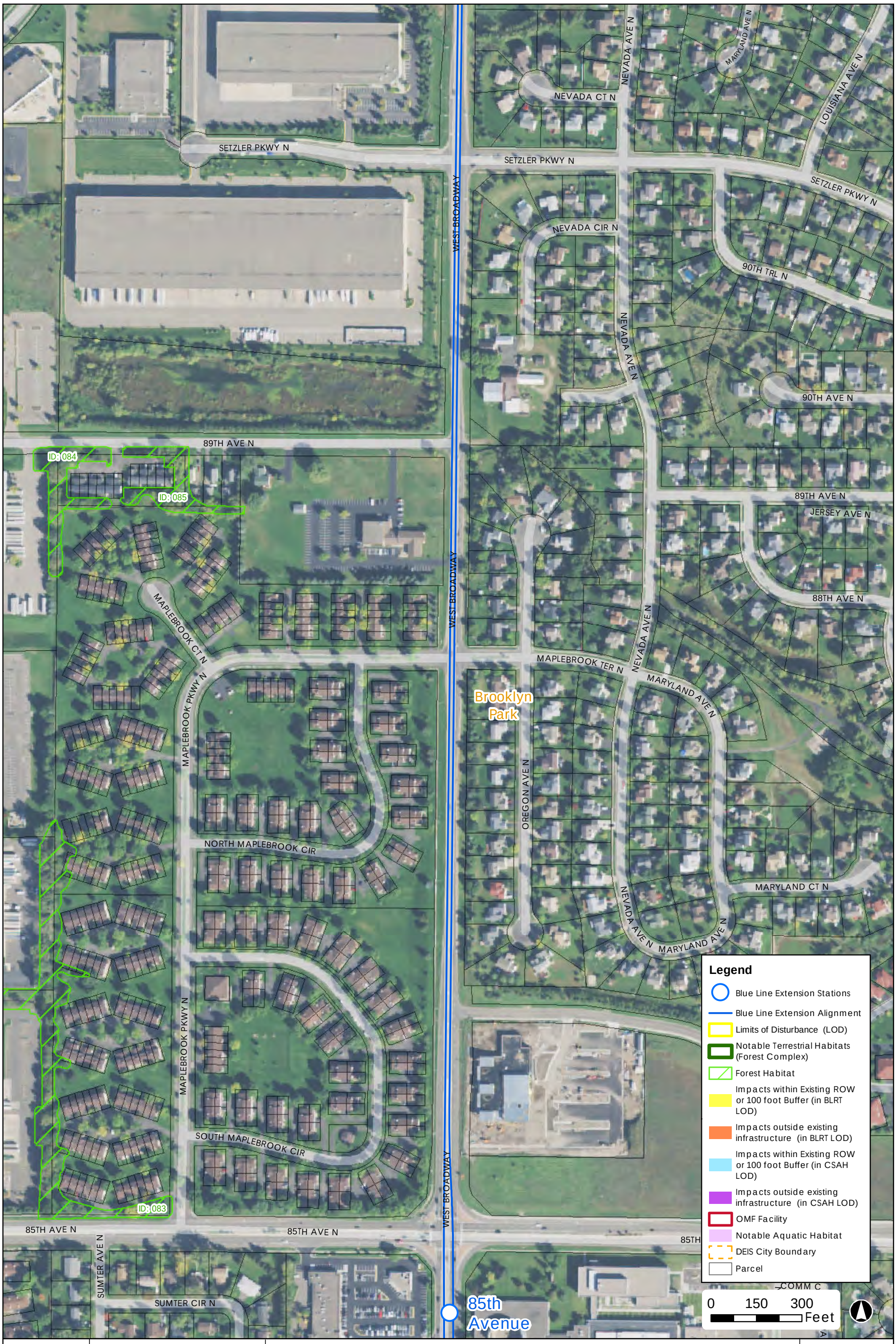

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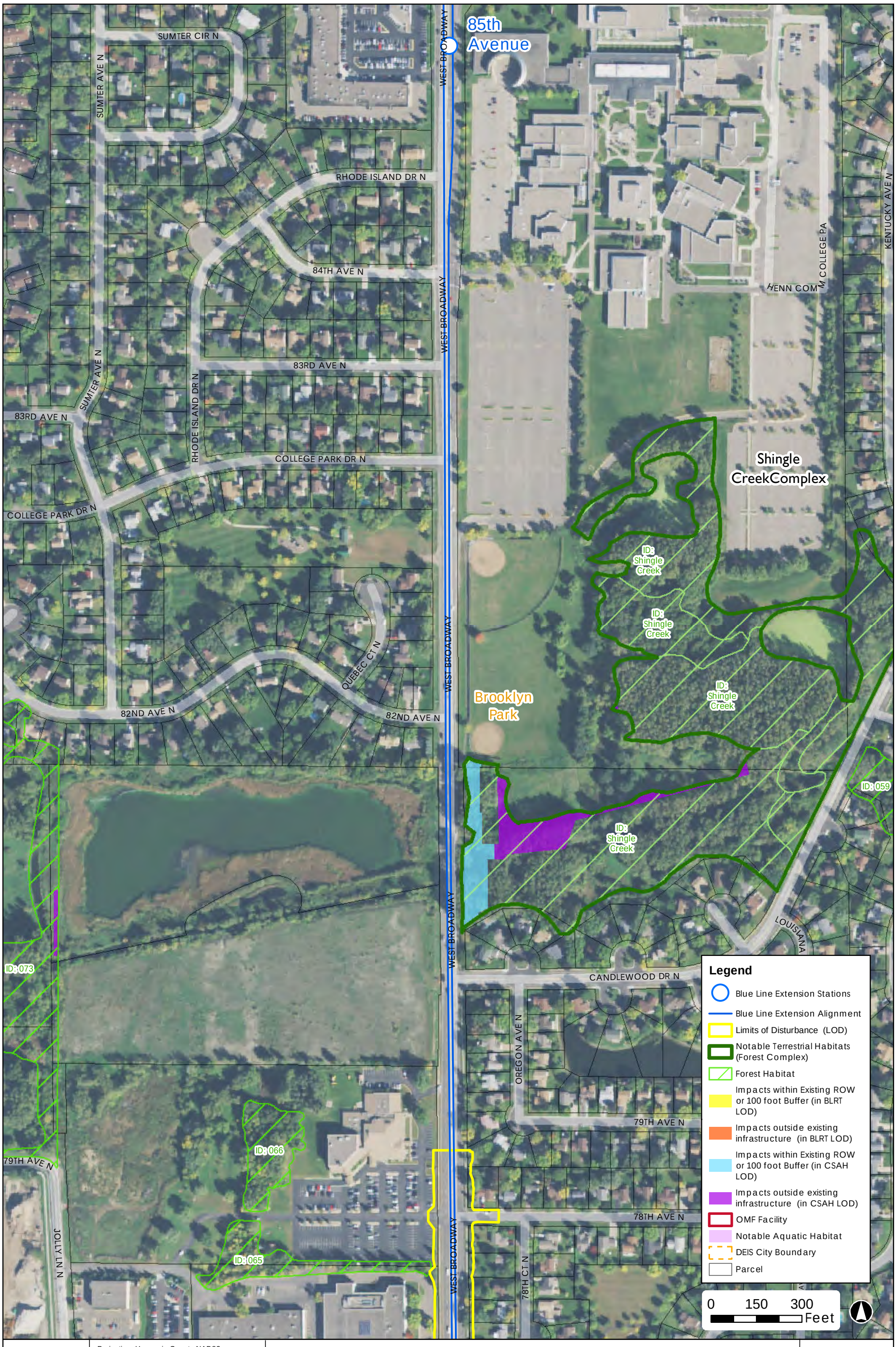

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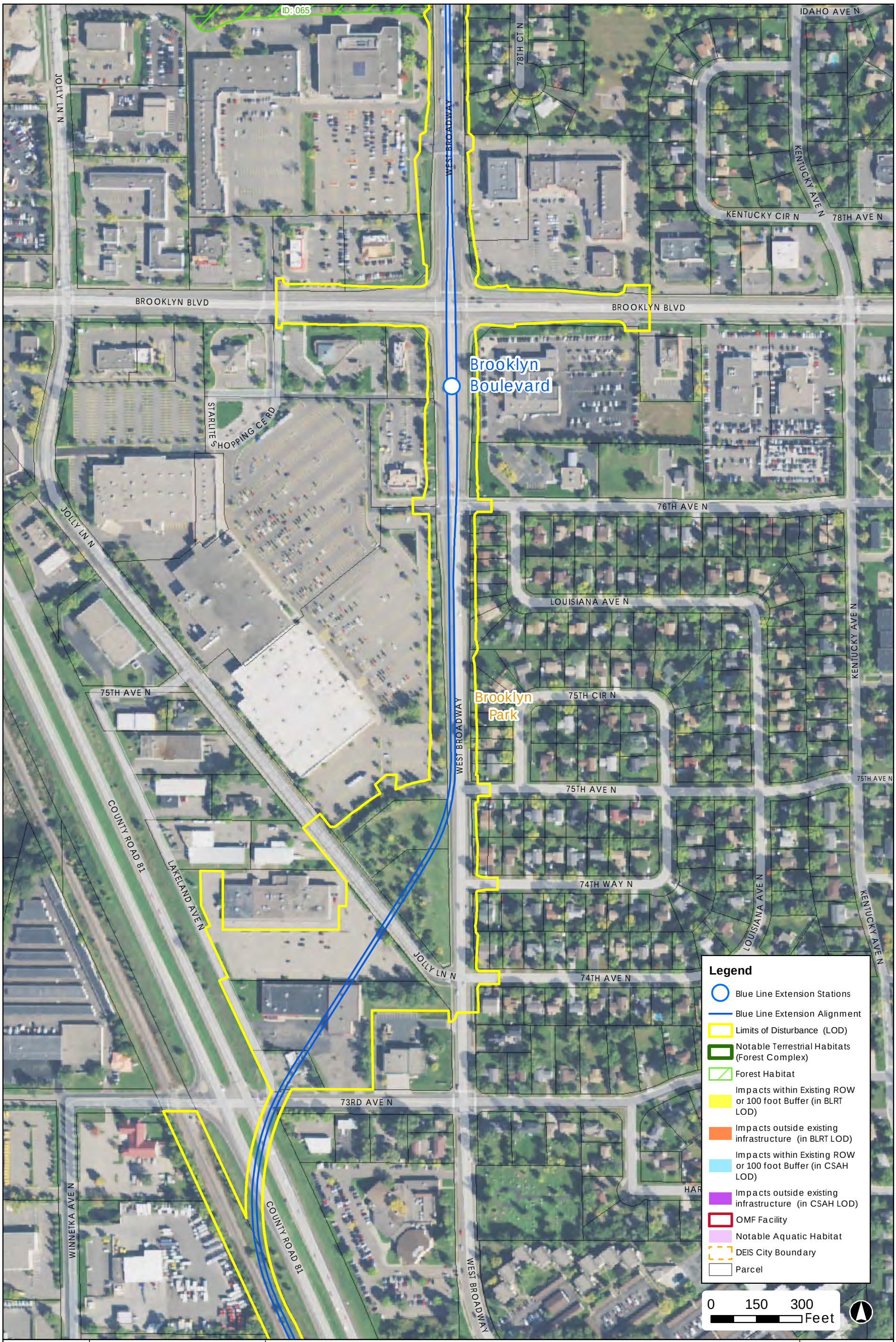

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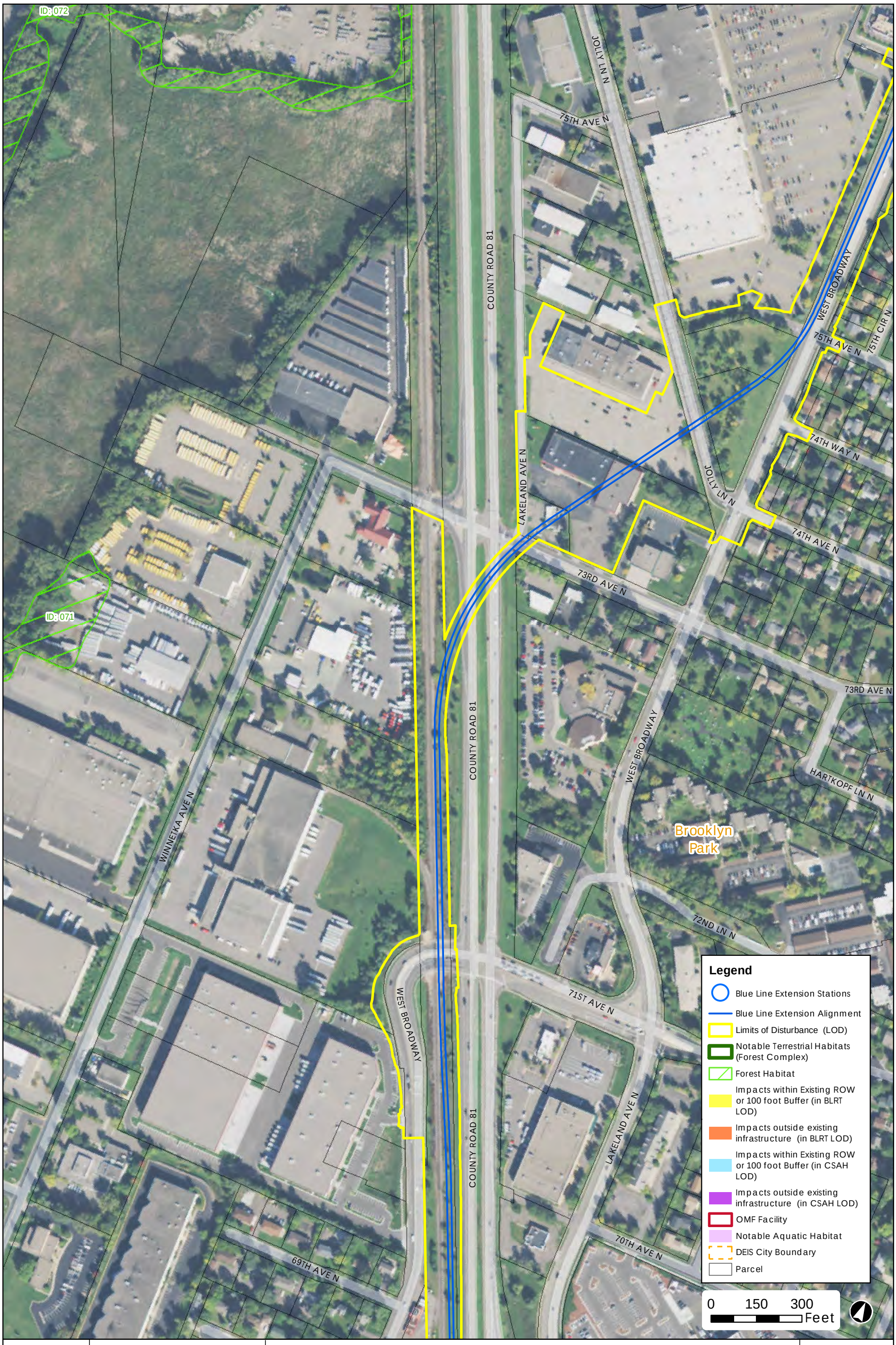

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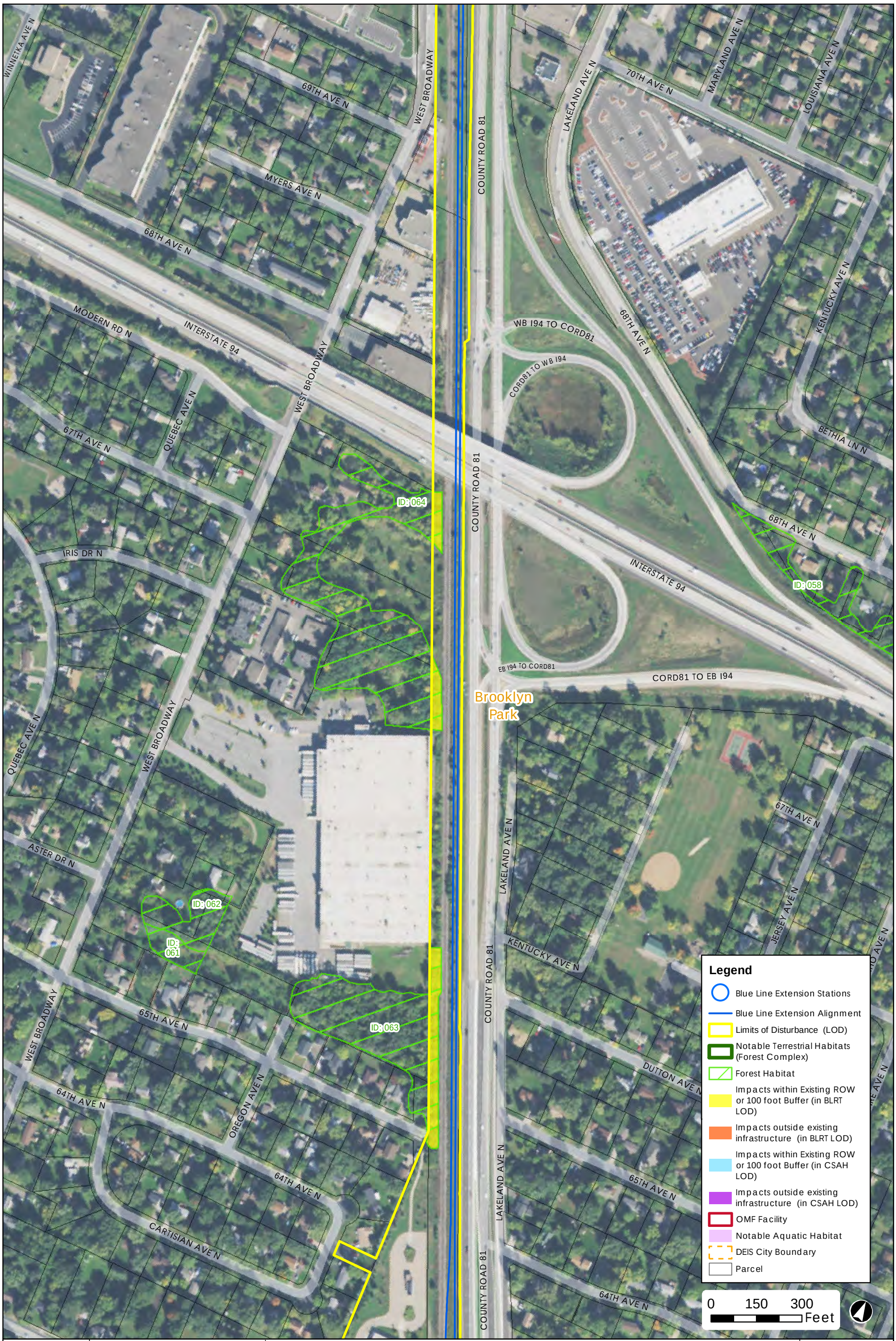

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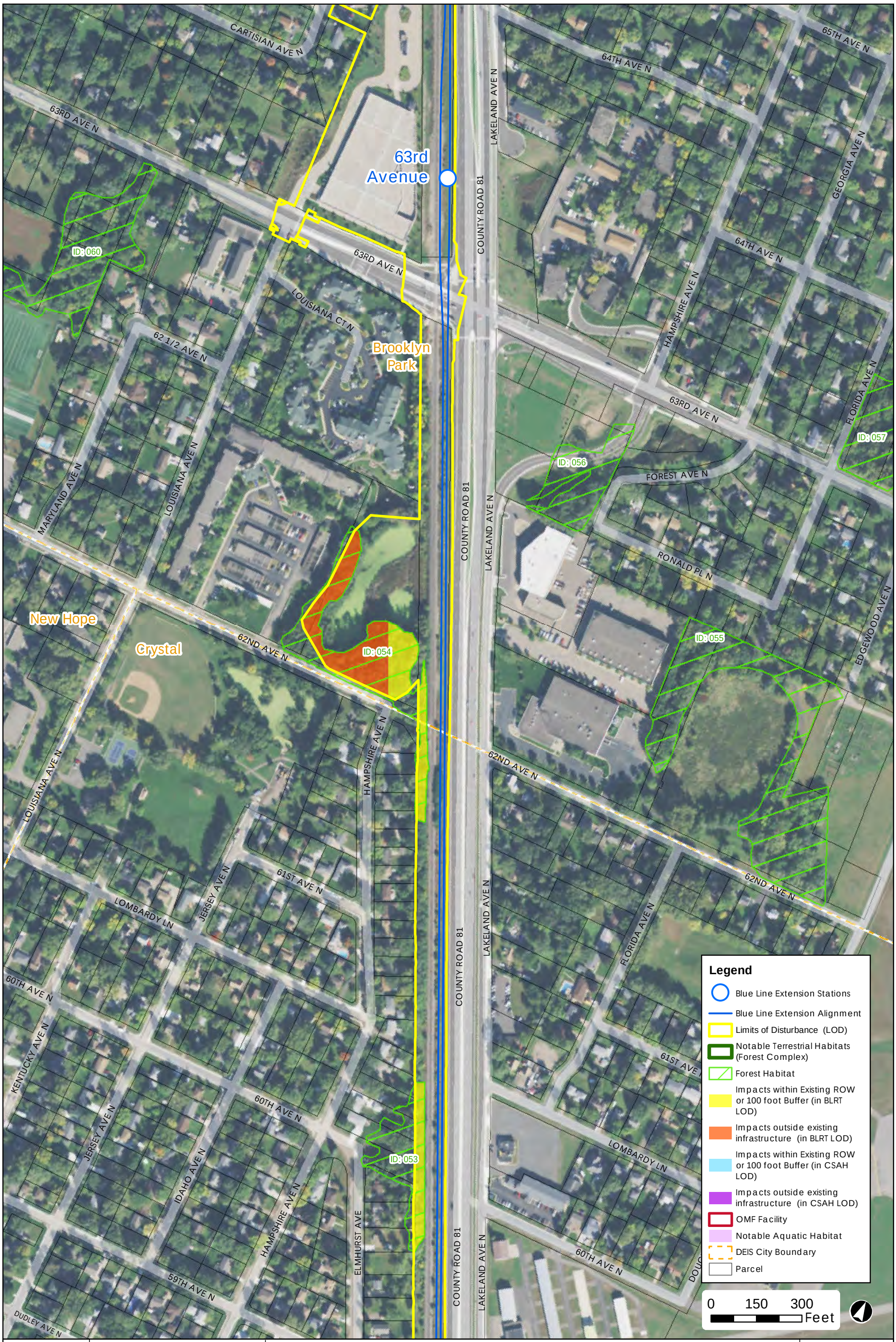

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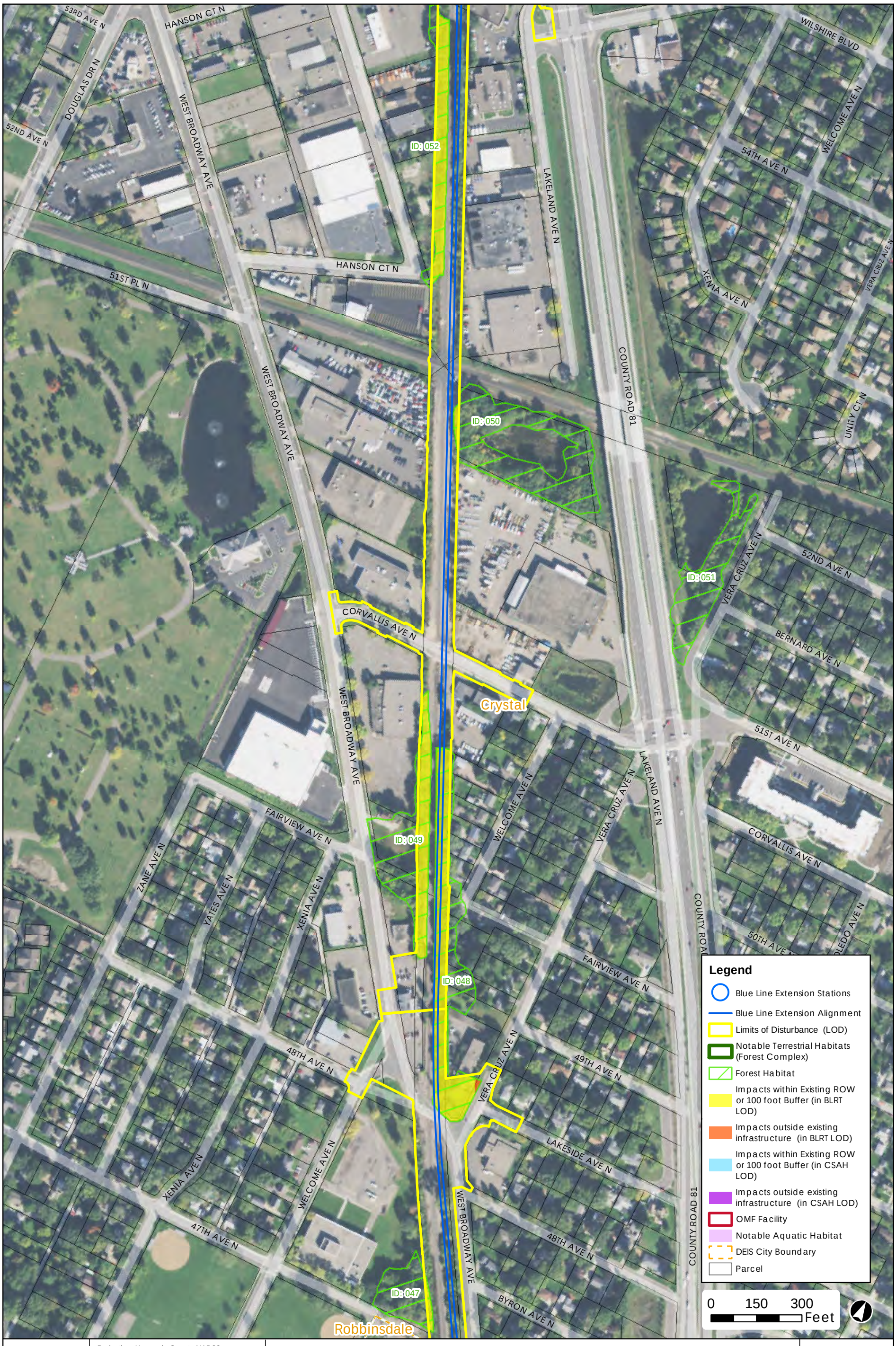

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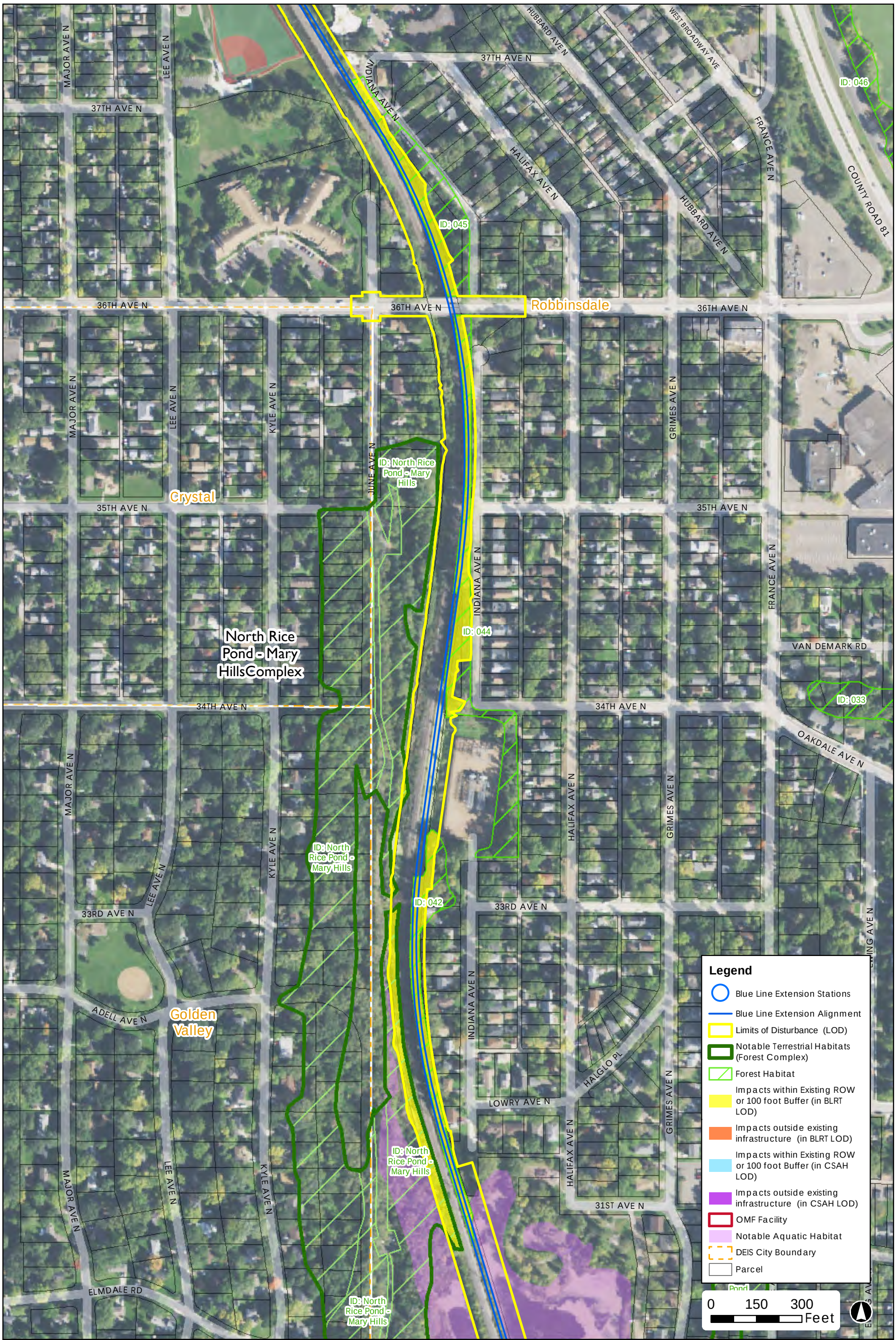

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Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

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METRO Blue Line Extension

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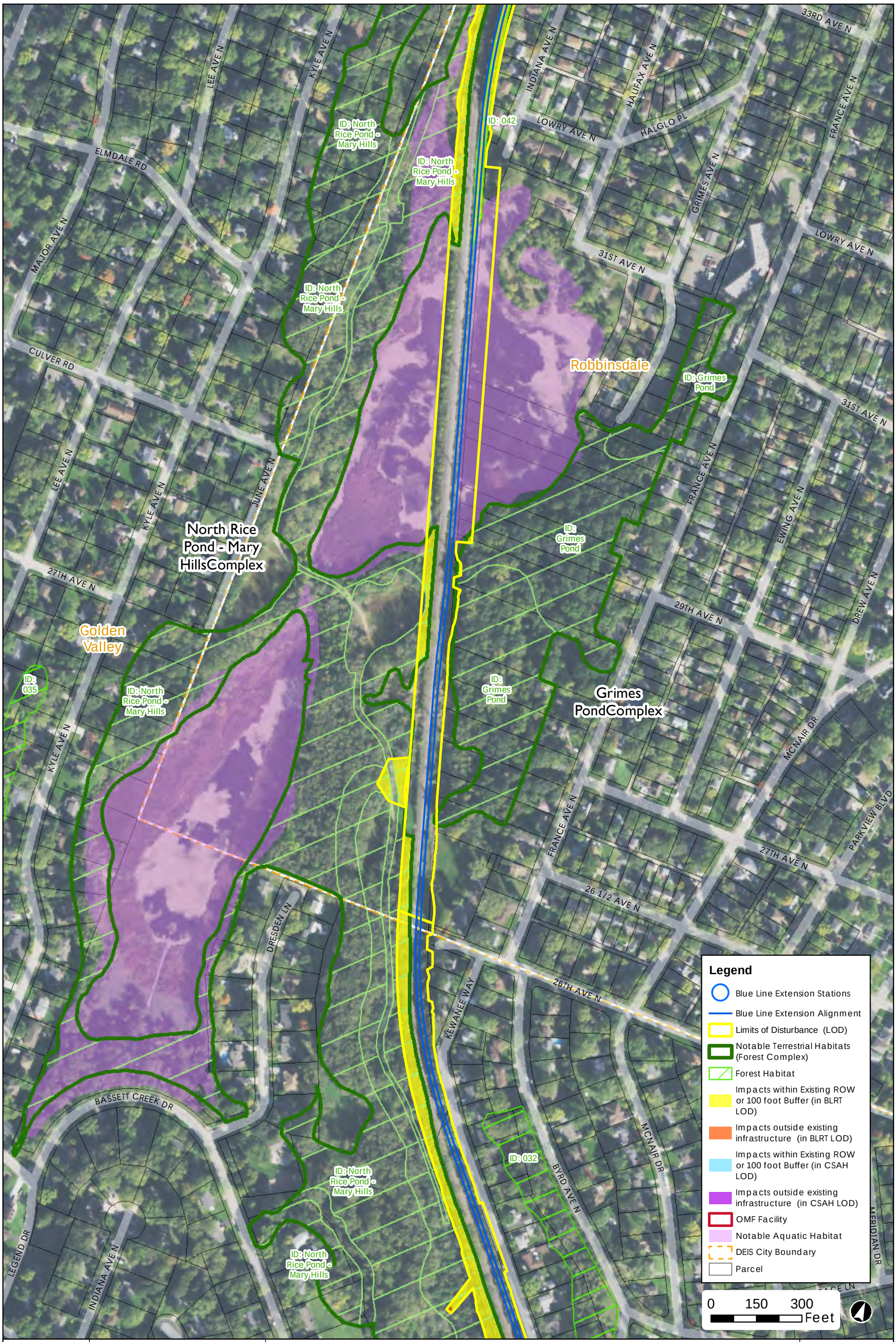

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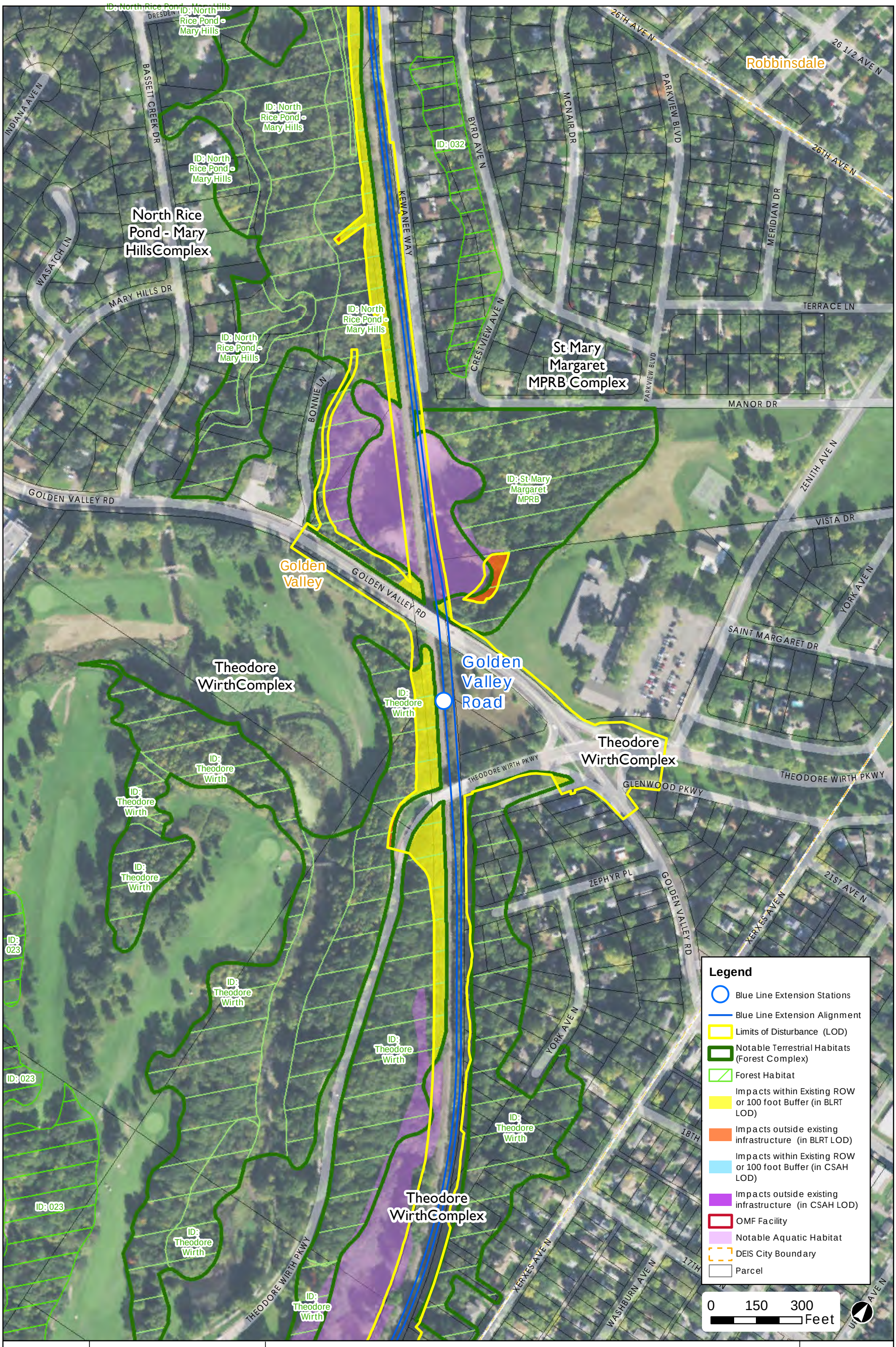

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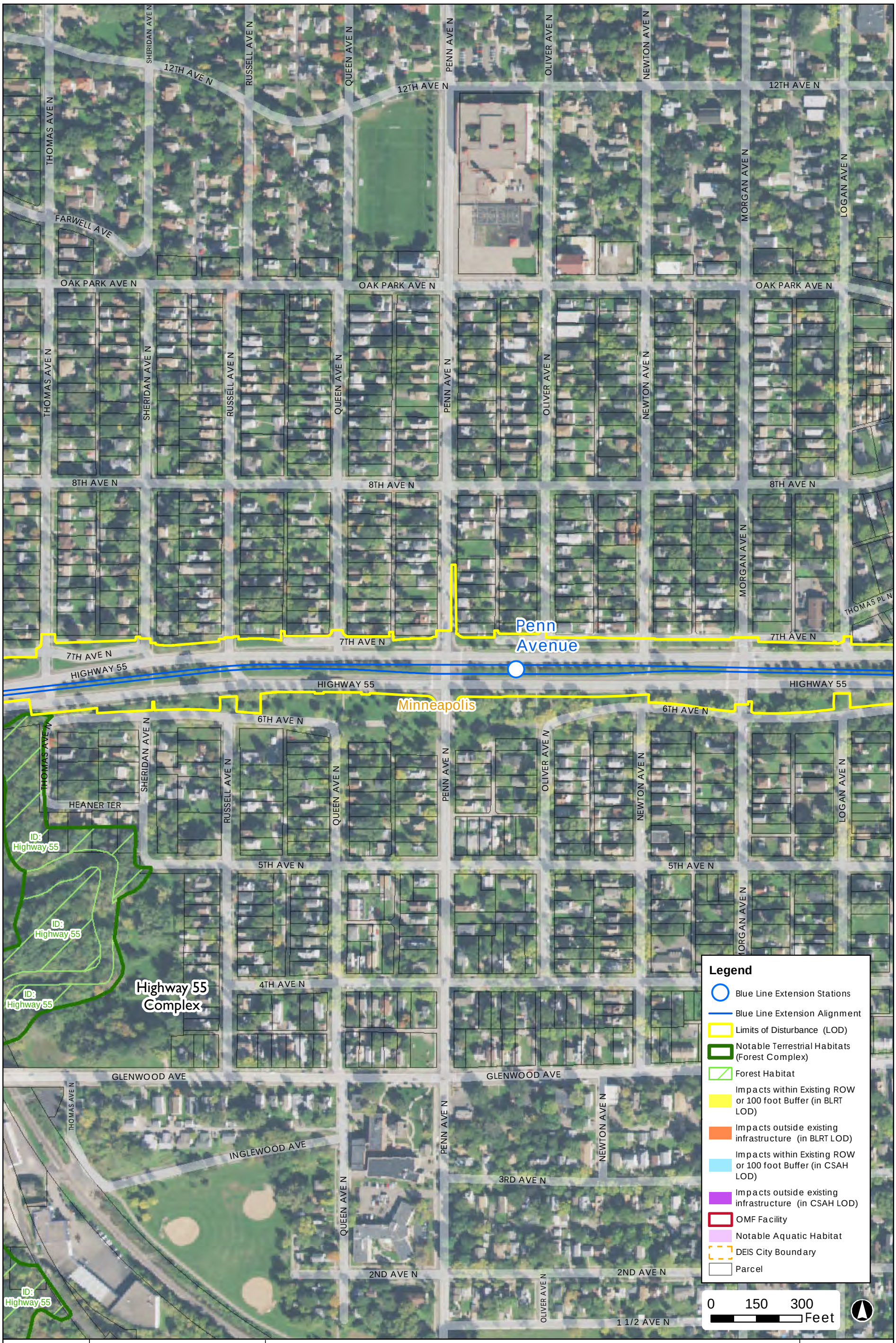

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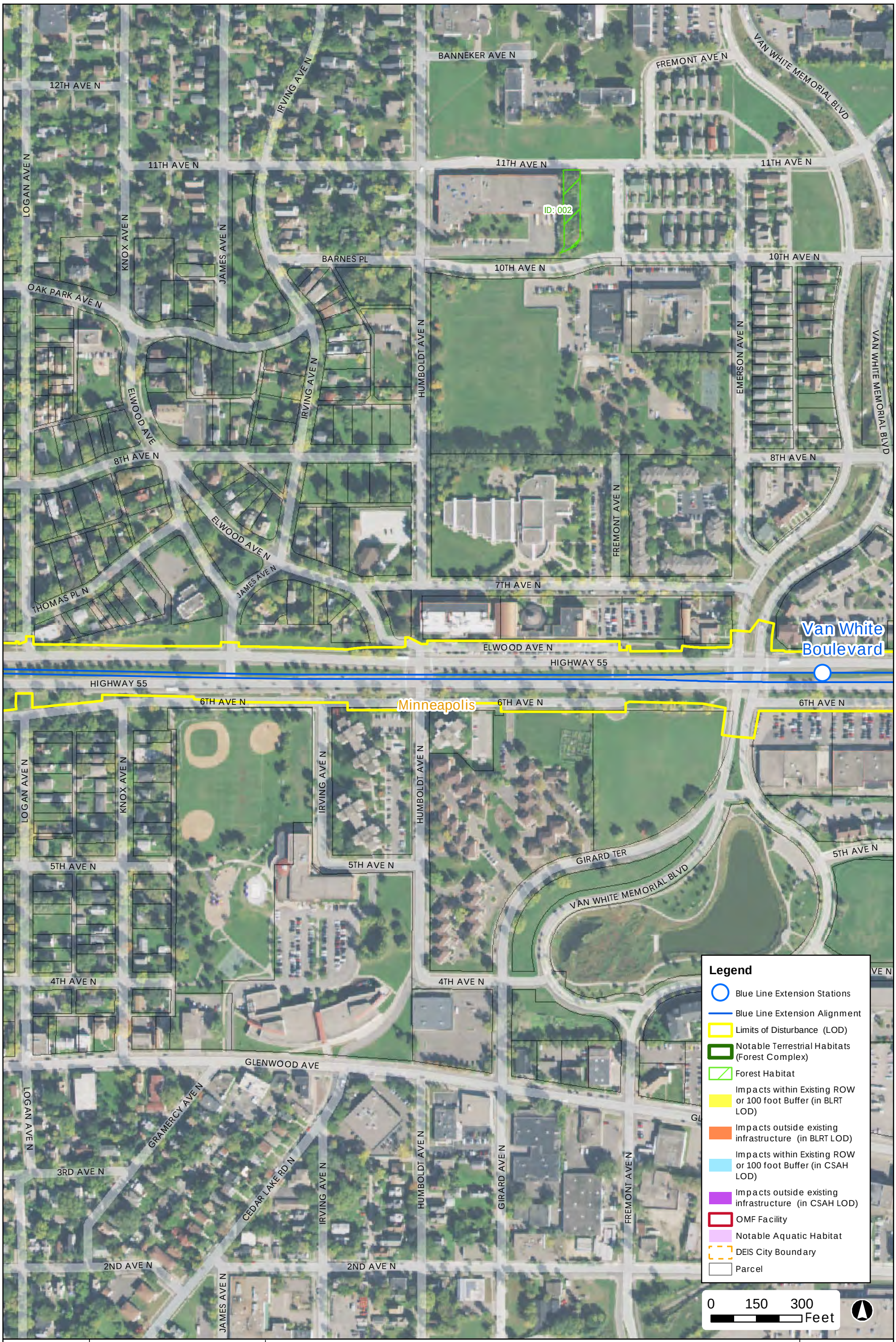

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Appendix F
Supporting Technical Reports

F.10 Preliminary Stormwater Management Plan

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To:	Nick Landwer Director of Design and Engineering, Blue Line LRT Extension Project
From:	Lisa Goddard, PE, LEED AP Water Resources Sub-Task Lead, SRF Consulting Group
Date:	January 6, 2016
Subject:	Preliminary Stormwater Management Plan

1.0 Introduction

1.1 Project Location

The METRO Blue Line LRT Extension (BLRT) project will extend light rail passenger service from the Target Field Station in Minneapolis to Oak Grove Parkway/101st Avenue N in Brooklyn Park. The project corridor is approximately 13 miles and runs through the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The project has been divided into six segments corresponding with municipal boundaries where possible, which have been labeled according to city. The portion within Brooklyn Park has been further divided into two segments: Brooklyn Park 1, which is the northernmost segment, and Brooklyn Park 2.

Roughly eight miles of the proposed project will be constructed within the existing BNSF Railway corridor. This includes portions of the Golden Valley, Robbinsdale, Crystal and Brooklyn Park segments. Most of the Minneapolis segment is located within the median of TH 55 (Olson Memorial Highway), and portions of the two Brooklyn Park segments are within the median of CSAH 103 (West Broadway Avenue). The proposed project also includes the construction and/or reconstruction of affected roadways, construction of station platforms, several park-and-ride facilities, and an Operations and Maintenance Facility (OMF).

Hennepin County is in the preliminary design phase of a portion of CSAH 103 (West Broadway Avenue) that coincides with a portion of the Brooklyn Park 1 segment. A separate environmental assessment worksheet (EAW) and preliminary stormwater design have been completed for the Hennepin County project, which incorporates the floodplain and wetland impacts and stormwater treatment best management practices (BMPs) required to treat runoff from the BLRT Extension project. These have been documented in the EAW and in supporting technical memoranda.

1.2 Purpose

This *Stormwater Technical Memorandum* has been prepared in support of the Final Environmental Impact Statement (Final EIS) for the BLRT Extension project. The objective of this memorandum is to evaluate the project's potential stormwater impacts within the study area and to identify potential mitigation measures. This includes the following:

- Identify regulatory requirements that will set forth mitigation standards that are specific to stormwater management
- Determine how the proposed improvements would affect existing drainage patterns and nearby water resources
- Identify stormwater BMPs that would be used to satisfy current regulatory requirements for the project corridor

- Determine approximate sizes and locations for BMPs along the corridor

This report contains qualitative and quantitative design recommendations for the BLRT Extension project corridor that will be used by the consultant team preparing the Final EIS and will provide information about how the project would meet various regulatory requirements. Potential impacts to existing stormwater infrastructure (e.g., storm sewer and culverts) will be investigated during the next stages of design.

A separate technical memorandum has been prepared to discuss floodplains in the corridor. The analysis of wetlands adjacent to the project limits and the potential impacts to those is being performed by others.

1.3 Data Collection

The storm sewer and hydrology data employed for this study was obtained from a variety of sources. The following is a brief summary of the data used.

1.3.1 Regulatory Criteria

Meetings and discussions took place with staff from the various cities and watershed management organizations (WMOs) to obtain a better understanding of existing systems and their respective criteria for evaluating and designing new drainage systems and BMPs.

1.3.2 Hydrology

Hydrologic information came from a variety of sources, including:

- Contour data was developed from a flight of the corridor and the 2012 Hennepin County LiDAR data
- Existing drainage boundaries were based on those shown in the local water management plans of the cities and watersheds and those from recent reconstruction projects along the corridor. These were then adjusted as needed to reflect the existing contour data
- For the portion of the project within Brooklyn Park:
    - The 1995 Brooklyn Park Comprehensive Stormwater Management Plan listed discharge limits for subwatersheds and peak outflows from ponds along the corridor. After discussion with staff from the City of Brooklyn Park, it was determined that areas where drainage boundaries had not changed significantly were held to these discharge rates and that they were still applicable. Areas that experienced significant changes in land use as determined by comparing aerial images and recent construction site plans would also be held to the 1995 discharge limits.
    - In addition, ponds that discharged to creeks and channels within the Setzler Pond/Century Channel subwatershed were designed to limit discharge to 0.1 cubic-feet per second per acre of tributary drainage area.

1.3.3 Existing Stormwater Infrastructure

Record drawings were collected for the BLRT Extension project, and additional record drawings were collected by Hennepin County for the CSAH 103 (West Broadway Avenue) project, which coincides with a portion of the project corridor. This information was supplemented with storm sewer maps from the various local water management plans and used to determine the connectivity of the existing storm sewer system to ponds, wetlands, and other water features.

2.0 Regulatory Environment

Regulatory and permitting authority for stormwater management falls to the cities, the Minnesota Pollution Control Agency (MPCA), and the WMOs. Each watershed organization is governed by a Joint Powers Agreement that is

held between the watershed organization and the member communities that are located within the boundaries of the WMO. Regulations change from time to time, and the project will be subject to regulations in effect when the design is submitted for approval by the permitting authorities. The stormwater management system for the project corridor was designed to meet the most stringent requirements for that particular segment according to the WMO and municipality boundaries. In all cases except for the OMF and park-and-ride structures, the WMO rules were the most stringent requirements. The rate and volume control requirements of the B3 Guidelines are more stringent and will be applied to those sites. The agencies listed below play a role in stormwater management within the project area; Appendix B contains a matrix listing the specific requirements of each agency.

- Minnesota Pollution Control Agency (MPCA)
- Mississippi Watershed Management Organization (MWMO)
- Bassett Creek Water Management Commission (BCWMC)
- Shingle Creek and West Mississippi Watershed Management Commission (SCWMC and WMWMC, or SCWM WMC when referred to in reference to their joint watershed management plan)
- City of Minneapolis
- City of Golden Valley
- City of Robbinsdale
- City of Crystal
- City of Brooklyn Park

2.1 Minnesota Pollution Control Agency

2.1.1 NPDES Construction Stormwater Permit

The MPCA administers the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit program in the State of Minnesota (MN 115; MN Rule 7050). The NPDES permit program requires creation of a site-specific Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must detail temporary and permanent erosion prevention and sediment control BMPs that would be utilized during construction. The NPDES permit also requires permanent treatment of stormwater runoff on sites where construction activity results in a net increase of more than one acre of impervious surface area. The NPDES permit requires treatment for the water quality volume, which is equivalent to one-inch of runoff from the new impervious surface created by the project. The primary treatment mechanism preferred by the NPDES permit is infiltration, but other BMPs are allowed when site conditions are not conducive for infiltration.

2.1.2 Impaired Waters and TMDLs

Section 303(d) of the Clean Water Act (CWA) requires states to assess all waters to determine if they meet water quality standards and to conduct total maximum daily load (TMDL) studies in order to set pollutant reduction goals. Project areas that outlet within one mile of MPCA-designated impaired or special waters must incorporate additional BMPs, including stricter stormwater treatment requirements. There are 10 impaired waters identified within one-mile of the project area, of which five would receive runoff from the project area. Impaired receiving waters within one mile of the project area are shown on **Figures 1 through 12** in Appendix A and include, from south to north:

Impaired Receiving Water	Impairments	TMDL Status
Mississippi River	Mercury In Fish Tissue; Fecal Coliform; PCB In Fish Tissue	Upper Mississippi River Bacteria TMDL and Protection Plan (2014)
Bassett Creek	Chloride; Fecal Coliform; Fishes Bioassessments	Included in the above TMDL plan
Crystal Lake	Nutrient/Eutrophication Biological Indicators	Crystal Lake Nutrient TMDL Implementation Plan (2009)
Twin Lakes: Lower, Middle, and Upper	Mercury in Fish Tissue; Nutrient/ Eutrophication Biological Indicators; PCB in Fish Tissue; PFOS in Fish Tissue	Twin and Ryan Lakes Nutrient TMDL (2007); Plans are required for mercury, PCB and PFOS
Shingle Creek	Aquatic Macroinvertebrate Bioassessments; Chloride; Oxygen, Dissolved	Shingle and Bass Creeks Biota and Dissolved Oxygen TMDL Implementation Plan (2012) Shingle Creek Chloride TMDL Implementation Plan (2007)

The TMDL plans identify BMPs appropriate to addressing the impairments. BMPs for nutrient impairments may include increasing infiltration and filtration through the use of rain gardens, native plantings, and reforestation, and retrofitting existing detention ponds as ways to implement the TMDL plan. BMPs for dissolved oxygen impairments may include improving aeration and reducing nutrients. The chloride TMDL calls for a reduction in the use of sodium chloride for ice control in the watershed.

2.2 Watershed Agencies

2.2.1 Mississippi Watershed Management Organization

The MWMO manages waters within its boundaries through its Watershed Management Plan that was amended in 2011. This plan complies with the water resource protection requirements under Minnesota Statutes 103A through 103G in conformance with Minnesota Rules Chapters 8410 and 8420. The communities within the boundaries include parts of Lauderdale, Minneapolis, St. Anthony, and St. Paul, as well as property owned by the Minneapolis Park and Recreation Board (MPRB).

The MWMO does not issue permits or provide approval letters for construction projects, but works with the member communities to ensure the implementation of its standards. The MWMO requires its member cities to develop stormwater management ordinances that reduce runoff and promote increased stormwater management for construction and redevelopment projects. The following provides a summary of the design requirements for rate control, water quality, and water quantity.

2.2.1.1 Rate Control Requirements

Runoff rates for the proposed activity shall match pre-development rates for the 2-year, 10-year, and 100-year storm events. Discharge rates may be restricted to less than pre-development rates when the capacity of the downstream conveyance system is limited.

2.2.1.2 Water Quality Requirements

Projects shall achieve a removal of 90% total suspended solids (TSS) from the 95th percentile daily rainfall total (1.17 inches over 24 hours) over the entire project area. The MWMO has an alternative compliance process for

sites that are not able to meet the MWMO's water quality standard for TSS. This is described in more detail in the MWMO Standards document.

2.2.1.3 Volume Control Requirements

The MWMO does not currently have a volume control standard. The MWMO has indicated a desire to add such a standard in the future. The stormwater management standards should be reviewed during final design.

2.2.2 Bassett Creek Watershed Management Commission

The BCWMC manages waters within its boundaries through its 2015 – 2025 Watershed Management Plan. This Plan complies with the water resource protection requirements under Minnesota Statutes 103A through 103G in conformance with Minnesota Rules Chapters 8410 and 8420. The BCWMC is governed by a Joint Powers Agreement that is held between the watershed organization and the member communities that are located within the boundaries of the WMO. The member municipalities include Crystal, Golden Valley, Medicine Lake, Minneapolis, Minnetonka, New Hope, Plymouth, Robbinsdale, and St. Louis Park.

The BCWMC reviews development and redevelopment project proposals once the project receives preliminary review by the municipality indicating general compliance with the existing local water management plan. All submittals involving floodplains, Bassett Creek trunk systems, water appropriations, variances, underground wet vaults or other alternative BMPs are presented at the BCWMC meetings. The BCWMC will review projects and developments to evaluate compliance with the MPCA's Minimal Impact Design Standards (MIDS) performance goals (which are adopted by the Commission as BCWMC water quality management standards) if the projects are located in member cities that have not adopted the MIDS performance goals, triggers, and flexible treatment options, or at the request of the member city. The BCWMC requires public agencies to comply with water quality management standards and policies presented in this Plan in order to maintain or improve water quality of stormwater runoff.

2.2.2.1 Rate Control Requirements

For projects containing more than one acre of new or redeveloped impervious area, stormwater runoff must be managed such that peak flow rates leaving the site are equal to or less than the existing rate leaving the site for the 2-, 10-, and 100-year events based on Atlas 14 precipitation amounts and using a nested 24-hour rainfall distribution. Documentation of existing and proposed discharge rates for the 2-, 10-, and 100-year events must be provided for BCWMC review.

2.2.2.2 Water Quality Requirements

The BCWMC requires all stormwater to be treated in accordance with MIDS performance goal for new development, redevelopment, and linear projects. If the MIDS performance goal is not feasible and/or is not allowed for a proposed project, then the project proposer must implement the MIDS flexible treatment options, as shown in the MIDS Design Sequence Flow Chart.

For linear projects, the MIDS performance goal is retention of whichever is greater:

- 0.55 inches from new or fully reconstructed impervious areas
- 1.1 inches from the net increase in impervious areas

2.2.2.3 Volume Control Requirements

The BCWMC's volume control requirement is the same as the water quality requirements, which is summarized in the preceding paragraph.

2.2.3 Shingle Creek and West Mississippi Watershed Management Commissions

The SCWMC and WMWMC are two separate WMOs; however, they plan and conduct business jointly, managing waters within its boundaries. Each is governed by a Joint Powers Agreement that is held between the watershed organization and the communities/members that are located within the boundaries of the WMOs. The communities within the boundaries include parts of Brooklyn Center, Brooklyn Park, Crystal, Maple Grove, Minneapolis, New Hope, Osseo, Plymouth, Robbinsdale, and Champlin.

The SCWM WMC manages waters through its Third Generation Watershed Management Plan, which was adopted in 2013. This Plan complies with the water resource protection requirements under Minnesota Statutes 103A through 103G in conformance with Minnesota Rules Chapters 8410 and 8420.

The SCWM WMC requires project reviews for non-single family detached projects that are 0.5 acres in size or larger and linear projects that create one or more acres of new impervious surface, as well as other types of projects described in the rules. The rules and standards of the SCWM WMC must be met for the *net new impervious surface*.

The SCWM WMC requires a project's Stormwater Management Plan to be consistent with all applicable management rules and standards. Specific BMPs that are identified include detention and infiltration systems. Each new or revised crossing of Shingle Creek is required to retain adequate hydraulic capacity with no adverse impact to conveyance of the 100-year flow. The following provides a summary of the design requirements for rate control, water quality, and water quantity.

2.2.3.1 Rate Control Requirements

Runoff rates for the proposed activity shall not exceed existing runoff rates for the 2-year, 10-year, and 100-year critical storm events for the project location as set forth in the NOAA Atlas 14 Volume 8, published in June 2013, or its successor, using the online NOAA Precipitation Frequency Data Server or a similar source. The applicant must document the location and event depths used. If an approved local water management plan requires more restrictive rate control, then the more restrictive rate shall govern. Runoff rates may be restricted to less than the existing rates when necessary for the public health and general welfare of the watershed. Member cities and project review applicants shall not exceed discharge rates at City boundaries as determined in the Commission's hydrologic model. Regional detention basins shall be utilized to manage peak discharge rates and meet water quality objectives when feasible.

2.2.3.2 Water Quality Requirements

Stormwater must be treated prior to discharge to remove 60 percent of phosphorus and 85 percent of TSS. Treatment may be provided by one or more permanent sedimentation and water quality ponds, infiltration practices, or a combination of BMPs that together will meet removal requirements.

If permanent sedimentation and water quality ponds are used they shall be designed to the Wet Pond Design Standards set forth in Appendix A of the SCWM WMC Rules and provide:

- Water quality features consistent with NURP criteria and best management practices.
- A permanent wet pool with dead storage of at least the runoff from a 2.5-inch storm event.

Runoff may be directed to a downstream facility within the same hydrologic subwatershed that has sufficient capacity to provide the required treatment. This means that no treatment may be required for an individual development provided there is a regional facility designed and constructed to accommodate the flow from this property.

The applicant may meet both the treatment requirement and the volume requirement by infiltrating all site runoff from a 1.3 inch rain event (see Water Quantity Requirements in the following sub-section).

2.2.3.3 Volume Control Requirements

Volume control BMPs must be incorporated into the site design to minimize the creation of new impervious surface and reduce existing impervious surfaces, minimize the amount of directly connected impervious surface, preserve the infiltration capacity of the soil, and limit increases in runoff volume exiting the site to the extent feasible considering site-specific conditions. Stormwater runoff volume abstraction shall be provided onsite in the amount equivalent to one inch of runoff generated from new impervious surfaces for linear projects.

2.3 City of Minneapolis

The City of Minneapolis' Stormwater Management Ordinance (Chapter 54) establishes stormwater management requirements for land disturbing activities on sites greater than one acre including phased or connected actions, and for existing stormwater constructed devices.

2.3.1 Rate Control

The City of Minneapolis requires that development should be planned in a manner that does not increase peak flows from the existing flow rates.

2.3.2 Water Quality

Water quality BMPs must be designed to remove 70 percent TSS prior to stormwater discharge from the site.

2.3.3 Volume Control

The City of Minneapolis's ordinance includes a requirement to maximize infiltration. The requirement is to the greatest possible degree (except in the case of stormwater hotspots), natural drainage ways and vegetated soil surfaces should be used to convey store, filter, and retain stormwater before discharging runoff into public waters or the public storm drain system. Opportunities for maximizing infiltration include minimizing the extent of impervious surfaces and directing runoff from impervious surfaces and roof gutter systems onto lawns or other pervious surfaces.

2.4 City of Golden Valley

The City of Golden Valley's Stormwater Ordinance (Section 4.31) establishes regulatory requirements for land development and land disturbing activities aimed at minimizing the threats to public health, safety, public and private property and natural resources within the community resulting from construction site erosion and post-construction stormwater runoff. The portion of the BLRT Extension project that is located in Golden Valley is located within the BCWMC. Projects located within the City are required to comply with the WMO's stormwater management requirements for rate control, water quality, and volume control. Please see the BCWMC section for more detailed information on these requirements.

2.5 City of Robbinsdale

The City of Robbinsdale is located within the BCWMC and SCWMC. Projects located within the City are required to comply with the WMOs' stormwater management requirements for rate control, water quality, and volume control. Please see the BCWMC and SCWMC sections for more detailed information on these requirements.

2.6 City of Crystal

The City of Crystal's Planning and Land Use Regulations (Chapter V of Crystal City Code) include stormwater management criteria for permanent facilities.

2.6.1 Rate Control

The City of Crystal requires that the existing 2-year, 10-year, and 100-year storm peak discharge rates shall not be increased with the proposed development, and that accelerated channel erosion will not occur as a result of the proposed land disturbing or development activity.

2.6.2 Water Quality

The City of Crystal requires that detention facilities should have a permanent pond surface area equal to two percent of the impervious area draining to the pond, or one percent of the entire area draining to the pond, whichever is greater. An alternative requirement is that the volume of the permanent pool shall be equal to or greater than the runoff from a 2.0-inch rainfall over the fully developed site. The sequencing of preferred treatment options is natural infiltration of precipitation on-site; flow attenuation by use of open vegetated swales and natural depressions; stormwater retention facilities; and stormwater detention facilities.

2.6.3 Volume Control

The City of Crystal does not currently have a volume control standard. The City's Local Surface Water Management Plan indicates that the City may update the City's ordinances to include a volume control standard in the future. The stormwater management standards should be reviewed during final design.

2.7 City of Brooklyn Park

With the exception of drainage to the Setzler Pond/Century Channel system, the City of Brooklyn Park has adopted the SCWM WMC requirements for stormwater management. Development of previously open space areas draining to the Setzler Pond/Century Channel system are required by the City to control their discharge rates to 0.1 cubic-foot per second for every acres of area. The City works with the SCWM WMC on the permit reviews to ensure the stormwater management requirements are met.

2.8 Minnesota B3 Guidelines

Beginning in January 2004, all new buildings that receive funding from the bond proceeds fund are required to meet sustainable building design guidelines. The BLRT Extension project will be required to meet Version 2.2 of the B3 Guidelines for park-and-ride buildings and the OMF. The guidelines include a variety of criteria ranging from energy use, indoor air quality, and stormwater management to lifecycle costs. The intent of the stormwater management guideline is to minimize the negative impacts of the project, both on and off site, by maintaining a more natural hydrologic cycle through infiltration, evapotranspiration, and reuse. The particular performance criteria are listed below, but the project must meet the rules and regulations of the local governmental units if those rules are more stringent.

2.8.1 Runoff Rate and Volume Requirements

The rate of runoff from the post-development site must be controlled to match the runoff rates for the native soil and vegetation conditions for the 2-year and 10-year, 24-hour design storms. The stormwater management plan must be designed to prohibit discharge from the site for 1.1 inches of runoff from all new or redeveloped impervious (non-vegetated) areas.

2.8.2 Water Quality Requirements

The stormwater management plan must be designed to remove 80% of the post-development TSS and 60% of the post-development total phosphorus (TP).

2.8.3 Operations and Maintenance Requirements

The B3 Guidelines also requires that an operations and maintenance manual be created for all BMPs specifying the maintenance requirements and schedules for completion. Operations and maintenance manuals shall be recorded with the County Registrar.

3.0 Affected Environment

3.1 Existing Conditions

3.1.1 Segment M – Minneapolis

The Minneapolis segment extends from Target Field Station along 6th Avenue N and TH 55 (Olson Memorial Highway) west to the bridge over the existing BNSF Railway corridor, where the project corridor turns north. Approximately 25 percent of the segment drains to East Channel Bassett Creek, 60 percent drains to the old Bassett Creek tunnel crossing at TH 55 (Olson Memorial Highway), and 15 percent drains to the old Bassett Creek tunnel north of the project corridor. The majority of this segment of the project has an urban drainage system with curb and gutter containing runoff and conveying it to catch basins and storm sewer, but the portion within the BNSF Railway corridor has ditches and culverts to convey stormwater.

The predominant water resource in this segment is Bassett Creek, which crosses TH 55 (Olson Memorial Highway) today approximately 750 feet west of the BNSF Railway corridor. (Prior to construction of TH 55 (Olson Memorial Highway) in the 1940s, the crossing was approximately ¼ mile to the east, referred to in this report as the East Channel Bassett Creek.) A second open channel crossing of what is now TH 55 (Olson Memorial Highway) was located near Dupont Avenue N until the early 1900s, when the channel was replaced by a tunnel system. This tunnel is now known as the old Bassett Creek tunnel. The channel and the tunnel frequently flooded. As part of a flood abatement project in the 1980s and 1990s, Bassett Creek was rerouted into a new tunnel system, called the new Bassett Creek tunnel. The new tunnel is farther south and does not cross the BLRT corridor. Although Bassett Creek no longer flows into the old Bassett Creek tunnel, the old tunnel remains active, carrying stormwater runoff from local drainage systems and overflow from the new Bassett Creek tunnel. Both the old and new Bassett Creek tunnels drain to the Mississippi River.

Local areas draining to the old and new Bassett Creek tunnels are within the Mississippi Watershed Management Organization. The portion of the project which drains to East Channel Bassett Creek is within the Bassett Creek Watershed Management Commission. The jurisdictional watershed divide in the TH 55 (Olson Memorial Highway) corridor is at Russell Avenue N.

The soils in the Minneapolis segment have been highly disturbed over the past century of development. They consist of variable urban fill, frequently overlying clay loams or organic, clayey muck that was deposited when Bassett Creek flowed through the area. Therefore, Hydrologic Soil Group (HSG) C soils, which have slow infiltration rates, were assumed for the purposes of this level of analysis based upon recent soil borings and information received from the Heritage Park reconstruction. Groundwater elevations are not known for most of the corridor but are expected to be relatively close to the ground surface near the old Bassett Creek tunnel and very close to the ground surface where wetlands are adjacent to the BNSF Railway embankment.

These areas are described in detail in the following sections. See Appendix A, **Figures 1 and 2** for a representation of the flow patterns and receiving waters.

3.1.1.1 Drainage to Bassett Creek Tunnels, East of I-94 (Stations 2010+75 to 2021+80)

In this portion of the segment, runoff from 6th Avenue N and the BLRT Corridor between high points at 7th Street and the I-94 bridge is captured in storm sewer and leaves the corridor, flowing north in the East Lyndale Avenue right-of-way. The storm sewer drains to a tunnel owned by MnDOT near 3rd Street N and 12th Avenue N. The MnDOT tunnel crosses the old Bassett Creek tunnel and connects to the new Bassett Creek tunnel roughly 0.5 mile to the east.

Runoff east of 7th Street N enters another existing storm sewer system that runs north through the Heyward Garage parcel. This storm sewer eventually discharges to the old Bassett Creek tunnel.

This area is industrial with some existing grassed boulevard areas, and a small amount of offsite runoff enters the storm sewer system in Olson Memorial Highway. There are no existing stormwater BMPs in this area, other than those recently constructed as part of the Target Field Station stormwater management plan.

3.1.1.2 Drainage to Old Bassett Creek Tunnel, West of I-94 (Stations 2021+80 to 2075+60)

Runoff from the project corridor reaches the tunnel from two storm sewer systems in this portion of the segment. Just to the west of I-94, runoff enters a small storm sewer system that connects to the old Bassett Creek tunnel under TH 55 (Olson Memorial Highway) between Bryant Avenue N and Dupont Avenue N. Some offsite runoff from the south is collected in this storm sewer system. This area consists of both industrial businesses and multi-family homes. The median boulevard is paved for half of this area and is covered by turf grass for the rest.

A large storm sewer system starting at CSAH 2 (Penn Avenue N) runs east along TH 55 (Olson Memorial Highway) and also connects to the old Bassett Creek tunnel under TH 55 (Olson Memorial Highway) near Dupont Avenue N. This storm sewer trunk line serves a large residential area to the north of TH 55 (Olson Memorial Highway) from CSAH 2 (Penn Avenue N) to approximately James Avenue N. The trunk storm sewer also collects runoff from small offsite areas to the south of TH 55 (Olson Memorial Highway) between James Avenue N and Dupont Avenue N. This portion of the segment also features a grassed boulevard and a wide, grassed median with incrementally placed trees. Roadway runoff is not treated before entering the old Bassett Creek tunnel and eventually discharging to the Mississippi River.

3.1.1.3 Drainage to Old Bassett Creek Tunnel, Heritage Park South Treatment System (Stations 2075+60 to 2081+95)

Storm sewer on TH 55 (Olson Memorial Highway) from Russell Avenue N to Queen Avenue N collects runoff from the residential area north of TH 55 (Olson Memorial Highway) and roadway runoff at this location. The system drains south and then east, collecting runoff from residential neighborhoods south of TH 55 (Olson Memorial Highway). It eventually reaches the south treatment system in Heritage Park, a series of water quality BMPs constructed with the Heritage Park redevelopment project, located south of TH 55 (Olson Memorial Highway) along Van White Memorial Boulevard. Runoff is first routed through a sediment forebay and then through a filtration basin, before entering a large wet detention pond. The pond outlet drains to the old Bassett Creek tunnel, which eventually discharges into the Mississippi River.

3.1.1.4 Drainage to East Channel Bassett Creek, Russell Avenue N to TH 55 (Olson Memorial Highway) /BNSF Crossing

This portion of the segment has a storm sewer system that collects roadway runoff which discharges directly into East Channel Bassett Creek, south of TH 55 (Olson Memorial Highway). East Channel Bassett Creek diverts from the main channel just west of the existing BNSF Railway corridor and north of TH 55 (Olson Memorial Highway). The east channel crosses under the BNSF Railway corridor through three existing culverts located north of TH 55 (Olson Memorial Highway). Two large urban residential storm sewer systems discharge to the creek at this location before

the channel crosses the highway via a culvert. There is currently no treatment for this runoff prior to discharging into the East Channel Bassett Creek. East Channel Bassett Creek flows south and then east, making its way to the new Bassett Creek tunnel, which discharges into the Mississippi River.

The City of Minneapolis has discussed drainage concerns with the portion of the East Channel Bassett Creek between the BNSF Railway corridor and the TH 55 (Olson Memorial Highway) crossing. They indicated that the culvert under the highway may not have adequate capacity, may be undersized, or may be partially plugged with sediment.

3.1.1.5 Drainage to East Channel Bassett Creek and Bassett Creek, TH 55 (Olson Memorial Highway) to Oak Park Avenue (Stations 2095+00 to 2109+25)

See the Segment GV section for a general overview of the BLRT Corridor in Theodore Wirth Regional Park (TWRP). See the Floodplain and Wetland Technical Memoranda for additional information on this area.

West of Vincent Avenue, the project turns north along the BNSF Railway and Canadian Pacific Railway corridors. Segment M ends at Oak Park Avenue. Runoff from the corridor and residential areas to the east is picked up by ditches along the railroads, but it does not always appear to drain to the creek due to flat grades, poor soils, high groundwater, and buried or missing culverts. Generally, the ditches flow south and discharge to East Channel Bassett Creek except for the northernmost portion which discharges to Bassett Creek.

3.1.2 Segment GV – Golden Valley

The Golden Valley segment extends along the existing BNSF Railway corridor from Oak Park Avenue north to 26th Avenue N. The entire segment ultimately drains to Bassett Creek, but a portion drains first to the wetlands north of Golden Valley Road or to smaller wetlands adjacent to the creek. The entire segment is within the BCWMC boundaries.

The BNSF Railway corridor has a typical railroad section, with an embankment constructed of ballast rock and ditches or water bodies on either side. Outside of the BNSF Railway right-of-way, the corridor is surrounded by residential areas to the east and two parks, TWRP and Mary Hills Nature Area, to the west. Drainage from eastern residential areas drains into the ditches in the BNSF Railway corridor right-of-way and through culverts into the parks.

There are a number of areas along the BNSF Railway corridor where depressions in the ditches are not fully drained due to flat grades, poor soils, high groundwater, and buried or missing culverts. These areas have been delineated as wetlands. There are additional areas where ditches are very small or nonexistent and water appears to drain over the railroad embankment or through the ballast rock.

Like much of the Bassett Creek watershed, the soils in the Golden Valley segment are typically in HSG C or D, and groundwater is high in many places along the corridor where wetlands are present. The portion of the BLRT Corridor between Plymouth Avenue and 26th Avenue is in a Drinking Water Supply Management Area (DWSMA) with high vulnerability.

The segment is described in more detail in the following sections. See Appendix A, **Figures 2 and 3** for a representation of the flow patterns and receiving waters.

3.1.2.1 Drainage to Bassett Creek, Oak Park Avenue to Plymouth Avenue (Stations 2109+25 to 2122+55)

Drainage from residential areas to the east of the corridor collects in the eastern BNSF Railway corridor ditch and discharges to wetlands in TWRP and to Bassett Creek. The existing ditch provides a small amount of water quality treatment by slowing down runoff and allowing for some settlement of larger sediments and some degree of rate

attenuation due to the storage volume in the ditch. There is no ditch on the west side of the tracks, and runoff from the BNSF Railway corridor that drains directly to the west is untreated before it flows to Bassett Creek in the park.

Bassett Creek has undergone a recent streambank stabilization and habitat restoration project from Golden Valley Road to Irving Avenue, which extends south beyond the BLRT Extension project limits.

3.1.2.2 Drainage to Bassett Creek, Plymouth Avenue to Theodore Wirth Parkway (Stations 2122+55 to 2154+00)

Upstream of Plymouth Avenue and just south of 14th Avenue N, a large storm sewer system discharges to Bassett Creek. Approximately 680 acres of Minneapolis storm sewer drains through two large hydrodynamic separators located southwest of the intersection of Xerxes Avenue and 14th Avenue N. See Drainage Design Approach below for a description of BMPs such as these. The storm sewer passes under the BNSF Railway corridor and directly into Bassett Creek.

Additional residential areas east of the BNSF Railway corridor drain to the eastern railroad ditch before discharging through culverts to wetlands in TWRP and to Bassett Creek. North of 14th Avenue N, runoff discharges to a wide channelized wetland before entering Bassett Creek. The existing ditch provides a small amount of water quality treatment by slowing down runoff and allowing for some settlement of larger sediments and some degree of rate attenuation due to the storage volume in the ditch. There is no ditch on the west side between the tracks and the wetland, and runoff from the BNSF Railway corridor that drains west is untreated before it enters the wetland.

The City of Golden Valley and the BCWMC propose to construct a stormwater treatment BMP between the project corridor and Theodore Wirth Parkway at approximate northbound station 2142+00. The project will treat 115 acres of residential drainage. Both entities have included the project in their capital improvement plans for construction in 2018 to 2019. The exact location, size, and type of the BMP are not known at this time.

3.1.2.3 Drainage to Bassett Creek, Golden Valley Road Wetlands (Stations 2154+00 to 2165+50)

The wetlands just north of Golden Valley Road on either side of the BNSF Railway corridor cover an area that was historically one wetland that was divided into two when the BNSF Railway corridor was built. An east-west bisection was created in the 1930s, when a 48-inch watermain was installed, and a berm constructed over it. This berm has partially collapsed between the southeast and the northeast basins, allowing the eastern basins to function as one pond. The western basins are equalized through a submerged culvert under that portion of the berm.

The eastern basin drains to the western through a culvert under the BNSF Railway. The western basins drain to Bassett Creek via a surface overflow and small channel through Mary Hills Nature Area. According to field survey data, the basins on either side of the railroad embankment act independently, and the normal water level of the eastern basin is roughly two feet higher than that of the western basins. Initial modeling shows that the eastern wetland overtops the BNSF Railway in the 50-year storm event and that the 100-year high water level of the eastern basin is approximately five higher than that of the western basins. City of Golden Valley staff has expressed concern that any changes in the storage available in these basins could affect the 100-year flow rates and floodplain elevations of Bassett Creek. There are several homes adjacent to the creek in this area that have little to no freeboard above the 100-year flood elevation and that could be impacted by even small changes in the function of the basins.

Rainfall landing on the railroad embankment drains directly into the wetlands on either side. In addition to drainage to the ponds from the railroad corridor, approximately 100 acres of residential area to the east drain to the ponds through storm sewer.

3.1.2.4 Drainage to Bassett Creek, Station 2166+00 to 2185+00 at 26th Avenue N

Existing storm sewer carries residential drainage from Byrd Ave N and Kewanee Way to storm sewer that discharges to an undrained depression on the east side of the existing BNSF Railway corridor. It is not clear how water moves from the east depression to the west side of the railroad. There are two additional depressions on the west side of the railroad that also appear to be landlocked. Water that overtops the western depressions flows though the Mary Hills Nature Area, over an existing trail, through a wetland, and into Bassett Creek. It is possible that the east and west depressions were once connected by a culvert under the railroad, but there was no evidence of a culvert during field surveys for the BLRT project.

3.1.3 Segment R – Robbinsdale

The Robbinsdale segment extends from 26th Avenue N to 47th Avenue N along the existing BNSF Railway corridor. The area surrounding the corridor primarily consists of residential neighborhoods, with the southernmost portion of the segment running through Sochacki Park. Additionally, the corridor passes just to the east of two smaller parks, Lee Park and Triangle park, and just to the west of downtown Robbinsdale. The northernmost portion of the segment corridor, after crossing over TH 100, runs parallel to CSAH 8 (West Broadway Avenue), before making its way into Crystal.

Much of the existing offsite drainage flowing towards the BNSF Railway corridor is either collected in storm sewer systems before reaching the corridor or flows into the many wetlands along the corridor. However, in some cases, there are existing culverts and short runs of storm sewer that discharge into the ditches along the railroad. The corridor itself generally drains to ditches and flat grassed areas along the track or to the existing wetlands. This segment falls within the BCWMC south of 36th Avenue N and within the SCWMC north of 36th Avenue N. Stormwater runoff in BCWMC drains to Grimes, North Rice, and South Rice Ponds upstream of Bassett Creek. The stormwater in SCWMC primarily drains to Crystal Lake and Middle and Lower Twin Lakes which are nutrient-impaired lakes and have TMDL implementation plans. Approximately 34 percent of the corridor drainage ultimately flows to Bassett Creek (via Grimes, North Rice, and South Rice Ponds), 51 percent to Crystal Lake, and 15 percent to Twin Lakes.

Like much of the Bassett Creek watershed, the soils in the portion of the segment south of 36th Avenue N are typically HSG C or D, with slow to very slow infiltration rates. Between 36th Avenue N and TH 100, the soils consist of HSG B soils, with moderate infiltration rates, while the soils north of TH 100 are typically HSG A soils having high infiltration rates. The groundwater table is high in many places within the trench portion of the corridor, as indicated by the presence of many wetlands adjacent to the BNSF Railway embankment. Groundwater elevations elsewhere in the segment are not known.

The segment is described in more detail in the following sections. See Appendix A, **Figures 4 through 6** for a representation of the flow patterns and receiving waters.

3.1.3.1 Drainage to South Rice Pond, Existing Stormwater Pond in Sochacki Park (Stations 2185+00 to 2196+80)

South of 27th Avenue N, the corridor drains to adjacent wetlands that drain under the corridor and eventually to South Rice Pond via culverts. The City of Robbinsdale recently constructed a wet detention pond in Sochacki Park that receives stormwater from a storm sewer system draining the residential area east of the project corridor. The existing pond receives runoff from the project corridor in the existing condition. The pond ultimately discharges to South Rice Pond.

3.1.3.2 Drainage to Grimes and North Rice Ponds (Stations 2196+80 to 2252+35)

While the jurisdictional watershed divide between BCWMC and SCWMC is at 36th Avenue N and neighboring residential drainage is split here, the portion of the corridor starting at Lee Park drains south under the bridge at 36th Avenue N. Lee Park and an adjacent retirement home drain to a low lying area in Lee Park that eventually discharges to the corridor. This portion of the corridor is very flat and contains primarily HSG B soils, so it is likely that much of the corridor water infiltrates. The portion of stormwater runoff that does not infiltrate eventually discharges to Grimes and North Rice Ponds.

South of 36th Avenue N there are wetlands running along both the east and west sides of the corridor. These receive both corridor water and discharge from several storm sewer systems and only appear to have natural overflows that eventually discharge to Grimes and North Rice Ponds.

From 33rd Avenue N to just north of 27th Avenue N, the corridor drains to Grimes Pond on the east and North Rice Pond on the west through various wetlands. There is also residential runoff draining to both of these ponds, which are separated by the existing BNSF Railway embankment and connected by a 48"culvert on the south end of the ponds. Grimes and North Rice ponds discharge to South Rice Pond, which ultimately discharges to Bassett Creek.

3.1.3.3 Drainage to Crystal Lake (Stations 2251+00 to 2298+00)

The northern portion of Robbinsdale is in the SCWMC and drains to Crystal Lake and Middle and Lower Twin Lakes. In this portion of the corridor, instead of wetlands and ditches, the BNSF Railway corridor is adjacent to residential and commercial properties. The area south of TH 100 is characterized by HSG B soils. From north of Lee Park to 42nd Avenue N, corridor water that does not infiltrate and residential area runoff is picked up by storm sewer and drains to Crystal Lake. There are two storm sewer systems in this area that outlet directly to the lake.

3.1.3.4 Drainage to Middle Twin Lake (Station 2298+00 to 2329+00)

North of 42nd Avenue N, the adjacent storm sewer systems would likely only receive corridor runoff in large events. North of TH 100 the HSG A soils and the flat grassed edges of the corridor also likely infiltrate some runoff from the ballast. These storm sewer systems drain to a series of ponds near TH 100 before discharging to Lower and Middle Twin Lakes, which eventually drain to Shingle Creek. Middle Twin Lake receives the corridor and offsite water from north of TH 100 while Lower Twin Lake receives primarily residential water from between TH 100 and 42nd Avenue N.

3.1.4 Segment C – Crystal

The Crystal segment extends from 47th Avenue N to 62nd Avenue N. The proposed project continues in the BNSF Railway corridor, which is along the west side of CSAH 8 (West Broadway Avenue) in the south and transitions to run along the west side of CSAH 81 (Bottineau Boulevard) in the north. The area around the project limits is fully developed with a mixture of ¼-acre residential lots, townhomes, commercial, and industrial uses. There are several parks in the area adjacent to the project. The Crystal Airport is also near the project corridor in the north portion of the segment. Approximately 66 percent of the project area drains to the Upper and Middle Twin Lakes and 34 percent drains to the Crystal Airport infiltration area.

Web soil survey information for this segment categorizes the existing soils as predominantly "urban land". Soil borings for the area show fine-grained sand, occasionally with a layer of loamy sand and/or sandy loam above it. These would be typical of HSG A and B soils, with high to moderate infiltration capacity. The project falls within a wellhead protection area south of the Canadian Pacific Railway corridor but is not within an emergency response area. Groundwater elevations for this segment are not known at this time.

Figures 6 and 7 in Appendix A show the existing flow patterns and receiving waters. The sections below provide more detail regarding the drainage within this segment.

3.1.4.1 Drainage to Twin Lakes, BNSF Railway Corridor South of CSAH 10 (Bass Lake Road) (Station 2520+80 to 2380+90)

In the southern portion of the Crystal segment, the BNSF Railway corridor transitions from running along the west side of CSAH 8 (West Broadway Avenue) to the west side of CSAH 81 (Bottineau Boulevard). During this transition, the corridor runs through a commercial and industrial area and is not adjacent to a roadway. Due to the presence of sandy soil, most of the runoff infiltrates along the railroad corridor and there appears to be no catch basins or culverts to collect or direct runoff. Any runoff that does not infiltrate may flow into adjacent parking lots and enter catch basins, which ultimately discharge into Upper or Middle Twin Lake.

There are storm trunk lines which pass under the railroad corridor where it crosses Corvallis Avenue and to the west of the intersection of Wilshire Boulevard and CSAH 81 (Bottineau Boulevard). There is also a pair of culverts running underneath the track from the wetland southeast of the Canadian Pacific Railway crossing that connects to storm sewer lines that flow to an existing pond in the southwest quadrant of the intersection of CSAH 8 (West Broadway Avenue) with the Canadian Pacific Railway corridor.

3.1.4.2 Drainage to Twin Lakes, Bass Lake Road Park-and-Ride (Station 2371+25 and 2379+30)

The area proposed for a future park-and-ride between the BNSF Railway corridor and CSAH 81 (Bottineau Boulevard), immediately south of CSAH 10 (Bass Lake Road), is a petroleum brownfield with a high risk of groundwater contamination. The area is mostly open, grassy space, but other land uses include a small commercial property with a surface parking lot, walking path, and a cul-de-sac for vehicle access to a cellular tower. There is a catch basin located in the area that connects to the CSAH 10 (Bass Lake Road) trunk line which discharges into Upper Twin Lake without further treatment.

Another concern in the area is that, as noted in the Water Resources Preliminary Design Report (July 2004) prepared for the CSAH 81 reconstruction project, the existing CSAH 10 (Bass Lake Road) trunk storm sewer is known to have capacity issues and has an emergency relief system in place.

3.1.4.3 Drainage to Crystal Airport Infiltration Area (Station 2380+90 to 2418+75)

North of the intersection with CSAH 10 (Bass Lake Road), the BNSF Railway corridor continues along the west side of CSAH 81 (Bottineau Boulevard) throughout the remainder of the segment. Runoff in this section collects in ditches on either side of the track. Any runoff that does not infiltrate flows to a low point on the west side of CSAH 81 (Bottineau Boulevard) across from the Crystal Airport. At the low point, two culverts drain water from the west side of the tracks, and another culvert passes underneath CSAH 81 (Bottineau Boulevard) to drain the ditches, along with stormwater from a section of CSAH 81 (Bottineau Boulevard), into an infiltration area located on the Crystal Airport property. The outfall from the infiltration area is a series of ditches and culverts within the airport property to a large wetland complex and ultimately to Twin Creek and Upper Twin Lake.

The Metropolitan Airport Commission will not allow an increase in rate or volume being discharged to the existing infiltration area without permission, and the FAA will not allow surface ponds close to airports as they may attract birds which can interfere with airplane safety.

3.1.5 Segment BP2 – Brooklyn Park 2

The BP2 segment is in the portion of the project located in southern Brooklyn Park and extends from 62nd Avenue N to just south of Candlewood Drive N. The project corridor consists of the BNSF Railway corridor immediately adjacent to CSAH 81 (Bottineau Boulevard) from 62nd Avenue N to 73rd Avenue N, where the BLRT Extension

project will leave the BNSF Railway corridor, and the CSAH 103 (West Broadway Avenue) corridor from 73rd Avenue N to the northerly segment boundary. The reconstruction of CSAH 103 (West Broadway Avenue), including the addition of turn lanes, trails, and boulevards, and a portion of CSAH 152 (Brooklyn Boulevard) is included in this segment. The main receiving waters in this segment are Twin Creek, which flows into Upper Twin Lake and collects runoff from the portion of the segment south of I-94; and Shingle Creek, which collects runoff from the remainder of the segment. Approximately 22 percent of the project area drains to Twin Creek and 78 percent drains to Shingle Creek.

The soils in this segment of the BLRT Project corridor have been categorized as predominantly HSG B soils south of 75th Avenue N and predominantly HSG A soils north of 75th Avenue N. These soils have moderate to high infiltration capacity. Much of this segment falls within a wellhead protection area but is outside the emergency response area. Groundwater elevations are unknown at this time, except immediately adjacent to wetlands that are an expression of the surficial groundwater table.

Figures 7 through 9 in Appendix A show the existing flow patterns and receiving waters. The sections below provide more detail regarding the drainage within this segment.

3.1.5.1 Drainage to Twin Creek, 62nd Avenue Wetland (Stations 2418+75 to 2436+30)

The existing BNSF Railway corridor runs adjacent to a stormwater wetland located in the northwest quadrant of 62nd Avenue N and CSAH 81 (Bottineau Boulevard). Runoff that collects in ditches on the west side of the railroad corridor between 62nd Avenue N and 63rd Avenue N, and does not infiltrate, flows into the wetland. The ditch on the east side of the railroad corridor has a different drainage pattern which is explained below. The wetland currently receives runoff from a watershed of approximately 625 acres. Roughly 250 acres of that, consisting largely of ¼-acre residential lots located west of CSAH 81 (Bottineau Boulevard) and south of I-94, is routed directly to the wetland. The pond outlet is in the southeast corner. From there, the outlet pipe crosses under CSAH 81 (Bottineau Boulevard), runs along the property line directly east, and discharges to a wetland in Southbrook Park east of industrial properties. It eventually discharges to Twin Creek, where it crosses 63rd Avenue N.

In 2003, the City of Brooklyn Park re-graded the wetland and improved the outlet structures to reduce flooding in the City of Crystal and provide additional water quality benefits. The wetland system allows suspended sediments to settle out and also provides filtering through a buffer of wetland vegetation. According to hydraulic modeling performed by the City of Brooklyn Park, the high water level of the wetland is roughly 8.2 feet higher than the normal water elevation.

3.1.5.2 Drainage to Twin Creek, CSAH 81 (Bottineau Boulevard) (Stations 2436+30 to 2468+00)

As mentioned above, the BLRT project runs along the existing BNSF Railway corridor adjacent to CSAH 81 (Bottineau Boulevard) until the crossing at 73rd Avenue N. South of Dutton Avenue N, CSAH 81 (Bottineau Boulevard) has an urban drainage section with a trunk storm sewer that routes roadway runoff away from the ditch between the BNSF Railway corridor and CSAH 81 (Bottineau Boulevard). North of Dutton Avenue N, CSAH 81 (Bottineau Boulevard) currently has a rural drainage section.

The ditch on the east side of the existing BNSF Railway embankment collects runoff from about 700 feet south of the Brooklyn Park/Crystal border to 63rd Avenue N. The ditch flows to a low point across from the 62nd Avenue N wetland where a culvert drains into the CSAH 81 (Bottineau Boulevard) storm sewer. The east ditch between 63rd Avenue N and the I-94 interchange, which receives runoff from northbound CSAH 81 (Bottineau Boulevard) in the rural section north of Dutton Avenue N, also drains into the CSAH 81 (Bottineau Boulevard) storm sewer system through an inlet north of 63rd Avenue N. Both of these systems discharge to Twin Creek east of CSAH 81 (Bottineau Boulevard), near the intersection of 63rd Avenue N and Florida Avenue.

Runoff from southbound CSAH 81 (Bottineau Boulevard) flows into the ditch on the east side of the BNSF Railway corridor, where most of it infiltrates due to the presence of sandy soils. Any runoff not infiltrated flows to Twin Creek for the portion of the corridor south of I-94. In addition to the volume reduction from infiltration, the ditches also provide a degree of water quality treatment (due to vegetative filtering and plant uptake) and rate attenuation (due to the storage volume available). Hennepin County plans to reconstruct CSAH 81 (Bottineau Boulevard) in the near future. It is likely that the new roadway will utilize the same fully urban drainage section as for the portions of CSAH 81 (Bottineau Boulevard) reconstructed in Robbinsdale and Crystal. Further coordination with Hennepin County will be needed to understand the future drainage conditions.

3.1.5.3 Drainage to Shingle Creek, Stations 2468+00 to 2540+50 at CSAH 152 (Brooklyn Boulevard)

The project corridor continues along the west side of CSAH 81 until 73rd Avenue N, where it transitions to the CSAH 103 (West Broadway Avenue) corridor. South of station 2481+00, the characteristic of project corridor is consistent with the BNSF Railway corridor to the south. The portion of this segment between stations 2468+00 and 2481+00 drains into the ditches on either side of the BNSF Railway corridor. The ditches drain through the I-94 corridor and ultimately discharge to Shingle Creek to the east of the BLRT Corridor. Between station 2481+00 and the crossover to CSAH 103 (West Broadway Avenue), runoff from the project corridor drains to Shingle Creek to the west of the BLRT Corridor.

As the BLRT Corridor transitions to the CSAH 103 (West Broadway Avenue) alignment, it passes through commercial areas with a high percentage of impervious cover. There is minimal existing storm sewer in the area between CSAH 81 (Bottineau Boulevard) and CSAH 103 (West Broadway Avenue). Runoff flows to the surrounding vegetated areas and is infiltrated, collected by storm sewer in Jolly Lane, or flows into the roadside ditches along Lakeland Avenue. The storm sewer and ditches drain to a narrow pond on the east side of the BNSF Railway track adjacent to DNR Wetland #563W to the west of the project corridor, which ultimately drains to Shingle Creek.

CSAH 103 (West Broadway Avenue) has curb and gutter to channel stormwater into catch basins and storm sewer. There is a trunk storm sewer running to the north along CSAH 103 (West Broadway Avenue) from 73rd Avenue N to CSAH 152 (Brooklyn Boulevard). This trunk line connects to a larger trunk line running to the east along CSAH 152 (Brooklyn Boulevard) that discharges without treatment into Shingle Creek approximately 0.75 miles from the project corridor. In addition to the roadway runoff, the CSAH 103 (West Broadway Avenue) trunk storm sewer collects the outflow from stormwater BMPs in the Cub Foods/Target parking lot to the west.

3.1.5.4 Drainage to Shingle Creek, North of CSAH 152 (Brooklyn Boulevard) (Stations 2540+50 to 2552+65)

North of CSAH 152 (Brooklyn Boulevard), CSAH 103 (West Broadway Avenue) has curb and gutter with catch basins to collect the stormwater. A trunk storm sewer runs from just north of CSAH 152 (Brooklyn Boulevard) to just north of 78th Avenue N where it turns east and collects stormwater from the residential area north of CSAH 152 (Brooklyn Boulevard) and west of Idaho Avenue N. This area discharges into Shingle Creek where it intersects with Candlewood Drive. In addition, the trunk storm sewer collects runoff from a portion of the residential area around the 78th Court N cul-de-sac and the shopping area, including outflow from stormwater BMPs, to the northeast of the CSAH 103 (West Broadway Avenue) and CSAH 152 (Brooklyn Boulevard) intersection.

3.1.6 Segment BP1 – Brooklyn Park 1

This segment extends from the Shingle Creek Crossing at CSAH 152 (West Broadway Avenue) just south of Candlewood Drive north to Oak Grove Parkway/101st Avenue N, where the OMF will be located approximately one-half mile northwest of the Target North Campus. Drainage from the Shingle Creek crossing north to CSAH 109 (85th Avenue N) is within the SCWMC jurisdiction and drains to Shingle Creek. Drainage north of CSAH 109 (85th Avenue N) is within the WMWMC jurisdiction and is tributary to the Mississippi River via Century Channel and other

drainageways. These areas are described in more detail in the following sections. Approximately 20 percent of the project drains to Shingle Creek, 35 percent to Century Channel, and 45 percent to the Mississippi River.

The soils in this segment of the BLRT Project corridor has been categorized as HSG A and B soils, with high to moderate infiltration capacity. Much of this segment falls within a wellhead protection area, but only the portion between CSAH 109 (85th Avenue N) and Maplebrook Parkway N is within or near the emergency response area, which would be considered a highly vulnerable portion of the Brooklyn Park Central DWSMA.

See **Figures 9 through 12** in Appendix A for a representation of the existing flow patterns and receiving waters for this segment.

3.1.6.1 Drainage to Shingle Creek, Shingle Creek Crossing to Maplebrook Parkway N (Station 2552+65 to 2604+20)

The portion of CSAH 103 (West Broadway Avenue from Shingle Creek to roughly Maplebrook Parkway N consists of both rural and urban drainage systems. Inlets in the roadside ditches and catch basins in the street route the runoff into an existing trunk storm sewer under CSAH 103 (West Broadway Avenue). In addition to the road runoff, the trunk storm sewer serves large offsite areas consisting of single- and multi-family homes, the North Hennepin Community College (NHCC), and parks before discharging to Shingle Creek downstream of the crossing at CSAH 103 (West Broadway Avenue). Runoff from the rural roadway section receives some amount of water quality treatment through vegetative filtering and rate attenuation when flowing through ditches. However, much of the roadway runoff receives no treatment.

3.1.6.2 Drainage to Century Channel, Setzler Pond and the DNR Wetlands (#559W) (Station 2604+20 to 2644+15)

Setzler Pond is located in the northwest quadrant of the intersection of 89th Avenue N and CSAH 103 (West Broadway Avenue). Runoff from a portion of CSAH 103 (West Broadway Avenue) between 89th Avenue N and Setzler Parkway is conveyed to the pond via ditches. Setzler Pond was created as a regional rate control pond in the location of a public watercourse. Much of the stormwater that flows into Setzler Pond is runoff from the commercial and industrial land surrounding the pond from the north and west, as well as large contributing areas in the cities of Maple Grove and Osseo. Setzler Pond discharges through an existing culvert that crosses CSAH 103 (West Broadway Avenue), reconnecting into Century Channel. Century Channel is also known as Edinbrook Channel and Mattson Brook at various points along its course, with Mattson Brook at the most downstream end. Mattson Brook ultimately discharges into the Mississippi River.

DNR Wetland #559W is located between Setzler Parkway and 92nd Avenue N. The wetland was bisected with the original construction of CSAH 103 (West Broadway Avenue). DNR #559W receives stormwater runoff from CSAH 103 (West Broadway Avenue) between Setzler Parkway and CSAH 30 (93rd Avenue N), which has a rural drainage system. Roadway runoff receives some amount of water quality treatment through vegetative filtering prior to reaching the wetland. Although it was not designed as a treatment basin, the wetland provides additional water quality treatment via sedimentation and plant uptake, as well as rate attenuation. DNR #559W discharges through an existing culvert in the southwest corner of the west wetland. This culvert travels west until connecting into the trunk line traveling beneath Wyoming Avenue N. This trunk line discharges into Setzler Pond, which ultimately discharges to Century Channel.

The jurisdictional divide between the SCWMC and WMWMC falls at CSAH 109 (85th Avenue N). However, the hydrologic divide occurs at approximately Maplebrook Circle N.

3.1.6.3 Drainage to Century Channel, TH 610 Ponding System (Station 2644+15 to 2684+00)

CSAH 103 (West Broadway Avenue) between CSAH 30 (93rd Avenue N) and TH 610 has an urban drainage system with a trunk storm sewer running down the east gutter line. A small portion immediately north of CSAH 30 (93rd Avenue N) drains into an existing infiltration basin on the east side of CSAH 103 (West Broadway Avenue). This basin's outlet connects into the existing trunk line. The remainder of CSAH 103 (West Broadway Avenue) north to TH 610 drains directly into the trunk line, which discharges into existing stormwater treatment basins located inside the infield area in the southeast quadrant of the TH 610 interchange. CSAH 103 (West Broadway Avenue) runoff from approximately 800 feet north of the TH 610 bridge is conveyed via storm sewer running down the east gutter line and discharges into existing stormwater treatment basin located inside the infield area in the northeast quadrant of the TH 610 interchange. The TH 610 ponds ultimately discharge to Century Channel.

CSAH 103 (West Broadway Avenue) drainage from 800 feet north of TH 610 to 101st Avenue N is conveyed via storm sewer and roadside ditches to the existing stormwater pond located in the southeast quadrant of the intersection of CSAH 103 (West Broadway Avenue) and Oak Grove Parkway. Between Oak Grove Parkway and Winnetka Avenue N, CSAH 103 (West Broadway Avenue) transitions from an urban drainage section to rural section. Where the urban section ends, roadside culverts pick up ditch drainage, providing conveyance to the existing stormwater pond, which overflows south to the TH 610 system. The area bordered by TH 610, CSAH 103 (West Broadway Avenue), and Winnetka Avenue N flows south to an existing 42-inch culvert beneath CSAH 103 (West Broadway Avenue), and discharges to the north loop infield area of the TH 610 interchange, which ultimately drains to Century Channel.

3.1.6.4 Target North Campus Drainage

According to the 2012 AUAR Update – Stormwater Management for Target North Campus, the Target North Campus stormwater is treated with onsite BMPs that are routed to the existing stormwater pond southeast of Oak Grove Parkway and CSAH 103 (West Broadway Avenue) intersection, which then discharges to the TH 610 system. This appears to have been intended as a temporary drainage connection, and the City of Brooklyn Park 1995 Comprehensive Stormwater Management Plan (CSMP) and the 2013 Shingle Creek and West Mississippi Watershed Management Commissions Third Generation Watershed Management Plan indicate that the Target North Campus drainage is intended to flow northeast into a series of wetlands and drainageways that ultimately reach the Mississippi River. Further coordination is needed with the City of Brooklyn Park, WMWMC, Target North Campus, and other stakeholders to determine exactly how the Target North Campus drainage functions in the existing condition and whether the current drainage patterns will be maintained.

3.1.6.5 Drainage to Mississippi River, North of TH 610 (Station 2684+00 to OMF)

North of TH 610, the project includes additional site development outside of the corridor (i.e. park-and-ride, OMF, and the Oak Grove Parkway realignment), which extends approximately 1,500 feet to the west of Winnetka Avenue N. See **Figures 11 and 12** in Appendix A for Oak Grove Parkway N realignment concept design.

Per the 2013 Shingle Creek Third Generation Plan, the area west of Winnetka Avenue N is within the 'Northwest/Riverside' West Mississippi Subwatershed, which is within the Anoka sand plain and is relatively flat with little relief. Per the 2009 City of Brooklyn Park Draft Local Water Management Plan Update, runoff generated in this area that is not infiltrated within the numerous low areas eventually drains easterly into a series of wetlands, open channels, and a trunk storm sewer system. At the eastern end of 101st Avenue N, this system discharges into a large wetland complex, ultimately reaching the Mississippi River.

4.0 Drainage Design Approach

4.1 Proposed Project

The proposed project includes the following basic components:

- Construction of a northbound and a southbound BLRT guideway. The majority of the guideways will be ballasted track, except within at-grade intersections. In some areas, the guideways will replace existing vegetated surfaces. Where the guideway will be ballasted, six-inch perforated pipe track drains will be located below the subballast.
- Reconstruction of TH 55 (Olson Memorial Highway), the majority of CSAH 103 (West Broadway Avenue), and Oak Grove Parkway within the project limits
- Construction of new roadways as needed to support the OMF and park-and-ride in the BP1 segment
- Relocation of the BNSF tracks and construction of an access road to be used by BNSF for access to their facility
- Construction of LRT stations and platforms
- Construction of park-and-ride facilities

As noted above, the project has been divided into six segments: Minneapolis, Golden Valley, Robbinsdale, Crystal, Brooklyn Park 2, and Brooklyn Park 1. The following sections will describe the overall drainage design approach and the types of BMPs being considered. They will also provide more detail of the proposed changes in each segment and the specific stormwater strategies recommended.

4.2 Methodology

In general, a proposed stormwater plan needs to analyze three items, which are discussed in more detail in the sub-sections below:

1. Existing drainage patterns and the regulatory environment (the latter was summarized in the Section above).
2. Changes to hydrology due to an increase in impervious surface
3. Changes to hydraulics due to a conversion from one conveyance system to another (surface flow in ditches versus pipe flow) and due to reduction in the storage available

Following this, the stormwater management plan needs to include the design of BMPs in accordance with the regulatory agencies' rules and ordinances to manage changes to these three items. The sequencing approach to locating BMPs was as follows:

1. Locate BMPs within the available right-of-way to the greatest extent practicable
2. Locate BMPs within other public right-of-way or remnants of parcels that are anticipated to be acquired due to other project requirements
3. Locate BMPs within currently undeveloped land outside of the right-of-way

4.2.1 Drainage Patterns

The intent of the proposed drainage system for the BLRT Extension project is to mimic the existing drainage patterns to the greatest extent possible while also meeting the requirements of the regulatory agencies. There are some instances where small diversions in drainage patterns are proposed in order to route project runoff to a BMP. These diversions are limited to below the subwatershed level, such that stormwater will not be diverted between jurisdictional watershed agencies and typically will not be diverted between different water bodies within a

watershed. When diversions are proposed for treatment purposes, the BMPs will need to be designed to ensure that there is no increase in discharge rates to existing storm sewer facilities or to the receiving water.

4.2.2 Changes to Hydrology

For the purposes of this preliminary design, the portions of the project that will be constructed on ballast rock have been considered to be impervious surface due to the compacted class 5 aggregate underneath the ballast. However, the calculations have assumed the ballast to have a lower runoff coefficient (a curve number of 85) than other impervious surfaces, such as concrete and asphalt (with a curve number of 98), due to the higher percentage of surface area of the ballast rock to abstract more rainfall than pavement and due to the higher percentage of void spaces that allow for some storage of rainfall. Impervious surfaces translate to higher runoff volumes and higher discharge rates due to the decrease in pervious areas capable of infiltrating the rainfall. They also tend to correlate to a faster time of travel for the rainfall runoff due to the lower resistance of paved surfaces, which also results in higher discharge rates.

Changes from pervious to impervious land uses are also typically associated with increased pollutant loads in the runoff. This is especially true of impervious surfaces associated with automobiles, such as roadways and parking lots. Therefore, BMPs will be proposed that can provide rate attenuation, water quality treatment, and, where conditions permit, reduction in runoff volumes.

4.2.3 Changes to Hydraulics

The proposed conveyance system for the majority of the Minneapolis, Golden Valley, Robbinsdale, and Crystal segments will match that of the existing condition. However, due to widening of the roadway in the Brooklyn Park segments, the existing roadside ditches will be partially or completely eliminated, and the drainage will be captured in storm sewer systems instead. In general, changing the conveyance system from ditch flow to storm sewer flow increases the velocity of the stormwater. It tends to eliminate the attenuation of flow that happens in open channel systems. There is also an increase in the volume of stormwater due to the elimination of evapotranspiration. Therefore, changing to a storm sewer system from a ditch system can also result in an increase peak discharge rates and volumes.

The project corridor is bounded by natural and constructed stormwater detention basins along much of its length, in particular in the Golden Valley, Robbinsdale, and Brooklyn Park segments. Because the proposed BLRT and BNSF facilities will be wider than the existing BNSF facility, the area available to store stormwater in some of these basins will be reduced. Reduction in storage volumes can lead to an increase in high water levels (HWLs) and/or an increase in discharge rates. The proposed stormwater management plan includes various storage BMPs to mitigate increases in discharge rates and HWLs in an effort to match existing conditions.

It should be noted that several wetlands and regulated floodplains exist along the corridor. Many of these will also be partially filled by the project. A separate technical memorandum has been prepared to discuss floodplain impacts and mitigation. The analysis of wetlands adjacent to the project limits and the potential impacts to those is being performed by others.

4.3 Proposed BMPs

The proposed stormwater management plan includes a variety of BMPs that can provide water quality treatment, rate control, and volume reduction. The Proposed Conditions section below will discuss the BMPs that appear to be best suited for the particular segment and may suggest preferred options. However, specific BMP types and locations will need to be confirmed as the design progresses and as more is known about the existing soil conditions. Further coordination with city and watershed organization staff may also affect the ultimate stormwater management plan. The following includes a brief description of the BMPs being considered.

4.3.1 Bioretention Basins

Bioretention basins are shallow, dry depressions that rely on a combination of plants, microbes, and soil to provide water quality treatment. Stormwater runoff is captured in the basin where it then infiltrates through a soil medium. The soil medium may be the native soil where conducive to infiltration or may be an engineered soil mix where the native soils are too clayey, which is not conducive to infiltration. Plants and microbes within the basin take up nutrients and other pollutants in the runoff. The plants also create macropores in the soil that aid in the infiltration of runoff. Bioretention basins remove pollutants by a number of mechanisms, including filtration, adsorption, cation exchange, volatilization, plant uptake, and decomposition. It is important that the basins drain within 48 hours of a rainfall event so that the plants do not drown.

Basins are typically designed with 12 inches to 18 inches of depth. Therefore, while they will provide rate attenuation for smaller storms, they may not be sufficient to provide rate attenuation for the 100-year rainfall event on their own. Modeling will be completed during the next phase of design to ensure adequate storage has been incorporated.

Depending on site conditions, bioretention basins can be designed as infiltration or filtration basins. The former are sometimes referred to as bioinfiltration basins while the latter are referred to as biofiltration basins. Typically, bioretention basins are designed to promote infiltration, thereby attaining volume reduction through evapotranspiration and infiltration in addition to water quality treatment and some degree of rate attenuation. The NPDES permit provides guidance on the site conditions that preclude the use of bioinfiltration and infiltration practices (such as insufficient depth to the groundwater table, contaminated soil and groundwater, and “tight” soils). Where infiltration practices are not encouraged, biofiltration basins can be designed with perforated piping to minimize infiltration and ensure the basin drains within the specified 48 hours. In addition, a liner could be utilized to prevent infiltration.

Pretreatment is required before discharging runoff into bioretention basins. This can take the form of proprietary hydrodynamic oil and grit separators, wet sediment forebays, or filter strips.

4.3.2 Ditch Treatment and Bioswales

The ditches that will be constructed between the BLRT guideway and BNSF tracks and/or the outside ditches will be utilized to provide water quality treatment, rate attenuation, and volume reduction (where conditions permit). In general, these are long ditches with very flat longitudinal slopes that will convey stormwater as a traditional ditch does. These are expected to take one of two general forms:

1. It is expected that the center corridor protection ditch (CPD) and any ditch to the outside of the BNSF Railway will be rock lined, either with free-draining ballast rock or riprap. The flat longitudinal slope will slow the velocity of water flowing in the ditches, which will encourage sedimentation and infiltration. Where conditions allow infiltration, a sand section would be included if needed to increase the available storage volume prior to infiltration. Where soil or groundwater conditions do not allow infiltration, either a sand section with perforated piping would be included below the ditch bottom to allow for filtration of runoff, or rock weepers would be included to provide horizontal filtering. Furthermore, the elevations of culverts would be set above the bottom of the channel to encourage infiltration/filtration.
2. Vegetated ditches may be possible to the east of the BLRT guideways. Where conditions allow infiltration, a sand section would be included if needed to increase the available storage volume prior to infiltration. Where conditions do not allow infiltration, either a sand section with perforated piping would be included for filtration or rock weepers would be included to provide horizontal filtering. The vegetated ditches would act similarly to bioswales.

Bioswales are vegetated swales that use the same soil as a bioretention basin. They convey stormwater to low areas similarly to a traditional swale, but ditch checks, rock weepers, and other devices are used to encourage

infiltration or filtration. The vegetation, microbes, and soil in the bioswale allow this BMP to provide the same treatment functions as bioretention basins.

Treatment ditches and bioswales can be designed to provide rate attenuation in addition to the water quality treatment and volume reduction benefits. However, because bioswales are vegetated and therefore need to drain within 48 hours of a rain event, they may not be able to attenuate the 100-year rainfall event. Modeling will be completed during the next phase of design to ensure adequate storage has been incorporated.

4.3.3 Hydrodynamic Separators

Hydrodynamic oil and grit separators are underground structures that remove larger particles and the pollutants that may be attached to them, as well as floating debris and oils. They are not capable of providing the level of treatment required but are used to pretreat runoff routed to bioretention and other infiltration BMPs, thereby prolonging their lifespans. They can be used as the sole treatment measure if no other options are practicable, but they do not provide any rate attenuation or volume reduction.

4.3.4 Wet Detention Pond

Also called NURP (for National Urban Runoff Program) ponds, these ponds are usually constructed at the end of storm sewer pipes or near ditch low points. Their function is to remove a large majority of the sediment and associated pollutants contained in the stormwater runoff prior to being discharged downstream. Furthermore, most pond designs incorporate skimmer structures that cause floating debris and oils to be trapped in the pond. Because of their relatively large surface area, they also can be used to attenuate peak discharge rates. In general, wet detention ponds do not provide volume reduction, but they can be used to pretreat runoff upstream of bioretention or infiltration practices.

4.3.5 Tree Trenches

Tree trenches are typically used in the boulevard areas adjacent to roadways. They consist of a prepared soil mix, an underdrain system, and a tree. If the tree trench is located in a boulevard with turf grass, the soil mix is similar to that used in bioretention basins. If the tree trench is located in a more urbanized setting with a paved surface, a structural soil or other structural technique is used that provides adequate void space for tree roots to develop but also support for the paving above.

Tree trenches provide water quality treatment by filtering runoff through the prepared soil mix and through uptake of some pollutants by the trees and microbes. Tree trenches also reduce the volume of runoff through infiltration into the underlying soils and through evapotranspiration. However, the amount of rate attenuation provided, especially for the larger storm events, varies by the type and design of system used.

4.3.6 Underground Detention and Infiltration

Underground detention systems can be used solely to store stormwater runoff temporarily or they can include an infiltration component. These systems typically consist of multiple parallel pipes that can be solid wall, perforated, or have an open bottom. When infiltration is not possible due to site conditions, solid wall pipes or liners are used. Their primary function in this case is rate control. When infiltration is possible, perforated or open-bottom pipes are set on top of and within a free-draining aggregate layer that allows for water quality treatment through filtering, volume reduction, and rate attenuation.

4.4 Proposed Conditions

4.4.1 Segment M – Minneapolis

In the Minneapolis segment, the proposed BLRT alignment will run down the center of TH 55 (Olson Memorial Highway), replacing the existing grassed median. The track will be in track panels at intersections and in ballast with ballast curb for the remainder of the roadway section. Track drains will collect runoff from the BLRT guideway that will be connected to the roadway storm sewer. A variety of stormwater BMPs are being considered for this portion of the project in order to meet regulatory requirements to the greatest extent possible. See **Figures 1 and 2** in Appendix A for the potential locations of the stormwater BMPs. **Tables 1 and 2** below provide a summary of the changes in impervious surfaces and the sizes of potential BMPs.

In addition to the proposed pedestrian sidewalk, a 10-foot wide cycle track is currently proposed to run on the north side of TH 55 (Olson Memorial Highway) from Van White Memorial Boulevard west to the TH 55 (Olson Memorial Highway) bridge over the BNSF Railway corridor. The cycle track will tie in with existing cycle trails in TWRP on the west side of the BNSF Railway corridor. The design accommodates the future cycle track.

4.4.1.1 Drainage to Bassett Creek Tunnels, East of I-94 (Stations 2010+75 to 2021+80)

Right-of-way constraints and a high number of underground utilities limit the type and size of BMPs that can be used in this area. Runoff from this portion of the project is proposed to be treated using tree trenches placed in the boulevard between the roadway and sidewalk on the north side, and between the sidewalk and frontage road on the south side. Because of poor soils in this area of the project, the proposed tree trenches would use a perforated pipe underdrain to both distribute water through the trench, but also to prevent extended periods of full saturation of the soil that could damage the trees. This portion of the corridor is owned by MnDOT, but the TH 55 (Olson Memorial Highway) corridor was designated to follow Lyndale Avenue south of the I-94 crossing several years ago. Therefore, the roadway in this area is operated and maintained by the City of Minneapolis.

4.4.1.2 Drainage to Old Bassett Creek Tunnel, West of I-94 (Stations 2021+80 to 2076+20)

Design of the BLRT guideway in this portion of the corridor is complicated by the shallowness of the old Bassett Creek tunnel near Dupont Avenue N. Further complications for the project include the number of underground utilities, including major sanitary sewer lines owned by the City of Minneapolis and by Metropolitan Council.

This portion of the project is proposed to have two storm sewer trunk lines, one to the north and one to the south of the proposed BLRT alignment, in order to minimize the number of storm sewer crossings under the proposed guideway. These storm sewer trunk lines will start at approximately CSAH 2 (Penn Avenue N) and discharge into the old Bassett Creek tunnel where it crosses TH 55 (Olson Memorial Highway) near Dupont Avenue N. Storm sewer will also collect runoff from TH 55 (Olson Memorial Highway) between the I-94 bridge and approximately Dupont Avenue N that will connect to the old Bassett Creek tunnel at the same location. As part of the MnDOT trunk highway system, the BMPs within their right-of-way need to be limited to those acceptable to MnDOT. Therefore, further coordination with staff from MnDOT and the City of Minneapolis will be required to finalize BMP types and locations.

Because right-of-way and open space is very constrained between the old Bassett Creek tunnel and I-94, no stormwater BMPs are being proposed in this area. BMPs west of the old Bassett Creek tunnel would be designed to treat otherwise untreated off-site runoff to compensate for lack of treatment east of the tunnel. The BMPs west of the old Bassett Creek tunnel may also need to be designed to provide enough rate attenuation such that there is no increase in peak discharge rates to the tunnel at the connections near Dupont Avenue. Coordination with the the City of Minneapolis will be required to confirm this approach.

Several BMP options are being considered to treat roadway runoff in this segment of the project, including bioretention basins, hydrodynamic separators, underground detention, and a NURP pond. Bioretention basins could be implemented in the south boulevard within the current TH 55 (Olson Memorial Highway) right-of-way. However, MnDOT has committed to conveying surplus right-of-way along the south side of TH 55 (Olson Memorial Highway) between Russell Avenue and Knox Avenue to the City of Minneapolis once the BLRT project and roadway improvements are completed. City staff has indicated a desire to have redevelopment occur in these spaces. Therefore, the locations of any basins would balance stormwater treatment needs and minimizing the impacts to land that the City of Minneapolis is considering for future redevelopment. The basins will function as retention and filtration with perforated pipe underdrains to ensure the basins drain within the allowed 48-hour drawdown time. Hydrodynamic separators or similar pretreatment BMPs will be used where viable to pretreat runoff before entering a bioretention basin. The existing three-cell treatment system in the Heritage Park south park area described above may have capacity to provide water quality treatment and rate control for the project area and future redevelopment. Further coordination with the City of Minneapolis will be necessary to understand the constraints and opportunities in the south park area. East of Knox Avenue N, right-of-way is very constrained, leaving little to no room for traditional above-ground BMPs. For this reason, underground detention BMPs are being considered for locations under low-volume frontage roads, aiming to avoid potential utility conflicts. This type of BMP provides rate control only, and hydrodynamic separators would be used to provide some level of water quality treatment. These could be used in conjunction with bioretention basins as needed to manage the total project discharge rate to the old Bassett Creek tunnel in this portion west of I-94.

A wet detention pond or other regional BMP could be implemented as part of future redevelopment of the parcel currently owned by the Minneapolis Public Housing Authority south of TH 55 (Olson Memorial Highway) and west of Van White Memorial Boulevard. This may provide an opportunity to cooperate on construction of the BMP to accommodate runoff from the BLRT Extension project and obtain both rate control and water quality treatment.

4.4.1.3 Drainage to Old Bassett Creek Tunnel, Heritage Park South Treatment System (Stations 2075+60 to 2081+95)

Although this portion of the segment drains to a series of existing water quality and rate control BMPs, the increase in discharge rates will need to be mitigated before connecting to the existing storm sewer systems immediately downstream of the project corridor. Furthermore, the existing treatment facilities would need to be investigated to determine if there is excess capacity to provide the treatment for the additional runoff. Options being investigated include a bioretention basin, which would treat offsite and project runoff in the boulevard at Russell Avenue, and that would connect to the existing storm sewer, thereby maintaining existing flow patterns.

However, because the City of Minneapolis desires to use the existing grassed boulevard for future redevelopment, a similar bioretention basin or other above-ground BMP is not possible at Queen Avenue N, and runoff would therefore enter the existing system untreated. Alternatively, offsite runoff could continue south to the existing storm sewer by crossing under the BLRT and roadway, while project runoff is routed to other proposed BMPs to the east and west. The proposed high point is located approximately half way between Russell Avenue N and Queen Avenue N, so approximately half of project runoff in this area would be routed to the old Bassett Creek tunnel, and half to East Channel Bassett Creek. Further coordination with the City, MnDOT, and BCWMC will be required to resolve this location.

4.4.1.4 Drainage to East Channel Bassett Creek, Russell Avenue N to TH 55 (Olson Memorial Highway)/BNSF Crossing

Runoff from this portion of the roadway is currently proposed to be treated in bioretention basins and an underground detention BMP. To limit the need for storm sewer crossings under the BLRT guideway, BMPs are being considered on both sides of the road. Due to the limited right-of-way on the north side of TH 55 (Olson Memorial Highway), an underground detention BMP is being considered under the north frontage road, between Thomas

Avenue N and Sheridan Avenue N. Before entering the underground storage BMP, water would be routed through a hydrodynamic separator for pretreatment. Bioretention basins are being considered on the south side of TH 55 (Olson Memorial Highway), where there is sufficient right-of-way, and would be designed with extra storage to provide rate control. Because of limited right-of-way to the west of the BNSF corridor, BMPs east of the bridge would be designed to compensate for the project runoff that is unable to be treated west of the bridge.

Westbound TH 55 (Olson Memorial Highway) will be realigned to the north to accommodate the BLRT guideway. A retaining wall is proposed to limit the amount of fill placed into the area near the upstream end of the East Channel Bassett Creek culvert crossing the highway. As a result of this, the culvert will need to be lengthened. More analysis will be done during the next stages of design to verify the culvert has the necessary hydraulic capacity. It may also be necessary to coordinate with the City of Minneapolis and the MPRB to better understand the drainage issues and opportunities in this area.

4.4.1.5 Drainage to East Channel Bassett Creek and Bassett Creek, TH 55 (Olson Memorial Highway) to Oak Park Avenue (Stations 2095+00 to 2109+25)

See the Segment GV section for general discussion of the BLRT Extension project corridor in TWRP. See the floodplain and wetland technical memoranda for additional information on this area.

Some water quality treatment and rate control will be achieved in the CDP between station 2098+00 and station 2109+30, which will discharge to East Channel Bassett Creek. Limited right-of-way and flat grades restrict the options for BMPs in this area. Ditch treatment, both on the east side of the BLRT tracks and in CPD, will be maximized during final design to the extent practicable.

Table 1. Change in Impervious Cover

Receiving Water	Total Area (acres)	Existing Impervious (acres)	Existing Percent Impervious	Total Proposed Impervious(1) (acres)	Change in Impervious (acres)	Proposed Percent Impervious	Percent Impervious Increase
Bassett Creek Tunnels at 7th St (East of I-94)	6	5	83%	5	0	83%	0%
Old Bassett Creek Tunnel at TH 55 (West of I-94)	23	17	74%	20	3	87%	18%
Heritage Park South Pond	2	2	100%	2	0	100%	0%
East Channel Bassett Creek	8	4	50%	6	2	75%	50%
Bassett Creek	5	2	40%	3	1	60%	50%

(1) This reflects only the impervious surface that will be in place following construction of the proposed project, which includes the access road adjacent to the relocated BNSF track. It does not include the additional impervious area from possible expansion of operational capacity in the BNSF Railway corridor. See the Golden Valley segment below for more discussion.

Table 2. Potential BMP Strategies

Receiving Water/Location	Water Quality Volume Required (acre-feet)	BMP Options Considered	BMP Surface Area (square feet)	BMP Volume Provided (acre-feet)
Bassett Creek Tunnels at 7th St (East of I-94)	0.24	Tree Trenches	16,850	0.31
Old Bassett Creek Tunnel at TH 55 (West of I-94)	0.90	Bioretention Wet Pond Underground Detention Hydrodynamic Separator	30,500 37,120 N/A N/A	0.91 0.80 1.0(3) N/A
Heritage Park South Pond	0.09	Bioretention	4,050	0.10
East Channel Bassett Creek	0.28	Bioretention Underground Storage Hydrodynamic Separator	13,350 N/A N/A	0.27 0.17(3) N/A
East Channel Bassett Creek(1)	0.12	CPD	N/A(2)	0.05

(1) The Water Quality Volume Required calculation includes the approximate impervious area that would be added by an expansion in operational capacity by BNSF. Total area of future freight impervious in segment M is approximately 0.4 acres.
(2) The treatment BMP is incorporated into the ditches that are part of the typical section for the proposed project, and therefore, the surface area is not provided as a separate number.
(3) This BMP is designed for rate control only.

4.4.2 Segment GV – Golden Valley

In the Golden Valley segment, the BLRT Corridor is located within the easterly 50 feet of the BNSF right-of-way along the eastern edge of TWRP. To make room for the BLRT guideway, the existing BNSF tracks will be relocated to the western 50 feet of the right-of-way. An access road will be constructed on the west side of the proposed BNSF Railway from TH 55 (Olson Memorial Highway) to Theodore Wirth Parkway. Due to poor soils and wetlands, the access road has been eliminated from Theodore Wirth Parkway to the northern end of the segment. The preliminary stormwater management strategy has been to include mitigation for the access road, which is generally where potential expansion of the BNSF Railway would occur, to the extent practicable.

The BLRT Extension project corridor in this section is a ballasted section with retained embankment and retaining walls used as needed. Either ditches or walls are expected to be used throughout the segment for corridor protection. For the most part, the profile of the BNSF track is lower than the BLRT. The corridor does not have any at-grade crossings, but does pass under bridges at Plymouth Avenue, Theodore Wirth Parkway, and Golden Valley Road.

Limited right-of-way, the potential for expansion of BNSF operational capacity, and the effort to minimize park impacts has reduced the possibilities of placing BMPs, including ditch treatment, on the west side of the corridor. Infiltration will not be considered in the Golden Valley segment because of the prevalence of HSG C and D soils, high groundwater levels, and the DWSMA with high vulnerability. In part because the BNSF profile is lower than the BLRT profiles, much of the BNSF track drainage will be difficult to pick up and treat. It sheet flows into TWRP in the same way as in the existing condition. In final design as much runoff from the BNSF Railway will be collected and treated as is practicable.

Several stormwater BMPs are being considered for this portion of the project in order to meet regulatory requirements to the greatest extent possible. As much water quality treatment as possible will be achieved through biofiltration basins and in the CPDs. Ditch treatment, both on the east side of the BLRT and in the CPD, will be maximized in the final design to the extent practicable. Because of poorly drained soils, ditch treatment will be through filtration and detention via rock weepers. When other treatment options are unavailable, pretreatment via hydrodynamic separators will be used as feasible.

Figures 2 and 3 in Appendix A provide a representation of the potential locations of the stormwater BMPs. **Tables 3 and 4** below provide a summary of the changes in impervious surfaces and the sizes of potential BMPs. See the floodplain and wetland technical memoranda for additional information on other water resources impacts and mitigations of the project in this area.

4.4.2.1 Drainage to Bassett Creek, Oak Park Avenue to Plymouth Avenue (Stations 2109+25 to 2122+55)

Some water quality treatment and rate control will be achieved in the CPD from station 2109+30 to station 2114+50, which will discharge to the west into Bassett Creek.

A large biofiltration basin is currently proposed on the east side of the BLRT Corridor between Oak Park Avenue and Plymouth Avenue in the excess Canadian Pacific Railway right-of-way in this area. The biofiltration basin will treat as much corridor drainage as possible between station 2107+00 and 2135+00 as well as from residential areas to the east, and will discharge to Bassett Creek downstream of Plymouth Avenue. The basin is larger than what is required to treat the project water quality volume that can drain to it. The additional water quality volume provided will to be used to compensate for other areas within the segment where treatment is less feasible. Access for maintenance will be investigated more fully during final design, and if determined not to be feasible, this basin may be modified. The project will continue to coordinate with MPRB for any construction that affects parkland.

The alignment of the creek will be shifted to the east to accommodate the BLRT project. Effort will be made to minimize the impacts to the recent streambank restoration project.

4.4.2.2 Drainage to Bassett Creek, Plymouth Avenue to Theodore Wirth Parkway (Stations 2122+55 to 2154+00)

As described in the Existing Conditions section, the City of Golden Valley and the BCWMC are proposing to construct a stormwater BMP in the area to the west of the BNSF Railway corridor, north of Plymouth Avenue and east of Theodore Wirth Parkway. If the BMP is built, some corridor runoff would drain to it. If the city's project goes forward, it is possible that the BLRT Extension project could coordinate with the city and BCWMC to expand or deepen the BMP as needed to also provide treatment for corridor runoff. This will occur during the next phases of design.

A biofiltration basin/trench is proposed on the east side of the BLRT Corridor, north of 16th Avenue N. The biofiltration basin will treat as much corridor drainage as possible between station 2135+00 and 2147+00 as well as from residential areas to the east, and will drain to the wetland west of the corridor. Access for maintenance will be investigated more fully during final design, and if determined not to be feasible, this basin may be modified.

4.4.2.3 Drainage to Bassett Creek, Golden Valley Road Wetlands (Stations 2154+00 to 2165+50)

Drainage in this section discharges to the wetlands north of Golden Valley Road. The current BLRT Extension project design through the Golden Valley Road wetlands includes building bridges for the BLRT guideways while maintaining the existing BNSF embankment. The guideway bridges would minimize fill impacts to the wetlands. Any mitigation necessary to maintain existing water surface elevations and flow rates would be addressed in final design but could include excavation at the edges of the wetlands and lowering the normal water level of the basins to provide additional active storage.

Discharge to the Golden Valley Road wetlands from the project will be difficult to treat before it reaches the basins. Other corridor runoff would be treated as much as practicable through ditch treatment before being discharged to the ponds.

A park-and-ride between Theodore Wirth Parkway, Golden Valley Road, and the BNSF Railway corridor has been proposed but is not currently part of the project. If it is included in the final design, it is expected that water quality treatment will be provided to meet BCWMC requirements on the site via tree trenches, biofiltration, or other options that are determined to be feasible during the final design.

4.4.2.4 Drainage to Bassett Creek, Station 2166+00 to 2185+00 at 26th Avenue N

This section drains through Sochacki Park to Bassett Creek. The minimal space between the BLRT Extension project corridor and Kewanee Way limits the possibility of ditch treatment on the east side of the tracks in this area. The potential expansion of BNSF operational capacity and park land on the west side limit opportunities for ditch treatment on the west side. The CPD from station 2166+75 to station 2176+75 will provide some water quality treatment and rate attenuation to corridor runoff.

Two existing storm sewer systems from residential areas to the east discharge into the existing ditch. These will be extended and routed west, under the BLRT guideway and BNSF Railway, picking up drainage from the CPD and the west ditch. Because of elevation constraints, the pipe will outlet further west, to one of the existing channels at station 2169+00 or station 2176+00. From the pipe, the stormwater will flow through Mary Hills Nature Area before eventually reaching Bassett Creek.

Table 3. Change in Impervious Cover

Receiving Water	Total Area (acres)	Existing Impervious (acres)	Existing Percent Impervious	Total Proposed Impervious[2] (acres)	Change in Impervious (acres)	Proposed Percent Impervious	Percent Impervio Increase
Bassett Creek[1]	21	6	29%	16	10	76%	166%

(1) This includes 5.1 acres that drain to the Golden Valley Road wetlands before draining to Bassett Creek.
(2) This reflects only the impervious surface that will be in place following construction of the proposed project, which includes the access road adjacent to the relocated BNSF track. It does not include the additional impervious area from possible expansion of operational capacity in the BNSF Railway corridor.

Table 4. Potential BMP Strategies

Receiving Water/Location	Water Quality Volume Required[1] (acre-feet)	BMP Options Considered	BMP Surface Area (square feet)	BMP Volume Provided (acre-feet)
Bassett Creek/ South of Golden Valley Road	0.61	CPD Biofiltration Basin (Sta 2112 to Sta 2122) Biofiltration Basin (Sta 2136 to 2139)	2,100 18,000 3,600	0.02 1.10 0.29
Golden Valley Roads Wetlands	0.22	Additional treatment volume will be provided in other portions of the segment		
Bassett Creek/ North of Manor Drive[3]	0.25	CPD	N/A[2]	0.05

(1) The Water Quality Volume Required calculation includes the approximate impervious area that would be added by an expansion in operational capacity by BNSF. Total area of future freight impervious in segment GV is approximately 2 acres.
(2) The treatment BMP is incorporated into the ditches that are part of the typical section for the proposed project, and therefore, the surface area is not provided as a separate number.
(3) Some of this area drains to the Robbinsdale segment.

4.4.3 Segment R – Robbinsdale

In the Robbinsdale segment, the BLRT Corridor is located within the easterly 50 feet of the BNSF right-of-way. To make room for the BLRT guideway, the existing BNSF tracks will be relocated to the western 50 feet of the right-of-way. An access road will be constructed on the west side of the proposed BNSF Railway from the north end of Grimes and North Rice Ponds to the northerly end of the segment. (Due to poor soils and wetlands, the access road has been eliminated from the southerly end of the segment through Grimes and North Rice Ponds.) The preliminary stormwater management strategy has been to include mitigation for the access road, which is generally where potential expansion of the BNSF Railway would occur, to the extent practicable.

The primary method of achieving water quality treatment in Robbinsdale is through treatment ditches, either by infiltrating where soils are suitable (HSG A and B) or via filtration through rock check dams. All ditches within the jurisdictional boundary of the BCWMC will function as filtration ditches with ditch blocks due to the presence of HSG C soils. It has been assumed that these ditches will be covered with ballast rock but will have uncompacted native soils beneath the ballast rock. Overall drainage patterns will be maintained as much as is feasible and corridor water will be treated to the extent practicable. Ditch volumes have been checked to ensure that they can accommodate both the BLRT Extension project site runoff and the BNSF access road, which is generally where potential expansion of the BNSF Railway would occur. Although there are currently ditch sections proposed along the western edge of the corridor, these ditches were not included in water quality computations because parts of them would be eliminated if there is a future expansion in BNSF operational capacity. In final design, freight and access road runoff will be collected and treated with runoff from the BLRT Corridor where feasible. The alignment may also shift east, impacting the amount of treatment volume available, so ponding offsite is also being considered, although not preferred.

Figures 4 through 6 in Appendix A provide a representation of the potential locations of the stormwater BMPs in the Robbinsdale segment. **Tables 5 and 6** below provide a summary of the changes in impervious surfaces and the sizes of potential BMPs. See the floodplain and wetland technical memoranda for additional information on other water resources impacts and proposed mitigation in this area.

4.4.3.1 Drainage to South Rice Pond, Existing Stormwater Pond in Sochaki Park (Stations 2185+00 to 2196+80)

There will be an eastern ditch from station 2184+00 to 2190+00 that will treat water before discharging to the existing stormwater pond in Sochacki Park that was recently constructed by the City of Robbinsdale. This ditch has enough capacity to treat water from the portion of the corridor within Robbinsdale south of Grimes and North Rice Ponds. Runoff from the Golden Valley segment also drains to this area and may require the existing pond be expanded or deepened if it does not have enough capacity to accommodate the project runoff. The expanded pond will also likely be needed for rate control as City of Golden Valley staff has expressed concern about increasing discharge rates to Bassett Creek due to the proximity of several homes to the creek's flood elevation.

4.4.3.2 Drainage to Grimes and North Rice Ponds (Stations 2196+80 to 2252+35)

In the BCWMC portion of Robbinsdale, the BLRT guideway will run along the eastern side of the corridor. The current design puts the BLRT on bridges over the ponds while the BNSF freight track will remain on its existing embankment. The fill at the BLRT bridge abutments will be compensated for by excavation at the edges of Grimes and North Rice Ponds in order to maintain the existing 100-year HWL and peak discharge rates of the ponds. The relocated BNSF track will run along the western side with an access road starting at the north end of Grimes and North Rice Ponds and extending to the northern end of the watershed.

Stormwater runoff from the project will be treated in CPDs where they have been incorporated into the corridor and in eastern ditches from station 2219+00 to 2230+00 and station 2210+00 to 2211+00. The outflow from these BMPs drains to Grimes and North Rice Ponds. Infiltration will occur in eastern ditches from station 2240+00

to station 2245+00. This is the area adjacent to Lee Park that currently infiltrates and drains over the watershed divide. This infiltration ditch would continue to discharge to the south through the eastern ditches and eventually to Grimes Pond in large events.

4.4.3.3 Drainage to Crystal Lake (Stations 2251+00 to 2298+00)

There will be infiltration in ditches from approximately station 2253+00 to station 2290+00 and underground detention at the proposed park-and-ride and station at 42nd Avenue N. The overflow would drain to existing storm sewer running down Hubbard Ave N, eventually discharging to Crystal Lake. Runoff would be routed through a pretreatment BMP, such as a hydrodynamic separator, before entering the underground detention system.

4.4.3.4 Drainage to Middle Twin Lake (Station 2298+00 to 2329+00)

A portion of the Crystal segment flows into the Robbinsdale segment to a low point near 45-1/2 Avenue N. Infiltration will occur in the CPD between approximately station 2313+00 to station 2325+00 and the east side ditch from station 2308+00 to station 2312+00 before discharging to Graeser Pond, an existing wet detention pond in MnDOT right-of-way that may need to be enlarged to accommodate the additional runoff from the project corridor. As design progresses, the intent will be to treat project runoff within the treatment ditches to the greatest extent practicable and thereby limit any changes needed to Graeser Pond. Outflow from Graeser Pond is routed to another existing pond east of CSAH 81 before the stormwater discharges to Middle Twin Lake.

Table 5. Change in Impervious Cover

Receiving Water	Total Area (acres)	Existing Impervious (acres)	Existing Percent Impervious	Total Proposed Impervious(1) (acres)	Change in Impervious (acres)	Proposed Percent Impervious	Percent Impervious Increase
Bassett Creek	5	2	40%	3	1	60%	50%
Grimes and Rice Ponds	7	2	29%	6	4	86%	200%
Crystal Lake	18	11	61%	15	4	83%	36%
Middle Twin Lake	6	3	50%	4	1	67%	33%

(1) This reflects only the impervious surface that will be in place following construction of the proposed project, which includes the access road adjacent to the relocated BNSF track. It does not include the additional impervious area from possible expansion of operational capacity in the BNSF Railway corridor.

Table 6. Potential BMP Strategies

Receiving Water/Location	Water Quality Volume Required(1) (acre-feet)	BMP Options Considered	BMP Surface Area (square feet)	BMP Volume Provided (acre-feet)
Bassett Creek	0.22	Treatment Ditch	1,660	0.22
Grimes and Rice Ponds	0.38	Treatment Ditch	3,620	0.48
		CPD	N/A(2)	0.31
Crystal Lake	0.76	Treatment Ditch	12,320	1.32
		Underground Detention	5,530	0.41
Middle Twin Lake	0.15	CPD	N/A(2)	0.48
		Treatment Ditch	1,210	0.13

(1) The Water Quality Volume Required calculation includes the approximate impervious area that would be added by an expansion in operational capacity by BNSF. Total area of impervious associated with the future BNSF track in segment R is approximately 3 acres.

(2) The treatment BMP is incorporated into the ditches that are part of the typical section for the proposed project, and therefore, the surface area is not provided as a separate number.

4.4.4 Segment C – Crystal

In the Crystal segment, the BLRT Corridor is located within the easterly 50 feet of the BNSF right-of-way as it runs along CSAH 8 (West Broadway Avenue) in the south portion of the segment and transitions to along CSAH 81 (Bottineau Boulevard) in the north portion. To make room for the BLRT guideway, the existing BNSF tracks will be relocated to the western 50 feet of the right-of-way. An access road will be constructed on the west side of the proposed BNSF track. The preliminary stormwater management strategy has been to include mitigation for the access road, which is generally where potential expansion of the BNSF Railway would occur, to the extent practicable.

There are at-grade crossings at CSAH 8 (West Broadway Avenue), Corvallis Avenue, and CSAH 10 (Bass Lake Road). Where the BNSF track crosses the Canadian Pacific Railway north of Corvallis Avenue, a bridge will be constructed for the BLRT while the freight track will cross at-grade. One station and park-and-ride surface lot is proposed for this segment at CSAH 10 (Bass Lake Road).

Tables 7 and 8 provide a summary of the anticipated increases in impervious area from this project and the sizes of potential BMPs. **Figures 6 and 7** in Appendix A show the potential locations of BMPs. The floodplain and wetland technical memoranda contain more information about the impacts to those resources.

4.4.4.1 Drainage to Twin Lakes, BNSF Railway Corridor South of CSAH 10 (Bass Lake Road) (Station 2520+80 to 2380+90)

Along the stretch of the BNSF Railway corridor south of CSAH 10 (Bass Lake Road), the freight railroad and the BLRT run between CSAH 8 (West Broadway Avenue) and CSAH 81 (Bottineau Boulevard). This section of track has ditches on either side of the proposed ballasted sections and a wall or retained embankment between the BNSF track and the BLRT for corridor protection. This section can be split into two drainage boundaries at proposed high points as explained below.

The first drainage area extends from just north of the end of the segment to just north of Corvallis Avenue. The remainder of the segment to the south will go to a BMP located in the Robbinsdale segment. A bioretention basin is proposed to provide volume control and water quality treatment through infiltration and plant uptake and will likely be located on the parcel of land currently occupied by Steve O's Bar and Grill, which will likely be acquired by the project. Pretreatment will be used before the BLRT track drains discharge to the bioretention practice. An overflow structure will direct overflow into existing storm sewer along CSAH 8 (West Broadway Avenue) which discharges to Middle Twin Lake.

The second drainage area extends just north of Corvallis Avenue to CSAH 10 (Bass Lake Road). This area contains the BLRT bridge over the Canadian Pacific Railway. Options for stormwater BMPs in this portion of the segment are limited due to lack of open space and right-of-way constraints. The track drains in this segment will discharge to another bioretention basin or to an underground detention BMP. The bioretention basin will likely be located in open space to the west of station 2366+00 or a currently vacant lot west of station 2359+00. If these are determined to not be feasible during final design, BMPs located elsewhere in the corridor that take offsite stormwater would be oversized to provide the necessary treatment volume. A hydrodynamic separator or other pretreatment method will be used prior to discharge into the basin or underground detention. An overflow structure will direct overflow into existing storm sewer near the BMP which discharges to Upper Twin Lake.

4.4.4.2 Drainage to Twin Lakes, Bass Lake Road Park-and-Ride (Station 2371+25 and 2379+30)

There is a surface parking lot proposed on the site between the BNSF Railway corridor and CSAH 81 (Bottineau Boulevard) south of CSAH 10 (Bass Lake Road). Due to the high likelihood of existing contamination on the site, infiltration practices are not allowed. To provide water quality treatment, an underground filtration BMP or other

underground practice will be used as there is a lack of available space for surface treatment. There are two potential outlets for the site: the trunk storm sewer in CSAH 10 (Bass Lake Road), which drains to Upper Twin Lake, and the storm sewer system in CSAH 81 (Bottineau Boulevard), which drains south through Wilshire Pond and Xenia Pond before discharging to Upper Twin Lake. The design of the storage for the underground BMP and the outlet will need to balance the capacity concerns of the trunk storm sewer in CSAH 10 (Bass Lake Road) and maintaining drainage flow patterns if the CSAH 81 (Bottineau Boulevard) ponds do not have capacity to take the site runoff.

4.4.4.3 Drainage to Crystal Airport Infiltration Area (Station 2380+90 to 2418+75)

North of CSAH 10 (Bass Lake Road) the BLRT Corridor follows the BNSF Railway corridor along the west side of CSAH 81 (Bottineau Boulevard). The existing ditch between CSAH 81 (Bottineau Boulevard) and the BNSF Railway corridor will be filled as part of the BLRT project. Further investigation will be needed during final design to ensure that adequate conveyance systems are provided for systems that drained into the ditch.

The Metropolitan Airports Commission prohibits the construction of new open water features within a specified distance of airport runways due to the potential for conflicts between waterfowl and planes taking off and landing. All stormwater BMPs within that zone will need to meet their criteria for maximum duration of ponded water.

There is a CPD proposed between the realigned BNSF track and the BLRT guideway. This CPD can serve as an infiltration trench as the in situ soils in this area appear to be sandy and have a high infiltration rate. Additional treatment is planned for the ditches on the outside of the tracks, which will also provide opportunities to infiltrate the runoff. The existing culverts under the freight track and CSAH 81 (Bottineau Boulevard) will be maintained or replaced. Careful design will be necessary to ensure there is no increase in the rate or volume discharging to the infiltration area at the Crystal Airport. Some of the overflow from both the inside and outside ditches may need to be routed to another BMP.

Table 7. Change in Impervious Cover

Receiving Water	Total Area (acres)	Existing Impervious (1) (acres)	Existing Percent Impervious	Total Proposed Impervious (acres)	Change in Impervious (acres)	Proposed Percent Impervious	Percent Impervious Increase
Twin Lakes	19	6	32%	14	8	74%	133%
Crystal Airport infiltration area	10	2	20%	7	5	70%	250%(2)

(1) This reflects only the impervious surface that will be in place following construction of the proposed project, which includes the access road adjacent to the relocated BNSF track. It does not include the additional impervious area from possible expansion of operational capacity in the BNSF Railway corridor.

(2) The feasibility of infiltration in the treatment ditches will need to be verified during final design to ensure there is no increase in discharges to the Crystal Airport.

Table 8. Potential BMP Strategies

Receiving Water/Location	Water Quality Volume Required (1) (acre-feet)	BMP Options Considered	BMP Surface Area (square feet)	BMP Volume Provided (acre-feet)
Twin Lakes/Steve O's Bar and Grill	0.32(3)	Bioretention	8,520	0.30
Twin Lakes/Sta 2366+00 LT or Sta 2359+00 LT	0.43	Bioretention	15,730	0.54
Twin Creek/Bass Lake Rd Park-and-Ride	0.33	Underground Detention (Filtration)	13,125	0.36
Shingle Creek/North of Bass Lake Road	0.60(4)	Treatment Ditch	N/A(2)	0.88

(1) The Water Quality Volume Required calculation includes the approximate impervious area that would be added by an expansion in operational capacity by BNSF. Total area of future freight impervious in segment C is approximately 1.6 acres.

(2) The treatment BMP is incorporated into the ditches that are part of the typical section for the proposed project, and therefore, the surface area is not provided as a separate number.

(3) Some of this area drains to the Robbinsdale segment.

(4) Some of this area drains to segment BP2.

4.4.5 Segment BP2 – Brooklyn Park 2

In the BP2 segment, the BLRT Corridor is located in the easterly 50 feet of the BNSF right-of-way along CSAH 81 (Bottineau Boulevard) south of 73rd Avenue N. To make room for the BLRT guideway, the existing BNSF tracks will be relocated to the westerly 50 feet of the right-of-way. An access road will be constructed on the west side of the proposed BNSF track. The preliminary stormwater management strategy has been to include mitigation for the access road, which is generally where potential expansion of the BNSF Railway would occur, to the extent practicable.

At 73rd Avenue N, the BLRT Extension will cross CSAH 81 (Bottineau Boulevard) on a bridge structure and then transition to the center median of CSAH 103 (West Broadway Avenue). CSAH 103 (West Broadway Avenue) will be reconstructed to accommodate the BLRT and will include the addition of turn lanes, trails, and sidewalk.

Tables 9 and 10 below provide a summary of the anticipated increases in impervious area from this project and the sizes of potential BMPs. **Figures 7 through 9** in Appendix A show the potential locations of BMPs. The floodplain and wetland technical memoranda contain more information about the impacts to those resources.

4.4.5.1 Drainage to Twin Creek, 62nd Avenue Wetland (Stations 2418+75 to 2436+30)

To accommodate the repositioned BNSF Railway and access road, there will be fill placed along the east edge of the 62nd Avenue wetland. As noted above, the basin has a high 100-year high water level elevation associated with it that is based on city modeling. The existing storage volume needed to attenuate larger rain events and maintain the 100-year HWL will be partially filled by the project. Although the wetland is not a regulated floodplain, mitigation for both the wetland and storage impacts is proposed along the northwest edge and the southeast corner As currently conceived, neither the fill nor the grading will affect the above-mentioned buffer section in the center. The outlet for the wetland may need to be reconstructed depending on the final grading limits. No changes to drainage into or out of this basin are anticipated with this project at this time.

The existing ditch between CSAH 81 (Bottineau Boulevard) and the BNSF Railway corridor will be filled as part of the BLRT project. Further investigation will be needed during final design to ensure that adequate conveyance systems are provided for systems that drained into the ditch.

There has been discussion about reconstructing the surface parking lot at the existing park-and-ride at 63rd Avenue to the west of the project corridor. At the time of this memorandum, the proposed BLRT Extension project does not include this work. If the park-and-ride is reconstructed in the future, a stormwater management plan will be developed that will include any changes to the existing stormwater BMPs and any new BMPs that are needed to meet the effective regulatory environment at that time.

4.4.5.2 Drainage to Twin Creek, CSAH 81 (Bottineau Boulevard) (Stations 2436+30 to 2468+00)

The proposed BLRT will run along the BNSF Railway corridor adjacent to CSAH 81 (Bottineau Boulevard) until the crossing at 73rd Avenue N. The addition of the two BLRT tracks and an access road create an increase in the impervious area of approximately 12.6 acres along this portion of the corridor. The existing ditch between the railroad corridor and CSAH 81 (Bottineau Boulevard) south of 63rd Avenue N will be filled in to accommodate the BLRT Corridor.

The proposed CPDs between the BNSF track and BLRT, which run along most of CSAH 81 (Bottineau Boulevard), will likely be used as infiltration trenches. Because of the sandy soils present in this area, the infiltration rate of the in situ soil is high. Infiltration will be encouraged due to the flat longitudinal grade of the ditches and through the use of check dams or by setting culvert elevations above the bottom of the ditches. The storage in the ditches and

the rock will also provide rate attenuation. Additional water quality volume could be similarly treated and infiltrated in ditches to the outside of the tracks as well.

In the 63rd Avenue station area where there is no ditch, runoff will be routed to the ditches to the north and south via track drains. Overflow structures will be used to make sure stormwater does not overtop the tracks and will direct the overflow into existing storm sewer.

Hennepin County is proposing to reconstruct CSAH 81 (Bottineau Boulevard) from Dutton Avenue to 71st Avenue. It may be possible that the Hennepin County project could provide stormwater BMPs that would include runoff from the BLRT Extension project north of Dutton Avenue if the CPDs are not able to. Further coordination with Hennepin County during final design will determine whether this is feasible.

4.4.5.3 Drainage to Shingle Creek, Stations 2468+00 to 2540+50 at CSAH 152 (Brooklyn Boulevard)

To accommodate the BLRT track's transition from the BNSF Railway corridor along CSAH 81 (Bottineau Boulevard) to the center median of the CSAH 103 (West Broadway Avenue) corridor, property will be acquired by the project. The intersection of Jolly Lane and CSAH 103 (West Broadway Avenue) will be removed with Jolly Lane ending in a cul-de-sac just north of the proposed BLRT Corridor. BMPs being considered include a bioretention basin in the remnants of the parcel(s) being acquired, an underground storage/infiltration practice, and a hydrodynamic separator or similar pretreatment. The BMP(s) will drain to the proposed trunk along CSAH 103 (West Broadway Avenue), which will connect to the trunk line on CSAH 152 (Brooklyn Boulevard) and ultimately discharges to Shingle Creek.

After crossing from the BNSF corridor, the BLRT will run down the center median of CSAH 103 (West Broadway Avenue). CSAH 103 (West Broadway Avenue) will be reconstructed to make room for the BLRT and will also include the construction of trails and grass boulevards on either side of the road. A station will be constructed just south of the intersection with CSAH 152 (Brooklyn Boulevard). In order to minimize the number of crossings under the BLRT guideways needed for a single trunk line, two trunk storm sewer lines are proposed, one for each outside gutter, to collect roadway drainage. These will then connect into the trunk along CSAH 152 (Brooklyn Boulevard) as in the existing condition. This system ultimately drains to Shingle Creek.

There is very limited right-of-way available in this area for stormwater BMPs other than in the boulevards. Due to a potential redevelopment project within the Target/Cub Foods complex, it will not be possible to expand the existing ponds within the parking lot. Therefore, tree trenches in the boulevards between 75th Avenue N and CSAH 152 (Brooklyn Boulevard) are the primary BMP being investigated. Underdrains will connect to the CSAH 103 (West Broadway Avenue) trunk, which will connect to the CSAH 152 (Brooklyn Boulevard) system that ultimately discharges to Shingle Creek.. If the tree trenches are not possible, additional treatment capacity will need to be added to other proposed BMPs to compensate for the area.

4.4.5.4 Drainage to Shingle Creek, North of CSAH 152 (Brooklyn Boulevard) (Stations 2540+50 to 2552+65)

North of Brooklyn Boulevard, the BLRT continues down the center of CSAH 103 (West Broadway Avenue). Similar to above, two trunk lines on either side of CSAH 103 (West Broadway Avenue) are proposed which will connect with a system to be constructed by Hennepin County to carry stormwater down CSAH 103 (West Broadway Avenue) to a wet detention pond, also constructed by Hennepin County, just south of Shingle Creek and will drain into Shingle Creek. The pond will provide rate control with an outlet control structure as well as water quality treatment through sedimentation. The residential area around the 78th Court N cul-de-sac will continue to discharge to the trunk line as in the existing condition. The portion of existing storm sewer from where the existing trunk turns east north of 78th Avenue N will be separated from the CSAH 103 (West Broadway Avenue) roadway drainage.

Table 9. Change in Impervious Cover

Receiving Water	Total Area (acres)	Existing Impervious (acres)	Existing Percent Impervious	Total Proposed Impervious[1] (acres)	Change in Impervious (acres)	Proposed Percent Impervious	Percent Impervious Increase
Twin Creek	12	3	25%	8	5	67%	167%
Single Creek	33	17	52%	25	8	76%	47%

(1) This reflects only the impervious surface that will be in place following construction of the proposed project, which includes the access road adjacent to the relocated BNSF track. It does not include the additional impervious area from possible expansion of operational capacity in the BNSF Railway corridor.

Table 10. Potential BMP Strategies

Receiving Water/Location	Water Quality Volume Required[1] (acre-feet)	BMP Options Considered	BMP Surface Area (square feet)	BMP Volume Provided (acre-feet)
Twin Creek/South of I-94	0.56	Treatment Ditch	N/A[2]	0.61
Shingle Creek/North of I-94	0.38	Treatment Ditch	N/A[2]	0.59
Shingle Creek/Crossover Section	0.26	Bioretention	1,800	0.05
Shingle Creek/West Broadway Ave: 75th Ave N to Brooklyn Blvd	0.50	Tree Trenches	Maximize available boulevard space	0.76
Shingle Creek/North of Brooklyn Blvd	0.56	See **Table 12**	See **Table 12**	See **Table 12**

(1) The Water Quality Volume Required calculation includes the approximate impervious area that would be added by an expansion in operational capacity by BNSF. Total area of future freight impervious in segment BP2 is approximately 1.4 acres

(2) The treatment BMP is incorporated into the ditches that are part of the typical section for the proposed project, and therefore, the surface area is not provided as a separate number

4.4.6 Segment BP1 – Brooklyn Park 1

In the BP1 segment, the BLRT Corridor alignment follows the center median of CSAH 103 (West Broadway Avenue), which will be incorporated into Hennepin County's reconstruction of CSAH 103 (West Broadway Avenue) from just south of Candlewood Drive to approximate northbound station 2651+15. North of this, the BLRT guideway alignment will shift west of CSAH 103 (West Broadway Avenue) and run northerly parallel to CSAH 103 (West Broadway Avenue) across a new TH 610 bridge. The BLRT alignment will continue north of the bridge for approximately 2,250 feet, where it will turn 90 degrees and head west for another 2,250 feet to the new OMF.

This segment includes construction of the BLRT guideway, reconstruction of CSAH 103 (West Broadway Avenue) north of the Hennepin County project, reconstruction of Oak Grove Parkway and 101st Avenue N, construction of new roads as necessary to serve project facilities, and construction of park-and-ride and OMF facilities. The guideway will be ballasted throughout this section except through at-grade intersections, and track drains will route runoff to the same BMPs as described by drainage segment in the CSAH 103 (West Broadway Avenue) EAW. The CSAH 103 (West Broadway Avenue) project has committed to constructing BMPs that will provide stormwater treatment for the portion of the BLRT footprint located within the CSAH 103 (West Broadway Avenue) project limits, as is summarized in the following paragraphs.

Tables 11 and 12 below provide a summary of the anticipated increases in impervious area from this project and the sizes of potential BMPs. **Figures 9 through 12** in Appendix A show the potential locations of BMPs. The floodplain and wetland technical memoranda contain more information about the impacts to those resources.

4.4.6.1 Drainage to Shingle Creek, Shingle Creek Crossing to Maplebrook Parkway N (Station 2552+65 to 2604+20)

This portion of the segment consists solely of the BLRT guideway, which will be in the center median of CSAH 103 (West Broadway Avenue). Hennepin County is currently working on the design of the reconstruction of CSAH 103 (West Broadway Avenue) as noted above. As part of Hennepin County's project, stormwater BMPs are planned that will accommodate runoff from the BLRT project. Although not part of the BLRT project, the BMPs that are currently being proposed by the County are summarized here.

Underground BMPs (either for detention or infiltration/filtration) are proposed at College Park Drive and/or North Hennepin Community College (NHCC) to treat stormwater draining from just north of 85th Avenue N to College Park Drive before ultimately discharging to Shingle Creek. Runoff from the area between College Park and Shingle Creek will be treated in a sedimentation basin on the west side of CSAH 103 (West Broadway Avenue) and with a hydrodynamic separator on the east side of CSAH 103 (West Broadway Avenue) before ultimately discharging to Shingle Creek. For more detail on this design, see the *West Broadway (CSAH 103) Reconstruction Final Stormwater Technical Memorandum*.

CSAH 103 (West Broadway Avenue) will be widened at the Shingle Creek crossing to accommodate the BLRT and trail crossings. The proposed changes will result in floodplain fill. Refer to *West Broadway (CSAH 103) Reconstruction Final Floodplain Technical Memorandum* for additional details on proposed impacts and mitigation options under consideration.

4.4.6.2 Drainage to Century Channel, Setzler Pond and the DNR Wetlands (#559W) (Station 2604+20 to 2644+15)

As noted above, this portion of the project falls within the area of CSAH 103 (West Broadway Avenue) that will be reconstructed by Hennepin County. The BMPs proposed with that project are summarized here. Setzler Pond will

continue to receive corridor drainage and offsite drainage. Because of the added impervious area that will be directed to this pond, additional volume will be created and a new outlet control structure will be added in order to provide water quality and rate control before discharging to Century Channel. A flow splitter and hydrodynamic separator are proposed upstream of DNR Wetland #559W to maintain hydrology to this wetland and send additional runoff generated by new impervious directly to Setzler Pond for treatment. There is also the possibility of expanding sediment forebays already present at this wetland, such that a flow splitter may not be needed. Setzler Pond will continue to receive corridor drainage and offsite drainage. Because of the added impervious area that will be directed to this pond, additional volume will be created and a new outlet control structure will be added in order to provide water quality and rate control before discharging to Century Channel.

The expansion of CSAH 103 (West Broadway Avenue) will result in floodplain fill impacts to Setzler Pond and DNR #559W. Refer to *West Broadway (CSAH 103) Reconstruction Final Floodplain Technical Memorandum* for additional details on proposed impacts and mitigation options under consideration.

4.4.6.3 Drainage to Century Channel, TH 610 Ponding System (Station 2644+15 to 2684+00)

The southernmost part of this area falls within the Hennepin County CSAH 103 (West Broadway Avenue) project limits, between CSAH 30 (93rd Avenue N) and northbound station 2651+15. North of that, the BLRT Extension project will reconstruct CSAH 103 (West Broadway Avenue) in addition to construction of the BLRT guideway. The existing culvert just north of CSAH 30 (93rd Avenue N), which drains a small portion of CSAH 103 (West Broadway Avenue) runoff to a basin at the TH 610 Commerce Center, will be lengthened and the flow to the basin will be maintained. The remainder of West Broadway/BLRT guideway drainage will be re-routed to a new wet pond on the property southwest of the TH 610 and CSAH 103 (West Broadway Avenue) intersection, in what is known as the Baxter Property. An existing wet pond at the southeast corner of this property will be partially filled in to accommodate the shift of the BLRT alignment west of CSAH 103 (West Broadway Avenue) in this location. This pond will be relocated to the west of its existing location and the existing trunk storm sewer currently routing runoff from this segment to the TH 610 ponds will be removed and a new trunk storm sewer will be installed to convey CSAH 103 (West Broadway Avenue) runoff to the new pond. The pond will be increased in size to accommodate all existing tributary areas and the new impervious surface created by the BLRT project. The pond overflow will likely be directed north to discharge into the existing stormwater treatment basin located inside of the infield area in the south loop of the TH 610 interchange, which discharges to Century Channel.

CSAH 103 (West Broadway Avenue) will be realigned north of the intersection with Oak Grove Parkway. This intersection will shift north approximately 800 feet, and north of the intersection, CSAH 103 (West Broadway Avenue) will shift west to tie into Winnetka Avenue approximately 1,000 feet north of 101st Avenue N. The proposed CSAH 103 (West Broadway Avenue) section will widen 650 feet north of TH 610 to accommodate a series of bioretention basins to be located within the 100-foot wide median between the northbound and southbound CSAH 103 (West Broadway Avenue) lanes. The widened section will end just past the new intersection of Oak Grove Parkway and CSAH 103 (West Broadway Avenue). The BLRT alignment will turn west at the new Oak Grove Parkway and CSAH 103 (West Broadway Avenue) intersection and will follow along the north side of the proposed Oak Grove Parkway extension that will tie into 101st Avenue N just past the proposed OMF location. See **Figure 11 and 12** in Appendix A for illustrations of the concept plan for this area.

Construction of Oak Grove Parkway will occur in multiple phases. At the opening of the METRO Blue Line Light Rail Extension, Oak Grove Parkway west of CSAH 103 (West Broadway Avenue) will be an undivided two-lane roadway. Similarly, CSAH 103 (West Broadway Avenue) transitions to an undivided two-lane roadway north of the Oak Grove Parkway. Future plans could include adding a second set of lanes for a four-lane divided parkway.

The proposed bioretention basins will provide storage and treatment for parts of the reconstructed portions of Oak Grove Parkway, CSAH 103 (West Broadway Avenue), Main Street, as well as the Oak Grove Park-and-Ride and Station. Pretreatment such as hydrodynamic separators will be provided prior to stormwater discharge to the bioretention basins. It appears that these basins would overflow to the TH 610 system unless coordination with adjacent landowners allows for conveyance of this drainage to the drainageway system consistent with the City of Brooklyn Park CSMP and Shingle Creek Third Generation Plan.

A potential regional treatment pond has been discussed on the property northwest of the intersection of TH 610 and CSAH 103 (West Broadway Avenue). This regional pond could provide storage and treatment for some of the surrounding area, and could be discharged into the TH 610/MnDOT drainage system. Another regional treatment pond has been discussed for a location near the intersection of CSAH 103 (West Broadway Avenue) and Oak Grove Parkway. Given that the drainage for the larger subwatershed flows in the general direction of the latter pond, it is likely that it could provide treatment for much of the rest of the surrounding area. Further coordination will be required between the City of Brooklyn Park, MnDOT, the WMWMC and other stakeholders during final design.

4.4.6.4 Target North Campus Drainage

The proposed CSAH 103 (West Broadway Avenue) section will have a wider footprint than the existing section, which will require filling in the existing stormwater pond located southeast of the intersection of Oak Grove Parkway and CSAH 103 (West Broadway Avenue). The existing ditch system and associated infrastructure along CSAH 103 (West Broadway Avenue) that currently conveys runoff from the pond, which appears to include Target North Campus drainage, will be maintained and/or replaced as needed, unless a potential regional treatment pond northwest of the Target North Campus is implemented. This pond could provide storage and treatment of much of the surrounding area before discharging northeast to the existing drainageway, consistent with the flow pattern shown in the 2013 Shingle Creek Third Generation Plan.

4.4.6.5 Drainage to Mississippi River, North of TH 610 (Station 2684+00 to OMF)

Treatment of runoff from the proposed OMF is currently proposed to occur in two new BMPs located in the southern portions of the property and just south of the property. The BMPs would provide treatment of runoff from the ballast and pavement runoff north of the building, runoff from the roof, ballast south of the building, parking lot, and the adjacent roadways. These ponds would drain to the adjacent roadway trunk storm sewer systems, which will flow to the series of wetlands and open channels that eventually discharge to the Mississippi River.

In **Table 12** below, the 'BMP Volume Provided' includes only project runoff, but could be revised to accommodate future development runoff and expansion of Oak Grove Parkway. Further coordination to determine feasibility will be required with the City of Brooklyn Park, the WMWMC, Hennepin County and other stakeholders during final design.

Table 11. Change in Impervious Cover

Receiving Water	Total Area[1] (acres)	Existing Impervious (acres)	Existing Percent Impervious	Total Proposed Impervious (acres)	Change in Impervious (acres)	Proposed Percent Impervious	Percent Impervious Increase
Shingle Creek	4[2]	4[2]	100%	4[2]	0	100%	0%
Century Channel	3[2]	3[2]	100%	3[2]	0	100%	0%
TH 610	21	10	48%	15	6	71%	60%
Oxbow Creek	42	4	10%	33	29	79%	725%

(1) Total area within LOD, does not include "Future Construction"
(2) Only accounts for impervious areas due to the Blue Line Light Rail Transit Extension project, see the EAW for the Hennepin County CSAH 103 project for changes due to that project.

Table 12. Potential BMP Strategies

Receiving Water/Location	Water Quality Volume Required (acre-feet)	BMP Options Considered	BMP Surface Area	BMP Volume Provided (acre-feet)
Shingle Creek	(1)	(1)	(1)	(1)
Century Channel	(1)	(1)	(1)	(1)
TH 610/West Broadway Sta 2676+00 to Sta 2685+00	1.13	Bioretention	38,335	1.31
Oxbow Creek/West Broadway north of Sta 2685+00	1.48	Bioretention	49,660	1.72
TH 610/Baxter Property, SW of TH 610	2.68	Wet Pond	32,121	2.68
Oxbow Creek/Reconstructed Oak Grove Parkway west of Sta 2702+00	1.16	Wet Pond	16,012	1.16
Oxbow Creek/Southern OMF Property	1.11	Wet Pond	15,444	1.11
Oxbow Creek/Northern OMF Property	0.33	Wet Pond	6,167	0.33

(1) Stormwater runoff from the project corridor will drain to the BMPs being constructed by the Hennepin County CSAH 103 project. See the EAW for that project for more information.

5.0 Conclusion

Construction of the proposed BLRT Extension project will affect water resources in a variety of ways. The increased impervious surfaces and the decrease in ditch capacity will have the effect of increasing runoff quantity and pollutant loading without mitigation. The preliminary stormwater management plan proposes several mitigation measures, including the use of existing regional facilities, expansion of existing facilities, and construction of new BMPs at key locations throughout the corridor near storm sewer outfalls.

Further coordination with the cities is needed regarding DWSMA and wellhead protection requirements, groundwater elevations, and soil types in order to finalize the selected BMP strategies. Additional soil borings and piezometers may be needed to better understand the feasibility of implementing BMPs as shown. Further coordination is also needed regarding the BMP options for the portions of the corridor within MnDOT and Hennepin County right-of-way to clarify ownership and maintenance responsibilities of the BMPs. Although not covered in the sections above, the final plans will include temporary and permanent erosion and sediment control measures to protect water resources and stormwater infrastructure during and after construction in compliance with the NPDES permit. Finally, coordination with the cities is needed to better understand the condition and capacity of existing storm sewer systems that are to remain in place and to provide maintenance access to existing or proposed storm sewer systems.

The stormwater management plan will need to be approved by the BCWMC, SCWM WMC, the cities, and the MPCA, and therefore, to the extent practicable, adverse impacts due to the project will be mitigated.

APPENDIX A. STORMWATER FIGURES

LEGEND

- PROP LRT ℄
- DRAINAGE DIVIDES
- WATERSHED BOUNDARY
- WETLAND DELINEATION
- CITY LIMITS
- EXISTING STORM SEWER OR CULVERT
- FLOODPLAIN
- RECEIVING WATERS
- SURFACE FLOW DIRECTION
- POTENTIAL BMP LOCATION
- PROPOSED BMP LOCATION (BY OTHERS)

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

OLD BASSETT CREEK TUNNEL

OLD BASSETT CREEK TUNNEL

HERITAGE PARK SOUTH TREATMENT SYSTEM

NEW BASSETT CREEK TUNNEL (APPROXIMATE LOCATION)

TARGET FIELD STATION

TARGET FIELD

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 1 OF 12

10/7/2015

NORTH
0 50 200 400
SCALE

METROPOLITAN COUNCIL

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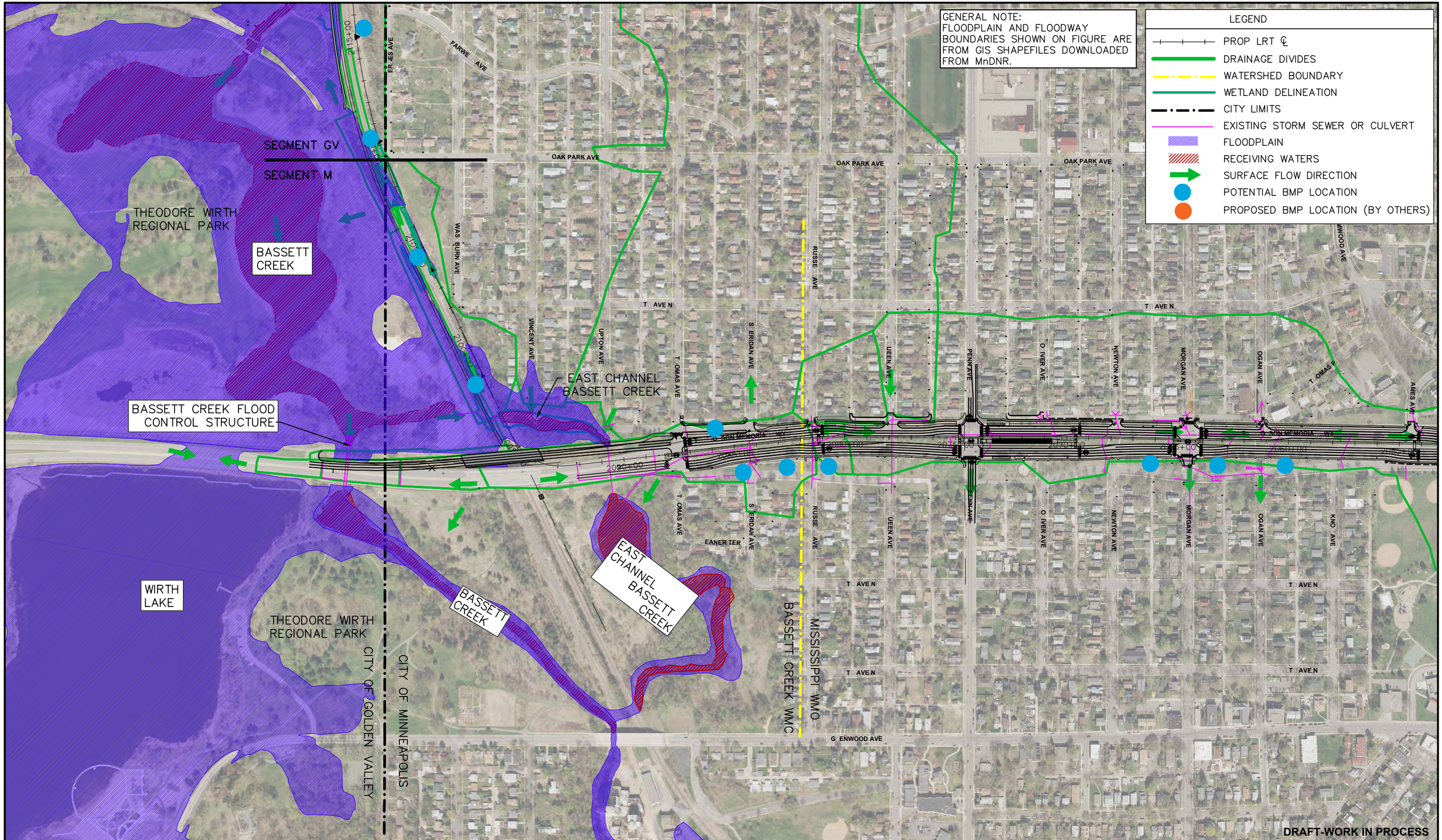

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW

FIGURE 2 OF 12

10/7/2015

NORTH

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SCALE

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LEGEND

- PROP LRT ℄
- DRAINAGE DIVIDES
- WATERSHED BOUNDARY
- WETLAND DELINEATION
- CITY LIMITS
- EXISTING STORM SEWER OR CULVERT
- FLOODPLAIN
- RECEIVING WATERS
- SURFACE FLOW DIRECTION
- POTENTIAL BMP LOCATION
- PROPOSED BMP LOCATION (BY OTHERS)

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

BASSETT CREEK
SWEENEY LAKE
BRANCH

THEODORE WIRTH
REGIONAL PARK

BASSETT CREEK

BASSETT CREEK DR

MARY HILLS NATURE AREA

KEWANEE WAY

BYRD AVE N

BONNIE ANE

CRESTVIEW AVE

M NAIR DR

MANOR DR

PARKVIEW B VD

GOLDEN VALLEY
ROAD WETLANDS

GOLDEN VALLEY
PARK-AND-RIDE

BASSETT CREEK

T EODORE WIRT PKWY

P YMOUT AVE

YORK AVE

GO DEN VA EY RD

ER ES AVE

WAS BURN AVE

FARME AVE

1 T AVE N

16T AVEN

CITY OF GOLDEN VALLEY

CITY OF MINNEAPOLIS

T EODORE WIRT PARKWAY

2115+00
2120+00
2125+00
2130+00
2135+00
2140+00
2145+00
2150+00
2155+00
2160+00
2165+00
2170+00
2175+00
2180+00

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 3 OF 12

10/7/2015

NORTH
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SCALE

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LEGEND

- PROP LRT ℄
- DRAINAGE DIVIDES
- WATERSHED BOUNDARY
- WETLAND DELINEATION
- CITY LIMITS
- EXISTING STORM SEWER OR CULVERT
- FLOODPLAIN
- RECEIVING WATERS
- SURFACE FLOW DIRECTION
- POTENTIAL BMP LOCATION
- PROPOSED BMP LOCATION (BY OTHERS)

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

S. RICE POND

N. RICE POND

GRIMES POND

SOCHACKI PARK

APPROX LOCATION OF EXISTING CITY POND

SEGMENT R

SEGMENT GV

CITY OF GOLDEN VALLEY

CITY OF CRYSTAL

CITY OF ROBBINSDALE

LEE SQUARE COOPERATIVE

LEE PARK

CRYSTAL LAKE

BASSETT CREEK WMC

SHINGLE CREEK WMC

KY E AVE

EE AVE

E MDA E RD

CU VER RD

ADE AVE

T AVE

UNE AVE

NOB E AVE

MA OR AVE

INDIANA AVE

OWRY AVE

RD AVE N

A IFA AVE

UBBARD AVE

11 AVE N

GRIMES AVE

FRANCE AVE

9T AVE N

6T AVE N

EWING AVE

M NAIR DR

DREW AVE N

PARKVIEW B VD

CR 1

2210+00
2215+00
2220+00
2225+00
2230+00
2235+00
2240+00
2245+00
2250+00
2200+00
2205+00
2195+00
2190+00
2185+00

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 4 OF 12

10/7/2015

0 100 200 400
SCALE

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LEGEND

- PROP LRT ℄
- DRAINAGE DIVIDES
- WATERSHED BOUNDARY
- WETLAND DELINEATION
- CITY LIMITS
- EXISTING STORM SEWER OR CULVERT
- FLOODPLAIN
- RECEIVING WATERS
- SURFACE FLOW DIRECTION
- POTENTIAL BMP LOCATION
- PROPOSED BMP LOCATION (BY OTHERS)

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

GRAESER POND

LOWER TWIN LAKE

MIDDLE TWIN LAKE

TRIANGLE PARK

42ND AVE PARK-AND-RIDE

CITY OF ROBBINSDALE

CITY OF CRYSTAL

CITY OF BROOKLYN CENTER

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 5 OF 12

10/7/2015

NORTH
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SCALE

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LEGEND

- PROP LRT ℄
- DRAINAGE DIVIDES
- WATERSHED BOUNDARY
- WETLAND DELINEATION
- CITY LIMITS
- EXISTING STORM SEWER OR CULVERT
- FLOODPLAIN
- RECEIVING WATERS
- SURFACE FLOW DIRECTION
- POTENTIAL BMP LOCATION
- PROPOSED BMP LOCATION (BY OTHERS)

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

BASS LAKE ROAD PARK-AND-RIDE

WILSHIRE POND (EXISTING)

XENIA POND (EXISTING)

CITY OF CRYSTAL

CITY OF ROBBINSDALE

SEGMENT C

SEGMENT R

WEST BROADWAY AVE CSA

WEST BROADWAY CSA

BOTTINEAU B VD CSA 1

AKE AND AVE

AKE AND AVE N

WE COME AVE

WE COME AVE N

VERA CRU AVE

YATES AVE

ENIA AVE

UNITY AVE N

TO EDO AVE N

SCOTT AVE N

ANSON CT

AKESIDE AVE

FAIRVIEW AVE

BYRON AVE

CANADIAN PACIFIC RAI ROAD

WI S IRE B VD

CORVA IS AVE

1ST AVE

9T AVE

6T AVE

T AVE

1 AVE N

2300+00

2305+00

2310+00

2315+00

2320+00

2325+00

2330+00

2335+00

2340+00

2345+00

2350+00

2355+00

2360+00

2365+00

2370+00

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 6 OF 12

10/7/2015

NORTH
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SCALE

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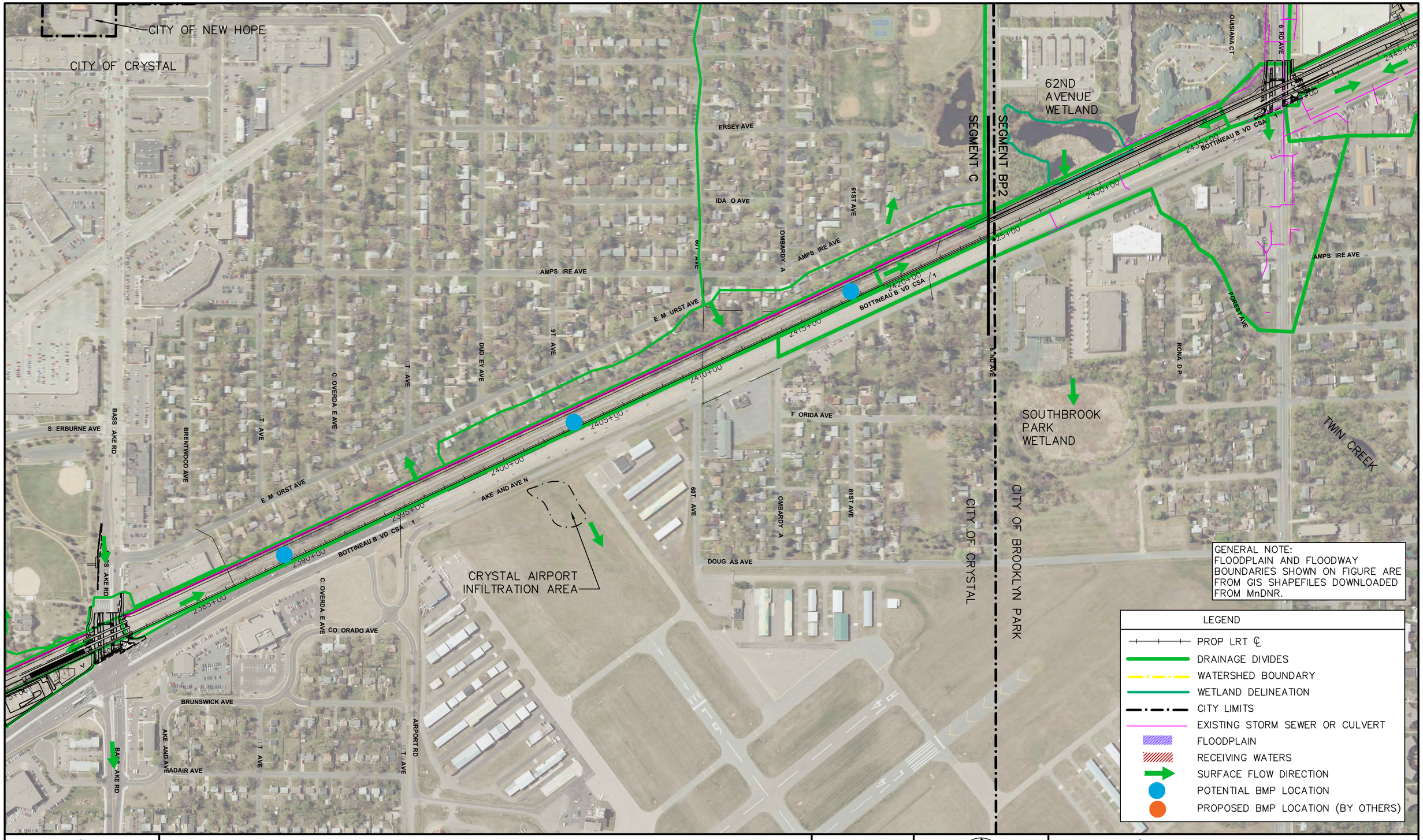

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 7 OF 12

10/7/2015

NORTH
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LEGEND

- PROP LRT ℄
- DRAINAGE DIVIDES
- WATERSHED BOUNDARY
- WETLAND DELINEATION
- CITY LIMITS
- EXISTING STORM SEWER OR CULVERT
- FLOODPLAIN
- RECEIVING WATERS
- SURFACE FLOW DIRECTION
- POTENTIAL BMP LOCATION
- PROPOSED BMP LOCATION (BY OTHERS)

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 8 OF 12

10/7/2015

NORTH
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DNR #563W

TARGET/CUB FOODS
PARKING LOT

SEGMENT BP1
SEGMENT BP2

CSAH 103 PROJECT

BEGIN HENNEPIN COUNTY

SHINGLE CREEK

WEST BROADWAY CSA 10

WEST BROADWAY AVE

BOTTINEAU B VD CSA 1

BROOK YN B VD

OREGON AVE N

KENTUCKY CIR N

KENTUCKY AVE N

OUISIANA AVE N

SUMTER AVE N

CAND EWOOD DR

UEBEC CT

CO EGE PARK DR

2515+00

2520+00

2525+00

2530+00

2535+00

2540+00

2545+00

2550+00

2555+00

2560+00

2565+00

2570+00

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

LEGEND

- PROP LRT ℄
- DRAINAGE DIVIDES
- WATERSHED BOUNDARY
- WETLAND DELINEATION
- CITY LIMITS
- EXISTING STORM SEWER OR CULVERT
- FLOODPLAIN
- RECEIVING WATERS
- SURFACE FLOW DIRECTION
- POTENTIAL BMP LOCATION
- PROPOSED BMP LOCATION (BY OTHERS)

NOTES:

① SEE CSAH 103 EAW FOR INFORMATION ON BMPs PROPOSED SOUTH OF 94TH AVENUE FOR THAT PROJECT.

② SRF CONSULTING GROUP, INC. MODIFIED GIS FLOODPLAIN SHAPEFILE TO INCLUDE AREA AS SHOWN ON FLOOD INSURANCE RATE MAP

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 9 OF 12

10/7/2015

NORTH

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SCALE

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SUMTER AVE N
SUMTER CIR
MAP EBROOK PKWY
MAP EBROOK CT N
S MAP EBROOK CIR
N MAP EBROOK CIR
MAP EBROOK PKWY
WEST BROADWAY AVE CSA 10
SETZLER POND
9T AVE N
WYOMING AVE N
9 ND AVE N
DNR #559W
OREGON AVE
MAP EBROOK TER
NEVADA CIRC E
SET ER PKWY
NEVADA CT
NEVADA AVE N
SITE UNDER CONSTRUCTION
NORTH HENNEPIN COMMUNITY COLLEGE
CO EGE PKWY
W. MISSISSIPPI WMC
SHINGLE CREEK WMC
MARY AND AVE N
MARY AND CT N
9T AVE
9T TRAI N
90T TRAI N
9 ND TRAI N
CENTURY CHANNEL
90T AVE N
OUISIANA AVE N
KENTUCKY AVE N
ERSEY AVE N

GENERAL NOTE:
FLOODPLAIN AND FLOODWAY BOUNDARIES SHOWN ON FIGURE ARE FROM GIS SHAPEFILES DOWNLOADED FROM MnDNR.

LEGEND

- PROP LRT ℄
- DRAINAGE DIVIDES
- WATERSHED BOUNDARY
- WETLAND DELINEATION
- CITY LIMITS
- EXISTING STORM SEWER OR CULVERT
- FLOODPLAIN
- RECEIVING WATERS
- SURFACE FLOW DIRECTION
- POTENTIAL BMP LOCATION
- PROPOSED BMP LOCATION (BY OTHERS)

NOTES:

① SEE CSAH 103 EAW FOR INFORMATION ON BMPs PROPOSED SOUTH OF 94TH AVENUE FOR THAT PROJECT.

② SRF CONSULTING GROUP, INC. MODIFIED GIS FLOODPLAIN SHAPEFILE TO INCLUDE AREA AS SHOWN ON FLOOD INSURANCE RATE MAP

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 10 OF 12

10/7/2015

NORTH
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SCALE

METROPOLITAN COUNCIL

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SRF Consulting Group, Inc.

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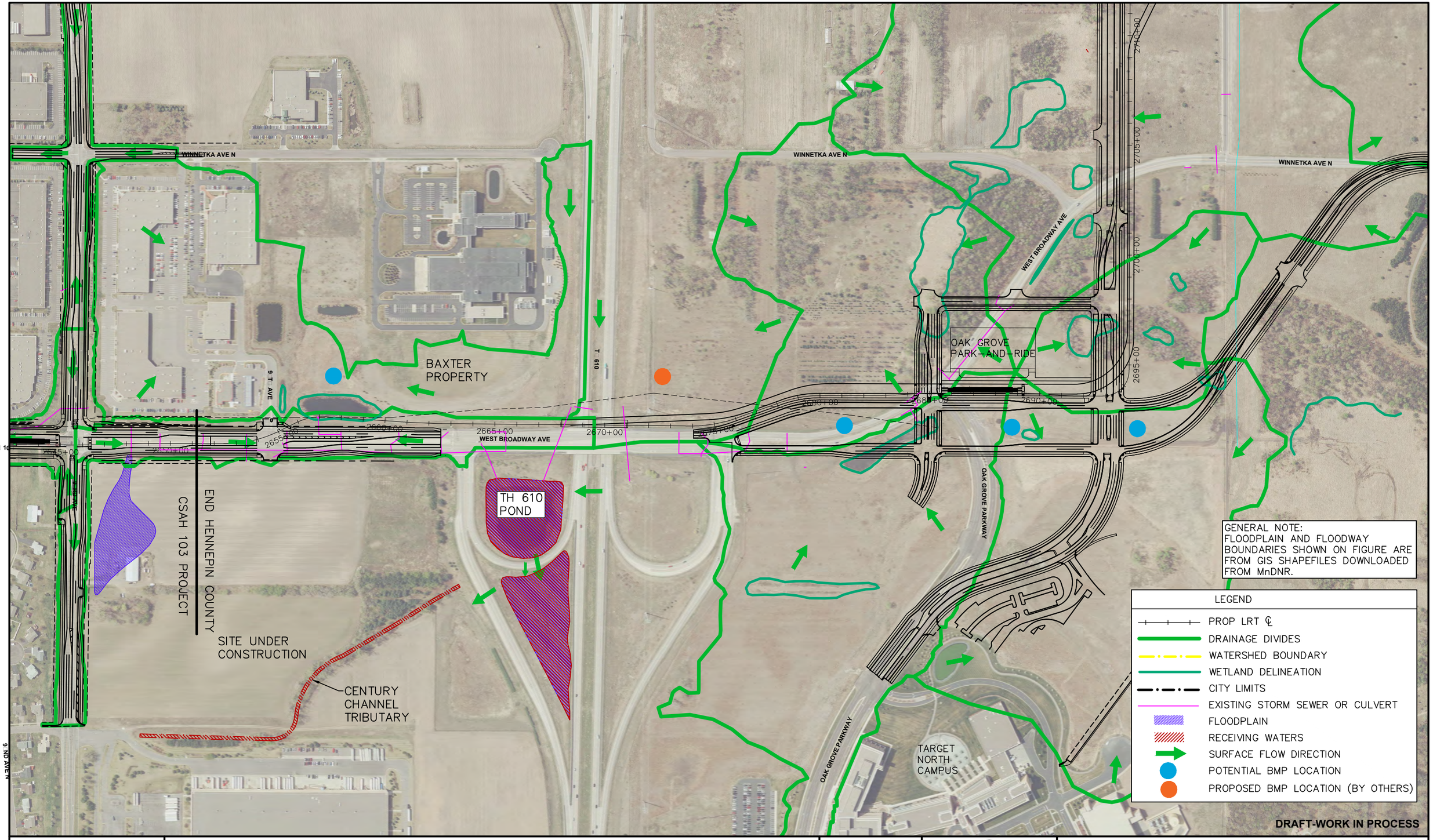

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW
FIGURE 11 OF 12

10/7/2015

NORTH
0 100 200 400
SCALE

METROPOLITAN COUNCIL

Kimley»Horn

SRF Consulting Group, Inc.

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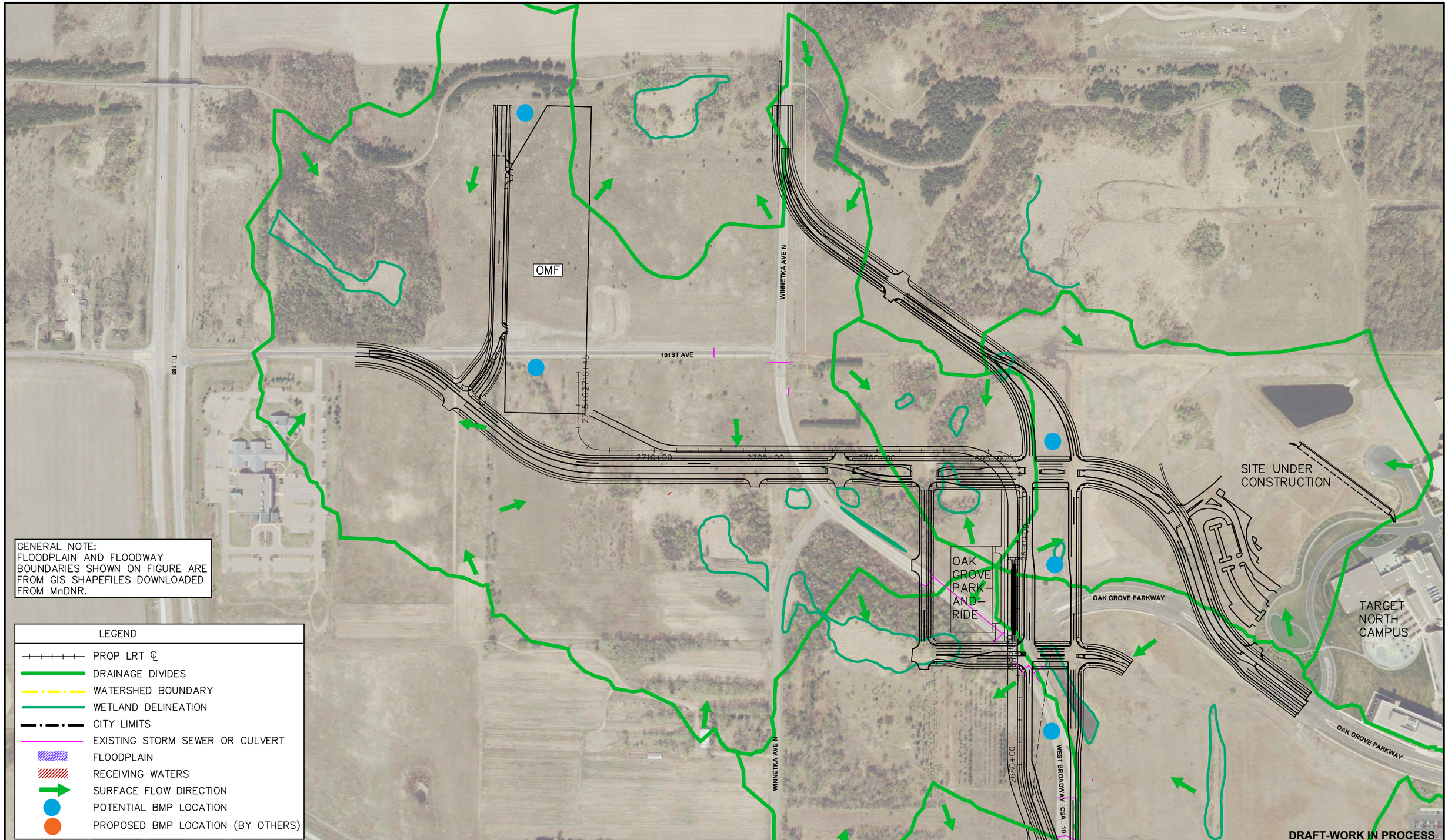

BLUE LINE LRT EXTENSION

WATER RESOURCES PRELIMINARY OVERVIEW

FIGURE 12 OF 12

10/7/2015

NORTH

0 100 200 400

SCALE

METROPOLITAN COUNCIL

Kimley»Horn

SRF Consulting Group, Inc.

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APPENDIX B. SUMMARY OF REGULATORY CRITERIA

Blue Line LRT Extension
Water Resources - Regulatory Matrix - DRAFT
2/5/2015
Revised 10/5/2015

RFPE = Regulatory Flood Protection Elevation [2]

Requirements Summary								
Organization	**Applies to**	**Rainfall Data**	**Rate Control**	**Water Quality (1)**	**Volume Control**	**Floodplain/Flood Control Requirements**	**Plan Review Process**	**Comments**
MWMO MWMO Watershed Management Plan 2011-2021, dated May 10, 2011	Segment M	TP-40 or "subsequent revisions"	Match pre-development rates for 2-, 10-, and 100-year; may be restricted to less than pre-development rates when the capacity of the downstream conveyance system is limited	Remove 90% TSS from 95th percentile daily rainfall total (1.17 in. over 24 hrs) over entire project area, or Alternate Compliance which involves payments and/or credits and is summarized in MWMO standards document	Includes statement: placeholder for future volume standard by ~ 2013	Public Roadway Condition - roadway shall not flood when adjacent to stormwater storage basin or subsurface stormwater managmeent BMP designed to store the 100-year event. Freeboard requirement set by road authority. Alternative - minimum freeboard requirement above the 100-year HWL may be calculated as the height determined by adding depth of volume of runoff received by BMP from two-year event over the BMP.	The MWMO works with the member communities to ensure the implementation of its standards. The MWMO recommends members adopt its ordinance-ready MWMO Standards language into their local ordinances.	Note in the Standards Section that the MWMO will be working with agencies and its member organizations over the next 2.5 years to review or determine new water quality and volume standards.
BCWMC BCWMC 2015-2025 Watershed Management Plan, dated September 2015	Segment GV and Segment R	Atlas 14	Match existing rates for 2-, 10-, and 100-year events	Meet MIDS performance goals FOR LINEAR PROJECTS: Retention of whichever is greater: - 0.55 in from new or fully reconstructed areas or -1.1 in from the net increase in impervious areas If the MIDS performance goal is not feasible and/or is not allowed for a proposed project, then the project must implement the MIDS flexible treatment options, as shown in the MIDS Design Sequence Flow Chart	Meet MIDS performance goals FOR LINEAR PROJECTS: Retention of whichever is greater: - 0.55 in from new or fully reconstructed areas or -1.1 in from the net increase in impervious areas If the MIDS performance goal is not feasible and/or is not allowed for a proposed project, then the project must implement the MIDS flexible treatment options, as shown in the MIDS Design Sequence Flow Chart	Prohibits new structures or improvements in the floodplain, which would be subject to damage by the 100-year flood, including basements, public utilities, and streets. Where streets, utilities, and structures currently exist below the 100-year floodplain, BCWMC encourages member cities to remove these features as development/redevelopment allows. Projects within the floodplain must maintain no net loss to floodplain storage and no increase in flood level at any point along the trunk system. Prohibits expansion of existing non-conforming land uses within floodplain unless fully flood-proofed. OLD REQUIREMENTS DOC: Filling will generally not be allowed within the floodplain. Proposals to fill within the established floodplain must obtain BCWMC approval and must provide compensating storage and/or channel improvement so that the flood level shall not be increased at any point along the trunk system due to the fill	BCWMC reviews development/redevelopment proposals after project receives preliminary review by municipality indicating general compliance with existing local water management plan. Complex projects may require additional review time. All submittals involving floodplains, Bassett Creek trunk system, appropriations, variances, underground wet vaults or other alternative BMPs are presented at the BCWMC meetings.	Requirements for Improvements and Development Proposals' document has not been updated to match the revised standards in the 2015 Draft plan.

Requirements Summary								
Organization	**Applies to**	**Rainfall Data**	**Rate Control**	**Water Quality (1)**	**Volume Control**	**Floodplain/Flood Control Requirements**	**Plan Review Process**	**Comments**
SCWMC SCWMC Rules and Standards, dated April 2013	Segment C, Segment BP2, and Segment BP1	Atlas 14	Match existing rates for 2-, 10-, and 100-year events	Remove 60% of P and 85% of TSS Use NURP ponds or infiltrate all site runoff from 1.3-inch event NURP pond dead storage requirement is runoff from 2.5-inch storm event over the contributing drainage area Linear projects that create one acre or more of new impervious surface must meet all Commission requirements for the **net new impervious surface.**	1-inch of runoff from impervious surfaces. Linear projects that create one acre or more of new impervious surface must meet all Commission requirements for the **net new impervious surface.**	Floodplain alteration/filling shall not cause a net decrease in flood storage capacity below the 100-year critical flood elevation unless it is shown that the proposed alteration or filling, together with the alteration or filling of all other land on the affected reach to the same degree of encroachment will not cause high water or aggravate flooding on other land and will not unduly restrict flood flows.	The Commission reviews proposed land development and redevelopment projects affecting water resources. Projects are reviewed in accordance with the management standards and policies of the SCWMC and recommendations are made to the member City in which the project is located. It is the City's responsibility to enforce the Commission's recommendations. Linear projects that create one acre or more of new impervious surface must meet all Commission requirements for the **net new impervious surface**. Projects impacting wetlands where Commission is LGU must be reviewed regardless of size. Plans for developemtn within the 100-year floodplain as defined by the FIS must be reviewed.	
MPCA (via NPDES permit issued 8/1/2013) As of 2/5/2015, the impaired and special waters within 1 mile of corridor include: Shingle Creek Upper Twin Lake Middle Twin Lake Lower Twin Lake Crystal Lake Bassett Creek Mississippi River	All segments	N/A	N/A	Water quality volume of 1-inch of runoff from new impervious surfaces must be retained on site. If infiltration is prohibited,must use other methods of volume reduction and the water quality volume (or remainder if some volume reduction is achieved) must be treated by a wet sedimentation basin, filtration system, regional ponding or equivalent methods prior to discharge of stormwater to surface waters. If use wet sedimentation pond to provide treatment, dead storage requirement is 1800 cubic feet per acre of surface area drained.	Retain on site 1-inch of runoff from new impervious surfaces. If infiltration is prohibited, must use other methods of volume reduction and the water quality volume (or remainder if some volume reduction is achieved) must be treated by a wet sedimentation basin, filtration system, regional ponding or equivalent methods prior to discharge of stormwater to surface waters. NOTE: infiltration BMPs are prohibited when soil infiltration rates are > 8.3 in/hr unless the soil is amended to slow it down. See permit for other conditions that prohibit infiltration.	N/A	SWPPP must be submitted to MPCA for review if the project size is 50 acres or more and will discharge to special or impaired waters. Application and SWPPP must be submitted at least 30 days before the start of the construction activity.	The General Permit used to develop this matrix expires on 8/1/2018. It will be necessary to verify how any proposed changes in the permit would apply to this project.
Minnesota B3 Guidelines	OMF and park-and-ride buildings in all segments		Match runoff rates for the native soil and vegetation conditions for 2- and 10-year, 24 hr design storms	Remove 80% of post development TSS Remove 60% of post development TP	Retain 1.1 inches from all new or redeveloped impervious	N/A	N/A	Minimize the negative impacts of the project, both on and off site, by maintaining a more natural hydrologic cycle through infiltration, evapotranspiration, and reuse.

Requirements Summary								
Organization	**Applies to**	**Rainfall Data**	**Rate Control**	**Water Quality (1)**	**Volume Control**	**Floodplain/Flood Control Requirements**	**Plan Review Process**	**Comments**
City of Minneapolis Email from Jeremy Strehlo, dated 1/23/15 Minneapolis Floodplain Overlay District Ordinance (Chapter 551.540) Minneapolis Erosion and Sediment Control and Drainage Ordinance (Chapter 52) Minneapolis Stormwater Ordinance (Chapter 54)	Segment M		Maintain discharge rates at or below the existing rates. May be restricted to less than existing rates when the capacity of the downstream conveyance system is limited	Remove 70% TSS	N/A	Linear projects within the floodplain shall be designed to minimize increases in flood elevations and shall be compatible with local comprehensive floodplain development plans. Protection to the RFPE shall be provided where failure or interruption of public facilities would result in danger to public health or safety where facilities are essential to orderly functioning of the area. Conditional uses in Floodway District allowed provided such uses shall have a low flood damage potential, shall not cause an increase in the stage of the regional flood or cause an increase in flood damages in the reach(es) affected.	Must submit application and obtain approval for Storm Water Management Plan from the city engineer. Requirements are included in Chapter 54.70 of City Code.	
City of Golden Valley	Segment GV		Must meet BCWMC standards.	Must meet BCWMC standards.	Must meet BCWMC standards.	Linear projects may be located in the floodplain provided they are designed to minimize increases in flood elevation and are compatible with the BCWMC Management Plan. These uses can cause no increase in stage to the 100-year flood within the floodway and cannot increase the floodplain elevation by more than 1/2 foot in a designated Zone A or AE where a floodway has not been designated. Protection to the RFPE shall be provided where failure or interruption of these public facilities would endanger the public health or safety or where such facilities are essential to the orderly functioning of the area.	See BCWMC plan review process for information on stormwater management review. Floodplain alteration permit will be submitted to the City, which will then submit the information to the DNR Commisssioner and BCWMC for review.	

Requirements Summary								
Organization	**Applies to**	**Rainfall Data**	**Rate Control**	**Water Quality (1)**	**Volume Control**	**Floodplain/Flood Control Requirements**	**Plan Review Process**	**Comments**
City of Robbinsdale Robbinsdale 2030 Comprehensive Plan - Appendix IIIA Storm Water Management Plan	Segment R		Must meet SCWMC and BCWMC standards.	Must meet SCWMC and BCWMC standards.	Must meet SCWMC and BCWMC standards.	No structure, fill (including for roads and levees),..., or other uses may be allowed as a conditional use in the **floodway** that will cause any increase in the stage of the 100-year regional flood or cause an increase in flood damages in the reach(es) affected. Floodplain developments shall not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system where a floodway or other encroachment limit has not been specified on the Official Zoning Map.	See SCWMC and BCWMC plan review process for stormwater management. Floodplain Alteration - must submit application for review to the City's Zoning Administrator and obtain all necessary State and Federal permits.	
City of Crystal 2009 Local Surface Water Management Plan and Land Use and Planning Ordinance	Segment C		Existing rates for 2-, 10-, and 100-year events; accelerated channel erosion will not occur as a result of the proposed land disturbing or development activity.	Detention facilities should have permanent pond surface area = to 2% of impervious area draining to pond, or 1% of entire area draining to pond, whichever is greater; Or as an alternative, the volume of permanent pool shall be equal to or greater than the runoff from a 2.0-inch rainfall for the fully developed site. Sequencing of preferred treatment options: infiltration, flow attenuation by using open space, stormwater retention, stormwater detention	LSWMP includes text that the City's ordinances need to be revised to include volume control standard that is in line with most restrictive between SCWMC and MPCA as it relates to discharge to impaired waters.	No structure, fill (including for roads and levees),..., or other uses may be allowed as a conditional use in the **floodway** that will cause any increase in the stage of the 100-year regional flood or cause an increase in flood damages in the reach(es) affected. Floodplain developments shall not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system where a floodway or other encroachment limit has not been specified on the Official Zoning Map.	SCWMC and BCWMC review projects that fall within the watershed review authority. Crystal forwards development plans to the applicable watershed when received at the City.	
City of Brooklyn Park Email from Kevin Larson (City), dated 2/4/14 Flood Hazard Area Overlay Ordinance (152.510)	Segment BP1 and Segment BP2		Must meet SCWMC standards.	Must meet SCWMC standards.	Must meet SCWMC standards.	Railroad tracks, roads, and bridges must be elevated above the regulatory flood protection elevation where failure of facilities would result in danger to public healthy/safety or where facilities are essential to orderly function of area. None of these uses shall increase flood elevations. No fill, excavation, or storage of materials or equipment that obstruct flows or increase flood elevations will be permitted.	Must submit application to City Manager. SCWMC will review projects that fall within watershed review authority.	

(1) Wet stormwater pond design should follow the guidelines in the MPCA Stormwater Manual for dead storage depth, side slopes, and benches.
(2) Refers to an elevation 1 foot (minimum) above the 100-year flood plus any stage increase due to the designation of flood fringe areas. In Minnesota, the floodplain management ordinances (local regulations) require that the elevation of the surface of the lowest floor of a dwelling be at or above the regulatory flood protection elevation. Local regulations will also require the top of the access road elevations to be within 2 feet of the flood protection elevation.
All regulatory entities will have requirements for erosion and sediment control and at a minimum will refer back to the NPDES requirements.

Appendix F
Supporting Technical Reports

F.11 Financial Analysis in Support of the FEIS

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METRO Blue Line LRT Extension (BLRT)
5514 West Broadway, Suite 200, Crystal, MN 55428 www.bluelineext.org

To: Paul Danielson,
Kimley-Horn

From: Jim Baker,
Connetics Transportation Group

Date: January 29, 2016

Subject: Financial Analysis in Support of the FEIS

1.0 Introduction

The METRO Blue Line Extension (BLRT) project area extends 13 miles northwest from downtown Minneapolis through the neighborhoods of north Minneapolis and into the communities of Golden Valley, Robbinsdale, Crystal, and Brooklyn Park in Hennepin County, Minnesota.

This memo documents the methodology, assumptions and results of the high-level financial analysis undertaken to support the BLRT Project's Final Environmental Impact Statement (FEIS). Costs and revenue estimates presented in this memo for capital, as well as operating and maintenance (O&M), build upon estimates recently prepared for Metropolitan Council's Southwest LRT Project. Primary references used in the development of this memo are:

- Southwest LRT Financial Analysis in Support of the FEIS (Draft) September 15, 2015
- Financial Management Plan, Southwest Light Rail Transit, Revision 02-00, August 2015, Metropolitan Council/Metro Transit Finance
- Blue Line Extension Operating Costs table developed from the BLRT Finance Team (Excel file OperatingCosts20150910_true_JRH_R1.xlsx)

2.0 Capital Plan

2.1 Capital Cost

In Year of Expenditure (YOE) dollars, the BLRT Project's estimated capital cost for the Locally Preferred Alternative (LPA) is $1,496,431,000. This estimate uses the following methodology/assumptions:

- **Schedule:** Base year costs (2015) were inflated to YOE dollars based on the current project schedule. Specifically, 2018 is identified as the start year of heavy construction and 2021 as start year of revenue operations.
- **Standard Cost Categories (SCC):** Capital costs were developed using the Federal Transit Administration's (FTA's) SCCs.
- **Cost Escalation Assumption:** Costs were inflated at 3% per year.

Table 2-1 presents this information by category in base year (2015) dollars and in inflated YOE dollars.

Table 2-1: Capital Cost Estimates of the LPA, by FTA SCC

FTA Standard Cost Category	Base Year Costs 2015$ (millions)	YOE Costs (millions)
10 Guideway & Track Elements	$297.343	$333.775
20 Stations, Stops, Terminals, Intermodal	$65.834	$74.875
30 Support Facilities: Yards, Shops, Administration Buildings	$76.500	$85.865
40 Sitework and Special Conditions	$154.096	$173.267
50 Systems	$166.963	$191.616
60 Right-of-Way, Land, Existing Improvements	$60.312	$66.801
70 Vehicles	$119.779	$136.245
80 Professional Services	$230.009	$245.783
90 Unallocated Contingency	$140.500	$158.204
100 Finance Contingency Charges	$24.778	$30.000
Total	**$1,336.114**	**$1,496.431**

Source: FTA Worksheets dated December 15, 2015 (BLRT Municipal Consent Cost Estimate)

2.2 Sources of Capital Funds

The capital cost of the project is anticipated to be funded from federal, state and local sources, as listed below. The financial analysis applied to projections of the following anticipated sources of capital funds:

- **Federal Funds:** It is anticipated that all Federal funding will come from Section 5309 New Starts. The BLRT Project assumes 49% Section 5309 New Starts funding, with a New Starts Full Funding Grant Agreement signed in 2018.
- **State Funds:** It is anticipated that the State of Minnesota will fund 10% or approximately $149,643,000 of the Project through bonding and supplemental appropriations. Further, to fund the State's share of the capital plan, it is anticipated that the securities will be general obligation debt and the supplemental appropriations will be general fund appropriations to fund its share of the capital plan.
- **Regional Railroad Authorities (RRA):** The Hennepin County Regional Railroad Authority (HCRRA) is anticipated to fund the project from their dedicated property taxes. The amount of their funding is 10% or approximately $149,643,000 of the Project. HCRRA obtains its funds from a property tax levied under the authority of MS 398A plus interest earned on balances. This tax is distinct from the Council's property tax authority.
- **Counties Transit Improvement Board (CTIB):** The CTIB is anticipated to fund 31% or approximately $463,893,000 of the total capital costs. Each of the five counties the CTIB is comprised of is authorized to levy a 0.25% sales tax and a $20 motor vehicle sales tax to provide capital and operating funding for transitway projects. The BLRT Project is eligible for capital and operating funding by the CTIB under its *Transitway Investment Framework*.
- **Other Local Funding Sources:** The BLRT Project Office and Metropolitan Council are working with local cities, MnDOT, and Hennepin County on securing additional necessary contributions as needed through local funding agreements.

Table 2-2 presents capital cost funding by source.

Table 2-2: LPA Capital Cost Funding by Source (YOE $)

Anticipated Funding Source	Share	Contribution ($ millions)
Federal Transit Administration	49%	$733.251
County Transit Improvement Board	31%	$463.894
State of Minnesota	10%	$149.643
Hennepin County Regional Railroad Authority	10%	$149.643
Total	**100%**	**$1,496.431**

3.0 Operating Plan

3.1 BLRT No-Build Alternative O&M Cost Estimates

The BLRT project assumes the Southwest LRT Project is already in operation as part of a "No-Build" scenario. For consistency with the Southwest LRT Project's FEIS, that project's Build Alternative O&M cost estimate is assumed to be the BLRT's No-Build O&M cost estimate (since construction of the Southwest LRT Project is to precede the BLRT Project). The Southwest LRT Project's O&M cost estimates utilized unit costs for Metro Transit bus and LRT based on 2013 actual expenditures. Specific cost methodology used in the Southwest LRT Project, and thus reflected in the BLRT's No-Build cost estimates, are as follows:

- **Metro Transit LRT and Metro Transit/Metropolitan Transportation Services (MTS) Corridor Bus Routes:** Unit O&M costs and service plan statistics were taken from the Southwest LRT Project's *Service Plan Updates and O&M Cost Results for the FEIS Report* (July 21, 2015).
- **Metro Transit/MTS Non-Corridor Bus Routes:** The regional travel demand model was used to estimate service statistics for non-corridor Metro Transit/MTS non-corridor bus routes. These statistics were applied to unit costs in the Southwest LRT Project's *Service Plan Updates and O&M Cost Results for the FEIS Report*.
- **Other Providers Non-Corridor Bus Routes:** Similarly, the regional travel demand model was used to estimate service statistics for other opt-out providers in the Twin Cities region. These statistics were applied to Metro Transit unit costs.
- **Northstar, Metro Mobility and Transit Link:** Finally, to arrive at a total regional transit O&M cost, Northstar, Metro Mobility and Transit Link O&M costs were included. The 2014 Met Council Unified Budget was used to identify an annual O&M cost for each of these services.

An average inflation rate of 3.15% was used to present costs in 2015 and 2040 dollars. Table 3-1 presents projected regional transit O&M costs for the BLRT Project's No-Build Alternative.

Table 3-1: Year 2040 Annual O&M Cost Estimates of the BLRT No-Build Alternative

Operator/Transit Service	Base Year Costs 2015$ (millions)	YOE Costs 2040 $ (millions)
Metro Transit Light Rail Transit	$88.392	$191.931
Metro Transit/MTS/Other Twin Cities opt-out providers	$466.494	$1,012.924
Northstar	$18.357	$39.859

Paratransit (Metro Mobility & Transit Link)	$67.848	$147.322
Total	**$641.091**	**$1,392.036**

Source: Southwest LRT Financial Analysis in Support of the FEIS (Draft) September 15, 2015

3.2 BLRT LPA O&M Cost Estimate

Annual O&M costs for the BLRT Project's LPA are based on corridor service plans developed specifically for use and analysis in this project's FEIS. Metro Transit bus and LRT unit costs used in the Southwest LRT Project were applied to estimates of incremental service statistic changes for BLRT service and corridor bus service. The resulting change from the No-Build Alternative in corridor O&M costs is noted below in Table 3-2.

Table 3-2: Year 2040 Incremental O&M Cost Estimates for BLRT Corridor Service Changes

Operator/Transit Service	Base Year Costs 2015 $ (millions)	YOE Costs 2040 $ (millions)
Metro Transit Light Rail Transit	$21.772	$47.275
Metro Transit/MTS/ Other Twin Cities opt-out providers	$1.351	$2.933
Total	**$23.123**	**$50.208**

Source: OperatingCosts20150910_true_JRH-R1.xlsx and BLRT FEIS O&M Cost Estimates Memo prepared by CTG for Kimley-Horn (Oct. 2015)

Incremental O&M cost estimates from Table 3-1 were added to No-Build Alternative O&M cost estimates (Table 3-2) to arrive at system-wide annual O&M cost estimates for the BLRT LPA, shown below in Table 3-3.

Table 3-3: Year 2040 Annual O&M Cost Estimates of the BLRT LPA

Operator/Transit Service	Base Year Costs 2015 $ (millions)	YOE Costs 2040 $ (millions)
Metro Transit Light Rail Transit	$110.164	$239.206
Metro Transit/MTS/ Other Twin Cities opt-out providers	$467.845	$1,015.857
Northstar	$18.357	$39.859
Paratransit (Metro Mobility & Transit Link)	$67.848	$147.322
Total	**$664.214**	**$1,442.244**

4.0 Regional Transit O&M Revenues

The basis of this project's O&M revenue forecasts is a Financial Management Plan previously prepared for the Southwest LRT Project, which included revenues for the BLRT Project and the Orange Line BRT Project. That document presented revenue forecasts through the Year 2035. For the Southwest LRT Project's FEIS, those forecasts were extended to the Year 2040. Revenue assumptions identified in the Southwest Finance Assumptions Memo are noted below.

4.1 Metro Transit

Revenue assumptions for Metro Transit in the Southwest LRT Project Financial Management Plan are as follows:

- **Fare Revenue:** Fare revenues are based on projected ridership that reacts primarily to increasing population and employment. Established Metropolitan Council fare policy requires a 10% increase in average fares whenever the bus farebox recovery declines to 28.5%.

- **CTIB:** The CTIB has approved a resolution to commit to fund 50% of the Southwest LRT operating deficit (operating cost net of farebox revenue). It is also anticipated to provide 50% of the net operating deficit for the BLRT Project, and 41.95% for Northstar rail services.
- **State General Funding:** State general fund operating subsidies have historically grown more rapidly than inflation in recent years. However, in an attempt to be conservative, the State operating funds in the Southwest LRT financial capacity analysis assumes that the state general fund revenues grow proportionally with inflation (assumed to be 3.15% per year).
- **Motor Vehicle Sales Tax (MVST):** The primary source for non-Southwest LRT operating assistance is the statewide MVST. This financial analysis uses an average annual increase of 4.90% to project MVST revenues between 2015 and 2040.
- **Other Metro Transit Operating Revenues:** Other revenue including advertising revenue for bus and existing light rail transit services will grow at 1.0% per year from 2016 to 2040.
- **FTA Funds:** The 2015 Financial Plan forecasts FTA Section 5307 Urbanized Area Formula Funds at a fixed annual growth rate, which is approximately 2.4% after 2014 and 3.0% after 2024. Other federal revenues included in the Financial Plan include 5337 State of Good Repair, 5339 Bus and Bus Facilities and Congestion Mitigation Air Quality (CMAQ) funds.

4.2 BLRT Revenues vs. Cost Analysis

As noted earlier, O&M revenue forecasts for the Southwest LRT Project's Financial Management Plan already include anticipated revenues for the BLRT Project. Table 4-1 presents a comparison of annual system-wide costs to revenues for the year 2040. Total O&M cost figures for both the No-Build and Build Alternatives are from Section 3.0 of this memo. Revenue figures for the BLRT Build are consistent with those previously developed for the Southwest LRT FEIS, since those figures already took into account Blue Line revenues. For the No-Build Alternative, revenues were reduced, based on documentation in the Southwest LRT Financial Management Plan which presented 2035 BLRT revenues, and 2035 to 2040 revenue growth assumptions used in the Southwest LRT FEIS. As shown in this table, system-wide O&M costs are not anticipated to exceed system-wide revenues.

Table 4-1: Annual System-wide O&M Costs and Revenues in 2040: No-Build and LPA (2040 dollars, in millions $)

Costs/Revenue Source	SW LRT Build / BLRT No-Build	BLRT Build
Total O&M Costs	**$1,392.036**	**$1,442.242**
Revenues		
Fares	$337.998	$354.544
Motor Vehicle Sales Tax	$804.036	$804.036
CTIB	$86.722	$101.813
Other Revenue	$17.112	$17.659
Local Operating Assistance	$5.254	$5.254
Federal Operating Assistance	$15.245	$15.245
State Operating Assistance	$206.460	$221.551
Interest on Operation Balance	$1.133	$1.133
Total Revenues	**$1,473.960**	**$1,521.235**

Sources: Southwest LRT Financial Management Plan, Revision 02-00, August 2015, Southwest LRT Financial Analysis in Support of the FEIS (Draft) September 15, 2015.

4.3 Potential Responses to Operating Shortfalls

Short term shortfalls, forecasted for selected years in the cash flow projections, are covered by the operating reserves. In the longer term, Metro Transit relies on the MVST growth and its fare policy. Presently, nearly 46% of the Metropolitan Council Transportation Division's operating funds are obtained from the statewide MVST revenues. MVST is the Council's single largest source of transit operating funding. The baseline forecast assumes significant real growth over the long run from this source as a result of passage of the November 2006 referendum. The MVST revenues are projected to increase at a rate of 4.90% per year in the long run. This forecast is viewed as conservative for financial planning purposes as historical trended MVST receipts for the period of 1973 to 2014 averaged 5.10%. The fare policy is an even stronger guarantee of sustainability, because it assures that passenger revenue will growth with operating costs. This policy recommends a 10.0% increase in average fares whenever the bus farebox recovery ratio declines to 28.5%. The Metropolitan Council had their last fare increase in 2008.

Several sources of supplemental operating funding could be made available to Metropolitan Council's Transportation Division in the event that MVST revenues do not grow as expected.

These sources include:

- **Metropolitan Council Transportation Division Operating Reserve:** The Metropolitan Council Transportation Division reserve at the end of 2014 is $120.19 million and can be used to cover any deficits that might arise with or without the BLRT Project in place.
- **State General Funds/State Commitments:** The State's commitment to transit in the Metro region, and its specific commitment to developing the BLRT Project, may be regarded as an opportunity for financial risk management of operations. State general fund appropriations for transit operating subsidies have historically grown more rapidly than inflation in recent years. However, in an attempt to be conservative, the State operating funds in the baseline capacity analysis are anticipated to increase slowly from their 2015-2016 level at 3.15% proportionately with inflation.
- **Moderate Additional Fare Increases:** Under the baseline projection by the Metropolitan Council, a fare increase was implemented in 2008. Fare increases could be accelerated if needed. Transit fare increases typically result in increased fare revenues but decreased ridership.
- **Apply New Operating Funding Sources:** New operating funding sources could include the implementation of new or expanded non-farebox revenue sources (e.g., expanded advertising or joint development).
- **Reduce Service:** Reduce the length or number of daily trips, weekend and seasonal/holiday service, or the length of trains.
- **Apply New, Non-Operating Sources:** Apply additional CTIB operating assistance if available and develop supplemental sources of State or other revenues.

The stability of Metropolitan Council's financial environment will permit managing the long-term maintenance and operation of the BLRT Project's service in a well-planned, deliberate and financially prudent manner.

Appendix G
Response to Draft EIS Comments

Guide to the Draft EIS Response to Comments

1. Response to Comments – Agencies
2. Response to Comments – Businesses
3. Response to Comments – Civic and Community Organizations
4. Index of Comments and Response to Comments – General Public Written Comments
5. Index of Comments and Response to Comments – General Public Verbal Testimony
6. Comments Received on Draft EIS – Agencies
7. Comments Received on Draft EIS – Businesses
8. Comments Received on Draft EIS – Civic and Community Organizations
9. Comments Received on Draft EIS – General Public
10. Transcript – Brooklyn Park Hearing
11. Transcript – Crystal Hearing
12. Transcript – Golden Valley Hearing
13. Transcript – Minneapolis Hearing

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G Guide to the Draft EIS Response to Comments

Appendix G contains the comments received on the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project Draft Environmental Impact Statement (Draft EIS). A total of 191 communications were received during this time. Many of the communications contained multiple comments. For example, a resident in Golden Valley may have written a letter expressing concern about noise from LRT operations, impacts to parks and wildlife, and the need for a park-and-ride serving the proposed BLRT Extension project to be built in the city.

G.1 Draft EIS Comment Period

The Draft EIS comment period began on April 11, 2014, when notice of the availability of the document was published and ended on May 29, 2014. Comments were transmitted in several ways including written communications (letters, e-mail communications, comment cards filled out at public hearings) and by people testifying at public hearings.

All communications received or postmarked by the end of the comment period are included in this appendix. The communication was assigned a unique identifying number (generally corresponding to when it was received) – the communication number is printed in the upper left-hand corner of each communication. Since many of the communications received included multiple comments, the first task was to identify comments within the communication and, after this was done for all communications, to group comments into categories by topic (e.g., purpose and need, alternatives, noise and vibration).

G.2 Comments by Topic

Examples of comments and associated topics include "why is the project needed?" (purpose and need topic); "do the transportation benefits match the cost of the project?" (fiscal effects topic); or "how loud is LRT?" (noise and vibration topic). Using this approach, all similar comments could be grouped together for a response. The topics identified were:

- 1 – Purpose and Need
- 2 – Fiscal Effects and Schedule
- 3 – National Environmental Policy Act (NEPA) Process and Public Involvement
- 4 – Social and Economic Effects
- 5 – Environmental Effects
- 6 – Noise & Vibration Effects
- 7 – Alternatives, Engineering & Design
- 8 – Transportation System Effects

G.3 How to Find a Response to a Comment

A particular comment and the corresponding response can be found in the tables following this introduction to **Appendix G**. The tables of comments and corresponding responses are organized as follows:

- Comment ID Number: A unique comment identification number assigned to each comment
- Commenter's Last Name
- Commenter's First Name
- Organization
- Communication Number: A unique number for each comment in chronological order in which it was received
- Comment Type: e-mail, letter by e-mail, mail, verbal testimony, etc.
- Topic: as described above
- Comment
- Response

All comments received on the Draft EIS have been documented and responded to in the Final EIS.

Comments from agencies and municipalities and their corresponding responses are grouped alphabetically by organization, as follows:

- Bassett Creek Watershed Management Commission
- City of Crystal
- City of Golden Valley
- City of Maple Grove
- City of Minneapolis
- Federal Aviation Administration
- Mille Lacs Band of Ojibwe
- Minnesota Department of Transportation
- Minneapolis Park and Recreation Board (MPRB)
- Minnesota Pollution Control Agency
- Three Rivers Park District
- US Department of the Interior
- US Environmental Protection Agency

Comments from businesses and their corresponding responses are grouped alphabetically by organization, as follows:

- Allina Health
- Crystal Wine and Spirits
- Marr-Don Apartments
- Sawhorse, Inc.
- Target Corporation

Comments from civic and community organizations and their corresponding responses are grouped alphabetically by organization, as follows:

- Alliance for Metropolitan Stability
- Asian Media Access
- CAPI
- City of Lakes Community Land Trust
- Downtown Minneapolis Transportation Management Organization
- Harrison Neighborhood Association
- Heritage Park Neighborhood Association
- Loppet Foundation
- Masjid An-Nur
- North Hennepin Community College
- Saint Margaret Mary Church
- Summit Academy OIC
- Transit for Livable Communities

Comments from the general public and their corresponding responses are listed numerically by the Comment ID. These comments are presented in two summary tables; one table for comments received in writing, and one table for comments received as verbal testimony during public hearings. An index is provided with each of the tables of responses to comments from the general public (see the following sections of this appendix). Each index is grouped alphabetically by the last name of the commenter and their corresponding Comment IDs to make finding a specific individuals comment(s) easier. Locate the name of the individual in each index then look for the Comment ID in the general public comments and responses tables.

G.4 Master Responses to Similar Comments

The Council received a total of 1,252 comments were submitted in the form of letters, emails, public testimony at the public hearings, and comment cards received at the public open houses and public hearings. Comments were received from individuals, businesses, public interest groups, and public agencies, including local communities and regulatory agencies. Many comments were very similar

in nature and the Council has prepared master responses to these comments. Where comments included more specific and detailed questions, detailed responses may be found in Attachments 1 through 3.

G.4.1 General Opposition to or Support for the Proposed BLRT Extension Project

General Comment 1: Opposed to the locally preferred alternative (LPA) identified in the Draft EIS, opposed to the proposed BLRT Extension project, or in favor of another alignment.

Master Response 1: The Metropolitan Council (Council) acknowledges opposition to the LPA identified in the Draft EIS or opposition to the proposed BLRT Extension project. The Council also acknowledges support for another alignment other than the LPA or the proposed BLRT Extension project.

The proposed BLRT Extension project was developed to meet specific transportation needs in the City of Minneapolis and several northern and western suburbs. As outlined in the purpose and need, the proposed BLRT Extension project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans. Five factors contribute to the need for the proposed BLRT Extension project:

- Growing travel demand resulting from continuing growth in population and employment
- Increasing traffic congestion and limited federal, state, and local fiscal resources for transportation improvements
- An increase in the number of people who depend on transit to meet their transportation needs
- Limited transit service to suburban destinations (reverse commute opportunities) and time-efficient transit options
- Regional objectives for growth stated in the *Thrive MSP 2040*

The development of the proposed BLRT Extension project started with an Alternatives Analysis that culminated in the selection of the LPA. The following summarizes the selection process for the LPA identified in the Draft EIS.

The LPA is the alternative that the cities in the proposed BLRT Extension project corridor (Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park), Hennepin County, and the Council recommended for detailed study through engineering and environmental review. The LPA specifies both the type of transit that would be used (mode – light rail transit) and the location (alignment – B-C-D1).

The Policy Advisory Committee (PAC) recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the proposed

BLRT Extension project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits.

The PAC recommended Alignment B over Alignment A because Alignment B would provide better service to people who depend on transit and to key civic and educational destinations, and access to greater numbers of new jobs and development.

The LPA meets the purpose of and need for the proposed BLRT Extension project and is the environmentally preferable alternative because it would best protect, preserve, and enhance social, historic, and cultural resources. However, because of the effects of Alternative B-C-D1 (the LPA) would have on biological and natural resources; the LPA would not cause the least damage to the physical environment.

Since the selection of the LPA, the Council has worked closely with regulatory agencies and project stakeholders to refine the LPA in a manner that avoids or minimizes social, economic, and environmental impacts. Where impacts cannot be avoided, mitigation measures have been identified. These avoidance, minimization, and mitigation measures are documented in the Final EIS for the proposed BLRT Extension project.

General Comment 2: Support for the LPA identified in the Draft EIS or the proposed BLRT Extension project.

Master Response 2: The Council acknowledges support for LPA identified in the Draft EIS or the proposed BLRT Extension project. FTA and the Council have determined that the proposed BLRT Extension project best meets the need for transit improvements in the area. Careful analysis and stakeholder coordination resulted in the selection of the LPA; the following summarizes the LPA selection process as identified in the Draft EIS.

The LPA is the alternative that the cities in the proposed BLRT Extension project corridor (Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park), Hennepin County, and the Council recommended for detailed study through engineering and environmental review. The LPA specifies both the type of transit that would be used (mode – light rail transit) and the location (alignment – B-C-D1).

The Policy Advisory Committee (PAC) recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the proposed BLRT Extension project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits.

The PAC recommended Alignment B over Alignment A because Alignment B would provide better service to people who depend on transit and to key civic and educational destinations, and access to greater numbers of new jobs and development.

The LPA meets the purpose of and need for the proposed BLRT Extension project and is the environmentally preferable alternative because it would best protect, preserve, and enhance social,

historic, and cultural resources. However, because of the effects of Alternative B-C-D1 (the LPA) would have on biological and natural resources; the LPA would not cause the least damage to the physical environment.

G.4.2 Purpose and Need

General Comment 3: Why is the proposed BLRT Extension project needed?

Master Response 3: The purpose and need for the proposed BLRT Extension project has been the subject of many studies. The proposed BLRT Extension project includes an alignment that meets the purpose and need most efficiently while minimizing project impacts. The purpose of the proposed BLRT Extension project is to provide transit service that would satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public. The proposed BLRT Extension project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.

G.4.3 Fiscal Effects and Schedule

General Comment 4: Do the transportation benefits match the cost of the proposed BLRT Extension project?

Master Response 4: NEPA does not require monetizing costs and benefits (40 CFR 1502.23). Furthermore, the weighing of the pros and cons of the various alternatives should not be displayed using a monetary cost-benefit analysis when there are important qualitative considerations. A cost-benefit analysis should not be included when costs or benefits can only be qualitatively assessed, without an adequate measure for monetizing the environmental benefits of a project. The proposed BLRT Extension project meets the intended purpose and need for the proposed BLRT Extension project, that is to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans. Meeting federal cost-effectiveness criteria, which is separate from a cost and benefit analysis, would be an essential part of entering into the Engineering phase for this project. Cost is one of a number of factors in the proposed BLRT Extension project. Purpose and Need is discussed in **Chapter 1** of the Final EIS and a financial analysis of the proposed BLRT Extension project is discussed in **Chapter 10** of the Final EIS. **Table 10.1-1** in **Chapter 10** – **Financial Analysis** of the Final EIS outlines a breakdown of cost for the different elements of the proposed BLRT Extension project totaling $1.496 billion.

G.4.4 NEPA Process and Public Involvement

General Comment 5: Several commenters stated that there was not enough time to review the Draft EIS.

Master Response 5: The notification and comment period followed the legal requirements (minimum requirement is 45 days per 40 CFR Part 1506.10 (c)). The Draft EIS comment period was from April 11 to May 29, 2014 (48 days).

General Comment 6: Several commenters stated that they felt public opinion was being ignored by the Council.

Master Response 6: The Council acknowledges concern about public input into the planning process for the proposed BLRT Extension project. **Chapter 9** of the Final EIS describes the public outreach process used for public and stakeholder outreach. For the proposed BLRT Extension project, the Council has implemented a comprehensive public outreach program that has engaged nearby communities and underrepresented groups in the proposed BLRT Extension project design and engineering process. This includes appointing two voting members to the proposed BLRT Extension project Corridor Management Committee (CMC) that represent the Blue Line Coalition (a community-based group working to advance local and regional equity and community health along the Blue Line Corridor). The proposed BLRT Extension project has also established a Business Advisory Committee and Community Advisory Committee to seek public input and advise the CMC and the Council. The Council will continue to engage community groups directly and via local/ neighborhood-based media to inform on project progress.

G.4.5 Social and Economic Effects

General Comment 7: Concerned about the effect of the proposed BLRT Extension project on property values.

Master Response 7: Research has shown that major transit investments such as light rail generally yield positive effects on property values. There is the potential for an increase in property values in the areas surrounding proposed light rail stations, as light rail access can increase the convenience and desirability of nearby residential, commercial, and office properties. Light rail transit can also contribute to existing market forces that can increase the potential for transit-oriented development or redevelopment. Development and redevelopment is regulated by the cities and is predominantly driven by regional and local economic conditions and allowable land uses as defined in locally adopted comprehensive plans. However, light rail lines can advance the timing and increase the intensity of development, especially in areas near proposed stations, within the limits allowed by local comprehensive plans.

As an example, in 1996, New Jersey Transit introduced "Midtown Direct" service, a one-seat ride to New York Penn Station on the Morris & Essex Lines. The expanded service led directly to an increase in property values of homes within walking distance of stations on the Morris & Essex line by $90,000 more than homes farther away, after direct service to Midtown Manhattan was inaugurated in 1996 (Michaelson, 2004). Houses immediately adjacent to San Francisco's BART (south and northeast of San Francisco) sold for nearly 38 percent more than identical houses in areas not served by BART (Landis and Cervero, 1995). Residential rents decreased by 2.4 percent for every one-tenth mile further from Washington, D.C., Metro stations (Benjamin and Sirmans, 1996). Single-family homes in communities served by Boston's commuter rail were worth 6.7 percent more than similar homes in other communities (Armstrong, 1994). In Chicago, the prices of single-family houses located within 1,000 feet of stations were 20 percent higher than comparable houses located a mile away (Gruen, 1997). Median home prices in the Philadelphia region were 10

percent higher in census tracts served by a PATCO rail line and 4 percent higher in tracts served by a SEPTA rail line (Voith, 1991).

Light rail can have a positive impact on nearby business communities as transitways can provide a new connection for riders to access these businesses, and because pedestrian and vehicular traffic around stations and park-and-ride lots can increase. As an example, since 2009, the year before the Council's Green Line LRT (Central Corridor) construction started, the neighborhoods between the Downtown East Station in Minneapolis and the Union Depot Station in St. Paul have experienced more than $3 billion in commercial and residential development—including new construction, redevelopment, and expansion. In addition, businesses on the corridor prior to the Green Line opening reinvested in their businesses and related community efforts to create distinctive districts around the stations (www.metrocouncil.org/News-Events/Transportation/Newsletters/Connections-ground-businesses,-arts-on-METRO-Green.aspx).

General Comment 8: Concerned about how the proposed BLRT Extension project would affect safety and security.

Master Response 8: Chapter 4 (**Section 4.7**) of the Final EIS addresses safety and security. Adherence to transitway design guidelines and the oversight of security personnel would result in no adverse impacts related to safety and security. Safety for rail users, area residents, local pedestrians and bicyclists, project construction workers, operators and vehicle occupants is an important consideration for the proposed BLRT Extension project. The framework for ensuring the highest level of safety to these groups would be established through conformance with the proposed BLRT Extension project site safety and health plan, construction contingency plan, the Council's Safety and Security Management Plan and the Metro Transit Security and Emergency Preparedness plan. Project operations in conformance with these plans would necessarily be closely and continuously coordinated with local area law enforcement, medical, fire, transportation and other organizations with related emergency responsibilities within the proposed BLRT Extension project corridor.

General Comment 9: Concerned about the effect of the proposed BLRT Extension project on community character and cohesion.

Master Response 9: Chapter 4 (**Section 4.2**) of the Final EIS discusses community facilities/community character and cohesion. Impacts associated with the proposed BLRT Extension project were not severe enough to affect overall community character and cohesion, or the accessibility to and use of community facilities. Hennepin County published the Bottineau Transitway Health Impact Assessment (HIA) in December 2013, and its findings and recommendations for equitable and optimal community health benefits resulting from the proposed BLRT Extension project, which were based on several factors including location affordability, are driving components of the station area plans.

General Comment 10: Concerned in general about the effect of the proposed BLRT Extension project on the loss of homes.

Master Response 10: Chapter 4 (Section 4.3) of the Final EIS summarizes acquisitions and displacements. Impacts to residential property are anticipated, but these impacts would be partial takings and not result in displacement of residents. The acquisition of portions of residential property for the proposed BLRT Extension project will be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minnesota Statute 117.

G.4.6 Environmental Effects

General Comment 11: Concerned about how the proposed BLRT Extension project would affect air quality and pollution.

Master Response 11: Chapter 5 (Section 5.10) of the Final Environmental Impact Statement (Final EIS) contains a full evaluation of air quality issues as they pertain to the existing conditions of the proposed BLRT Extension project corridor and the projected future conditions with construction and operation of the proposed BLRT Extension project. The analysis presented in this Final EIS demonstrates that air pollutant concentrations during the operating phase of the proposed BLRT Extension project would not exceed the National Ambient Air Quality Standards; therefore, no mitigation measures are necessary. The State of Minnesota does not require permits related to air quality for projects of this type.

General Comment 12: Concerned about air quality, dust and dirt during construction of the proposed BLRT Extension project

Master Response 12: During construction a series of best management practices (BMPs) would be implemented including the following preventive and mitigation measures:

- Minimize land disturbance during site preparation
- Use watering trucks to minimize dust
- Cover trucks while hauling soil or debris off site or transferring materials
- Stabilize dirt piles if they are not removed immediately
- Use dust suppressants on unpaved areas
- Minimize unnecessary vehicle and machinery idling
- Revegetate any disturbed land post-construction

General Comment 13: Concerned about how the proposed BLRT Extension project would affect wildlife.

Master Response 13: Concerning wildlife: The proposed BLRT Extension project would involve constructing physical barriers that could restrict the crossing of portions of the proposed BLRT Extension project corridor by wildlife. The Council has analyzed design and construction methods that would minimize potential impacts to wildlife. Some culverts that cross the proposed trackage

can be designed to accommodate safe passage of some wildlife. Where effective and feasible, suitable wildlife crossings would be accommodated within proposed culverts to allow some wildlife species to cross from one side of the proposed BLRT Extension project/freight rail tracks to the other. Fencing in key areas can be used to minimize potential wildlife collisions with the LRT.

General Comment 14: Concerned about general impacts to Theodore Wirth Regional Park (TWRP) associated with the proposed BLRT Extension project.

Master Response 14: Chapter 8 of the Final EIS describes the impacts to Theodore Wirth Regional Park under Section 4(f) of the Department of Transportation Act of 1966. The proposed BLRT Extension project would result in the permanent incorporation of approximately 2.1 acres of property from TWRP. In particular, an approximate 1.9 acre portion of designated parkland, located in the southwest corner of the Golden Valley Road and Theodore Wirth Parkway intersection, would be affected with the construction of a transit station and park-and-ride lot. This triangle-shaped portion of TWRP is unimproved with no existing or planned recreational amenities. During construction, approximately 9.2 acres of temporary construction easements would be required within TWRP to grade land around the proposed BLRT Extension project corridor, to provide access during construction, and to provide floodplain and wetland mitigation. The land encompassed by temporary construction easements includes existing open space (e.g., wooded and grassland areas adjacent to the rail corridor and Bassett Creek). In consideration of the permanent and temporary uses of TWRP property, the proposed BLRT Extension project has evaluated park-related enhancements as measures to minimize harm to the park resource. These enhancements include trail improvements near the Plymouth Avenue Station, a new trail connection from Theodore Wirth Regional Park to Sochacki Park, a trailhead at the Golden Valley Road Station park-and-ride, reconstruction of the Theodore Wirth Parkway bridge and the Theodore Wirth Parkway/ Golden Valley Road intersection, and minimization of visual effects.

General Comment 15: Concerned about general impacts to Sochacki Park: Mary Hills Management Unit and Sochacki Park: Sochacki Management Unit associated with the proposed BLRT Extension project.

Master Response 15: The proposed BLRT Extension project would require a temporary occupancy of approximately 0.57 acre along the eastern border of Sochacki Park: Mary Hills Management Unit to facilitate construction activities and stormwater conveyance improvements. The proposed BLRT Extension project would require a temporary occupancy of approximately 5.6 acres of Sochacki Park: Sochacki Management Unit in Robbinsdale in order to provide access and construction staging for the construction of a new LRT bridge structure across Grimes Pond. All non-park construction staging options have been considered and proven to not be feasible.

The proposed temporary occupancy of Sochacki Park involves multiple areas of the park and includes the following components:

- Approximately 5.6 acres of park property would be subject to a temporary easement for staging/laydown areas on both the north and south sides of North Rice Pond, and for a temporary construction access road from the northern border of the park to the northern and

southern staging areas. This road would generally follow the current road/path alignment to minimize additional impacts to park trees and other vegetation. These temporary construction facilities would be used for the construction of the new LRT bridge across Grimes Pond.

- A temporary fence would be erected along both sides of the existing access road and a new pedestrian path would be added to just west of the access road provide a safe north-south connection through the park while construction vehicles utilize the access road during construction of the new LRT bridge.
- Minor improvements to the existing narrow access road would be made in order to accommodate the structural capacity needs of construction vehicles/equipment and to provide several bypass areas to allow two-way traffic an opportunity to safely pass when entering/exiting the park property.

Based on the criteria that are used to determine a temporary occupancy, FTA has determined that there would be no permanent Section 4(f) use of Sochacki Park: Mary Hills Management Unit or Sochacki Park: Sochacki Park Management Unit and that proposed construction activities within the parks would meet the criteria for a Temporary Occupancy Exception described in 23 CFR Part 774.13(d). The portion of the park to be temporarily occupied during construction would be restored to existing conditions or better.

General Comment 16: Concerned about general impacts to wetlands associated with the proposed BLRT Extension project.

Master Response 16: Concerning wetlands: The Final EIS describes in detail several types of impacts to wetlands including direct impacts, indirect impacts, and potential cumulative effects and secondary impacts to wetlands. **Section 5.3** of the Final EIS discusses the wetland impacts for both short and long-term impacts as well as the avoidance, minimization, and mitigation measures. Wetland impacts from the proposed BLRT Extension project would be as presented in **Table G.4-1**.

Table G.4-1. Impacts to Delineated Basins from the Proposed BLRT Extension Project by Wetland Type

Wetland Type		Impacts (acres)				
Circular 39 [1]	Eggers and Reed [2]	Permanent Impacts	Temporary Impacts	Total Impacts	USACE Jurisdictional Impacts	WCA Jurisdictional Impacts
Type 1	Seasonally flooded basin	5.33	1.26	6.59	2.52	4.28
Type 3	Shallow marsh	—	—	—	—	—
Type 4	Deep marsh	2.44	0.05	2.49	1.01	0.10
Type 5	Open water	1.69	1.92	3.61	0.42	1.69
Type 6	Shrub carr	0.50	—	0.50	0.21	0.21
	Total	**9.96**	**3.23**	**13.19**	**4.16**	**6.28**

[1] Plant communities classified based on US Fish and Wildlife Circular 39.

[2] Plant communities classified based on *Wetland Plants and Plant Communities of Minnesota and Wisconsin* by Eggers and Reed (1997) (USACE St. Paul District).

The proposed BLRT Extension project would require coordination and permitting from local, state, and federal water resource agencies. The Council coordinated with the Wetlands Technical Evaluation Panel regarding mitigation strategies prior to submitting the WCA and CWA Section 404 permit applications. The Council's analysis of preliminary mitigation strategies included establishing project-specific permittee-responsible mitigation sites and purchasing wetland mitigation bank credits. Based on this analysis, the Council determined that wetland impacts from the proposed BLRT Extension project will be mitigated through a combination of on-site wetland mitigation and purchases of private wetland credits from existing mitigation banks in suitable major watersheds and Bank Service Areas.

G.4.7 Noise and Vibration Effects

General Comment 17: Concerned about general noise impacts associated with the proposed BLRT Extension project.

Master Response 17: Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in **Chapter 5** (**Section 5.6**) of the Final EIS. Without minimization and mitigation, the proposed BLRT Extension project would result in 366 moderate noise impacts to residential land uses and 618 severe noise impacts. As a part of the proposed BLRT Extension project, Quiet Zones will be implemented at all Federal Railroad Administration (FRA) and light rail transit (LRT) shared at-grade crossings. A Quiet Zone is an FRA-approved section of a freight rail line where freight trains do not sound horns. Public roadway crossings of a Quiet Zone must have certain safety measures in place, which include gates, warning devices, and in some cases other supplemental safety measures, such as concrete medians. The

implementation of Quiet Zones reduces residential land use impacts to 176 moderate noise impacts and 120 severe noise impacts. Additional mitigation measures in the form of noise barriers and wayside devices are proposed for certain locations; interior testing will be performed at various locations to determine the need for additional mitigation. With the incorporation of noise barriers, wayside devices and additional mitigation (if required through interior testing), the proposed BLRT Extension project would result in five residual moderate and two residual severe residential land use noise impacts. See **Table 5.6-7** in the Final EIS for a summary of proposed mitigation measures by location.

General Comment 18: Concerned about general vibration impacts associated with the proposed BLRT Extension project.

Master Response 18: Vibration impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures have been recommended. Vibration is discussed in **Chapter 5** (**Section 5.7**) of the Final EIS.

G.4.8 Alternatives, Engineering, and Design

General Comment 19: Several comments were received regarding the need for stations at Plymouth Avenue and/or Golden Valley Road.

Master Response 19: Both the Plymouth Avenue and Golden Valley Road stations are included in the proposed BLRT Extension project scope and budget. The proposed BLRT Extension project would improve the transportation system by providing more travel choices and faster travel times between residential areas, major destinations, and employment centers. **Chapter 2** of the Final EIS presents a summary of the alternatives analysis conducted for the proposed BLRT Extension project corridor. This chapter also details the proposed BLRT Extension project including the location of all stations.

General Comment 20: Request for a tunnel option to be evaluated for the proposed BLRT Extension project.

Master Response 20: Capital costs are a consideration when defining reasonable alternatives for evaluation, and there are increased costs associated with a tunnel alignment. Generally speaking, accommodating a travel way (rail or car/truck) in a subsurface tunnel is many times (400 percent and up) more expensive than the same facility at grade because of the extensive structural work required to support the tunnel as well as the perpetual operating costs associated with tunnels (lighting/communication, drainage, ventilation, fire protection, general maintenance, etc.). Additional infrastructure, such as a tunnel, is considered when there is a driving factor or benefit that would outweigh the additional costs. For this project there was not sufficient reason to evaluate a tunnel alignment; therefore, it was not included in the universe of alternatives studied. However, as part of the Section 4(f) of the Department of Transportation Act of 1966 evaluation, tunnel options were developed as avoidance alternatives (see **Chapter 8** of the Final EIS). These avoidance alternatives were not deemed prudent for many of the reasons stated above.

General Comment 21: Opposed to the widening of West Broadway Avenue (County State-Aid Highway 103) and concerned about residential property displacements and noise.

Master Response 21: Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet (EAW) for the roadway project was completed and a Negative Declaration finding issued in December 2015. The Final EIS discloses this information in **Chapter 2 – Alternatives**. **Chapter 6 – Indirect Impacts and Cumulative Effects** discloses cumulative effects of the proposed BLRT Extension project which considers the construction of the West Broadway Avenue Reconstruction Project.

Property acquisition and displacement related to the West Broadway Avenue Reconstruction Project is outside of the scope of the proposed BLRT Extension project. The West Broadway Avenue Reconstruction Project EAW would contain the relevant information related to project's impact on acquisition and displacement. Each project has been analyzed for noise in accordance with the appropriate methods and noise mitigation has been evaluated in accordance with the applicable requirements. Since neither the proposed BLRT Extension project nor the West Broadway Avenue Reconstruction project result in noise impacts that require mitigation, there is a low probability of cumulative noise effects from the combination of the two projects.

Appendix G
Response to Draft EIS Comments

1 Response to Comments – Agencies

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City of Maple Grove

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
1A	Opatz	Mike	City of Maple Grove	1	Email	8 - Transportation System Effects	The City of Maple Grove would not alter any of its Maple Grove Transit express routes [reference page 3-7 of the Draft EIS] given the approved Bottineau line alignment/LPA, which does not serve the City of Maple Grove. Furthermore, the Route 787 would not be eliminated. Maple Grove would likely add local feeder service to the Bottineau line as demand and funding allows.	The proposed METRO Blue Line Light Rail Transit (BLRT) Extension project does not include the A alignment; therefore, no modifications to transit routes serving the City of Maple Grove are anticipated or required. Changes to City of Maple Grove transit express routes are at the discretion of the city of Maple Grove.
1B	Opatz	Mike	City of Maple Grove	1	Email	8 - Transportation System Effects	The City of Maple Grove reserves the right to conduct further research on feasibility of Route 732 and be the operator of that route if funded.	The Enhanced Bus/Transportation System Management (TSM) Alternative has been eliminated from further consideration; therefore, Route 732 is not required as a new service to the area as part of the proposed BLRT Extension project. This does not preclude the city of Maple Grove from researching the feasibility of that route and implementing that route if it is determined to be a viable transit option.
1C	Opatz	Mike	City of Maple Grove	1	Email	2 - Fiscal Effects and Schedule	The City of Maple Grove would like to better understand project costs for the different scenarios, especially the LPA.	A financial analysis of the proposed BLRT Extension project is discussed in Chapter 10 of the Final Environmental Impact Statement (EIS). The proposed BLRT Extension project was analyzed further for the Final EIS; however, the other alternatives were not. Costs for the proposed BLRT Extension project were refined based on the Preliminary Engineering Plans and unit costs from local and national sources. Section 10.1.1 discusses the capital cost estimate basis for the proposed BLRT Extension project. Table 10.1-1 of the Final EIS shows a breakdown of the costs. For additional information regarding all alternatives, please review Chapters 2 and 10 of the Draft EIS.
1D	Opatz	Mike	City of Maple Grove	1	Email	8 - Transportation System Effects	The City of Maple Grove notes that the Maple Grove express bus riders would even less likely to give up their bus option for a rail option that is in Brooklyn Park (the LPA option).	The Council understands and appreciates the effectiveness of the City of Maple Grove's express bus service. The effectiveness of this service was part of the reasoning for the selection of the proposed BLRT Extension project on a corridor that does not have an effective express bus service option.

City of Crystal

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
104A	Norris	Anne	City of Crystal	104	Letter via e-mail	6 - Noise & Vibration Effects	Concerned about projected noise impacts along the C Alignment in Crystal, the report indicates that there are a significant number of adjacent noise sensitive land uses that are predicted to experience noise impacts from LRT construction and operation, if unmitigated. A total of approximately 246 dwelling units (single-family, 2-family and apartment units) are assumed to have "severe" impacts from noise. While there are some anticipated impacts associated with construction noise, the DEIS does acknowledge the city's noise ordinance restrictions in that regard, and the construction activity is temporary. City is concerned with noise impact directly associated with the sounding of a train horn in advance of at-grade crossings at Corvallis and West Broadway, because it poses an increase to the baseline noise within what are predominantly residential neighborhoods. Impacts associated with the horn are intensified by the number of train trips. The City contends the establishment of quiet zones will be the most effective method of noise mitigation within Crystal.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with Federal Transit Administration (FTA) methodology and impact criteria. In the City of Crystal, 95 moderate and 204 severe impacts were reported, without mitigation, using FTA's methodology. (See Table 5.6-5 in Section 5.6 of the Final EIS.) With the implementation of Quiet Zones, there would be 10 moderate and 31 severe noise impacts. (See Table 5.6-5 in Section 5.6 of the Final EIS.) Mitigation for residual noise impact will be the use of a wayside device; a 10-foot-high, 1,300-foot-long noise barrier; a 10-foot-high, 1,100-foot-long noise barrier; and interior testing to determine appropriate mitigation (if applicable and feasible) at the remaining residences near grade crossings where noise barriers cannot be constructed.
104B	Norris	Anne	City of Crystal	104	Letter via e-mail	2 - Fiscal Effects and Schedule	All costs associated with quiet zone improvements must be borne by the project and not the City.	The proposed BLRT Extension project assumes all infrastructure costs associated with the implementation of Quiet Zones in the City of Crystal. These costs are included in the proposed BLRT Extension project's budget.
104C	Norris	Anne	City of Crystal	104	Letter via e-mail	8 - Transportation System Effects	The Bottineau project should incorporate this roadway evaluation (whether the West Broadway s-curve crossing of the BNSF tracks at 48th Avenue North either ought to be reconstructed as is, reconfigured, replaced by a crossing in a different location or eliminated) into the FEIS and Project Development phase to determine the feasibility of eliminating the rail crossing at West Broadway, need for roadway evaluation to determine the feasibility of eliminating the rail crossing at West Broadway.	Several design options were considered in coordination with the city of Crystal, Hennepin County, and other stakeholders at the West Broadway Avenue (County State-Aid Highway 103) rail crossing, including the potential of closing the crossing. Ultimately a revised crossing that maintained and improved access to the adjacent neighborhoods while enhancing the safety of the crossing was selected.
104D	Norris	Anne	City of Crystal	104	Letter via e-mail	3 - NEPA Process & Public Involvement	Figure 22: Alignment C Noise Impact Locations, there are two commercial/industrial properties misidentified as residential (the vacant industrial property at 5216 Hanson Ct and the vacant commercial property at 4940 West Broadway), and one commercial property (4947 West Broadway) that as of May 8, 2014, is no longer a church and will be developed for the City's a new Public Works facility. These three properties should no longer be included in the list of properties with potential for severe impacts from noise.	This was verified and corrected in the Final EIS.
104E	Norris	Anne	City of Crystal	104	Letter via e-mail	6 - Noise & Vibration Effects	Four residential properties (classified as "Category 2" uses) in Crystal have been identified as having potential for impacts from vibration (Figure 39 in the Technical Report) in the range of 72-90 VdB, depending on proximity to the track centerline. The Bottineau project should incorporate successful vibration mitigation measures for evaluation in the FEIS and during Project Development.	Vibration impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures have been recommended. Vibration is discussed in Chapter 5 of the Final EIS. In the Draft EIS, four residences were identified as vibration impacts, all in the area near Fairview Avenue. However, with greater engineering detail available during the Final EIS and changes in the proposed BLRT Extension project, only one residence with vibration impact remains at this location. A 300-foot-long ballast mat will eliminate the impact.
104F	Norris	Anne	City of Crystal	104	Letter via e-mail	8 - Transportation System Effects	The FEIS and Project Development all need to include a detailed analysis that satisfactorily addresses the potential adverse impacts associated with the lack of an off-street drop off or	The Bass Lake Road Station incorporates 170 space park-and-ride and a passenger drop-off area. The Bass Lake Road intersection with Bottineau Boulevard (County Road 81) was studied in the Traffic Operations Technical Memorandum, which is

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							parking area that can support the Bass Lake Road station without compromising traffic operations.	available in Appendix F of the Final EIS. The intersection at Bass Lake Road and Bottineau Boulevard would operate at level of service (LOS) C with a freight event in the 2040 AM peak, and LOS D in the 2040 PM peak for the proposed BLRT Extension project. This level of service performance does not require mitigation.
104G	Norris	Anne	City of Crystal	104	Letter via e-mail	8 - Transportation System Effects	The City looks forward to participating in the process to ensure that Crystal residents will have safe pedestrian facilities on Bass Lake Road, Corvallis Avenue and West Broadway Avenue to access the station and that connect neighborhoods across the rail corridor.	Section 3.4 of the Final EIS summarizes pedestrian and bicycle improvements as part of the proposed BLRT Extension project. The proposed Bass Lake Road Station area provides improved connections from trails and sidewalks along the south side of Bass Lake Road to reach the station. A grade separated pedestrian crossing of Bottineau Boulevard would be constructed on the south side of Bass Lake Road. In addition, sidewalk connections would be provided or improved in the area of the proposed park-and-ride lot, including improved connections to Lakeland Avenue. The Crystal Lake Regional Trail runs along the east side of Bottineau Boulevard; bicyclists and pedestrians would be able to use the existing crossing facilities or the grade separated pedestrian crossing at the Bass Lake Road intersection to connect to the Bass Lake Road Station. South of Bass Lake Road, the proposed BLRT Extension project also includes improved pedestrian crossings of the light rail transit (LRT) tracks at West Broadway Avenue (about 1 mile south of the Bass Lake Road Station) and Corvallis Avenue (about ⅔ mile south of the Bass Lake Road Station).
104H	Norris	Anne	City of Crystal	104	Letter via e-mail	4 - Social and Economic Effects	The City is concerned that, with the frequency of trains and the regular closing of major crossings such as at Bass Lake Road, there is the potential for adverse impacts to public safety services, such as increased response time, reduced access and increased costs. The pending traffic analysis must address and mitigate these possible impacts.	Section 4.7 of the Final EIS addresses safety and security. The Issue Resolution Team (coordinated between the Council and the city of Crystal) found that traffic operations of the Bass Lake Road and Bottineau Boulevard intersection would function at acceptable levels and does not warrant grade separation. Proposed BLRT Extension project tracks would cross Bass Lake Road at grade. In locations where there would be at-grade light rail crossings of roadways, the potential exists for increases in emergency response time as a result of delay to emergency vehicles while LRVs are in the crossing. During the peak weekday hour, up to 12 light rail trains (six in each direction) would pass through these at-grade crossings, causing approximately 50 seconds of delay per light rail train crossing. These delays could increase fire, emergency medical services, and police response times on routes using the crossings. To help avoid or minimize delays, the Council would coordinate with emergency services providers by providing them with the light rail operating schedule and identification of alternative crossing routes. Additional coordination will occur through the Fire Life Safety and Security Committee, as described in the proposed BLRT Extension project's Safety and Security Management Plan (SSMP) (Council, 2014).
104I	Norris	Anne	City of Crystal	104	Letter via e-mail	8 - Transportation System Effects	The City also is concerned that access to Bottineau Boulevard for residents north of the Canadian Pacific (CP) Rail will be compromised by the gated crossing at Bass Lake Road. Frequently the east-west CP Rail traffic blocks Douglas Drive and West Broadway. This forces residents north of the CP Rail to use Bass Lake Road to access Bottineau Boulevard and points south; and with the gates activated for LRT at the Bass Lake Road crossing, it may impose considerable traffic delays and queuing on Bass Lake Road that may take an inordinate amount of time to clear. The pending traffic analysis must also address and mitigate these possible impacts.	The Bass Lake Road intersection with Bottineau Boulevard was studied in the Traffic Operations Technical Memorandum, which is available as an appendix to the Final EIS (Appendix F). The intersection at Bass Lake Road and Bottineau Boulevard would operate at LOS C with a freight event in the 2040 AM peak, and LOS D in the 2040 PM peak for the proposed BLRT Extension project. This level of service performance does not require mitigation.
104J	Norris	Anne	City of Crystal	104	Letter via e-mail	4 - Social and Economic Effects	The City expects that the FEIS and Project Development phases will be sensitive to any adverse impacts on the Crystal business community that may be caused by construction of the Transitway and that there will be plans and programs in place to mitigate any anticipated adverse impacts.	Impacts related to temporary changes to parking and access will be mitigated by the development of a Construction Mitigation Plan, which will include a Construction Communications Plan, during final design. The plan will detail planned activities during construction, partnerships, and specific programs to assist local businesses and residents affected by construction and methods to minimize adverse impacts during construction of the proposed BLRT Extension project.

Minneapolis Park and Recreation Board (MPRB)

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119A	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	6 - Noise & Vibration Effects	The eastern portion of Theodore Wirth Regional Park, which abuts the proposed D1 alignment, is known for its especially quiet and natural character and is enjoyed by thousands seeking a more passive recreational experience in the middle of a bustling urban community. Theodore Wirth Regional Park and the Grand Rounds must be separated from visual, noise, functional and other impacts which would significantly change or detract from the natural, quiet and scenic character of the park.	FTA has separately addressed the Grand Rounds Historic District (GRHD) and Theodore Wirth Regional Park (TWRP) in the Final EIS. These resources, although overlapping to some degree, are distinct in terms of their cultural and environmental significance and separating these resources was an important distinction to make for readers of the Final EIS. The GRHD is significant as a historic and cultural resource and information can be found on the GRHD in Section 4.4 of the Final EIS with more detailed technical information made available in Appendix H – Cultural Resources Supporting Information of the Final EIS. TWRP is significant as the largest park in the Minneapolis Park and Recreation Board (MPRB) system, totaling a little over 759 acres in area. As a large park in an urban area, it contains a wealth of active and passive features, including the Eloise Butler Wildflower Garden, a golf course, archery range, sledding hill and many miles of trails for bicyclists and pedestrians. Information on TWRP can be found in Section 4.2 of the Final EIS. Both the GRHD and TWRP are separately addressed, as distinct resources, in Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS. Separating these resources in terms of the land area they include, the features and facilities they contain and convey, and the separate owners with jurisdiction—Minnesota Historic Preservation Office (MnHPO) for the GRHD and MPRB for TWRP—was necessary in order to complete the Section 4(f) Evaluation for the proposed BLRT Extension project. Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS presents the preliminary determination of FTA that the proposed BLRT Extension project would have a *de minimis* use of TWRP; FTA will make a final determination after receiving written concurrence from MPRB regarding this finding. The GRHD, as noted above, is a separate resource that is still subject to protection under Section 4(f), but as a historic resource, and not a park resource. Chapter 8 of the Final EIS also presents FTA's preliminary determination that the proposed BLRT Extension project would have a direct use of the GRHD. This use determination was based on the assessment of adverse effects to the historic district through the Section 106 of the National Historic Preservation Act of 1966 (Section 106) process. MnHPO has concurred with the proposed mitigation measures for the adverse effects to the GRHD, which are also presented in Chapter 8 (see Section 8.7.2.11). A least overall harm analysis was conducted for the proposed BLRT Extension project (see Section 8.7.3) which found that the proposed alignment would have the least overall harm in relation to the magnitude of harm, after reasonable mitigation, to the other resources considered—both Section 4(f) and non–Section 4(f).
119B	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The MPRB has adopted the outcome that Theodore Wirth Regional Park and adjoining park land remains a quiet, tranquil, serene and natural park destination.	The Final EIS includes an analysis of noise impacts to passive use areas of TWRP at two locations within the park (the Chalet and a location east of Theodore Wirth Parkway between the Plymouth Avenue and Golden Valley Road stations); areas where park visitors may seek a place to linger and be separated from the urban character of the metropolitan area that surrounds the park. No noise impacts to the park were identified, even using the most stringent type of FTA sensitive receptor designation (Category 1 sensitive use) for the park at the locations (see Chapter 5 of the Final EIS for a discussion of potential proposed BLRT Extension project noise). The proposed BLRT Extension project would introduce transportation infrastructure features and remove vegetation from areas adjacent to the park, resulting in a change to the visual setting. However, these changes would not alter the features or attributes that make TWRP a significant and important community and regional park resource. (See Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS for more information on the ability of TWRP to remain a functional park resource with construction of the proposed BLRT Extension project.)The Council will continue to work with MPRB staff to develop aesthetic design concepts (such as selection of landscape treatments) that would reduce the visual impact of the proposed BLRT

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								Extension project.
119C	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The MPRB has adopted the outcome that permeable paving materials are incorporated to reduce stormwater impacts to park land when hard surfaces are added by the project.	A stormwater management plan will be developed for the proposed BLRT Extension project to meet the stormwater ordinances, rules, and requirements of the various regulatory entities in the appropriate portions of the proposed BLRT Extension project corridor. Where feasible, low impact development best management practices (BMPs) will be incorporated into facilities associated with the proposed BLRT Extension project. Low-impact development practices can substantially reduce stormwater runoff and may include the use of permeable pavers, pervious concrete, bio-infiltration, tree trenches. Such low impact design allows surface water to slowly infiltrate into the soil and helps to counteract the bounce of receiving waterbodies including Bassett Creek. Low impact design also helps to trap oils and hydrocarbons that may be present in areas with high vehicle use. Feasibility of various low-impact development practices will be determined based on depth to the seasonal high groundwater elevation, soil types, any evidence of contaminated soils, and elevation constraints.
119D	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The MPRB has adopted the outcome that the portion of Theodore Wirth Regional Park lying adjacent to Segment D1, continues to be used by those who desire a park experience in this natural, quiet setting.	The ability to maintain the attributes of the TWRP, including its setting, features, and facilities, with construction of the proposed BLRT Extension project is an important assessment for FTA in completing a Section 4(f) Evaluation (see Chapter 8 of the Final EIS for a copy of the Amended Draft Section 4(f) and 6(f) Evaluation). As noted in Chapter 8, the Section 4(f) analysis discusses the preliminary determination of the *de minimis* use of TWRP in the vicinity of the Plymouth Avenue and Golden Valley Road stations. In summary, the incorporation of 2.1 acres of TWRP property were found to not alter the features or attributes that make TWRP a significant and important community and regional park resource. Specific to noise, two locations (the Chalet and a location east of Theodore Wirth Parkway between the Plymouth Avenue and Golden Valley Road stations) were analyzed under FTA's Category 1 land use designation and found to have no noise impacts; therefore, the park property adjacent to Alignment D1 can continue to serve the park users who desire a park experience in the natural, quiet setting.
119E	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The MPRB does not agree with a *de minimis* section 4(f) finding for Theodore Wirth Regional Park due to lack of information in several areas including, location of proposed wetland and floodplain mitigation, lack of category 1 noise analysis, and lack of analysis of constructive uses for Theodore Wirth Regional Park.	FTA and the Council acknowledge MPRB's concern with a *de minimis* Section 4(f) finding for TWRP. The Final EIS clarifies that two Section 4(f) properties were evaluated within the TWRP area—TWRP and the GRHD. Under Section 4(f) regulations, MPRB is the Official with Jurisdiction over the park resource (TWRP) and MnHPO is the Official with Jurisdiction over the GRHD. In the March 2014 Draft Section 4(f) Evaluation (Chapter 8 of the Draft EIS), the GRHD was identified as a direct use in Table 8.3-2 on page 8-13, but was described as a *de minimis* use in the text on page 8-35. The correct preliminary determination in the March 2014 Draft Section 4(f) analysis was a *de minimis* use for the GRHD. The TWRP resource was preliminarily determined to have a direct use, under the March 2014 Draft EIS Section 4(f) evaluation. Since the publication of the Draft EIS, additional information was developed during preliminary design efforts on the proposed BLRT Extension project which has resulted in an updated preliminary Section 4(f) findings. Chapter 8 of the Final EIS (the Amended Draft Section 4(f) and 6(f) Evaluation) presents FTA's preliminary *de minimis* finding for the park resource (TWRP). This preliminary finding has been based on updated information regarding the level of impact to park property, and whether the impact is one that, after taking into account avoidance, minimization, mitigation and enhancement measures, results in no adverse effect to the activities, features, or attributes qualifying the park for protection under Section 4(f). This preliminary finding has also been developed with extensive coordination with MPRB staff. Wetland impacts on TWRP property would be less than one acre; mitigation for the impact is proposed at a site north of Olson Memorial Highway (Trunk Highway 55) and west of the BNSF Railway (BNSF) right-of-way, largely on MPRB property. An

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								estimated 1.5 acres of wetland credit can be gained from this wetland mitigation site. The proposed BLRT Extension project would have about 16,800 cubic yards (CY) of floodplain impact on or adjacent to MPRB property. Floodplain mitigation is discussed in Section 5.2.5 of the Final EIS. The floodplain mitigation site for this 16,800 cubic yard impact is located west of the BNSF rail corridor and north of Olson Memorial Highway, largely on MPRB property (the same site as the wetland mitigation site discussed above). The site is being designed in coordination with Bassett Creek Water Management Commission (BCWMC) and MPRB staff to ensure that the site fits into the landscape. The Final EIS evaluated the potential for noise impacts to areas within TWRP using a Category 1 classification. The areas evaluated included the Theodore Wirth Chalet and a location between the Plymouth Avenue and Golden Valley Road stations on the east side of Theodore Wirth Parkway. No noise impacts to the park were identified based on this evaluation (see Section 5.6 of the Final EIS for more details on this evaluation). The information presented above was used to help determine that the proposed BLRT Extension project would not alter or impair the overall use or function of TWRP. This informed FTA's preliminary determination of a *de minimis* use, and also informed that there would not be a constructive use. Chapter 8 of the Final EIS also makes a determination of direct use on the GRHD based on an adverse effect finding under Section 106. Through an extensive coordination and consultation process, FTA has identified mitigation measures for the GRHD (as noted in the Section 106 Memorandum of Agreement [MOA]). Final Section 4(f) determinations will be made after consideration the comments received from the Officials with Jurisdictions and the public on Chapter 8 of the Final EIS. As noted above, MPRB is the Official with Jurisdiction for TWRP, and MPRB concurrence will be required prior to finalization of the *de minimis* finding for the park.
Wirth 119F	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	As the design progresses, park lands must be evaluated under Section 4(f) to identify all permanent and temporary uses.	The Amended Draft Section 4(f) and 6(f) Evaluation presents both temporary and permanent impacts to park properties, including impacts to parks purchased by Land and Water Conservation Funds [Section 6(f)]. A total of 9.45 acres of MPRB property would be temporarily occupied for proposed BLRT Extension project construction purposes, and 2.11 acres of MPRB property would be permanently acquired for the proposed BLRT Extension project.
119G	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	As the design progresses, park lands must be re-evaluated under Section 4(f) to determine whether there are constructive uses of park land due to long-term noise, vibration and visual impacts, potential impacts to wetland and floodplains within the park, and potential stormwater impacts.	Constructive use of a property is set forth in 23 CFR Part 774.15(a). It is defined as occurring when the transportation project does not incorporate land from a Section 4(f) property, but the proposed BLRT Extension project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished and rendered unusable to the park users. Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS indicates that there would be no constructive use of MPRB park resources (see Section 8.7.1). Based on the finding of no constructive use, a re-evaluation will not be conducted.
119H	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	As the design progresses, park lands must be re-evaluated under Section 4(f) to determine whether there are constructive uses of park land due to long-term impacts on the cultural characteristics of the parks, with attention focused on those that are considered eligible for the National Register of Historic Places.	Please see response to Comment 119G.
119I	Wielinski	Liz	Minneapolis Park & Recreation	119	Email & US Mail	5 - Environmental Effects	Park land along the corridor is preserved in the same or better condition.	Park land temporarily impacted by construction activities would be restored to as good or better conditions [23 CFR Part 774.13(d)]. In addition, the proposed BLRT

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			Board					Extension project includes new trail connections and enhancements of existing trails that would provide greater access to and utility of park property.
119J	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Park property is not used permanently as part of LRT development.	The Amended Section 4(f) Evaluation indicates that 2.1 acres of TWRP property would be permanently acquired for the construction of LRT facilities, including the Golden Valley Road Station park-and-ride and the Plymouth Avenue Station. Mitigation for this permanent property impact would be in the form of replacement property of equal or greater value that could be readily incorporated into the park system, or through a negotiated financial settlement.
119K	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	A number of archaeological features within Theodore Wirth Regional Park and adjoining areas were not discussed in the DEIS. Further research is needed to properly document all appropriate structures.	A study to document cultural landscape elements in TWRP (including Theodore Wirth Parkway) has been completed. Archaeological resources within TWRP, including Germania Brewery, were reviewed as part of the study to document the cultural landscape in the park. It is important to note that, in the Draft EIS and in the Final EIS, the Germania Brewery site was identified as an archaeological site that was outside the archaeological area of potential effect (APE) and therefore did not require detailed analysis. The fact that an archaeological site may lie within an architectural APE (which is generally more extensive than an archaeological APE) does not indicate that it must be analyzed for adverse effects. By definition, the APE is the area for potential effect, and a site outside the area for potential effect would therefore not be subject to potential effects. See Appendix H of the Final EIS for additional information.
119L	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The Section 4(f) and Section 106 review need to evaluate the impacts to the cultural landscape of Theodore Wirth Regional Park and Bassett's Creek.	The proposed BLRT Extension project's potential impacts to the Theodore Wirth Segment of the GRHD was evaluated by FTA and the results of this evaluation are summarized in Section 4.4 of the Final EIS with technical and supporting information included in Appendix H of the Final EIS. The GRHD is significant as a historic resource as it represents a conscious effort to link area of the city into a comprehensive and unified system (the "Grand Rounds"). It is one of the most unique and iconic features of Minneapolis, and continues to draw national attention for its role as a recreational resource that enhances the vitality of a major American city. A study to document cultural landscape elements in TWRP (including Theodore Wirth Parkway) has been completed and includes examining view sheds to and from the proposed BLRT Extension project. Effects to historic property views within the APE were analyzed. All attempts were made to avoid or minimize adverse effects to historical or cultural resources as a part of the Section 106 process. Effects from all project elements, including wetland, floodplain, or stormwater mitigation, on historic properties were analyzed. (See Appendix H of the Final EIS for more detail on the process of assessing the proposed BLRT Extension project's effects on cultural and historic resources.) Boundaries for the GRHD were confirmed. The study to document cultural landscape elements in TWRP includes the area around Bassett Creek. According to information from the MnHPO inventory files, Bassett Creek Park is not identified as individually eligible or contributing to the GRHD; however, the nomination form for the District is currently being reevaluated. FTA published a Section 106 Determination of Effects report for the proposed BLRT Extension project in December 2015, a copy of which is included in Appendix H of the Final EIS. This report did find that the proposed BLRT Extension project would have an adverse effect on the GRHD, including the direct physical effects resulting from construction of the Plymouth Avenue Station, the Golden Valley Road Station, and the park-and-ride facility at Golden Valley Road. Based on this information, FTA has made a preliminary Section 4(f) direct use determination for the GRHD (see Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS).
119M	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The impacts to the cultural resources within Theodore Wirth Regional Park are underrepresented in the DEIS from a construction and operation perspective. Further research is needed to properly document impacts, especially in terms of noise, impacts on users, and cultural landscapes.	Effects on historic properties within the APE, including potential effects from the design of the proposed BLRT Extension project, noise, vibration, or visual impacts, were analyzed for the Final EIS. To inform the analysis of effects, a study to document cultural landscape elements in TWRP was completed and includes examining any view sheds to and from the proposed BLRT Extension project.

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								A Section 106 MOA has been developed by FTA and MnHPO including the participation of the Council and other parties. The Section 106 MOA sets forth commitments to avoid, minimize, and mitigate the potential adverse effects of the proposed BLRT Extension project on cultural and historic resources (see Section 4.4 of the Final EIS). A copy of the draft Section 106 MOA is included in Appendix H of the Final EIS. An executed copy of this document will be included in the proposed BLRT Extension project's Record of Decision.
119N	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Architecture areas of potential effect include entire park parcels where the intent of the parkland was preservation of a view shed such as in Valley View/Glenview Terrace Park.	The architecture/history APE includes a portion of the Valley View/Glenview Terrace Park parcels. Areas included in the architectural/historical APE are defined in Section 4.4.1.1 of the Final EIS. Areas outside the architectural APE were not evaluated, pursuant to the requirements of 36 CFR Part 800.4(a)(2); therefore, only the portion of Valley View/Glenview Terrace Park which falls within the APE were evaluated for impacts associated with the proposed BLRT Extension project. Effects on historic properties within the APE, including potential effects from visual impacts were analyzed for the Final EIS. To inform the analysis of effects, a study to document cultural landscape elements in TWRP was completed and includes examining any view sheds to and from the proposed BLRT Extension project both within and outside the APE, including from Valley View/Glenview Terrace Park. A copy of this report can be found in Appendix H of the Final EIS. Visibility of the proposed BLRT Extension project may change with the season due to the vegetative cover of deciduous plants and trees. Therefore, field survey was conducted when no snow was present and prior to full leaf-out of deciduous species, in an effort to observe potential viewsheds when the lowest level of natural obstructions would exist. The analysis of viewshed impacts of the proposed BLRT Extension project from Valley View/Glenview Terrace Park resulted in a "No Visibility" finding. While this park (Valley View/Glenview Terrace) is located adjacent to the proposed BLRT Extension project, it has no direct view of the proposed BLRT Extension project and only limited views of TWRP due to dense vegetation and topography.
119O	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The protection of the entire parkland view shed shall be considered, from sunset hill (at 26th Av. N.) on Theodore Wirth Parkway through Valley View/Glenview Terrace Park.	Effects on historic properties within the APE, including potential effects from visual impacts were analyzed for the Final EIS. To inform the analysis of effects, a study to document cultural landscape elements in TWRP was completed and includes examining any viewsheds to and from the proposed BLRT Extension project both within and outside the APE, including from Sunset Hill through Valley View/Glenview Terrace Park. A copy of this report can be found in Appendix H of the Final EIS. Visibility of the proposed BLRT Extension project may change with the season due to the vegetative cover of deciduous plants and trees. Therefore, field survey was conducted when no snow was present and prior to full leaf-out of deciduous species, in an effort to observe potential viewsheds when the lowest level of natural obstructions would exist. The analysis of viewshed impacts of the proposed BLRT Extension project from Sunset Hill resulted in a "No Visibility" finding. The current extent of parkland and its orientation, as well as adjacent development and dense vegetation in the southwestern corner of Glenview Park, do not afford any views of TWRP or the proposed BLRT Extension project area from Sunset Hill.
119P	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Assessment and prevention of impacts to cultural landscape features of the Grand Rounds Historic District will be done holistically, considering the overlapping of assets to avoid or mitigate impacts.	A study to document cultural landscape elements in TWRP (including Theodore Wirth Parkway) has been completed and included examining any view sheds to and from the proposed BLRT Extension project. Avoidance, minimization, and mitigation strategies have been and will continue to be developed in consideration of the entire resource that is the Theodore Wirth Segment, a contributing element, of the GRHD. This includes developing mitigation strategies in coordination with Section 106 consulting parties, including MPRB. A Section 106 MOA has been developed by FTA and MnHPO including the participation of Council and other parties. The MOA sets forth commitments to avoid, minimize, and mitigate the potential adverse effects of the proposed BLRT Extension project on cultural and historic resources (see Section 4.4 of the Final EIS for a full

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								discussion of the mitigation measures). The mitigation measures include design elements around cultural landscapes, construction protection plan, vegetation and landscaping to screen and minimize views of the proposed BLRT Extension project. A copy of the draft Section 106 MOA is included in Appendix H of the Final EIS. An executed copy of this document will be included in the proposed BLRT Extension project's Record of Decision.
119Q	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	7 - Alternatives, Engineering & Design	Support and safety structures, as well as final transitway station designs, are harmonious, beautiful, and both historically and context sensitive.	The proposed mitigation for adverse effects to the Theodore Wirth Segment of the GRHD includes designs in accordance with the Secretary of the Interior's (SOI) standards, as identified in the proposed BLRT Extension project's Section 106 MOA. These standards are intended to result in project design elements that are in harmony with the historic setting in which they are built.
119R	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Wetland, floodplain or stormwater mitigation practices applied to the corridor protects the historic cultural landscape of Theodore Wirth Regional Park and Bassett Creek.	There are wetland, floodplain and stormwater mitigation measures planned in TWRP and Bassett Creek. A floodplain mitigation area has been identified in TWRP between the Bassett Creek main stem and the BNSF rail corridor. Mitigation would include excavating adjacent ground below the elevation of the Bassett Creek 100-year floodplain to provide compensatory floodplain storage for the fill placed in the floodplain. A portion of Bassett Creek would be relocated to accommodate the proposed BLRT Extension project. Mitigation will be accomplished through a combination of on-site wetland mitigation and purchases of wetland credits. For water quality and stormwater, long-term mitigation measures will include designing and constructing permanent BMPs, such as detention and infiltration facilities, which would control and treat stormwater runoff caused by an increase in impervious surfaces as a result of the proposed BLRT Extension project.
119S	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The visual impact of the LRT and related infrastructure is minimized for trail and park users and honors the historic character of the Grand Rounds where it crosses or abuts the Grand Rounds.	The proposed BLRT Extension project's visual impacts on TWRP and the GRHD include views being opened up by grading and vegetation thinning for the transitway. The Final EIS addressed, evaluated, and resolved the potential visual impacts of the proposed BLRT Extension project on all land uses in the study area. Appropriate mitigation measures for visual impacts were discussed in the Final EIS; these include incorporating design elements that allow design features to blend in with their surroundings, or landscape elements that soften the effect of the proposed BLRT Extension project on the surrounding landscape.
119T	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The train and station area lights have minimal visual impacts on trail and park users.	The Final EIS evaluated the impacts from the addition of lights from the train and the stations. To minimize effects from the lights, appropriate mitigation measures for visual impacts were discussed in the Final EIS. These measures include minimizing operational night lighting where practicable, including shielding of lights and directional lighting to minimize the impact of "spillover" light into visually sensitive areas adjacent to the proposed BLRT Extension project corridor.
119U	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	7 - Alternatives, Engineering & Design	The MPRB concludes that sufficient design and research has not been conducted for it to articulate whether it concurs with the finding that the LPA is also the Environmentally Preferred Alternative.	Since the publication of the Draft EIS, the Council has advanced design of the proposed BLRT Extension project and has reviewed the environmental resources which are affected by the proposed BLRT Extension project. The results of such analysis are reported in the body of the Final EIS. In summary, the proposed BLRT Extension project would have a positive effect on transit services while impacting parking, historic properties, visual resources, floodplains and wetlands, noise and vibration, and biological resources. However, with the mitigation noted for these resources, there will be overall improved transit service, the addition of over 1,600 parking spaces associated with new park-and-rides, new interpretive features for historic properties as well as preservation plans for historic properties, aesthetic treatments incorporated in transit features, noise walls or other mitigation measures, new wetland and floodplain areas, and vegetation restoration. Furthermore, the proposed BLRT Extension project would result in improved connections to park resources and a better pedestrian environment. See the Executive Summary of the Final EIS for a more detailed review of impacts and

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								mitigation.
119V	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Wetland and floodplain mitigation locations and design options within Theodore Wirth Regional Park need to be identified and evaluated under Section 4(f) and Section 106.	One floodplain mitigation site has been identified as depicted in Figure 5.2-5 of the Final EIS; this site would also be used for wetland mitigation. This site lies partially within MPRB property and partially within Canadian Pacific Railway property. On November 4, 2015, MPRB passed a resolution addressing the proposed BLRT Extension project resolving, amongst other items, to support the floodplain mitigation site identified partially within TWRP (as depicted in Figure 5.2-5). Section 4(f) and Section 106 analysis has considered the temporary impact of constructing floodplain/wetland mitigation in this area. Mitigation designs will be developed to blend in with the surroundings, and no permanent use or adverse effects are anticipated at this site. A copy of the draft US Army Corps of Engineers (USACE) Section 404 permit, which includes wetlands mitigation commitments, including required compensatory mitigation, is included as Appendix I of the Final EIS.
119W	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The project's stormwater design does not increase the volume of runoff or pollutant loads in water bodies owned and/or managed by the MPRB.	A stormwater management plan will be developed for the proposed BLRT Extension project to meet the stormwater ordinances, rules, and requirements of the various regulatory entities in the appropriate portions of the proposed BLRT Extension project corridor. Where feasible, low impact development BMPs would be incorporated into facilities associated with the proposed BLRT Extension project. Low impact development practices can substantially reduce stormwater runoff and may include the use of permeable pavers, pervious concrete, bio-infiltration, tree trenches. Such low impact design allows surface water to slowly infiltrate into the soil and helps to counteract the bounce of receiving waterbodies including Bassett Creek. Low impact design also helps to trap oils and hydrocarbons such as what may be present in areas with high vehicle use. Feasibility of various low impact development practices would be determined based on depth to the seasonal high groundwater elevation, soil types, any evidence of contaminated soils, and elevation constraints.
119X	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Wetland, floodplain or stormwater mitigation practices applied to the corridor protect water table levels and habitat within the park land that are dependent on those water levels.	Appropriate measures, such as construction of detention and infiltration facilities, to avoid and minimize impacts to surface and groundwater will be implemented during construction and operation/maintenance phases of the proposed BLRT Extension project. Low impact stormwater designs allow surface water to slowly infiltrate into the soil and help to counteract the bounce of receiving waters including Bassett Creek.
119Y	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Wet meadow areas within Theodore Wirth Regional Park are high quality wildlife habitat and provide high quality water filtration benefits.	The Final EIS discusses notable aquatic habitats within and adjacent to the proposed BLRT Extension project limits. Table 6 in the Biological Environment Technical Report specifically identifies Bassett Creek and the surrounding wetlands as an area of notable aquatic habitat. The area adjacent to the proposed BLRT Extension project is estimated at just under 12 acres. The area that would be impacted is estimated at approximately 1.8 acres. Much of this area will be temporarily impacted and restored; some of the impact would be on BNSF right-of-way, and some of the impact is proposed to be mitigated on MPRB property within the same stretch of Bassett Creek. The joint Section 404/Wetland Conservation Act (WCA) permit application (see Appendix I of the Final EIS) provides additional information about proposed mitigation.
119Z	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Any mitigation of wetland on MPRB land shall be type-for-type.	The Section 404/WCA permit application (see Appendix I of the Final EIS) indicates that less than 1 acre of permanent wetland impact would occur on MPRB property. A wetland mitigation site has been identified at the same location as the proposed floodplain mitigation site on MPRB property north of Olson Memorial Highway and west of the BNSF right-of-way. It is anticipated that this mitigation site would yield 1.5 acres of wetland mitigation credit, so there will be no net loss of wetlands on MPRB property, and there will likely be an increase in wetland area and functionality.
119AA	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Any mitigation of floodplain on MPRB land shall use BMPs and will not impair existing recreation activities.	Floodplain mitigation will occur on MPRB land (see Figure 5.2-5 of the Final EIS) and will be designed to maintain or enhance the experience of recreationists through the use of attractive native plantings and, where appropriate, interpretive signage.

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								Appropriate BMPs will be incorporated into the design. Floodplain mitigation strategies have been discussed with the BCWMC, MPRB, and the cities of Minneapolis and Golden Valley, and staffs from those governmental units have approved the final mitigation sites. The Council will continue to coordinate approvals for floodplain impacts and mitigation strategies with the BCWMC, the cities of Minneapolis and Golden Valley, Minnesota Department of Natural Resources (DNR), and Federal Emergency Management Agency (FEMA).
119AB	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	6 - Noise & Vibration Effects	Category 1 is most consistent with the type of park land the MPRB owns or maintains adjacent to or within Segment D1. Noise impacts for these park lands and its users must be re-evaluated under the standards set for Category 1.	Passive use parks are classified as Category 3 land uses in the FTA noise guidance. Category 1 is reserved for the most sensitive locations, such as recording studios, concert halls, memorials and outdoor amphitheaters. It is not intended for park settings with passive uses in some locations, such as TWRP. Active use parks, and locations within parks with active uses are not considered noise sensitive. The Chalet is over 900 feet from the nearest point of the proposed BLRT Extension project right-of-way, and the JD Rivers Garden is over 1,000 feet from the nearest point of the right-of-way. Neither resource would have any impacts associated with LRT operations, evaluated under a Category 3 assessment. Recognizing the concerns expressed by MPRB, FTA conducted an evaluation to identify whether any potential additional noise impacts would result if the evaluation used a Category 1 classification. The Final EIS evaluated the potential for noise impacts at two locations within TWRP using a Category 1 classification. The areas evaluated included the Theodore Wirth Chalet and a location between the Plymouth Avenue and Golden Valley Road stations on the east side of Theodore Wirth Parkway. No noise impacts to the park were identified based on this evaluation (see Section 5.6 of the Final EIS for more details on this evaluation).
119AC	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	6 - Noise & Vibration Effects	Theodore Wirth Regional Park has limited areas of active recreation. Section 5.6.4.1 indicates that the MPRB views the entire park as being meant for active-use and that it is not sensitive to noise impacts. The MPRB disagrees with this statement. Theodore Wirth Regional Park should be considered for sensitive noise impacts.	Please see response to Comment 119AB.
119AD	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	6 - Noise & Vibration Effects	The JD Rivers Garden feature in Theodore Wirth Regional Park is an educational as well as recreational amenity visited regularly by school children and especially at risk for detrimental effects from noise and vibration associated with BLRT.	Vibration associated with LRT operations decreases dramatically based on distance from the source (i.e., the LRT train and tracks). As noted in FTA's Noise and Vibration Impact Assessment Manual, train vibration is most sensitive and detectable by humans at a distance of approximately 350-feet from a light rail guideway. The JD Rivers Garden feature is located over 1,000 feet from the nearest point of the proposed BLRT Extension project right-of-way and the associated vibration levels would be several orders of magnitude below the threshold for human perception. Therefore, there is no ground-borne vibration impacts at the JD Rivers Garden given the distance between the proposed BLRT Extension project and this park feature.
119AE	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	6 - Noise & Vibration Effects	The vibration impacts are minimized for park users.	The 2006 Transit Noise and Vibration Impact Assessment Manual establishes the methodology used by FTA in assessing potential vibration impacts for transit projects. In predicting impacts from train operations, the methodology focuses on the generation of vibration at the source (the train for light rail projects), its path through the ground, and its effect on a receiver (a structure). Vibration is not assessed for outdoor land uses such as parks. Although the motion of the ground may be perceived by a park user, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction.
119AF	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	6 - Noise & Vibration Effects	The noise impacts are minimized for park users and do not exceed the noise standards set for Category 1.	Please see response to Comment 119AB.
119AG	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	6 - Noise & Vibration Effects	Technology that reduces track noise and vibration are incorporated into transitway design and construction.	The LRT and reconstructed freight rail track would be continuously welded rail and would reduce noise and vibration impacts by eliminating the impact of the vehicle wheels hitting joints in the rail.

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119AH	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	Communities on the east side of the LRT safely and easily access the Luce Line Regional Trail at Highway 55.	The proposed BLRT Extension project scope approved by the Corridor Management Committee (CMC) includes the reconstruction of Olson Memorial Highway, including the westbound bridge over the freight rail corridor. This reconstruction includes provisions for pedestrian and bicycle trails that allow for connectivity to TWRP trail systems, and access to the Luce Line Regional Trail.
119AI	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	Communities on the east side of the LRT can access Theodore Wirth Regional Park and the trail that follows the east side of the park along the corridor.	The proposed BLRT Extension project scope approved by the CMC includes the reconstruction of the Plymouth Avenue Bridge, the Theodore Wirth Parkway Bridge, and the Golden Valley Road Bridge. All of these bridges will be improved to include pedestrian/bicycle facilities meeting current design standards. This reconstruction will allow for connectivity to TWRP trail systems. The proposed BLRT Extension project also includes construction of a staircase leading from the Theodore Wirth Trail on the east side of the BNSF rail corridor connecting to Plymouth Avenue, facilitating connections to the Plymouth Avenue Station and to the other trails and park facilities located nearby.
119AJ	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	There is adequate access to the Theodore Wirth Regional Park from the east side of the LRT tracks, and access points are a reasonable walking distance apart.	As part of proposed BLRT Extension project improvements, the trail that runs along the east side of TWRP would be relocated out of BNSF right-of-way and onto MPRB property. In the design plans (located in Appendix E of the Final EIS), a 10-foot trail is shown with reaction space to nearby structures, such as the Plymouth Avenue Bridge. Additional trail accommodations including a connection from the Theodore Wirth Trail to Plymouth Avenue, and a connection between Theodore Wirth Parkway Trail and Sochacki Park, are also being developed for inclusion in the proposed BLRT Extension project. Trails implemented as a part of the proposed BLRT Extension project are being planned in cooperation with local jurisdictions including Hennepin County and the local municipality and designed to applicable local standards including the Minnesota Department of Transportation (MnDOT) Bikeways Facility Design Manual. The design of trail facilities will also be coordinated with MPRB, the Three Rivers Park District, and other park entities to develop a trail design that meets the needs of the intended users.
119AK	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	The trail design meets the needs of current and projected users.	Please see response to Comment 119AJ.
119AL	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	Bicycle and walking trail users have a positive, linear park-like experience, including being free of obstructions, having a 2-foot or greater buffer on each side of all trails, and retaining a sense of connection to open space.	Please see response to Comment 119AJ.
119AM	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	All trail connections are maintained or improved.	Please see response to Comment 119AJ.
119AN	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	At all points along the corridor, and especially at the narrowest locations, sufficient space remains for the Luce Line Regional Trail and the trail that runs along the east side of Theodore Wirth Regional Park, trail users, and year-round maintenance vehicles and crews.	Please see response to Comment 119AJ.
119AO	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Surface and groundwater quality is protected during construction.	Appropriate measures to avoid and minimize impacts to surface and groundwater will be implemented during construction and maintenance phases of the proposed BLRT Extension project. These include construction stormwater BMPs such as silt fences, ditch checks, erosion control mats, temporary mulching and/or seeding, and other appropriate practices to control runoff and sedimentation. Spill control plans will be required of construction contractors to address accidental releases of petroleum products or other controlled substances. As part of proposed BLRT Extension project construction, a National Pollutant Discharge Elimination System (NPDES) permit will be prepared. This permit will establish the measures which the Council and its contractors will implement during construction to protect surface and groundwater

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								quality and the monitoring activities used to report on implementation of such measures.
119AP	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	Reasonable and safe alternative routes are provided for trail users when sections are closed during construction.	Reasonable and safe routes for trail users will be provided during construction. The Council will develop a Construction Communications Plan which will be used to coordinate trail and roadway closures and detours with the public and with local jurisdictions, including MPRB.
119AQ	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Any flora that is lost to construction of LRT use is replaced with flora that is in accordance with MPRB plans, with monitoring through a plant survey and replacement for five (5) years after construction is complete.	The Council has coordinated with MPRB to plan appropriate vegetation replacement. The Council obtained maps of outstanding stands of trees and coordinated with MPRB to determine an appropriate strategy for preservation or mitigation. The Council will coordinate with MPRB staff on a final revegetation plan for implementation during proposed BLRT Extension project construction.
119AR	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Soils and slopes are stabilized during construction.	As part of mitigation commitments, an NPDES permit will outline the appropriate measures to minimize the potential for slope erosion. These measures will be implemented during construction and maintenance phases of the proposed BLRT Extension project.
119AS	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Construction dewatering protects water table levels and habitat within park lands that is dependent on those water levels.	Construction dewatering would be conducted in accordance with DNR requirements. Dewatering discharge will be redirected to upgradient recharge areas so as to maintain existing water table elevations outside of the area requiring groundwater removal.
119AT	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Construction practices prevent introduction of new invasive species to park lands and waters.	The construction contractor will be required to develop a vegetation management plan that includes provisions for avoiding introduction of invasive species within the proposed BLRT Extension project corridor. Methods may include steam cleaning construction equipment prior to entry to the proposed BLRT Extension project site; quarantining of equipment used in an area of the proposed BLRT Extension project corridor known to contain invasive species, and other appropriate methods. The Council will complete a Construction Mitigation Plan as part of commitments to minimize impacts during the construction phase. This plan will focus on methods of communicating requirements mitigation commitments to contractors and requirements to work with communities and stakeholders.
119AU	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	Users have access to Theodore Wirth Regional Park, Bassett's Creek Park, Luce Line Regional Trail, and other connection recreational opportunities.	Please see responses to Comments 119AH, 119AI, and 119AJ.
119AV	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The current wildlife habitat character of Theodore Wirth Regional Park, Bassett Creek Park, and Valley View Park is sustained.	The proposed BLRT Extension project includes mitigation commitments to address impacts to terrestrial and aquatic habitat. Terrestrial habitat mitigation will be accomplished through revegetation of areas disturbed but not permanently incorporated into the proposed BLRT Extension project. There are an estimated 9.2 acres of temporary easement in TWRP that would be cleared for construction purposes and revegetated following construction. The BNSF right-of-way and an additional 2.1 acres of permanent easement proposed to be acquired from TWRP would be permanently cleared of existing vegetation. Revegetation criteria (species mix, density, and similar) will be developed in coordination with MPRB staff. The 2.1 acres of permanent easement acquired from TWRP will be replaced with land adjacent to park property that can readily be incorporated into the park landscape, or will be mitigated through a negotiated financial settlement. Section 8.7.1.2 of the Final EIS discusses the park-related enhancements that were evaluated as measures to minimize harm to the park resource. These enhancements include: ■ Relocation of the trail adjacent to Bassett Creek to the west, out of BNSF right-of-way ■ Construction of a stair access from the Plymouth Avenue bridge to the trail adjacent to Bassett Creek ■ Construction of a trail connection from TWRP to the Sochacki Park complex to the north

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								■ Construction of a new trail head at the Golden Valley Road/Theodore Wirth Parkway intersection ■ Reconstruction of the Theodore Wirth Parkway bridge, which is owned by MPRB ■ Reconstruction of the Golden Valley Road/Theodore Wirth Parkway intersection including intersection features that would enhance pedestrian and bicycle safety ■ Minimization of visual effects through ongoing coordination regarding design of station elements and retaining walls
119AW	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Parkland adjacent to alignment is maintained in its natural open space character for enjoyment and exploration by park visitors.	Temporary parkland occupied during the construction of the proposed BLRT Extension project will be restored to an as good or better condition following construction of the proposed BLRT Extension project. In many cases, adjacent parkland will be enhanced with improved trail facilities and connections that will allow greater access to park resources by park visitors.
119AX	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	No net loss to potential Blanding's turtle habitat in Bassett Creek and adjacent open water.	The potential for impacts to the Blanding's turtle is addressed in Section 5.8 of the Final EIS. This issue has been addressed in consultation with DNR, which has concurred (e-mail correspondence dated February 9, 2016) with the Council's and FTA's assessment that with adherence to DNR guidelines regarding the Blanding's turtle (guidelines which are presented in the DNR Blanding's turtle fact sheet), impacts to the species would be negligible. Impacts to wetland types 2 and 3 (likely turtle habitat) will be avoided in accordance with the DNR guidelines.
119AY	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Oak trees near the proposed Golden Valley Road Station are preserved.	The Council has surveyed stands of trees at Golden Valley Road and will coordinate with MPRB and other stakeholders to determine an appropriate strategy for preservation or mitigation. Coordination efforts will focus on identifying whether any trees that will disturbed during construction can be preserved and, if not, whether those that will be disturbed are good candidates for transplanting elsewhere on MPRB property.
119AZ	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Maintain or improve water quality of Bassett Creek	Please see response to Comment 119AO.
119BA	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	6 - Noise & Vibration Effects	The natural and quiet character of Bassett's Creek Park is not negatively impacted by LRT	Bassett's Creek Park is located over 1,000 feet to the south of the proposed BLRT Extension project alignment. No noise or other impacts are anticipated at Bassett's Creek Park.
119BB	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	6 - Noise & Vibration Effects	Visual and noise impacts do not reduce the quiet natural character of Bassett's Creek Park.	Please see response to Comment 119BA
119BC	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The planting of dozens of trees in the median of TH 55 in the early 2000s are, in addition to a canopy that emphasizes the green space and character of the drive, are also part of a long term University of Minnesota forestry study, the results of which will be prematurely shortened by the BLRT construction and destruction of the trees. This needs to be reflected in future analysis of the impacts to this corridor.	Trees along the median of Olson Memorial Highway will be mitigated through relocating where feasible or replanting on MPRB or public right-of-way in coordination with MPRB forestry staff. On November 4, 2015, MPRB passed a resolution addressing the proposed BLRT Extension project resolving, amongst other items, to support the removal of trees in the median of Olson Memorial Highway as part of proposed BLRT Extension project, with the continued cooperation between the Council and MPRB forestry staff to identify trees which would be good candidates for re-locating elsewhere on MPRB-owned property. Conversations between the Council, MPRB forestry staff, and the University of Minnesota in the Fall of 2015 yielded the information that the research study of trees planted in the median of Olson Memorial Highway has ended.
119BD	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Replacement trees have similar character and potential for research purposes.	On November 4, 2015, MPRB passed a resolution addressing the proposed BLRT Extension project resolving, amongst other items, to support the removal of trees in the median of Olson Memorial Highway as part of proposed BLRT Extension project construction. This resolution included direction for the continued cooperation between the Council and MPRB forestry staff to identify trees in the median of Olson Memorial Highway that would be good candidates for re-locating elsewhere on MPRB-owned property. With construction of the proposed BLRT Extension project,

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								there will be limited opportunity to re-plant trees or other landscaping in the median of Olson Memorial Highway due to the need to maintain clear sight lines for LRT operators, passengers and pedestrians crossing Olson Memorial Highway.
119BE	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	8 - Transportation System Effects	Enhance or sustain the ease of access and safe connection for residents in North Minneapolis neighborhoods to recreation opportunities offered within Theodore Wirth Regional Park.	The proposed BLRT Extension project scope approved by the CMC includes the reconstruction of the Plymouth Avenue Bridge, the Theodore Wirth Parkway Bridge, and the Golden Valley Road Bridge—which span the proposed BLRT Extension project corridor into TWRP. All of these bridges will be improved to include a pedestrian/bicycle facilities meeting current design standards. This reconstruction will allow for connectivity to TWRP trail systems for residents in North Minneapolis neighborhoods. MPRB, in a resolution taken November 4, 2015, supported the construction of a Plymouth Avenue station as part of the proposed BLRT Extension project. Later in November 2015, the inclusion of a Plymouth Avenue station in the proposed BLRT Extension project's scope and budget was recommended by the CMC for Council action.
119BF	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Architectural APE should include entire park parcels where the intent of the parkland was preservation of a viewshed as in Valley View/Glenview Terrace Park.	Please see response to Comment 119N.
119BG	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Architectural APE research dates not indicated. Contributing features of the Grand Rounds district not indicated.	The Phase I and II architecture history survey for the proposed BLRT Extension project, which details the architectural APE, was completed in November of 2012. The Final EIS clarifies this matter. Boundaries for the GRHD were confirmed. The GRHD nomination is currently being reevaluated; updates are included in the Final EIS. Please see the response to Comment 119BF for additional information.
119BH	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Archaeological APE research completed in November 2012 should have included the Germania Brewery site approved by SHPO in March 2012 (Two Pines 3-2012)	Please see response to Comment 119K.
119BI	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Visual inspection of archaeological APE on public park land was not addressed. It was not disclosed if the consultant conducted on site pedestrian surveys of park land.	Visual inspection of the archaeology APE was completed primarily from public right-of-way (see page 8 of the Phase IA Archaeology Report in Appendix H of the Final EIS).
119BJ	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Grand Rounds-Theo Wirth section of the historic district boundary is incorrect. Theo Wirth Park NRHP district segment does not extend west of the extension of France Avenue (though there is parkland there it was acquired after the POS).	Boundaries for the GRHD, Theodore Wirth Segment have been updated and match the boundaries depicted in the draft National Register of Historic Places (NRHP) nomination for the GRHD, which is the basis for MnHPO's determination of eligibility for the district. The updated boundary does not extend west of the extension of France Avenue.
119BK	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Grand Rounds-Theo Wirth section of the historic district boundary is incorrect. Theo Wirth Park NRHP district segment includes parcels east of the BN RR corridor both north and south of Plymouth Avenue.	Boundaries for the GRHD, Theodore Wirth Segment have been updated and match the boundaries depicted in the draft NRHP nomination for the GRHD, which is the basis for MnHPO's determination of eligibility for the district. The updated boundary includes parcels east of the BNSF rail corridor both north and south of Plymouth Avenue.
119BL	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The overall park cultural landscape as well as contributing features within the park are not discussed or evaluated.	Recognizing concerns expressed by MPRB in its Draft EIS comments, the Council and FTA completed a TWRP Cultural Landscape Study in September 2015. The purposes of this study were to 1) provide a historic context for the park; 2) to identify viewsheds where the proposed BLRT Extension project may be visible; 3) to identify the physical characteristics of the landscape; and 4) to identify contributing elements of the GRHD within the APE and viewsheds where properties may be affected by the proposed BLRT Extension project. A copy of this study can be found in Appendix H of the Final EIS. The study was shared in draft form with MPRB staff in its role as a consulting party to the proposed BLRT Extension project Section 106 process.
119BM	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Bassett Creek Park has also been recommended NRHP eligible (Blondo 2-2014)	The study to document cultural landscape elements in TWRP includes the area around Bassett Creek, including Basset Creek Park. According to information from the MnHPO inventory files, Bassett Creek Park is not identified as individually eligible or contributing; however, the GRHD nomination is currently being reevaluated. The status of Bassett Creek Park was confirmed and updates are included in the Final EIS.

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119BN	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Archaeological NHRP eligible site-Germania Brewery (Two Pines 3-2012) is not shown on the figure or included in the research.	Please see response to Comment 119K.
119BO	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The waterbody named "Bassett Lake" does not exist. Lagoons in Bassett Creek are a cultural landscape feature created in the 1930s. The Lagoon North of Plymouth Ave station is Lagoon E.	References to “Bassett Lake” have been removed from the Final EIS.
119BP	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Description of Bassett Creek meandering through a golf course is incorrect. The creek meanders through a distinct area of the park which contains a series of important natural areas with varied native plan communities including upland oak forest, wet meadow and riparian floodplain forest and meadow. This are [sic] is not part of a "golf course" but is important on its own as a natural habitat area.	The Council understands the importance of the mosaic of habitat types throughout the open space adjacent to Bassett Creek in and around TWRP, and other nearby parks. The reference to the creek “meandering through a golf course” has been removed from the Final EIS.
119BQ	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	The description of Segment D Common does not signify the importance of the median elm trees to the character of this segment as a wide, grand city boulevard. While it is not an official parkway, it has parkway characteristics which make it a distinct landscape type, different from a typical highway, (which it is west of Theodore Wirth Regional Park). These remnant and hybrid elm specimens have been used for the past two decades for research on disease resistance. The median also includes some remnant elms which have natural resistance and may be important for future development of disease resistant cultivars. In addition, future expected loss of ash trees on side boulevard due to EAB [emerald ash borer] will make the loss of middle-aged elms in the central median more pronounced. No trees will buffer or beautify this grand city boulevard.	On November 4, 2015, MPRB passed a resolution addressing the proposed BLRT Extension project resolving, amongst other items, to support the removal of trees in the median of Olson Memorial Highway as part of proposed BLRT Extension project construction. Please see Comment 119BD. This resolution included direction for the continued cooperation between the Council and MPRB forestry staff to identify trees in the median of Olson Memorial Highway that would be good candidates for re-locating elsewhere on MPRB-owned property. With construction of the proposed BLRT Extension project, there would be limited opportunity to re-plant trees or other landscaping in the median of Olson Memorial Highway due to the need to maintain clear sight lines for LRT operators, passengers and pedestrians crossing Olson Memorial Highway. Conversations between the Council, MPRB forestry staff, and the University of Minnesota in the Fall of 2015 yielded the information that the research study of trees planted in the median of Olson Memorial Highway has ended.
119BR	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Glenview Terrace/Valley View Park determination of "minimal effect" is incorrect from MPRB's perspective. This parcel was acquired by Theodore Wirth as part of the Theo Wirth Parkway primarily to preserve its viewshed. The viewshed begins at Sunset Hill overlook at 26th Ave N and the view terminates at the RR corridor. This viewshed will be highly impacted by temporary and permanent effects of the LRT project. High overhead lines will be visible and high frequency trains will be visible and likely be audible from the high vantage point at Sunset Hill.	The analysis of viewshed impacts of the proposed BLRT Extension project from Sunset Hill resulted in a “No Visibility” finding. The current extent of parkland and its orientation, as well as adjacent development and dense vegetation in the southwestern corner of Glenview Park, do not afford any views of TWRP or the proposed BLRT Extension project from Sunset Hill. The results of assessing noise impacts for the proposed BLRT Extension project are included in Chapter 5 of the Final EIS and indicate that there would be no adverse noise impacts associated with proposed BLRT Extension project operations. Please see response to Comment 119AB for a more detailed response to concerns expressed by MPRB regarding potential noise impacts of the proposed BLRT Extension project.
119BS	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Theodore Wirth Regional Park (omit Golf course). Theodore Wirth Regional Park is mischaracterized along the project corridor. This part of the park is not the golf course. It is a consciously preserved natural landscape which serves as an important refuge for park visitors, plants, and animals. It is a quiet buffer to the neighborhood and natural habitat with passive recreation features including a well-used trail. Current rail operation is so infrequent that this character has persisted and been planned since the early 1900s.	The Council understands the importance of the mosaic of habitat types and park visitor experiences throughout the open space adjacent to Bassett Creek in the eastern portion of TWRP. The reference Theodore Wirth Golf Course has been removed from the Final EIS except for where the subject of discussion is the actual golf course. The trail adjacent to the proposed BLRT Extension project corridor will be reconstructed and will remain a resource for park visitors. Please see response to Comment 119AB for a more detailed response to concerns expressed by MPRB regarding potential noise impact of the proposed BLRT Extension project. Please see response to Comment 119BL for a more detailed response to concerns about visual and historic character of the park.
119BT	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Theodore Wirth Parkway impacts as per comments on Glenview Terrace/Valley View Park above. [assumption is that this refers to comment 119BR]	The Council acknowledges that proposed BLRT Extension project elements would be visible to some users of Theodore Wirth Parkway. Proposed BLRT Extension project elements within the Theodore Wirth Segment of the GRHD will be designed in accordance with the SOI standards in order to create transportation infrastructure that appropriately fits into the surrounding landscape. A Section 106 MOA has been

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								developed by FTA and MnHPO including the participation of Council and other parties. The Section 106 MOA sets forth commitments to avoid, minimize, and mitigate the potential adverse effects of the proposed BLRT Extension project on cultural and historic resources (see Section 4.4 of the Final EIS). A copy of the draft Section 106 MOA is included in Appendix H of the Final EIS. An executed copy of this document will be included in the proposed BLRT Extension project's Record of Decision.
119BU	Wielinski	Liz	Minneapolis Park & Recreation Board	119	Email & US Mail	5 - Environmental Effects	Plymouth Avenue Bridge over Bassett Creek, Theo Wirth Park Trail and BNSF RR, the trail impact is omitted and this is a HIGH IMPACT AREA.	The Council and MPRB have coordinated to address impacts to this trail. The TWRP trail would be relocated and reconstructed as part of the proposed BLRT Extension project. See the Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8 of the Final EIS) for additional information.

City of Minneapolis

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121A	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	The City of Minneapolis supports the Locally Preferred Alternative (LPA) route	See Master Response 2.
121B	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	The City of Minneapolis supports the purpose and need for this project.	See Master Response 2.
121C	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Two local north/south streets that currently have median openings on Olson Highway are proposed to be closed, thereby limiting vehicular access to right-in/right-out movement (Russell Avenue North and Elmwood Avenue North). Bicycle and pedestrian crossings must be maintained through the alignment, across LRT tracks and Olson at both intersections.	As documented in Section 3.4.4 of the Final EIS, there are currently nine unmarked, unsignalized mid-block crossings as well as six marked crossings at signalized intersections, several of which are not Americans with Disabilities Act (ADA)–compliant. The proposed BLRT Extension project would provide ADA-compliant crossings at seven signalized crossings, and three ADA-compliant mid-block signalized crossings. The details of these crossings have been developed in coordination with the city of Minneapolis through the issue resolution process. The Council assumes that by "Elmwood" Avenue the city of Minneapolis is referring to either James Avenue or Humboldt Avenue. According to our documentation, Elwood (rather than Elmwood) Avenue does not actually cross Olson Memorial Highway, but connects with James Avenue and Humboldt Avenue. Signalized pedestrian/bicycle crossings at James Avenue and Humboldt Avenue, as well as at Russell Avenue are included in the proposed BLRT Extension project scope and cost estimate.
121D	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Bicycle and pedestrian crossings exist at four additional locations in alignment with streets that do not currently include a vehicle median break (but do have sidewalks) along Olson Highway (Queen Avenue North, Sheridan Avenue North, Newton Avenue North, and Logan Avenue North). Bicycle and pedestrian crossings must be maintained through the alignment, across LRT tracks and Olson at all four intersections.	As documented in Section 3.4.4 of the Final EIS, there are currently nine unmarked, unsignalized mid-block crossings as well as six marked crossings at signalized intersections, several of which are not ADA-compliant. The proposed BLRT Extension project would provide ADA-compliant crossings at seven signalized crossings, and three ADA-compliant mid-block signalized crossings. The details of these crossings have been developed in coordination with the city of Minneapolis through the issue resolution process. This includes agreement on the elimination of the crossings at Queen Avenue North, Sheridan Avenue North, Newton Avenue North, and Logan Avenue North. The Council and the city have agreed on eliminating these crossings because of the improved intersection and mid-block crossings that have been incorporated into the proposed BLRT Extension project.
121E	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Diverted vehicular traffic must be accommodated in a manner that is compatible with the surrounding neighborhood context.	While no significant changes to vehicular traffic circulation is expected with the proposed BLRT Extension project, the Council will coordinate with MnDOT and city of Minneapolis Public Works Department for any changes in vehicular circulation as part of the operations phase of the proposed BLRT Extension project. Vehicular traffic is discussed in Section 3.3 of the Final EIS. Any detours required during construction would be coordinated with the city and communicated to the public, in accordance with the proposed BLRT Extension project Construction Communication Plan.
121F	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	The City of Minneapolis is opposed to the placement of the Operations and Maintenance Facility for this line within the City of Minneapolis.	The Operations and Maintenance Facility (OMF) is not located in the City of Minneapolis. There were two alternative locations identified in the Draft EIS, both in the City of Brooklyn Park. The Final EIS identifies the proposed BLRT Extension project's OMF location in the City of Brooklyn Park near Oak Grove Parkway.
121G	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Both stations within the corporate boundaries of Minneapolis (Penn and Van White) must be constructed.	Both the Penn Avenue and Van White Boulevard stations are included in the proposed BLRT Extension project scope and cost estimate approved by the Council in December 2015.
121H	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Construction of both the Golden Valley Road Station and the Plymouth Avenue Station is necessary to adequately serve the corridor travelshed, including a significant portion of North Minneapolis. Though these stations are located outside of Minneapolis corporate boundaries, they are located close	Both the Golden Valley Road and Plymouth Avenue stations are included in the proposed BLRT Extension project scope and cost estimate approved by the Council in December 2015.

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							enough to ensure improved access to the regional fixed rail system for residents in North Minneapolis, and will improve ridership.	
121I	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Conduct additional study to ensure the narrowing of Olson Highway so that the combination of street and LRT line will help to catalyze a denser, more urban development pattern within the corridor; one that will ensure that new development along the line is truly transit oriented, rather than highway-oriented. The existing highway environment needs to be redesigned and modified in order to provide greater balance. Specifically, the roadway needs to be designed in order to accommodate the necessary vehicular traffic while also accommodating and enhancing connectivity between transit, pedestrian, and bicycle networks. The project office will need to work on this critical topic with Hennepin County Community Works and the City of Minneapolis as station area planning progresses.	Chapter 2 of the Final EIS summarizes the issue resolution process that the BLRT Extension Project Office conducted with the city of Minneapolis after the Draft EIS was published on these two issues: design of Olson Memorial Highway (Technical Issue [TI]-2) and at-grade crossing at 7th St (TI-1). Chapter 3 – Transportation of the Final EIS addresses specific improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: Penn Avenue Station and Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to reduce pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue; and midblock crossings between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge. The 7th Street intersection design resolution process resulted in pedestrian and bicycle improvements to the intersection. The proposed BLRT Extension project would modify the intersection of 7th Street/Olson Memorial Highway by relocating the LRT transition from the center of the intersection to the east of the intersection, eliminating existing and/or proposed lanes for every approach and improving pedestrian crossing movements.
121J	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Specific ridership (not a range) at individual stations must be determined (both boarding and alighting). Further work is needed to determine pedestrian capacity and needed infrastructure improvements at the Downtown Minneapolis stations given that the Bottineau Corridor will be the fourth LRT line to run along the high-volume 5th Street corridor.	Section 3.1 of the Final EIS reports ridership forecasts for boarding and alighting data by station. Infrastructure improvements to the areas surrounding the Minneapolis stations have been developed in coordination with city staff through the issue resolution process.
121K	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Safety and security at station locations and routes to/from stations is critical. It is recommended that measures such as (but not limited to) surveillance cameras and street lighting (per the City of Minneapolis street lighting policy) be installed and that station design allows for visibility at stations.	Section 4.7 of the Final EIS addresses safety and security. Safety for rail users, area residents, local pedestrians and bicyclists, operators and vehicle occupants is an important consideration for the proposed BLRT Extension project. The framework for ensuring the safety of these groups will be established through conformance with the Metropolitan Council's SSMP and the Metro Transit Security and Emergency Preparedness plan. Proposed BLRT Extension project operations in conformance with these plans will necessarily be closely and continuously coordinated with local area law enforcement, medical, fire, transportation and other organizations with related emergency responsibilities within the proposed BLRT Extension project corridor.
121L	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	The City of Minneapolis requires that local stormwater policies and ordinances be adhered to. Stormwater management, wetland and floodplain mitigation must consider not only the specific area of impact, but broader impacts on the local area and regional system.	Proposed BLRT Extension project stormwater designs are being developed in accordance with city and watershed policies and ordinances. Wetland and floodplain mitigation is being coordinated with the Minnesota WCA Local Governmental Unit (LGU) representatives, DNR, and USACE. These agencies require analysis of local and regional effects in permit application documents. Wetland and floodplain mitigation requirements can be found in Sections 5.2 (Floodplains) and 5.3 (Wetlands) of the Final EIS. Appendix I of the Final EIS contains the Section 404 permit application, noting compensatory mitigation requirements for the affected water resources.

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121M	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	The City of Minneapolis does not support park-and-ride facilities within City limits. Vacant lots near the proposed Van White Station are needed for TOD redevelopment, which will help improve density and ridership at that station.	None of the stations within the Minneapolis city limits would include park-and-ride facilities.
121N	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Traction power substations and signal bungalows must be appropriately placed and the visual impact mitigated. Traction Power Substations should be appropriate for the community context, should be landscaped, should be fenced for safety, and should be designed with architectural fencing instead of chain link fence.	Potential locations for traction power substations (TPSSs) and signal bungalows have been developed in coordination with city staff. Visual impacts of TPSSs and signal bungalows have been considered. Section 4.5 of the Final EIS presents mitigation strategies for these LRT elements, which include fencing and landscaping features for visual screening purposes.
121O	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Utilities and street infrastructure disrupted as part of the project must be replaced at the project's expense.	Replacement of utilities and street infrastructure that are disturbed as a result of the proposed BLRT Extension project is included in the scope and cost estimate.
121P	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Noise and vibration from the LRT operations must be mitigated.	Sections 5.6 and 5.7 of the Final EIS describe impacts and proposed mitigation for noise and vibration, respectively. All impacts will be mitigated in accordance with Council mitigation guidelines.
121Q	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	The City of Minneapolis is opposed to LRT pre-emption at signalized crossings.	Transit priority would be used along Olson Memorial Highway into downtown Minneapolis. See Transit/Traffic Signal Operating Schemes Technical Memorandum (December 6, 2011).
121R	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	The City of Minneapolis supports efforts to minimize project impacts on identified historical or cultural resources.	Section 4.4 of the Final EIS presents the adverse effects of the proposed BLRT Extension project on listed and eligible historic properties. The city of Minneapolis and the Minneapolis Historic Preservation Commission are consulting parties in the Section 106 compliance process, and are anticipated to be concurring parties to the Section 106 MOA that provides details regarding minimization and mitigation requirements for historic properties.
121S	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	The project must minimize tree loss; salvage trees where possible and replace tress per the Minneapolis Park and Recreation Board urban tree policy. Boulevard design should be consistent with the Minneapolis Design Guidelines for Streets and Sidewalks.	The Council has coordinated with MPRB on MPRB's tree policy and will continue to adhere to this policy as design advances. Boulevard designs will be coordinated with city staff through the issue and design resolution processes.
121T	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Public art must be integrated into station design.	Review of the current New Starts requirements indicates that public art is not eligible for federal funding. All public art would need to be funded locally. At this time a local funding source for public art has not been identified.
121U	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Pedestrian Level Street Lighting should be evaluated in accordance with the City of Minneapolis Street Lighting Policy. Traffic impacts to the Olson Highway/I-94 bridge need to be mitigated. Any ornamental railings and artwork must be salvaged.	Observance of the city of Minneapolis lighting policies and bridge material salvage requests are so noted and will be incorporated into design documents as appropriate. Traffic impacts to the Olson Memorial Highway/Interstate Highway 94 (I-94) bridge have been assessed through the design process; no adverse traffic impacts would occur as a result of the proposed BLRT Extension project. Additional information about traffic impacts can be found in Section 3.3 of the Final EIS.
121V	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Catenary poles along Olson Highway should reflect the same style used along University Avenue (painted tapered tubular design).	Design details of the catenary poles will be established in coordination with MnDOT, Hennepin County and the city of Minneapolis through the preliminary and final design phases of the proposed BLRT Extension project.
121W	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Embedded track should be constructed along the entire length of Olson Highway.	Track along Olson Memorial Highway would generally be ballasted except at stations, street crossings and a segment of roadway between I-94 and 7th Street.
121X	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Best practices for mitigating the construction impacts for local businesses should be implemented.	Impacts to local business during construction activities are largely the result of inaccessibility. A Construction Communication Plan will be developed that includes approaches for advance communication of information regarding roadway closures and access changes. Council staff will work with potentially affected businesses during construction to maintain customer and employee access as practicable.

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121Y	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Traffic impacts along the corridor need to be mitigated, especially traffic impacts to the Olson Highway/I-94 Bridge, the segment east of I-94 into the Interchange, and the at-grade crossing at 7thStreet/10thStreet.	Traffic impacts to the Olson Memorial Highway/I-94 bridge have been assessed and addressed in the proposed BLRT Extension project design details; no adverse traffic impacts would occur as a result of the proposed BLRT Extension project. The segment of Olson Memorial Highway and the 7th Street/10th Street intersection were discussed in detail with city staff during the issue resolution process. City, Hennepin County, MnDOT, and Council staff agreed upon a design solution that results in some reduction in intersection level of service, but enhances the pedestrian and bicycle environment. This design solution includes the elimination of a free right, elimination of one of the through lanes on the eastern leg of the intersection, introduction of dual right turn lanes for the eastbound to southbound movement (the highest frequency movement), improved cross-walks, medians with pedestrian refuges, and shifting the location of the LRT tracks so as to avoid a skewed crossing of bike lanes. Additional information about traffic impacts can be found in Section 3.3 of the Final EIS.
121Z	Pflaum	Donald	City of Minneapolis	121	Email	1 - Purpose and Need	Page 1-10, Section 1.3 – The purpose statement is just about transportation for businesses and people. It should also include reference for serving and creating transit-supportive development opportunities along the line, particularly near station areas. This is inherent in how station areas are designed so should be identified up front as part of the purpose of this project.	Please see the description of the proposed BLRT Extension project need in Chapter 1 of the Final EIS. The project need includes “providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.” This need statement was used in the identification and evaluation of the proposed BLRT Extension project, including the station locations.
121AA	Pflaum	Donald	City of Minneapolis	121	Email	1 - Purpose and Need	Page 1-25, Table 1.5-1 – The development section of this table should more specifically reference development near station areas, in addition to the more general language here.	Please see response to Comment 121Z.
121AB	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	The City of Minneapolis concurs that LRT on the D1 alignment is the preferred alternative. For the D1 and D Common portion of the LPA that runs along Olson Memorial Highway (Hwy 55) there are significant impacts to the bike, vehicular, and pedestrian function for the surrounding neighborhoods; there are potential visual impacts; and there is limited development potential. The corridor is currently a barrier between the communities to the north and south of the highway and the addition of the LRT should not further complicate this condition; it should resolve this condition by connecting communities. Decisions about the impacts of the D1 and D Common alignment on Olson Memorial Highway are based on assumptions of traffic operations and do not consider all of the above noted impacts. The future design and function of LRT on Olson Memorial Highway should not be precluded by these traffic assumptions and should be based on a study of the feasibility of, but not limited to, a combination of travel lane reductions, travel lane narrowing, elimination or relocation of frontage roads, and other pedestrian access and safety strategies with the intent of creating developable parcels at station areas and along Olson Memorial Highway. The DEIS, station area planning, and future stages of the project should consider the form, function, and visual impacts of Olson Memorial Highway to mitigate any negative impacts and to create significant development opportunity and pedestrian and bike access and safety. The completed traffic study for Olson Memorial Highway, while acceptable for studying traffic impacts, based on current operating assumptions, does not address the larger issues of development potential, connections between neighborhoods, and the barrier that Olson Memorial Highway creates between neighborhoods and that will be	Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: Penn Avenue Station and Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to reduce pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Sochacki Park:, Humboldt Avenue, James Avenue, Morgan Avenue; and midblock crossings between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge. Existing excess MnDOT right-of-way on the south side of Olson Memorial Highway would be left largely intact and available for transit oriented development. These proposed BLRT Extension project elements were developed in coordination with the city of Minneapolis, Hennepin County, MnDOT, and the Council.

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							exacerbated by the addition of LRT without appropriate mitigation or planning. Additional study is needed to consider this issue in relation to station area planning, enhancing TOD opportunities and creating nodes where population and employment density can be increased.	
121AC	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Page 2-13, Table 2.4-1 – The Golden Valley Rd and Plymouth Avenue stations are needed for reasons beyond the initial forecasted ridership such as access to transit, economic opportunities, access to jobs, and access to Theodore Wirth Regional Park from other parts of the region.	Please see response to Comment 121H.
121AD	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Page 2-14, Operations and Maintenance Facility – The city supports proposed OMF sites in Brooklyn Park.	Please see response to Comment 121F.
121AE	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Page 2-18, Traction Power Substations (TPSS) – The DEIS states that TPSS locations are anticipated to be within the existing right-of-way. If in fact private property acquisition is needed, there should be early notification of impacted property owners to ensure time for coordination/negotiation. The City of Minneapolis will also want to review in more detail the location of the TPSS sites as they are refined. It should be a priority to place these in unobtrusive locations, such as under overpasses, and to appropriately screen them from view with architectural fencing and landscaping.	Potential locations for TPSSs have been developed in coordination with city staff. The Council prioritized the use of existing property needed for other proposed BLRT Extension project purposes over the acquisition of private property for TPSS placement. Visual impacts of TPSSs have been considered. Section 4.5 of the Final EIS presents potential mitigation strategies for TPSSs, which include fencing and landscaping features for visual screening purposes.
121AF	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Page 2-18, Trackway – Embedded track should be utilized on the D1 and D Common portions of the project in the Hwy 55 corridor.	Please see response to Comment 121W.
121AG	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	General Comment - The construction of LRT should be designed and built in a way to enhance connectivity rather than compounding disconnectivity between places and neighborhoods.	Section 4.2 of the Final EIS focuses on issues of community cohesion. In general, improvements to pedestrian crossings along the entire proposed BLRT Extension project corridor coupled with significant trail enhancements would result in better connections across the proposed BLRT Extension project corridor and between communities along the corridor.
121AH	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3.3.5 –More study is needed to look at traffic, pedestrian, and development impacts at Hwy 55 and Penn, Van White, and the 7th St/6th Ave area near Target Field.	The Final EIS and the Transportation Technical Report include information about the traffic and pedestrian environments at Penn Avenue, Van White Boulevard, and the 7th/6th Street area. All three intersections would have improved pedestrian connections—these improvements can be seen in Figures 3.4-1, 3.4-2, and 3.4-4 of the Final EIS. Traffic analyses indicate that the Van White Boulevard and Penn Avenue intersections with Olson Memorial Highway would operate at LOS D or better in 2040 with the proposed BLRT Extension project in place. The level of service at the 7th/6th street area intersection is projected to be LOS E in 2040 with the proposed BLRT Extension project in place, as compared to a projected LOS D in 2040 under the No-Build scenario. This is because of revisions to the intersection geometry that were developed at the request of and in coordination with the city of Minneapolis to achieve a balance between the needs of pedestrian and bicycle traffic and vehicular traffic. The city of Minneapolis is aware of and accepts the reduction in vehicular traffic level of service that would occur under the proposed BLRT Extension project.
121AI	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-4, Affected Environment – Please analyze the transit service area past the southern edge at Highway 55. For example, Route 9 serves the neighborhood immediately to the south, but is not mentioned here.	The Final EIS provides an updated figure of the existing transit service, including Route 9. See Figure 3.1-1 of the Final EIS.
121AJ	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-6, Table 3.1.1 – More information is necessary regarding the elimination of route 19H; Consider adding evaluation of	Modifications to bus routes to better serve the proposed BLRT Extension project were considered during the development of the ridership model; however, these

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							Route 30.	routes are not finalized. The addition, modification, or elimination of any route, including routes 19H and 30, will be subject to a detailed route planning process that will take place as the proposed BLRT Extension project is developed further. Please see response to Comment 121CK.
121AK	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-15, Footnote – The CCLRT is a good place to start with the process. However, some concerns were raised by the stakeholders along CCLRT in response to perceived deficiencies and limitations in the outreach. It would be better to state it would be the intent to "build upon" what was done along CCLRT rather than to say it would simply be replicated.	While the Council believes that the Central Corridor LRT (CCLRT) transit service study process was successful overall, it acknowledges that there are opportunities to make changes to address specific community needs. The Council will engage the cities along the line, as well as other key stakeholders in the transit service area such as Maple Grove Transit, to design an outreach plan for transit service planning along the proposed BLRT Extension project that builds on the process used for CCLRT and adapts or makes adjustments to address community needs. This effort will start with coordination through the proposed BLRT Extension project Communications Steering Committee, which has representatives from each city along the proposed BLRT Extension project corridor.
121AL	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-31, Alignment D2 – The restriction of traffic on many cross-streets (cul-de-sacs and right-in/right-out) can have a negative impact on traffic flows in the larger area. Any necessary modifications to the vehicular circulation system must be made in a way that is urban in character, not suburban. Modifications that eliminate vehicular connectivity should not be de facto interruptions to the pedestrian and bicycle networks that currently exist or potentially might be built in order to enhance the urban grid.	Alignment D2 has been eliminated from further consideration.
121AM	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-31, Table 3.2-2 – More information will be necessary about the bridge modifications to assess their impacts.	All bridge modifications have been discussed in detail with city of Minneapolis staff through the issue resolution process. The city of Minneapolis has reviewed and approved the bridge modification concepts as identified in Appendix E of the Final EIS. The city will continue to be involved in the design review process and will be able to provide input on bridge modification details as the proposed BLRT Extension project design progresses.
121AN	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-32, Alignment D – The elimination of the pedestrian crossing of TH 55 on the west side of Lyndale is problematic. This crossing connects two residential neighborhoods, and there are few nearby alternatives for those wishing to cross on foot. Removal of a designated crossing may encourage illegal and potentially unsafe crossing in the vicinity. Is there a potential to add a pedestrian actuated signal to ensure it does not interfere with normal signal operations when no pedestrian is present?	Under the current design (Appendix E of the Final EIS), a marked, signalized pedestrian crossing of Olson Memorial Highway on the west side of Lyndale Avenue is included.
121AO	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-36, Alignment D1 – The closure of pedestrian crossings at three consecutive streets crossing Highway 55 (Queen, Russell, and Sheridan) creates a fairly large gap in the pedestrian network. Will there be any barriers to discourage or prevent crossing? Was there any assessment if a significant number of people currently use these crossings?	As documented in Section 3.4.4 of the Final EIS, there are currently nine unmarked, unsignalized mid-block crossings as well as six marked crossings at signalized intersections, several of which are not ADA-compliant. The proposed BLRT Extension project would provide ADA-compliant crossings at seven signalized crossings, and three ADA-compliant mid-block signalized crossings. The details of these crossings have been developed in coordination with the city of Minneapolis through the issue resolution process. Specific to the elimination of crossings at Queen Avenue North, Russell Avenue North, and Sheridan Avenue North; a signalized pedestrian crossing has been included at Russell Avenue North in the proposed BLRT Extension project design. With the improved pedestrian crossings at Penn Avenue and Thomas Avenue North, there would be signalized pedestrian crossings at every other street along this segment of Olson Memorial Highway. At locations where crossings have been eliminated, there would be some sort of barrier to discourage illegal crossing of the highway and LRT facilities.
121AP	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-37, Alignment D2 – As with vehicle traffic, this route alignment greatly curtails pedestrian connectivity in this area.	Alignment D2 has been eliminated from further consideration.

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							This is indicated later on p. 4-36.	
121AQ	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-37, Alignment D - The closure of pedestrian crossings at three consecutive streets crossing Highway 55 (Oliver, Newton, Logan, and James) creates gaps in the pedestrian network. Will there be any barriers to discourage or prevent crossing, and what would those likely be? Was there any assessment if a significant number of people currently use these crossings? How will remaining pedestrian crossings be enhanced?	As documented in Section 3.4.4 of the Final EIS, there are currently nine unmarked, unsignalized mid-block crossings as well as six marked crossings at signalized intersections, several of which are not ADA-compliant. The proposed BLRT Extension project would provide ADA-compliant crossings at seven signalized crossings, and three ADA-compliant mid-block signalized crossings. The details of these crossings have been developed in coordination with the city of Minneapolis through the issue resolution process. Specific to the elimination of crossings at Oliver Avenue North, Newton Avenue North, Logan Avenue North, and James Avenue North; signalized pedestrian crossings have been included at James Avenue North, and between Oliver Avenue North and Newton Avenue North in the proposed BLRT Extension project design. With the improved pedestrian crossings at Penn Avenue and Humboldt Avenue, there would be signalized pedestrian crossings at every other street along this segment of Olson Memorial Highway. At locations where crossings have been eliminated, there would be some sort of barrier to discourage illegal crossing of the highway and LRT facilities.
121AR	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3-45, 3.5.3 Alignment D2 – Removal of parking may negatively impact businesses and residences in the area that depend on on-street parking due to limited off-street parking. It is unclear from later in the text (3-53) if the project would propose funding the construction of off-street parking to mitigate the loss of on street spaces.	Alignment D2 has been eliminated from further consideration.
121AS	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3.36 – Under Alignment D1, the non-signalized pedestrian crossings of TH 55 at the intersections with Sheridan, Russell, and Queen Avenues would be closed. The nearest pedestrian crossings are at Thomas Avenue to the west and Penn Avenue to the east. It is expected that pedestrian crossings will increase at proximate signalized intersections due to diverted traffic from closed crossings and increased activity at and around station areas. Pedestrian safety enhancements should be made at these crossings, especially at the unsignalized intersection of Thomas Avenue. General strategies to improve pedestrian safety and comfort should include, but are not limited to, a combination of the following: travel lane reduction, travel lane narrowing, curb extensions, pedestrian median waiting areas, durable enhanced crosswalk markings, and landscaping.	Please see response to Comment 121AO regarding the number and location of signalized crossings between Penn Avenue and Thomas Avenue. Please see response to Comment 121AB regarding strategies to improve pedestrian safety and comfort.
121AT	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3.37 – Under Alignment D2, pedestrians would be allowed to cross the LRT guideway only at signalized intersections along West Broadway Avenue and along Penn Avenue. Along West Broadway the unmarked pedestrian crossings of 27th Avenue/Thomas Avenue and Sheridan Avenue would be closed. The nearest pedestrian crossings are at 29th Avenue, 26th Avenue, and Penn Avenue. Along Penne Avenue, the unmarked pedestrian crossings of 21st, 17th, 15th, 14th, 12th, and 8th Avenues would be closed. The nearest pedestrian crossings that would remain open are at West Broadway Avenue, Golden Valley Road, 16th Avenue, Plymouth Avenue, Oak Park Avenue, and TH 55. It is expected that pedestrian crossings will increase at proximate signalized intersections due to diverted traffic from closed crossings and increased activity at and around station areas. Pedestrian safety enhancements should be made at these crossings. General strategies to improve pedestrian safety and comfort should include, but are not limited to, a combination of the following: travel lane reduction, travel lane narrowing, curb	Alignment D2 has been eliminated from further consideration.

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							extensions, pedestrian median waiting areas, durable enhanced crosswalk markings, and landscaping.	
121AU	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3.37 – Under Alignment D2, the crossing of West Broadway Avenue at 27th Avenue/Thomas Avenue would be closed. The 2011 Minneapolis Bicycle Master Plan identifies Thomas Avenue as a bicycle boulevard from 42nd Avenue to Oak Park Avenue. This bikeway is planned, but currently unfunded. A closure of 27th Avenue/Thomas Avenue at West Broadway Avenue would create a barrier and disrupt a continuous bicycle boulevard route along Thomas Avenue. The future bikeway would need to be rerouted to cross West Broadway Avenue at 26th or 29th Avenue.	Alignment D2 has been eliminated from further consideration.
121AV	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3.37 – Under Alignment D2, the crossing of Penn Avenue at 8th Avenue would be closed. The 2011 Minneapolis Bicycle Master Plan identifies 8th Avenue as a signed bicycle route from Theodore Wirth Park to Van White Boulevard. This bikeway is planned, but currently unfunded. A closure of 8th Avenue at Penn Avenue would create a barrier and disrupt a continuous bikeway along 8th Avenue. The future bikeway would need to be rerouted to cross Penn Avenue at Oak Park Avenue.	Alignment D2 has been eliminated from further consideration.
121AW	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3.37 – Under Alignment D2, the signalized intersection of Oak Park Avenue at Penn Avenue would remain open. The 2011 Minneapolis Bicycle Master Plan identifies Oak Park Avenue as a bicycle boulevard from Theodore Wirth Park to Irving Avenue. This bikeway is planned, but currently unfunded. Maintaining east-west bicycle access at the intersection of Oak Park Avenue and Penn Avenue would preserve a continuous route for a future bikeway.	Alignment D2 has been eliminated from further consideration.
121AX	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3.37 – Under Alignment D2, bicyclists would share roadway lanes with vehicular traffic on West Broadway and Penn Avenues. There are currently no bicycle facilities on West Broadway and Penn Avenues, so the existing conditions would be maintained. However, future conditions may include a bicycle facility. The 2011 Minneapolis Bicycle Master Plan identifies bike lanes on Penn Avenue between 42nd Avenue and the south I-394 Frontage Road. With the addition of the LRT guideway system along Penn Avenue, it appears that there will not be enough right-of-way to accommodate bike lanes of a minimum standard width. Under Alignment D2, bike lanes on Penn Avenue between West Broadway Avenue and TH 55 would not be feasible. Access Minneapolis, the City of Minneapolis' transportation management plan includes a provision for such cases: If a bikeway identified on the 2011 Minneapolis Bicycle Master Plan cannot be installed on the target street, a parallel bikeway should be installed that serves the same travel shed. Under Alignment D2, this provision would need to be executed.	Alignment D2 has been eliminated from further consideration.
121AY	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3.37 – Under Alignment D Common Section, the non-signalized pedestrian crossings of TH 55 at the intersections of Oliver, Newton, Logan, and James would be closed. It is expected that pedestrian crossings will increase at proximate signalized intersections due to diverted traffic from closed crossings and increased activity at and around station areas. Pedestrian safety enhancements should be made at these	Please see response to Comment 121AQ regarding the number and location of signalized crossings between Penn Avenue and Thomas Avenue. Please see response to Comment 121AB regarding strategies to improve pedestrian safety and comfort.

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							crossings. General strategies to improve pedestrian safety and comfort should include, but are not limited to, a combination of the following: travel lane reduction, travel lane narrowing, curb extensions, pedestrian median waiting areas, durable enhanced crosswalk markings, and landscaping.	
121AZ	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 3.37 – The existing marked pedestrian crossing of TH 55 at West Lyndale Avenue would also be closed due to the number of lanes that would need to be crossed, the resulting number of vehicle conflicts, and poor signal operations. It is recommended that two considerations are made with respect to this proposed closure. First, evaluate if the hazards identified can be mitigated through travel lane reduction, lead pedestrian intervals, protected signal phasing, durable and enhanced crosswalk markings, or other pedestrian safety measures. Second, if the crossing is closed, ensure that pedestrian access is physically restricted to ensure that there is no expectation that this is a safe and legal pedestrian crossing.	Under the current design (Appendix E of the Final EIS), the existing marked pedestrian crossing of Olson Memorial Highway at West Lyndale Avenue not be closed, but a marked, signalized pedestrian crossing of Olson Memorial Highway on the west side of Lyndale Avenue is included.
121BA	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	General comments for Section 3.4 Pedestrians and Bicycles. Evaluating the alternatives from the perspective of pedestrian and bicycle impacts, the Locally Preferred Alternative D-D1 has less of a negative impact than Alternative D-D2. Both Alternatives D-D1 and D-D2 significantly impact the urban street grid by closing off local pedestrian and bicycle access at many crossings. The relative severity of impacts is greater for Alterative D-D2 because the urban street grid is more intact along West Broadway Avenue and Penn Avenue than along TH 55. West Broadway Avenue and Penn Avenue currently have narrower street widths, with fewer travel lanes and more pedestrian destinations. TH 55 is currently much wider with a greater number of travel lanes and a limited number of pedestrian destinations. To preserve existing pedestrian environments, it would be better to close crossings along TH 55 where the walkability is quite low, rather than close crossings along West Broadway Avenue and Penn Avenue, where the walkability is relatively higher.	The factors raised by the city of Minneapolis in this comment were considered during the selection of the alternative that has become the proposed BLRT Extension project. While pedestrian impacts on the D1-D Common alignment are less than those on the D2 alignment, the Council has still evaluated pedestrian impacts on the D1-D Common alignment and incorporated design features to mitigate those impacts. Section 3.4 of the Final EIS addresses pedestrian impacts and mitigation.
121BB	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	For the entire chapter, it should be kept in mind that the construction of LRT should be designed and built in a way to enhance connectivity rather than compounding disconnectivity between places and neighborhoods.	Section 4.2 of the Final EIS focuses on issues of community cohesion. In general, improvements to pedestrian crossings along the entire proposed BLRT Extension project corridor coupled with significant trail enhancements would result in better connections across the corridor and between communities along the corridor.
121BC	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4.3.4.1–Traction Power Station locations are important, and should be strategically sited/mitigated, especially if one is needed in Theodore Wirth Park.	Please see response to Comment 121AE; also note that no TPSSs would be located within TWRP.
121BD	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4-5, Alignment D – the language about Urban Neighborhoods should be amended to read “Urban Neighborhood is a predominantly residential area with a range of densities that may include other small-scale uses, including neighborhood-serving commercial, and institutional and semi-public uses (for example, schools, community centers, religious institutions, public safety facilities, etc.) scattered throughout. More intensive nonresidential uses may be located in neighborhoods closer to Downtown and around Growth Centers.	The suggested additional language provides a more complete description of urban neighborhoods, and is noted. However, Section 4.1 of the Final EIS presents a summarized version of the information presented in the Draft EIS, and this level of specificity, while accurate, is not required to understand land use compatibility issues for the proposed BLRT Extension project.
121BE	Pflaum	Donald	City of	121	Email	4 - Social and	Page 4-5 – For the D1 Alignment the DEIS states: “As shown in	The Final EIS does not present the language used in the Draft EIS, but does reference

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			Minneapolis			Economic Effects	Exhibit 4-11, the primary land uses are park and low-density residential uses with no plans for changes in the future. Along TH 55, existing and future planned land uses are primarily low-density residential uses." Language should be added to say that "future land use in the station areas will be evaluated in the station area planning process, which may result in amended land use policy and maps as a part of the adopted station area plans."	*The Minneapolis Plan for Sustainable Growth* and how that plan calls for ongoing investment in and development of corridors served by light rail. See Section 4.1 of the Final EIS.
121BF	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4.6.4.1- Acquisition impacts are small in Minneapolis using the preferred alternative, but the potential redevelopment opportunities are also small, due to station location and the elevation/disconnection with neighbors to the east.	Anticipated acquisitions in the City of Minneapolis are presented in Section 4.3 of the Final EIS. An estimated 2.11 acres of permanent easement and just under 1 acre of temporary easement are anticipated in Minneapolis. The design of the proposed BLRT Extension project along the Olson Memorial Highway segment has preserved excess MnDOT right-of-way along the south side of the proposed BLRT Extension project corridor for potential redevelopment purposes.
121BG	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4-6 – For the D common alignments, add language to say that "future land use in the station areas will be evaluated in the station area planning process." (1) At the Van White Station area there a several large vacant properties that are potential development sites and other underutilized sites that could be intensified with development. Station area planning will evaluate and recommend the most appropriate form and type of transit oriented development for these parcels and the surrounding station area, which may result in amended land use policy and maps with the adoption of the station area plans. (2) At the Penn Avenue/Hwy 55 station area, while there are not large vacant parcels and the area is predominantly single-family homes, station area planning will evaluate and recommend the most appropriate form and type of land use for the surrounding station area. At this station area higher density and intensity land uses will depend on a long-term strategy of parcel assemblage and strategies that could include the narrowing and/or elimination of travel lanes on Hwy 55 and frontage roads along Hwy 55, all which should be studied in the station area planning process. Station area planning will evaluate and recommend the most appropriate form and type of transit oriented development for these parcels and the surrounding station area, which may result in amended land use policy and maps with the adoption of the station area plans.	The Final EIS references *The Minneapolis Plan for Sustainable Growth* and how that plan calls for ongoing investment in and development of corridors served by light rail. See Section 4.1 of the Final EIS. This includes the areas around the Van White Boulevard Station and the Penn Avenue Station. The design of the proposed BLRT Extension project along the Olson Memorial Highway segment has preserved excess MnDOT right-of-way along the south side of the proposed BLRT Extension project corridor for potential redevelopment purposes.
121BH	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4-18, Minneapolis – The section describing the Near-North neighborhood references areas in the Sumner-Glenwood neighborhood. The section should be revised.	This has been corrected in Section 4.2 of the Final EIS.
121BI	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4-33, Alignment D2 – The project would have direct and significant impacts to community character and cohesion that would need to be mitigated.	Alignment D2 has been eliminated from further consideration.
121BJ	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4-39, Table 4.3-3 – Alignment D2 would result in major impacts in terms of property acquisitions, and would involve the displacement of a large number of residents, some of which are low income. This would need to be mitigated.	Alignment D2 has been eliminated from further consideration.
121BK	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4-61, Table 4.4-1 – Alignment D2 would have an adverse effect on the Homewood historic district, as well as significant visual impacts on area resources.	Alignment D2 has been eliminated from further consideration.
121BL	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4-74 – Impacts from Alignment D1 on Wirth Park should be mitigated with additional planting and screening as needed, since the project will involve thinning out the vegetation in the	Mitigation commitments for the proposed BLRT Extension project include restoration of vegetation removed during the course of construction in areas outside the existing BNSF right-of-way. In the area of TWRP, vegetation restoration specifics

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							area. This is suggested later on p. 4-76. However, vegetation should not be allowed to block station areas and their access points in a way that is unsafe and obscures activity.	will be coordinated with MPRB staff. Vegetative cover in station areas and station access points will be developed in conformance with the Council's SSMP.
121BM	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 4-84, Design Elements – Safety and security should be addressed not only in station area design, but along major pedestrian routes leading to the stations (including those within the 0.25 mile radius called out earlier in this section). These should be visible, well lighted, and regularly monitored. This should be true throughout the corridor, including residential areas, parklands, and rail corridors that otherwise might have little traffic and activity, and therefore may result in travelers being more isolated.	Section 4.7 of the Final EIS addresses safety and security. Safety for rail users, area residents, local pedestrians and bicyclists, operators and vehicle occupants is an important consideration for the proposed BLRT Extension project. The framework for ensuring the highest level of safety to these groups will be established through conformance with the Council's SSMP and the Metro Transit Security and Emergency Preparedness plan. Operating the proposed BLRT Extension project in conformance with these plans will necessarily be closely and continuously coordinated with local area law enforcement, medical, fire, transportation and other organizations with related emergency responsibilities within the proposed BLRT Extension project corridor.
121BN	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	City Water Utilities - This comment is to address the large water mains that may be affected by the future Bottineau LRT line as indicated by the current layout shown on the Met Council web page (http://www.metrocouncil.org/Transportation/Projects/Furture-Projects/Bottineau-Transitway/Bottineau-Maps/Bottineau-Transitway-Map-Large.aspx). There are many smaller water mains that cross under the proposed Bottineau line and the final condition of those mains will need to be addressed eventually. The large water mains of concern are as follows: There is a 36-inch water main in Aldrich Avenue North crossing under Olson Memorial, there is a 24-inch water main in Penn Avenue North crossing under Olson Memorial and there is a 48-inch water main crossing under the existing tracks just north of Golden Valley Road at the western border of the City. These mains need to remain in place and at a minimum will need to be cathodically protected under the tracks and isolated on either side of the future track alignment. Concrete encasement of each of these mains may be necessary and if deemed necessary, the existing pipe to be concrete encased shall be removed and replace with new pipe prior to concrete encasement. This work to alter the existing pipe shall only occur during the time frame between the months of October and April inclusive.	Utility location excavations and pre-construction surveys will be performed in general accordance with the MnDOT policy of Subsurface Utility Engineering. These procedures will help minimize the number of unintended disruptions in utility service. Jurisdictions with utilities inside the proposed BLRT Extension project area will be coordinated with for appropriate design and schedule considerations. Utility impacts are presented in Section 5.1 of the Final EIS.
121BO	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 5-9 – Table 5.1-3, Alignment D - In addition to the sanitary sewer line running located on the south side of TH55/ 6th Ave N, there are several sanitary sewers crossing TH 55/ 6th Ave N	Please see response to Comment 121BN.
121BP	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 5-11, Overhead Utilities – More information is needed about the potential need for relocation of overhead utility poles, particularly those requiring relocation outside of transitway right-of-way. Would this require additional land purchases and/or easements, over and above what is already identified? Is there a potential to move some of the power lines underground as part of this project? What are the costs? What models are being used in other metropolitan areas to address and mitigate the conflicts brought about by overhead utilities and urban development? From the engineering drawings, it appears this will result in high voltage transmission lines right on the edge of the BNSF right-of-way that is adjacent to residential areas. Is there accommodation of a needed easement for this outside the ROW, for both maintenance and to account for the fall distance of the poles?	Easements identified in Section 4.3 of the Final EIS include those necessary for relocation of overhead transmission and distribution lines. Details regarding the potential for placement of distribution lines underground will be coordinated with the utility owner. Transmission lines are present within the BNSF rail corridor, and along the northern portion of West Broadway Avenue in Brooklyn Park. Transmission lines would be relocated within existing or proposed transportation rights of way, and would remain overhead utilities. Design and location details of transmission poles would be determined by the utility owner (Xcel Energy).

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121BQ	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 5-21, Alignment D1 – More information is needed about potential location of floodplain storage mitigation, and its impacts on the surrounding area, including parkland, the golf course, and any nearby residential areas that might be impacted.	Floodplain mitigation is discussed in Section 5.2.5 of the Final EIS. Two mitigation sites are proposed. The first is located west of the BNSF rail corridor and north of Olson Memorial Highway on MPRB and Canadian Pacific Railway property. The other is located in city of Robbinsdale property at the edge of Grimes Pond. The site on MPRB and Canadian Pacific Railway property (16,800 CY of compensatory storage) will be designed in coordination with MPRB staff to ensure that the site fits into the landscape. The mitigation at Grimes Pond is quite small (200 CY of compensatory storage) and will be incorporated into the grading for the LRT bridge over the pond. No floodplain mitigation will affect the golf course or residential property. Floodplain mitigation strategies have been discussed with the BCWMC, MPRB, and the cities of Minneapolis and Golden Valley, and staff from those governmental units have approved the final mitigation sites. The Council will continue to coordinate approvals for floodplain impacts and mitigation strategies with the BCWMC, the City of Minneapolis, DNR, and FEMA. FEMA approval of a Letter of Map Revision (LOMR) will be required if larger mitigation site is constructed in advance of the construction of the proposed BLRT Extension project.
121BR	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 5-23, Figure 5.2-6 – The locations identified for potential floodplain mitigation appear to be on land currently being used for a trail loop around the perimeter of Wirth Park that connects with the Luce Line Trail and various park amenities; would this require a trail relocation?	Floodplain mitigation for the proposed BLRT Extension project would be addressed in two locations. 16,800 CY of compensatory floodplain mitigation would be needed in the Bassett Creek reach between Olson Memorial Highway and Golden Valley Road; and 200 CY of compensatory mitigation would be required in the Grimes Pond area. The compensatory floodplain mitigation for impacts in the Bassett Creek area would be constructed at the site identified in Figure 5.2-5 of the Final EIS. The Council has determined that the full 16,800 CY of mitigation can be achieved at this site. The existing trail would be incorporated into the final floodplain mitigation design. The 200 CY of mitigation required for impacts in the Grimes Pond area would be achieved by excavating additional storage at the edge of Grimes Pond.
121BS	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 5-24, Wetlands – There are significant wetland impacts outside the city limits. To mitigate the wetlands new wetlands must be created. It should be noted that there is no room for replacement wetlands within the city. Vacant parcels within the city are needed for redevelopment. The construction of this line should not contribute to the pollution of the Basset Creek Valley watershed; it should continue toward – or at least not complicate – the clean up of this watershed.	Wetland mitigation information is presented in the joint Section 404/WCA permit application; mitigation will be conducted at a 2:1 ratio. Mitigation will be accomplished through a combination of wetland creation and the purchase of wetland bank credits. This mitigation plan has been developed in coordination with USACE and WCA LGU representatives. No wetland mitigation sites have been identified within the City of Minneapolis limits. Section 5.9 of the Final EIS addresses stormwater management and water quality. Stormwater BMPs (including temporary construction measures such as silt fencing, ditch checks, temporary seeding and mulching; and permanent measures such as detention/retention basins, infiltration basins, swales, bio-retention features) will be implemented during the construction and operation of the proposed BLRT Extension project. These measures will not complicate the cleanup of the Bassett Creek watershed, in fact they may help improve water quality.
121BT	Pflaum	Donald	City of Minneapolis	121	Email	6 - Noise & Vibration Effects	Page 5-49, Noise – The project noise levels for D1 and D2 reflect moderate to severe impacts compared with existing ambient noise levels. How will this be mitigated?	Section 5.6 of the Final EIS provides an updated analysis of the noise impacts for the proposed BLRT Extension project. Alignment D2 has been eliminated from further consideration, so only Alignments D1 and D Common have been assessed for noise impacts in the Final EIS. In the City of Minneapolis, there would be 38 moderate impacts (dwelling units) and no severe impacts before mitigation. Twenty-five moderate impacts would not require mitigation under FTA and Council noise mitigation guidelines. Four moderate impacts would require mitigation, and would be addressed through interior testing, with sound insulation being implemented if warranted.
121BU	Pflaum	Donald	City of Minneapolis	121	Email	6 - Noise & Vibration Effects	Page 5-61, Table 5.6-9 – Noise barriers are called out as a potential mitigation strategy for D1 noise impacts. More information is needed regarding the type, placement, and size of these walls. This mitigation measure should also be considered	The updated noise analysis in the Final EIS considered one noise barrier within the City of Minneapolis along the first block of Xerxes Avenue immediately north of Plymouth Avenue. However, this noise barrier did not meet the criteria established in the Council's noise mitigation guidelines. The moderate impacts at these locations

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							in context of other factors, such as blocking views of the park amenity from adjacent residential communities, likelihood of graffiti/tagging on barriers in less populated areas, and public safety issues associated with areas blocked from view by barriers. These issues should be addressed through a robust and inclusive community engagement process to ascertain community preference. Additionally, more information is needed regarding the potential use of sound insulation along D1 and D2 – how would this be implemented? This could be an environmental justice issue.	do not meet the threshold for mitigation as defined by the Regional Transitways Guidelines (March 2016) (see Appendix F of the Final EIS). Furthermore, this barrier would have partially or completely blocked the view of TWRP from the residences on that block. Therefore this noise barrier is no longer being recommended as a mitigation strategy, and interior testing would be the primary mitigation strategy for the four moderate impacts within the City of Minneapolis requiring mitigation. The need for sound insulation would be determined through interior testing, which assesses the outdoor-indoor transmission loss (i.e., the reduction in noise levels when noise travels from outside a home through the home walls, doors, and windows to the indoor environment). If there is insufficient noise transmission loss (i.e., the indoor environment remains too noisy), sound insulation will be proposed. These outdoor-indoor noise criteria are applied consistently to all homes; therefore, there will be no disproportionately high and adverse effect on environmental justice populations.
121BV	Pflaum	Donald	City of Minneapolis	121	Email	6 - Noise & Vibration Effects	Page 5-71, Table 5.7-6 – The D2 option would need proactive outreach early in the design process to KMOJ and medical care facilities regarding noise and vibration issues early in the process to determine if special mitigation needed. While the analysis suggests this is not the case, this could possibly be disputed.	Alignment D2 has been eliminated from further consideration; therefore, this is no longer an issue.
121BW	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 5-92, 5.8.5 – This section says there will be no impact on the wetland habitat of Blanding's Turtle. However, the floodplain mitigation section says there will be new floodplain storage, likely constructed near to existing wetland areas, required as part of the project, which could impact the wetlands. This should be addressed in more detail. (This is discussed to an extent on p. 8-20)	The potential for impacts to the Blanding's turtle is addressed in Section 5.8 of the Final EIS. This issue has been addressed in consultation with the DNR, which has concurred (e-mail correspondence dated February 9, 2016) with the Council's and FTA's assessment that with adherence to DNR guidelines regarding the Blanding's turtle (guidelines which are presented in the DNR Blanding's turtle fact sheet), impacts to the species would be negligible. The proposed BLRT Extension project avoids all impacts to wetland types 2 and 3 as required by the DNR guidelines.
121BX	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 5-93 – 5.9.1 States that Physical Infrastructure (storm sewer) associated with stormwater management is discussed in Section 5.1, but Section 5.1. (page 5.8) says the existing storm sewers are discussed in detail in the Stormwater Technical Report (Appendix F) which does not discuss storm sewer infrastructure in detail. It just discusses stormwater management and mentioned the need to reconfigure storm sewer utilities. The impacts to Old Basset Creek tunnel crossing in particular should be discussed in more detail.	Section 5.9 of the Final EIS summarizes existing stormwater infrastructure and proposed stormwater improvements. The Preliminary Stormwater Management Plan Technical Memorandum (see Appendix F of the Final EIS) addresses existing stormwater infrastructure in detail, and depicts existing stormwater infrastructure on maps in the appendix section of the technical memorandum. The Old Bassett Creek Tunnel is discussed in Section 4.4.1 of the technical memorandum.
121BY	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 5-97 – Table 5.9-2 – Line MPCA (Cities) indicates that these requirements are also the Cities'. This is not correct. This is a copy of Table 3 from the stormwater technical report, but it does not say Cities under MPCA. Neither table actually lists the City requirements.	The Final EIS lists Minnesota Pollution Control Agency (MPCA) stormwater requirements and the requirements of the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park separately. See Table 5.9-1 of the Final EIS.
121BZ	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 5-101, Table 5.9-4 – For Alignment D, are the ditches identified for infiltration existing, and do they have adequate size and capacity for what is proposed? Looking at the cross sections provided, ditches do not appear in most of them. For alignments D2 and D, have locations been identified for the proposed pond and infiltration BMPs? This urban environment is fairly constrained, with limited land available for improvements such as these. Maps are shown for locations along Alignments A-C, but not for the others.	Proposed stormwater BMPs are summarized in Section 5.9 of the Final EIS and are presented in detail in the Preliminary Stormwater Management Plan Technical Memorandum, Section 4.4.1. Table 2 in that section indicates that proposed stormwater BMPs along the Minneapolis portion of Segment D include tree trenches, bioretention, wet ponds, underground detention, hydrodynamic separators, and ditches. Details of these BMPs will be developed as the design progresses, and stakeholders, including the city of Minneapolis, will have the opportunity to review and comment on stormwater BMP designs.
121CA	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 5-110, Alignment D – The analysis does not take this into account directly, but the presence of institutions serving vulnerable populations (e.g. youth and elderly), including a day care, school, library, and low income housing, suggests a priority	Section 5.10 of the Final EIS summarizes the air quality analysis conducted for the proposed BLRT Extension project. No air pollutant concentrations during the operating phase of the proposed BLRT Extension project would exceed the National Ambient Air Quality Standards, and no mitigation is required. The State of Minnesota

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							in finding ways to mitigate air quality impacts. This includes optimizing travel to avoid lengthy queues and idling at intersections. This is also potentially an environmental justice issue, since low income and minority populations are disproportionately impacted. When there are deficiencies in modeling (as noted here), there should be a commitment to following up with adjustments as needed once the project has advanced.	does not require permits related to air quality for the proposed BLRT Extension project. Since there are no impacts, there can be no disproportionate impacts and there is not an environmental justice issue.
121CB	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 6-6, Table 6.3-1 – While the text states that the actions listed here are in no way dependent on the completion of the Bottineau transitway, it is possible that some additional development may occur in the Downtown/North Loop station areas of Alignment D at least in part related to improved transit connectivity through this and other projects (although some of it will occur regardless).	The specific issue of land use and development associated with the proposed BLRT Extension project is addressed in Section 6.4.2 of the Draft EIS, and in Section 6.2.2 of the Final EIS. Both documents acknowledge the potential for additional development focused around LRT stations.
121CC	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Additional development is intended and expected along the Olson Highway portion of the project. For the D common alignments, future land use in the station areas will be evaluated in the station area planning process. (1) At the Van White Station area there are several large vacant properties that are potential development sites and other underutilized sites that could be intensified with development. Station area planning will evaluate and recommend the most appropriate form and type of transit oriented development for these parcels and the surrounding station area, which may result in amended land use policy and maps with the adoption of the station area plans. (2) At the Penn Avenue/Hwy 55 station area, while there are not large vacant parcels and the area is predominantly single-family homes, station area planning will evaluate and recommend the most appropriate form and type of land use for the surrounding station area. At this station area higher density and intensity land uses will depend on a long-term strategy of parcel assemblage and strategies that could include the narrowing and/or elimination of travel lanes on Hwy 55 and frontage roads along Hwy 55, all which should be studied in the station area planning process. Station area planning will evaluate and recommend the most appropriate form and type of transit oriented development for these parcels and the surrounding station area, which may result in amended land use policy and maps with the adoption of the station area plans.	FTA and the Council acknowledge that Station Area Planning is a key element of orderly transit-oriented development, and note that Station Area Planning has been completed for the stations in the City of Minneapolis (Van White Memorial Boulevard and Penn Avenue), as well as stations that may influence development in the city (Plymouth Avenue and Golden Valley Road). Station Area Planning has been led by Hennepin County, but Council staff have been involved as well to facilitate coordination between the development of LRT station infrastructure and adjacent land use plans.
121CD	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 6-9, 6.4.1 – This section states that bicycle and pedestrian activity is likely to increase as a result of this project. However, the project proposes closing a number of currently active pedestrian crossings. How are these two things being reconciled? Will the project support pedestrian connectivity in other ways? Construction of LRT should be designed and built in a way to enhance connectivity rather than compounding disconnectivity between places and neighborhoods. Any necessary modifications to the vehicular circulation system must be made in a way that is urban in character, not suburban. Modifications that eliminate vehicular connectivity should not be de facto interruptions to the pedestrian and bicycle networks that currently exist or potentially might be built in order to enhance the urban grid.	Please see response to Comment 121I.

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121CE	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 6-13, 6.4.10 – The potential to negatively impact lower income populations due to increased property values is called out as an indirect and cumulative impact. No mitigation is identified. However, regional planning for affordable housing specifically prioritizes supporting funding affordable units near transit stations. While this wouldn't be undertaken as part of the Bottineau transitway project itself, it could be considered a form of mitigation. This was a major discussion topic along the CCLRT alignment, and has resulted in significant investment in new affordable housing there.	This issue of impacts to environmental justice populations through increased property values and corresponding property tax rates is discussed in Section 6.2.10 of the Final EIS. This section also provides an overview of the Council's role in addressing affordable housing issues, including review of the housing element of local comprehensive plans, funding affordable housing development, working with local governments to define their share of regional affordable housing needs, administering the state's largest Section 8 Housing Choice Voucher program, and providing technical assistance to local governments. Section 6.4.10 of the Final EIS concludes that because of the Council's affordable housing programs, no additional mitigation is required.
121CF	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 7-3, Table 7.3-1 – If available, it would also be interesting to be able to contrast the minority percentages with other transitway corridors in the region, to allow for more ready comparison of the strategies being used in each area. While the methodology focuses on equal treatment of all populations in the study area, it should be noted that Bottineau has a higher overall concentration of low income and minority populations, and environmental justice should take into account not just approaches within the Bottineau corridor but along other comparable corridors as well.	The environmental justice analysis in the Final EIS (Chapter 7) was conducted in accordance with the FTA Circular C4703.1, *Environmental Justice Policy Guidance for Federal Transit Administration Recipients.* The analysis includes a review of proposed BLRT Extension project area demographics coupled with an extensive outreach program to understand the presence or absence of environmental justice populations. The analysis confirmed that there are notable environmental justice populations in the proposed BLRT Extension project corridor, and appropriately addressed the potential for disproportionately high and adverse impacts on those populations.
121CG	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 7-21, 7.4.3 – The list of ways that input from the meetings impacted the project and DEIS to date is a good start. It would be helpful to understand if there were any major concerns raised by the community about the project, and how those were addressed.	Information regarding concerns and issues raised at proposed BLRT Extension project–related public meetings is presented in Chapter 9 of the Draft EIS, in Chapter 9 of the Final EIS, and in the response to comments on the Draft EIS, included in Appendix G of the Final EIS.
121CH	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 7-23, Safety and Security – This should consider ways to create safe routes to the transit station in addition to the conditions at the stations.	Please see response to Comment 121K. The measures and guidelines discussed in that comment apply to approaches to the station platforms. Furthermore, roadway and sidewalk improvements are included in the proposed BLRT Extension project scope at each station location.
121CI	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 7-25, Pedestrian and bicycle facilities – the Hwy 55 corridor will have impacts on bike and pedestrian facilities that need to be mitigated.	Please see response to Comment 121AB.
121CJ	Pflaum	Donald	City of Minneapolis	121	Email	6 - Noise & Vibration Effects	Page 7-27, Visual/Aesthetics – If the noise barriers are constructed as mitigation, this will have some visual impacts on the community (including potentially blocking views of the park); it doesn't appear that this is taken into consideration here; while they are not fully defined, it appears that they will be near to low income communities.	Please see response to Comment 121BU.
121CK	Pflaum	Donald	City of Minneapolis	121	Email	8 - Transportation System Effects	Page 7-33, 7.5.3.1 – As the project advances, it will be important to ensure that overall service levels on connecting bus routes remain at current levels or better. There could be an unintended negative impact on local riders if local bus service is replaced in any way by light rail, resulting in longer headways and station locations that are farther apart. This does not appear to be the plan, but there will no doubt be a route study at some point to look at potential changes to nearby routes.	Section 3.1.3.1 of the Final EIS specifically addresses this issue, and states that: "The alternatives analyzed in the travel demand forecast model include specific network modifications to existing transit service including changes in routing, frequency, and travel time. Network modifications are focused on providing an integrated 'feeder' bus network to connect people to proposed BLRT Extension project stations. Bus networks and transit plans will continue to be refined as the proposed BLRT Extension project progresses; final bus network changes will be subject to a robust public involvement process in accordance with Title VI requirements."
121CL	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 7-34, 7.5.3.3 – Will there be an effort to hire DBE/WBE firms and employees during the construction phase? Local employment in the project would be a significant benefit.	The Council will include Disadvantaged Business Enterprises (DBE) participation goals in proposed BLRT Extension project construction contracts. By way of comparison, the Central Corridor (Green Line) LRT project achieved over 16 percent DBE participation in its construction contracts, against an overall DBE goal of 15 percent.

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121CM	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Wetlands in Golden Valley are part of the Basset Creek Valley Watershed (BCV) and these flow into the corporate boundaries of the City of Minneapolis. This line should not contribute to the pollution of the BCV watershed; it should continue toward – or at least not complicate – the clean up of this watershed.	Please see response to Comment 121BS.
121CN	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	The City of Minneapolis recognizes that the Minneapolis Park and Recreation Board is the local park authority responsible for determining parkland impacts.	Comment noted. The Council is working closely with MPRB regarding park impacts.
121CO	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 8-19, 8.4.1.2 – The 4(f) evaluation notes that the project will only take a small amount of land in Wirth Park. However, earlier in the document it makes it clear that it will be removing over 10 acres of wetland with the proposed alternative – while the plan for stormwater is to accommodate it largely within existing ditches. Is this all within railroad right-of-way? And is there an assurance that any potential drainage impacts to the larger area will be taken into account, including those outside the project's construction limits?	Please see response to Comment 121CN.
121CP	Pflaum	Donald	City of Minneapolis	121	Email	4 - Social and Economic Effects	Page 9-1, 9.1.1 – Goals should clearly call out the intention to proactively involve underrepresented groups, including low income populations and communities of color. It appears this was done, but it is not stated up front this was a goal.	Section 9.1.3.5 of the Final EIS addresses this issue; it states: "A variety of electronic and 'traditional' (hard-copy) communication methods were used for the proposed BLRT Extension project. Although electronic communications might appear inappropriate for a project area with a substantial number of low-income residents, area organizers (such as the members of the Blue Line Coalition) advised that electronic media remains an effective method of outreach to low-income communities. Computers at area libraries are well-used, and smartphones are increasingly being used to access websites and other social networking applications. Communication methods are summarized below. Specific outreach efforts to target environmental justice populations are summarized in Chapter 7 – Environmental Justice of this Final EIS."
121CQ	Pflaum	Donald	City of Minneapolis	121	Email	2 - Fiscal Effects and Schedule	Page 10-2, Table 10.1-1 – Does the right-of-way cost estimate for D2 take into account cost of relocation assistance for residents from the homes that would be removed? And does the construction cost of D1 take into account the construction of noise barriers and other noise mitigation features, and the cost of wetlands bank purchases?	Alignment D2 is no longer under consideration; however, the cost estimate did include a relocation assistance allocation. The construction cost estimate for the proposed Blue Line Extension project (which includes Alignment D1) includes the cost of noise and wetland mitigation.
121CR	Pflaum	Donald	City of Minneapolis	121	Email	2 - Fiscal Effects and Schedule	Page 10-3, Construction Costs – Is there a map or graphic to show the limits of construction to demonstrate where improvements included in the cost estimates will be made? This is needed to determine what projects will be identified as mitigation/betterments outside the scope of the main project and therefore needing additional funding to be completed.	Limits of disturbance (LOD) are shown in Appendix E of the Draft EIS and are represented by a red dashed line. Betterments (currently referred to as Locally Requested Capital Improvements or LRCIs) were not considered at the Draft EIS phase of the proposed BLRT Extension project. Revised LOD are shown in the Final EIS engineering drawings (see Appendix E of the Final EIS). The proposed BLRT Extension project does not include any LRCIs.
121CS	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Page 11-11, Alternative B-C-D1 – The significant wetlands impact is identified as differentiator, but needs to be better qualified as it is a negative for this alternative (i.e. doesn't directly support its status as a preferred alternative).	The Final EIS clarifies in Section 12.2 that, while Alternative B-C-D1 (the proposed BLRT Extension project) is the environmentally preferable alternative, it does not have the least impact to the physical environment. The disproportionately high and adverse impacts of the D2 alignment on environmental justice populations are the primary differentiator between the D2 and D1 alignments.

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121CT	Pflaum	Donald	City of Minneapolis	121	Email	5 - Environmental Effects	Wetlands in Golden Valley are part of the Basset Creek Valley Watershed (BCV) and these flow into the corporate boundaries of the City of Minneapolis. This line should not contribute to the pollution of the BCV watershed; it should continue toward – or at least not complicate – the clean up of this watershed.	Please see response to Comment 121BS
121CU	Pflaum	Donald	City of Minneapolis	121	Email	7 - Alternatives, Engineering & Design	Appendix E; Alignment D – The City of Minneapolis is working on a possible art installation, the John Biggers Seed Project, on Bridge 27785 over I-94. City staff has been consulting Hennepin County and MnDOT. Consultation and coordination between the applicable agencies regarding the proposed LRT project and this art installation should continue.	The Council has been coordinating with the city of Minneapolis on proposed BLRT Extension project design issues throughout the Project Development phase of the New Starts process, and will continue to coordinate with the city during final design and construction. Modifications to the I-94 bridge are included in these coordination efforts.

Mille Lacs Band of Ojibwe

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
2A	Klapel	Susan	Mille Lacs Band of Ojibwe	2	US Mail	5 - Environmental Effects	The THPO for the Mille Lacs Band of Ojibwe has reviewed the documentation and determined that the Mille Lacs Band does not have any known recorded sites of religious or cultural importance in these areas.	Section 4.4 of the Final EIS presents a summary of the cultural resource impacts from the proposed BLRT Extension project. FTA and the Council appreciate the confirmation of the absence of known religious or culturally important sites in the proposed BLRT Extension project area.
2B	Klapel	Susan	Mille Lacs Band of Ojibwe	2	US Mail	5 - Environmental Effects	County Sheriff's Office and office of the State Archaeologist should be notified if human remains found; all work shall cease immediately.	Human remains are not anticipated; however, if found, the County Sheriff's Office and the Office of the State Archaeologist will be notified. This requirement will be incorporated in the Construction Mitigation Plan for the proposed BLRT Extension project, and included in the Section 106 MOA.

Bassett Creek Watershed Management Commission

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
106A	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	BCWMC will not allow filling within the BCWMC-established floodplain without mitigation. Proposals to fill within the floodplain must obtain BCWMC approval and provide compensating storage (1:1 basis) and/or channel modifications so that the flood level is not increased at any point along the creek due to fill. DEIS identifies two areas within Theodore Wirth Regional Park as potential sites to provide compensating floodplain storage. The design of the compensatory storage sites would need to be coordinated with the Minneapolis Park and Recreation Board, appropriate city/cities, and the approving agencies (including the BCWMC). We encourage the Metropolitan Council to contact BCWMC as early in the design process as possible to discuss these storage sites.	The proposed BLRT Extension project impacts approximately 17,000 CY of floodplains, all of which is located within BCWMC. Floodplain mitigation is discussed in Section 5.2.5 of the Final EIS. Two mitigation sites are proposed. The first is located west of the BNSF rail corridor and north of Olson Memorial Highway on MPRB and Canadian Pacific Railway property, and is located within the BCWMC. The other is located in city of Robbinsdale property at the edge of Grimes Pond. The site on MPRB and Canadian Pacific Railway property (16,800 CY of compensatory storage) will be designed in coordination with BCWMC and MPRB staff to ensure that the site fits into the landscape. The mitigation at Grimes Pond is quite small (200 CY of compensatory storage) and will be incorporated into the grading for the LRT bridge over the pond. Floodplain mitigation strategies have been discussed with BCWMC, MPRB, and the cities of Minneapolis and Golden Valley, and staffs from those governmental units have approved the final mitigation sites. The Council will continue to coordinate approvals for floodplain impacts and mitigation strategies with BCWMC, the city of Minneapolis, DNR, and FEMA.
106B	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	BCWMC must review and approve crossings of the Bassett Creek trunk system, including changes to existing crossings. DEIS notes Alignment D1 will cross a backwater channel of Bassett Creek, just north of TH 55.	Crossings and other potential impacts to the Bassett Creek trunk system have been discussed with BCWMC, the Mississippi Watershed Management Organization, the city of Minneapolis, and MnDOT. The proposed BLRT Extension project proposes the following modifications to the Bassett Creek trunk system: ■ East of I-94 – tree trenches will be used to treat runoff prior to draining to the Bassett Creek tunnels. ■ West of I-94 – two storm sewer trunk lines will extend from approximately Penn Avenue to the old Bassett Creek tunnel where it crosses Olson Memorial Highway near Dupont Avenue North. ■ Additional drainage to the old Bassett Creek tunnel and the east channel of Bassett Creek will be pre-treated through bioretention basins, underground detention BMPs, and the corridor protection ditch between the LRT and freight rail tracks. The modification details are described in Section 4.4.1 of the Preliminary Stormwater Management Plan Technical Memorandum, included in Appendix F of the Final EIS.
106C	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	Floodplain management policies are listed in Section 5.2.2.2 of the BCWMC's 2004 Watershed Management Plan. Please also see the BCWMC's submittal and design requirements for projects ("Requirements for Improvements and Development Proposals," 2008). These documents can be found on the BCWMC website: www.bassettcreekwmo.org.	The floodplain and stormwater analyses and design requirements used for the proposed BLRT Extension project include the most up-to-date BCWMC policies and requirements. These are listed in Section 2.2.2 of the Preliminary Stormwater Management Plan Technical Memorandum, provided in Appendix F of the Final EIS.
106D	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	Within the Bassett Creek watershed (Alignment D1), the project will increase the amount of impervious surface by 15 acres, a 40% increase within the Alignment D1 project area. The increased impervious surface will be in close proximity to the creek and will result in increased runoff rates if not controlled. Best management practices must be implemented to ensure flood profiles are not increased along Bassett Creek. BMPs should be implemented to treat runoff to minimize pollutants	The Council is working with BCWMC (the permitting authority as authorized under Minnesota Statute Chapter 103B) to incorporate the appropriate BMPs in the design that will manage volume and rate control throughout the proposed BLRT Extension project area. Such efforts will counteract potential high peaks of stream flow in Bassett Creek and will serve to retain and treat potential pollutants thus preventing them from entering the Creek. BMPs may include bio-infiltration, bio-filtration, stormwater retention and detention, permeable pavements, and tree trenches.
106E	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	BCWMC strongly encourages the Metropolitan Council to implement best management practices to treat transitway runoff to ensure that the project does not increase pollutant-loading to adjacent water bodies.	The Council is working with BCWMC to design and implement BMPs that will effectively pre-treat runoff from the transitway before reaching Bassett Creek. The pre-treatment strategies will remove pollutants in compliance with applicable local, state, and federal standards.
106F	de Lambert	Jim	Bassett Creek	106	US Mail	5 - Environmental	BCWMC expects the proposed project design to include	Stormwater design throughout the proposed BLRT Extension project area will

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
			Watershed Management Commission			Effects	stormwater treatment and erosion control measures that will reduce the amount of phosphorus and sediment carried by stormwater runoff to Bassett Creek. The BCWMC also expects the Metropolitan Council to consider measures to minimize the amount of increased impervious surfaces resulting from the project.	incorporate BMPs that may include sediment forebays, bio-infiltration, bio-filtration, stormwater retention and detention, permeable pavements, tree trenches, grit chambers and SAFL Baffles. Such structures are effective in allowing sediments laden with phosphorus and other pollutants to be captured and can be effectively cleaned out. Thus, the amount of such contaminants entering Bassett Creek can be greatly reduced with the use of these BMPs. Other techniques such as silt fencing and rapid post-construction revegetation can contribute to effective erosion control. Permeable pavements and the use of ballasted track rather than embedded track will reduce the effect of increases in impervious surfaces.
106G	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	Permanent and temporary construction BMPs must be implemented to control chlorine, fuels, oils, metals and other construction runoff. Adequate permanent and temporary construction BMPs must be implemented as part of the project.	The Council is working to locate construction staging in areas that would have a low probability of impacting receiving waterbodies. Permanent and temporary BMPs will include pre-treatment of storm runoff. These may include temporary sedimentation basins during construction and other techniques such as vegetated ditches, bio-infiltration, and various configurations of stormwater retention and detention. Hazardous and regulated materials stored on site during construction will be managed in conformance with the NPDES permit requirements and/or the requirements in a contractor-prepared Spill Prevention, Control, and Countermeasures (SPCC) plan. The NPEDS permit will be obtained in advance of construction activities, and an SPCC plan be developed prior to construction activities.
106H	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	The Draft EIS proposes the construction of infiltration basins in ditches adjacent to the transitway to provide some water quality treatment before runoff is discharged to Bassett Creek. All proposed water quality treatment facilities will be reviewed for conformance to the design requirements outlined in the "Requirements for Improvements and Development Proposals," (2008). The BCWMC is in the process of updating its Watershed Management Plan, which could include significant new standards for stormwater management. We expect approval of the BCWMC Plan sometime in fall 2015, which means the new standards will likely be in place before engineering design begins on the transitway project.	The Council is designing stormwater treatment in accordance with BCWMC requirements that will include infiltration basins in locations appropriate for the site-specific soil and groundwater conditions. BMP designs will conform to the design standards in effect at the time of the design. Pollutant and sediment load modeling will be used to design for compliance with local, state, and federal standards. See also the response to Comment 106C.
106I	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	The Draft EIS does not appear to include the maintenance measures the Metropolitan Council proposes to undertake to ensure the effectiveness of stormwater management features. The Final EIS should describe the maintenance measures and it should also identify the parties responsible for inspections, the parties responsible for maintenance, and the inspection and maintenance schedules.	The Council acknowledges that many stormwater management BMPs within the proposed BLRT Extension project area would require periodic maintenance and inspection. Maintenance of stormwater BMPs would be determined in coordination with the proposed BLRT Extension project stakeholders including the Council, MnDOT, Hennepin County, and the project cities and other LGUs. Final determinations of responsibility for long-term maintenance of BMPs will be determined prior to the start of construction.
106J	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	Temporary and permanent best management practices must be implemented to control construction and post-development erosion and runoff from the site. BCWMC is particularly concerned about erosion and sediment control during construction because of the proximity of Alignment D1 to numerous water resources, Alignment D1 is immediately adjacent to Grimes Pond and South Rice Pond, and adjacent to or very near Bassett Creek and its adjacent wetlands. Extra care will need to be taken during construction to avoid sediment and other pollutants from entering these water resources. The EIS should acknowledge the extra difficulty in preventing erosion and sedimentation along the portions of the route with numerous water resources in close proximity, such Alignment D1.	The Council team acknowledges the importance of preventing sediment-laden construction runoff from entering Bassett Creek and the other water resources adjacent to the proposed BLRT Extension project corridor. The construction contractor will be required to meet the additional requirements of the NPDES permit for activities within one mile of impaired waters, which includes Bassett Creek. A Stormwater Pollution Prevention Plan (SWPPP) will be designed that will specify temporary erosion and sediment controls, such as temporary seeding, biorolls, rock logs, rock weepers, erosion control blankets, hydraulic soil stabilizers, silt fence (machine-sliced, heavy-duty, and super-duty), flotation silt curtain, and temporary sedimentation basins. The SWPPP will also include permanent erosion and sediment controls, such as permanent seeding and vegetation establishment, erosion control blankets and or hydraulic soil stabilizers, and permanent stormwater treatment BMPs. This is discussed in Section 5.9.5 of the Final EIS.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
106K	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	In addition to the NPDES Construction Stormwater Permit from the MPCA (as noted in Section 5.9.5 of the Draft EIS), the BCWMC reviews projects for erosion and sediment control. The BCWMC's erosion and sediment control plan requirements are outlined in "Requirements for Improvements and Development Proposals" (2008). The BCWMC's erosion and sediment control policies are also listed in Section 6.2 of the BCWMC Watershed Management Plan.	The proposed BLRT Extension project will incorporate BCWMC requirements in the SWPPP section of the proposed BLRT Extension project plans; the SWPPP will be provided to BCWMC at the same time it is provided to MPCA for review and approval. See also the response to Comment 106H.
106L	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	The BCWMC wetland goal is to achieve no net loss of wetlands in the Bassett Creek watershed in conformance to the Minnesota Wetland Conservation Act (WCA) and associated rules (Minnesota rules 8420). The portion of the preferred alternative (B-C-Dl) and Alternative B-C-D2 in BCWMC is in Minneapolis, Golden Valley and Robbinsdale. Minneapolis and Golden Valley are the local governmental units (LGUs) responsible for administering the WCA in their cities; BCWMC is the LGU for administering WCA in Robbinsdale. Table 5.3-4 in the Draft EIS shows the total wetland disturbance or fill for Alignment Dl (part of preferred alternative) to be 6.1 acres. All of this wetland disturbance or fill along Alignment D1 is within BCWMC. At least two acres appears to be in Robbinsdale. For the portion of Alignment C within BCWMC, there appears-to be 0.4 acres of wetland disturbance or fill; this is located in Robbinsdale. Alignment D2 includes 0.7 acres of wetland disturbance or fill, all of which is in BCWMC and in Robbinsdale. BCWMC will be responsible for administering WCA for the Robbinsdale portions of the alignments. Wetland management policies are listed in Section 8.0 of the BCWMC Watershed Management Plan. The BCWMC's submittal and design requirements for projects are included in "Requirements for Improvements and Development Proposals" (2008).	The Council is aware of and is developing the proposed BLRT Extension project in accordance with the BCWMC regulations concerning no net loss. Further, the Council is aware of the various WCA LGUs and their jurisdictions throughout the proposed BLRT Extension project area. Coordination meetings with all WCA LGUs as well as USACE, the Minnesota Board of Water and Soil Resources (BWSR), and the Hennepin County Soil and Water Conservation District (SWCD) to discuss wetland delineations, wetland jurisdictions, and wetland impacts and mitigation. Final wetland impact and mitigation areas are presented in the joint Section 404/WCA permit application, including a breakdown of impacts by WCA LGU. Approximately 5.78 acres of total wetland impact are anticipated within the areas under the jurisdiction of BCWMC. Of those 5.78 acres of impact, approximately 3.11 acres will require mitigation at a 2:1 ratio (i.e. approximately 6.22 acres), based on WCA requirements. Note that the proposed BLRT Extension project is Alternative B-C-D1 as presented in the Draft EIS; therefore, the impacts associated with Alignment D2 are no longer germane to this issue.
106M	de Lambert	Jim	Bassett Creek Watershed Management Commission	106	US Mail	5 - Environmental Effects	In late 2014, the City of Minneapolis (through the Minneapolis Park and Recreation Board) will be constructing a BCWMC capital improvement project to stabilize a reach of Bassett Creek between Golden Valley Road and Irving Avenue North at an estimated cost of $856,000. The portion of the creek stabilization project between Golden Valley Road and Highway 55 is adjacent to or very near Alignment Dl. The creek stabilization project will be completed before the Bottineau Transitway project construction would begin. However, the planning, design and construction of the Bottineau Transitway project needs to ensure the integrity of the BCWMC's creek stabilization project. We will provide you with the as-built plans for the creek stabilization project.	The Council recognizes the importance of the Bassett Creek stabilization project in improving water quality and the predictability of the Creek during extreme storm events. The Council's design for the proposed BLRT Extension project will be coordinated with the creek stabilization design. Should disturbance of the creek stabilization elements be required to build the proposed BLRT Extension project, those elements will be restored when construction is completed in that area, and temporary stormwater construction BMPs will be implemented to avoid streambank erosion during construction. To achieve design coordination, the Council will appreciate reviewing the as-built plans for the creek stabilization project.

Federal Aviation Administration

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
128A	Peek	Andy	Federal Aviation Administration	128	Email & US Mail	3 - NEPA Process & Public Involvement	As a Cooperating Agency for the Bottineau Transitway Project, FAA Minneapolis Airports District Office (ADO) is continuing to seek FAA Regional and Headquarters concurrence on the conclusions of the February 10, 2014 Crystal Airport Runway Protection Zone Alternatives Analysis (RPZ AA). Upon completion of the RPZ AA, we will forward our comments for incorporation into the Final EIS. When the Final EIS is available, the FAA ADO will want to ensure the proposed transportation project is consistent with the findings of the RPZ AA.	The Federal Aviation Administration (FAA) Dakota-Minnesota Airports District Office approved the alignment changes to the February 20, 2014 Runway Protection Zone (RPZ) Alternatives Analysis (AA) in a letter dated December 28, 2015. Section 3.6 of the Final EIS provides additional information on coordination with FAA and permitting requirements.

US Department of the Interior

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
143A	Darby	Valincia	US Department of the Interior	143	Email	5 - Environmental Effects	The Northern long-eared bat (*Myotis septentrionalis*) (NLEB) was proposed for federal listing under the Endangered Species Act on October 2, 2013. At this time, no critical habitat has been proposed for the NLEB. Although species proposed for listing are not afforded protection under the ESA, when a species is listed, the prohibitions against jeopardizing its continued existence and unauthorized "take" are effective immediately, regardless of an action's stage of completion. We recommend adding the NLEB to Section 5.8.3, Endangered Species and addressing potential project impacts to the species. Based on the information provided in this EIS, Alternative D-1 will likely result in the loss of some summer roosting and foraging habitat. We recommend quantifying available summer roost habitat that will be removed as a result of this project and assessing those impacts to the species. We recommend that all tree clearing associated with this project be conducted outside the summer maternity roost season for the NLEB. The summer maternity season in Minnesota is from April 1 through September 30. If tree clearing cannot be accomplished outside of this time period, surveys should be conducted to determine presence/absence of the species and consultation should be initiated with the United States Fish and Wildlife Service's Twin Cities Field Office.	Section 5.8 of the Final EIS describes the preferred habitats of rare, threatened, and endangered species in the study area and the expected impacts to plants and animals and their habitat from the No-Build Alternative and proposed BLRT Extension project. Since the publication of the Draft EIS, the NLEB has been listed as a threatened species under the Environmental Site Assessment (ESA). The US Fish and Wildlife Service (USFWS) has issued a Final 4(d) Rule regarding impacts to the northern long-eared bat (NLEB). Based on the absence of NLEB hibernacula and maternity roost trees in the proposed BLRT Extension project area, FTA has made a determination under Section 7 of the ESA of "May Affect, Incidental Take Not Prohibited" in accordance with the Final 4(d) Rule and guidance. The USFWS concurred with FTA's determination on May 16, 2016. The Final 4(d) Rule regarding the NLEB indicates that as long as a project is more than 0.25 mile from a known hibernaculum and more than 150 feet from any known occupied maternity roost tree, no tree clearing restrictions are required, and no surveys need to be conducted. The proposed BLRT Extension project meets these criteria; therefore, no clearing restrictions and no surveys will be implemented.
143B	Darby	Valincia	US Department of the Interior	143	Email	5 - Environmental Effects	...the analysis of impacts to eligible 4(f) properties is not entirely straightforward, and it seems much of the decision making has been put off waiting for further analysis and consultation. Alternatives are anticipated to result in direct impacts to recreational facilities including the Rush Creek Regional Trail, Theodore Wirth Regional Park, and the Minneapolis Public Schools Athletic Field. Alternatives are anticipated to have direct impacts to two historic properties, the Homewood Historic District and the Grand Rounds Historic District (Theodore Wirth segment). Based upon the existence of an alternative that would avoid direct use of the Minneapolis Public Schools Athletic Field and the Homewood Historic District, the FTA believes that it can avoid a 4(f) use of these properties. Based on measures to minimize harm, the FTA proposes a *de minimis* finding under section 4(f) for the direct impacts to the Rush Creek Regional Trail and the Grand Rounds Historic District (Theodore Wirth segment). Finally, the FTA has determined that its preferred alternative will result in a direct use of the Theodore Wirth Regional Park.	FTA has revised its preliminary use determinations for certain park and historic resources along the proposed BLRT Extension project, and provided a pre-publication copy of the Amended Draft Section 4(f) and 6(f) Evaluation to the US Department of the Interior (USDOI) for review and comment on May 18, 2016. The preliminary use determinations presented by FTA in the Amended Draft Section 4(f) and 6(f) Evaluation included: ■ A *de minimis* use of TWRP ■ A *de minimis* use of Glenview Terrace Park ■ A direct use of the GRHD ■ A direct use of the Osseo Branch historic railroad district In addition, the need for a Section 6(f) conversion of a portion of Sochacki Park: Sochacki Management Unit was identified. USDOI indicated in its response dated [DATE] that [SUMMARIZE RESPONSE]. The Final Section 4(f) Evaluation results will be documented in the proposed BLRT Extension project Record of Decision. The Section 6(f) conversion process will be completed under separate environmental review in accordance with National Park Services guidelines; the conversion process must be completed before construction of the proposed BLRT Extension project can begin.
143C	Darby	Valincia	US Department of the Interior	143	Email	5 - Environmental Effects	The Section 4(f) Evaluation appears rather preliminary in that additional design will be needed to determine the full extent of some impacts to or avoidance of resources, and impacts to the two historic properties will need concurrence from the Minnesota State Historic Preservation Office (SHPO) on a "no adverse effect" determination under section 106 of the National Historic Preservation Act.	Adverse effects to historic properties are presented in the proposed BLRT Extension project Determination of Effects Report, included in Appendix H of the Final EIS. MnHPO has concurred with FTA's adverse effect determinations. The adverse effects have informed the Section 4(f) Evaluation, and the following uses of historic properties have been identified: ■ A direct use of the GRHD ■ A direct use of the Osseo Branch historic railroad district The Section 4(f) analysis considered avoidance alternatives and measures to minimize harm, and found that there was no feasible and prudent alternative to the two Section 4(f) uses, and that all possible planning to minimize harm had been incorporated into the proposed BLRT Extension project. USDOI concurred with FTA's

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								preliminary determinations of use for these two properties on [DATE]. [LIST THEM].
143D	Darby	Valincia	US Department of the Interior	143	Email	5 - Environmental Effects	Therefore, the Department would concur with the FTA that there were no feasible or prudent avoidance alternatives to the preferred alternative presented which results in impacts to Theodore Wirth Regional Park.	Please see the Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8 of the Final EIS) which presents FTA's preliminary determination that the proposed BLRT Extension project would constitute a *de minimis* use of TWRP. This preliminary determination was made based on the fact that the proposed BLRT Extension project would require a small portion of park property, and that the acquisition of that property and the implementation of the proposed BLRT Extension project as a whole would not adversely affect the activities, features, or attributes which qualify the park for protection under Section 4(f). FTA will request MPRB's concurrence on the *de minimis* determination for TWRP following the publication of and consideration of comments on the Amended Draft Section 4(f) and 6(f) Evaluation.
143E	Darby	Valincia	US Department of the Interior	143	Email	5 - Environmental Effects	Impact mitigation for all other 4(f) properties is dependent upon additional design information, as well as consultation with the SHPO and other consulting parties. Therefore, the Department cannot concur that all possible planning needed to minimize harm to 4(f) resources has been employed.	The Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8 of the Final EIS) presents measures to minimize harm that have been developed in coordination with the agencies with jurisdiction. In general, these include enhanced trail connections for park resources, revegetation (including removal of invasive species and replanting with native species) of temporarily disturbed areas, and implementation of designs that meet the SOI standards. The Amended Draft Section 4(f) and 6(f) Evaluation presents FTA's preliminary determination that two properties (the GRHD and the Osseo Branch historic railroad district) would be subject to a direct use by the proposed BLRT Extension project. Sections 8.7.2.10 and 8.7.2.11 present the "all possible planning to minimize harm" analysis for these properties.
143F	Darby	Valincia	US Department of the Interior	143	Email	5 - Environmental Effects	The Department will withhold its final concurrence that there are no feasible or prudent avoidance alternatives and that all possible planning needed to minimize harm to the 4(f) resources have been employed until more information is included in the final evaluation.	The Amended Draft Section 4(f) and 6(f) Evaluation has been published with the Final EIS for the proposed BLRT Extension project (see Chapter 8 of the Final EIS). A copy of the Amended Draft Section 4(f) and 6(f) Evaluation has been provided to the USDOI for review and concurrence. The document presents information regarding the lack of prudent or feasible alternatives to the 4(f) uses discussed, and demonstrates that FTA has implemented the necessary planning to minimize harm.

Minnesota Department of Transportation

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
151A	Corbett	Michael	Minnesota Department of Transportation Metro District	151	Email	3 - NEPA Process & Public Involvement	Partnering with MnDOT is essential during project development, engineering, and construction to help ensure timely and appropriate identification of and resolution to any impacts to MnDOT facilities. As the project progresses, work with MnDOT to ensure that all impacts to State Highway infrastructure (e.g. along TH 55 in Minneapolis, and crossings over TH 100, TH 610, and I-94) are reviewed and approved through the layout approval process, consistent with policy and criteria outlined in the MnDOT Road Design Manual.	The Final EIS provides a list of Cooperating and Participating Agencies in Table 9.3-1. MnDOT is listed as a Cooperating Agency; MnDOT has a seat on the CMC as well as the Technical Project Advisory Committee. Cooperating and Participating Agencies began active participation early in the environmental review process. The proposed BLRT Extension project would have impacts on several MnDOT facilities; therefore, FTA and the Council will continue to coordinate and partner with MnDOT on the development of design details through the preliminary and final design phases of the proposed BLRT Extension project. For those roadways owned by MnDOT, MnDOT design standards will be followed, unless determined otherwise by both MnDOT and the Council. Permits will also be obtained through MnDOT, as required. MnDOT staff (including right-of-way, design, cultural resources, and administrative staff) actively participate on the development of proposed BLRT Extension project and are co-located with Council staff.
151B	Corbett	Michael	Minnesota Department of Transportation Metro District	151	Email	7 - Alternatives, Engineering & Design	MnDOT has expectations that detailed design considerations along the Bottineau corridor where State Highways are impacted will be compatible and coordinated with MnDOT's multimodal objectives. These objectives include extensive collaboration with local partners and residents to achieve an improved transportation corridor that promotes and invites all non-motorized traffic to move along and across the corridor in a safe and convenient manner.	The Council has coordinated extensively with MnDOT, Hennepin County, the city of Minneapolis, and other stakeholders on the design of Olson Memorial Highway (Olson Memorial Highway—the only State Highway along which the proposed BLRT Extension project would traverse) throughout the issue resolution process. The improvements to Olson Memorial Highway address both motorized and non-motorized traffic. Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: the Penn Avenue Station and the Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Sochacki Park:, Humboldt Avenue, James Avenue, Morgan Avenue, midblock between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge. See Appendix E of the Final EIS for design information.
151C	Corbett	Michael	Minnesota Department of Transportation Metro District	151	Email	3 - NEPA Process & Public Involvement	As design work develops, continue to partner and work with MnDOT Metro District staff and functional groups to resolve project development technical issues identified by MnDOT and other key stakeholders.	The Council continues to partner with MnDOT throughout the design process, and MnDOT staff is co-located with Council staff working on the development of the proposed BLRT Extension project (e.g., staff from the MnDOT Cultural Resources Unit, right-of-way staff, design staff, and administrative staff are facilitating project actions during the environmental review process and into construction).
151D	Corbett	Michael	Minnesota Department of Transportation Metro District	151	Email	7 - Alternatives, Engineering & Design	It is anticipated that all trunk highway impacts will be reviewed and approved through the layout approval process and proposed alterations will use the policy and criteria presented in the MnDOT Road Design Manual. Additional information on MnDOT's Geometric Design and Layout Development process can be found at: http://www.dot.state.mn.us/design/geometric/index.html	The Council will develop and submit design plans to MnDOT for review and approval in accordance with MnDOT's Geometric Design and Layout Development Process.

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151E	Corbett	Michael	Minnesota Department of Transportation Metro District	151	Email	5 - Environmental Effects	It appears that drainage permits will be required where the corridor crosses and parallels state roads within MnDOT's right of way. MnDOT expects these determinations will be made when the final design plan is submitted.	Drainage permit requirements are being determined as drainage designs are advanced. The Council anticipates the potential for needing drainage permits from MnDOT, and will coordinate with MnDOT on acquiring these permits as designs are finalized.
151F	Corbett	Michael	Minnesota Department of Transportation Metro District	151	Email	4 - Social and Economic Effects	Any use of or work within or affecting MnDOT right-of-way requires a permit. It is anticipated that more specific impacts to MnDOT right-of-way will be identified during the FEIS and Project Development (Preliminary Engineering) phases.	MnDOT is leading the right-of-way acquisition process for the proposed BLRT Extension project. The Council will follow permitting requirements of MnDOT for work in the right-of-way.

Minnesota Pollution Control Agency

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
152A	Kain	Kevin	Minnesota Pollution Control Agency	152	Email	5 - Environmental Effects	Please be aware that Shingle Creek and Bassett Creek are listed on the MPCA Inventory of Impaired Waters located on the MPCA website at http://www.pca .state .mn.us/water/tmdl/tmdl -303dlist.html. We recommend you utilize the MPCA Special Waters and Impaired Waters Search mapping tool to identify special or impaired waters located near proposed projects. The mapping tool is located on the MPCA website at: http://pca-gis02.pca.state.mn.us/CSW/index.html. Shingle Creek and Bassett Creek are listed as impaired for turbidity and fecal coliform. The impairment will dictate additional increased stormwater treatment during construction and require additional increased permanent treatment post construction. These requirements will be included in the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater (CSW) permit. The project proposer should determine that compliance with these increased stormwater water quality treatments can be achieved on the Project site or elsewhere. Information regarding the MPCA's Construction Stormwater Program can be found on the MPCA's website at http://www.pca .state.mn.us/water/stormwater/stormwater -c.html. Questions regarding Construction Stormwater Permit requirements should be directed to Roberta Getman at 507-206-2629.	The Council is aware of the 303(d) listing of Bassett Creek and Shingle Creek, and the implications of this listing on proposed stormwater management. Constraints on this linear transportation project would require a state-of-the-science innovative approach to stormwater management including a treatment train such as infiltration, pervious pavements, cisterns, SAFL Baffles, grit chambers, retention and detention. Impaired waters in the proposed BLRT Extension project area are shown in Figure 5.9-1 of the Final EIS. The specific impairments and Total Maximum Daily Load requirements for each impaired water are listed in Table 5.9-2 of the Final EIS. Stormwater treatment features on the proposed BLRT Extension project are being designed to comply with the treatment requirements for these impaired waters. Permanent stormwater treatment features will be shown on the design plans, and construction stormwater treatment features will be shown on the SWPPP documents which are required to be submitted as part of the NPDES permitting process and reviewed and approved by MPCA.
152B	Kain	Kevin	Minnesota Pollution Control Agency	152	Email	3 - NEPA Process & Public Involvement	The permanent treatment requirements are old - the 2013 CSW permit now requires one inch from the new impervious over one acre added to be retained on site. Table 5.9-2 needs to be updated, and their proposed ponds will need to be reevaluated to meet the new requirement.	The MPCA permit treatment requirements have been updated and are shown in Table 5.9-1 of the Final EIS. Volume control is listed as requiring 1.0 inch of runoff from new impervious surfaces created by the proposed BLRT Extension project to be retained on site. Designs of ponds and other stormwater BMPs have been developed in accordance with this requirement.
152C	Kain	Kevin	Minnesota Pollution Control Agency	152	Email	3 - NEPA Process & Public Involvement	In Section 5.9.5, the statement "Due to the linear nature of the project, BMPs that are compatible with linear corridors would be used to the extent possible without the need to purchase additional right-of-way" would not comply with the 2013 CSW permit. The requirement is to meet the one inch water quality volume unless infeasible. Part of the specific requirements for linear projects: For work on linear projects with lack of right of-way where the Permittee(s) cannot obtain an easement or other permission for property needed to install treatment systems capable of treating the entire water quality volume on site, the Permittee(s) must maximize the water quality volume that can be treated prior to discharge to surface waters. Treatment can be provided through other methods or combination of methods such as grassed swales, filtration systems, smaller ponds, or grit chambers, prior to discharge to surface waters. A reasonable attempt must be made to obtain right-of-way during the project planning process. Documentation of these attempts must be in the Stormwater Pollution Prevention Plan (SWPPP) per Part 111.A.5.m. in the section addressing infeasibility.	As noted in the response to Comment 152B, stormwater BMPs have been designed to meet the 1.0 inch retention standard. In some cases, this can be met through the implementation of BMPs within the existing linear corridor. However, in several cases, new or augmented stormwater treatment features are proposed on right-of-way parcels outside the linear corridor. An overview of major stormwater treatment facilities is shown in Figure 5.9-2 of the Final EIS and summarized in Tables 5.9-5 through 5.9-10. Documentation of the stormwater management planning and design process will be provided in the SWPPP, which will be reviewed and approved by MPCA as part of the NPDES permitting action. Any alteration required to the treatment plan will be coordinated with MPCA, according to the standards required for the NPDES permit.
152D	Kain	Kevin	Minnesota Pollution Control Agency	152	Email	8 - Transportation System Effects	Disruption to traffic operations, including lane closures, short-term intersection and roadway closures, as well as detour will occur during construction of the Project and would cause localized increases in congestion. Therefore, traffic control measures should be developed during subsequent stages of the	Mitigation measures for short-term (construction) impacts to roads and traffic would be implemented by the Council prior to and during construction through the Construction Mitigation Plan, which includes a Construction Communication Plan and a construction staging plan. MnDOT, Hennepin County, and all municipalities affected by construction activities related to the proposed BLRT Extension project

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							project to address these construction phased-impacts. Traffic flow and access to adjacent development must be maintained throughout the construction period. Construction related impacts must also be minimized within the neighborhoods adjacent to the project area. Amanda Smith (Amanda.smith@state.mn.us) would like to see a copy of the construction phasing plan when it is developed.	would require compliance with applicable state and local regulations related to the closing of roads and the effects of construction activities. Contractors will be required to comply with all guidelines established in the Minnesota Manual on Uniform Traffic Control Devices (2015). Construction staging and mitigation documents will be reviewed by appropriate jurisdictions, and required permits will be secured by construction contractors. Traffic-control plans will be developed by the contractor based on information identified in the construction documents and the Construction Mitigation Plan. Traffic-control plans will be reviewed by appropriate jurisdictions and the Council before construction activities begin. A copy of the Construction Mitigation Plan will be provided to MPCA for review.
152E	Kain	Kevin	Minnesota Pollution Control Agency	152	Email	5 - Environmental Effects	The effects of this Project on air quality were conducted through analysis of predicted impacts on CO concentrations. Analysis was conducted on five intersections in the study area, one representing the worst-case condition along each alignment under consideration. Based on these results, concentrations of CO in the study area would not exceed state one hour or eight hour standards. Therefore, the construction of the Project is not expected to cause any exceedance of the state CO standards. Based on the qualitative assessment presented in the Draft EIS, the Project would not cause exceedances of other criteria pollutants.	The Council concurs with MPCA's statements regarding the analysis of the proposed BLRT Extension project's impact on carbon monoxide concentrations. The analysis in the Final EIS (see Section 5.10.4.1) confirms the results of the analysis presented in the Draft EIS.
152F	Kain	Kevin	Minnesota Pollution Control Agency	152	Email	5 - Environmental Effects	The Draft EIS has provided a detailed qualitative analysis of MSATs. Since the traffic volumes for this project are below the threshold of 140,000 vehicles per day, a quantitative MSAT analysis is not required. Based on the qualitative assessment provided in the Draft EIS, it is not anticipated that this Project will cause a significant increase in MSAT emissions.	The Council concurs with MPCA's statements regarding the analysis of the proposed BLRT Extension project's impact on concentrations of Mobile Source Air Toxics. The analysis in the Final EIS (see Section 5.10.4.1) confirms the results of the analysis presented in the Draft EIS.
152G	Kain	Kevin	Minnesota Pollution Control Agency	152	Email	6 - Noise & Vibration Effects	The Draft EIS includes a detailed noise analysis. However, the noise analysis was conducted using Leq, rather than L10 and L50, which are the applicable state noise standards. The Project must comply with state noise standards and the final noise mitigation plan must address these state standards.	MPCA, the Council, and FTA have developed an approach to addressing the state noise standards. Information regarding this approach and the results are contained in Chapter 5 of the Final EIS. Section 5.6.1.4 discusses MPCA and FTA noise criteria for LRT operations, and demonstrates how compliance with FTA noise criteria are more protective of noise sensitive receptors for transit operations. Section 5.6.4.2 discusses construction-phase noise impacts and the requirements for compliance with MPCA noise rules. A construction Noise Control Plan will be prepared prior to the initiation of construction activities.

Three Rivers Park District

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
160A	Vlaming	Jonathan	Three Rivers Park District	160	Email	5 - Environmental Effects	The DEIS indicates that the FTA is proposing a de minimis determination for Rush Creek Regional Trail for construction of the OMF located in an east/west alignment north of 101st Avenue. The de minimis classification proposal is new information for Three Rivers and the DEIS is incorrect in stating that Three Rivers "provided input regarding potential de minimis use of park property". The de minimis proposal requires additional discussion and collaboration between Three Rivers and the Bottineau Transitway project team as the project advances.	Additional coordination has occurred subsequent to publication of the Draft EIS as well as additional engineering. As described in the Final EIS (Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation), through advances in proposed BLRT Extension project design there would be a temporary occupancy of 1.1 acres of park property adjacent to Rush Creek Regional Trail by the proposed BLRT Extension project, and no actual Section 4(f) use of the property. FTA will request Three Rivers Park District concurrence on the temporary occupancy determination following the publication of the Final EIS, and will document that concurrence in the Record of Decision.
160B	Vlaming	Jonathan	Three Rivers Park District	160	Email	5 - Environmental Effects	The Rush Creek Regional Trail corridor is one of a handful of metro regional trail corridors that were acquired prior to development of the surrounding area, and involved a significant investment in land acquisition to provide a natural-resources rich greenway buffer between the trail and future development. Over 250 acres were secured for this trail greenway. The trail meanders through a greenway composed of woodlands, prairie and wetlands, and provides a rare experiential trail setting offering solitude and escape from the sights and sounds of neighboring developments that have risen from the farm fields once adjacent to the trail greenway. Over 372,000 annual visitors now enjoy this trail greenway and the respite from modern life it offers. The success of this trail greenway reflects solid long-range planning and investments starting nearly 30 years ago. Encroachment into the trail greenway by the OMF site threatens to disrupt the experiential setting offered by the trail greenway. The trail greenway offers two trails – a paved trail for bicyclists, in-line skaters and others who prefer a smooth surface, and an unpaved trail – originally designed for horses when the area was rural - and now used by runners and walkers looking for an even more natural setting. The paved trail comes within 400 feet of the OMF site, and the unpaved trail is directly adjacent to the OMF site. The DEIS does not provide enough information (OMF scale, noise impacts, visual impacts, air quality impacts, hours of operation, secondary impacts such as traffic to/from the site, etc.) to accurately determine if the OMF impact on the regional trail greenway corridor is de minimis. Consequently, at this time Three Rivers staff can not recommend to the Three Rivers Board of Commissioners that the direct use of the trail greenway corridor for the OMF site warrants de minimis status. The DEIS does recognize that de minimis resolution of 4(f) property impacts requires agreement by the agency with jurisdiction over that property. Three Rivers will work with the Bottineau Transitway design team to assess the potential impacts of the OMF site on the regional trail and its visitors, and will work collaboratively to find creative solutions that meet the needs of Three Rivers, trail users, and the Bottineau Transitway project.	The Council acknowledges the unique attributes of the Rush Creek Regional Trail corridor and worked with project stakeholders including the Three Rivers Park District to develop an alternative for the OMF that avoids permanent impacts to the corridor. The location and orientation of the OMF has been moved to avoid incorporation of any property from the Rush Creek Regional Trail corridor, and would not impede trail users. Landscaping would be implemented to screen the OMF from trail users; this is discussed in Section 4.5 of the Final EIS. Rush Creek Regional Trail property would no longer be required for the OMF site; therefore, a *de minimis* use is no longer FTA's Section 4(f) determination. FTA considered noise and visual impacts and other proximity impacts, and determined that they would not alter or impact the overall use or function of Rush Creek Regional Trail; therefore, there would be no constructive use of the trail facility. The Council has coordinated with the Three Rivers Park District on identifying an OMF location and configuration that meets the needs of the proposed BLRT Extension project and the park district.

City of Golden Valley

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
181A	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Greater effort and attention must be given to...The likely impacts on the aesthetic and recreational aspects of Mary Hills Nature Area with an eye on preserving and enhancing the park for future users.	The Final EIS finds that there are no long-term impacts to the recreational attributes caused by the proposed BLRT Extension project on Sochacki Park: Mary Hills Management Unit (see Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS). There would be impacts to Sochacki Park: Mary Hills Management Unit during construction, which are also discussed in Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation. Commitments to mitigate for these short-term effects, including commitments to maintain park access for users and for the replacement of trees and other plantings that may need to be removed as part of construction, are included in the Final EIS. These commitments have been developed in coordination with the city. Concurrence from the city of Golden Valley will be requested following the publication of the Final EIS regarding the proposed temporary occupancy. FTA's final Section 4(f) determinations will be documented in the Record of Decision.
181B	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Greater effort and attention must be given to...Projected traffic impacts (during and after construction) and impacts to infrastructure on Golden Valley Road, Wirth Parkway, and surrounding local streets near each station location, and how those impacts might be addressed. Consideration should be given to a design of Golden Valley Road that incorporates multiple modes of transportation, including transit, bicycles, pedestrians, and the proposed Bassett Creek Regional Trail.	No mitigation measures are warranted for long-term impacts to roads and traffic because the identified avoidance measures would prevent any adverse impacts resulting from construction of the proposed BLRT Extension project. As shown in Table 3.3-2 of the Final EIS, the proposed BLRT Extension project includes a variety of roadway modifications that would avoid new congested intersections. The traffic operations analysis indicates that the Golden Valley Road/Theodore Wirth Parkway intersection would have approximately the same vehicular traffic level of service in 2040 with either the No-Build Alternative or the proposed BLRT Extension project (LOS B in the AM peak, and LOS E in the PM peak). The proposed BLRT Extension project does include improvements on Golden Valley Road (for the extent that would be reconstructed as part of the proposed BLRT Extension project) providing for multi-modal improvements, including construction of the portion of the Bassett Creek Regional Trail that are within the LOD. Additional information can be found in Section 3.3.
181C	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Highlight impacts of station location(s) on immediately surrounding areas, including the effects of noise, lights, vibration, litter, pollution, and auto and bus traffic. The design of a given station should strive to safeguard the personal safety of transit users as they arrive at, depart from, or wait at the platform.	The proposed BLRT Extension project's environmental impacts are discussed in detail in Chapters 3 through 8 of the Final EIS. Chapter 3 discusses transportation impacts. Chapter 4 presents the community and social analysis. Chapter 5 addresses physical environment impacts. Chapter 6 discusses indirect impacts and cumulative effects. Chapter 7 presents the environmental justice analysis. Chapter 8 is the Amended Draft Section 4(f) and 6(f) Evaluation Chapter 9 presents the agency coordination and public involvement efforts. Chapter 10 summarizes the financial analysis. Chapter 11 presents the analysis of a proposed joint development project, and Chapter 12 is the summary evaluation of the No-Build Alternative and the proposed BLRT Extension project. Specific to noise, and vibration, the impacts discussion for these topic areas can be found in Chapter 5. Roadway and transit discussions are in Chapter 3 of the Final EIS, and visual impacts as well as the safety and security of transit users are discussed in Chapter 4 of the Final EIS.
181D	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The mitigation of visual impacts from lights and lighting along the Bottineau Transitway and around potential station locations [should be addressed].	Light emissions were evaluated as part of the visual quality impact analysis and mitigation measures, including provisions for shielding lights to avoid "spillover" impacts, are included in the Final EIS.
181E	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The mitigation of noise impacts for properties where noise barriers were not specifically identified in the Draft EIS. In general the study of noise levels was inadequate and more locations must be examined.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Recognizing concerns expressed by the city of Golden Valley in its comment letter, the Council added an additional noise monitoring site in Golden Valley at Bonnie Lane (just west of the proposed Golden Valley Road Station) as part of the assessment of the proposed BLRT Extension project impacts completed for the Final EIS. (See Section 5.6 of the Final EIS for a discussion of noise impacts and a summary of mitigation commitments.) After the implementation of mitigation measures which include a noise barrier adjacent to Kewanee Way just north of Golden Valley Road,

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								and interior testing in one home just south of Golden Valley Road, one moderate and one severe impact would remain.
181F	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The location of mitigation efforts for flood plain impacts along the corridor, especially in areas that may impact parks and natural areas [should be addressed].	Section 5.2 of the Final EIS describes mitigation efforts for floodplain impacts, and lists the agencies with which the Council will work to properly permit the work done on floodplain mitigation. A total of 17,000 CY of floodplain impact have been identified. 16,800 CY of this impact are in the reach of Bassett Creek that lies between Golden Valley Road and Olson Memorial Highway in the City of Golden Valley. Mitigation for this impact will be achieved through the excavation of compensatory flood storage just north of Olson Memorial Highway; this site is shown in Figure 5.2-5 of the Final EIS.
181G	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Issues of accountability if the mitigation measures fail in the future and ownership and the responsibility for maintenance of infrastructure such as pipes and culverts should be examined.	The Council continues to refine design details and the specifics of how mitigation commitments will be implemented in coordination with city staff from each of the corridor cities. Details regarding items such as ownership and maintenance of pipes and culverts will be addressed during final design and construction phases of project development. Mitigation commitments and responsibility for those commitments will be reported in the anticipated Record of Decision for the proposed BLRT Extension project.
181H	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Beyond the quantitative measurement of noise and vibration, the City is interested in a qualitative analysis of the impacts the Bottineau Transitway project might generate - especially with Mary Hills Nature Area and Theodore Wirth Park.	The assessment of potential noise and vibration impacts of transit projects is set forth in FTA's 2006 Noise and Vibration Impact Assessment manual. The results of applying this quantitative analysis of impacts is included in Sections 5.6 and 5.7 of the Final EIS. After the implementation of mitigation measures which include a noise barrier adjacent to Kewanee Way just north of Golden Valley Road, and interior testing in one home just south of Golden Valley Road, one moderate and one severe impact would remain. No vibration impacts from proposed BLRT Extension project operations have been identified. Chapter 8 – Amended Draft 4(f) and 6(f) Evaluation of the Final EIS discusses the proposed BLRT Extension project's potential for proximity impacts to Sochacki Park: Mary Hills Management Unit, and presents FTA's preliminary determination that such proximity impacts would not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f). The analysis in Chapter 8 for TWRP indicates that the direct use of approximately 2.1 acres of the park by the proposed BLRT Extension project would be considered a *de minimis* use based on FTA's preliminary determination that such use would not adversely affect the features, attributes or activities qualifying the property for protection under Section 4(f).
181I	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Parking options and passenger drop-off access at the proposed Golden Valley Road station [should be considered]. Consideration should be given to the construction of a park and ride facility at or near the Golden Valley Road station location.	Through the issue resolution process, a park-and-ride lot with 100 surface parking spaces and additional bus and passenger drop-off areas has been incorporated into the proposed BLRT Extension project design to provide direct access to the Golden Valley Road Station. A summary of the issue resolution process, and the impact of this process on defining the proposed BLRT Extension project can be found in Chapter 2 of the Final EIS.
181J	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		A more complete accounting of the impacts to Golden Valley residents, neighborhoods, streets, and the entire transportation system during the lengthy construction period [should be addressed].	Construction-phase impacts on neighborhoods and the transportation system in the City of Golden Valley from the proposed BLRT Extension project would generally occur between 2018 and 2020, with the potential for some construction impacts in late 2017 depending on the timing of proposed BLRT Extension project approvals. Construction-phase impacts may include: ■ Intermittent impacts on bus operations, including temporary stop relocations, route detours, or suspensions of service on streets that are under construction ■ Intermittent impacts on roadways, including lane closures, short-term roadway and intersection closures, and detours ■ Intermittent impacts on bicycle and pedestrian facilities, including temporary closures or detours, and the presence of construction debris such as excess dirt and gravel

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								■ Temporary removal of on-street parking spaces to facilitate construction vehicle movement, loading, and unloading These impacts will be mitigated through the implementation of a Construction Communication Plan that could include the following strategies to minimize disruptions: ■ Issuing and distributing regular construction updates ■ Providing advance notice of roadway closures, driveway closures, and utility shutoffs ■ Conducting public meetings ■ Establishing a 24-hour construction hotline ■ Preparing materials with information about construction ■ Addressing property access issues ■ Assigning staff to serve as liaisons between the public and contractors during construction
181K	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Many areas of Golden Valley have substandard soils which are unsuitable for construction with proper correction or engineering. A good portion of the Transitway corridor through Golden Valley is located within floodplain, lowland or wetland areas. In addition, there are areas in Golden Valley that were found to be filled with construction debris in the past. The presences of contaminated materials is likely. A careful and detailed analysis of the soils, including possible contamination, must be included as part of the project. Mitigation measures must be consistent with all applicable laws [and] must be included in the project if contaminated material is discovered.	Extensive soils investigation, including conducting geotechnical borings, was undertaken by the Council in 2015. The results of this analysis are summarized in Sections 5.4 and 5.5 of the Final EIS. The Council is aware of the previous dumping that occurred during the 1960s in this area. A Phase I ESA has been conducted to further evaluate the presence of contamination along the entire proposed BLRT Extension project corridor and the results of this investigation are summarized in Section 5.5 of the Final EIS. Twenty four sites with a high potential for contamination and 135 sites with a medium potential for contamination were identified in the Phase I ESA; this information will be used to develop a Phase II ESA work plan. Information gathered during the Phase II ESA process (currently scheduled for the summer 2016 through mid-2017) will be incorporated into the proposed BLRT Extension project's Response Action Plan (RAP), which will include a Construction Contingency Plan for unidentified contamination. The Phase II ESA and its resultant RAP and Construction Contingency Plan will be completed with the oversight and approval of the MPCA, during final design and engineering and prior to the start of construction.
181L	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Pedestrian movement throughout Mary Hills Nature Area by users on both sides of the existing rail line constitute an important community connection. The City requests a study of a safe pedestrian-only crossing.	The Final EIS addresses how park and trail user accessibility to potentially affected recreational areas will be maintained. There would be no short- or long-term impacts to trails in Sochacki Park: Mary Hills Management Unit (see Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS for further discussion). With reconstruction of the Golden Valley Road bridge over the BNSF rail corridor, the proposed BLRT Extension project would construct a bicycle/pedestrian facility facilitating a connection to the planned Bassett Creek Regional Trail on the south side of Golden Valley Road. The proposed BLRT Extension project would also construct a trail connection underneath the reconstructed Golden Valley Road Bridge, providing a continuous off-road trail connecting Sochacki Park: Mary Hills Management Unit to TWRP.
181M	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The proposed alignment for the Bottineau Transitway...is to be located within and adjacent to Theodore Wirth Regional Park, as well as the Mary Hills Nature Area and Glenview Terrace Park. These areas are unique natural and recreational amenities to the City as well as the northwestern Twin Cities region. The Comprehensive Plan for the City establishes clear goals that provide protection of these natural areas. The City shall be involved in all decisions that impact the parks.	The Final EIS finds that there are no ecological, noise, visual, vibration or other aesthetic interferences that would substantially impair the activities, features or attributes of Sochacki Park: Mary Hills Nature Area, Glenview Terrace Park, or TWRP (see Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS). Based on the criteria that are used to determine a temporary occupancy, FTA has determined that there would be short-term needs to be in some limited portions of Sochacki Park: Mary Hills Nature Area. The temporary occupancy of the Mary Hills Nature Area Unit of Sochacki Park was disclosed in an Amended Draft Section 4(f) and 6(f) Evaluation which is published as Chapter 8 of the Final EIS. Concurrence in this temporary occupancy will be requested from the city of Golden Valley following the publication of the Final EIS, and the final Section 4(f) determination will be

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								included in the Record of Decision. FTA has made preliminary *de minimis* determinations with respect to TWRP and Glenview Terrace Park. Concurrence on these determinations will be requested from MPRB following publication of the Final EIS and review of public comments, and the final Section 4(f) determination will be included in the Record of Decision.
181N	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Any impacts to the floodway or floodplain must be mitigated in accordance with the laws and policies of the regulating agencies. The City recognizes that mitigation within the existing rail corridor will be challenging; it encourages the County [sic] to work closely with the City of Golden Valley, the Bassett Creek Watershed Management Commission (BCWMC), the Minneapolis Park and Recreation Board, and other BCWMC member cities to identify potential flood storage areas outside of the railroad rights-of-way, if necessary.	The proposed BLRT Extension project would impact approximately 17,000 CY of floodplains, all of which would be located within the BCWMC. Floodplain mitigation is discussed in Section 5.2.5 of the Final EIS. Two mitigation sites are proposed. The first is located west of the BNSF rail corridor and north of Olson Memorial Highway on MPRB and Canadian Pacific Railway property, and is located within the BCWMC. The other is located in City of Robbinsdale property at the edge of Grimes Pond. The site on MPRB and Canadian Pacific Railway property (16,800 CY of compensatory storage) will be designed in coordination with BCWMC and MPRB staff to ensure that the site fits into the landscape. The mitigation at Grimes Pond is quite small (200 CY of compensatory storage) and will be incorporated into the grading for the LRT bridge over the pond. Floodplain mitigation strategies have been discussed with BCWMC, MPRB, and the cities of Minneapolis and Golden Valley, and staffs from those governmental units have approved the final mitigation sites. The Council will continue to coordinate approvals for floodplain impacts and mitigation strategies with BCWMC, the cities of Golden Valley and Minneapolis, DNR, and FEMA.
181O	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Wetland impacts will need to be mitigated in accordance with the laws and policies of the regulating agencies. The City of Golden Valley is the local government unit responsible for administration of the Wetland Conservation Act. If necessary, the County [sic] should identify potential mitigation solutions outside the railroad right-of-way that are satisfactory to the local partners.	The Final EIS describes in detail several types of impacts to wetlands including direct impacts, indirect impacts, and potential cumulative effects and secondary impacts to wetlands. Section 5.3 discusses the wetland impacts for both short and long-term impacts as well as the avoidance, minimization, and mitigation measures. The proposed BLRT Extension project would require coordination and permitting from local, state, and federal water resource agencies. The Council coordinated with the Wetlands Technical Evaluation Panel (which includes representation from the city of Golden Valley) regarding mitigation strategies prior to submitting the WCA and Clean Water Act Section 404 permit applications. The Council's analysis of preliminary mitigation strategies included establishing project-specific permittee-responsible mitigation sites and purchasing wetland mitigation bank credits. Based on this analysis, the Council determined that wetland impacts from the proposed BLRT Extension project will be mitigated through a combination of on-site wetland mitigation and purchases of private wetland credits from existing mitigation banks in suitable major watersheds and Bank Service Areas. (See Appendix I of the Final EIS, which includes a copy of the USACE Section 404/Minnesota WCA permit application, including mitigation commitments.)
181P	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The Transitway project will need permits or approvals from all agencies regulating stormwater, including but not limited to the City, BCWMC, and Minnesota Pollution Control Agency. At a minimum, best management practices addressing erosion and sediment control will need to be implemented during construction. It is possible that rate control and stormwater treatment that reduces pollutants and runoff will be required, especially with the development of a transit station, park-and-ride facility, or other impervious surfaces.	Appropriate measures to avoid and minimize impacts to surface and groundwater will be implemented during construction and maintenance phases of the proposed BLRT Extension project. These include construction stormwater BMPs such as silt fences, ditch checks, erosion control mats, temporary mulching and/or seeding, and other appropriate practices to control runoff and sedimentation. Spill control plans will be required of construction contractors to address accidental releases of petroleum products or other controlled substances. As part of construction, an NPDES permit will be obtained from MPCA and subject to approval by the city and BCWMC. This permit will establish the measure which the Council and its contractors will implement during construction to protect surface and groundwater quality and the monitoring activities used to report on implementation of such measures.
181Q	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The natural areas located within the LPA alignment are home to a vast array of wildlife. Care must be taken to avoid impacts to the habitat and travel ways of all wildlife, including endangered, threatened, or special concern species. The City requests more specific information about the location of fencing along the LPA alignment, as well as what type of fencing would be used. The	Section 5.8 of the Final EIS presents a summary of the assessment of wildlife habitat, impacts to wildlife habitat, and effects on threatened and endangered species. DNR concurred with the Council's assessment that there would be no adverse effects on Blanding's turtle populations with the implementation of DNR's guidelines. A copy of the guidelines is included in Appendix F of the Final EIS. FTA determined that the proposed BLRT Extension project may affect the Northern long-eared bat, but the

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							movement and safety of wildlife through the natural areas may be impeded by certain types of fencing and the City would like to explore options for waivers from the requirement. In addition, new wildlife surveys may be warranted given the age of the surveys used in the Draft EIS.	potential for impacts was low, and incidental "takes" of the bat would not be prohibited. Locations of fencing will continue to be explored through the design process; decisions regarding fencing locations will likely be finalized between the 30 percent and 60 percent design stages. The Council acknowledges that fencing in areas of notable wildlife habitat may impede wildlife movement. Minimizing the use of fencing in these areas, or the provision of wildlife crossings (dry culverts or other passageways) are potential solutions.
181R	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		As the proposed project has the potential to impact areas within large parks and natural areas, and areas adjacent to Bassett Creek, the corridor has been studied for the presence of historic and cultural resources. Both the bridge over Bassett Creek in Theodore Wirth Regional Park (Bridge No. L9327) and the Grand Rounds Historic District have been identified as architectural resources that are eligible for listing in the National Register of Historic Places. The City shall be involved in all decisions that impact these two resources.	Information on the potential for adverse effects to all NRHP listed and eligible resources within the proposed BLRT Extension project's APE can be found summarized in Section 4.4 of the Final EIS, with detailed information included in Appendix H. There were no adverse effects determined to result for the bridge over Bassett Creek. There were adverse effects determined for the Theodore With Segment of the GRHD. A Section 106 MOA has been developed by FTA and MnHPO including the participation of the Council and other parties, including the city of Golden Valley. The Section 106 MOA sets forth commitments to avoid, minimize, and mitigate the potential adverse effects of the proposed BLRT Extension project on the GRHD (page 18 of the Section 106 MOA). A copy of the draft Section 106 MOA is included in Appendix H of the Final EIS. Should the proposed BLRT Extension project move forward in the environmental review process, an executed copy of this document will be included in the proposed BLRT Extension project's decision document.
181S	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The Draft EIS has identified two potential station locations in the City of Golden Valley along the LPA and suggests that only one will be chosen for construction. Both of the station locations - at Golden Valley Road near Wirth Parkway and on Plymouth Avenue near Wirth Parkway - would potentially require the acquisition of property owned by the Minneapolis Park and Recreation Board.	Chapter 8 – Amended Draft 4(f) and 6(f) Evaluation of the Final EIS discusses the proposed BLRT Extension project's potential to use property from TWRP and FTA's preliminary determination that such use would not adversely affect the features, attributes or activities qualifying the property for protection under Section 4(f).
181T	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Prior Draft EIS information indicates that the Golden Valley Road station would serve mostly Golden Valley residents and business and the Plymouth Avenue station would serve mostly Minneapolis residents, businesses, and Wirth Park facilities, Golden Valley businesses in the immediate area include regional destinations (Courage Kenney [sic] Rehabilitation Institute, Minneapolis Clinic of Neurology, Regency Hospital of Minneapolis, Wirth Park) and local destinations (Church of St. Margaret Mary, Unity Christ Church, The Family Partnership). Additional businesses that would likely use the Golden Valley Road station via additional transit connections include Honeywell and General Mills, among others...The City believes overall transit ridership numbers would be maximized with a Golden Valley Road station location.	Constructing a station at Golden Valley Road (and a station at Plymouth Avenue) was included in the proposed BLRT Extension project's scope and budget at the recommendation of the CMC (which included representation by the cities of Minneapolis and Golden Valley, and MPRB). This recommendation was formally acted on by the Council in December 2015. The effects on ridership of constructing a station at Golden Valley Road (and at Plymouth Avenue) are reported in Table 3.1-4 of the Final EIS.
181U	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		As part of Project Development, the City will require more detailed information about how buses would be incorporated into the station areas, including the amount and frequency of feeder buses serving the stations, and information about how bus drop-off and pick-up would function at the stations. The City is also interested in the expected revisions to the bus system as routes are reconfigured to serve the stations and the potential impact these changes would generate in Golden Valley.	Chapter 3 of the Final EIS discusses transit changes that may occur as a result of implementing the proposed BLRT Extension project. According to the draft Bus Feeder Plan, bus routes 7 and 30 would serve the Golden Valley Road Station with drop off areas on Golden Valley Road. Network modifications are focused on providing an integrated "feeder" bus network to connect people to proposed BLRT Extension project stations. Bus networks and transit plans will continue to be refined as the proposed BLRT Extension project progresses; final bus network changes will be subject to a robust public involvement process in accordance with Title VI requirements.
181V	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		As proposed, the parking options at either station location are limited or non-existent. The City needs more detailed	In the early stages of the proposed BLRT Extension project, shortly after entry into the New Starts Project Development phase, the Council worked closely with local

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							information about how parking would function at the station locations. The number of parking spaces at each location and whether or not ramps are being considered must be determined. The City believes providing adequate parking at the stations is a necessity to avoid undesirable impacts on the surrounding streets and properties. The Draft EIS does not include plans for a park-and-ride facility at either location and land use and zoning controls that are currently in place at the proposed station location sites do not allow parking that is not associated with park uses. To allow for parking to be constructed, changes to land use and zoning controls would need to be made by the City Council. The City requests that funding be made available to allow for planning studies, which include consideration for parking options. Surrounding landowners have expressed concerns about their existing parking conditions so the integration of public and private parking conditions could be an opportunity for further study.	stakeholders to identify parking options in Golden Valley. This included the identification and review of several potential sites that could meet parking needs. The preferred site identified through this process is an approximately 100-space surface park-and-ride lot adjoining the Golden Valley Road Station (see Chapter 2 of the Final EIS for a discussion of park-and-ride facilities associated with the proposed BLRT Extension project). Parking was not considered a viable option for the Plymouth Avenue Station. The city approved the proposed BLRT Extension project 15-percent design plans, including the construction of the Golden Valley Road park-and-ride. As the proposed BLRT Extension project advances, the Council will continue its coordination with the city to secure required permits and other approvals required for proposed BLRT Extension project infrastructure built in the city.
181W	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The ridership levels and trip generation from the proposed station or a future park-and-ride facility may result in the need to modify, enhance, or expand the nearby transportation system, which includes roads, trails and sidewalk facilities -- specifically, Golden Valley Road as well as its intersection with Theodore Wirth Parkway. It is expected that the Bottineau Transitway Project would partner with the appropriate road authority to address and mitigate any traffic concerns.	As shown in Table 3.3-2 of the Final EIS, the proposed BLRT Extension project includes a variety of roadway modifications that would avoid new congested intersections, and, with one exception, the proposed BLRT Extension project would not worsen conditions at intersections that would be congested with the No-Build Alternative in 2040. The traffic operations analysis indicates that the Golden Valley Road/Theodore Wirth Parkway intersection would have approximately the same vehicular traffic level of service in 2040 with either the No-Build Alternative or the proposed BLRT Extension project (LOS B in the AM peak and LOS E in the PM peak). The Council is continuing coordination with the city of Golden Valley, Hennepin County, and MPRB on roadway modifications to this intersection. Additional information can be found in Section 3.3 of the Final EIS.
181X	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Sidewalks currently serve both station locations. The existing sidewalk and trail system will require upgrades and/or expansion to meet accessibility design requirements and the needs of the community. It is expected that this would be accomplished as part of the site access evaluation and implementation. The City of Golden Valley owns and maintains concrete sidewalks on both sides of Golden Valley Road at the intersection with the proposed Transitway, though gaps in the sidewalk system exist on the north side of Golden Valley Road to the west. In addition, Three Rivers Park District has identified the Golden Valley Road corridor for the proposed Bassett Creek Regional Trail which would connect French Regional Park and the Medicine Lake Regional Trail to Wirth Regional Park and the trails along the Ground Rounds National Scenic Byway. This network of trails and sidewalks would also require year-round maintenance -- especially for accessibility purposes -- for LRT to succeed in this multi-modal transportation area. Funding for this maintenance should be discussed as part of Project Development.	Chapter 3 – Transportation of the Final EIS describes the proposed BLRT Extension project's impacts to the transportation system, including the pedestrian environment and impacts to trails. As part of construction of the proposed BLRT Extension project, adequate sidewalk and other pedestrian and bicyclist infrastructure would be included to meet current design and ADA standards. At Golden Valley Road, the proposed BLRT Extension project would reconstruct the Golden Valley Road Bridge, including a bicycle/pedestrian facility that would connect to the planned Bassett Creek Regional Trail on the south side of Golden Valley Road. The proposed BLRT Extension project would also construct a trail connection underneath the reconstructed Golden Valley Road Bridge, providing a continuous off-road trail connecting Sochacki Park: Mary Hills Management Unit to TWRP. Maintenance of infrastructure associated with the operations of the proposed BLRT Extension project would be the responsibility of Metro Transit. Maintenance of other infrastructure (e.g., County Road bridges or regional park trails) would continue to be the responsibility of the respective owners of this infrastructure.
181Y	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The City owns and maintains an asphalt trail in the Mary Hills Nature Area. This trail provides an important north-south connection from Golden Valley Road north into Robbinsdale via Sochacki Park. It is anticipated that a new Transitway may impact this trail and the City must be actively involved with any reconstruction or alignment of this trail. In addition, the City urges that the potential construction of a station at the Golden	The proposed BLRT Extension project would not have any long-term direct effects on the asphalt trail in Sochacki Park: Mary Hills Management Unit. As part of constructing the Golden Valley Road Station and the reconstruction of the Golden Valley Road bridge, the proposed BLRT Extension project would construct a trail providing a connection from an existing trail in TWRP, underneath the new bridge, to the existing trail in Sochacki Park: Mary Hills Management Unit. See Chapter 3 – Transportation of the Final EIS for a discussion of trails in the area of the Golden

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							Valley Road location be done in a way that provides a trail connection between existing trails in Theodore Wirth Park and the Mary Hills Nature Area.	Valley Road Station and Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS for a discussion of the effects of the proposed BLRT Extension project on Section 4(f) resources, including resources near the Golden Valley Road Station.
181Z	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The costs to reconstruct Golden Valley Road and the existing multi-modal facilities discussed above, in addition to any facilities deemed necessary to fully meet the anticipated needs, must be considered in the evaluation of the potential station location. The Final EIS should identify and pursue opportunities for a Hennepin County Community Works project related to the possible reconstruction of Hennepin County State Aid Highway (CSAH) 66. The project could work in conjunction with the proposed Bassett Creek Regional Trail, which is identified to be partially located within the CSAH 66 corridor.	Chapter 2 of the Final EIS provides a description of the proposed BLRT Extension project, including elements needed to support the safe and efficient function of the potential station location at Golden Valley Road. Proposed BLRT Extension project costs are summarized in Chapter 10 of the Final EIS and account for all elements of the proposed BLRT Extension project as defined and described in Chapter 2 of the Final EIS. Reconstructing Golden Valley Road is not included; however, the cost estimate does include reconstructing the portion of Golden Valley Road that includes the Golden Valley Road bridge and an extent on either side of the bridge needed to provide adequate connections to the existing roadway (see Appendix E of the Final EIS, which includes a set of proposed BLRT Extension project design plans).
181AA	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The potential noise and vibration impacts from the Bottineau Transitway are a significant concern. While current and possible future freight rail traffic also create noise, it is different from noise associated with a regional transit system. These effects should be studied in greater detail. The City needs more information about the presences of potential sound walls and other barriers that may cause visual obstructions to surrounding properties.	The proposed BLRT Extension project's impacts on noise are summarized in Section 5.6 of the Final EIS. After the implementation of mitigation measures which include a noise barrier adjacent to Kewanee Way just north of Golden Valley Road, and interior testing in one home just south of Golden Valley Road, one moderate and one severe impact would remain. Vibration impacts are summarized in Section 5.7 of the Final EIS. There are no vibration impacts from proposed BLRT Extension project operations in the City of Golden Valley. The visual quality assessment for the proposed BLRT Extension project is presented in Section 4.5 of the Final EIS. Eight higher quality visual features were identified in the City of Golden Valley; the proposed BLRT Extension project would have a neutral impact on three, a potentially adverse impact on two, and an adverse impact on three. Mitigation for these impacts includes the potential visual screening of proposed BLRT Extension project elements.
181AA	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Ways to incorporate natural buffers such as trees and other vegetative cover as well as natural boulder retaining walls should be considered.	The visual quality assessment for the proposed BLRT Extension project is presented in Section 4.5 of the Final EIS. Eight higher quality visual features were identified in the City of Golden Valley; the proposed BLRT Extension project would have a neutral impact on three, a potentially adverse impact on two, and an adverse impact on three. Mitigation for these impacts includes the potential visual screening of proposed BLRT Extension project elements. As design advances, the Council will develop visual quality guidelines, which will provide detail regarding visual screening requirements The Council will coordinate with the city of Golden Valley through a Design Resolution Team process to get input on these guidelines and on other proposed BLRT Extension project details, including vegetation restoration plans.
181AC	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		With high frequency transit service, the potential Transitway and transit station will have a visual impact on surrounding properties. Most notably will be the addition of lights and lighting that does not exist with the current freight rail. The effects of lighting must be studied and the screening of adjacent neighborhoods and park areas must be considered as part of this project.	The proposed BLRT Extension project's impacts on visual quality are summarized in Section 4.5 of the Final EIS. Eight higher quality visual features were identified in the City of Golden Valley; the proposed BLRT Extension project would have a neutral impact on three, a potentially adverse impact on two, and an adverse impact on three. Light emissions were included in the visual quality impact analysis and mitigation measures, including provisions for shielding lights to avoid "spillover" impacts, are included in the Final EIS.
181AD	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The Final EIS should further assess the impacts to properties along the corridor and look for ways for the County and the Metropolitan Council to address any negative impacts, including pursuing funding opportunities for improvements to homes that are negatively impacted or possible acquisition of homes adjacent to the corridor for the purposes of mitigation.	Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties in the City of Golden Valley.
181AE	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		Additional research should be done in the area of station and corridor noise mitigation. The City requests the study of the option to produce a quiet zone throughout the corridor, including the station stops between 36th Avenue North in	The proposed BLRT Extension project's impacts on noise are summarized in Section 5.6 of the Final EIS. After the implementation of mitigation measures which include a noise barrier adjacent to Kewanee Way just north of Golden Valley Road, and interior testing in one home just south of Golden Valley Road, one moderate and

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
							Robbinsdale and Olson Memorial Highway in Golden Valley. This would include incorporating safe station train operation practices in order to eliminate the use of train bells or whistles while operating along the corridor and approaches into and departures from stations.	one severe impact would remain. The creation of a Quiet Zone is not possible in Golden Valley as there are no at-grade crossings shared by LRT and freight with other traffic. The noise analysis conducted to assess the potential impacts of the proposed BLRT Extension project was done using current Metro Transit operating assumptions, including the sound of audible warning devices at station platforms.
181AF	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The proposed transitway and transit stations would likely require an increase in community resources, such as police, fire, public works maintenance, and traffic management. Since the proposed transit system is managed by the Metropolitan Council, it is anticipated that Metro Transit Police will be the primary law enforcement agency at the station.	The anticipated economic effects of the proposed BLRT Extension project are summarized in Section 4.6 of the Final EIS. Section 4.7 of the Final EIS addresses safety and security. Safety for rail users, area residents, local pedestrians and bicyclists, project construction workers, operators and vehicle occupants is an important consideration for the proposed BLRT Extension project. The framework for ensuring the highest level of safety to these groups will be established through conformance with the proposed BLRT Extension project site safety and health plan, construction contingency plan, the Council's SSMP and the Metro Transit Security and Emergency Preparedness plan. Transit operations in conformance with these plans will necessarily be closely and continuously coordinated with local area law enforcement, medical, fire, transportation and other organizations with related emergency responsibilities within the proposed BLRT Extension project corridor. However, Metro Transit Police will be the primary law enforcement agency at stations along the proposed BLRT Extension project.
181AG	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		The City of Golden Valley owns water main, sanitary sewer, and storm sewer facilities in the area of the proposed route. Some of these facilities parallel or cross under the existing BNSF Railway. The City requires more information about how these facilities might be impacted by the Transitway. Record drawings and other information are available in the City's engineering office to assist in the planning and design of the project. The City shall be consulted on all design and construction considerations and field decisions involving City-owned utilities. The City of Minneapolis owns a 48-inch water main which passes under the BNSF Railway north of Golden Valley Road and Metropolitan Council Environmental Services owns a large sanitary sewer interceptor which parallels the BNSF railway in Wirth Park. The City shall be consulted along with the custodial agency on all design and construction considerations and field decisions involving these utilities.	The proposed BLRT Extension project's effects on utilities are discussed in Section 5.1 of the Final EIS. Coordination with utility owners will continue throughout future phases of the proposed BLRT Extension project, including engineering, final design, and construction. The Council will coordinate with the city of Golden Valley through a Design Resolution Team process to obtain input on city-owned and other utilities in order to minimize impacts.
181AH	Harris	Mayor Shephard	City of Golden Valley	181	US Mail		It has been estimated that as many as fifteen Xcel Energy transmission line towers may need to be relocated as a result of the proposed Transitway. The City's Right-of-Way Ordinance currently requires that any proposed reconstruction, relocation, or replacement of overhead utility lines over 300 feet be buried underground. The Code requirement may apply to this situation.	The Council has been coordinating with Xcel Energy, whose transmission line towers are currently located on BNSF right-of-way by permit. Xcel would reconstruct these towers as part of the construction of the proposed BLRT Extension project; however, the towers would remain on BNSF right-of-way and would remain overhead lines. As such, they would not be subject to local (Golden Valley) permitting requirements.

Appendix G
Response to Draft EIS Comments

2 Response to Comments – Businesses

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Crystal Wine and Spirits

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
86A	Charlson	Eric	Crystal Wine and Spirits	86	Email	4 – Social and Economic Effects	Their business is either going to be demolished or negatively impacted by the track crossing on Broadway.	Crystal Wine and Spirits has not been identified as a property requiring acquisition and/or displacement. Section 4.3 of the Final EIS summarizes acquisitions and displacements. Access to Crystal Wine and Spirits does not change with implementation of the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project. Temporary access impacts during construction, if any, would be coordinated with business owners through a Construction Mitigation Plan that provides advance notice of closures, detours, alternate routes, and other construction effects.
86B	Charlson	Eric	Crystal Wine and Spirits	86	Email	4 – Social and Economic Effects and 8 – Transportation System Effects	Concerned about loss of traffic and how customers will access parking lot.	The proposed BLRT Extension project would not affect access to Crystal Wine and Spirits parking lot. Access to Crystal Wine and Spirits parking lot would be maintained during and after construction using the same configuration as currently in place.
86C	Charlson	Eric	Crystal Wine and Spirits	86	Email	2 – Fiscal Effects and Schedule	Trains are costly and ineffective mode of transportation because populations may disperse.	Light rail can have a positive impact on nearby business communities as transitways can provide a new connection for riders to access these businesses, and because pedestrian and vehicular traffic around stations and park-and-ride lots can increase. As an example, since 2009, the year before the Metropolitan Council's (Council) Green Line LRT (Central Corridor) construction started, the neighborhoods between the Downtown East Station in Minneapolis and the Union Depot Station in St. Paul have experienced more than $3 billion in commercial and residential development—including new construction, redevelopment, and expansion. In addition, businesses on the corridor prior to the Green Line's opening reinvested in their businesses and related community efforts to create distinctive districts around the stations (www.metrocouncil.org/News-Events/Transportation/Newsletters/Connections-ground-businesses,-arts-on-METRO-Green.aspx). Research has shown that major transit investments such as light rail generally yield positive effects on property values. There is the potential for an increase in property values in the areas surrounding proposed light rail stations, as light rail access can increase the convenience and desirability of nearby residential, commercial, and office properties. Light rail transit can also contribute to existing market forces that can increase the potential for transit-oriented development or redevelopment. Development and redevelopment are regulated by the cities and are predominantly driven by regional and local economic conditions and allowable land uses as defined in locally adopted comprehensive plans. However, light rail lines can advance the timing and increase the intensity of development, especially in areas near proposed stations, within the limits allowed by local comprehensive plans.
86D	Charlson	Eric	Crystal Wine and Spirits	86	Email	7 – Alternatives, Engineering and Design	Would rather see more energy efficient buses.	The Alternatives Analysis (AA) and Draft Environmental Impact Statement (EIS) process examined numerous alignment and mode options detailed in Chapter 2 of the Final EIS. During the AA process, bus and commuter rail modes were considered in addition to light rail transit (LRT). The bus alternative failed to move forward into the environmental review process because the bus mode would not attract as many riders as LRT and would have a worse cost-effectiveness index.

Marr-Don Apartment Building

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
105A	Forberg	Kathy	Marr-Don Apartments	105	Email	6 – Noise and Vibration Effects	Concerned about noise with track 17 to 25 feet from multifamily residential and train frequencies of 7.5 minutes.	The Marr-Don apartment building was assessed as a sensitive noise receptor because of residential use. Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with Federal Transit Administration (FTA) methodology and impact criteria. Where impacts have been identified, mitigation measures consistent with Metro Transit's Regional Transitways Guidelines (March 2016) have been recommended. Mitigation measures adjacent to the Marr-Don apartment building include implementation of a Federal Railroad Administration (FRA) Quiet Zone and wayside devices at the West Broadway Avenue (County State-Aid Highway 103) crossing. A noise wall will also be constructed on the east side of the proposed BLRT Extension project alignment between West Broadway Avenue and Corvallis Avenue. However, since the noise wall cannot extend through the West Broadway Avenue crossing, there would be residual noise impacts. Nine of the 18 units in the Marr-Don apartment building would still experience severe noise impacts. Therefore, interior testing will be conducted to determine indoor noise levels, and assess the need for additional mitigation such as insulated windows. The proposed BLRT Extension project tracks would be located approximately 55 feet west of the Marr-Don apartment building, and trains are planned to run at 10-minute frequencies. Noise is discussed in Chapter 5 of the Final EIS.
105B	Forberg	Kathy	Marr-Don Apartments	105	Email	6 – Noise and Vibration Effects	Concerned about vibration with track 17 to 25 feet from multifamily residential and train frequencies of 7.5 minutes.	The Marr-Don property would not have any vibration or ground-borne noise impacts from the proposed BLRT Extension project. Vibration impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures have been recommended. Vibration is discussed in Chapter 5 of the Final EIS.
105C	Forberg	Kathy	Marr-Don Apartments	105	Email	5 – Environmental Effects	Concerned about wind, dust, and pollution with track 17 to 25 feet from multifamily residential and train frequencies of 7.5 minutes.	The air quality analysis conducted for the proposed BLRT Extension project indicates that there would be no long-term air quality impacts from the operation of the proposed BLRT Extension project. During construction, temporary dust impacts could occur in windy, dry conditions. The Council will implement dust-control measures such as use of watering truck to minimize dust, covering truck beds when hauling dirt on or off site, and minimizing truck idling. Section 5.10 of the Final EIS addresses short- and long-term air quality impacts.
105D	Forberg	Kathy	Marr-Don Apartments	105	Email	4 – Social and Economic Effects	Concerned about lack of privacy and comfort of residents with track 17 to 25 feet from multifamily residential and train frequencies of 7.5 minutes.	The proposed BLRT Extension project track would be approximately 55 feet from the Marr-Don apartment building at its closest point. Trains are planned to run at 10-minute frequencies. The proposed noise wall will provide some level of visual screening.
105E	Forberg	Kathy	Marr-Don Apartments	105	Email	8 – Transportation System Effects	Concerned about safety and visibility at planned Broadway crossing near her multifamily property.	All at-grade LRT/freight rail crossings, including the West Broadway Avenue crossing, have been designed to incorporate safety elements including raised medians and gates with flashers. These elements will make it extremely difficult for any vehicles to enter the crossing when a train is approaching. Similar warning signs will be located at pedestrian crossings to warn of approaching trains.
105F	Forberg	Kathy	Marr-Don Apartments	105	Email	3 – NEPA Process and Public Involvement	Requests email updates; similar to #111	Community members can sign up for project email updates by providing an email address to BLRT Extension Project Office staff or by signing up on the website for the proposed BLRT Extension project at www.BlueLineExt.org.
105G	Forberg	Kathy	Marr-Don Apartments	105	US Mail	4 – Social and Economic Effects	Concerned about negative impacts to family business and negative effect on property value of investment	Property values are affected by a variety of market conditions. Research has shown that major transit investments such as light rail generally yield positive effects on property values. There is the potential for an increase in property values in the areas surrounding proposed light rail stations, as light rail access can increase the convenience and desirability of nearby residential, commercial, and office properties. Light rail transit can also contribute to existing market forces that can increase the potential for transit-oriented development or redevelopment. Development and redevelopment are regulated by the cities and are predominantly driven by regional and local economic conditions and allowable land uses as defined in locally adopted comprehensive plans. However, light rail lines can advance the timing and increase the intensity of development, especially in areas near proposed stations, within the limits allowed by local comprehensive plans. Continuing population growth and a strengthening of the local economy within the proposed BLRT Extension

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
								project corridor may contribute to redevelopment and increased property values. Business impacts from the proposed BLRT Extension project are anticipated to largely be temporary, and related to temporary construction closures and detours. These closures/detours will be communicated with business owners in advance of the construction activity. The Council has established a program for affected businesses to obtain relief from financial impacts caused by construction.

Allina Health

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
130A	Pence	Alison	Allina Health	130	Email	7 – Alternatives, Engineering and Design	Supports a station at Golden Valley Road and seeks that the station infrastructure is handicap accessible and friendly to those with complex disabilities.	Both the Plymouth Avenue and Golden Valley Road stations are included in the proposed BLRT Extension project scope and budget. All LRT infrastructure, including the vehicles and stations, will be designed and constructed in accordance with the current Americans with Disabilities Act (ADA) standards as applicable to the associated elements of the BLRT systems. For example, the crosswalks to and from all proposed station platforms (and access to and from park-and-ride facilities where available) will be ADA-compliant as will be the platform elements and the vehicles. Section 3.3 of the Final EIS includes information about pedestrian access to stations. The Council engages the ADA community in design of the pedestrian access, stations, and light rail vehicles. The Community Advisory Committee includes representatives from the ADA community, and the Council will present design elements to the Council's Transportation Accessibility Advisory Committee to seek feedback and provide input into design accessibility issues.

Target Corporation

Target Corporation sent a letter of support for the project. See Communication #159; see also Master Response 2.

Sawhorse, Inc.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
188A	Rothbauer	John	Sawhorse, Inc.	188	US Mail	8 – Transportation System Effects	Page 4-79 of Draft EIS states 17 on-street parking will be lost but this property owners states his business owns the parking spaces.	The statement in the Draft EIS about 17 on-street parking spaces being lost in Robbinsdale at the Sawhorse property was made in error and has been corrected in the Final EIS. Sawhorse is disclosed as a full acquisition and displacement in the Final EIS. See Section 4.3 of the Final EIS for information about acquisitions and displacements.
188B	Rothbauer	John	Sawhorse, Inc.	188	US Mail	4 – Social and Economic Effects	Property owner asked that his entire business be purchased for the project because of loss of adequate parking.	Sawhorse, located in Robbinsdale, is identified as a business displacement in the Final EIS. All property would be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The Council is required to pay fair market value for property. Damages are determined by the appraiser on a parcel-by-parcel basis and will be included in the appraisal with the offer amount.

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Appendix G
Response to Draft EIS Comments

3 Response to Comments – Civic and Community Organizations

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Community Organizations: Verbal Testimony

Loppet Foundation

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
28A	Munger	John	Loppet Foundation	28	Verbal Testimony	5 – Environmental Effects	Concerns about the route through the park. They have been working with MPRB staff on these concerns.	The proposed METRO Blue Line Light Rail Transit (BLRT) Extension project would result in the permanent incorporation of approximately 2.1 acres of property from Theodore Wirth Regional Park (TWRP). During construction, approximately 9.2 acres of temporary construction easements would be required within TWRP to grade land around the proposed BLRT Extension project corridor, to provide access during construction, and to provide floodplain and wetland mitigation. A short segment of an existing north-south trail that parallels the west side of the rail corridor (a portion of the trail is located on the private rail corridor right-of-way) would be realigned along with a shift of an approximately 400-foot stretch of Bassett Creek as part of the replacement of the Plymouth Avenue Bridge. Access to the park would remain open throughout construction. All areas of the TWRP property that would be affected by proposed BLRT Extension project's construction activities would be restored to existing conditions or better and restoration plans would be developed and implemented in consultation with the Minneapolis Park and Recreation Board (MPRB). Chapter 8 of the Final Environmental Impact Statement (EIS) provides additional information about the proposed BLRT Extension project's impact to TWRP.
28B	Munger	John	Loppet Foundation	28	Verbal Testimony	5 – Environmental Effects	Concerned about impacts on trails and recreation.	There would be no permanent impacts to trails and recreational use in TWRP. The park would remain open throughout construction. A short segment of an existing north-south trail that parallels the west side of the rail corridor (a portion of the trail is located on the private rail corridor right-of-way) would be realigned along with a shift of an approximately 400-foot stretch of Bassett Creek as part of the replacement of the Plymouth Avenue Bridge. This work would require a temporary disruption to use of the trail during construction. Permanent enhancements to TWRP trails and recreation facilities include (in addition to the trail relocation above): construction of a stair access and bridge over Bassett Creek to connect the TWRP trail to Plymouth Avenue, construction of a trail connection between Theodore Wirth Parkway and Sochacki Park, and construction of a new trailhead incorporated into the Golden Valley Road Station park-and-ride. Chapter 8 of the Final EIS provides additional detail about the proposed enhancements to TWRP.
28C	Munger	John	Loppet Foundation	28	Verbal Testimony	7 – Alternatives, Engineering & Design	Strong opinion that if the line does go the Wirth Park route that we think there's a real opportunity to have a stop at Plymouth.	Both the Plymouth Avenue and Golden Valley Road stations are included in the proposed BLRT Extension project scope and cost estimate. The station at Plymouth Avenue provides an opportunity for North Minneapolis residents to access the light rail. The proposed BLRT Extension project would improve the transportation system by providing the proposed BLRT Extension corridor with more travel choices and faster travel times between residential areas, major destinations, and employment centers. Chapter 2 of the Final EIS presents a summary of the alternatives analysis conducted for the proposed BLRT Extension project and describes the location of all stations throughout the proposed BLRT Extension project corridor.
28D	Munger	John	Loppet Foundation	28	Verbal Testimony	7 – Alternatives, Engineering & Design	Having a station for Wirth Park could help support healthy communities, especially with health disparities in North Minneapolis	See response to Comment 28C.

Alliance for Metropolitan Stability

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
32A	Adams	Russ	Alliance for Metropolitan Stability	32	Verbal Testimony	3 – NEPA Process & Public Involvement	Compliments the staff on the Bottineau Project for improved community engagement strategies.	Chapter 9 of the Final EIS provides a summary of public involvement for the Final EIS, including a summary of open houses held during Final EIS preparation. The Council engages and will continue to engage the public in the preliminary engineering process and into construction. The Council staff will be key in notifying businesses and residents of construction plans, road closures and bus re-routes as well as being a point of contact for construction related emergencies such as power outages. The outreach program provides many avenues for people to submit comments and concerns, which are forwarded to the planners and engineers.
32B	Adams	Russ	Alliance for Metropolitan Stability	32	Verbal Testimony	4 – Social and Economic Effects	The Bottineau Corridor is an environmental justice corridor and connects two significant EJ populations in Minneapolis and Brooklyn Park.	The study area for the environmental justice (EJ) analysis documented 18.70 percent of the population below the poverty level and 48.40 percent of the study area population as minority groups. The proposed BLRT Extension project would benefit both EJ and non-EJ communities with reliable and higher-capacity service for transit riders, improved pedestrian and bicycle connections and access, and no permanent residential property displacements. The full list of community benefits can be found in Section 7.5 of the Final EIS. The Metropolitan Council (Council) engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. The Council will continue to work with the Blue Line Coalition and conduct direct outreach to EJ populations as design advances. The Council has been has been working with Hennepin County on the Station Area Planning (SAP) efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities.
32C	Adams	Russ	Alliance for Metropolitan Stability	32	Verbal Testimony	4 – Social and Economic Effects	Wants to develop a community compact for Bottineau similar to the one that was developed for SW that would have very specific equitable commitments by all governmental parties. Hands out copy of “Equity Commitments for SWRLT Community Compact.”	The Council has developed a comprehensive public engagement process that has proven to be effective at addressing community concerns. The proposed Blue Line Extension project has included the use of advisory committees, including: ■ Corridor Management Committee (CMC) that includes a representatives from each City Council along the alignment, Hennepin County, Business Advisory Committee (BAC) chair, Community Advisory Committee (CAC) chair, and two community organization members. This group meets monthly and provides recommendations to the Council on project decisions. ■ CAC that includes neighborhood and community representatives and discusses topics of concern or interest to the community such as safety, noise impacts, station location and design, and accessibility features. ■ BAC that includes business and chamber representatives and discusses topics of concern or interest to the business community such as access, construction impacts, station location and design. ■ Transportation Accessibility Advisory Committee is a formal advisory committee of the Council that provides input and advice on concerns and interests to the Americans with Disabilities Act (ADA) community including accessibility, station design, and pedestrian features. Members of this advisory committee serve on the CAC and BAC and have also participated in station design workshops to provide feedback on station features to ensure that they take into consideration use by those with limited vision, mobility or hearing. In addition to these formal advisory committees, the Council has conducted outreach and public engagement activities such as open houses, workshops and walking tours to seek public input on the design of the proposed BLRT Extension project. This approach to community engagement has proven effective on other Twin Cities transit projects, including the Blue Line (Hiawatha LRT) and Green Line (Central Corridor); therefore, a community compact was not necessary and was not created.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
32D	Adams	Russ	Alliance for Metropolitan Stability	32	Verbal Testimony	4 – Social and Economic Effects	Wants to raise the goal on hiring for construction to 40% and make it easier for disadvantaged business enterprises to contract; use ZIP code employment goals for North MPLS.	The Council has an established Disadvantaged Businesses Enterprises (DBE) program and includes specific goals in project contracts to increase participation by minority and women owned businesses. The Council has set a 3-year DBE goal of 15.5 percent for federal fiscal years 2013–2016. In addition to the DBE goal, the construction contracts would have a workforce goal for both minority and women workers. An additional equal opportunity (EO) consultant would be assigned to support these efforts when it gets closer to construction. To assist in achieving the DBE and workforce goals, the Council's EO and the Council's outreach and communication staff would hold workshops and networking mixers and attend events to inform people of employment and contracting opportunities. Other communication strategies would be used including social media, the BlueLineExt.org website, newsletters, and articles.

Transit for Livable Communities

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
76A	Thoman	Barb	Transit for Livable Communities	76	Verbal Testimony	7 – Alternatives, Engineering & Design	The Bottineau Project is a really important link in an expanded transit system. The project, along with 2 arterial rapid bus, more express bus service, more local service, and additional rail lines are greatly needed in this region.	See Master Response 2 in Section G.4.1 of Appendix G of the Final EIS.

Community Organizations: Written Comments

North Hennepin Community College

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
108A	Barnier	Richard	Student Senate President, North Hennepin Community College	108	Email	7 – Alternatives, Engineering & Design	Having light rail access or increased access to public transit is something that students feel is very important to the college and the community. With the incredible growth in Brooklyn Park coupled with increasing demand for education, this rail project would be a natural step in improving our community. The final idea I would introduce is the opportunity cost of less transit options. It takes a ton of time to ride the bus, transfer and actually get where you need to be. By having light rail and other expanded transportation options, we increase the opportunity capital of the students using these services. This means more time to work, raise a family or just study. I'm glad that this project continues to be considered and hope we can move from planning to implementation soon. The students, our future, depend on it.	See Master Response 2 in Section G.4.1 of Appendix G of the Final EIS.
108B	Davis	Tarsha	Student, North Hennepin Community College	108	Email	7 – Alternatives, Engineering & Design	wants stop at NHCC.	The proposed BLRT Extension project would include a station at North Hennepin Community College. The 85th Avenue Station in Brooklyn Park would be located immediately to the West of the North Hennepin Community College Campus on West Broadway Avenue (County State-Aid Highway 103). Chapter 2 of the Final EIS describes the proposed BLRT Extension project including the location of all stations.
108C	Pugh	Audua	Student, North Hennepin Community College	108	Email	8 – Transportation System Effects	LRT would be improvement over current bus options to reach the campus. I know some students that have dropped out of school because it's difficult to get to NHCC on public transportation.	See Master Response 2 in Section G.4.1 of Appendix G of the Final EIS.
109A	Larson	Lisa	Interim President, North Hennepin Community College	109	Email	7 – Alternatives, Engineering & Design	Supports the LRT, specifically B-C-D1 alternative. The project provides students access to North Hennepin Community College. Minneapolis residents can consider NHCC to pursue their educational or training needs. We believe this project will provide improved options, travel time and access. The project provides the opportunity for students and staff to take this as a transportation option rather than their own vehicle. The project provides access to employment opportunities for our students.	See Master Response 2 in Section G.4.1 of Appendix G of the Final EIS.

Alliance for Metropolitan Stability

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
131A	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	4 – Social and Economic Effects	Bottineau LRT corridor is 52% people of color and 14% are transit dependent. Bottineau Corridor connects 2 significant environmental justice communities to our regional transitway system – Brooklyn Park and North Minneapolis. It is Important that the transit investment, the corresponding land use and economic development has community benefits for the low income communities and communities of color in the corridor have formed the Blue Line Coalition to secure community benefits for environmental justice communities in the Bottineau Corridor.	The study area for the EJ analysis documented 18.70 percent of the population below the poverty level and 48.40 percent of the study area population as minority groups. The proposed BLRT Extension project would benefit both EJ and non-EJ communities with reliable and higher-capacity service for transit riders, improved pedestrian and bicycle connections and access, and no permanent residential property displacements. The full list of community benefits can be found in Section 7.5 of the Final EIS. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. The Council will continue to work with the Blue Line Coalition and conduct direct outreach to EJ populations as design advances. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities.
131B	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	3 – NEPA Process & Public Involvement	AMS recommends a corridor wide community compact similar to the Red Line Community Compact in Baltimore. The community compact process should model best practices in community engagement and be a partnership between Metro Transit, Hennepin County, the cities, and the environmental justice communities within the Bottineau LRT corridor.	The Council has developed a comprehensive public engagement process that has proven to be effective at addressing community concerns. The Blue Line Extension project has included the use of advisory committees, including: ■ CMC that includes a representatives from each City Council along the alignment, Hennepin County, BAC chair, CAC chair, and two community organization members. This group meets monthly and provides recommendations to the Council on project decisions. ■ CAC that includes neighborhood and community representatives and discusses topics of concern or interest to the community such as safety, noise impacts, station location and design, and accessibility features. ■ BAC that includes business and chamber representatives and discusses topics of concern or interest to the business community such as access, construction impacts, station location and design. ■ Transportation Accessibility Advisory Committee is a formal advisory committee of the Council that provides input and advice on concerns and interests to the ADA community including accessibility, station design, and pedestrian features. Members of this advisory committee serve on the CAC and BAC and have also participated in station design workshops to provide feedback on station features to ensure that they take into consideration use by those with limited vision, mobility or hearing. In addition to these formal advisory committees, the Council has conducted outreach and public engagement activities such as open houses, workshops and walking tours to seek public input on the design of the proposed BLRT Extension project. This approach to community engagement has proven effective on other Twin Cities transit projects, including the Blue Line (Hiawatha LRT) and Green Line (Central Corridor); therefore, a community compact was not necessary and was not created.
131C	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	4 – Social and Economic Effects	The environmental justice communities' resources have not been adequately documented in the draft environmental impact statement. Just along HWY 55 there are schools, libraries, public housing, and churches. To truly understand the impacts, the corridor environmental justice community resources need to be documented and included in the planning process. This includes businesses, schools, churches, libraries, community centers, social service agencies and non profits.	The framework for the EJ evaluation incorporated in Chapter 7 of the Final EIS is based on Federal Transit Administration (FTA) Circular 4703.1, which outlines a methodology that addresses Executive Order 12898 that includes both a robust public participation process and an analytical process that includes three basic steps: (1) Determine whether there are EJ populations potentially affected by the project; (2) If EJ populations are present, consider the potential effects of the project on the EJ population, including any disproportionate high and adverse effects; (3) Determine whether any adverse effect could be avoided, minimized, or mitigated. Chapter 7 of the Final EIS also lists organizations where outreach efforts were targeted to further identify EJ communities. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
								this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. This resulted in adding additional organizations, such as Summit Academy OIC into the Final EIS.
131D	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	4 – Social and Economic Effects	A very important environmental justice community resource has no mention in the draft environmental impact statement. Located directly adjacent to the Van White Station, Summit Academy OIC is the only community-based vocational training and job placement program in North Minneapolis. Summit Academy OIC should be engaged as a partner for hiring construction workers for the Bottineau LRT project and physical impacts to their site at the Van White Station during construction, station location, infrastructure investments for Summit OIC students access to the Bottineau LRT and the regional system.	The Council has implemented a comprehensive public outreach program that has engaged nearby communities and underrepresented groups, including the Summit Academy OIC. Coordination with these groups, including the Summit Academy OIC will continue throughout the course of the proposed BLRT Extension project. The Council has met with Summit Academy OIC leadership to discuss future construction hiring needs for the proposed BLRT Extension and Green Line LRT Extension projects. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. This resulted in adding additional organizations, such as Summit Academy OIC into the Final EIS.
131E	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	3 – NEPA Process & Public Involvement	Recommends that the Blue Line Extension Community Advisory Committee: a) Be a community driven body with staff support. b) Be a resource and check point for community engagement by reviewing and approving a corridor project community engagement plans. c) Identify issues and assign problem solving teams that include community members and project staff. d) Elect a representative member on the transitway corridor policy advisory committee/management committee. e) Be formed early in the scoping phase of the transitway corridor planning process. f) Membership will be selected by communities they represent. g) Elect a chairperson who represents a grassroots community. h) Have the ability to set their own agenda, pass motions, and make recommendations to the corridor policy advisory committee/management committee. i) Will be combined with Business Advisory Committees ensuring coordinated issues and efforts. j) CE Steering committee will support project staff with connections to underrepresented groups i.e.: Faith communities; Cultural communities; Place based groups; Communities of color ; Small and Ethnic businesses; Community Engagement Steering Committee members; Disability community; New immigrant communities; Low-income communities; Students at high schools, community colleges k) Orientation will include a focus on environmental justice, equitable development, and cultural awareness. l) Construction Communication Committees set up at least one month in advance of construction, with representatives appointed by community groups.	Section 9.2.1.4 of the Final EIS details the establishment of the CAC, which serves as a voice for the community and advises the CMC during the planning and implementation phases of the light rail line. The CAC has met on an approximately monthly basis to advise the proposed BLRT Extension project team. CAC meeting summaries and membership can be found on the website for the proposed BLRT Extension project, www.BlueLineExt.org. The Council formed the CAC by asking each city to designate representatives as well as inviting community based organizations to appoint members. The CAC comprises representatives from the Transportation Accessibility Advisory Committee; Masjid An-Nur; MICAH; the Asian Economic Development Association; the cities of Brooklyn Park, Crystal, Golden Valley, Minneapolis, and Robbinsdale; and MPRB. The first CAC meeting was held jointly with the BAC in April 2015. At that meeting, members were asked about their top concerns and topics that they were most interested in discussing. The BLRT Extension Project Office staff also presented an overview of the outreach plan and types of activities. Another joint meeting with the BAC was held in October to review and recommend a revised project scope. In addition to the CAC, the Council added two grassroots representatives from the Blue Line Coalition as members of the CMC. The Blue Line Coalition is a community-based group working to advance local and regional equity and community health along the Blue Line corridor. The CAC and BAC would transition to smaller Construction Communication Committees for each city when it gets closer to construction.
131F	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	4 – Social and Economic Effects	Because of the overlapping transitway corridors and planning areas, AMS is recommending coordinated planning across these transit projects by Metro Transit, Hennepin County, and the City of Minneapolis.	Planning for the proposed BLRT Extension project involved extensive outreach and coordination with the affected public, agencies, and key stakeholders. Key stakeholder outreach activities conducted during EIS Scoping and the development of the EIS are summarized in Section 9.2 of the Final EIS. Stakeholder advisory committees included staff from the Council, Hennepin County, Metro Transit, the proposed BLRT Extension project corridor municipalities, and several others.
131G	Vanhala	Joan	Alliance for Metropolitan	131	Email	8 – Transportation	Olson Memorial Highway/HWY 55 is currently not pedestrian friendly or safe. The Bottineau LRT project has the potential to provide the	Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway (Trunk Highway 55). Two stations would provide access to the communities

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			Stability			System Effects	opportunity to reconstruct this corridor to be safe and welcoming for pedestrians and bikes with traffic calming strategies. Special attention should be given to redesigning HWY 55 with safe and livable crossing connections for pedestrians and bicycles. HWY 55 currently is a barrier within this environmental justice community. The Bottineau LRT project has the potential to exacerbate this barrier.	along the highway: Penn Avenue Station and Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 miles per hour (mph) (from 40 mph). Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue, midblock between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge.
131H	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	8 – Transportation System Effects	Recommends study on viability of new bus circulator in North Minneapolis and upgrades to bus shelters and transfer stations.	The Draft Feeder Bus Plan for the year 2040 includes a proposed Route 26 that would connect to the Penn Avenue and Van White Boulevard stations, circulating through North Minneapolis. The proposed bus network would be refined with input from the public prior to the proposed BLRT Extension project opening day. Additionally, planning for the C Line, Bus Rapid Transit along Penn Avenue began in 2013. The C Line would connect residents of North Minneapolis, near Penn Avenue, to BLRT stations, METRO Green Line stations, Brooklyn Center, and to downtown Minneapolis. Metro Transit has been working with the community on Better Bus Stops through a Ladders of Opportunity Grant from FTA. The goal is to add up to 150 shelters and improve an additional 75 existing shelters as part of the agency's work. For more information, visit this website: www.metrotransit.org/better-bus-stops.
131I	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	4 – Social and Economic Effects	Throughout the Bottineau Corridor there are environmental justice small businesses. Every effort should be made to maximize the benefit and minimize the impacts of the project on these entrepreneurs.	Chapter 7 of the Final EIS includes additional discussion and analysis of the benefits of the proposed BLRT Extension project to the EJ communities, in addition to the evaluation of potential impacts. Ten business operations would be displaced as a part of the proposed BLRT Extension project. These businesses would be relocated in accordance with the Uniform Relocation Act and compensated by payment of fair market value for their property. Five of these business operations are considered EJ businesses, either serving EJ populations or are owned by minority or low income people. The Council would also provide information to the communities where businesses would be displaced about the businesses' new locations and/or other options to meet their needs. In addition, the Council has been engaged in an extensive outreach effort with various stakeholders along the proposed BLRT Extension project corridor, including local business operators that may be impacted by the proposed BLRT Extension project to receive insight into daily operations and develop strategies to minimize impacts. To mitigate impacts on businesses during construction, the Council will develop a Construction Mitigation Plan, a Construction Communication Plan, and a construction staging plan. These tools will help the Council notify businesses and patrons in advance about any access issues or closures. The construction staging plan will also help businesses and patrons affected by LRT construction understand when construction would occur in different areas of the proposed BLRT Extension project corridor. Finally, a 24-hour construction hotline will be available for issue resolution and information about LRT construction.
131J	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	4 – Social and Economic Effects	Displacement is currently a real issue in the Bottineau LRT Corridor. The Northwest suburbs face inevitable displacement of privately owned affordable housing in the station areas. Cities in the corridor, Hennepin County and the Met Council commit to working with local neighborhood associations, private and community nonprofit housing developers to fund the maintenance and preservation of a rich balance of housing choices that are affordable for current and future	Displacement is a significant impact, and the proposed BLRT Extension project has proactively avoided these impacts since the release of the Draft EIS. The evaluation of Alignments D1 and D2 considered several environmental and social issues and impact areas, and the selection of Alignment D1 for the proposed BLRT Extension project avoids impacts to the north Minneapolis neighborhood, including the large number of displacements. Moreover, since publication of the Draft EIS, modifications to the preliminary design have resulted in the avoidance of any residential property

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							residents and workers. Each city should establish goals to develop mixed-income communities.	displacements with the proposed BLRT Extension project. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments promote growth and have benefits to the local communities. Section 4.1 of the Final EIS summarizes land use plan compatibility. The proposed BLRT Extension project would displace five businesses that may serve the EJ community. Therefore, the proposed BLRT Extension project would have a disproportionately high and adverse impact on EJ communities currently served by these businesses in Robbinsdale, Crystal, and Brooklyn Park. Chapter 7 – Environmental Justice of the Final EIS discusses this in more detail. The specific businesses cited that likely have a predominantly minority and/or low-income clientele include: Northside Oriental Market; American Furniture Mart; Unified Staffing, Inc. (tenant of Schrader Building); Hart Custom Homes (owner and tenant of Schrader Building); and Brianna's Hair Studio (tenant of Schrader Building). For impacts to the communities served by the displaced businesses, the Council shall provide notices to the affected EJ community with the business' new location (if a suitable relocation was identified) with transit options to access the new business location, and/or other options to meet their needs.
131K	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	4 – Social and Economic Effects	AMS recommends that Metro Transit/Hennepin County develop a system that connects job seekers with employment and entrepreneurial opportunities throughout the Bottineau corridor. A system should be developed to ensure people of color have opportunities to secure employment with the Bottineau project.	The Council has an established DBE program and includes specific goals in project contracts to increase participation by minority and women owned businesses. The Office of Equal Opportunity has an EO consultant designated to the proposed BLRT Extension project to conduct outreach and monitor progress towards meeting those goals. The Council has set a 3-year DBE goal of 15.5 percent for federal fiscal years 2013–2016. In addition to the DBE goal, the construction contracts would have a workforce goal for both minority and women workers. An additional EO consultant would be assigned to support these efforts when it gets closer to construction. To assist in achieving the DBE and workforce goals, the Council's EO and the Council's outreach and communication staff would hold workshops and networking mixers and attend events to inform people of employment and contracting opportunities. Other communication strategies would be used including social media, the BlueLineExt.org website, newsletters, and articles.
131L	Vanhala	Joan	Alliance for Metropolitan Stability	131	Email	4 – Social and Economic Effects	Brooklyn Park will have 5 stations on the Bottineau LRT line. The city of Brooklyn Park is 50% people of color. Through the Community Engagement team the Alliance is working with 6 environmental justice community groups in the Northwest suburbs. They will continue to be active partners in the development of the Bottineau Transitway project and corridor.	The Council will continue to work closely with the city of Brooklyn Park, the Blue Line Coalition, and EJ populations located in Brooklyn Park throughout the Engineering phase of the proposed BLRT Extension project. Station design, which would happen during the Engineering phase of the proposed BLRT Extension project, would incorporate pedestrian and bike amenities and would be ADA-compliant. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities.

Asian Media Access (and Twin Cities Regional Center)

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133A	Hwang	Ange	Asian Media Access	133	Email	4 – Social and Economic Effects	Bottineau LRT corridor is 52% people of color and 14% are transit dependent. Bottineau Corridor connects 2 significant environmental justice communities to our regional transitway system – Brooklyn Park and North Minneapolis. It is important that the transit investment, the corresponding land use and economic development has community benefits for the low income communities and communities of color in the corridor. Have formed the Blue Line Coalition to secure community benefits for environmental justice communities in the Bottineau Corridor.	The study area for the EJ analysis documented 18.70 percent of the population below the poverty level and 48.40 percent of the study area population as minority groups. The proposed BLRT Extension project would benefit both EJ and non-EJ communities with reliable and higher-capacity service for transit riders, improved pedestrian and bicycle connections and access, and no permanent residential property displacements. The full list of community benefits can be found in Section 7.5 of the Final EIS. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. The Council will continue to work with the Blue Line Coalition and conduct direct outreach to EJ populations as design advances. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities.
133B	Hwang	Ange	Asian Media Access	133	Email	4 – Social and Economic Effects	Recommends a corridor wide community compact similar to the Red Line Community Compact in Baltimore. The community compact process should model best practices in community engagement and be a partnership between Metro Transit, Hennepin County, the cities, and the environmental justice communities within the Bottineau LRT corridor.	The Council has developed a comprehensive public engagement process that has proven to be effective at addressing community concerns. The Blue Line Extension project has included the use of advisory committees, including: ■ CMC that includes a representatives from each City Council along the alignment, Hennepin County, BAC chair, CAC chair, and two community organization members. This group meets monthly and provides recommendations to the Council on project decisions. ■ CAC that includes neighborhood and community representatives and discusses topics of concern or interest to the community such as safety, noise impacts, station location and design, and accessibility features. ■ BAC that includes business and chamber representatives and discusses topics of concern or interest to the business community such as access, construction impacts, station location and design. ■ Transportation Accessibility Advisory Committee is a formal advisory committee of the Council that provides input and advice on concerns and interests to the ADA community including accessibility, station design, and pedestrian features. Members of this advisory committee serve on the CAC and BAC and have also participated in station design workshops to provide feedback on station features to ensure that they take into consideration use by those with limited vision, mobility or hearing. In addition to these formal advisory committees, the Council has conducted outreach and public engagement activities such as open houses, workshops and walking tours to seek public input on the design of the proposed BLRT Extension project. This approach to community engagement has proven effective on other Twin Cities transit projects, including the Blue Line (Hiawatha LRT) and Green Line (Central Corridor); therefore, a community compact was not necessary and was not created.
133C	Hwang	Ange	Asian Media Access	133	Email	4 – Social and Economic Effects	The environmental justice communities' resources have not been adequately documented in the draft environmental impact statement. Just along HWY 55 there are schools, libraries, public housing, and churches. To truly understand the impacts, the corridor environmental justice community resources need to be documented and included in the planning process. This includes businesses, schools, churches, libraries, community centers, social service agencies and non profits.	The framework for the EJ evaluation incorporated in Chapter 7 of the Final EIS is based on FTA Circular 4703.1, which outlines a methodology that addresses Executive Order 12898 that includes both a robust public participation process and an analytical process that includes three basic steps: (1) Determine whether there are EJ populations potentially affected by the project; (2) If EJ populations are present, consider the potential effects of the project on the EJ population, including any disproportionate high and adverse effects; (3) Determine whether any adverse effect could be avoided, minimized, or mitigated. Chapter 7 of the Final EIS lists organizations where outreach efforts were targeted to further identify EJ communities. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted

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								public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. This resulted in adding additional organizations, such as Summit Academy OIC into the Final EIS. The proposed BLRT Extension project would displace five businesses that may serve the EJ community. Therefore, the proposed BLRT Extension project would have a disproportionately high and adverse impact on EJ communities currently served by these businesses in Robbinsdale, Crystal, and Brooklyn Park. Chapter 7 of the Final EIS discusses this in more detail. The specific businesses cited that likely have a predominantly minority and/or low-income clientele include: Northside Oriental Market; American Furniture Mart; Unified Staffing, Inc. (tenant of Schrader Building); Hart Custom Homes (owner and tenant of Schrader Building); and Brianna's Hair Studio (tenant of Schrader Building). For impacts to the communities served by the displaced businesses, the Council shall provide notices to the affected EJ community with the business' new location (if a suitable relocation was identified) with transit options to access the new business location, and/or other options to meet their needs. Section 4.2 of the Final EIS summarizes community facilities documented and analyzed as part of the proposed BLRT Extension project. This includes schools, churches, libraries, community centers, social service agencies and non-profits. No mitigation measures are warranted for long-term neighborhood and community impacts, because the effectiveness of mitigation measures identified for specific environmental categories (including but not limited to noise, vibration, visual quality and aesthetics, transit, roadways and traffic, parking, and pedestrian and bicyclist considerations) would prevent adverse impacts.
133D	Hwang	Ange	Asian Media Access	134	Email	5 – Social and Economic Effects	No mention of minorities community-based agencies in North Minneapolis	Asian Media Access was identified in the Draft EIS as an EJ organization. The Final EIS also includes Asian Media Access as an EJ organization. The full list of organizations included in the Final EIS can be found in Chapter 7.
133E	Hwang	Ange	Asian Media Access	135	Email	6 – Social and Economic Effects	Recommend that BLRT Extension project planners contract directly with community groups for future engagement.	For the proposed BLRT Extension project, the Council has implemented a comprehensive public outreach program that has engaged nearby communities and underrepresented groups in the proposed BLRT Extension project design and engineering process. This includes appointing two voting members to the CMC that represent the Blue Line Coalition (a community-based group working to advance local and regional equity and community health along the Blue Line corridor). The Council has also established a BAC and CAC to seek public input and advise the CMC and the Council. The Council will continue to engage community groups directly and via local/ neighborhood-based media to inform on project progress.
133F	Hwang	Ange	Asian Media Access	133	Email	4 – Social and Economic Effects	Because of the overlapping transitway corridors and planning areas, AMS is recommending coordinated planning across these transit projects by Metro Transit, Hennepin County, and the City of Minneapolis.	Planning for the proposed BLRT Extension project involved extensive outreach and coordination with the affected public, agencies, and key stakeholders. Key stakeholder outreach activities conducted during EIS Scoping and the development of the EIS are summarized in Section 9.2 of the Final EIS. Stakeholder advisory committees included staff from the Council, Hennepin County, Metro Transit, the proposed BLRT Extension project corridor municipalities, and several others.
133G	Hwang	Ange	Asian Media Access	133	Email	8 – Transportation System Effects	Olson Memorial Highway/HWY 55 is currently not pedestrian friendly or safe. The Bottineau LRT project has the potential to provide the opportunity to reconstruct this corridor to be safe and welcoming for pedestrians and bikes with traffic calming strategies. Special attention should be given to redesigning HWY 55 with safe and livable crossing connections for pedestrians and bicycles. HWY 55 currently is a barrier within this environmental justice community. The Bottineau LRT project has the potential to exacerbate this barrier.	Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: Penn Avenue Station and Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph (from 40 mph). Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue, midblock between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track

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								(to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge, providing connections to the Luce Line Trail and to trails within TWRP.
133H	Hwang	Ange	Asian Media Access	133	Email	4 – Social and Economic Effects	Throughout the Bottineau Corridor there are environmental justice small businesses. Every effort should be made to maximize the benefit and minimize the impacts of the project on these entrepreneurs.	Chapter 7 of the Final EIS includes additional discussion and analysis of the benefits of the proposed BLRT Extension project to the EJ communities, in addition to the evaluation of potential impacts. Ten business operations would be displaced as a part of the proposed BLRT Extension project. These businesses would be relocated in accordance with the Uniform Relocation Act and compensated by payment of fair market value for their property. Five of these business operations are considered EJ businesses, either serving EJ populations or are owned by minority or low income people. The Council would also provide information to the communities where businesses would be displaced about the businesses' new locations and/or other options to meet their needs. In addition, the Council has been engaged in an extensive outreach effort with various stakeholders along the proposed BLRT Extension project corridor, including local business operators that may be impacted by the proposed BLRT Extension project to receive insight into daily operations and develop strategies to minimize impacts. To mitigate impacts on businesses during construction, the Council will develop a Construction Mitigation Plan, a Construction Communication Plan, and a construction staging plan. These tools will help the Council notify businesses and patrons in advance about any access issues or closures. The construction staging plan will also help businesses and patrons affected by LRT construction understand when construction would occur in different areas of the proposed BLRT Extension project corridor. Finally, a 24-hour construction hotline will be available for issue resolution and information about LRT construction.
133I	Hwang	Ange	Asian Media Access	133	Email	4 – Social and Economic Effects	Land use planning and zoning reviews should be conducted with neighbors and business owners.	Local municipalities have land use controls available to them in the form of comprehensive plans guiding land use and city zoning codes guiding development. Overall, the proposed BLRT Extension project would be compatible with the local comprehensive plans, land use and other planning policies of the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. Although the city of Golden Valley's comprehensive plan does not specifically mention the proposed BLRT Extension project, LRT would be compatible with the transit goal and objective of the city's comprehensive plan. The Council does not have local land use planning jurisdiction, which is why the compatibility with local jurisdiction land use plans is an important component to the environmental impact analysis. The proposed BLRT Extension project would also be compatible with regional land use planning policies. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments promote growth and have benefits to the local communities. Section 4.1 of the Final EIS summarizes land use plan compatibility.
133J	Vang	Penny	Twin Cities Regional Center Collaborative	133	Email	4 – Social and Economic Effects	Call for more balanced development approach that supports small businesses. Three strategies: one block at a time, equitable transit oriented placemaking, and cluster focus.	Economic effects are summarized in Section 4.6 of the Final EIS. Local land use is governed by local municipalities. Hennepin County has led a SAP effort with each community along the proposed BLRT Extension project corridor to create a vision for the area that reflects the community's goals and ensures that LRT infrastructure is effectively integrated with the surrounding community. See www.hennepin.us/residents/transportation/bottineau-community-works for more information about the SAP.

CAPI

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136A	Racho	Jennifer	CAPI USA	136	Email	3 – NEPA Process & Public Involvement	Most of our CAPI participants reside in Brooklyn Park, Brooklyn Center and North Minneapolis within the areas of the Bottineau Light Rail transit construction and transit line. They will be affected by all light rail developments and CAPI is working to ensure that their voices are heard throughout this entire process.	Chapter 9 of the Final EIS provides a summary of public involvement for the Final EIS, including a summary of open houses held during Final EIS preparation. The Council engages and will continue to engage the public in the preliminary engineering process and into construction. The Council will be key in notifying businesses and residents of construction plans, road closures and bus re-routes as well as being a point of contact for construction related emergencies such as power outages. The outreach program provides many avenues for people to submit comments and concerns, which are forwarded to the planners and engineers. Chapter 7 of the Final EIS describes outreach efforts to EJ communities in Brooklyn Park and corridor-wide.
136B	Racho	Jennifer	CAPI USA	136	Email	4 – Social and Economic Effects	Group that represents EJ communities and wants to create a dialogue with LRT affiliated entities to ensure that processes and policies are changed to authentically and equitable serve needs of public.	Section 9.2.1.4 of the Final EIS details the establishment of the CAC, which serves as a voice for the community and advises the CMC during the planning and implementation phases of the light rail line. The CAC comprises representatives from the Transportation Accessibility Advisory Committee; Masjid An-Nur; MICAH; the Asian Economic Development Association; the cities of Brooklyn Park, Crystal, Golden Valley, Minneapolis, and Robbinsdale; and MPRB. The CAC has met on an approximately monthly basis to advise the Council on the development of the proposed BLRT Extension project . CAC meeting summaries and membership can be found on the website for the proposed BLRT Extension project, BlueLineExt.org. Additionally, there are two voting members on the BLRT CMC that represent the Blue Line Coalition (a community-based group working to advance local and regional equity and community health along the Blue Line corridor).
136C	Racho	Jennifer	CAPI USA	136	Email	7 – Alternatives, Engineering & Design	We prefer that all 4 station stops are implemented because we recognize that residents and participants live all along these 4 stations. However, if only 3 were possible, our surveyed CAPI participants prefer the Golden Valley station.	All four stations—the Penn Avenue, Van White Boulevard, Plymouth Avenue, and Golden Valley Road stations—are included in the proposed BLRT Extension project scope and cost estimate. The proposed BLRT Extension project would improve the transportation system by providing the proposed BLRT Extension project corridor with more travel choices and faster travel times between residential areas, major destinations, and employment centers. Chapter 3 of the Final EIS presents a summary of the stations within the proposed BLRT Extension project corridor.
136D	Racho	Jennifer	CAPI USA	136	Email	7 – Alternatives, Engineering & Design	For all the stations, there needs to be constant lighting, signs in Hmong and other languages, and an emergency call button to talk to multi-lingual transit staff, especially those who speak Hmong, 24 hours a day.	All LRT stations are equipped with lighting, security cameras, and emergency phones. Contact through the emergency phone system is directed to Metro Transit emergency response center or the local police department. Interpretive services are available for Metro Transit Police and local police department. The ticket vending machines on the station platforms have a Hmong, Spanish, and Somali language option. Metro Transit provides a telephone interpretation service called Language Line that allows phone representatives to provide trip plans and transit information in 170 languages, including Hmong, with the help of translators. Language Line is available at 612-373-3333.
136E	Racho	Jennifer	CAPI USA	136	Email	8 – Transportation System Effects	Need ample parking spots for riders who prefer a park and ride option. Want a parking lot for the Van White station.	No park-and-ride facilities would be located in the City of Minneapolis for the proposed BLRT Extension project, the community closest to the Van White Boulevard Station. Chapter 3 of the Final EIS describes each station along the proposed BLRT Extension project corridor. The city of Minneapolis, Hennepin County, and the Council have been working on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities. The Station Area Plan for the Van White Boulevard Station recommends mixed use residential and medium density residential for future land use.
136F	Racho	Jennifer	CAPI USA	136	Email	4 – Social and Economic Effects	All residents along the West Broadway portion of the line are minimally impacted and if their property is destroyed or impacted in any way, they are equitably financially compensated.	Hennepin County is developing the West Broadway Avenue Reconstruction project from Candlewood to 93rd Avenue in Brooklyn Park. An Environmental Assessment Worksheet for the roadway project was completed in September 2015 and a Negative Declaration finding was issued in December. The Final EIS discloses this information in Chapter 2 – Alternatives of the Final EIS. No residential property displacements are

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
								anticipated as a result of implementing the proposed BLRT Extension project (see Section 4.3 of the Final EIS). Chapter 6 – Indirect Impacts and Cumulative Effects of the Final EIS describes the effects with both the LRT and roadway project together.
136G	Racho	Jennifer	CAPI USA	136	Email	4 – Social and Economic Effects	Construction job quota for people of color, those with English as a second language, immigrants and refugees, and residents within the corridor.	The Council has an established DBE program and includes specific goals in project contracts to increase participation by minority and women owned businesses. The Office of Equal Opportunity has an EO consultant designated to the proposed BLRT Extension project to conduct outreach and monitor progress towards meeting those goals. The Council has set a 3-year DBE goal of 15.5 percent for federal fiscal years 2013–2016. In addition to the DBE goal, the construction contracts would have a workforce goal for both minority and women workers. An additional EO consultant would be assigned to support these efforts when it gets closer to construction.
136H	Racho	Jennifer	CAPI USA	136	Email	7 – Alternatives, Engineering & Design	Clearer signs to find the train stations, louder intercom volume on train, longer train door opening time, and multilingual signange.	Station design, including signage and wayfinding, would designed to be ADA-compliant. Station design would be addressed in the Engineering phase of project development. Community input would be sought on station design during this phase.

City of Lakes Community Land Trust

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
139A	Horwitz	Staci	City of Lakes Community Land Trust	139	Email	5 – Environmental Effects	DEIS lacks evaluation of longer-term impacts to low income neighborhoods as development occurs along the transit corridor. No mitigation for ensuring low income and minority populations are not displaced by being priced out of the market. There is no evaluation of social and economic impact if significant displacement occurs as a result of transit oriented development.	The Draft EIS and Final EIS acknowledge the potential for indirect, growth-inducing impacts of the proposed BLRT Extension project. Hennepin County is advancing Station Area Plans at each proposed BLRT station, and input from each community, including concerns for equity and affordability, is integrated into the planning process. Chapter 7 – Environmental Justice of the Final EIS evaluated the long-term indirect economic impacts to EJ communities. Properties within 0.5 mile of a transit station may experience some level of increase in property value, which would benefit property owners, but negatively impact renters. Of the block 45 block groups within 0.5 mile of a proposed station, 26 block groups (58 percent) have a majority owner-occupied housing units. Since a larger number of units are owner-occupied, more residents would likely perceive an overall benefit to property values with implementation of the proposed BLRT Extension project. All of the residents in these block groups, regardless of occupancy status, would receive the benefit of access to the Blue Line and the potential to reduce their transportation costs.
139B	Horwitz	Staci	City of Lakes Community Land Trust	139	Email	4 – Social and Economic Effects	DEIS should consider issues in comment ID 139A with respect to environmental justice populations.	See response to comment 139A.
139C	Horwitz	Staci	City of Lakes Community Land Trust	139	Email	4 – Social and Economic Effects	An analysis of the economic and neighborhood impact of zoning-related restrictions on land use would be helpful in understanding where policy changes could be beneficial and leveraged to maximize this transit investment. Higher density, mixed-used developments have been identified repeatedly as an element needed to support economic growth in North Minneapolis.	Local municipalities have land use controls available to them in the form of comprehensive plans guiding land use and city zoning codes guiding development. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities. The Station Area Plans for North Minneapolis recommend higher density residential and mixed use developments to support transit oriented development.
139D	Horwitz	Staci	City of Lakes Community Land Trust	139	Email	4 – Social and Economic Effects	TH 55 already impacts the overall community character of North Minneapolis by creating an indirect separation of the Harrison Neighborhood from the rest of North Minneapolis. Implementation of the Bottineau LRT [in the BNSF Corridor] may create further segregation of this community with the elimination of the many “illegal” crossing points.	The unauthorized crossings into TWRP across the BNSF Railway (BNSF) tracks at-grade would be fenced off during construction and permanently fenced off once the proposed BLRT Extension project is in operation due to safety concerns related to LRT and freight train operations with unauthorized pedestrian access. However, grade-separated crossings of the BNSF corridor at Golden Valley Road, Theodore Wirth Parkway, Plymouth Avenue, and Olson Memorial Highway would be maintained

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
								permanently and the proposed BLRT Extension project would improve these crossings by reconstructing the bridges with multi-use pedestrian/bicycle facilities. Temporary access impacts during construction will be mitigated by the development of a Construction Communications Plan, which will be used to coordinate with emergency service providers as well as the public. See Section 4.7 of the Final EIS for additional discussion on this topic.
139E	Horwitz	Staci	City of Lakes Community Land Trust	139	Email	8 – Transportation System Effects	Need adequate crossings of TH55; how will the number of crossing areas separate from station stops be determined?	Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: Penn Avenue Station and Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue, midblock between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge.

Downtown Minneapolis Transportation Management Organization

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
142A	Davis	Lee	Downtown Minneapolis Transportation Management Organization	142	Email & US Mail	7 – Alternatives, Engineering & Design	Supports BLRT project. Project will be important for employment and development activity.	See Master Response 2 in Section G.4.1 of Appendix G of the Final EIS

Harrison Neighborhood Association

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
146A	Willis	Kennedy	Harrison Neighborhood Association	146	Email	4 – Social and Economic Effects	EJ needs must be fully considered.	Chapter 7 of the Final EIS summarizes the EJ analysis. The study area for the EJ analysis documented 18.70 percent of the population below the poverty level and 48.40 percent of the study area population as minority groups. The proposed BLRT Extension project would benefit both EJ and non-EJ communities with reliable and higher-capacity service for transit riders, improved pedestrian and bicycle connections and access, and no permanent residential property displacements. The full list of community benefits can be found in Section 7.5 of the Final EIS. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. The Council will continue to work with the Blue Line Coalition and conduct direct outreach to EJ populations as design advances. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities
146B	Willis	Kennedy	Harrison Neighborhood Association	146	Email	4 – Social and Economic Effects	Believes that the EJ communities are bearing disproportionate weight of development burdens and requests more collaborative and comprehensive plans between different levels of government.	The potential for disproportionately high and adverse effects of the proposed BLRT Extension project to be borne by EJ communities was evaluated by FTA in Chapter 7 – Environmental Justice of the Final EIS. This evaluation also documents how EJ communities were engaged in the proposed BLRT Extension project process and provided the opportunity for input during planning phases. Planning for the proposed BLRT Extension project involved extensive outreach and coordination with the affected public, agencies, and key stakeholders. Key stakeholder outreach activities conducted during EIS Scoping and the development of the EIS are summarized in Section 9.2 of the Final EIS. Stakeholder advisory committees included staff from the Council, Hennepin County, Metro Transit, the proposed BLRT Extension project corridor municipalities, and several others.
146H	Willis	Kennedy	Harrison Neighborhood Association	146	Email	4 – Social and Economic Effects	Pedestrian safety across Olson to LRT should be considered.	Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: Penn Avenue Station and Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue, midblock between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge.
146J	Willis	Kennedy	Harrison Neighborhood Association	146	Email	8 – Transportation System Effects	There is a need for rapid connection between the Blue Line and the SWLRT along Penn Avenue.	The Southwest Green Line Extension and proposed BLRT Extension project Draft Feeder Bus Plan includes a proposed Route 26, which would connect stations on both lines. The proposed bus network would be refined with input from the public prior to the proposed BLRT Extension project opening day. Additionally, planning for the C Line, Bus Rapid Transit along Penn Avenue began in 2013. The proposed BLRT Extension project is anticipated to begin detailed design and engineering in 2016 and start construction in 2017 pending full project funding. The C Line would connect to the Southwest LRT at the Royalston Station.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
146C	Willis	Kennedy	Harrison Neighborhood Association	146	Email	7 – Alternatives, Engineering & Design	supportive of LRT	See Master Response 2 in Section G.4.1 of Appendix G of the Final EIS
146D	Willis	Kennedy	Harrison Neighborhood Association	146	Email	4 – Social and Economic Effects	Supportive of LRT if there will be development along Olson Memorial Hwy.	Local land use is governed by local municipalities. Hennepin County has led a SAP effort with each community along the proposed BLRT Extension project corridor to create a vision for the area that reflects the community's goals and ensures that LRT infrastructure is effectively integrated with the surrounding community. The Minneapolis Station Area Plan along Olson Memorial Highway recommends mixed use residential and medium density residential to support transit oriented development. See www.hennepin.us/residents/transportation/bottineau-community-works for more information about the SAP.
146E	Willis	Kennedy	Harrison Neighborhood Association	146	Email	7 – Alternatives, Engineering & Design	Request action to mitigate harm created in efforts to site OMF facilities in surrounding communities.	The Final EIS describes the location of the 140,000-square-foot Operations and Maintenance Facility (OMF), which is proposed at the north end of the proposed BLRT Extension project in Brooklyn Park. This area today is largely undeveloped, but through SAP efforts, the city of Brooklyn Park and Hennepin County have developed a master plan for the area, integrating the OMF with mixed use commercial and office development, and greenspace. See Chapter 2 of the Final EIS for a more detailed description of the OMF. The OMF site requires acquisition of two undeveloped parcels owned by the city of Brooklyn Park, however no displacements would be required to construct the OMF. The OMF would be an adverse impact on the surrounding area. The OMF and related project elements, including landscaping and visual screening, would be designed in coordination with the city of Brooklyn Park and the Three Rivers Park District and in accordance with local zoning ordinances.
146F	Willis	Kennedy	Harrison Neighborhood Association	146	Email	5 – Environmental Effects	Concern that the Draft EIS does not consider other ongoing community and public works projects such as Penn Ave Community Works, the North Minneapolis Greenway project, the Penn Avenue BRT project and the Great Streets Initiative.	The Final EIS incorporates the ongoing planning of the Penn Avenue BRT project (C Line) and other transit projects. See Chapter 3 of the Final EIS for more information about how other planned transit projects were incorporated into the analysis for the Final EIS. Hennepin County has been doing extensive bike planning work focusing on connecting bikes and transit. The Council has used the 2040 Bicycle Transportation Plan (2015) as a guide for ongoing design of bike facilities. The plan is available at this website: www.hennepin.us/residents/transportation/biking. The city of Minneapolis is also a project partner in the proposed BLRT Extension project planning and has provided input on other ongoing projects so the Council can better coordinate with other planned projects.
146G	Willis	Kennedy	Harrison Neighborhood Association	146	Email	4 – Social and Economic Effects	Omission of community resources that are important to EJ communities.	The Council has implemented a comprehensive public outreach program that has engaged nearby communities and underrepresented groups, including the Summit Academy OIC and Wayman AME Church. Coordination with these groups will continue throughout the course of the proposed BLRT Extension project. Project staff have met with leadership at these organizations to discuss future construction needs for the proposed BLRT Extension and Green Line LRT Extension projects. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. This resulted in documenting additional organizations into the Final EIS. The proposed BLRT Extension project would displace five businesses that may serve the EJ community. Therefore, the proposed BLRT Extension project would have a disproportionately high and adverse impact on EJ communities currently served by these businesses in Robbinsdale, Crystal, and Brooklyn Park. Chapter 7 – Environmental Justice of the Final EIS discusses this in more detail. The specific businesses cited that likely have a predominantly minority and/or low-income clientele include: Northside Oriental Market; American Furniture Mart; Unified Staffing, Inc. (tenant of Schrader Building); Hart Custom Homes (owner and tenant of Schrader

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
								Building); and Brianna's Hair Studio (tenant of Schrader Building). For impacts to the communities served by the displaced businesses, the Council shall provide notices to the affected EJ community with the business' new location (if a suitable relocation was identified) with transit options to access the new business location, and/or other options to meet their needs. Section 4.2 of the Final EIS summarizes community facilities documented and analyzed as part of the proposed BLRT Extension project. This includes schools, churches, libraries, community centers, social service agencies and non-profits. No mitigation measures are warranted for long-term neighborhood and community impacts, because the effectiveness of mitigation measures identified for specific environmental categories (including but not limited to noise, vibration, visual quality and aesthetics, transit, roadways and traffic, parking, and pedestrian and bicyclist considerations) would prevent adverse impacts.
146K	Willis	Kennedy	Harrison Neighborhood Association	146	Email	4 – Social and Economic Effects	Station area development that facilitates health equity and wealth development of the community	A Health Impact Assessment was published by Hennepin County in 2013, prior to the Draft EIS publishing. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities. The SAP effort and the ongoing design for the proposed BLRT Extension project have health equity and economic development goals.
146L	Willis	Kennedy	Harrison Neighborhood Association	146	Email	4 – Social and Economic Effects	Equity commitments that Harrison has contributed to and that have been circulated in relation to the Green Line extension/SWLRT, especially where the commitment requests apply to the Blue Line planning and development	The Council recognizes the need to address equity in planning and development of new transit development and *Thrive 2040 MSP* outlines strategies to work toward a more equitable region. For the proposed BLRT Extension project, the Council has developed a comprehensive public engagement process that has proven to be effective at addressing community concerns. The proposed Blue Line Extension project has included the use of advisory committees, giving a voice to citizens, EJ organizations and neighborhood groups. These include: ■ CMC that includes a representatives from each City Council along the alignment, Hennepin County, BAC chair, CAC chair, and two community organization members. This group meets monthly and provides recommendations to the Council on project decisions. ■ CAC that includes neighborhood and community representatives (including Harrison) and discusses topics of concern or interest to the community such as safety, noise impacts, station location and design, and accessibility features. ■ BAC that includes business and chamber representatives and discusses topics of concern or interest to the business community such as access, construction impacts, station location and design. ■ Transportation Accessibility Advisory Committee is a formal advisory committee of the Council that provides input and advice on concerns and interests to the ADA community including accessibility, station design, and pedestrian features. Members of this advisory committee serve on the CAC and BAC and have also participated in station design workshops to provide feedback on station features to ensure that they take into consideration use by those with limited vision, mobility or hearing. In addition to these formal advisory committees, the Council has conducted outreach and public engagement activities such as open houses, workshops and walking tours to seek public input on the design of the proposed BLRT Extension project. This approach to community engagement has proven effective on other Twin Cities transit projects, including the Blue Line (Hiawatha LRT) and Green Line (Central Corridor); therefore, a community compact was not necessary and was not created.

Heritage Park Neighborhood Association

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
148A	Cole	Terra	Heritage Park Neighborhood Association	148	Email	4 – Social and Economic Effects	Important to ensure economic, racial and age cohesion of the Heritage Park/Sumner-Glenwood neighborhood. Bifurcation of the neighborhood separating the neighborhood into two districts: the "White and affluent" southside 55405 "good zip code" with its businesses, high income housing and lion's share of neighborhood amenities and the "Colored" northside 55411 "bad zip code" with 90% rental, low income housing, no economic amenities and continued perception of being the "new projects. Due diligence must be served as to not leave current residents at a disadvantage or return to the days prior to the Holman Decree by creating a concentrated area of race and poverty.	Hennepin County is advancing Station Area Plans at each proposed BLRT station, which include housing considerations, based on the communities' concerns for equity and affordability. The proposed BLRT Extension project would directly serve residents in the 55411 ZIP code with stations at Van White Boulevard, Penn Avenue, Plymouth Avenue, and Golden Valley Road. It would also serve the residents in the 55405 ZIP code neighborhood. The improvements proposed for Olson Memorial Highway would create a better pedestrian environment to improve community cohesion between the communities north and south of the highway. See Response 148B on specific design improvements on Olson Memorial Highway. Local land use is governed by local municipalities. Hennepin County has led a SAP effort with each community along the proposed BLRT Extension project corridor to create a vision for the area that reflects the community's goals and ensures that LRT infra-structure is effectively integrated with the surrounding community. The Minneapolis Station Area Plan recommends mixed use residential and medium density residential to support transit oriented development. They also envision a mixed income neighbor-hood with new market-rate housing to stabilize the already existing affordable housing and catalyze new development in the neighborhood. See www.hennepin.us/residents/transportation/bottineau-community-works for more information about the SAP. Furthermore, the Council has established programs to encourage affordable housing planning and implementation that may offset potential indirect impacts to low-income persons. See Section 7.4.6 of the Final EIS for a discussion on indirect impacts and cumulative effects on EJ populations. The findings from the Fair Housing equity assessment (FHEA) identified a need to address equity in affordable housing and the policies to address this issue are included in the *Thrive MSP 2040*, Housing Policy Plan (www.metrocouncil.org/Housing/Planning/2040-Housing-Policy-Plan.aspx). The Council's role is to: ■ Work with communities to create a mix of housing affordability, including subsidies to strategically locate market-rate housing in areas that lack such options as well as affordable housing in areas that lack affordability. ■ Use Livable Communities Act resources to both catalyze private investment in areas of concentrated poverty and attract affordable housing to higher-income areas. ■ Work with our partners and stakeholders to identify indicators to measure how projects, supported with Council resources, advance equity, including providing opportunities to residents of areas of concentrated poverty, lower-income households, and people with disabilities. ■ Identify and address institutional challenges and barriers, including a lack of funding, to affordable housing development in Suburban, Suburban Edge, and Emerging Suburban Edge locations. ■ Encourage private market interest in these targeted areas through transit investments, education, and marketing support to local communities. To comply with the Metropolitan Land Planning Act and remain consistent with the Housing Policy Plan, the Council requires cities to demonstrate how affordable housing needs can be met in their local comprehensive plan updates. Cities must demonstrate how their comprehensive plan: ■ Addresses the future housing need for forecasted growth. ■ Acknowledges its allocation for future affordable housing need. ■ Guides sufficient land at minimum residential densities of 8 units/acre to support the city's total allocation of affordable housing need.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
148B	Cole	Terra	Heritage Park Neighborhood Association	148	Email	8 – Transportation System Effects	The need to provide safe, viable pathways for pedestrians, bikers and those who are visually and physically disabled by creating sustainable pathways to existing & future amenities, on the southside of Olson Highway.	Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: Penn Avenue Station and Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue, midblock between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge.
148C	Cole	Terra	Heritage Park Neighborhood Association	148	Email	4 – Social and Economic Effects	There is a lack of a significant plan to create economic development opportunities on both sides of station stops for residents who live on northside of Olson.	Economic effects are summarized in Section 4.6 of the Final EIS. Local land use is governed by local municipalities. Hennepin County has led a SAP effort with each community along the proposed BLRT Extension project corridor to create a vision for the area that reflects the community's goals and ensures that LRT infrastructure is effectively integrated with the surrounding community. The Minneapolis Station Area Plan recommends mixed use residential and medium density residential to support transit oriented development. See www.hennepin.us/residents/transportation/bottineau-community-works for more information about the SAP.
148D	Cole	Terra	Heritage Park Neighborhood Association	148	Email	4 – Social and Economic Effects	The historical and continued isolation the neighborhood and its residents experience because area parks, trails and pedestrian pathways are not connected to downtown, the Kenwood/Walker Art Center and the proposed North Minneapolis Greenway.	See response to 148B.
148E	Cole	Terra	Heritage Park Neighborhood Association	148	Email	4 – Social and Economic Effects	Gentrification; in that those with "money" will be white and those "without" and "on assistance" will be of color. With over 80% of current residents hailing from Somali, African American, Ethiopian, Asian, Hispanic, descent, it is imperative that a transit/stationary stop plan takes into consideration an even split in housing unit density on both sides of the stationary stop that provides pathways for ownership to current residents as well as new.	See response to 148A.

Masjid An-Nur

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
156A	Shabazz	Aasim	Masjid An-Nur	156	Email	8 – Transportation System Effects	Bottineau LRT corridor is 52% people of color and 14% are transit dependent. Bottineau Corridor. connects 2 significant environmental justice communities to our regional transitway system – Brooklyn Park and North Minneapolis. It is Important that the transit investment, the corresponding land use and economic development has community benefits for the low income communities and communities of color in the corridor. Have formed the Blue Line Coalition to secure community benefits for environmental justice communities in the Bottineau Corridor.	The study area for the EJ analysis documented 18.70 percent of the population below the poverty level and 48.40 percent of the study area population as minority groups. The proposed BLRT Extension project would benefit both EJ and non-EJ communities with reliable and higher-capacity service for transit riders, improved pedestrian and bicycle connections and access, and no permanent residential property displacements. The full list of community benefits can be found in Section 7.5 of the Final EIS. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. The Council will continue to work with the Blue Line Coalition and conduct direct outreach to EJ populations as design advances. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities.
156B	Shabazz	Aasim	Masjid An-Nur	156	Email	8 – Transportation System Effects	Recommends a corridor wide community compact similar to the Red Line Community Compact in Baltimore. The community compact process should model best practices in community engagement and be a partnership between Metro Transit, Hennepin County, the cities, and the environmental justice communities within the Bottineau LRT corridor.	The Council has developed a comprehensive public engagement process that has proven to be effective at addressing community concerns. The Blue Line Extension project has included the use of advisory committees, including: ■ CMC that includes a representatives from each City Council along the alignment, Hennepin County, BAC chair, CAC chair, and two community organization members. This group meets monthly and provides recommendations to the Council on project decisions. ■ CAC that includes neighborhood and community representatives and discusses topics of concern or interest to the community such as safety, noise impacts, station location and design, and accessibility features. ■ BAC that includes business and chamber representatives and discusses topics of concern or interest to the business community such as access, construction impacts, station location and design. ■ Transportation Accessibility Advisory Committee is a formal advisory committee of the Council that provides input and advice on concerns and interests to the ADA community including accessibility, station design, and pedestrian features. Members of this advisory committee serve on the CAC and BAC and have also participated in station design workshops to provide feedback on station features to ensure that they take into consideration use by those with limited vision, mobility or hearing. In addition to these formal advisory committees, the Council has conducted outreach and public engagement activities such as open houses, workshops and walking tours to seek public input on the design of the proposed BLRT Extension project. This approach to community engagement has proven effective on other Twin Cities transit projects, including the Blue Line (Hiawatha LRT) and Green Line (Central Corridor); therefore, a community compact was not necessary and was not created.
156C	Shabazz	Aasim	Masjid An-Nur	156	Email	4 – Social and Economic Effects	EJ community resources have not be adequately documented	The Council has implemented a comprehensive public outreach program that has engaged nearby communities and underrepresented groups, including the Summit Academy OIC and Wayman AME Church. Coordination with these groups will continue throughout the course of the proposed BLRT Extension project. Project staff have met with leadership at these organizations to discuss future construction needs for the proposed BLRT Extension project and Green Line LRT Extension projects. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. This resulted in adding additional organizations into the Final EIS.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
								The proposed BLRT Extension project would displace five businesses that may serve the EJ community. Therefore, the proposed BLRT Extension project would have a disproportionately high and adverse impact on EJ communities currently served by these businesses in Robbinsdale, Crystal, and Brooklyn Park. Chapter 7 – Environmental Justice of the Final EIS discusses this in more detail. The specific businesses cited that likely have a predominantly minority and/or low-income clientele include: Northside Oriental Market; American Furniture Mart; Unified Staffing, Inc. (tenant of Schrader Building); Hart Custom Homes (owner and tenant of Schrader Building); and Brianna's Hair Studio (tenant of Schrader Building). For impacts to the communities served by the displaced businesses, the Council shall provide notices to the affected EJ community with the business' new location (if a suitable relocation was identified) with transit options to access the new business location, and/or other options to meet their needs. Section 4.2 of the Final EIS summarizes community facilities documented and analyzed as part of the proposed BLRT Extension project. This includes schools, churches, libraries, community centers, social service agencies and non-profits. No mitigation measures are warranted for long-term neighborhood and community impacts, because the effectiveness of mitigation measures identified for specific environmental categories (including but not limited to noise, vibration, visual quality and aesthetics, transit, roadways and traffic, parking, and pedestrian and bicyclist considerations) would prevent adverse impacts.
156D	Shabazz	Aasim	Masjid An-Nur	156	Email	3 – NEPA Process & Public Involvement	Recommends that the Blue Line Extension Community Advisory Committee: a) Be a community driven body with staff support. b) Be a resource and check point for community engagement by reviewing and approving a corridor project community engagement plans. c) Identify issues and assign problem solving teams that include community members and project staff. d) Elect a representative member on the transitway corridor policy advisory committee/management committee. e) Be formed early in the scoping phase of the transitway corridor planning process. f) Membership will be selected by communities they represent. g) Elect a chairperson who represents a grassroots community. h) Have the ability to set their own agenda, pass motions, and make recommendations to the corridor policy advisory committee/management committee. i) Will be combined with Business Advisory Committees ensuring coordinated issues and efforts. j) CE Steering committee will support project staff with connections to underrepresented groups i.e.: Faith communities; Cultural communities; Place based groups; Communities of color ; Small and Ethnic businesses; Community Engagement Steering Committee members; Disability community; New immigrant communities; Low-income communities; Students at high schools, community colleges k) Orientation will include a focus on environmental justice, equitable development, and cultural awareness. l) Construction Communication Committees set up at least one month in advance of construction, with representatives appointed by community groups.	Section 9.2.1.4 of the Final EIS details the establishment of the CAC, which serves as a voice for the community and advises the CMC during the planning and implementation phases of the light rail line. The CAC has met on an approximately monthly basis to advise the proposed BLRT Extension project team. CAC meeting summaries and membership can be found on the website for the proposed BLRT Extension project, www.BlueLineExt.org. The Council formed the CAC by asking each city to designate representatives as well as inviting community based organizations to appoint members. The CAC comprises representatives from the Transportation Accessibility Advisory Committee; Masjid An-Nur; MICAH; the Asian Economic Development Association; the cities of Brooklyn Park, Crystal, Golden Valley, Minneapolis, and Robbinsdale; and MPRB. The first CAC meeting was held jointly with the BAC in April 2015. At that meeting, members were asked about their top concerns and topics that they were most interested in discussing. The Counil staff also presented an overview of the outreach plan and types of activities. Another joint meeting with the BAC was held in October to review and recommend a revised project scope. In addition to the CAC, the Council added two grassroots representatives from the Blue Line Coalition as members of the CMC. The Blue Line Coalition is a community-based group working to advance local and regional equity and community health along the Blue Line corridor. The CAC and BAC would transition to smaller Construction Communication Committees for each city when it gets closer to construction.
156E	Shabazz	Aasim	Masjid An-Nur	156	Email	3 – NEPA Process & Public	Recommends coordinated planning across Metro Transit, Hennepin County, and the City of MPLS.	Planning for the proposed BLRT Extension project involved extensive outreach and coordination with the affected public, agencies, and key stakeholder

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
						Involvement		outreach activities conducted during EIS Scoping and the development of the EIS are summarized in Section 9.2 of the Final EIS. Stakeholder advisory committees included staff from Council, Hennepin County, Metro Transit, the proposed BLRT Extension project corridor municipalities, and several others.
156F	Shabazz	Aasim	Masjid An-Nur	156	Email	4 – Social and Economic Effects	Land use planning should promote growth along corridor.	Overall, the proposed BLRT Extension project would be compatible with the local comprehensive plans, land use and other planning policies of the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. Although the city of Golden Valley's comprehensive plan does not specifically mention the proposed BLRT Extension project, LRT would be compatible with the transit goal and objective of the city's comprehensive plan. The proposed BLRT Extension project would also be compatible with regional land use planning policies. Hennepin County, in partnership with the Bottineau Boulevard Partnership, also prepared the Bottineau Land Use Planning Framework (2012). While the Framework is unlike the aforementioned local comprehensive planning documents because the County does not have land use planning administrative authority, it clearly states the County and Partnership's priority for increased development along the Bottineau Transitway. Section 4.1 of the Final EIS summarizes land use plan compatibility.
156G	Shabazz	Aasim	Masjid An-Nur	156	Email	8 – Transportation System Effects	Special attention should be given to redesigning Hwy 55 with safe and livable crossing connections for pedestrians and cyclists; recommends bus shelter improvements.	Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: Penn Avenue Station and Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue, midblock between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Memorial Boulevard. The proposed BLRT Extension project would construct a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge.
156H	Shabazz	Aasim	Masjid An-Nur	156	Email	8 – Transportation System Effects	Recommends study on viability of new bus circulator in North Minneapolis and upgrades to bus shelters and transfer stations.	The Draft Feeder Bus Plan for the year 2040 includes a proposed Route 26 that would connect to Penn Avenue and Van White Boulevard stations, circulating through North Minneapolis. The proposed bus network would be refined with input from the public prior to BLRT opening day. Additionally, planning for the C Line, Bus Rapid Transit along Penn Avenue began in 2013. The C Line would connect residents of North Minneapolis, near Penn Avenue, to BLRT stations, METRO Green Line stations, Brooklyn Center, and to downtown Minneapolis. Metro Transit has been working with the community on Better Bus Stops through a Ladders of Opportunity Grant from FTA. The goal is to add up to 150 shelters and improve an additional 75 existing shelters as part of the agency's work. For more information, visit this website: www.metrotransit.org/better-bus-stops.
156I	Shabazz	Aasim	Masjid An-Nur	156	Email	4 – Social and Economic Effects	Throughout the Bottineau Corridor there are environmental justice small businesses. Every effort should be made to maximize the benefit and minimize the impacts of the project on these entrepreneurs.	Chapter 7 of the Final EIS includes additional discussion and analysis of the benefits of the proposed BLRT Extension project to the EJ communities, in addition to the evaluation of potential impacts. Ten business operations would be displaced as a part of the proposed BLRT Extension project. These businesses would be relocated in accordance with the Uniform Relocation Act and compensated by payment of fair market value for their property. Five of these business operations are considered EJ businesses, either serving EJ populations or are owned by minority or low income people. Therefore, the proposed BLRT Extension project would have a disproportionately high and adverse impact on EJ communities currently served by these businesses in Robbinsdale, Crystal, and Brooklyn Park. The specific businesses cited that likely have a predominantly minority and/or low-income clientele include:

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
								Northside Oriental Market; American Furniture Mart; Unified Staffing, Inc. (tenant of Schrader Building); Hart Custom Homes (owner and tenant of Schrader Building); and Brianna's Hair Studio (tenant of Schrader Building). The Council would also provide information to the communities where businesses would be displaced about the businesses' new locations and/or other options to meet their needs. In addition, the Council has been engaged in an extensive outreach effort with various stakeholders along the proposed BLRT Extension project corridor, including local business operators that may be impacted by the proposed BLRT Extension project to receive insight into daily operations and develop strategies to minimize impacts. To mitigate impacts on businesses during construction, the Council will develop a Construction Mitigation Plan, a Construction Communication Plan, and a construction staging plan. These tools will help the Council notify businesses and patrons in advance about any access issues or closures. The construction staging plan will also help businesses and patrons affected by LRT construction understand when construction would occur in different areas of the proposed BLRT Extension project corridor. Finally, a 24-hour construction hotline will be available for issue resolution and information about LRT construction. Section 3.4 of the Final EIS summarizes construction-phase mitigation measures.
156J	Shabazz	Aasim	Masjid An-Nur	156	Email	4 – Social and Economic Effects	Recommends strategy to prevent involuntary displacement and expanding affordable housing options.	Displacement is a significant impact, and the proposed BLRT Extension project has proactively avoided these impacts since the release of the Draft EIS. The evaluation of Alignments D1 and D2 considered several environmental and social issues and impact areas, and the selection of Alignment D1 for the proposed BLRT Extension project avoids impacts to the north Minneapolis neighborhood, including the large number of displacements. Moreover, since publication of the Draft EIS, modifications to the preliminary design have resulted in the avoidance of any residential property displacements with the proposed BLRT Extension project. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments promote growth and have benefits to the local communities. Section 4.1 of the Final EIS summarizes land use plan compatibility.
156K	Shabazz	Aasim	Masjid An-Nur	156	Email	4 – Social and Economic Effects	Recommends creating employment and entrepreneurial opportunities.	The Council has an established DBE program and includes specific goals in project contracts to increase participation by minority and women owned businesses. The Office of Equal Opportunity has an EO consultant designated to the Blue Line Project to conduct outreach and monitor progress towards meeting those goals. The Council has set a 3-year DBE goal of 15.5 percent for federal fiscal years 2013–2016. In addition to the DBE goal, the construction contracts would have a workforce goal for both minority and women workers. An additional EO consultant would be assigned to support these efforts when it gets closer to construction. To assist in achieving the DBE and workforce goals, the Council's EO and the Council's outreach and communication staff would hold workshops and networking mixers and attend events to inform people of employment and contracting opportunities. Other communication strategies would be used including social media, the BlueLineExt.org website, newsletters, and articles.
156L	Shabazz	Aasim	Masjid An-Nur	156	Email	4 – Social and Economic Effects	Brooklyn Park will have 5 stations on the Bottineau LRT line. The city of Brooklyn Park is 50% people of color. Through the Community Engagement team the Alliance is working with 6 environmental justice community groups in the Northwest suburbs. They will continue to be active partners in the development of the Bottineau Transitway project and corridor.	The Council will continue to work closely with the city of Brooklyn Park, the Blue Line Coalition, and EJ populations located in Brooklyn Park throughout the Engineering phase of the proposed BLRT Extension project. Station design, which would happen during the Engineering phase of the proposed BLRT Extension project, would incorporate pedestrian and bike amenities and would be ADA-compliant. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities.

Summit Academy OIC

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
158A	Garnett	George	Summit Academy OIC	158	Email	4 – Social and Economic Effects	Summitt Academy OIC was completely omitted in assessment of impacts	The Council has implemented a comprehensive public outreach program that has engaged nearby communities and underrepresented groups, including the Summit Academy OIC. Coordination with these groups, including the Summit Academy OIC will continue throughout the course of the proposed BLRT Extension project. Council staff have met with Summit Academy OIC leadership to discuss future construction needs for the proposed Blue Line LRT Extension and Green Line LRT Extension projects.
158B	Garnett	George	Summit Academy OIC	158	Email	4 – Social and Economic Effects	Organization trains low income minority and female construction workers and hopes that there are aggressive employment quotas for this project.	The Council has an established DBE program and includes specific goals in project contracts to increase participation by minority and women owned businesses. The Office of Equal Opportunity has an EO consultant designated to the Blue Line Project to conduct outreach and monitor progress towards meeting those goals. The Council has set a 3-year DBE goal of 15.5 percent for federal fiscal years 2013–2016. In addition to the DBE goal, the construction contracts would have a workforce goal for both minority and women workers. An additional EO consultant would be assigned to support these efforts when it gets closer to construction. To assist in achieving the DBE and workforce goals, the Council's EO and the Council outreach and communication staff would hold workshops and networking mixers and attend events to inform people of employment and contracting opportunities. Other communication strategies would be used including social media, the BlueLineExt.org website, newsletters, and articles.

West Broadway Business and Area Coalition (WBC)

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
162A	Heelan	Erin	West Broadway Business and Area Coalition (WBC)	162	Email	4 – Social and Economic Effects	Concerned about how project will impact other commercial corridors and what steps need to be taken to mitigate or leverage funding to assure that all corridors continue to be a priority for our local governments not just the ones with rail.	Long-range transportation plans and the fiscally constrained investment plans that are derived from them are the primary mechanisms for making regional transit investments. This comment is outside the scope of the Final EIS.

Saint Margaret Mary Church

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
186A	Moudry	Fr. Paul	Saint Margaret Mary Church	186	US Mail	7 – Alternatives, Engineering & Design	Supports public transportation.	See Master Response 2 in Section G.4.1 of Appendix G of the Final EIS.
186B	Moudry	Fr. Paul	Saint Margaret Mary Church	186	US Mail	6 – Noise & Vibration Effects	Concerned about station being across the street from our church – noise.	No noise impacts were identified at Saint Margaret Mary Church. It is far enough away from the proposed alignment that noise from BLRT operations would not rise to a level requiring mitigation (see Section 5.6 of the Final EIS, which summarizes noise impacts at institutional land uses [Table 5.6-6]).
186C	Moudry	Fr. Paul	Saint Margaret Mary Church	186	US Mail	4 – Social and Economic Effects	Concerned about station being across the street from our church – safety.	Section 4.7 of the Final EIS addresses safety and security. Safety for rail users, area residents, local pedestrians and bicyclists, project construction workers, operators and vehicle occupants is an important consideration for the proposed BLRT Extension project. The framework for ensuring the highest level of safety to these groups would be established through conformance with the proposed BLRT Extension project site safety and health plan, construction contingency plan, the Council's Safety and Security Management Plan and the Metro Transit Security and Emergency Preparedness plan. Project operations in conformance with these plans would necessarily be closely and continuously coordinated with local area law enforcement, medical, fire, transportation and other organizations with related emergency responsibilities within the proposed BLRT Extension project corridor. Stations would include emergency equipment, public address systems, video cameras, emergency telephones, and closed-circuit television. The public address system, with both speakers and signs, would convey information to people with disabilities in compliance with ADA requirements. Lighting for proposed station areas and park-and-ride lots, as well as vehicular and pedestrian circulation areas, would be consistent with the Metro Light Rail Transit Design Criteria (Council, 2015). Emergency lighting would be provided in all public areas, including platforms, pedestrian facilities, vehicular traffic areas, bus loading zones, and park-and-ride lots.
186D	Moudry	Fr. Paul	Saint Margaret Mary Church	186	US Mail	5 – Environmental Effects	Concerned about parkland, to be treasured.	The Final EIS and the Amended Draft Section 4(f)/6(f) Evaluation (Chapter 8 of the Final EIS) address the effects of the proposed BLRT Extension project on parklands as well as other Section 4(f) resources. This evaluation was accomplished in coordination with MPRB, the Three Rivers Park District, municipalities, and other governmental entities. These efforts included consideration of project sequencing (avoidance, minimization, and mitigation measures) to minimize harm to Section 4(f)/6(f) resources. The proposed BLRT Extension project would result in the permanent incorporation of approximately 2.1 acres of property from TWRP. During construction, approximately 9.2 acres of temporary construction easements would be required within TWRP to grade land around the proposed BLRT Extension project corridor, to provide access during construction, and to provide floodplain and wetland mitigation. A short segment of an existing north-south trail that parallels the west side of the rail corridor (a portion of the trail is located on the private rail corridor right-of-way) would be realigned along with a shift of an approximately 400-foot stretch of Bassett Creek as part of the replacement of the Plymouth Avenue Bridge. Access to the park would remain open throughout construction. All areas of the TWRP property that would be affected by proposed BLRT Extension project's construction activities would be restored to existing conditions or better and restoration plans would be developed and implemented in consultation with MPRB. Chapter 8 of the Final EIS provides additional information about the proposed BLRT Extension project's impact to TWRP.
186E	Moudry	Fr. Paul	Saint Margaret Mary Church	186	US Mail	8 – Transportation System Effects	Ridership comes from outside of Golden Valley.	The Council used its regional travel demand forecasting model to develop the transit ridership forecasts for the proposed BLRT Extension project. Blue Line LRT Expansion Project ridership modeling is discussed in Section 3.1 of the Final EIS. The Golden Valley Road Station would have a total of 905 riders daily arriving via walking, transferring from another bus, or driving/passenger drop off.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Response
186F	Moudry	Fr. Paul	Saint Margaret Mary Church	186	US Mail	7 – Alternatives, Engineering & Design	NIMBY is involved. Riders from suburbs and downtown are saying "not in your back yard meaning not North Minneapolis".	The proposed BLRT Extension project would improve the transportation system by providing the proposed BLRT Extension project corridor with more travel choices and faster travel times between residential areas, major destinations, and employment centers. Residents of North Minneapolis would have access to four adjacent stations: Van White Boulevard, Penn Avenue, Plymouth Avenue, and Golden Valley Road.
186G	Moudry	Fr. Paul	Saint Margaret Mary Church	186	US Mail	4 – Social and Economic Effects	Need to consider long range development.	Section 4.1 of the Final EIS describes the methodology used to assess compatibility with local comprehensive plans. Comprehensive plans address long-term growth. While there would be temporary impacts due to construction, the long-term benefit of the proposed BLRT Extension project would provide economic development opportunities, improved mobility, and access to more destinations.
186H	Moudry	Fr. Paul	Saint Margaret Mary Church	186	US Mail	4 – Social and Economic Effects	Need to consider impact on property values.	Property values are affected by a variety of market conditions. Impacts of an LRT project on property values are difficult to assess conclusively. Continuing population growth and a strengthening of the local economy within the proposed BLRT Extension project corridor may contribute to redevelopment and increased property values. Studies have shown that LRT transit around the country has been an impetus for increased property values near station locations. Chapter 7 – Environmental Justice of the Final EIS addresses property values from an EJ perspective.
186I	Moudry	Fr. Paul	Saint Margaret Mary Church	186	US Mail	4 – Social and Economic Effects	Need to consider neighborhood improvement.	Increased access brought by transit improvements may act as a catalyst for new investment in the area surrounding stations. Land development and property taxation policies are principally the responsibility of the cities of Minneapolis, Robbinsdale, Golden Valley, Crystal, and Brooklyn Park; but the Council has taken every effort to minimize adverse impacts of the proposed BLRT Extension project while maintaining the positive benefits this project would deliver.

Appendix G
Response to Draft EIS Comments

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3A	Balfour	Andrew	None provided	3	Email	7 – Alternatives, Engineering and Design	In favor of A-C-D2 alignment. Thinks connecting the Maple Grove transit center, downtown Robbinsdale, going through the neighborhoods (not the park) in North Minneapolis, and finally connecting to the interchange is the best placement.	Please see MASTER RESPONSE #1.
3B	Balfour	Andrew	None provided	3	Email	7 – Alternatives, Engineering and Design	D1 should not be considered. Ridership and convenience are what is important, not scenic (sparsely populated) views of a park.	The Alternatives Analysis (AA)/Draft Environmental Impact Statement (Draft EIS) and Final Environmental Impact Statement (Final EIS) process examined numerous alignment options detailed in Chapter 2 of both documents. The proposed METRO Blue Line Light Rail Transit (BLRT) Extension project includes an alignment that meets the purpose and need most efficiently and minimizes project impacts. The ridership forecasts are as follows: B-C-D1 – 27,000 boardings per day B-C-D2 – 26,000 boardings per day
4A	Schaper	Paul	None provided	4	Email	2 – Fiscal Effects and Schedule	Light rail waste of time and money. One billion dollars can go a lot farther fixing and expanding roads that we have now. Examples on the west metro, 494 between county road 6 and the split is still only 2 lanes each way. Highway 394 from Plymouth to downtown is already outdated. That took 10 years to build. Heavy traffic at 10:00 pm. Interstate 94 from the split to Monticello is a mess. Basically the state wants to keep people from driving their own cars. This will not happen.	The purpose and need for the project has been the subject of many studies. The proposed BLRT Extension project includes an alignment that meets the purpose and need most efficiently and minimizes project impacts. The purpose of the proposed BLRT Extension project is to provide transit service which would satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public. The proposed BLRT Extension project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans. The current design of the proposed BLRT Extension project and how it affects other transportation facilities is discussed in Chapter 3 of the Final EIS. Meeting federal cost-effectiveness criteria would be an essential part of entering into the Engineering phase for this project. However, cost is not the only criteria. The Purpose and Need is discussed in Chapter 1 of the Final EIS and a financial analysis of the project is discussed in Chapter 10 of the Final EIS. The proposed BLRT Extension project would improve the transportation system by providing the proposed BLRT Extension project corridor with more travel choices and faster travel times between residential areas, major destinations, and employment centers.
4B	Schaper	Paul	None provided	4	Email	2 – Fiscal Effects and Schedule	Anyone figure cost benefit?	Please see MASTER RESPONSE #4.
5	Runke	Dale	None provided	5	US Mail		Same comments as Pat Jordan, co-signed letter	
5A	Jordan	Pat	None provided	5	US Mail	5 – Environmental Effects	I care about wildlife in the park. All of that will change.	Section 5.8 of the Final EIS presents a summary of the assessment of wildlife habitat, impacts to wildlife habitat, and effects on threatened and endangered species. The Minnesota Department of Natural Resources (DNR) concurred with the Council's assessment that there would be no adverse effects on Blanding's turtle populations with the implementation of DNR's guidelines. A copy of the guidelines is included in Appendix F of the Final EIS. The Federal Transit Administration (FTA) determined that the proposed BLRT Extension project may affect the Northern long-eared bat, but the potential for impacts was low, and incidental "takes" of the bat would not be prohibited. Locations of fencing will continue to be explored through the design process; decisions regarding fencing locations will likely be finalized between the 30 percent and 60 percent design stages. The Council acknowledges that fencing in areas of notable wildlife habitat may impede wildlife movement. Minimizing the use of fencing in these areas, or the provision of wildlife crossings (dry culverts or other passageways) are potential solutions.
5B	Jordan	Pat	None provided	5	US Mail	6 – Noise and Vibration Effects	The noise pollution is a big factor.	Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS. Noise impacts have been assessed at parks throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Active use parks are not considered noise sensitive receptors and are not included in the noise analysis. A park may be considered a noise sensitive land use depending upon the recreation activities within the park. Theodore Wirth Regional Park was assessed in the noise

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								analysis as a Category 1 land use. As reported in Table 5.6-6 of the Final EIS, neither Theodore Wirth Regional Park nor The Chalet would have moderate or severe noise impacts from the proposed BLRT Extension project. Theodore Wirth Regional Park – noise level with the proposed BLRT Extension project would be 44 dBA (A-weighted decibels) with a moderate noise impact criterion of 53 dBA and a severe noise impact criterion of 59 dBA. The Chalet – noise level with the proposed BLRT Extension project would be 31 dBA with a moderate noise impact criterion of 56 dBA and a severe noise impact criterion of 61 dBA.
5C	Jordan	Pat	None provided	5	US Mail	7 – Alternatives, Engineering and Design	Having a station on G.V. Road will alter access to Minneapolis and the parkway. The station there is a poor decision.	Please see MASTER RESPONSE #19.
19	Adair	Richard	Bryn Mawr Neighborhood	19	Written	7 – Alternatives, Engineering and Design	I support the Locally Preferred Alternative. There will always be the "not in my back yard" concerns. Keep your eyes on the prize – a functioning integrated transit system that moves people around and knit us together, especially transit-dependent people in high poverty areas. We are building a future for generations to come.	Please see MASTER RESPONSE #2.
20A	Johnson	Wesley D	None provided	20	Written	5 – Environmental Effects	The ditch next to the tracks is the storm runoff and storm water storage for all of Kewanee Way. Their house has been flooded before and the now have a sump pump. Any changes to the storm drainage through the ditch to the swamp would effect the viability of housing on Kewanee Way if it affects the storm drainage. Currently it is something we have to watch and worry about with every major storm.	As part of the proposed BLRT Extension project, the existing BNSF Railway (BNSF) track would be shifted to the western 50 feet of the existing 100-foot rail corridor. This would result in impacts to the Bassett Creek floodplain. The total proposed floodplain fill within the Bassett Creek floodplain, is 16,800 cubic yards. The floodplain mitigation area between the main stem of Bassett Creek and the light rail transit (LRT) and BNSF rail corridor (partially in Theodore Wirth Regional Park and partially on private property; initially identified in the Draft EIS) has been further refined. The mitigation would include excavating adjacent ground below the 100-year floodplain elevation to provide compensatory floodplain storage for the fill placed in the floodplain.
20B	Johnson	Wesley D	None provided	20	Written	8 – Transportation System Effects	Many residents of Kewanee Way and the streets above use a pathway to access the tracks to the fire station to catch buses on Golden Valley Road and to vote. Cutting off this access more than inconvenient. Most people will not be able to walk around as it is 3 or 4 times longer and has steep hills. Cutting off access across the tracks would isolate this part of Golden Valley from the parks, fire station, and the rest of Golden Valley as regards to walking or bicycle usage.	The informal and unauthorized crossings across BNSF property from Kewanee Way near Sochacki Park and Sochacki Park: Mary Hills Nature Area would be eliminated as a result of the proposed BLRT Extension project. Crossings at Golden Valley Road and Plymouth Avenue would be the primary points of access for pedestrians traveling from Kewanee Way.
20C	Johnson	Wesley D	None provided	20	Written	5 – Environmental Effects	There is heavy deer and animal traffic across the tracks. Blocking this will force them onto the roadways, probably golden valley road bridge.	Please see MASTER RESPONSE #13.
21A	Jordan	Pat	None provided	21	Written	7 – Alternatives, Engineering and Design	LRT in Golden Valley does not serve the public who would be using it.	Please see MASTER RESPONSE #1.
21B	Jordan	Pat	None provided	21	Written	5 – Environmental Effects	The wildlife, environment, pollution, noise, air quality, traffic – all are going to see big changes. (responses are broken up to cover each element of comment).	Concerning wildlife: Please see MASTER RESPONSE #13.
21C	Jordan	Pat	None provided	21	Written	5 – Environmental Effects	The wildlife, environment, pollution, noise, air quality, traffic – all are going to see big changes. (responses are broken up to cover each element of comment).	Concerning environmental impacts: At the time of publication, the Draft EIS included a discussion of all known environmental issues and impacts.
21D	Jordan	Pat	None provided	21	Written	5 – Environmental Effects	The wildlife, environment, pollution, noise, air quality, traffic – all are going to see big changes. (responses are broken up to cover each element of comment).	Concerning pollution: Please see MASTER RESPONSE #12.
21E	Jordan	Pat	None provided	21	Written	6 – Noise and Vibration Effects	The wildlife, environment, pollution, noise, air quality, traffic – all are going to see big changes. (responses are broken up to cover each	Concerning noise: Please see response to Comment 5B.

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							element of comment).	
21F	Jordan	Pat	None provided	21	Written	5 – Environmental Effects	The wildlife, environment, pollution, noise, air quality, traffic – all are going to see big changes. (responses are broken up to cover each element of comment).	Concerning air quality: Please see MASTER RESPONSE #12.
21G	Jordan	Pat	None provided	21	Written	8 – Transportation System Effects	The wildlife, environment, pollution, noise, air quality, traffic – all are going to see big changes. (responses are broken up to cover each element of comment).	Concerning traffic: The traffic operations analysis indicates that the Golden Valley Road/Theodore Wirth Parkway intersection would operate at a level of service E in 2040 with either the No-Build Alternative or the proposed BLRT Extension project. See Table 3.3-3 in the Final EIS.
21H	Jordan	Pat	None provided	21	Written	5 – Environmental Effects	Do you realize the land by Golden Valley Road and where the tracks are located is a dump underneath the top layer? It's a flood zone there. The old Hwy 100 concrete, etc was dumped there.	The Council is aware of the previous dumping that had occurred during the 1960s in Sochacki Park. A Phase I Environmental Site Assessment (ESA) has been conducted and a Phase II ESA will be done to further evaluate the presence of contamination along the entire proposed BLRT Extension project corridor and proposed areas of construction. Information gathered from the Phase I and II ESA will be incorporated into the proposed BLRT Extension project's Response Action Plan (RAP) (which includes a Construction Contingency Plan for unidentified contamination) to properly handle, treat, store, and dispose of solid wastes, hazardous materials, petroleum products, and other regulated materials that could not be avoided during construction. Coordination with the Minnesota Pollution Control Agency, cities of Robbinsdale and Golden Valley, and the Three Rivers Park District will also be arranged. The Council reviewed Federal Emergency Management Agency (FEMA) 100-year floodplains and FEMA floodways as part of the evaluation for the proposed BLRT Extension project. The floodplains and floodways were identified and evaluated based on current FEMA Flood Insurance Rate Maps (FIRM) and ancillary information. The data relied upon for floodplain analysis are based on the information in the Preliminary Floodplain Impacts and Mitigation Strategies Technical Memorandum (January 2016), or Floodplain Technical Memorandum. The Council conducted the analysis in coordination with US Army Corps of Engineers, Minnesota Department of Natural Resources, and local watershed organizations (Bassett Creek Water Management Commission, Shingle Creek Watershed Management Commission, West Mississippi Water Management Commission, and Mississippi Watershed Management Organization) as described in the Floodplain Technical Memorandum.
22A	Jeska	Joan	None provided	22	Written	2 – Fiscal Effects and Schedule	Where is the money for this – won't pay for itself.	A breakdown of funding sources is located in Table 10.1-2 of Chapter 10 – Financial Analysis of the Final EIS totaling $1.496 billion. The Council assumes the following capital funding breakdown: ■ Capital Investment Grant (CIG) Program funding from FTA – 49 percent ■ State of Minnesota – 10 percent ■ County Transit Improvement Board – 31 percent ■ Hennepin County Regional Railroad Authority – 10 percent FTA must evaluate and rate proposed projects seeking funding from the CIG Program under a set of project justification and local financial commitment criteria specified in law. The criteria evaluate the merits of the project and the project sponsor's ability to build and operate it as well as the existing transit system. Also, please see MASTER RESPONSE #4.
22B	Jeska	Joan	None provided	22	Written	5 – Environmental Effects	Theodore Wirth Park is the main feature of our quality of life and the intent was to protect it. BOT would destroy the principle law of that (try planting a tree on Hiawatha line – none).	Please see MASTER RESPONSE #14.
22C	Jeska	Joan	None provided	22	Written	4 – Social and Economic Effects	Our lake system puts us on the map for quality of life – reroute Bottineau – use more buses.	The Draft EIS considered an Enhanced Bus/Transportation System Management (TSM) Alternative to serve comparable travel markets (Route 731/732). While the Enhanced Bus/TSM Alternative provides additional transit service, it does not meet the proposed BLRT Extension project goals of enhancing access to regional activity centers, enhancing the effectiveness of transit services within the proposed BLRT

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								Extension project corridor, or promoting sustainable development patterns. In the Draft EIS travel time was estimated at approximately 48–50 minutes for the Enhanced Bus/TSM Alternative, whereas the proposed BLRT Extension project estimated approximately 33 minutes. Chapter 11 of the Draft EIS compares the various alternatives.
22D	Jeska	Joan	None provided	22	Written	4 – Social and Economic Effects	Doesn't serve people who need public transportation. Minimum population along the T.W vs Bottineau.	The proposed BLRT Extension project would improve the transportation system by providing the proposed BLRT Extension project corridor with more travel choices and faster travel times between residential areas, major destinations, and employment centers. The Final EIS includes an evaluation of potential disproportionately high and adverse impacts on minority and low-income populations along the proposed BLRT Extension project. The evaluation considers proximity of low-income populations and transit-dependent households to proposed stations as well as access to other enhanced transit options. Section 7.5 of the Final EIS discusses how the project would "prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations" and improve transit for those most dependent upon it as part of an integrated system.
22E	Jeska	Joan	None provided	22	Written	7 – Alternatives, Engineering and Design	If this was right for the people there would not be such strong opposition. Citizens are against. What is our voice?	Please see MASTER RESPONSE #6.
22F	Jeska	Joan	None provided	22	Written	4 – Social and Economic Effects	My home is adjacent to the tracks and has major structural issues. Any construction could cause my house to collapse.	Section 5.7 of the Final EIS summarizes vibration impacts. Vibration impacts to residential properties have been identified in Robbinsdale and Crystal, along with the proposed mitigation for those impacts: ■ 36th Avenue North to 38th Avenue North: 700-foot-long ballast mat ■ 38th Avenue North to 40½ Avenue North: 300-foot-long ballast mat ■ 47th Avenue North to BNSF freight tracks: 300-foot-long ballast mat For these impacts, the proposed ballast mats will eliminate long-term vibration impacts at these locations. The most effective methods for reducing the impact from construction vibration are to limit the use of high-vibration activities, such as impact pile driving and vibratory rolling, and to include vibration limits in the construction specifications.
22G	Jeska	Joan	None provided	22	Written	7 – Alternatives, Engineering and Design	Public transit is for people who need it.	Please see response to Comment 22D.
23A	Overby	Amy	None provided	23	Written	4 – Social and Economic Effects	How will safety be provided for commuters? Specifically, when individuals leave the visibility and relative safety of street level (Golden Valley Road, particularly), who will ensure safety and peace of mind at a station located under a bridge, near a woodland occasionally inhabited by transients?	Please see MASTER RESPONSE #8.
23B	Overby	Amy	None provided	23	Written	4 – Social and Economic Effects	In both of those locations (Golden Valley Road and Plymouth Ave), I am unwilling to walk alone or with my dog when it is dark, those areas do not feel safe, because of the isolation and the highly/deeply wooded locations. If the goal of a station at those locations is to increase business/commuter traffic and usage, the isolated, invisible nature of those locations will actually discourage commuter usage.	Chapter 3 – Transportation addresses ridership and connectivity of the Golden Valley Road and Plymouth Avenue stations by car, bus, and walk up. A park-and-ride would provide 100 parking spaces for users of the Golden Valley Road Station. Approximately 905 daily boardings would occur at the Golden Valley Road Station and 229 at the Plymouth Avenue Station. Also, please see MASTER RESPONSE #8.
24A	Price	Robin	Bassett Creek Neighborhood	24	Written	3 – NEPA Process and Public Involvement	30 days has not been enough time to review the DEIS before this meeting.	The notification and comment period followed the legal requirements (minimum requirement is 45 days). The Draft EIS comment period was from April 11 to May 29, 2014 (48 days).
24B	Price	Robin	Bassett Creek Neighborhood	24	Written	5 – Environmental Effects	Continued concerns about health and integrity of Bassett Creek.	Bassett Creek is an iconic water resource. Good community work has already been implemented in the restoration of reaches of this important stream. Though Bassett Creek is currently listed on the 303(d) List of Impaired Waters, conditions within the Creek are improving. Per the federal Clean Water Act, an impaired water cannot be made worse by a proposed action. Thus, the Council is obligated to implement best

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								management practices that would be compliant with the Clean Water Act and that would likely exceed compliance and improve the water quality and habitat value of the creek.
24C	Price	Robin	Bassett Creek Neighborhood	24	Written	6 – Noise and Vibration Effects	Concern over lack of access to quiet space in this corner of Golden Valley	Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS. Noise impacts have been assessed at parks throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. As reported in Table 5.6-5 of the Final EIS the following noise level with the proposed BLRT Extension project would be: ■ Plymouth Avenue North to 16th Avenue North – 9 moderate noise impacts and no severe noise impacts ■ 16th Avenue North to Golden Valley Road – 1 moderate noise impact and no severe noise impacts ■ Golden Valley Road to 26th Avenue North – 9 moderate noise impacts and 14 severe noise impacts For the first two locations, after the implementation of interior testing to determine the appropriate mitigation measure, no residual noise impacts are anticipated. For the third location with mitigation in the form of a noise barrier, 1 moderate and 1 severe noise impacts would remain.
24D	Price	Robin	Bassett Creek Neighborhood	24	Written	7 – Alternatives, Engineering and Design	I want to see the rail go down Highway 55 or Broadway.	Please see MASTER RESPONSE #1.
24E	Price	Robin	Bassett Creek Neighborhood	24	Written	7 – Alternatives, Engineering and Design	If there needs to be a light rail stop, it should serve downtown Golden Valley and encourage business growth.	Please see MASTER RESPONSES #1 and #19.
24F	Price	Robin	Bassett Creek Neighborhood	24	Written	7 – Alternatives, Engineering and Design	Many Golden Valley residents are opposed to this route.	Please see MASTER RESPONSE #1.
24G	Price	Robin	Bassett Creek Neighborhood	24	Written	7 – Alternatives, Engineering and Design	This is not MY preferred route.	Please see MASTER RESPONSE #1.
24H	Price	Robin	Bassett Creek Neighborhood	24	Written	5 – Environmental Effects	Please keep Theodore Wirth Park pristine and on the historical register.	Effects to historic properties within the Area of Potential Effects (APE) were analyzed and documented in the Final EIS. All attempts would be made to avoid or minimize adverse effects to historical or cultural resources, including to Theodore Wirth Regional Park, as the Section 106 of the National Historic Preservation Act process moves forward. See Chapter 4 (Section 4.4) of the Final EIS for additional information regarding the Theodore Wirth Segment of the Grand Rounds Historic District. FTA has determined that the project undertaking would have an adverse effect on this historic resource; however, it remains eligible for listing on the National Register of Historic Places (NRHP). Mitigation measures can be found in the Section 106 Memorandum of Agreement in Appendix H of the Final EIS including designing to *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (*SOI's Standards*; 36 CFR Part 68), developing a Construction Protection Plan to avoid and minimize adverse construction effects, preparing a preservation plan and a treatment plan in accordance with *SOI's Standards,* and incorporating interpretation of the Theodore Wirth Segment into the design of the proposed BLRT Extension project in the Grand Rounds Historic District.
24I	Price	Robin	Bassett Creek Neighborhood	24	Written	5 – Environmental Effects	Currently Bassett Creek floods near the homes on Bassett Creek Drive – it could get worse with 100 feet of development around the rail.	Development associated with or resulting from the proposed BLRT Extension project is guided by local ordinances and watershed rules that dictate the amount of runoff that would be permitted from proposed developments and infrastructure. These rules are in place to help mitigate potential flooding effects on Bassett Creek and other waterbodies. As part of the proposed BLRT Extension project, the existing BNSF track would be

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								shifted to the western 50 feet of the existing 100-foot rail corridor. This would result in impacts to the Bassett Creek floodplain. The total proposed floodplain fill within the Bassett Creek floodplain, is 16,800 cubic yards. The floodplain mitigation area between the main stem of Bassett Creek and the LRT and BNSF rail corridor (partially in Theodore Wirth Regional Park and partially on private property; initially identified in the Draft EIS) has been further refined. The mitigation would include excavating adjacent ground below the 100-year floodplain elevation to provide compensatory floodplain storage for the fill placed in the floodplain.
24J	Price	Robin	Bassett Creek Neighborhood	24	Written	8 – Transportation System Effects	Parking or drop off spots will be dangerous on Golden Valley Road	Chapter 3 – Transportation of the Final EIS discusses the Golden Valley Road Station. A 100-space park-and-ride and pedestrian and bicycle improvements would be included at the Golden Valley Road Station. The station would include bus drop off locations on Golden Valley Road and a crosswalk for riders to access westbound buses on Golden Valley Road from the station. At the intersection at Theodore Wirth Parkway and Golden Valley Road a traffic signal is included in the proposed BLRT Extension project.
25A	Steinberg	Dan	None provided	25	Written	7 – Alternatives, Engineering and Design	Would like to see tunnel study from Golden Valley Rd to Abbot Dr. underground then zigzag the rail through Robbinsdale. All I am asking for is a study before track is laid down.	Please see MASTER RESPONSE #20.
26A	Wildung	Cathy	None provided	26	Written	5 – Environmental Effects	Impacts on floodplains, wetlands, water sources for drinking and wells – private and public. (answers broken into three parts to answer each topic).	Concerning floodplains: The Council reviewed FEMA 100-year floodplains and FEMA floodways as part of the evaluation for the proposed BLRT Extension project. The floodplains and floodways were identified and evaluated based on current FEMA FIRM and ancillary information. The data in this section are based on the information in the Preliminary Floodplain Impacts and Mitigation Strategies Technical Memorandum (January 2016), or Floodplain Technical Memorandum. The Council conducted the analysis in coordination with the US Army Corps of Engineers (USACE), DNR, and local watershed organizations (Bassett Creek Water Management Commission, Shingle Creek Watershed Management Commission, West Mississippi Water Management Commission, and Mississippi Watershed Management Organization) as described in the Floodplain Technical Memorandum.
26B	Wildung	Cathy	None provided	26	Written	5 – Environmental Effects	Impacts on floodplains, wetlands, water sources for drinking and wells – private and public. (answers broken into three parts to answer each topic).	Concerning wetlands: Please see MASTER RESPONSE #16.
26C	Wildung	Cathy	None provided	26	Written	5 – Environmental Effects	Impacts on floodplains, wetlands, water sources for drinking and wells – private and public. (answer broken into three parts to answer each topic).	Concerning water sources: The Final EIS addresses drinking water in Section 5.1 dealing with utilities. Private and public wells within the proposed BLRT Extension project corridor are identified and the potential effects of the proposed BLRT Extension project are described. The construction and maintenance phases of the project would also incorporate appropriate measures to avoid and minimize potential impacts to drinking water from public and private wells.
26D	Wildung	Cathy	None provided	26	Written	5 – Environmental Effects	The possibility of uncovering hazardous materials – 790 recorded sites in B-C-D1 Preferred Alternative area.	Chapter 5 (Section 5.5) of the Final EIS discusses the potential for encountering contamination. A Phase I ESA has been conducted, and a Phase II ESA is being conducted to further evaluate the presence of contamination along the entire proposed BLRT Extension project corridor and proposed areas of construction. Information gathered from the Phase I and II ESA will be incorporated into the proposed BLRT Extension project's RAP (which includes a Construction Contingency Plan for unidentified contamination) to properly handle, treat, store, and dispose of solid wastes, hazardous materials, petroleum products, and other regulated materials that could not be avoided during construction. Coordination with the Minnesota Pollution Control Agency, cities of Robbinsdale and Golden Valley, and the Three Rivers Park District will also be arranged.
26E	Wildung	Cathy	None provided	26	Written	6 – Noise and	Noise – both during construction phase in which noise decibel levels will exceed recommended levels for residential use – and the rail	An assessment of the impacts of construction noise was included in the Draft EIS and has been included in more detail in Chapter 5 (Section 5.6) of the Final EIS.

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						Vibration Effects	noise, which, between 80-100 decibels equates to a concrete mixer, jack hammer and a rock drill. This is from the report on Page 5-39.	Construction noise levels are subject to local noise ordinances and noise rules administered by the Minnesota Pollution Control Agency (MPCA; Minnesota Rules, Chapter 7030). The primary means of mitigating noise from construction activities is to require the contractor to prepare a detailed Noise Control Plan. A noise control engineer or acoustician will work with the contractor to prepare a Noise Control Plan in conjunction with the contractor's specific equipment and methods of construction. Also, please see MASTER RESPONSE #17.
26F	Wildung	Cathy	None provided	26	Written	6 – Noise and Vibration Effects	The constant operating hours and service frequencies of the light rail, especially during early morning and late evening hours. Bells, horns, rail noise, will impact everyone nearby.	Please see MASTER RESPONSE #17.
27A	Bonniwell	Constance	None provided	27	US Mail	7 – Alternatives, Engineering and Design	I walked a ring around our woods from 27th Avenue North and the BN rail line to Golden Valley Road, then down the east side of the BN line to Highway 55, a 100+ acre expanse of wild life habitat your Draft EIS makes no reference about. I knocked only on the doors of properties abutting the BN line or abuting the wooded parkland that abuts the BN line (many of those owners have maintained private wild life habitat bordering park woods for decades) with some owners living directly across the street from park or BN wild life habitat. The owners on the front lines. Here are 96 of the 102 addresses I have collected so far. 4 of them are not on the front lines but I wasn't telling anyone that they couldn't sign a petition for no LRT in their woods. My biggest problem is people not answering doors. I have listened to many property owners and I can say with assurance that the true local preference is NO BUILD. A petition was attached as well. (This is the same correspondence as #27 sent to a different person)	Please see MASTER RESPONSE #1.
43A	Boyce	Kim	None provided	43	Written	7 – Alternatives, Engineering and Design	I am very supportive of the proposed transitway. Providing easier access to public transit for residents and visitors to the northwestern suburbs, as well as North Minneapolis, could prove to be a substation asset to this region.	Please see MASTER RESPONSE #2.
43B	Boyce	Kim	None provided	43	Written	7 – Alternatives, Engineering and Design	As I did a quick review of the reasoning and rationale outlined in the Executive Summary of the EIS, I have a much better understanding of why the D1 option was selected over the D2 option. The potential displacement of so many residents in the D2 option does create a significant negative impact on that portion of the community.	Please see MASTER RESPONSE #2.
43C	Boyce	Kim	None provided	43	Written	8 – Transportation System Effects	Having adequate traffic control and drop-off spaces at proposed stations at Golden Valley and Theodore Wirth Park are important considerations. Not everyone will be able to easily walk to these locations.	Chapter 3 – Transportation of the Final EIS discusses the Golden Valley Road Station. A 100-space park-and-ride and pedestrian and bicycle improvements would be included at the Golden Valley Road Station. The station would include bus drop off locations on Golden Valley Road and a crosswalk for riders to access westbound buses on Golden Valley Road from the station. At the intersection at Theodore Wirth Parkway and Golden Valley Road a traffic signal is included in the proposed BLRT Extension project.
44A	Smith	Marietta	Resident	44	Written	3 – NEPA Process and Public Involvement	We need more time to review this voluminous report. I still need to review chapters 2, 3, 4, 6, 7 and 11. How do we get additional review time?	Please see response to Comment 24A.
45A	Smith	Marietta	Resident	45	Written	5 – Environmental Effects	I don't believe that the conclusions of the DEIS implying that the D1 Plymouth Station location is the best alternative were made taking into consideration the permanent detriment impact it will have on this urban ecological area. The natural urban wetland and wildlife habitat refuge provided by the area proposed for the Plymouth Station is unique. There is no way to mitigate the damage it will impose by any mitigation means. I'm told	Section 5.8 of the Final EIS summarizes impacts to wildlife habitat and endangered species. Theodore Wirth Regional Park has notable terrestrial and aquatic habitat that would be impacted by the proposed BLRT Extension project. Because of the urban setting of the proposed BLRT Extension project, the wildlife that inhabits these areas are generalist species adapted to urban conditions. These species are generally more tolerant of human presence and activities, including traffic (pedestrian, rail, and vehicle) and have demonstrated by their presence that they adapt readily to the human environment. Unavoidable impacts to aquatic habitat would be mitigated by

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							that the mitigation does not need to be -- and likely won't be -- in the damaged areas. One reason many of us purchased our homes in this area is because we loved the rural feel and aspect of that strip of land from Plymouth northward.	a combination of on-site wetland mitigation and purchasing suitable wetland credits from an established wetland mitigation bank. Unavoidable impacts to notable terrestrial habitat would be mitigated by restoring vegetation in and around Theodore Wirth Regional Park and other notable habitats to be determined during design efforts. Where effective and feasible, suitable wildlife crossings would be accommodated within proposed culverts to allow wildlife species to cross from one side of the LRT/freight rail tracks to the other.
45B	Smith	Marietta	Resident	45	Written	3 – NEPA Process and Public Involvement	Because those of us who live in Xerxes Avenue North – -just across from the proposed LRT station -- live on the Minneapolis side of the street we were not included in the initial findings -- which, coincidentally, originally did not envision a station in the Theodore Wirth BNSF corridor. It was completely short-sided and unfair to ignore our input and impact it would have on our area. The proposed project is virtually in our FRONT YARDS and BACK YARDS! As I understand it, the station is proposed to be constructed to the north of the Plymouth Avenue bridge. That area is just a narrow strip of land that can barely accommodate two additional sets of tracks, not even considering LRT Station. The existing BNSF railroad tracks have been a part of the landscape and were built decades before the current residential development of this area.	Please see MASTER RESPONSES #6, #14 and #19.
45C	Smith	Marietta	Resident	45	Written	5 – Environmental Effects	The damage that will be done by the heavy equipment and heavy construction cannot be repaired enough to restore the current ecological environment of that narrow strip of land. Forcing it to accommodate the proposed station by filling in the wetlands and marsh areas doesn't appear to be a good solution.	Please see MASTER RESPONSE #14 and #16.
45D	Smith	Marietta	Resident	45	Written	6 – Noise and Vibration Effects	The reality of the years of noise, dirt, dust, additional traffic, loss of neighborhood safety -- just to mention a few detrimental environmental impacts -- in a decades old residential and urban ecological area is just devastating.	Concerning noise: Please see MASTER RESPONSE #17. Interior testing to determine the appropriate mitigation measure of impacted homes from Oak Park Avenue North to Golden Valley Road is the proposed mitigation measure. See Table 5.6-7 in the Final EIS for a summary of proposed mitigation measures by location. Concerning dirt and dust: Please see MASTER RESPONSE #12. Concerning additional traffic: The traffic operations analysis indicates that the Golden Valley Road/Theodore Wirth Parkway intersection would operate at a level of service E in 2040 with either the No-Build Alternative or the proposed BLRT Extension project. See Table 3.3-3 in the Final EIS. Concerning loss of neighborhood safety: No mitigation measures are warranted for long-term impacts to safety and security because there would be no adverse impacts to safety and security. Safety and security oversight for the proposed BLRT Extension project would be achieved through implementation of the proposed BLRT Extension project's Safety and Security Management Plan and the Metro Light Rail Transit Design Criteria. Concerning detrimental environmental impacts: Please see responses to Comments 45A, 45B, and 45C.
45E	Smith	Marietta	Resident	45	Written	3 – NEPA Process and Public Involvement	Also, the 45-day comment period for such a comprehensive report and its referenced reports and studies is unconscionable.	Please see response to Comment 24A.
46A	Smith	Marietta	Resident	46	Written	7 – Alternatives, Engineering and Design	Despite the DEIS indicating the D1 (the LPA) is the best alternative of the routes being considered, I disagree. The negative impacts outweigh the benefits to this part of North Minneapolis -- which is further from Penn Avenue area surroundings that would most benefit from this project.	Please see MASTER RESPONSE #1.
46B	Smith	Marietta	Resident	46	Written	4 – Social and Economic Effects	I understand Penn Avenue was dropped due to the number of houses that would need to be razed.	The Policy Advisory Committee (PAC) recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and

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								neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits.
46C	Smith	Marietta	Resident	46	Written	7 – Alternatives, Engineering and Design	However, there should be a better alternative -- what about Olson Highway. Granted the Plymouth Avenue is closer to the Chalet but this alternative is more costly	Please see MASTER RESPONSE #1.
46D	Smith	Marietta	Resident	46	Written	5 – Environmental Effects	(I'm sure there will be soil "surprises" once construction begins but that will be a bit late to make any substantive changes) and disruptive.	Chapter 5 (Section 5.4) of the Final EIS discusses poor or substandard soils. Detailed geotechnical analysis, including boring tests, has been conducted and the findings from those analyses are reflected in the Final EIS and project design. Chapter 5 (Section 5.5) of the Final EIS discusses hazardous and contaminated materials, which indicates a medium risk of contamination around the Plymouth Avenue Station.
46E	Smith	Marietta	Resident	46	Written	8 – Transportation System Effects	There are already transportation routes that culminate at Olson Highway and could easily tie into a station there.	Chapter 3 of the Final EIS discusses existing and future bus routes that would connect with stations. The existing route 7 would connect with the Plymouth Avenue Station.
47A	Lewis	Shaun	Urban League	47	Written	7 – Alternatives, Engineering and Design	The community need both Golden Valley Road Station and Plymouth Station.	Please see MASTER RESPONSE #19.
48A	Lehman	Karen	None provided	48	Written	7 – Alternatives, Engineering and Design	Thank for the opportunity to share my comments on May 7 with all of you. My property is at… I have since submitted written comments to the Bottineau Transitway team at the Metropolitan Council. I have some additional thoughts I would like to share with all of you, given your interest in protecting Golden Valley's interests without standing in opposition to larger regional interests. It is clear that Golden Valley is in an adaptation and mitigation situation all around. As a stand-alone community, we would be better served by better bus transit than by light rail. However, it appears that the D1 option is the only truly viable option for the outlying communities. So we must adapt as best we can. I am in favor of only one station in Golden Valley, preferably at Golden Valley Road, largely to decrease environmental disruption. I say that, even though I am likely to suffer the negative noise, parking, and decreased security consequences on Zephyr Place. If I am not mistaken, the impacts on wetlands will be greater at the Plymouth stop. Let's not do that. However, if the priority is Plymouth, then I think we should not develop Golden Valley Road. We only truly need one stop in Golden Valley, if we are thinking about people getting out of our community to places they want to go.	Concerning the Golden Valley Road Station: Please see MASTER RESPONSE #19.
48B	Lehman	Karen	None provided	48	Written	5 – Environmental Effects	I now understand that no matter what, the line will be fenced, and that it will only be lit at the stations: one bad thing for the natural areas, and one good thing. Fencing will cut the wildlife corridor connecting Theodore Wirth Park and the east side of the line for the four-legged animals. Fortunately, birds will not be as affected. And the majority of the area will be unlit, which is great. I support that.	Please see MASTER RESPONSE #13. Locations of fencing will continue to be explored through the design process; decisions regarding fencing locations will likely be finalized between the 30 percent and 60 percent design stages.
48C	Lehman	Karen	None provided	48	Written	6 – Noise and Vibration Effects	So I am now focused on how to reduce the impact on those of us living on York and Zephyr Place whose homes hang out over the rail line, particularly for noise and visual pollution. Given that the line will be fenced regardless, I request that you advocate for a sound barrier below York and Zephyr Place, adequate to address the fact that sound travels up. The engineering study would need to address this unique aspect of above-grade housing. The barrier may require more height,	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Impacts were identified in the Draft EIS in this area. An additional noise measurement was conducted in this area for the Final EIS and the results of the assessment and mitigation recommendations are included in Chapter 5 (Section 5.6) of the Final EIS.

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							or different placement (for example, on the informal path that currently exists on the east side of the line). It would be a plus that it might also provide a sight barrier so that we would continue to see trees and a neutral static wall, rather than seeing trains whizzing by every 10 minutes. This would allow this area to maintain some of its unique character and reduce impacts that might encourage me, and perhaps others, to sell our homes.	Interior testing to determine the appropriate mitigation measure is recommended for the location of 16th Avenue North to Golden Valley Road in Golden Valley, near Zephyr Place and York resulting in no residual noise impacts. See Table 5.6-7 in the Final EIS for a summary of proposed mitigation measures by location. Also, please see MASTER RESPONSE #17.
48D	Lehman	Karen	None provided	48	Written	4 – Social and Economic Effects	For security reasons, I also request that you not develop a path along the east side of the line. I have already had one attempted break-in from someone using the informal path, and making it easier for people to have this “back door” out of the neighborhood with no eyes on the street would be detrimental to the community. People might think that a lighted path is safe. If no one is looking, it doesn’t matter, and then we just deal with light pollution in a currently blessedly dark place. Wirth Park has good paths. Making sure that there are good sidewalks on Golden Valley Road should be adequate.	No new trails would be developed along the east side of the BNSF right-of-way as a part of the proposed BLRT Extension project. There would be improvements to existing pedestrian and bicycle facilities. Chapter 3 of the Final EIS provides additional detail on bicycle and pedestrian facilities as a part of the proposed BLRT Extension project.
48E	Lehman	Karen	None provided	48	Written	4 – Social and Economic Effects	As I said to Commissioner Higgins and Council Member Clausen after the meeting, what you heard at the meeting was not resistance to change, but expression of loss. Golden Valley will be a different place once the line goes through, and people know that. Many will choose to leave to seek a place that has the qualities that Golden Valley currently possesses, and new people will come in who are more interested in getting to work easily. For those leaving, Golden Valley will be a worse place, and for those arriving, it will look better. My goal is not to leave, to protect as much of Golden Valley’s current natural character as possible. If I can tolerate the change in the environment, I will stay. At this point, tolerable is all I’m aiming for.	The Council has worked with the public and stakeholders to avoid, minimize, and mitigate impacts to the environment since the publication of the Draft EIS. Impacts to floodplains were reduced from the Draft EIS (18,700 cubic yards) to the Final EIS (17,000 cubic yards). Impacts to wetlands increased slightly from 10.2 acres in the Draft EIS to 13.21 acres in the Final EIS. Permanent impacts to park resources were reduced to 2.11 acres. The visual character of the proposed BLRT Extension project corridor as a whole would not be substantially changed. Noise effects from the proposed BLRT Extension project would result in no severe or moderate impacts with mitigation. Vibration impacts for residential land uses would be eliminated with mitigation. For additional information, please review Chapter 12 of the Final EIS.
63A	Davis	Denis F.	None provided	63	Written	7 – Alternatives, Engineering and Design	No lite rail whatsoever, no where. Dissolve the met council. Opposes all LRT.	Please see MASTER RESPONSE #1.
63B	Davis	Denis F.	None provided	63	Written	2 – Fiscal Effects and Schedule	Not cost effective, do any rail systems operate in the red? 90 million per mile for LRT, 10 million to add a lane of road.	Please see MASTER RESPONSE #4.
64A	Davis	Sharon	None provided	64	Written	3 – NEPA Process and Public Involvement	Get rid of Met Council. People should vote on this.	Please see response to Comment 24A. Chapter 9 of the Final EIS provides a summary of public involvement for the Final EIS, including a summary of open houses held during Final EIS preparation. The Council has hosted numerous events for public input in the City of Robbinsdale. Open houses, public hearings, and city council work sessions have all been organized to provide information about the proposed BLRT Extension project and to solicit feedback from community members. The Council also attends community events and presents to local organizations.
64B	Davis	Sharon	None provided	64	Written	2 – Fiscal Effects and Schedule	Project is a waste of money.	Please see MASTER RESPONSE #4.
64C	Davis	Sharon	None provided	64	Written	7 – Alternatives, Engineering and Design	People do not want this. Stop now. Opposes project.	Please see MASTER RESPONSE #1.
65A	Dougherty	Rebecca	None provided	65	Written	7 – Alternatives, Engineering and Design	I support the light rail coming to Brooklyn Park 100%	Please see MASTER RESPONSE #2.
65B	Dougherty	Rebecca	None provided	65	Written	4 – Social and Economic Effects	If any of the issues of access or loss of property [along West Broadway Avenue in Brooklyn Park] can be addressed that would be great. I know they all can’t be satisfied, but any is better than none.	Moving from an undivided configuration that allows full access into and out of every driveway along the West Broadway Avenue (County State-Aid Highway 103) corridor to a divided configuration is expected to increase traffic capacity, improve traffic operations, and lower the rate of incidents (crashes). Multiple studies have documented the capacity, mobility, and safety improvements that can be achieved

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								with this type of roadway design. By directing traffic to designated median openings, the proposed West Broadway Avenue corridor design would allow businesses and other private driveways full access to one direction of travel, with right-in/right-out access. Also, please see MASTER RESPONSE #21.
65C	Dougherty	Rebecca	None provided	65	Written	7 – Alternatives, Engineering and Design	Thank you for the work on this project. We do need light rail to Brooklyn Park.	Please see MASTER RESPONSE #2.
65D	Dougherty	Rebecca	None provided	65	Written	7 – Alternatives, Engineering and Design	Living near the LR not on the LR is a valid comment but people need to consider the extra expense of a tunnel or elevated train.	Please see MASTER RESPONSE #20.
65E	Dougherty	Rebecca	None provided	65	Written	3 – NEPA Process and Public Involvement	Informing the public more on access to college and businesses and how that is positive is so important.	Please see MASTER RESPONSE #6.
66A	Jonas	Brian	None provided	66	Written	7 – Alternatives, Engineering and Design	I am against the proposed LRT route along West Broadway to Brooklyn Park.	Please see MASTER RESPONSE #1.
66B	Jonas	Brian	None provided	66	Written	8 – Transportation System Effects	I live nearby and am greatly concerned about traffic disruptions going both in and out of my property. Turning restrictions along West Broadway would prevent him from being able to turn left onto Maplebrook Parkway to enter Maplebrook Estates and would prevent him from turning left exiting Maplebrook Parkway to go north on West Broadway.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. Moving from an undivided configuration that allows full access into and out of every driveway along the West Broadway Avenue corridor to a divided configuration is expected to increase traffic capacity, improve traffic operations, and lower the rate of incidents (crashes). Multiple studies have documented the capacity, mobility, and safety improvements that can be achieved with this type of roadway design. By directing traffic to designated median openings, the proposed West Broadway Avenue corridor design would allow businesses and other private driveways full access to one direction of travel, with right-in/right-out access. The proposed BLRT Extension project includes a variety of roadway modifications that would avoid new congested intersections, and, with one exception, the proposed BLRT Extension project would not worsen conditions at intersections that would be congested with the No-Build Alternative in 2040. Additional information can be found in Section 3.3 of the Final EIS.
66C	Jonas	Brian	None provided	66	Written	8 – Transportation System Effects	I also work in Brooklyn Park and the construction would impact route to work, possibly sending him miles out of the way.	To mitigate impacts during construction, the Council will develop a Construction Mitigation Plan, a Construction Communication Plan, and a construction staging plan. These tools will help the Council notify people in advance about any access issues or closures. The construction staging plan would also help businesses and patrons affected by LRT construction understand when construction would occur in different areas of the proposed BLRT Extension project corridor. Finally, a 24-hour construction hotline will be available for issue resolution and information about LRT construction. Section 3.4 of the Final EIS (Pedestrians and Bicyclists) summarizes construction-phase mitigation measures. During construction, the Council will require the contractor to comply with appropriate state and local requirements concerning the closing of roadways. The mitigation measures required by the city for roadway access and traffic control also apply.
66D	Jonas	Brian	None provided	66	Written	8 – Transportation System Effects	Turning restrictions along West Broadway would affect my access to Brooklyn Park businesses causing me to take my business to other cities.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. Moving from an undivided configuration that allows full access into and out of every driveway along the West Broadway Avenue corridor to a divided configuration is expected to increase traffic capacity, improve traffic operations, and lower the rate of incidents (crashes). Multiple studies have documented the capacity, mobility, and

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								safety improvements that can be achieved with this type of roadway design. By directing traffic to designated median openings, the proposed West Broadway Avenue corridor design would allow businesses and other private driveways full access to one direction of travel, with right-in/right-out access. The proposed BLRT Extension project includes a variety of roadway modifications that would avoid new congested intersections, and, with one exception, the proposed BLRT Extension project would not worsen conditions at intersections that would be congested with the No-Build Alternative in 2040. Additional information can be found in Section 3.3 of the Final EIS.
66E	Jonas	Brian	None provided	66	Written	4 – Social and Economic Effects	I am also concerned about loss of homes due to LRT and West Broadway construction.	Please see MASTER RESPONSE #21.
66F	Jonas	Brian	None provided	66	Written	6 – Noise and Vibration Effects	I am concerned about increased noise from the LRT, the roadway and the LRT station proposed at 85th Ave which I live by. Please reconsider the current plan and send it to Maple Grove instead of disrupting home owners.	Please see MASTER RESPONSE #17 and #1. Five moderate noise impacts have been identified between Shingle Creek and 85th Avenue North in Brooklyn Park. The moderate impacts at these locations do not meet the decibel threshold to warrant mitigation as defined by the Metro Transit noise mitigation approach.
67A	Olson	Leslie	None provided	67	Written	4 – Social and Economic Effects	Declining house values – up to $20,000 depreciation per Realtor meeting.	Please see MASTER RESPONSE #7.
67B	Olson	Leslie	None provided	67	Written	4 – Social and Economic Effects	Difficulty in selling townhouse during each phase (being in limbo as final decision is being made by county and city/road expansion project construction/LRT construction). Need to disclose county plans for road/LRT. Maplebrook sellers are all looking for the exact same buyer.	Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. All property would be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended and Minnesota Statute (Minn. Stat.) 117. The Council is required to pay fair market value for property. Damages are determined by the appraiser on a parcel by parcel basis and would be included in the appraisal with the offer amount. Hennepin County is developing the West Broadway Avenue widening project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects.
67C	Olson	Leslie	None provided	67	Written	8 – Transportation System Effects	Double lane Road (possible 45-50 mph). More traffic (trucks/semis going to warehouses, rush hour, emergency vehicles), significant increase in noise levels, 45-50 mph roads turn into 55-60 mph with speed of traffic.	Please see MASTER RESPONSE #21.
67D	Olson	Leslie	None provided	67	Written	8 – Transportation System Effects	Need wide biking/walking paths. There will be more foot traffic and less privacy.	Sidewalks are proposed on the east side of West Broadway Avenue from 74th Avenue to the 93rd Avenue park-and-ride station. Review of the LRT station locations with respect to pedestrians and bicyclists can be found in Chapter 3 (Section 3.4) of the Final EIS. Also, new or improved sidewalk crossing would be provided in the final design of West Broadway Avenue. See Hennepin County's Environmental Assessment Worksheet on the widening of West Broadway Avenue.
67E	Olson	Leslie	None provided	67	Written	5 – Environmental Effects	Loss of berm/three evergreens to accommodate paths/roadway meaning less privacy and less appealing (look directly at traffic), increase noise due to loss of barrier, no barrier to stop cars that swerved off road in accidents (direct access to townhouse unit).	Please see response to Comment 66B.
67F	Olson	Leslie	None provided	67	Written	5 – Environmental Effects	Loss of mature trees/bushes/grassy area in association (loss of nature) – more cement/pavement.	Much of the forested area in the project is severely degraded from infestation of European buckthorn. Dense growth of European buckthorn limits regeneration of desirable tree species and with time eliminates any native herbaceous cover. Some of the areas disturbed from construction that lie outside of the trackage would be revegetated with a diverse complement of tree and herbaceous species.
67G	Olson	Leslie	None provided	67	Written	4 – Social and Economic Effects	Closer proximity to utility poles and power lines will be visually unappealing for townhomes.	Section 5.1 of the Final EIS summarizes utilities. In Brooklyn Park, the Xcel transmission towers north of Trunk Highway (TH) 610 would be relocated to the center of the proposed West Broadway Avenue Boulevard, east of the proposed BLRT Extension project corridor. The horizontal and vertical locations of overhead electric and communication lines would be adjusted to provide adequate vertical

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								and horizontal clearance for LRT vehicles and the overhead catenary system. The majority of views in the Brooklyn Park landscape unit would have moderate impacts as a result of the proposed BLRT Extension project. To the extent feasible, project facilities have been sited to avoid locations in proximity to residences, parks, or other sensitive visual receptors. Where avoidance is not feasible, or where greater visual or privacy effects are anticipated to result from the introduction of new physical features of the proposed BLRT Extension project, such as where the elevation of the LRT alignment would be higher than adjacent residences, efforts would be made to screen or soften the view using landscaping or walls where adequate space permits. Landscape treatments would be selected for consistency with applicable local policies, consideration for agency maintenance budgets and staffing, and compatibility with the character of the parks and surrounding neighborhoods.
67H	Olson	Leslie	None provided	67	Written	4 – Social and Economic Effects	Higher association dues likely to occur as a result of loss of acquired townhouses. Lose neighborhood feel to the community and lose townhouses in association/whole look to association (less appealing).	Association dues are affected by a variety of market conditions. Impacts of an LRT project on association dues are difficult to assess conclusively.
67I	Olson	Leslie	None provided	67	Written	4 – Social and Economic Effects	Likely to be higher crime rate due to more foot traffic/road traffic.	Please see MASTER RESPONSE #8.
67J	Olson	Leslie	None provided	67	Written	8 – Transportation System Effects	Restricted access to W. Broadway (lose ability to turn north from N. Maplebrook Circle), limits ease of access to Hwy 610/169.	Hennepin County is developing the West Broadway Avenue widening project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. Moving from an undivided configuration that allows full access into and out of every driveway along the West Broadway Avenue corridor to a divided configuration is expected to increase traffic capacity, improve traffic operations, and lower the rate of incidents (crashes). Multiple studies have documented the capacity, mobility, and safety improvements that can be achieved with this type of roadway design. By directing traffic to designated median openings, the proposed West Broadway Avenue corridor design would allow businesses and other private driveways full access to one direction of travel, with right-in/right-out access.
67K	Olson	Leslie	None provided	67	Written	4 – Social and Economic Effects	Addition of county library increases car/foot traffic/noise.	The proposed BLRT Extension project is not associated with the addition of a new county library; however, the analyses conducted for roadway traffic and station ridership take into account the planned development in the area.
67L	Olson	Leslie	None provided	67	Written	6 – Noise and Vibration Effects	Construction phase – widening of West Broadway (long duration construction). Concerned about vibration.	Hennepin County is developing the West Broadway Avenue widening project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects.
67M	Olson	Leslie	None provided	67	Written	6 – Noise and Vibration Effects	Concerned about noise from LRT which includes station announcements, bell, train.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified and mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS. Table 5.6-7 summarizes the residential noise mitigation measures. There are no severe residential noise impacts anticipated in Brooklyn Park. Therefore, no mitigation measures for this area are proposed.
67N	Olson	Leslie	None provided	67	Written	6 – Noise and Vibration Effects	Concerned about vibration from LRT.	Vibration impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures have been recommended. Vibration is discussed in Chapter 5 (Section 5.7) of the Final EIS. No vibration impacts have been identified in Brooklyn Park.
67O	Olson	Leslie	None provided	67	Written	8 – Transportation	Concerned about frequency of trains.	The Final EIS assumes that trains would operate at 10-minute frequencies for weekday operations. Travel times and operating assumptions for the proposed BLRT

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						System Effects		Extension project are discussed in Section 2.6.2.3 of the Final EIS.
67P	Olson	Leslie	None provided	67	Written	4 – Social and Economic Effects	If I was a new buyer, would I have ever considered a unit with these conditions/negative variables? ABSOLUTELY NOT.	Comment Noted. Please see response to Comment 67L.
68A	Spence	Sharyn	None provided	68	Written	8 – Transportation System Effects	How many transit trains are expected to run along West Broadway and what will the time intervals be?	The Final EIS assumes that trains would operate at 10-minute frequencies for weekday operations. Travel times and operating assumptions for the proposed BLRT Extension Project are discussed in Section 2.5.2.3 of the Final EIS.
68B	Spence	Sharyn	None provided	68	Written	4 – Social and Economic Effects	How many families will lose their homes due to the widening of West Broadway?	Please see MASTER RESPONSE #21.
68C	Spence	Sharyn	None provided	68	Written	6 – Noise and Vibration Effects	How much traffic noise can be expected from the proposed project?	The West Broadway Avenue Reconstruction project would result in significantly lower speeds on the roadway (see the Environmental Assessment Worksheet [EAW] for the Hennepin County West Broadway Avenue Reconstruction project, September 2015). Since highway noise is very dependent on traffic speed (higher speeds mean more noise) there would be lower noise levels after the West Broadway Avenue Reconstruction project is implemented than there are today. Noise impacts for the Proposed BLRT Extension project were prepared consistent with FTA's 2006 Transit Noise and Vibration Impact Assessment methodology (see Section 5.6 of the Final EIS). This methodology is based on existing ambient noise data and the calculated effect of introducing a transit project. Since the proposed BLRT noise assessment was based on existing conditions, which include higher-speed present day traffic on West Broadway Avenue, the cumulative effects of implementing both projects (with future lower speeds on West Broadway Avenue) is predicted to be slightly lower noise than would result from the Proposed BLRT Extension project by itself. The cumulative effects identified would be primarily due to the presence of a crossover near the North Hennepin Community College.
68D	Spence	Sharyn	None provided	68	Written	7 – Alternatives, Engineering and Design	What caused the West Broadway improvement project to increase from 107 feet to 178 feet.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects.
69A	Swanson	Randy	None provided	69	Written	4 – Social and Economic Effects	I own the property that is being impacted at 73rd and Hwy 81. I object and am frustrated by this project taking control over my property for the past two years and for the next several years. I cannot sell or expand or improve this property since it will eventually be taken. This also applies to all homeowners along the corridor. We are frozen in place until this project runs its inevitable mind numbing pace to eventual construction. The confiscation during this period doesn't cost the government entities a dime but will cause us who are affected potential extreme hardships. I had a benefited buyer for my property in November 2014 who was serious enough to bring his architect for plan approval and was told no by the city of BP because it would be eventually acquired for LRT. I am at retirement age and would like to sell – what are my options? None according to Hennepin County until the project reaches property acquisition status in 2-3 years from today.	Section 4.3 of the Final EIS summarizes acquisitions and displacements. Two businesses at Bottineau Boulevard (County Road 81) and 73rd Avenue would be displaced as part of the proposed BLRT Extension project: American Furniture Mart at 7308 Lakeland Avenue North, Brooklyn Park and Modern Dental Studio at 7300 Lakeland Avenue North, Brooklyn Park. All property would be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended and Minn. Stat. 117. The Council is required to pay fair market value for property.
70A	Weiske	Jeanne	None provided	70	Written	6 – Noise and Vibration Effects	The so called "environmental impact statement" totally ignored the impact of the noise and vibration of the LRT on the residents along the proposed corridor. I, and many others, are extremely sensitive to infrasound vibrations. Especially deep bass, or, the rumble of wheels on tracks. This is not, in any way, an enhancement to our area. That vibration is easily carried by the bedrock or sub soil. We are NOT stupid. We do not want to live in an urban area, that's why we are here, not in the cities. This is another case of political confusion. A little honesty, clarity would go a lot farther.	Noise and vibration impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise and vibration are discussed in Chapter 5 of the Final EIS. The impact assessment methodology is discussed in the Noise and Vibration Technical Report, which provides detailed information about what inputs were considered as sources of noise and vibration for the project. These inputs include, but are not limited to, light rail train speeds, operating hours, LRT bells, LRT horns, crossing bells, type of track, crossovers, and elevated structures. Please see also MASTER RESPONSES #17

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								and #18.
71A	Wilson	Mary	None provided	71	Written	4 – Social and Economic Effects	We are concerned about our property value, safety, noise is our main issue. Not wise for us??	Concerning property value: Please see MASTER RESPONSE #7. Concerning safety: Please see MASTER RESPONSE #8. Concerning noise: Please see MASTER RESPONSE #17.
72A	Bellward	Paul	None provided	72	Email	7 – Alternatives, Engineering and Design	I would like to share my excitement at the idea of light rail coming to Brooklyn Park and being part of the Bottineau Transitway. I am originally from Britain where public transport is far more widespread and would love to see the same sort of access to an affordable far reaching transit system here. I see light rail as a big way to keep the Twin Cities moving forward and being part of the solution to of mass transit problem for many years to come. The thought of being able to walk out of my door to a nearby station and being able to ride to downtown Minneapolis, MOA, airport St Paul or other cities is fantastic. This is a much needed addition to Brooklyn Park. I would hate to think of our city losing out and not being connected to the rest of the Twin cities in this way. I do own a property relatively close to the planned rail line, I am sure that I will be able to hear the bells as the train pulls into the closest station but this small disadvantage is far outweighed by the benefits. Please bring light rail to Brooklyn Park!	Please see MASTER RESPONSE #2.
73A		Randy	None provided	73	Email	7 – Alternatives, Engineering and Design	I support these projects being proposed for my neighborhood. As a resident of the west Broadway area, I believe this will enhance our property values and make my neighborhood a more livable place.	Please see MASTER RESPONSE #2.
74A	Milstein	Bernie	None provided	74	US Mail	7 – Alternatives, Engineering and Design	We of Hearthbrook Neighborhood Association, Hidden Lakes Neighborhood Association, Bassett Creek Neighborhood Association, Sweeney Lake Neighborhood Association, are absolutely opposed to this project station at Golden Valley Road, next to the Fire Station, west of St. Margaret Mary Church, South of Theodore worth Parkway and Golden Valley Rd., Golden Valley.	Please see MASTER RESPONSE #1.
74B	Milstein	Bernie	None provided	74	US Mail	5 – Environmental Effects	Golden Valley Road station will cause irreparable harm to the natural environment.	The Golden Valley Road Station is included in the proposed BLRT Extension scope and budget. The station's impacts were evaluated, addressed, resolved, and mitigated in the Final EIS. (See Chapter 5 of the Final EIS.) Please see also MASTER RESPONSE #19.
74C	Milstein	Bernie	None provided	74	US Mail	7 – Alternatives, Engineering and Design	The station should be rerouted to the tracks and central area of Downtown Golden Valley near the City Hall. It would serve the greater population and greater good of Golden Valley by being there.	Please see MASTER RESPONSE #1.
74D	Milstein	Bernie	None provided	74	US Mail	8 – Transportation System Effects	Being at the station on Golden Valley road would create excess noise, traffic, pollution, crime and noise along that road, neighborhoods and corridor. (see also comments 74D through 74G for comment responses)	Concerning traffic: The traffic operations analysis indicates that the Golden Valley Road/Theodore Wirth Parkway intersection would operate at a level of service E in 2040 with either the No-Build Alternative or the proposed BLRT Extension project. See Table 3.3-3 in the Final EIS.
74E	Milstein	Bernie	None provided	74	US Mail	6 – Noise and Vibration Effects	Being at the station on Golden Valley road would create excess noise, traffic, pollution, crime and noise along that road, neighborhoods and corridor. (see comments 74D through 74G for comment responses)	Concerning noise: Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 of the Final EIS. The park-and-ride at Golden Valley Road was included in the noise analysis in the Final EIS. Interior to determine the appropriate mitigation measure testing is proposed at the location from 16th Avenue to Golden Valley Road. A noise barrier is proposed at the location from Golden Valley Road to 26th Avenue North. See Table 5.6-7 in the Final EIS for additional information about proposed mitigation measures for residential properties.

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74F	Milstein	Bernie	None provided	74	US Mail	5 – Environmental Effects	Being at the station on Golden Valley road would create excess noise, traffic, pollution, crime and noise along that road, neighborhoods and corridor. (see comments 74D through 74G for comment responses)	Concerning pollution: Please see MASTER RESPONSE #11.
74G	Milstein	Bernie	None provided	74	US Mail	4 – Social and Economic Effects	Being at the station on Golden Valley road would create excess noise, traffic, pollution, crime and noise along that road, neighborhoods and corridor. (see comments 74D through 74G for comment responses)	Concerning crime: Please see MASTER RESPONSE #8.
74H	Milstein	Bernie	None provided	74	US Mail	4 – Social and Economic Effects	Putting the station and transportation along Golden Valley Rd and Wirth Parkway will detrimentally affect the property values in our neighborhoods, because of noise, pollution, dirt, excess traffic, crime, over amount of traffic on light rail.	Concerning property values: Please see MASTER RESPONSE #7.
74I	Milstein	Bernie	None provided	74	US Mail	4 – Social and Economic Effects	Our properties are sacrosanct, they are our refuge, as are great amount of environmental refuges in the area. And, this light rail that you are trying to roll over our neighborhoods is going to be harmful to our health and mental and physical well being.	Please see MASTER RESPONSE #9.
74J	Milstein	Bernie	None provided	74	US Mail	6 – Noise and Vibration Effects	You have not provided us with actual noise decibel study, a projected dirt and air quality study.	Concerning noise: Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Impacts were identified in the Draft EIS in this area. An additional noise measurement was conducted in this area for the Final EIS and the results of the assessment and mitigation recommendations are included in Chapter 5 (Section 5.6) of the Final EIS. Existing noise levels at the location of 16th Avenue North to Golden Valley Road in Golden Valley, near Kewanee Way are 54 dBA. Noise levels with the proposed BLRT Extension project would be 64 dBA. Interior testing to determine the appropriate mitigation measure is the recommended mitigation for the location of 16th Avenue North to Golden Valley Road in Golden Valley, near Kewanee Way. With mitigation no residual residential noise impacts are anticipated from the proposed BLRT Extension project. See Table 5.6-7 in the Final EIS for a summary of proposed mitigation measures by location. Concerning dirt and dust: Please see MASTER RESPONSE #12. Concerning air quality: Please see MASTER RESPONSE #11.
74K	Milstein	Bernie	None provided	74	US Mail	4 – Social and Economic Effects	You have written flawed and amateurish Health projection affects. So we plead with you to reroute this light rail project to downtown Golden Valley and certainly cease and desist the current plan which will greatly harm our neighborhoods.	Please see MASTER RESPONSE #9.
83A	Bonniwell	Constance	None provided	83	Written	3 – NEPA Process and Public Involvement	I went to the Golden Valley public hearing and was cut off at 3 minutes, so I returned to the Crystal meeting, gave some comments to the transcribers so I wasn't cut off again, but I was, and what were the remarks I could not make to the public at a public meeting?	Please see MASTER RESPONSE #6.
83B	Bonniwell	Constance	None provided	83	Written	3 – NEPA Process and Public Involvement	Met Council and Hennepin County come up with over 15 pounds of scoping, Draft EIS and health reports and we are given three minutes to respond. Many of us attending these meetings want to hear what our fellow citizens have to say about your project, but half the people in Golden Valley and Crystal were cut off. So while you limit how much you have to listen to us, you also limit our opportunity to hear our fellow citizens. You go through the cost and effort of holding these public meetings and the actual public hearing lasts in Golden Valley 40 minutes and Crystal's 20 minutes. I have never been to one that's gone over 47 minutes. Since some people have already experienced being cut off they don't speak and file written comments. These are people who have waded through much of your reports and	Please see MASTER RESPONSE #6.

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							we don't get to hear from them at all. There's a great response about BRT that's getting filed via computer. We have no reason to trust Met Council and Hennepin County with our 100+ acre expanse of woods down the BN Line. Bot No!	
84A	Anderson	Brian	None provided	84	Email	4 – Social and Economic Effects	A large concern I have is for the southern half of the Willard Hay neighborhood. We are already cut off from Theodore Wirth Park, this project has the ability to make connecting even harder. We currently have two ways to get there, cross the six lanes of traffic at Highway 55 to a sidewalk on the Southside or go up to the Plymouth Avenue bridge, but no close or easy access to the trail under the bridge due to the golf course and archery range.	The following pedestrian enhancements in the vicinity of Olson Memorial Highway (TH 55) and Thomas Avenue include: ■ Provision of a protected pedestrian crossing at a new signalized intersection at Olson Memorial Highway and Thomas Avenue ■ Provision of a protected pedestrian crossing at a new signalized intersection at Olson Memorial Highway and Thomas Avenue ■ Accommodation for a cycle track on the north side of the roadway. The cycle track cross-section would consist of a 10-foot boulevard, 10-foot-wide bicycle path, two-foot buffer area, and a six-foot sidewalk ■ Provision of a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge.
84B	Anderson	Brian	None provided	84	Email	8 – Transportation System Effects	I hope the trail connections from the area of Thomas North to Washburn North are being looked at. Along the Northside of Hwy 55 sidewalk/trail connection over the rail road tracks to connect to the walking/bike trails on the west side of the rail road trench would be very appreciated. Also, a flyover walking/bike trail bridge at 8th or Oak Park at Washburn would also help connect the neighborhood to a park that is hard to get to.	Please see response to Comment 84A.
84C	Anderson	Brian	None provided	84	Email	8 – Transportation System Effects	A city issue, I know, but we are also missing sidewalks in my neighborhood. With light rail, I expect walking to become more common and sidewalks will be needed instead of people walking down the middle of the street. Areas of concern are: 900 block of Washburn, 8th street between Washburn and Upton and Oak Park between Xerxes and Vincent. Upton to Thomas Service Road just north of Highway 55.	Please see response to Comment 84A.
85A	Burakowski	Mike	None provided	85	Email	7 – Alternatives, Engineering and Design	My son and I live on Kewanee Way so this project has been a regular topic of discussion with neighbors and friends. We have attended previous meetings at the Wirth chalet and Golden Valley city hall and have read just about every document, email and update that has been provided. When interacting with our council members prior to third, strategically scheduled Golden Valley vote, the message was clear that they were voting to add Golden Valley's support to the EIS. They were also clear that if the project was not in the best interest of the city of Golden Valley, the council members would withdraw their support and suggest an alternative route. The majority of Golden Valley residents in attendance were not in favor of this preferred route, but I believed the word of our representatives and watched the long awaited EIS report. Having reviewed the document, I am not convinced that the alternative route is best for Golden Valley and all prospective users. I am also not at all convinced that Golden Valley or any other represented body will object to this route and demand an alternate. Subsequent emails about station planning also tells me that this is moving forward and that this email is futile.	Please see MASTER RESPONSE #1.
85B	Burakowski	Mike	None provided	85	Email	7 – Alternatives, Engineering and Design	This route appears to be "preferred" due to the least amount of impact on private property and associated costs. While a route down Bottineau Blvd/Broadway would result in more displacement, it would broaden transportation options, provide easier access to North Minneapolis businesses and North Memorial Hospital and support	Please see MASTER RESPONSE #1.

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							growth like that seen along Hiawatha and Green lines.	
85C	Burakowski	Mike	None provided	85	Email	1 – Purpose and Need	I object to the data that suggests more riders and development as a result of the "preferred" route. The BNSF corridor takes the Bottineau line through well-established areas of Robbinsdale, woodlands and wetlands in Golden Valley and the Theodore Wirth Park. I'm at a loss to explain how those areas would support housing and business growth and increased ridership when compared to a route through North Minneapolis.	The Council used its regional travel demand forecasting model to develop the transit ridership forecasts for the proposed BLRT Extension project. BLRT Extension project ridership modeling is discussed in Section 3.1 of the Final EIS. Approximately 27,000 daily riders are forecast for 2040. Section 4.6 of the Final EIS discusses economic effects of the proposed BLRT Extension project. The evaluation of Alignments D1 and D2 considered several environmental and social issues and impact areas. While each alternative has a number of benefits and impacts to the surrounding area and residents, the social and environmental justice impacts associated with the displacement of many homes and disruption of community cohesion with Alignment D2 would be disproportionately adverse. With Alignment D1, the north Minneapolis community would not have proposed BLRT Extension project stations on Penn Avenue; however, Metro Transit has been advancing the planning and design of an enhanced transit service for the Penn Avenue corridor. A network of arterial bus rapid transit (BRT) lines is planned for the Minneapolis–St. Paul area, including the C Line along Penn Avenue. BRT is an enhanced transit service providing 25–30 percent faster trips and an improved experience for transit riders. This new BRT line would provide enhanced transit for this community, as well as opportunities for economic development, without the significantly adverse impacts associated with the proposed BLRT Extension project.
85D	Burakowski	Mike	None provided	85	Email	4 – Social and Economic Effects	I have to admit that I am one of the "trespassers" who regularly crosses the BNSF tracks in front of my house to get to Mary Hills and Sochaki parks. I haven't dwelled on the illegality of our actions, focusing on the ease of access that we have enjoyed for 10+ years from the Kewanee Way. With that being said, our neighborhood has also been the caretakers of the surrounding property that appears to be a "no man's land" for Excel Energy, BNSF, and the City of Golden Valley. Neighbors cut the grass while Excel dispatches the Asplundh tree service periodically to haphazardly provide "preventive" service to the area, ignoring trees and brush in problem areas and laying bare other areas that appear to pose no threat to overhead power lines. Buckthorn and fallen trees area a problem that neither BNSF and Golden Valley will claim. Our care of these areas doesn't trump our "trespassing" over the tracks, but you need to be aware of commitment to these soon-to-be-off-limits areas for our neighborhood.	The informal and unauthorized crossings across BNSF property from Kewanee Way near Sochacki Park and Sochacki Park: Mary Hills Nature Area would be eliminated as a result of the proposed BLRT Extension project. Crossings at Golden Valley Road and Plymouth Avenue would be the primary points of access for pedestrians traveling from Kewanee Way. With freight and LRT operating in the same corridor the proposed BLRT Extension project would include corridor protection treatments for safety precautions. Corridor protection treatments include a ditch, a retained fill option where the LRT tracks would be at a higher grade than freight rail tracks, or a wall. Section 3.2 of the Final EIS provides additional detail about freight rail conditions and safety requirements.
85E	Burakowski	Mike	None provided	85	Email	3 – NEPA Process and Public Involvement	I had a totally different understanding of the EIS and patiently waited for someone to knock on my door to interview me to determine how this project would impact us; I even emailed the Bottineau team to inquire about the lack of contact with our neighborhood. The data provided in the report is simply scientific – noise and vibration levels recorded at the top of our street. The impact to our street and others along the line cannot simply be measured in decibels and important details are missing: the deer in my backyard this morning, sleeping with the windows open and hearing only crickets and our 4:45 cardinal wake up, the visual impact of three lines of tracks and overhead wires in place of trees and shrubs. I do not negate the impact of a rail line down the middle of Penn Ave N to the city residents, but the quality of life on Kewanee Way enjoyed since the mid-60's will change forever. Yet the reports suggests "minimal impact" to me and my neighbors, a gap in reporting that is made worse by the assertion that only five houses at the top of Kewanee Way would be sufficiently affected by noise and vibration to warrant mitigation efforts. Really? Sit with me in my office in St. Paul along the	Concerning public involvement: Please see MASTER RESPONSE #6. Also the Council has hosted numerous events for public input in the City of Golden Valley. Open houses, public hearings, and city council work sessions have all been organized to provide information about the proposed BLRT Extension project and to solicit feedback from community members. The Council also attends community events and presents to local organizations. Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Impacts were identified in the Draft EIS in this area. An additional noise measurement was conducted in this area for the Final EIS and the results of the assessment and mitigation recommendations are included in Chapter 5 (Section 5.6) of the Final EIS. Existing noise levels at the location of Golden Valley Road to 26th Avenue North in Golden Valley, near Kewanee Way are 50 dBA. Noise levels with the proposed BLRT Extension project would be 65 dBA. A noise barrier is the recommended mitigation for the location of Golden Valley Road to 26th Avenue North in Golden Valley, near Kewanee Way. With mitigation one moderate and one severe residual residential

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							Green Line – listen to the trains (about 10 times the distance from my front window at home), listen to the bells and whistles, feel the vibration and then tell me that we won't be impacted by trains 100 feet from my front door.	noise impacts are anticipated from the proposed BLRT Extension project in this area. See Table 5.6-7 in the Final EIS for a summary of proposed mitigation measures by location.
85F	Burakowski	Mike	None provided	85	Email	8 – Transportation System Effects	Speaking solely as a Golden Valley resident, this line does not benefit our city. If the Golden Valley station is chosen in your already-planned-meetings, I see few GV residents having easy access to the line. There will be no parking, so connector bus lines will bring riders to the station. I will have to traverse the woods at the end of the street for access in order to avoid a 1.5 miles walk down Byrd and Zenith. I'm not sure if the Theodore Wirth station would technically be in Minneapolis or Golden Valley, but that option decreases the likelihood of Golden Valley residents using the line. The Bottineau Blvd/Broadway option would not benefit Golden Valley resident access, but I can't help but think that ridership would increase in a more populated area. I am a proponent of light rail and will use the line where ever it ends up, but I don't feel that the preferred route is the best overall plan for the region and strongly encourage that Golden Valley and Met Council move the Bottineau line to the Bottineau/Broadway corridor.	A 100-space park-and-ride would be located at the Golden Valley Road Station as part of the proposed BLRT Extension project. This would provide parking for Golden Valley residents accessing the station.
87A	Duggan	Mary Ann	None provided	87	US Mail	7 – Alternatives, Engineering and Design	I feel that the Light Rail is a good thing but I do not feel that coming up Broadway Avenue is the way to go with it. There will be so many homes and people impacted if this decision is made. The noise and confusion of it all will hurt all of us in the area. Please consider an alternative way to go with the rail. I bought my home in Maplebrook 19 years ago and love it here. If the light rail comes down Broadway Ave., it will change everything to something that does not benefit anyone in the area. I'm 69 years old and my plan is to stay here for a lot of years yet. I want my retirement to be an enjoyable one not one with noise and confusion.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. No moderate or severe noise impacts are anticipated along West Broadway Avenue between 85th Avenue North and 89th Avenue North. Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117. Please see also MASTER RESPONSE #21.
88A	Lambert	Terry	None provided	88	US Mail	7 – Alternatives, Engineering and Design	Where is the study for the 85th to 93rd on West Broadway? Impact on loss of homes – many immigrant families. Noise, loss of home property values. North Minneapolis will not allow it – why is Brooklyn Park considering this? Where is the environmental impact statement for West Broadway expansion project? Very low I know – kill the West Broadway Expansion project – bad deal for all residents on or near west Broadway.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. Please see also MASTER RESPONSE #21.
89A	Weiske	Jeanne	None provided	89	US Mail	4 – Social and Economic Effects	This is an integrated community of retirees, middle class working families, and immigrants looking for the "American Dream". I worked 46 years, bought the home I want to retire in. Now that I'm retired, the wheels of government are rolling across our homes and you offer what? market values? that's about half of the present value and half of what those of us still with a mortgage are paying. I've seen this way too often in a city council, rolls over an established community, drives out the settled residents, all for the "greater good". Whose "greater good"? Yours? The future? WE pay your salaries. We the tax payers, the ones you wish to drive out. For a change, listen to the people.	Since publication of the Draft EIS, modifications to the preliminary design have resulted in the avoidance of several anticipated property acquisitions and resulting displacements with the proposed BLRT Extension project. No residential property displacements are anticipated as a result of the proposed BLRT Extension project. Section 4.3 of the Final EIS summarizes acquisitions and displacements. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117. Section 7.5.1 of the Final EIS provides a detailed analysis of the potentially disproportionately high and adverse impacts of the proposed BLRT Extension project in regards to displacements of environmental justice communities. Avoidance, minimization and mitigation measures were taken to reduce impacts to minority and low-income populations. The proposed BLRT Extension project has the potential to indirectly spur development in the proposed BLRT Extension project corridor particularly around stations. This creates the

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								potential for changes in property values as described above, which can be perceived as either an impact (generally for renters) or a benefit (generally for owners). These potential "pricing-out" impacts (that is, increased rents and decreased affordability for existing residents) can be offset by the decrease in transportation costs. The Health Impact Assessment suggests that cities, communities and developers work together to keep housing options affordable in station areas to ensure that neighborhoods near the transit stations continue to be affordable for low-income households (Myslajek, 2013). Additionally, Hennepin County is proactively considering strategies to minimize impacts on housing values with their station area planning effort, which seeks input from the public, including environmental justice (EJ) populations, to create a framework for any potential development that aligns with the community's goals and preferences. Furthermore, the Metropolitan Council (Council) has established programs to encourage affordable housing planning and implementation that may offset potential indirect impacts to low-income persons. Please see also MASTER RESPONSE #6.
90A	Bellward	Stacy	None provided	90	US Mail	7 – Alternatives, Engineering and Design	Love light rail, love that it is coming to our neighborhood!! The faster it gets here the better!	Please see MASTER RESPONSE #2.
91A	Giles	Patricia	None provided	91	US Mail	8 – Transportation System Effects	West Broadway has been an easy way of catching the buses and connecting with other bus lines and being able to walk to any of the businesses along 85th to Brooklyn Blvd.	The proposed BLRT Extension project is consistent with and supports the Purpose and Need outlined in Chapter 1 of in the Final EIS. The proposed BLRT Extension project would improve the transportation system by providing more travel choices and faster travel times between residential areas, major destinations, and employment centers.
91B	Giles	Patricia	None provided	91	US Mail	5 – Environmental Effects	Why would you want to take away the beauty and the peaceful tranquility from these locations, where people are out taking walks, walking their dogs, meeting and greeting one another along the way.	Chapter 4 (Section 4.5) of the Final EIS describes the process for determining visual impacts to natural areas. The visual impacts of the proposed BLRT Extension project were determined by evaluating the changes to existing visual resources that would occur as a result of project implementation, and assessing the anticipated viewer response to those changes. Visual impact assessment was based on direct field observation from multiple vantage points, including from neighboring properties and roadways; evaluation of existing visual character; and review of proposed BLRT Extension project plans and features. Visual impact assessment was also based on photographic documentation of existing conditions for several key views of the proposed BLRT Extension project corridor. Adverse effects to visual quality would occur in some areas, such as areas where recreational and residential uses are located along or in the vicinity of the proposed BLRT Extension project corridor. At locations where adverse visual effects are anticipated, project elements added to the rail corridor may be visually screened or softened using landscaping where adequate space permits, and the loss of existing vegetation on side slopes for grading or access purposes would be replaced to the extent feasible. Several local plans address aesthetic and visual resources in the proposed BLRT Extension project area, and applicable policies include the establishment of design and landscape guidelines.
91C	Giles	Patricia	None provided	91	US Mail	6 – Noise and Vibration Effects	Have you really stop and pictured it, where the sound and the noise will take place?	Please see MASTER RESPONSE #17.
91D	Giles	Patricia	None provided	91	US Mail	4 – Social and Economic Effects	Have you really considered how this effects peoples homes and their privacy or how things will be for driving, how they get to places that didn't take them as long, now they will get in longer time. If effects everything.	No mitigation measures are warranted for long-term impacts to roads and traffic because the identified avoidance measures would prevent any adverse impacts as a result of roadway modifications. As shown in Table 3.3-2 of the Final EIS, the proposed BLRT Extension project includes a variety of roadway modifications that would avoid new congested intersections, and, with one exception, the proposed BLRT Extension project would not worsen conditions at intersections that would be congested with the No-Build Alternative in 2040. Since publication of the Draft EIS, modifications to the preliminary design have resulted in the avoidance of several anticipated property acquisitions and resulting displacements with the proposed

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								BLRT Extension project. No residential property displacements are anticipated as a result of the proposed BLRT Extension project. Section 4.3 of the Final EIS summarizes acquisitions and displacements. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
92A	Unknown		None provided	92	Email	3 – NEPA Process and Public Involvement	Though I have attended numerous planning and public input meetings, which have shown an overwhelming lack of public support for the "preferred" and proposed, formerly known as D1 route, it is frustrating to observe that these efforts and voices are largely ignored.	Comments from public meetings are recorded and posted on the proposed BLRT Extension project website (BlueLineExt.org) within 1 week of the meeting taking place. Comments are also brought forward by project staff for consideration at meetings regarding relevant issues. Chapter 9 of the Final EIS provides a summary of public involvement for the Final EIS, including a summary of open houses held during Final EIS preparation. Please see also MASTER RESPONSE #6.
92B	Unknown		None provided	92	Email	3 – NEPA Process and Public Involvement	The EIS, Environmental Impact Study, while enormously expensive, is disappointing in that while it provides pages of data and mitigation proposals, it misses the point entirely.	The Draft EIS discusses numerous alternatives that were analyzed as a part of the environmental review process. Key issues or changes to the locally preferred alternative (LPA) occurring since publication of the AA were identified and analyzed in the Draft EIS and are summarized Chapter 2 of the Final EIS. The process included a public comment period which provided the public a forum to raise concerns with respect to environmental issues.
92C	Unknown		None provided	92	Email	5 – Environmental Effects	Yesterday, I took a walk in the Mary Hill and Sochacki parks near my home. I stopped and closed my eyes and listened. By sound alone, I could identify chickadees, cardinals, a red winged black bird, baby hawks, sparrows, frogs, ducks, and geese and the lovely sound of moving water. Lest I get labeled just another tree hugger, I would point out that the city planning greats of yesteryear, like Francis Gross, Charles M. Loring, Eloise Butler, and Theodore Wirth, showed great foresight in preserving these wetlands and green spaces and some form of park access to every neighborhood throughout the city. They understood well, just as anyone who has travelled to NYC, and stepped into Central Park, the value of a quiet green space open to the public for refreshment and respite from the frenetic pace and noise of the city. It is a shame that after all these years, and the will to preserve these valuable places for the well being and health of all, that we would at this juncture make such a huge mistake as to ruin the aesthetic of not one, but three beautiful parks every seven minutes. These parks are Theodore Wirth, Mary Hill and Walter Sochacki Parks. Once you ruin the peaceful, tranquil aesthetic of these parks, there is no turning back. This would be a travesty: especially in regard to Theodore Wirth Park, a treasure to the Twin Cities of inestimable value.	Please see MASTER RESPONSES #14 and #15.
92D	Unknown		None provided	92	Email	4 – Social and Economic Effects	If the LRT is for commuters, it should be accessible to the commuters, promote not only jobs during construction, but also neighborhood revitalization and long term business opportunities. All three of the other previously proposed routes achieve these goals to a far greater degree than the so called "preferred route". Preferred by who? BNSF? Perhaps it can be instructive to look at the recent LRT projects. What was the reasoning of running Green Line down University Avenue? And how has this enhanced the revitalization of business along that route? Why is the Southwest route so heavily opposed and mired in legal battles?	The proposed BLRT Extension project is expected to have positive effects on the commercial and residential areas along the proposed BLRT Extension project corridor. It is anticipated that the proposed BLRT Extension project would contribute economic benefits by encouraging and supporting higher-density residential and commercial land uses around transit stations, including those in environmental justice neighborhoods consistent with local planning efforts. Increased mobility to both residents and business patrons within the proposed BLRT Extension project corridor is expected to support existing businesses and allow for their future growth. Hennepin County is leading the Station Area Planning effort, which seeks input from the public, including EJ populations, to create a framework for any potential development that aligns with the community's goals and preferences. Please see also MASTER RESPONSE #1.

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93A	Lawrence	Tyree	None provided	93	Email	4 – Social and Economic Effects	The City of Brooklyn Park has a mission statement "…*a Thriving Community, Inspire Pride, Where Opportunities Exist for ALL*." Our community and City Council stood by this statement and went on to declare that no projects would be considered unless they were in direct alignment with our mission, vision, and purpose. In order to remain consistent with building a thriving community, this project has to invest its resources where opportunities exist for us ALL. These opportunities MUST be transparent, authentic, and very tangible. Here are some suggestions: (see next four comment/answers (93B-93E) for the three suggestions and comment responses). These are some initial suggestions to get things moving in the right direction. These suggestions will drastically improve the quality of life in our community and counteract the negatives associated with LRT projects in general. I will be happy to personally get involved and lend any type of direction as needed from the perspective of a community stakeholder. Thank you for considering my comments and suggestions.	Local and regional policies were reviewed to determine their compatibility with the proposed BLRT Extension project. The Brooklyn Park 2030 Comprehensive Plan was reviewed to evaluate the land use compatibility of the proposed BLRT Extension project with the City of Brooklyn Park. See Chapter 4 (Section 4.1.4) of the Final EIS. Additionally, the multi-step process to formally recommend and select the locally preferred alternative (LPA) for the proposed BLRT Extension project began following technical analysis and Scoping decisions. At the June 26, 2012, meeting of the Hennepin County Regional Railroad Authority (HCRRA), following public hearings and recommendation, and passage of resolutions of support from the cities of Minneapolis, Robbinsdale, Crystal, and Brooklyn Park, HCRRA selected Alternative B-C-D1 as the LPA. See Chapter 2 (Section 2.5) of the Final EIS.
93B	Lawrence	Tyree	None provided	93	Email	4 – Social and Economic Effects	1. Invest in the economic development initiated by the community for the community. A business hub that will cultivate aspiring entrepreneurs who desire to start a business. Fund the land and development space where people come together and feel a sense of pride, where currently, there is a void as the majority flock to other cities to satisfy the lack. Invest in support of small businesses by identifying the struggles of their current environment fueling an opportunity for REAL success vs standardized programs that only large companies qualify for.	The Hennepin County Community Works department has engaged the corridor cities and their communities in a station area planning effort. This effort includes a series of goals, two of which are: ■ Maximize and strategically align public and private investments in the proposed BLRT Extension project corridor to support transit oriented development through catalytic investments in life-cycle housing, commercial development, and public infrastructure. ■ Promote economic opportunity by improving access to jobs and supporting business recruitment and expansion along the proposed BLRT Extension project corridor. See www.hennepin.us/residents/transportation/bottineau-community-works for more information.
93C	Lawrence	Tyree	None provided	93	Email	4 – Social and Economic Effects	2. Invest in LOCAL talent, goods, and services that will provide sustenance and capacity growth organically vs. OUTSOURCING and/or MAINSTREAMING to the "highly favored" benefactors.	The Council has an established Disadvantaged Businesses Enterprises (DBE) program and includes specific goals in project contracts to increase participation by minority and women owned businesses. The Office of Equal Opportunity has an equal opportunity (EO) consultant designated to the proposed BLRT Extension project to conduct outreach and monitor progress towards meeting those goals. In addition to the DBE goal, the construction contracts would have a workforce goal for both minority and women workers. An additional EO consultant would be assigned to support these efforts when it gets closer to construction. To assist in achieving the DBE and workforce goals, the Council's EO and Project Office outreach and communication staff would hold workshops and networking mixers and attend events to inform people of employment and contracting opportunities. Other communication strategies would be used including social media, the BlueLineExt.org website, newsletters and articles.
93D	Lawrence	Tyree	None provided	93	Email	4 – Social and Economic Effects	3. Invest in our YOUTH projects. Contribute to the development of a pool or slash pad, so our families can bond with their children. Focus on youth related transit issues to they remain connected to opportunities, program, jobs, and internships.	Youth projects have not been identified as mitigation for effects from the proposed BLRT Extension project. Youth have been engaged at fairs and other outreach activities, such as North Hennepin Community College and Zanewood Recreation Center in Brooklyn Park. Continued outreach and coordination during engineering and construction would target youth and adults and organizations such as schools, churches, and non-profits.
93E	Lawrence	Tyree	None provided	93	Email	3 – NEPA Process and Public Involvement	4. Invest in grass-roots efforts and genuine engagement of community members… Upgrade communications so people feel connected to the projects vs rejection on both sides. Support our leaders as an extension to the hard to reach demographics.	Chapter 9 of the Final EIS provides a summary of public involvement for the Final EIS, including a summary of open houses held during Final EIS preparation. The Council has hosted numerous events for public input in the City of Robbinsdale. Open houses, public hearings, and city council work sessions have all been organized to provide information about the proposed BLRT Extension project and to solicit

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								feedback from community members. The Council also attends community events and presents to local organizations.
94A	Bladine	Debbie	None provided	94	US Mail	7 – Alternatives, Engineering and Design	I am opposed to the Bottineau Line it its current form.	Please see MASTER RESPONSE #1.
94B	Bladine	Debbie	None provided	94	US Mail	6 – Noise and Vibration Effects	Noise issues.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS.
94C	Bladine	Debbie	None provided	94	US Mail	4 – Social and Economic Effects	Loss of private homes	Chapter 4 (Section 4.3) of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
94D	Bladine	Debbie	None provided	94	US Mail	4 – Social and Economic Effects	Crime concerns	Please see MASTER RESPONSE #8.
94E	Bladine	Debbie	None provided	94	US Mail	7 – Alternatives, Engineering and Design	Alternate routes were not given sufficient consideration.	The Draft EIS discusses numerous alternatives that were analyzed as a part of the environmental review process. Key issues or changes to the LPA occurring since publication of the AA were identified and analyzed in the Draft EIS and are summarized Chapter 2 of the Final EIS. The process included a public comment period which provided the public a forum to raise concerns with respect to environmental issues. Please see also MASTER RESPONSE #1.
94F	Bladine	Debbie	None provided	94	US Mail	7 – Alternatives, Engineering and Design	Want to see ridership surveys done.	The Draft and Final EIS process examined ridership potential for numerous alignment options detailed in Chapter 3 of both documents. The Draft EIS disclosed similar ridership forecasts among the build alternatives ranging from 26,000 to 27,600 daily boardings. See Table 3.1-5 in Chapter 3 of the Draft EIS for more information on ridership between alternatives considered. The proposed BLRT Extension project in the Final EIS includes an alignment that meets the purpose and need most efficiently and minimizes project impacts. The proposed BLRT Extension project anticipates approximately 27,000 daily boardings. See Chapter 3 (Section 3.1) of the Final EIS for more information on ridership.
94G	Bladine	Debbie	None provided	94	US Mail	3 – NEPA Process and Public Involvement	Believes route chosen to appease Target – they have not been a good community steward.	Although the proposed BLRT Extension project terminates in Brooklyn Park in the vicinity of the Target campus, the purpose and need for the project does not include subsidizing Target. The proposed BLRT Extension project meets the intended purpose and need for the project, to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans. Chapter 1 of the Final EIS also describes the purpose and need for the project.
95A	Lokken	Barbara	None provided	95	US Mail	4 – Social and Economic Effects	I am a very concerned resident of Brooklyn Park over the plan for light rail to go down West Broadway. Why would you even put it so close to houses and disrupt entire neighborhoods when you could run down 81 and cut over towards the school and target? This is not in the best interest of home owners nor the quality of life for those whose homes will be very close.	The Council seeks to develop the proposed BLRT Extension project while avoiding disruptions to neighborhoods as much as possible. The Council strives to avoid and minimize impacts to environmentally sensitive areas. However, for those impacts that are unavoidable, the Council has developed mitigation measures that comply with appropriate local, state, and federal regulations. Where displacements cannot be avoided, mitigation measures required by the Federal Uniform Relocation Act, as well as any other state (Minn. Stat. 117) and local policies would be followed. Chapter 4 of the Final EIS summarizes the community and social analysis, which includes Community Facilities/Community Character and Cohesion (4.2), and Acquisitions and Displacements (4.3). Please see also MASTER RESPONSE #1.

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95B	Lokken	Barbara	None provided	95	US Mail	4 – Social and Economic Effects	I'm also concerned about crime, the kinds of people that will have easy access to our neighborhoods, the noise, impact, property value loss, and the disregard for the opinions and voice of the people. (see comments 95D through 95G for responses to access, noise, property loss and public opinion).	Please see MASTER RESPONSE #8.
95C	Lokken	Barbara	None provided	95	US Mail	6 – Noise and Vibration Effects	I'm also concerned about crime, the kinds of people that will have easy access to our neighborhoods, the noise, impact, property value loss, and the disregard for the opinions and voice of the people. (see comments 95D through 95G for responses to access, noise, property loss and public opinion).	Concerning noise: Please see MASTER RESPONSE #17.
95D	Lokken	Barbara	None provided	95	US Mail	4 – Social and Economic Effects	I'm also concerned about crime, the kinds of people that will have easy access to our neighborhoods, the noise, impact, property value loss, and the disregard for the opinions and voice of the people. (see comments 95D through 95G for responses to access, noise, property loss and public opinion).	Concerning property values: Please see MASTER RESPONSE #7.
95E	Lokken	Barbara	None provided	95	US Mail	4 – Social and Economic Effects	I'm also concerned about crime, the kinds of people that will have easy access to our neighborhoods, the noise, impact, property value loss, and the disregard for the opinions and voice of the people. (see comments 95D through 95G for responses to access, noise, property loss and public opinion).	Concerning public input: Please see MASTER RESPONSE #6. Also the Council has hosted numerous events for public input in the City of Brooklyn Park. Open houses, public hearings, and city council work sessions have all been organized to provide information about the proposed BLRT Extension project and to solicit feedback from community members. The Council also attends community events and presents to local organizations.
95F	Lokken	Barbara	None provided	95	US Mail	4 – Social and Economic Effects	It appears this decision is based solely on business interests. Unless the path is resolved, I will be putting my home up for sale. Brooklyn Park already has terrible reputation for crime. As people put their homes up for sale and homes depreciate, it will continue to flood people into the area that can afford low cost housing. For the life of me, I cannot understand why you would sacrifice the rights of an entire community. Let the people vote. Reconsider this plan. Take a step back and reconsider. If this were your home on the line, you would never, ever approve this plan.	The purpose of the proposed BLRT Extension project is to provide transit service which would satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public. The proposed BLRT Extension project has the potential to indirectly spur development in the proposed BLRT Extension project corridor particularly around stations. This creates the potential for changes in property values as described above, which can be perceived as either an impact (generally for renters) or a benefit (generally for owners). These potential "pricing-out" impacts (that is, increased rents and decreased affordability for existing residents) can be offset by the decrease in transportation costs. The Health Impact Assessment suggests that cities, communities and developers work together to keep housing options affordable in station areas to ensure that neighborhoods near the transit stations continue to be affordable for low-income households (Myslajek, 2013). Additionally, Hennepin County is proactively considering strategies to minimize impacts on housing values with their Station Area Planning effort, which seeks input from the public, including EJ populations, to create a framework for any potential development that aligns with the community's goals and preferences. Furthermore, the Council has established programs to encourage affordable housing planning and implementation that may offset potential indirect impacts to low-income persons. Please see also MASTER RESPONSE #7 and #8.
96A	Olson	Randy	None provided	96	US Mail	4 – Social and Economic Effects	I need to be able to vote on this issue. I didn't get to vote on the twins or Vikings stadiums for which I will never enter either one, but I 'm paying for both of them. I won't be using the LRT line as well. Further more it sounds like I just might be losing my home due to the misplacement of the line going down the middle of West Broadway in Brooklyn Park. This is not the place for this line, it's too congested as it is. I believe in the LRT for the future, but not here. Running down 81, no homes need to be torn down. Please don't ramrod this thing at us.	Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project is not anticipated to displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117. Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. Please see also MASTER RESPONSE #1.
97A	Sanoski	Lori	None provided	97	US Mail	1 – Purpose and	Where do I start this conversation? When will the government at all	Concerning widening of West Broadway: Hennepin County is developing the West

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						Need	levels start to do the right thing for people? When will the government stop wasting tax payer money and time? When will the government be accountable for their actions? When will the government actually work for the people of this country rather than big corporations? When will the government use common sense? When will the government stop lying to the people? When will the government stop taking bribes from rich people? When will the government do what is right for the majority of the people? Because status quo is to do what everyone else does rather than stepping up and doing the right thing it can be hard to do and is scary too. For those of us who lived here all our lives and had grandparents and great grandparents and great grandparents that also lived here we are the least listened too and least benefited from this government. When our government starts to do the right thing(s), make ethical and moral choices America again will be a great place to live. We are settling for behaviors and actions less than stellar of our government. With that being said, stop the widening of West Broadway as it is a neighborhood that should not be disturbed nor do we need a train disrupting our quiet safe neighborhood with noise, congestion, accidents, crime, vandalism, tax increases, and association dues increases. At the town hall meeting people shared so many reasons including that this train should go down Co Rd. 81 where there is already a track, and the city government flip flops its rules to fit the needs of the government or big corporations. Let's be honest here, if the board members who want this road widening and train going through owned and lived where I do, they would be fighting tooth and nail to stop this entire process from being approved. I would be willing to trade ownership of my home for the ownership of any board member that wants this road and train process to pass and see how they like it.	Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. Please see also MASTER RESPONSE #21. Concerning safety, crime, and vandalism: Please see MASTER RESPONSE #8. Concerning noise: Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. No moderate or severe noise impacts are anticipated along West Broadway Avenue between 85th Avenue North and 89th Avenue North. Please see also MASTER RESPONSE #17. Concerning congestion and accidents: Moving from an undivided configuration that allows full access into and out of every driveway along the West Broadway Avenue corridor to a divided configuration is expected to increase traffic capacity, improve traffic operations, and lower the rate of incidents (crashes). Multiple studies have documented the capacity, mobility, and safety improvements that can be achieved with this type of roadway design. By directing traffic to designated median openings, the proposed West Broadway Avenue corridor design would allow businesses and other private driveways full access to one direction of travel, with right-in/right-out access. Concerning tax increases and association dues increases: Association dues and tax increases are affected by a variety of market conditions. Impacts of an LRT project on association dues and taxes are difficult to assess conclusively.
98A	Schiestl	Lee	None provided	98	US Mail	7 – Alternatives, Engineering and Design	Location 30 feet from the track – no to Bottineau Transitway because of noise, property values, flood plain destruction, neighbor congestion. Would require buy out at reasonable terms.	Concerning noise: Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. No moderate or severe noise impacts are anticipated along West Broadway Avenue between 85th Avenue North and 89th Avenue North. Please see also MASTER RESPONSE #17. Concerning property values: Please see MASTER RESPONSE #7. Concerning floodplain destruction: no floodplain destruction is anticipated in this section of the proposed BLRT Extension project. Concerning congestion: Moving from an undivided configuration that allows full access into and out of every driveway along the West Broadway Avenue corridor to a divided configuration is expected to increase traffic capacity, improve traffic operations, and lower the rate of incidents (crashes). Multiple studies have documented the capacity, mobility, and safety improvements that can be achieved with this type of roadway design. By directing traffic to designated median openings, the proposed West Broadway Avenue corridor design would allow businesses and other private driveways full access to one direction of travel, with right-in/right-out access. Concerning "buy out at reasonable terms": Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. All property would be acquired in accordance with the Uniform Relocation Assistance and Minn. Stat. 117. The Council would pay fair market value for the property.

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99A	Simmons	Susan	None provided	99	US Mail	7 – Alternatives, Engineering and Design	No one wants to take the long way around to 610.	Appropriate access to West Broadway Avenue will be maintained, and the reconstructed roadway will adequately handle projected traffic flows. West Broadway Avenue will remain a viable route to access TH 610.
99B	Simmons	Susan	None provided	99	US Mail	6 – Noise and Vibration Effects	Doesn't need to hear the bells and announcements all day long.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 of the Final EIS. Quiet Zones would be implemented at Federal Railroad Administration shared at-grade crossings. A Quiet Zone is an FRA-approved section of a freight rail line where freight trains do not sound horns. Public roadway crossings of a Quiet Zone must have certain safety measures in place, which include gates, warning devices, and in some cases other supplemental safety measures, such as concrete medians. The implementation of a Quiet Zone reduces residential land use impacts to 176 moderate noise impacts and 120 severe noise impacts. Additional mitigation measures such as noise barriers, wayside devices, and interior testing to determine the appropriate mitigation measure to further reduce the residential land use noise impacts to 5 moderate noise impacts and 2 severe noise impacts. See Table 5.6-7 in the Final EIS for a summary of proposed mitigation measures by location.
99C	Simmons	Susan	None provided	99	US Mail	4 – Social and Economic Effects	Safety of kids in the area.	Please see MASTER RESPONSES #8.
99D	Simmons	Susan	None provided	99	US Mail	4 – Social and Economic Effects	Emergency crews getting in and out of complex.	Chapter 4 (Section 4.7) of the Final EIS addresses safety and security. In locations where there would be at-grade light rail crossings of roadways, the potential exists for increases in emergency response time as a result of delay to emergency vehicles while LRVs are in the crossing. During the peak weekday hour, up to 12 light rail trains (six in each direction) would pass through these at-grade crossings, causing approximately 50 seconds of delay per light rail train crossing. These delays could increase fire, emergency medical services, and police response times on routes using the crossings. To help avoid or minimize delays, the Council would coordinate with emergency services providers by providing them with the light rail operating schedule and identification of alternative crossing routes. Additional coordination would occur through the Fire Life Safety and Security Committee (FLSSC), as described in the proposed BLRT Extension project's *Safety and Security Management Plan* (*SSMP*) (Council, 2014).
100A	Toftum	D.J.	None provided	100	US Mail	7 – Alternatives, Engineering and Design	My take on this new rail line is that the proposed line is just not needed. I am in full support of the light rail expanding into the north metro and Brooklyn Park in general. Running along County Rd 81 (Bottineau) makes perfect sense to me. Plenty of room, existing rail tracks and even a new parking ramp at 63rd avenue makes this the ideal spot for it.	Please see MASTER RESPONSE #1.
100B	Toftum	D.J.	None provided	100	US Mail	4 – Social and Economic Effects	The proposed line to me would destroy a neighborhood by widening West Broadway, and construction/congestion nightmares, and be a general eye sore and increase noise pollution for the whole area. Living in Brooklyn Park for over 17 years, I want a good, solid public transportation for the entire community. This plan seems to ignore public interest while serving only corporate (Target) best interest. Please do not allow this plan to continue.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. No moderate or severe noise impacts are anticipated along West Broadway Avenue between 85th Avenue North and 89th Avenue North. See Table 5.6-7 in the Final EIS for a summary of proposed mitigation measures by location.
101A	Kester	Troy	None provided	101	US Mail	4 – Social and Economic Effects	Routing LRT through the trees in Golden Valley, effectively bypassing North Minneapolis will perpetuate systematic obstacles to investment	The evaluation of Alignments D1 (part of the proposed BLRT Extension project) and D2 (located along Penn Avenue in north Minneapolis) considered several

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							in our community. Investment in housing and infrastructure will follow the LRT line. This form of institutional racism that should not be perpetuated in 2014.	environmental and social issues and impact areas. While each alternative has a number of benefits and impacts the surrounding area and residents, the social and environmental justice impacts associated with the displacement of many homes and disruption of community cohesion with Alignment D2 would be disproportionately adverse. With Alignment D1, the north Minneapolis community would not have the proposed BLRT Extension project stations on Penn Avenue; however, Metro Transit has been advancing the planning and design of an enhanced transit service for the Penn Avenue corridor to serve the transit-dependent populations. A network of arterial BRT lines is planned for the Minneapolis–St. Paul area, including the C Line along Penn Avenue. BRT is an enhanced transit service providing 25–30 percent faster trips and an improved experience for transit riders. This new BRT line would provide enhanced transit for this community, as well as opportunities for economic development, without the significantly adverse impacts associated with the proposed BLRT Extension project. The Council acknowledges your concern about public input into the planning process for the proposed BLRT Extension Project. Also please see MASTER RESPONSES #6.
102A	Wilson	Jane	None provided	102	US Mail	7 – Alternatives, Engineering and Design	As a 37-year resident of Brooklyn Park and as a dean at North Hennepin Community College, I am in full support of the Bottineau light rail line. I'm excited by the prospect of using it as my transportation option to the airport, the train depot, events in downtown Minneapolis or St. Paul, or even to go to Robbinsdale.	Please see MASTER RESPONSE #2.
102B	Wilson	Jane	None provided	102	US Mail	7 – Alternatives, Engineering and Design	Our students will benefit greatly from the transit line; it has the potential to make North Hennepin a premier destination for Metro area students, a potential that brings revenue and growth not just to the college, but to the greater Brooklyn Park community.	Please see MASTER RESPONSE #2.
103A	Fischer	Dolores	None provided	103	US Mail	8 – Transportation System Effects	Do not like proposed Bottineau Transitway project because it would not allow left turns on to Broadway.	Moving from an undivided configuration that allows full access into and out of every driveway along the West Broadway Avenue corridor to a divided configuration is expected to increase traffic capacity, improve traffic operations, and lower the rate of incidents (crashes). Multiple studies have documented the capacity, mobility, and safety improvements that can be achieved with this type of roadway design. By directing traffic to designated median openings, the proposed West Broadway Avenue corridor design would allow businesses and other private driveways full access to one direction of travel, with right-in/right-out access.
103B	Fischer	Dolores	None provided	103	US Mail	4 – Social and Economic Effects	It would also cause considerable land and building loss.	Chapter 4 (Section 4.3) of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. A total of 46.66 acres of permanent acquisition is anticipated for the proposed BLRT Extension project. Ten commercial displacements are anticipated. Loss of private property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
103C	Fischer	Dolores	None provided	103	US Mail	7 – Alternatives, Engineering and Design	If other options are available, pursue that alternative.	Please see MASTER RESPONSE #1.
107A	Peters	Pamela	None provided	107	US Mail	7 – Alternatives, Engineering and Design	I am in favor of improving transportation for our state, city and most important Harrison neighborhood. I have seen mass transit lessen for people that use it in our neighborhood.	Please see MASTER RESPONSE #2.
107B	Peters	Pamela	None provided	107	US Mail	7 – Alternatives, Engineering and Design	The Wirth Coop definitely needs a stop in Girard and Van White.	The Van White Boulevard Station is sited immediately east of Van White Boulevard, one block north of the terminus of Girard Terrace, aligned in the middle of Olson Memorial Highway. Access to the Van White Boulevard Station is from Van White Boulevard or Bryant Avenue. Chapter 2 of the Final EIS details the proposed BLRT Extension project including the location of all stations.
107C	Peters	Pamela	None provided	107	US Mail	4 – Social and	The Wirth Coop needs a spot on the advisory board.	The Council worked with each city along the community, including the city of

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						Economic Effects		Minneapolis, to identify business representatives for the proposed BLRT Extension project Business Advisory Committee.
107D	Peters	Pamela	None provided	107	US Mail	4 – Social and Economic Effects	I am also concerned about continuing to have affordable housing in my neighborhood.	Hennepin County is advancing Station Area Plans at each proposed BLRT Extension project stations, which include housing considerations, based on the communities' concerns for equity and affordability. Chapter 7 – Environmental Justice of the Final EIS discusses indirect economic, which includes effects on property values, and Station Area Planning. The Council has an active affordable housing program to help cities maintain a viable proportion of affordable housing in Metro Area cities.
110A	Dube	Diane Marie	None provided	110	US Mail	7 – Alternatives, Engineering and Design	These comments are made to address the impact of construction on small businesses located in Robbinsdale and near the construction zone. Of particular concern are the business nodes in the Robbinsdale (42nd Avenue) station area, the Bass Lake Road station area, and the Brooklyn Boulevard Station Area. These comments relate to the following section of the DEIS: Section 4.6.4.2, Table 4.6-5, Section 4.6.5,	Chapter 7 of the Final EIS includes additional discussion and analysis of the benefits of the proposed BLRT Extension project to the environmental justice communities, in addition to the evaluation of potential impacts. Ten business operations would be displaced as a part of the proposed BLRT Extension project. These businesses would be relocated in accordance with the Uniform Relocation Act and Minn. Stat. 117, and compensated by payment of fair market value for their property. Five of these business operations are considered EJ businesses, either serving EJ populations or are owned by minority or low income people. The Council would also provide information to the communities where businesses would be displaced about the businesses' new locations and/or other options to meet their needs. In addition, the Council has been engaged in an extensive outreach effort with various stakeholders along the proposed BLRT Extension project corridor, including local business operators that may be impacted by the project to receive insight into daily operations and develop strategies to minimize impacts. To mitigate impacts on businesses during construction, the Council would develop a Construction Mitigation Plan, a Construction Communication Plan, and a construction staging plan. These tools would help the Council notify businesses and patrons in advance about any access issues or closures. The construction staging plan would also help businesses and patrons affected by LRT construction understand when construction would occur in different areas of the proposed BLRT Extension project corridor. Finally, a 24-hour construction hotline would be available for issue resolution and information about LRT construction. Section 3.4 of the Final EIS (Pedestrians and Bicyclists) summarizes construction-phase mitigation measures.
110B	Dube	Diane Marie	None provided	110	US Mail	7 – Alternatives, Engineering and Design	The Minnesota Department of Transportation has identified seven impacts to be examined in determine the impact of construction on businesses: pedestrian access, traffic and vehicle access, temporary loss of parking, utility shut off, noise and vibrations, increase dirt and dust, and visual impacts (Minn DOT, Report on Mitigation of Transportation Construction Impacts, prepared for the Legislature of the State of Minnesota, prepared by CH2MHill (February 2009)	Chapter 7 of the Final EIS includes additional discussion and analysis of the benefits of the proposed BLRT Extension project to the environmental justice communities, in addition to the evaluation of potential impacts. Ten business operations would be displaced as a part of the project. These businesses will be relocated in accordance with the Uniform Relocation Act and Minn. Stat. 117, and compensated by payment of fair market value for their property. Five of these business operations are considered EJ businesses, either serving EJ populations or are owned by minority or low income people. The Council will also provide information to the communities where businesses would be displaced about the businesses' new locations and/or other options to meet their needs. In addition, the Council has been engaged in an extensive outreach effort with various stakeholders along the proposed BLRT Extension project corridor, including local business operators that may be impacted by the project to receive insight into daily operations and develop strategies to minimize impacts. To mitigate impacts on businesses during construction, the Council will develop a Construction Mitigation Plan, a Construction Communication Plan, and a construction staging plan. These tools would help the Council notify businesses and patrons in advance about any access issues or closures. The construction staging plan would also help businesses and patrons affected by LRT construction understand when construction would occur in different areas of the proposed BLRT Extension project corridor. Finally, a 24-hour construction hotline will be available for issue resolution and information about LRT construction. Section 3.4 of the Final EIS (Pedestrians and Bicyclists) summarizes construction-phase mitigation measures. The Council will be key in notifying businesses and residents of

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								construction plans, road closures and bus re-routes as well as being a point of contact for construction related emergencies such as power outages. The outreach program provides many avenues for people to submit comments and concerns, which are forwarded to the planners and engineers.
110C	Dube	Diane Marie	None provided	110	US Mail	7 – Alternatives, Engineering and Design	Variations of intensity of these impacts – particularly noise, vibrations, dirt, dust and visual impacts – may occur due to such things as multiple types of machinery; pile driving and pavement breaking; jackhammers and hoe rams; heavy tracked equipment such as bulldozers and backhoes; increased emissions due to construction operations or traffic back-ups; and smells from sewer grates or gas leaks. Temporary fencing, equipment placement and materials storage may obstruct views, leading customers to erroneously assume a business is not open. Debris and rubble may be unsightly, pose access problems or cause injuries to customers and employees. Traffic and pedestrian access may be disrupted or even prohibited during the construction phase. The temporary removal of pedestrian lighting, sidewalks, parking and roadbeds, restrictions to turning patterns, closure of cross streets and unregulated intersections will impact accessibility.	Project construction would result in temporary partial or full closures of existing streets as well as material and equipment deliveries, worker arrivals and departures, and hauling of excavation and borrow materials. Mitigation measures for short-term (construction) impacts to roads and traffic will be implemented by the Council prior to and during construction through the Construction Mitigation Plan, which includes a Construction Communication Plan and a construction staging plan. The Minnesota Department of Transportation (MnDOT), Hennepin County, and all municipalities affected by construction activities related to the proposed BLRT Extension project will be require to comply with applicable state and local regulations related to the closing of roads and the effects of construction activities. Contractors will be required to comply with all guidelines established in the *Minnesota Manual on Uniform Traffic Control Devices* (2015). Construction staging and mitigation documents will be reviewed by appropriate jurisdictions, and required permits would be secured by construction contractors. Traffic-control plans will be developed by the contractor based on information identified in the construction documents and the Construction Mitigation Plan. Traffic-control plans will be reviewed by appropriate jurisdictions and the Council before construction activities begin. For the proposed BLRT Extension project, the Council anticipates that temporary closures or detours would affect existing bicycle and pedestrian facilities. Construction traffic and debris such as excess dirt and gravel can also pose obstacles or issues for pedestrians and bicyclists. Maintaining safe access for non-motorized users as a result of detours, closures, and other inconveniences during the construction phase will be included by the Council in phasing plans. For visual effects during construction the Council will adhere to local jurisdiction construction requirements (if applicable) regarding construction-related visual disruption. In order to minimize visual disruption, construction activities will include the following measures: ■ Use construction methods that minimize the need to remove vegetation to accommodate construction activities ■ When possible, preserve existing vegetation, particularly along the edge of construction areas, to help screen views ■ Restore areas disturbed during construction After construction is completed, regrade and revegetate areas disturbed by construction and staging to pre-project conditions, with an allowance to address survival of revegetation, to the extent feasible. Locate construction staging areas in places where their visibility would be minimal and, to the extent required, provide temporary visual screening to limit views into them from nearby residential areas, trails, streets, or other places from which they would be seen by visually sensitive viewers. Where construction lighting is required, the construction contractor will, to the extent practical, shield such lighting and direct it downward in such a manner that the light source visibility from offsite views would be limited as much as possible and would not fall outside the boundaries of the proposed BLRT Extension project site.
110D	Dube	Diane Marie	None provided	110	US Mail	8 – Transportation System Effects	Disruptions – particularly traffic congestion – will impact not only the business next to the areas under construction, but also the businesses that rely on pedestrian and vehicular traffic that comes from the opposite side of the construction zone.	Project construction would result in temporary partial or full closures of existing streets as well as material and equipment deliveries, worker arrivals and departures, and hauling of excavation and borrow materials. Mitigation measures for short-term (construction) impacts to roads and traffic will be implemented by the Council prior to and during construction through the

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								Construction Mitigation Plan, which includes a Construction Communication Plan and a construction staging plan. MnDOT, Hennepin County, and all municipalities affected by construction activities related to the proposed BLRT Extension project will require compliance with applicable state and local regulations related to the closing of roads and the effects of construction activities. Contractors will be required to comply with all guidelines established in the *Minnesota Manual on Uniform Traffic Control Devices* (2015). Construction staging and mitigation documents will be reviewed by appropriate jurisdictions, and required permits would be secured by construction contractors. Traffic-control plans will be developed by the contractor based on information identified in the construction documents and the Construction Mitigation Plan. Traffic-control plans would be reviewed by appropriate jurisdictions and the Council before construction activities begin. For the proposed BLRT Extension project, the Council anticipates that temporary closures or detours would affect existing bicycle and pedestrian facilities. Construction traffic and debris such as excess dirt and gravel can also pose obstacles or issues for pedestrians and bicyclists. Maintaining safe access for non-motorized users as a result of detours, closures, and other inconveniences during the construction phase will be included by the Council in phasing plans.
110E	Dube	Diane Marie	None provided	110	US Mail	4 – Social and Economic Effects	The duration of the construction project, construction sequencing, hours of construction and even trash removal will all have an impact on the operation of a business.	See response to 110A.
110F	Dube	Diane Marie	None provided	110	US Mail	4 – Social and Economic Effects	Utilities – hot and cold running water, fiber optic communications, and sewer, electricity, natural gas, telephone services – are the lifeline of any business.	Utility conflicts are identified in the Final EIS in Chapter 5 (Section 5.1). No long-term impacts to utilities are anticipated, since the relocation and reconstruction of utilities that would be conducted as part of the proposed BLRT Extension project would maintain current service levels. Short-term construction impacts may occur, but the Council would require the utility contractor to notify businesses and residents prior to any disruption of service.
110G	Dube	Diane Marie	None provided	110	US Mail	4 – Social and Economic Effects	In order to minimize the loss of business revenue expected to be experienced by small businesses, the mitigation measures must address each of the seven impacts identified by MnDOT and these specific impacts. Attention to the details of mitigation measures to address these impacts is critical to the survival of small businesses. It isn't enough to maintain traffic corridors and access points; congestion must be minimized or potential customers will find other businesses to patronize. Business signage must be erected before construction begins and must provide information to both vehicular traffic and pedestrians. What constitutes "advance communication" of construction activities depends on the type of business. Businesses should be consulted long before construction begins as to the mechanism for communication (e.g. telephone, flyers, email. etc.) and the notice period desired.	Project construction would result in temporary partial or full closures of existing streets as well as material and equipment deliveries, worker arrivals and departures, and hauling of excavation and borrow materials. Mitigation measures for short-term (construction) impacts to roads and traffic will be implemented by the Council prior to and during construction through the Construction Mitigation Plan, which includes a Construction Communication Plan and a construction staging plan. MnDOT, Hennepin County, and all municipalities affected by construction activities related to the proposed BLRT Extension project will be required to comply with applicable state and local regulations related to the closing of roads and the effects of construction activities. Contractors will be required to comply with all guidelines established in the *Minnesota Manual on Uniform Traffic Control Devices* (2015). Construction staging and mitigation documents will be reviewed by appropriate jurisdictions, and required permits would be secured by construction contractors. Traffic-control plans will be developed by the contractor based on information identified in the construction documents and the Construction Mitigation Plan. Traffic-control plans will be reviewed by appropriate jurisdictions and the Council before construction activities begin. For the proposed BLRT Extension project, the Council anticipates that temporary closures or detours would affect existing bicycle and pedestrian facilities. Construction traffic and debris such as excess dirt and gravel can also pose obstacles or issues for pedestrians and bicyclists. Maintaining safe access for non-motorized users as a result of detours, closures, and other inconveniences during the construction phase would be included by the Council in phasing plans.
110H	Dube	Diane Marie	None provided	110	US Mail	4 – Social and Economic Effects	In addition, mitigation measures should also address not only the intentional and planned interruption of utilities but also the unintentional and unplanned disruptive service.	Utility location excavations and pre-construction surveys will be performed in general accordance with the MnDOT policy of Subsurface Utility Engineering. These procedures would help minimize the number of unintended disruptions in utility

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								service. If utilities are discovered during construction that are not identified in the contract documents, the appropriate utility companies and agencies will be contacted to identify the line(s) and will be consulted on appropriate actions. Additional information may be found in the construction-phase impacts section 5.1 Utilities of the Final EIS.
110I	Dube	Diane Marie	None provided	110	US Mail	4 – Social and Economic Effects	The actions of the contractor and subcontractors can minimize impacts to businesses by limiting the magnitude of construction. Therefore, the construction contract should contain terms such as regulating days and hours of construction, mandating access requirements, requiring clean-up measures, prohibiting portable toilets within a specified zone around grocery stores and eating establishments, setting communication requirements and other measures to mitigate these impacts.	To mitigate impacts on businesses during construction, the Council will develop a Construction Mitigation Plan, a Construction Communication Plan, and a construction staging plan. These tools would help the Council notify businesses and patrons in advance about any access issues or closures. The construction staging plan would also help businesses and patrons affected by LRT construction understand when construction would occur in different areas of the proposed BLRT Extension project corridor. Finally, a 24-hour construction hotline will be available for issue resolution and information about LRT construction.
112A	Mulla	Hassanali	None provided	112	US Mail	4 – Social and Economic Effects	Please save our homes and our neighborhood.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. Section 4.3 of the Final EIS discusses displacements anticipated with the proposed BLRT Extension project. No residential property displacements are anticipated as a result of the proposed BLRT Extension project.
113A	Mulla	Masuma	None provided	113	US Mail	4 – Social and Economic Effects	Please save our homes and our neighborhood.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives. Reference to West Broadway Avenue tech memos in Chapter 2 and in Chapter 6 – Indirect Impacts and Cumulative Effects. Section 4.3 of the Final EIS discusses displacements anticipated with the proposed BLRT Extension project. No residential property displacements are anticipated as a result of the proposed BLRT Extension project.
114A	Weiske	Jeanne	None provided	114	US Mail	6 – Noise and Vibration Effects	The EIS does not consider the impact of the noise and announcements.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise impacts have been assessed for both the LRT and the West Broadway Avenue Reconstruction project. The combined effects of both projects are included in Chapter 6 of the Final EIS. Noise effects for the LRT project only are summarized in Chapter 5 (Section 5.6) of the Final EIS. There are nine moderate noise impacts anticipated from the proposed BLRT Extension project. These impacts do not require mitigation.
114B	Weiske	Jeanne	None provided	114	US Mail	3 – NEPA Process and Public Involvement	Residents are being ignored.	The Council acknowledges your concern about public input into the planning process for the proposed BLRT Extension project. Also, please see MASTER RESPONSES #6.
115A	Fairbanks	Mary Ann	None provided	115	Email	4 – Social and Economic Effects	I moved to Brooklyn Park in 1970 when it was about nothing but potato and corn fields. I watched it deteriorate to a point to where people were embarrassed to say they were from Brooklyn Park. It is starting to make a comeback. I moved into Maplewood Estates townhomes in 1973. Pretty much like the city, it was a wonderful place to live, great neighborhood. Again, like the city, it went through some not so good times when the housing market took a huge downfall. Some homes are under water. From about 2008, our property values for tax purposes dropped each year – dropping by about 50%. Finally, the 2014 value for taxes payable in 2015 showed a slight increase. Light rail going through a residential area is going to drop the value of our homes again. Many homes will be lost, retired homeowners with mortgages paid off will be forced to move and	Please see MASTER RESPONSE #21. Since publication of the Draft EIS, modifications to the preliminary design have resulted in the avoidance of several anticipated property acquisitions and resulting displacements with the proposed BLRT Extension project. No residential property displacements would occur as a result of the proposed BLRT Extension project. Section 4.3 of the Final EIS summarizes acquisitions and displacements. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117. Section 7.5.1 of the Final EIS provides a detailed analysis of the potentially disproportionately high and adverse impacts of the proposed BLRT Extension project in regards to displacements of environmental justice communities. Avoidance, minimization and mitigation measures were taken to reduce impacts to minority and low-income populations. The proposed BLRT Extension project has the potential to

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							enter into another mortgage, children will be forced to relocate and change schools. That homes that are not totally lost will be harmed dramatically – from the noise, the vibration, the loss of neighborhood. Even MPR and the Star Tribune have negative comments about light rail. After going through some rough times, Maplebrook Estates has remained a great neighborhood. With hard work by homeowners and the association, the area always looks clean and nice. It is a quiet neighborhood. Walk through the area. It is a neighborhood full of proud homeowners where a retired couple or a family can take a walk at night. Now we have people who know nothing about Brooklyn Park, nothing about Maplebrook Estates, and live nowhere close making decision to run light rail through the residential area and force people out of their homes. The original draft EIS did not have the light rail running down West Broadway. Hennepin County do not seem to be at all interested. If your retired parents lived in Maplebrook Estates, would you approve light rail in their living room? I really don't see any reason that light rail is needed in Brooklyn Park, but if it is to come, an alternate route should be chosen where people are not forced out of their homes. Putting a train down the middle of a residential road and disrupting families is wrong. It's dangerous, it's noisy, it's disruptive. All one has to do is drive down Hiawatha in South Minneapolis to see how the train takes over the road and makes life difficult for those in cars, on bikes or pedestrians. PLEASE choose an alternate route – not West Broadway.	indirectly spur development in the proposed BLRT Extension project corridor particularly around stations. This creates the potential for changes in property values, which can be perceived as either an impact (generally for renters) or a benefit (generally for owners). These potential "pricing-out" impacts (that is, increased rents and decreased affordability for existing residents) can be offset by the decrease in transportation costs. The Health Impact Assessment suggests that cities, communities and developers work together to keep housing options affordable in station areas to ensure that neighborhoods near the transit stations continue to be affordable for low-income households (Myslajek, 2013). Additionally, Hennepin County is proactively considering strategies to minimize impacts on housing values with their station area planning effort, which seeks input from the public, including EJ populations, to create a framework for any potential development that aligns with the community's goals and preferences. Furthermore, the Council has established programs to encourage affordable housing planning and implementation that may offset potential indirect impacts to low-income persons.
116A	Nerud	Amanda	None provided	116	Email	4 – Social and Economic Effects	I became a resident of the Maplebrook Estates association a little under a year ago. Having just recently become aware of the intended expansion of West Broadway, with the intent to include the possible addition of the Metro Light Rail at a later time, some more informed parties indicated that the existing Bottineau Transitway Impact Study only lists minimal impact to the Maplebrook Estates community. In the city's most recent estimate, there would be as many as 38 impacted homes. 7 buildings are a 4-corners design with half the homes affected (so the city would have to acquire all 4 corners/homes), and one building is consisting of 6 townhomes. So in the broad view, it may appear that only 8 buildings are impacted, but it becomes a much larger impact when the multi-familyaspect of the building is taken into account. It was indicated at the most recent public meeting that your Impact Statement indicated a smaller list of homes to be acquired than what the city is indicating, and therefore this route was more highly preferred than others. And this is only considering the impacted homes in the Maplebrook Estates community; south there are additional homes (some twin homes) and other businesses (including a church) that are foreseen to be acquired to make room for the road's expansion to accommodate the 'green space' for the possible future expansion for the LRT. I would strongly urge your team to reevaluate your study information and ensure your impact study takes into account the appropriate amount of affected homes and families when deciding which route the LRT will ultimately follow. I appreciate your time and diligence that went into these projects already and want to make sure my opinion is posted on this matter.	Please see MASTER RESPONSE #21. Section 4.3 of the Final EIS summarizes acquisitions and displacements. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
117A	Thorsen	Madge	None provided	117	Email	3 – NEPA Process and Public Involvement	The DEIS is inadequate. The following discussion of inadequacies concentrates on alignment D-1 as it crosses Golden Valley and parts of Robbinsdale. This commentator is opposed to D-1.	The Draft EIS was prepared and published in accordance with National Environmental Policy Act (NEPA) and Minnesota Environmental Policy Act requirements.

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117AA	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	The DEIS does not adequately address impacts to wildlife in and along the parks. Wildlife inhabiting the parks is not accurately inventoried or catalogued. Wildlife movement, behavior, corridors and habitat are not thoroughly analyzed.	Section 5.8.3 of the Final EIS details the protected flora and fauna that potentially could be present in the proposed BLRT Extension project corridor. Also, please see MASTER RESPONSE #13.
117AB	Thorsen	Madge	None provided	117	Email	3 – NEPA Process and Public Involvement	The report is self-contradictory. On the one hand, it states that "deer will be able to cross where they do today" and on the other hand, it says that the track will be fenced where humans cross. Since humans cross at every point along the railroad ROW, the report apparently means to suggest the entire line between 36th Avenue and Golden Valley road will be fenced; deer and other animals would have no access to their typical crossings, feeding or resting grounds if that is the case. Which is it?	Strategically placed fencing would be necessary to minimize collisions between the train and pedestrians and animals. Wildlife crossings are mentioned in the Final EIS under Unavoidable Impacts and Mitigation for wildlife environments (Chapter 5 [Section 5.8.5.5]): "Where effective and feasible, suitable wildlife crossings would be accommodated within proposed culverts to allow wildlife species to cross from one side of the LRT/freight rail tracks to the other."
117AC	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	If the entire track is fenced, humans could not cross either, as they do regularly today. It is no answer to say humans are crossing illegally. First, they have done that since the invention of tracks, here and everywhere in the world (it was shocking that the Scoping Document reported officials were "first learning" of trespass on the tracks! Really?!). Second, closing crossings to humans is infeasible because in these communities, accustomed as people are to free travel between parts of town, people are going to figure out a way to cross even if fences are erected to keep deer out. Safety and connectivity demands that if the alignment were to be built, alternative human crossings (like tunnels?) between east and west would be required.	Please see MASTER RESPONSE #8.
117AD	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	The DEIS fails to analyze thoroughly hazardous waste dangers that could arise from disturbing the parks. Although waste sites are mentioned, they are not detailed and more importantly the question of concrete is inadequately addressed. (Chapter 5). These two parks were once a site of construction debris, including WPA-era concrete from Highway 100. Nature has reclaimed the areas and transformed them into beautiful park land, but conducting construction activities with heavy equipment and running heavy trains on a new corridor relocated to the west and rebuilt on the east may disturb the soil and uncover asbestos-containing concrete, both during construction and every day thereafter. Oral history indicates that decades ago, a locomotive derailed along the tracks and sank into the bog near and around Grimes Pond (Source: members, Robbinsdale Historical Society). Reportedly, it has never been recovered. Whether the history is true or urban legend is unknown, but the DEIS should address it in the event there may be any environmental impact (hazardous conditions or instability).	The Council is aware of the previous dumping that had occurred during the 1960s in Sochacki Park/Mary Hills Nature Center/Rice Lake Park. A Phase I ESA has been conducted to further evaluate the presence of contamination along the entire proposed BLRT Extension project corridor and proposed areas of construction. A Phase II ESA is currently being conducted to obtain more specific data on contamination. Information gathered from the Phase I and II ESA would be incorporated into the proposed BLRT Extension project's RAP (which includes a Construction Contingency Plan for unidentified contamination) to properly handle, treat, store, and dispose of solid wastes, hazardous materials, petroleum products, and other regulated materials that could not be avoided during construction. Coordination with the Minnesota Pollution Control Agency, cities of Robbinsdale and Golden Valley, and the Three Rivers Park District would also be arranged.
117AE	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	Other Parks: South Halifax, Rice Lake, Triangle, Lee, Wirth Impacts on other parks are inadequately addressed (Chapter 4). Similar inadequacies plague the purported treatment of other D-1 parks. Lee and Triangle are said to be basically impacted because they have metal fences between the children and the extremely close tracks. (Triangle park users will "experience the effects of increased noise" (Chapter 4), but apparently, it doesn't matter since nothing else is said about it.)	Please see response to Comment 5B.
117AF	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	Visual impacts on other parks – South Halifax, Rice Lake, Triangle, Lee, Wirth – are inadequately addressed.	Please see response to Comment 91B.
117AG	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	Safety impacts on other parks – South Halifax, Rice Lake, Triangle, Lee, Wirth – are inadequately addressed.	Chapter 4 (Section 4.7) of the Final EIS addresses safety and security. In locations where there would be at-grade light rail crossings of roadways, the potential exists

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								for increases in emergency response time as a result of delay to emergency vehicles while LRVs are in the crossing. During the peak weekday hour, up to 12 light rail trains (six in each direction) would pass through these at-grade crossings, causing approximately 50 seconds of delay per light rail train crossing. These delays could increase fire, emergency medical services, and police response times on routes using the crossings. To help avoid or minimize delays, the Council would coordinate with emergency services providers by providing them with the light rail operating schedule and identification of alternative crossing routes. Additional coordination would occur through the FLSSC, as described in the proposed BLRT Extension project's *SSMP* (Council, 2014). Please see also MASTER RESPONSE #8
117AH	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	No analysis of impacts based on new uses at Lee has been done.	The Council assumes "Lee" is referring to Lee Park. Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS addresses the project impact to all parklands in the proposed BLRT Extension project corridor. Lee Park would not be impacted.
117AI	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	The Section 4(f) analysis is legally inadequate and does not afford a sufficient basis for decision. The DEIS offers a confusing discussion that purports to find a temporary occupancy of Mary Hills and Sochacki during construction, but implies that the temporary occupancy is not a "use" under law because all five required conditions that make temporary occupancy not a use would be met. But in its conclusion, the DEIS recites the five conditions inaccurately. In its list of the five conditions, the DEIS recites that there would be no "permanent adverse physical impact" on the parks. Chapter 8, p. 8-42. But this is a truncated statement; the regulations actually describe this condition as: "no interference with the protected activities, features, or attributes of the property on a temporary or permanent basis." (emphasis added). That is not the same as "adverse physical impact" alone. So did the DEIS silently analyze "interference with activities, features and attributes" and conclude there was none, even on a temporary basis, and so the temporary occupancy is not a use? Or does it conclude that there is at least temporary interference with the activities, features and attributes of the property and so the temporary occupancy is a use? The DEIS is less than clear in this regard.	Please see MASTER RESPONSE #15.
117AJ	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	Whatever it meant to say about temporary occupancy, the DEIS omits constructive use assessment of these two parks altogether. Constructive use occurs when the "project's proximity results in impacts so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only if the protected activities, features, or attributes of the resource are substantially diminished." As courts have said, a project which respects a park's territorial integrity may still, by means of noise, air pollution and general unsightliness, "dissipate its aesthetic value, crush its wildlife, defoliate its vegetation and "take it" in every practical sense." DC Federation of Civil Association v. Volpe, 459 F. 2d 1231, cert. denied. March 27 1972. The DEIS does not report on any study of the parks' activities, features or attributes or the whether the impacts of noisome transit disturbances amount to constructive use. It does not discuss the fact that noise which interferes with quiet uses is by definition a constructive use. 23 CFR 774.15 (e)(iv). No objective empirical evidence is presented that could support conclusions or decisions about 4(f) constructive use. This in turn means that the rest	The Final EIS finds that there are no ecological, noise, visual, vibration or other aesthetic interferences that would substantially impair the activities, features or attributes of Sochacki Park: Mary Hills Management Unit or Sochacki Park: Sochacki Management Unit. Therefore, the proposed BLRT Extension project would not result in a constructive use, as defined under 23 CFR Part 771.135 on these park properties. Also please see MASTER RESPONSE #15.

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							of the 4(f) analyses, such as fairly evaluating feasible and prudent alternatives, cannot reasonably be done.	
117AK	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	The DEIS acknowledges a change in setting and a diminution of both parks (Mary Hills and Sochacki) and then concludes the proposed project would not "change the community character." Trains will split the parks in half; transit operations will reduce walkability. Connectivity between Robbinsdale, Golden Valley and Wirth Park will be impeded and connectedness among these three communities impaired. The DEIS inadequately addresses these points. A change in community character could hardly seem more obvious than in and adjacent to these parks. Sochacki in particular is a rare resource for Robbinsdale. It represents one-third of all of the cities' park acreage. Residents and visitors view it as an enchantment and place of wonder, see above. Mary Hills is likewise unusual and treasured. Introducing LRT levels of noise, vibration and all the rest seems so clearly likely to destroy these resources.	Sochacki Park: Sochacki Management Unit and Sochacki Park: Mary Hills Nature Area would be restored and enhanced following the completion of construction and continued coordination with the Sochacki Park Joint Powers Agreement partners (the Three Rivers Park District, the city of Golden Valley, and the city of Robbinsdale). Additional supporting data and explanation have been added to the Final EIS and Amended Draft Section 4(f) and 6(f) Evaluation. One mitigation measure is for the proposed BLRT Extension project to construct a paved trail that would connect Theodore Wirth Parkway trail to Sochacki Park. At the Golden Valley Road Station, both the Theodore Wirth Parkway bridge and the Golden Valley Road bridge would be reconstructed, including the existing pedestrian and bicycle facilities. A trailhead would be constructed at the eastern corner of the proposed Golden Valley Road Station park-and-ride. This trailhead would provide access to the existing Minneapolis Park and Recreation Board trail system and access to the proposed Bassett Creek Regional Trail that would be constructed by the Three Rivers Park District along Golden Valley Road. The proximity of bicycle and pedestrian facilities and the addition of new trail connections with the proposed BLRT Extension project could require improving the intersection to enhance the safety of pedestrians and bicyclists. The Council would coordinate such improvements with the Minneapolis Park and Recreation Board, the city of Golden Valley, and Hennepin County, along with other stakeholders. See Section 3.4 of the Final EIS for more discussion about planned bicycle and pedestrian accommodations at the proposed Golden Valley Road Station area.
117AL	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	The DEIS does not adequately answer the question: how is permanent change in noise, vibration, visual aesthetics, wildlife, and uses of parks, in effect their destruction as natural preserves, not a severe impact on community character?	No mitigation measures are warranted for long-term neighborhood and community impacts, because the effectiveness of mitigation measures that have been identified and would be implemented for specific environmental categories (including but not limited to noise, vibration, visual quality and aesthetics, transit, roadways and traffic, parking, and pedestrian and bicyclist considerations) would prevent adverse impacts. Specific mitigation for the long-term impacts such as property acquisitions and displacements, visual quality, and noise are discussed in other sections of this Final EIS. Also, please see MASTER RESPONSE #9.
117AM	Thorsen	Madge	None provided	117	Email	2 – Fiscal Effects and Schedule	Knowing how much the "preferred route" and all alternatives will cost rests on accurately reporting what the government will have to spend on acquiring land for the Project. Yet, reports on those costs have not been made public. Upon inquiry, this commentator was told that copies of or further information about these reports, calculations and methodologies, are not available to the public. Thus: 1) the review of tax-assessed values and the identification of "each of the impacted properties" are unavailable to the public; 2) the "appraisal" said to have been conducted in 2012 is unavailable to the public; 3) whatever these figures may be, they must be at least two years out of date; 4) the analyses apparently do not include constructive takings. The data should immediately be made publicly available.	Table 10.1-1 in Chapter 10 – Financial Analysis of the Final EIS outlines a breakdown of cost for the different elements of the proposed BLRT Extension project totaling $1.496 billion. The right-of-way cost estimate was developed by a licensed appraiser using: (1) a preliminary appraisal of the BNSF rail corridor done by the Council in 2015; (2) a parcel by parcel assessment of proposed damages; and (3) an analysis of the current real estate market. Right-of-way cost estimates and appraisals developed by government entities on individual properties are confidential before an offer is made, per Minn. Stat. 13.44, subd. 3.
117AN	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	Under the Minnesota Constitution and case law since Alevizos v. Metropolitan Airports Commission, private property cannot be constructively taken for public use without payment of just compensation. While not every inconvenience, annoyance or loss of peace and quiet caused by noise and other serious nuisance gives rise to inverse condemnation claims, where a property is deprived of its practical enjoyment and a definite and measurable loss in market value occurs which the property-owning public in general does not	Please see response to Comment 94C.

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							suffer, compensation must be paid.	
117AO	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	Along D-1, park property is being converted into a highly traveled rail corridor. Residences in turn will experience a change from rural silence, views, seclusion, serenity and clear air to the blight of LRT noise, vibration, visual effects and pollution (light, noise, air). The impact on this small segment is more profound (Bassett Creek Drive, Bonnie Lane, Dresden Lane, June, Kyle, Halifax, Kewanee Way, Xerxes and others) than anywhere else in the Project. Hundreds of parcels along the parks would be disproportionately damaged for the benefit of other citizens elsewhere. These owners are the most likely to bring and win inverse condemnation lawsuits if compensation is not paid for the diminution of their property values. The true cost of this alignment must therefore take into account these expenses, which could amount to millions in damages and legal fees. Failure to account for constructive takings understates the ROW and other build costs of D-1 in particular.	Concerning visual: Please see response to Comment 91B. Concerning noise: Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS. Noise impacts have been assessed at parks throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. As reported in Table 5.6-5 of the Final EIS, the following noise level with the proposed BLRT Extension project would be: ■ Plymouth Avenue North to 16th Avenue North – 9 moderate noise impact and no severe noise impacts ■ 16th Avenue North to Golden Valley Road – 1 moderate noise impact and no severe noise impacts ■ Golden Valley Road to 26th Avenue North – 9 moderate noise impacts and 14 severe noise impacts For the first two locations with mitigation in the form of interior testing to determine the appropriate mitigation measure, no residual noise impacts are anticipated. For the third location with mitigation in the form of a noise barrier, 1 moderate and 1 severe noise impacts would remain. Concerning vibration: Vibration impacts to residential properties have been identified in the cities of Robbinsdale and Crystal but not in the City of Golden Valley. The Final EIS finds that there are no ecological, noise, visual, vibration or other aesthetic interferences that would substantially impair the activities, features or attributes of Sochacki Park: Mary Hills Management Unit or Sochacki Park: Sochacki Management Unit. Therefore, the proposed BLRT Extension project would not result in a constructive use, as defined under 23 CFR Part 771.135 on these park properties.
117AP	Thorsen	Madge	None provided	117	Email	3 – NEPA Process and Public Involvement	The DEIS therefore artificially promotes D-1 over other potentially cheaper choices. Alignment D-1 may in fact prove more expensive than any other alternatives if all the data were analyzed. Analysis before and not after the “30%” engineering step should be done.	Many elements go into deciding the LPA including cost, social elements and environmental impacts, among others. Table 10.1-1 in Chapter 10 – Financial Analysis of the Final EIS outlines a breakdown of cost for the different project elements totaling $1.496 billion. Cost reviews would continue throughout the design process to further refine the cost.
117AQ	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	The DEIS relies on generalized studies of LRT effects on community property values but does not come to grips with individual diminution of property value. Both sound walls and power lines can negatively impact property values.	Please see MASTER RESPONSE #7.
117AR	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	No noise measurements were made at numerous clusters of houses along the parks and tracks, presumably (it is not clear) because they were more than 350 feet away. No moderate or severe impacts were identified on the west side of D-1, even though homes are currently at rural ambient noise levels.	Noise measurements were conducted in both the Draft EIS and Final EIS at noise sensitive locations within the appropriate screening distances for potential impacts from the project. Typically, impacts are limited to within 100 to 150 feet of the tracks. Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS.
117AS	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	The report concludes that D-2 should be rejected as an alternative to D-1 primarily because D-2 would experience more takes and partial takes of property. But it does no projections or estimates of constructive takes of high value parkway property and other residences adjacent to the proposed expanded tracks and so understates the effects and costs of D-1.	Please see response to Comment 94C.
117AT	Thorsen	Madge	None provided	117	Email	3 – NEPA Process and Public Involvement	Without that thorough analysis of constructive takes, alignment D-2 and other alternatives cannot be accurately compared to D-1 and a “preference” can only be based on speculation. D-1 may in fact be the most expensive and least prudent and feasible of all alternative choices, but the DEIS does not enable the public or decision-makers to accurately conduct that analysis.	Please see response to Comment 94C and Comment 117AM.

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117AU	Thorsen	Madge	None provided	117	Email	2 – Fiscal Effects and Schedule	No economic impact analysis of park loss has been done. Economic impact analysis of park loss must be done to make fair financial assessments possible. Research confirms that park amenities, especially passive use amenities, increase property values, often throughout the whole community. See e.g., Crompton, The Impact of Parks and Open Space on Property Values, http://www.cprs.org/membersonly/winter07_propertyvalues.htm. Loss of such park amenities correspondingly decrease property values, especially proximate properties. In urban locations, LRT may not have significant negative economic impacts and may in fact improve the economics for places like North Minneapolis. But ruining Sochacki and Mary Hills may decrease property values substantially in those cities substantially, especially of homes in close proximity but also for property blocks away. This damage may not amount to constitutional takings, but may sufficiently reduce home values such that the tax bases of both Robbinsdale and Golden Valley would suffer to the tunes of millions in assessed valuations.	A review of park properties that would be impacted by the proposed BLRT Extension project is discussed in the Final EIS and Amended Draft Section 4(f) and 6(f) Evaluation. Two parks have a *de minimis* use. Five parks have a temporary occupancy finding.
117AV	Thorsen	Madge	None provided	117	Email	8 – Transportation System Effects	Anticipated ridership appears to be overstated and overly optimistic based on the data presented. Didn't the Hiawatha line lose riders in 2013; why are Bottineau projections so robust?	The Council used its regional travel demand forecasting model to develop the transit ridership forecasts for the proposed BLRT Extension project. Ridership modeling is discussed in Chapter 3 (Section 3.1) of the Final EIS. Approximately 27,000 daily riders are forecasted for 2040.
117AW	Thorsen	Madge	None provided	117	Email	7 – Alternatives, Engineering and Design	RBT is cheaper, less impactful, and more consistent with realistic ridership expectations, isn't it?	The Council is developing bus rapid transit routes within its service area; however, light rail was selected as the preferred technology for the proposed BLRT Extension project corridor. Please see also MASTER RESPONSE #1.
117AX	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	What does the City of Golden Valley get for its citizens in return for giving up its parks?	Sochacki Park: Sochacki Management Unit and Sochacki Park: Mary Hills Management Unit would be restored and enhanced following the completion of construction and continued coordination with the Sochacki Park Joint Powers Agreement partners (the Three Rivers Park District, the city of Golden Valley, and the city of Robbinsdale). Additional supporting data and explanation have been added to the Final EIS and Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8). The park will remain open to recreational use during construction. One mitigation measure is for the project to construct a paved trail that would connect Theodore Wirth Parkway trail to Sochacki Park. Additional mitigation measures include environmental remediation, a revegetation plan, and prep for a future off-leash dog park. Additional measures can be found in the Amended Draft Section 4(f) and 6(f) Evaluation.
117AY	Thorsen	Madge	None provided	117	Email	2 – Fiscal Effects and Schedule	Where is the cost-benefit analysis that incorporates the fact that an average mile of light-rail line costs two to five times as much as one mile of an urban freeway lane? In Portland, the light rail carries one percent of the city's travelers but cost 2.3 billion. How does that make sense, as opposed to a more comprehensive approach to travel in general: electric buses, go cars, better highways and street repair, integrating other green transportation like segways, pedal cabs, bikes, whatever. More jobs, more development, less pain.	Please see MASTER RESPONSE #4.
117AZ	Thorsen	Madge	None provided	117	Email	7 – Alternatives, Engineering and Design	North Minneapolis is in deep need of urban transit and of the hoped-for accompanying development opportunities. Yet it is excluded as a preferred alternative. North Minneapolis is already a busy urban corridor that would be far more appropriate for light rail or for RBT or a more modern and green comprehensive treatment of mass transit. Residents actually need it; Golden Valley does not. Ways to avoid the concerns expressed about D-2 in North Minneapolis have been inadequately explored (what about tunnels and subways? what about	Please see MASTER RESPONSE #20.

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							moving homes rather than removing them; what about revisiting a path other than Penn Avenue?)	
117B	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	Sochacki and Mary Hills Nature Preserve will be irreversibly damaged. The DEIS inappropriately downplays the damage to Sochacki and Mary Hills (and other) parks and says they are not being converted to transportation use. The DEIS is in error with respect to its conclusions about impact and FTA Section 4(f).	Please see MASTER RESPONSE #15.
117BA	Thorsen	Madge	None provided	117	Email	2 – Fiscal Effects and Schedule	How much is BNSF paying toward the costs of the DEIS, EIS and related procedures? How much will it pay for construction? 2. How much is BNSF to be paid for the prospective use of its ROW all along the "preferred alternative" versus other alternatives studied?	The Council continues discussions with BNSF for the use/purchase of 50 feet of their right-of-way. To date, BNSF has not agreed to any participation in the cost of the proposed BLRT Extension project. See response to Comment 117AM regarding cost estimate for BNSF right-of-way.
117BB	Thorsen	Madge	None provided	117	Email	7 – Alternatives, Engineering and Design	Is there anything about this project that enables BNSF to significantly change its freight traffic along the "preferred alignment" especially D-1? In other words, does the colocation, new proposed tracks or type of tracks, building of an access road, shift in the location of the current tracks, total and partial and constructive takings of private land, permitting and zoning processes – does any of that enable BNSF to increase its own use over what it could have otherwise done independently without the LRT? For example, is it going to be easier to transport hazardous products like frac sand or frac sand oils because of public cooperation? What are its plans for its future freight traffic along D-1 in particular? Who are BNSF's lobbyists for this project and is there any record of their activities? Planners at open houses repeatedly justified the choice of D-1 and the impact on the parks by saying that BNSF could use its right of way however it wanted, anyway, so the cities might as well have some degree of control. First, does BNSF really have carte blanche and second, what did BNSF indicate it planned to do if planners did not choose alignment D-1 in particular? Why is everybody so eager to recite unknown future activity of BNSF to justify D-1? Help the public understand what pressures, if any, were brought to bear.	BNSF is a private railroad company over which the Council has no jurisdiction to control freight traffic frequency. The proposed BLRT Extension project would relocate the BNSF tracks to the west of their present location to accommodate the LRT project elements. Chapter 3 (Section 3.2) of the Final EIS provides additional detail about the design of freight rail in the proposed BLRT Extension project corridor.
117BC	Thorsen	Madge	None provided	117	Email	2 – Fiscal Effects and Schedule	The Gateway Project is now ahead of Bottineau in terms of preference for federal funding. What impact does that have on projected time frames? Does that mean we have more time to start all over again and get this right, choosing other more sensible alternatives than an already obsolete technology along an alignment that destroys public parks and benefits so few?	The Gateway (Gold Line) Project is identified in the County Transit Improvement Board's (CTIB) Program of Projects Investment Strategy. As of July 15, 2015, the proposed BLRT Extension project and Gateway Exclusive BRT were included in Program of Projects Phase 1. The proposed BLRT Extension project is further along in the process with publication of the Draft EIS and initiation of the Project Development phase in 2014. It is the Council's intent to request to enter the Engineering phase in 2016. The Gateway Project will be requesting entry into project development from FTA following publication of that project's Draft EIS.
117BD	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	What empirical support is there for the idea that the art gallery and historical museum in the Robbinsdale Library Building would not be disturbed by three tracks, 50 feet closer at an open intersection with bells and whistles and wheel squeal?	There would be a severe noise impact at the museum resulting from the proposed BLRT Extension project. However, with the inclusion of a Quiet Zone at 42nd Avenue, the noise impact would be eliminated at this location. Additionally, based on the vehicle and soil characteristics at this location, there would be no vibration impact. Noise and Vibration is discussed in Chapter 5 (Sections 5.6 and 5.7) of the Final EIS.
117BE	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	Where is the discussion of impacts on the Golden Valley fire station?	Section 4.7 of the Final EIS addresses safety and security. In locations where there would be at-grade light rail crossings of roadways, the potential exists for increases in emergency response time as a result of delay to emergency vehicles while LRVs are in the crossing. During the peak weekday hour, up to 12 light rail trains (six in each direction) would pass through these at-grade crossings, causing approximately 50 seconds of delay per light rail train crossing. These delays could increase fire, emergency medical services, and police response times on routes using the crossings. To help avoid or minimize delays, the Council would coordinate with emergency services providers by providing them with the light rail operating

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								schedule and identification of alternative crossing routes. Additional coordination would occur through the FLSSC, as described in the proposed BLRT Extension project's *SSMP* (Council, 2014). However, Golden Valley Fire Station 3 (3700 Golden Valley Road) is at a location where no delays due to the passage of LRT vehicles are anticipated, since Golden Valley Road is grade separated from the proposed BLRT Extension project alignment.
117BF	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	A station at Saint Mary Margaret's would interfere with learning for the children at this school. The DEIS inadequately addresses these problems.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. No noise impacts were identified at St. Margaret Mary Church. Table 5.6-6 in the Final EIS summarizes noise impacts at institutional land uses. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended.
117BG	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	Minneapolis wants to see intensive commercialization and development along the LRT route. That is not appropriate for Wirth Park, Mary Hills, and Sochacki and the adjoining quiet residential neighborhoods.	See Section 4.1 of the Final EIS for a discussion of proposed BLRT Extension project compatibility with the corridor cities' Comprehensive Plans. Also see Section 4.2 for the discussion of development along the proposed BLRT Extension project.
117BH	Thorsen	Madge	None provided	117	Email	3 – NEPA Process and Public Involvement	Throughout this process, the public has been told that answers will come later – during initial phases, the Scoping Process would be the answer; after the Scoping Process, we were assured that the DEIS would be the answer; now, we will probably be told that answers will come at the 30 percent engineering phase or in the final EIS. Why not answer questions quicker, faster and cheaper rather than continually postponing responses to legitimate inquiry?	The Draft EIS discusses numerous alternatives that were analyzed as a part of the environmental review process. Key issues or changes to the proposed BLRT Extension project occurring since publication of the Draft EIS were identified, analyzed, and are summarized in Chapter 2 of the Final EIS. The process included a public comment period on the Draft EIS which provided the public a forum to raise concerns with respect to environmental issues. A revised cost estimate and updated project scope was adopted by the Council in December of 2015. Also in December 2015, 15-percent design plans were released to all corridor cities and Hennepin County. Each of these milestones has provided more information to the public regarding the development of the proposed BLRT Extension project.
117BI	Thorsen	Madge	None provided	117	Email	3 – NEPA Process and Public Involvement	The DEIS is 834 pages long, full of technical jargon. The comment period is too short to enable the public to fully assimilate, study, organize and comment on the complex issues covered (or not covered) in the report. This is especially true when supporting information for the DEIS was withheld, see above.	Please see response to Comment 24A and MASTER RESPONSE #5.
117BJ	Thorsen	Madge	None provided	117	Email	3 – NEPA Process and Public Involvement	Efforts to inform the public of the release of the report were inadequate. Low tech methods of notification like leafleting and posters in public places, as well as higher tech mechanisms like television, radio and social media, were all underutilized. The process has been handled almost exclusively with website notifications, which do not reach everyone. Local residents have expressed surprise that the process was even happening right now. A few evening and afternoon public meetings was not enough. The comment period should be extended or reopened and better notice given. The DEIS is highly technical and difficult for any non-engineer, non-acoustic expert, non-biologist, etc. to understand, so if any of these comments are flat-out in error, it is unintentional. We can only do our best! Many people no doubt worked in good faith on the DEIS and so to them, thanks.	Please see response to Comment 24A and MASTER RESPONSE #5.
117C	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	The community character of D-1 will be severely impacted. Alignment D-1 contains acres of land with mature forests, ponds, wetlands, wildlife, and a quietude that merits classification as rural. High speed transit running every seven to ten minutes 24 hours a day in such a setting is a fundamental and extremely negative change to the land and to community character. The DEIS inadequately explains any reason for concluding otherwise.	Section 4.2 of the Final EIS describes each of the communities along the proposed BLRT Extension project (the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park) including park resources along the proposed BLRT Extension project corridor. The analysis of long-term and short-term direct neighborhood and community effects is based on the following three criteria: changes to community facilities access; changes to community character; and changes to community cohesion. No direct impacts are anticipated for the community facilities along the D1 alignment. Please see also MASTER RESPONSE #9.

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117D	Thorsen	Madge	None provided	117	Email	2 – Fiscal Effects and Schedule	Cost assessment of D-1 appears understated which means comparisons among alternatives cannot be accurately made. The real cost for D-1 appears understated because the Report makes no reference to or analysis of "constructive takings" of properties through noise and other intense transit disturbances. All of the homes adjacent to parks along D-1 are especially vulnerable and likely to experience diminution in value because of the LRT; yet such takings and damages are apparently not accounted for. It also appears that no economic analysis of the impact of loss of parkland on property values and therefore on city tax bases was done.	The project cost estimates for each of the alternatives considered as reported in the Draft EIS were developed with the same underlying assumptions for each project element. The cost estimates represent an "apples-to-apples" comparison of the alternatives. Many elements go into deciding the LPA including cost, social elements and environmental impacts, among others. Table 10.1-1 in Chapter 10 – Financial Analysis of the Final EIS outlines a breakdown of cost for the different project elements totaling $1.496 billion. Cost reviews would continue throughout the design process to further refine the cost.
117E	Thorsen	Madge	None provided	117	Email	3 – NEPA Process and Public Involvement	The DEIS inadequately addresses numerous additional open questions.	Please see response to Comment 21C.
117F	Thorsen	Madge	None provided	117	Email	3 – NEPA Process and Public Involvement	Notification about the DEIS and the comment period have been insufficient.	Please see response to Comment 24A and MASTER RESPONSE #5.
117G	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	Parks along Alignment D-1 are Passive and Natural Settings. The most telling single word in the DEIS about alignment D-1 is a punctuation mark. When the Report refers to the character of Sochacki, Mary Hills, South Halifax, Rice Lake (and even Wirth) parks, it puts quotation marks around the word "natural." Like this: the "natural" character of the parks (Chapter 4). Is it suggesting that the parks are "fake" or "unnatural?" Or unworthy of serious consideration? This disrespect for community attitudes and concerns about these important neighborhood resources reflects a biased rather than objective assessment.	Please see MASTER RESPONSES #14 and #15.
117H	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	The same bias shows at page 1 where the DEIS recites that the character of the Bottineau Transitway project area "transitions from a moderately dense urban setting in north Minneapolis to a less dense suburban setting starting in Robbinsdale, Golden Valley, and Crystal, and extending through Brooklyn Park and Maple Grove at the north end of the corridor." It should state that "in the area from Golden Valley Road to 36th Avenue, the setting is light residential density enhanced by natural parks and rural ambient sound levels."	Please see response to Comment 117C.
117I	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	Altering the land from natural forests and wetlands to a very active rail and freight corridor has serious community and economic consequences unrecognized in the DEIS.	Please see MASTER RESPONSE #13 and #16.
117J	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	The DEIS apparently does not treat Sochacki Park or Mary Hills Nature Preserve as noise sensitive. They are not specifically listed as category 1 receptors nor identified as passive use. See Technical Report, Noise and Vibration, Appendix. The report recites FTA guidelines which state that parks in general are not noise sensitive, Chapter 8. However, the report omits the rest of the guideline which instructs: "some parks---even some in dense urban areas–‒are used for passive recreation like reading, conversation, meditation, etc. These places are valued as havens from the noise and pace of everyday city life and they should be treated as noise sensitive. The noise sensitivity of parks should be determined on a case-by-case basis after carefully considering how each facility is used." FTA Transit Noise and Vibration Impact Assessment FTA-VA-90-1003-06 May 2006 (emphasis added). The DEIS neither mentions this language, conducts a "case by case"	Please see response to Comment 5B.

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							study, delves into the actual character of the parks, nor explains why this guideline was not followed.	
117K	Thorsen	Madge	None provided	117	Email	4 – Social and Economic Effects	The DEIS does not offer any explanation for how and whether the proposed Project is consistent with city comprehensive plans regarding the parks. DEIS Chapter 4 talks about comprehensive plans in general, but does not address the chapters of those plans that specifically cover parks. a. The City of Robbinsdale' s Comprehensive Plan Update 2030, Chapter 6 designates Sochacki as a "conservancy community park" intended for passive uses such as nature identification. b. Mary Hills Nature Preserve is identified in the City of Golden Valley's Comprehensive Plan Chapter 6 as "Nature and Open Space" and described as a nature area intended for visual aesthetics/buffering and preservation of natural resources, walking and "other passive uses." The DEIS does not appear to treat Sochacki as a passive use or conservancy property and does not treat Mary Hills Nature Preserve as "nature and open space" intended for passive use.	Section 4.1 – Land Use Plan Compatibility of the Final EIS describes the methodology used to assess compatibility with local comprehensive plans. The Council has worked collaboratively with the local municipalities and Three Rivers Park District on park specific issues throughout the design issue resolution process. Sochacki Park: Sochacki Management Unit and Sochacki Park: Mary Hills Management Unit are characterized in Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation in the Final EIS. The proposed BLRT Extension project would require a temporary occupancy of approximately 0.57 acre along the eastern border of Sochacki Park: Mary Hills Management Unit to facilitate construction activities and stormwater conveyance improvements. It has been determined that temporary occupancy of portions of Sochacki Park: Sochacki Management in Robbinsdale is needed in order to provide access and construction staging for the construction of a new LRT bridge structure across Grimes Pond. All non-park construction staging options have been considered and proven to not be feasible. Also, please see MASTER RESPONSE #15.
117L	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	The DEIS does it explain how high decibel transit every 7-10 minutes day and night promotes or is consistent with each cities' (Robbinsdale and Golden Valley) plans and uses for these properties as serene natural havens.	Please see response to Comment 5B.
117M	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	The DEIS does not accurately catalogue the activities, features or attributes of the parks which omission in turn affects every other conclusory statement throughout the report about the purported lack of impact of the Project on the parks, see Chapters 4, 5, 6, 8 and 10. Yet, information about park activities, features and attributes on a case by case basis is readily available: a. Current. If residents and park visitors, who come from all around the two host communities, were asked how they use the parks, the answers would be: hiking, dog-walking, cross-country skiing, snow-shoeing, biking, running, photography, bird and wildlife observation, quiet contemplation, solitude – these uses are the heart of the parks' existence. Users are so adamant about the importance of these park features that in May 2009, for example, community testimony defeated a proposition to allow as mild an activity as disc golf in Sochacki Park. A typical comment at the public hearing back then explains the park's use: "[the user] has found Sochacki Park to be a jewel and a place to escape and to commune with nature. It is secluded and beautiful and he finds spirituality and peace of mind at the park. He sees dogs, kids, and older people out walking getting exercise. The park gives the City of Robbinsdale a sense of wonderment and elation." City Council Meeting Minutes, City of Robbinsdale, May 12 2009. See also, Reuse, "Robbinsdale Gem Sacrificed for Disc Golf and Chump Change," Star Tribune, May 10, 2009, http://www.startribune.com/featuredColumns/44646172.html. The park has always been used in that passive way. For uses of Mary Hills as a quiet getaway in a wetland woodland, see e.g., http://goldenvalley.patch.com/listings/mary-hills-nature-area; City of Golden Valley Comprehensive Plan, Chapter 6.	Please see response to Comment 21C and MASTER RESPONSE #15. Section 4.2 of the Final EIS introduces all of the proposed BLRT Extension project corridor parks, and Chapter 8 presents the Amended Draft Section 4(f) Evaluation of the proposed BLRT Extension project impacts to park properties.
117N	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	The DEIS does not appear to report any baseline measurements of noise within the parks; the closest approximation that a lay reader can	Please see response to Comment 5B.

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							discern is from two homes that were monitored, Receptors L-10 and L-11, Noise and Vibration Technical Report at p.14. Their noise levels in 24 hours of monitoring ranged from 45 to 51 decibels, or "rural ambient noise" levels. Within the parks it is likely even quieter. Although common sense seems conclusive that converting rural ambient noise levels into 82 decibels of linear LRT noise every 7-10 minutes is a "severe impact" if there is any doubt, at a minimum, base noise levels must be measured within the parks and impacts specifically assessed (including in winter months when any dampening effects of foliage would be gone).	
117O	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	The DEIS did not explore noise criteria and does not report on specific community attitudinal factors related to these parks and to their conversion to predominate transitway use.	Please see responses to Comments 5B and117C.
117P	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	The DEIS does not carefully address or analyze vibration within the parks. Trails are within and closer than 50 feet from the proposed tracks in many locations and common sense says they would be negatively impacted by vibration.	Vibration impacts are an indoor phenomenon and are not assessed for outdoor land uses. Vibration is discussed in Chapter 5 (Section 5.7) of the Final EIS. There are no vibration impacts within the parks anticipated from the proposed BLRT Extension project.
117Q	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	The DEIS concludes, without supplying adequate facts or reasoning, that visual impacts within the Parks are "moderate." Photos of Sochacki reflect an effort to create an "industrial feel" by including shots of the current power lines in every photo.	Please see response to Comment 91B.
117R	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	No specific description of the trees to be removed, or their number, or vegetation to be stripped is given, nor is any assessment of whether replacements or replanting would even be possible. Mature trees cannot be replaced; defoliation cannot always be overcome.	The Council has analyzed the extent of plant communities that would be impacted by the proposed BLRT Extension project, including forested areas. Several areas have been identified where tree re-planting would occur. These analyses are described in the Final EIS (Section 5.8). It is true that mature trees cannot be planted and that some mortality of re-planted trees is likely to occur.
117S	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	No description or sketch or analysis is given of the planned appearance of anything within the parks including the dramatic change based on planned raised berms, tracks, roads and catenaries as well as artificial retaining walls, all of which would traverse Grimes Pond and the wetlands. This visual impact (and wetland destruction) does not appear to have any realistic mitigation possibilities.	The Final EIS (Section 4.5 and Appendix F) includes several visualizations depicting what the proposed BLRT Extension project would look like form several points of view. Some methods may be feasible to lessen potential visual impacts, such as with strategic plantings. The Council will continue to coordinate with cities and other stakeholders as design advances, including landscaping in areas that are disturbed by the project.
117T	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	The DEIS does not specifically address the impact of one track being replaced by three new tracks plus a service road; that the current power lines and towers are well-screened but will be moved for the LRT and presumably become unscreened; that additional support poles, catenaries, TPSS buildings, and the trains themselves create a permanent visual intrusion in the narrow confines of Sochacki and Mary Hills. Instead, the Report concludes blandly and without factual support that impacts on the perceived natural characters of the parks would only be moderate. The conclusion is unsubstantiated.	Please see response to Comment 91B.
117U	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	The DEIS does not answer the question: How can replacing bucolic views with a constant vision of passing trains day and night and secondary utilitarian structures be anything other than a "high" visual impact?	Please see response to Comment 91B.
117V	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	Although the DEIS mentions "mitigation" over and over again, no explanation is given as to how light rail noise could be mitigated within the parks.	Table 5.6-7 in the Final EIS details the proposed noise mitigation for the proposed BLRT Extension project. Specifically, noise mitigation would include the construction of a noise barriers on the east side of the proposed BLRT Extension project corridor generally between Golden Valley Road and 36th Avenue.
117W	Thorsen	Madge	None provided	117	Email	5 – Environmental	Although the DEIS mentions "mitigation" over and over again, no explanation is given as to how visual impact could be mitigated within	Please see response to Comment 91B.

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						Effects	the parks.	
117X	Thorsen	Madge	None provided	117	Email	5 – Environmental Effects	Although the DEIS mentions “mitigation” over and over again, no explanation is given as to how destruction of wetlands could be mitigated within the parks.	Mitigation within public parks is subject to Section 4(f) and 6(f) review (see Chapter 8 of the Final EIS). Proposed mitigation within public parks would have to be compatible with the intended use of those portions of the public parks. The Council analyzed areas that may be compatible with wetland mitigation in public parks. The Council realizes that in constrained urbanized areas, every opportunity for wetland mitigation must be examined as to whether it would be feasible. (Also see Section 5.3 of the Final EIS.) Also please see response to Comment 26B and MASTER RESPONSE #16.
117Y	Thorsen	Madge	None provided	117	Email	6 – Noise and Vibration Effects	Sound walls are proposed on the east side of the parks near heavily impacted homes and would sacrifice views on both sides of the parks and do nothing for park users on the trails and meandering paths right next to noisy unscreened trains. Nothing is proposed that could feasibly or physically enclose the tracks from 36th Avenue to Golden Valley Road and beyond into Wirth Park in order to mitigate visual impact and sound.	Please see MASTER RESPONSE #17.
117Z	Thorsen	Madge	None provided	117	Email	7 – Alternatives, Engineering and Design	It seems the only realistic option is to reject D-1 and place trains in an urban environment instead or put them underground. Where is the analysis of the alternative of tunnels, in D-1 or D-2? (common sense suggests they wouldn’t work in a wetland park but a subway in North Minneapolis might well be a terrific resource that would lessen undesirable impacts of the LRT and enhance density and development).	Please see MASTER RESPONSE #20.
118A	Lindeman	LeAnn	None provided	118	US Mail	4 – Social and Economic Effects	When I bought my future retirement home in Maplebrook Estates – over 20 years ago – it never occurred to me that my home would be condemned. Broadway was well developed and has continued to fill in the few empty spots – example churches, a business complex, many houses, a large townhouse complex, the college, a car dealership, a park, a ball diamond, 4 shopping areas. Why must the light rail destroy the neighborhood? This area is too developed for light rail. It should be placed in a route which does not destroy established neighborhoods. Broadway is not a proper place.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. No residential property displacements would occur as a result of the proposed BLRT Extension project. Chapter 4 (Section 4.2) of the Final EIS discusses community facilities/community character and cohesion. Impacts associated with the proposed BLRT Extension project were not severe enough to affect overall community character and cohesion, or the accessibility to and use of community facilities.
118B	Lindeman	LeAnn	None provided	118	US Mail	6 – Noise and Vibration Effects	What about the 20 hour per day noise of the Light rail?	Please see MASTER RESPONSE #17. No moderate or severe noise impacts are anticipated along West Broadway Avenue as a result of the proposed BLRT Extension project after Quiet Zones are implemented.
118C	Lindeman	LeAnn	None provided	118	US Mail	6 – Noise and Vibration Effects	What about the vibration from the light rail?	Vibration impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures have been recommended. Vibration is discussed in Chapter 5 (Section 5.7) of the Final EIS. No vibration impacts are anticipated along West Broadway Avenue as a result of the proposed BLRT Extension project. Please see also MASTER RESPONSE #18.
118D	Lindeman	LeAnn	None provided	118	US Mail	7 – Alternatives, Engineering and Design	This LR should be placed elsewhere where there is room so homes, etc. do not have to be destroyed or impacted. I am not against Broadway becoming 4 lanes. But Broadway is no place for light rail or medians with trees, grass. Too much damage is being done to our community.	Please see MASTER RESPONSE #1.
122A	Moren	Mae	None provided	122	US Mail	7 – Alternatives, Engineering and Design	Having lived on Theodore Wirth Parkway most of my life, I’m opposed to the LRT here because of problems with the bus system. When I was a teenager, it was no problem taking a bus downtown for a dance or to meet friends at night. While working downtown, I’d take the bus and there were few problems. But now if you don’t go at rush hour it becomes a very different experience not at all pleasant.	Please see MASTER RESPONSE #8.

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122B	Moren	Mae	None provided	122	US Mail	4 – Social and Economic Effects	If there isn't safety measures for buses why add more problems? Address the problems that are here. A new shiny LRT is not going to make going to places safe.	Please see MASTER RESPONSE #8.
123A	Rocheford	Mike	None provided	123	US Mail	5 – Environmental Effects	What is the impact on water tables – level and flow of water in Sochacki and Mary Hills. Where will the water go? We have many issues with flooding. What is the impact of the new LRT going to have on this? I see nothing addressing this.	Please see response to Comment 26A.
124A	Sannes	Norm	None provided	124	US Mail	1 – Purpose and Need	After listening to proponents make a case for this project, it is clear that this idea is half baked…. An expensive solution struggling to find a problem it might solve. This is nothing more than an opportunity for government to spend a billion dollars or more of other people's money on itself while plunging clumsy footprints through "environmentally sensitive" areas of Theodore Wirth Park, Mary Hills Nature Area and Sochaki Park. In the EIS material this portion of the route is euphemistically described merely as "existing railway corridor." An "in person" walk along this "railway corridor" reveals it is literally PACKED with stuff environmentalists routinely go to the mat to protect: large ponds, bogs, swamps, other wetland…a literal wildlife refuge in the middle of town. I can't imagine ANY other project, public or private, that would be granted permits required to build access ways and infrastructure in these areas. It is obvious this route was chosen over more typical routes for public transportation – routes through neighborhoods where there are PEOPLE LIVING – because IT IS MORE EXPEDIENT to build where THERE ARE NO PEOPLE LIVING NEARBY. When you plow through existing neighborhoods, people push back. When you slash through the parks, ponds and marshes, there's no on living there you have to bother with. The deer, rabbits, turtles and owls don't VOTE and they don't PAY TAXES – the only two things that matter tie our government "betters". But deer, rabbits and birds don't ride trains, either. If anyone is going to ride in these shiny streetcars (cutting edge technology if we were living in the 1870's) you ought to route them thru neighborhoods where more than a handful of people are going to get on or off these trains along the proposed route all the way from Highway 55 to Penn Avenue in Minneapolis to 63rd Avenue North in Brooklyn Park. And projected ridership north of that is what used to be called "blue sky". But none of this matters because the project MUST BE BUILT! That is ALL that matters. Dozens of government jobs and political "careers" depend on the money tied to project moving forward. By the time everyone sees that nobody rides the train and taxpayers are left saddled with the costs of keeping them running attention will be focused on some other project THAT MUST BE BUILD! When I attended the public meeting in Golden Valley and looked at the ID tags on people promoting the project and the names of various and numerous governmental units and agencies hoping to gorge themselves on pieces of this billion dollar pie it brought into focus just "WHY" the train MUST BE BUILT. The economic value of this project is LESS than worthless; taxpayers would be better served if the money were poured into a trench and burned.	Please see MASTER RESPONSES #1, #3, #6, #13, #14, #15, and #16.
125A	Smith	Marietta	None provided	125	US Mail	3 – NEPA Process and Public Involvement	When the Pre-Planning Committee issued its July 2012 report, there was no mention of a Plymouth Avenue Station. My concern is how did Plymouth Avenue Station go from not even being considered to the LPA status in such a short span of time. It appears that there was not	Please see MASTER RESPONSES #6 and #19.

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							the amount of advance planning notices with opportunities for input, comments from the most directly impacted communities on the "proposed" new route as was available during the original planning pre-July 2012.	
125B	Smith	Marietta	None provided	125	US Mail	4 – Social and Economic Effects	Originally, D2 Route (there was no Plymouth Avenue D1) was scheduled to go down Penn Avenue North -- the route which most directly services the target community in several of the LRT project's objectives. Now it has been totally ruled out of consideration. When asked why, the answer given is because it would have required the removal of too many homes. However, at the Crystal Community Center DEIS meeting on Thursday, May 14, 2014, one of the commenters stated that according to the current plans about 80 homes -- in just one area around the 93rd Avenue North area (and many around 63rd Avenue) would have to be removed to accommodate the current configuration of the Bottineau LRT. Why is that acceptable there but not on the more appropriate Penn Avenue configuration?	The PAC recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits. Since publication of the Draft EIS, modifications to the preliminary design have resulted in the avoidance of several anticipated property acquisitions and resulting displacements with the proposed BLRT Extension project. No residential property displacements would occur as a result of the proposed BLRT Extension project. Section 4.3 of the Final EIS summarizes acquisitions and displacements. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
125C	Smith	Marietta	None provided	125	US Mail	3 – NEPA Process and Public Involvement	I am also concerned that the DEIS investigators did not do a thorough investigation of the Plymouth Avenue-Theodore Wirth area -- including some of the Golden Valley areas especially since this corridor was a more recently considered route than those detailed in the July 2012 Pre-Planning Report.	The Final EIS discloses all known social, environmental, and economic impacts of the proposed BLRT Extension project on the Plymouth Avenue-Theodore Wirth area.
125D	Smith	Marietta	None provided	125	US Mail	3 – NEPA Process and Public Involvement	After having attended numerous meetings and reviewing several documents -- although insufficient time was NOT ALLOWED to review the DEIS Report -- it appears that the decision was already made to build this stretch of the Bottineau LRT corridor as "proposed" regardless of the community input and concerns. It appears that many of these meetings and "exercises" were/are just held to satisfy requirements of "community input" without due consideration to concerns raised.	FTA and HCRRA published the Draft EIS in April 2014. The Notice of Availability was published in the Federal Register on April 11, 2014, and in the Minnesota Environmental Quality Board (EQB) *Monitor* on April 14, 2014. These notices were followed by a 45-day public comment period that concluded on May 29, 2014. Copies of the Draft EIS were available at 16 locations for public review during the comment period. Four public hearings were held on May 7, May 8, May 13, and May 14, 2014. Chapter 9 of the Final EIS provides a summary of public involvement for the Final EIS, including a summary of open houses held during Final EIS preparation. The Council has hosted numerous events for public input in all corridor cities. Open houses, public hearings, and city council work sessions have all been organized to provide information about the proposed BLRT Extension project and to solicit feedback from community members. The Council also attends community events and presents to local organizations.
126A	Berg	H. Nils	None provided	126	Email	3 – NEPA Process and Public Involvement	I don't want to spend much time talking about process, but a few words need to be said. My wife and I attended the last DEIS meeting on May 7, but since I hadn't had the opportunity to read the document beforehand, I decided to just listen. I did have the opportunity to ask a few questions after the meeting and that was helpful. I learned the document was 1200 pages long and even the representatives present probably had not read it either. After all, it had only been "recently released." And then this past Tuesday evening a new set of demographics appeared from Hennepin County. I guess it leaves me wondering why all of this pertinent material arrives just prior to these get together. Terrible timing. Who can possibly wade through all of this stuff and then hope to participate in an intelligent conversation on the other side of it? The materials are either a month too late or these meetings are a month too soon to be productive or useful. It makes this whole venture feel like a quick shuffle.	Please see MASTER RESPONSE #5.

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126B	Berg	H. Nils	None provided	126	Email	4 – Social and Economic Effects	One thing I did learn from the latest meeting that I did find interesting, though, was that the Bottineau Preferred Alternative route was selected because the planners did not want to displace somewhere between 72 and 175 families in North Minneapolis. (LRT representatives have given me both of these figures in this very room). That's a noble thought— even if it is more than a tad disingenuous. In reality, LRT is all about social engineering and about telling people where they have to live. Retrofitting trains through valued neighborhoods, parks and lake areas is all about community disruption and displacement. To think of it as anything else is an exercise in deception and illusion.	The PAC recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits. Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
126C	Berg	H. Nils	None provided	126	Email	5 – Environmental Effects	The DEIS document has an extensive section on water management. That's good. Water flow going in and out of Rice Lake is a major concern for many of us. Robbinsdale apparently plugged up the flow under the BNSF tracks a number of years ago and we experienced significant flooding in both Mary Hills and our backyards as a result. The flow was so strong you could nearly whitewater raft in our yards. When Robbinsdale put in the new drainage culverts, things improved somewhat for us, but not for our neighbors who live downstream. To this day we all remain interested in any water tampering that is occurring upstream.	The proposed BLRT Extension project would run on a bridge over Grimes Pond. North Rice Pond would be largely unaffected, as the existing embankment upon which the BNSF rail corridor lies would not be altered.
126D	Berg	H. Nils	None provided	126	Email	7 – Alternatives, Engineering and Design	What is in it for freight? Reports about train delays, accidents and oil movement seem to appear on a frequent basis in our edition of The Star Tribune. Maybe you have seen the articles. It makes me think that if I was running the BNSF and I have trains backed up I would be interested in gaining shipment capacity. If you won't or can't give that to me, why would I be interested in sitting across the table from you? And if I am on the Golden Valley City Council, I wouldn't want to have to go back to my constituents and tell them that I had been successful in getting the railroad to bring longer, heavier and possibly oil laden trains through our neighborhood.	The Council continues discussions with BNSF Railway for the use/purchase of 50 feet of their right-of-way. To date, BNSF has not agreed to any participation in the cost of the proposed BLRT Extension project.
126E	Berg	H. Nils	None provided	126	Email	5 – Environmental Effects	Finally, my real concern for the evening. I see nothing in the DEIS addressing the fact that the Mary Hills Nature Center and Sochacki Park are both sitting on a landfill. The landfill area is the final resting place of old Highway 100. If you walk through the various paths in the parks, the concrete slabs you will readily see are the remnants of the roadway. The interesting thing about this is that much of Highway 100 was built as a post depression, Department of Public Works Project in the 1930's. Back then, before people knew better, a mineral called asbestos was commonly used in many forms of construction--including highways. Asbestos fibers apparently bonded to and strengthened the cement. They were not affected by temperature changes and they helped provide protection from salt damage. I don't know if there actually is asbestos present in the concrete and, from what I can tell, neither does the DEIS document mention it. I do know though that a variety of respiratory ailments can be directly traced to asbestos. And according to the Mesothelioma website, exposure over time can have dire consequences. The article states " an unmarred block of cement presents no danger, but…. any time it is cracked or broken, microscopic bits of asbestos are released. Once airborne, they can be breathed in by unsuspecting victims who discover years later that the material has lodged in their respiratory system. The article states that people can still be exposed to asbestos if they come across broken chunks of cement that contain the hazardous mineral." I bring	Please see response to Comment 117AD.

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							this up not to instill fear but to encourage caution should this project proceed. Light rail does not exist in its own little vacuum. Any effort to displace freight and reroute it through the Mary Hills Nature Center could conceivably turn a dormant landfill into a Hazardous Waste site.	
127A	Berg	H. Nils	None provided	127	Email	5 – Environmental Effects	Assisting with my infant grandsons tub bath last evening got me to thinking about, of all things, water displacement. The more toys we added, the higher the water rose. We didn't get anywhere near the point where the tubs built-in drain took over, but if we had, that drain would have automatically siphoned off water to prevent overflow. Funny how the mind works, but this, in turn, got me to thinking further about the Mary Hills flood plain. We live on Dresden Lane abutting the Mary Hills Nature Center. Since we have experienced times of substantial flooding in the past, we remain very concerned about any development occurring upstream from our property. I mentioned this at the Golden Valley Bottineau concerns meeting on May 15, 2014. Actions undertaken by Robbinsdale both caused and corrected a portion of our flooding problem. But, again, our concern remains…and here is why.	The Council refined estimates of floodplain impacts and requirements for stormwater management. The Council is cognizant that innovative techniques would be needed to counteract potential flooding downstream (including Bassett Creek) from infrastructure related to the proposed BLRT Extension project. See Section 5.2 of the Final EIS, and see also response to Comment 20A.
127B	Berg	H. Nils	None provided	127	Email	5 – Environmental Effects	Like the tub, the water-holding areas in Sochacki Park are a limited, well-defined area. They can only contain a certain volume of water. If you place more things in the water, like the substantially enlarged footings for three sets of railroad tracks instead of the current one, you wind-up filling in a significantly larger segment of the water catchment area. This would cause the water to deepen and/or spread out. This would pose a major problem for those of us living downstream and for the Mary Hills Nature Center.	The Council analyzed construction methods that would offset proposed fill in low-lying areas in and around Sochacki Park. Prior to construction of the existing railroad tracks, Grimes Pond and North Rice Pond were one waterbody. The fill from the railroad ballast that now bisects these ponds decreased their water holding capacity. The proposed BLRT Extension project would construct the LRT tracks on top of a bridge structure with a limited impact to the Grimes Pond floodplain (200 cubic yards). Compensatory flood storage will be constructed in Grimes Pond to eliminate floodplain impacts.
127C	Berg	H. Nils	None provided	127	Email	5 – Environmental Effects	Even a small rainfall could produce major flooding. If you were to try to address this issue by placing more large culverts in the two water basin areas, the volume of water flowing out of these areas and into Rice Lake would increase markedly and would potentially be a problem for landowners who live around the Lake. Even if those culverts functioned efficiently, like the aforementioned tub drain, the amount of water they would channel into Rice Lake would quickly overtake the capacity of the lake. The Lake, in turn would try to pass this faster moving, higher volume of water into Bassett Creek. The problem would now be shared with property owners downstream. I say shared because the problem has not disappeared for the residents upstream. Bassett Creek, you see, already has difficulty handling the volume of water we get in a heavy rainfall. It is unable to stay within its banks and will frequently overflow. If you were to walk along the creek banks, you would readily see that the water is in the process of carving a deeper channel with wider banks. Erosion is becoming more of an issue as the root systems of bank-anchoring trees are being more progressively exposed and the trees themselves are falling into the Creek. Even though the outflow of water has depend and sped up, the Creek is unable to handle the increasing volume of water flowing into it. As a result, the water can't get downstream so it backs up. And for those of us living upstream from Bassett Creek, while our flooding used to come from upstream, it now comes from downstream. Our recent rainstorms bore witness to that. The only feasible way to correct this worsening situation is to start corrective actions below Theodore Wirth Park and then begin working your way back upstream.	In Chapter 5 (Section 5.2) of the Final EIS, the relationship between the Council and entities such as the Bassett Creek Watershed Management Commission are described. Floodplains are protected by local, state, and federal legislation because of their ecological value and functionality. Regulatory and permitting authority for floodplain impacts falls to the local government unit (LGU), which is typically the municipality. Watershed management organizations (WMOs) also regulate floodplain impacts to waters within their jurisdictional authority. Table 5.2-1 in the Final EIS shows that there is a loss of 16,800 cubic yards of flood storage volume in Bassett Creek due to the construction of the alignment and station. The floodplain mitigation area between the main stem of Bassett Creek and the proposed BLRT Extension project and BNSF rail corridor (partially in Theodore Wirth Regional Park and partially on private property; initially identified in the Draft EIS) has been further refined. The mitigation would include excavating adjacent ground below the 100-year floodplain elevation to provide compensatory floodplain storage for the fill placed in the floodplain.

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127D	Berg	H. Nils	None provided	127	Email	3 – NEPA Process and Public Involvement	Any Draft EIS document that does not address this issue is little more than a "fill-in-the-blanks" exercise at best. At worst, if the motivation behind the Draft is to "prove" that the Preferred Alternative is the only rail route worth considering, then the Draft itself is little more than a cherry-picking document that is determined to prove its case at the expense of the facts and the experiences of those of us who live along the proposed route.	The AA and Draft EIS process examined numerous alignment options summarized in Chapter 2 of the Final EIS. The proposed BLRT Extension project includes an alignment that meets the purpose and need most efficiently and minimizes project impacts. Also, please see response to Comment 21C.
129A	Nieman	Scott	None provided	129	Email	7 – Alternatives, Engineering and Design	This letter is a follow up to my 3 minutes allotted time for comments at the public forum held at Crystal Community Center. As previously stated, I am very much in support of the intent of the Bottineau Transitway as a positive step forward to advancing our public transportation needs in the Twin Cities area. However, after review of the Draft EIS, I am very concerned that:	Pease see MASTER RESPONSE #2.
129B	Nieman	Scott	None provided	129	Email	5 – Environmental Effects	The report misrepresents the environmental consequences and overall benefits of the "Preferred Alternative", specifically the D1 segment that passes through Theodore Wirth Parkway the proposed construction of either of the two stations options at the park.	Please see response to Comment 21C.
129C	Nieman	Scott	None provided	129	Email	7 – Alternatives, Engineering and Design	A D2 subway option was never even considered, mentioned, or cost estimated (based on total cost of ownership, not just immediate project construction costs.	Please see MASTER RESPONSE #20.
129D	Nieman	Scott	None provided	129	Email	3 – NEPA Process and Public Involvement	There was very limited public service announcements for the public forums, especially to known community groups that have vested interest in public transportation and embarrassingly insufficient time for residents to articulate their views, and there was no representation from Minneapolis City Council.	FTA and HCRRA published the Draft EIS in April 2014. The Notice of Availability was published in the Federal Register on April 11, 2014, and in the EQB *Monitor* on April 14, 2014. These notices were followed by a 45-day public comment period that concluded on May 29, 2014. Copies of the Draft EIS were available at 16 locations for public review during the comment period. Four public hearings were held on May 7, May 8, May 13, and May 14, 2014. Chapter 9 of the Final EIS provides a summary of public involvement for the Final EIS, including a summary of open houses held during Final EIS preparation. The Council has hosted numerous events for public input in the City of Minneapolis. Open houses, public hearings, and city council work sessions have all been organized to provide information about the proposed BLRT Extension project and to solicit feedback from community members. The Council also attends community events and presents to local organizations.
129E	Nieman	Scott	None provided	129	Email	7 – Alternatives, Engineering and Design	The summary statement in Section 2.6 completely contradicts the summary of the EIS data in Table 5.2-1. The D1 option through the Theodore Wirth Park along Bassett Creek has the most environmental impact of all segments (A, B, C, D1, D2). Why was this concluded as the preferred option in Section 2.6?	As summarized in Chapter 2 – Alternatives of the Final EIS, the LPA meets the purpose and need of the proposed BLRT Extension project and is the environmentally preferable alternative because it best protects, preserves and enhances social, historic and cultural resources. However, the LPA does not cause the least damage to the biological and natural resources of the physical environment.
129F	Nieman	Scott	None provided	129	Email	5 – Environmental Effects	The D1-7 wetland (as discussed in Section 5.2.4.1) floods near the proposed Plymouth Avenue station practically every year I have lived in the area including the week of May 3 of this year, requiring closure of the parkway. Flooding of the roadway limits access to the proposed station, making it an illogical option.	Please see response to Comment 26A.
129G	Nieman	Scott	None provided	129	Email	5 – Environmental Effects	This Bassett Creek area has an incredible and very sensitive ecosystem that would be disturbed if there is any attempt to mitigate (5.2.5) future flooding for the sake of a light rail station. That is unacceptable – every historical attempt that humans have made to "make nature better" has ultimately failed via some form of downstream ripple effect.	In Section 5.2 of the Final EIS, the relationship between the Council and entities such as the Bassett Creek Watershed Management Commission are described. Floodplains are protected by local, state, and federal legislation because of their ecological value and functionality. Regulatory and permitting authority for floodplain impacts falls to the LGU, which is typically the municipality. WMOs also regulate floodplain impacts to waters within their jurisdictional authority. Table 5.2-1 in the Final EIS shows that there is a loss of 16,800 cubic yards of flood storage volume in Bassett Creek due to the construction of the alignment and station. The floodplain mitigation area between the main stem of Bassett Creek and the LRT and BNSF rail corridor (partially in Theodore Wirth Regional Park and partially on private property;

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								initially identified in the Draft EIS) has been further refined. The mitigation would include excavating adjacent ground below the 100-year floodplain elevation to provide compensatory floodplain storage for the fill placed in the floodplain.
129H	Nieman	Scott	None provided	129	Email	7 – Alternatives, Engineering and Design	The Golden Valley station option on the D1 segment is clearly not a much better environmental option; the construction of the proposed underground parking -- especially the access road to the parking area – will feed unwanted sediment into Bassett Creek.	Underground parking at the Golden Valley Road Station is no longer being explored as a feasible option for parking. The design that has been moved forward as part of the revised scope of the proposed BLRT Extension project is a surface lot that would accommodate about 100 spaces and is to be designed with stormwater management mitigation measures.
129I	Nieman	Scott	None provided	129	Email	8 – Transportation System Effects	It is naïve to believe that North Minneapolis residents would be well served by placing a substation at either the proposed Plymouth Avenue or Golden Valley Road locations. Very few people will take a bus traveling west, so they can ride the light rail to travel east – they will instead use a bus – therefore the use by North Minneapolis residents will be extremely limited, failing to meet ridership objectives. When I brought this matter up with Joe Gladke of Hennepin County, he responded that most northsiders prefer to ride the bus anyway – which raises suspicion that by-passing North Minneapolis was very intentional.	The Council used its regional travel demand forecasting model to develop the transit ridership forecasts for the project. The proposed BLRT Extension project ridership modeling is discussed in Section 3.1 of the Final EIS.
129J	Nieman	Scott	None provided	129	Email	6 – Noise and Vibration Effects	Report does not address the noise pollution for residents, or provide a mitigation plan for the noise in the form of diffusion walls, which would not be acceptable in areas near Theodore Wirth Park adjacent to residential areas. This was one of the major concerns raised by residents attending the secret public forums.	Please see MASTER RESPONSE #17.
129K	Nieman	Scott	None provided	129	Email	4 – Social and Economic Effects	By-passing North Minneapolis is a huge mistake and lost opportunity for economic development in an area that has been economic depressed, worsened by the 2011 tornado which devastated the specific area which a train station should be located. It has wide open spaces for development, hence very low cost.	The PAC recommended Alignment D1 over Alignment D2 (through North Minneapolis) because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits.
129L	Nieman	Scott	None provided	129	Email	1 – Purpose and Need	In summary, the D1 option therefore fails to meet a majority of the key objectives of the project, including increasing ridership for those in need, minimizing environmental impact, and promotion of economic development for North Minneapolis residents who need jobs. I provide later for the record, a detailed 'report card' of how the D1 option compares to the key objectives outlined in the Draft EIS.	The LPA (Alternative B-C-D1) meets the purpose of and need for the proposed BLRT Extension project.
129M	Nieman	Scott	None provided	129	Email	7 – Alternatives, Engineering and Design	Regarding point #2, I find it disturbing that the D2 option was ruled out when all the available options were not considered or documented. An urban subway approach fits Minnesota weather much more than above ground light rail, and show s a sense of maturity in the form of urban public transportation. Applying light rail in a dense urban setting is not logical, and is a symptom of the classic 'I have a hammer everything looks like a nail' mistake. Light rail transit only works in the suburbs, and when you get into the city, you must go underground. I recommend a rail approach modeled after the Metrorail in Washington D.C., whereas when you get out to Gaithersburg, Maryland, the rail goes above ground. The D2 subway approach provides the following benefits: ■ Lower long term maintenance costs since the rail would not be exposed to winter elements. ■ Lower construction costs than above-ground total construction and maintenance costs	Please see MASTER RESPONSE #20.

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							◦ Consider Seattle's on-going efforts where they are drilling through volcanic rock, vs. Minneapolis' clay, sand and limestone ◦ Reduced land acquisition costs since the rail would be directly under Penn Avenue Station ◦ No bridges to construct or bridge maintenance ◦ No sound barriers to construct ◦ No snow removal required ■ Little to no impact to vehicle traffic and parking after construction, improved access to local businesses; compared to the new traffic problems on University Avenue since the Green Line construction ■ Reduced noise pollution, which was echoed as a major concern at the public forums I attended ■ Increased ridership for those in need ■ Improved public safety ◦ low risk to pedestrians and bicycles, ◦ eliminates the potential of accidents, consider we have had an average of 8 accidents per year on the existing Hiawatha Avenue Blue line in the last 10 years, and 3 car accidents already on the Green line before it officially opens http://kstp.com/article/stories/s3438823.shtml ■ Guaranteed rider payment, if Metro Transit uses of a similar ticketing system to the Metrorail, ■ Utilization of available, wide open spaces created by the North Minneapolis 2011 tornado; there is great opportunity to place an escalator at the NW corner of Penn Avenue and West Broadway intersection, for access to the subway. ■ Placing a transfer station at Penn Avenue and West Broadway intersection provides great economic development opportunities in an area that has long attempted to create an Arts District; e.g., consider the redevelopment of the Capri Theater and the Five Corners development project, which is still struggling to find an anchor business such as the jazz club/restaurant originally envisioned. (This approach is consistent with the Penn Avenue Community Works Project RESOLUTION NO. 12-0238, which has had extremely little progress since passed in 2012). ■ Eliminates the perception of racism.	
129N	Nieman	Scott	None provided	129	Email	7 – Alternatives, Engineering and Design	Regarding point #3, implementation of a D2 subway option addresses the concerns raised by Neighborhoods Organizing for Change (NOC). Recently, this group has made presentations to Metropolitan Council members, as there is great concern that North Minneapolis not getting its fair share of transit amenities, despite having a heavily transit-dependent population. They have raised concerns about disproportion number of sheltrs to protect against the weather, when compared to South Minneapolis riders, who have much lower ridership levels. This group has appeared to gain support of Metropolitan Council Member Gary Cunningham, husband of Minneapolis Mayor Betsy Hodges. http://www.startribune.com/local/minneapolis/258843021.html Please take note that I will be forwarding this analysis/letter to Met Council members as well.	Please see MASTER RESPONSE #20.
129O	Nieman	Scott	None provided	129	Email	7 – Alternatives, Engineering and	When compared to the D.C. Metrorail system, our rail system is infant in its maturity, and is not yet viewed as the strategic asset it could be, to improve the vitality of downtown Minneapolis and St Paul. By	The Council acknowledges your concern about placing rail underground on 5th Street in Downtown Minneapolis. The proposed BLRT Extension Project would not

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						Design	comparison, downtown Washington D.C. economy thrives largely due to the Metro -- in general, there are very few vehicles downtown other than taxis. Most people hop on the MetroRail to very quickly get downtown and its mostly underground for a reason. As for Minneapolis, its downtown is struggling because its too much of a hassle to park and businesses are leaving as they cannot survive as a result. And we lost a huge opportunity to place the rail system underground on 5th Street, eliminating traffic and pedestrian concerns, preserving the limited on-street parking.	modify any rail on the existing Blue Line east of the Target Field Station.
129P	Nieman	Scott	None provided	129	Email	7 – Alternatives, Engineering and Design	In light of these concerns, while I am in support of the Bottineau Transitway to extend the Blue line, the project needs to be put on hold until a D2 subway option through North Minneapolis analysis is completed. We must do better.	Please see MASTER RESPONSE #20.
132A	Applebaun	Steve	None provided	132	Email	5 – Environmental Effects	My wife and I live directly across the street from Sochachi Park. The proposed Bottineau Transitway will go through the park. We are opposed to the development of this project. We believe it will destroy the pristine nature of the park. The noise of the train frequently going through the area will scare away the wildlife. We migjht have a new way to transport people with this transitway but we will lose the irreplaceable jewel that this park represents for all the residents that live nearby. Please vote against this project.	Please see MASTER RESPONSE #15.
134	Bartell	Julie	None provided	134	Email		Same comments as Billy Binder, co-signed letter	Chapter 3 (Section 3.4) of the Final EIS summarizes bike and pedestrian improvements. The proposed BLRT Extension project would provide several long-term improvements to pedestrian and bicycle accessibility and safety. All LRT stations would provide safe access for pedestrian and bicycle traffic. Bicycle parking would be included at or near stations as space allows, with the type and location of parking to be determined by the Council as station design and site development progress. The issue-resolution process conducted with Metro Transit, Hennepin County, and staff from the cities along the proposed BLRT Extension project alignment resulted in several modifications to the pedestrian and bicycle environment beyond that presented in the Draft EIS.
134A	Binder	Billy	None provided	134	Email	7 – Alternatives, Engineering and Design	We found the Bottineau Light Rail Transit (LRT) Draft Environmental Impact Statement (DEIS) to be adequate in every way. We believe that the Bottineau LRT line is an important part of our regional transit way system, and that the project effectively addresses regional transportation and accessibility needs of a growing population in Minneapolis and the northwest suburbs in the future.	Please see MASTER RESPONSE #2.
134B	Binder	Billy	None provided	134	Email	7 – Alternatives, Engineering and Design	The Bottineau line proactively addresses increasing traffic congestion with an environmentally sustainable solution and serves a uniquely transit dependent population--in all of Minneapolis and inner ring suburbs--with reverse commute access to jobs in the northwest suburbs.	Please see MASTER RESPONSE #2.
134C	Binder	Billy	None provided	134	Email	7 – Alternatives, Engineering and Design	We believe that we need to provide both the Golden Valley Road and the Plymouth Avenue North stations to provide LRT access to two very different communities, Golden Valley and North Minneapolis, respectively.	Please see MASTER RESPONSE #19.
134D	Binder	Billy	None provided	134	Email	3 – NEPA Process and Public Involvement	We think that we need to listen carefully to our neighbors in Golden Valley who are rightly concerned about all of the environmental consequences that will be a part of the LRT project and we think that the DEIS is very sensitive to these concerns	The Final EIS discloses environmental impacts of the proposed BLRT Extension project and includes avoidance, minimization and mitigation measures. The Council engages and will continue to engage the public in the preliminary engineering process and into construction. The Council will be key in notifying businesses and residents of construction plans, road closures and bus re-routes as well as being a point of contact for construction related emergencies such as power outages. The

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								outreach program provides many avenues for people to submit comments and concerns, which are forwarded to the planners and engineers.
134E	Binder	Billy	None provided	134	Email	6 – Noise and Vibration Effects	We believe that we should establish "Quiet Zones" proscribed in the DEIS in the areas north of Highway 55 and South of 36th Avenue North. Since there will be no on grade crossings in this section every effort should be made to completely eliminate all train bells entering and exiting the Golden Valley Road and Plymouth Avenue stations, eliminate all wayside bells on the stations and eliminate all train horns except in cases of emergencies, and eliminate or minimize all public address announcements on the train or in the station to a very, very low volume. We appreciate the DEIS discussion of noise barriers in the project and expect that a productive discussion can be made with specific nearby neighborhoods about what is most effective, and of eliminate all tight radius curves at stations or along the line.	Please see MASTER RESPONSE #17.
134F	Binder	Billy	None provided	134	Email	4 – Social and Economic Effects	Many of our Golden Valley neighbors spoke about the need for security on the LRT trains, stations and in the Golden Valley Road corridor itself and all lighting and additional security accommodations must be made because the location of this particular station is isolated.	Please see MASTER RESPONSE #8.
134G	Binder	Billy	None provided	134	Email	7 – Alternatives, Engineering and Design	Adequate bus, vehicle, bike, wheelchair, and pedestrian access should be an integral part of LRT station area design, it should be safe and convenient to drop off and pick up passengers.	Chapter 3 (Section 3.4) of the Final EIS summarizes bike and pedestrian improvements. The proposed BLRT Extension project would provide several long-term improvements to pedestrian and bicycle accessibility and safety. All LRT stations would provide safe access for pedestrian and bicycle traffic. Bicycle parking would be included at or near stations as space allows, with the type and location of parking to be determined by the Council as station design and site development progress. The issue-resolution process conducted with Metro Transit, Hennepin County, and staff from the cities along the proposed BLRT Extension project alignment resulted in several modifications to the pedestrian and bicycle environment beyond that presented in the Draft EIS.
134H	Binder	Billy	None provided	134	Email	8 – Transportation System Effects	Thank you for allowing us to comment on the DEIS, we think that it is very well done and we are looking forward to the construction of this necessary and important project. Beyond the narrower scope of the DEIS, we would like to add that the LRT station on Golden Valley Road and the project itself with its regional reach will open up many exciting possibilities for the City of Golden Valley to work with Hennepin County to modernize County Highway 66 to truly connect all of Golden Valley to a new world class transit system. Golden Valley can get its own upgraded bus service along Golden Valley Road (it is a patchwork system today) that connects to the City Center by the way of Honeywell, Byerly's, Courage Kenney Center, and the LRT station. Our city can have off street bike lanes that are family friendly along Golden Valley Road to make all of the same connections and pedestrians and people with disabilities will have their own safer sidewalk spaces if bike riders are accommodated on defined bike lanes. We can all enter the 21st Century with the positive changes that the Bottineau LRT line will bring if we all work together to use the most modern engineering and design practices both on the LRT line and on all of our connecting roadways!	Chapter 3 of the Final EIS discusses the transit conditions of the proposed BLRT Extension project corridor and region. The proposed BLRT Extension project transit ridership forecasts reflect future development and planned and programmed transportation system investments. The 2040 regional travel demand model incorporates roadway system improvements identified in the fiscally constrained (current revenue) scenario of the Council's regional *Transportation Policy Plan* (*TPP*) adopted in January 2015. The alternatives analyzed in the travel demand forecast model include specific network modifications to existing transit service including changes in routing, frequency, and travel time. Network modifications are focused on providing an integrated "feeder" bus network to connect people to the proposed BLRT Extension project stations. Bus networks and transit plans would continue to be refined as the project progresses; final bus network changes would be subject to a robust public involvement process in accordance with Title VI requirements.
135A	Wall-Romana	Christophe	None provided	135	Email	4 – Social and	1. The Bottineau Line project aims to bring the LRT to the northeast	The commenter is correct in stating that north Minneapolis neighborhoods have

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						Economic Effects	quadrant of the greater Twin Cities area. Among the benefits sought and adduced as rationales are road decongestion and positive economic fallout for the region. But the Bottineau Line plans serve mostly low-density areas, shirking low-income communities of color of North Minneapolis, and instead, as touted in the Hennepin County video 'Bottineau LRT' it uses the "190 high-paying jobs" planned at Baxter Pharmaceuticals in Brooklyn Park as a justification. Linking with corporate campuses seems to play too central a role in the design and location of the Bottineau Line, to the detriment of other factors, such as the distribution of low-income high mass transit users in the project area. The Bottineau Blvd axis running SE-NW from the Target Field Transit Center to W. Broadway Ave. (closest to proposed alignment 2d) is the obvious and preferred location as it intersects the areas of North Minneapolis (roughly between Glenwood and Dowling and Penn and Lyndale) that are all at once the densest (according to the 2008 Population Census Density Map by Census Block Group [ESRI, 2008, DEIS 7-7]), have the lowest income (according to the 2013 Median Household Income Map by Census Block Group [ESRI, 2013]), and the least proportion of vehicles per household (DEIS 1-22). My main opposition to the project centers therefore on its avoidance of the central challenge presented by the North metro area: committing to develop a historically under-served and economically segregated area for the betterment of the greater Twin Cities. The D2 proposed line (and its avatars, D2a, b and c) was a very poor choice: it has high environmental impacts with insufficient mitigation; low neighborhood buy-in or participation (Section 11-10 mentions the Maple Grove express bus whose service is so good that users may not switch to LRT, proving that low-impact express bus service is a stronger alternative than investigated by the DEIS); and botched interactions with the public (2012 presentation of D2 project, for instance; also the Golden Valley joint commission meeting on 5/21 was said to have been badly advertised and explained to the citizenry by one member of the commission). The Bottineau Line project fails to contribute adequately to economic injustice redress while the input of corporate stakeholders is disproportionately represented, to the detriment of the majority of the low-income population of color of the area. The push for a regional LRT solution instead of expanded local, express and suburban bus service—which represent together 86% of ALL transit in the metro area, and is thus the favored mode by most transit riders—may be misdirected when it comes to the North. The Bottineau study area is 52.4% minority, that is minorities are the majority. Yet the bulk of that population in North Minneapolis, will not be served by the D1 alternative. The rationale of the project is to aid minorities which aren't being helped by the final design.	large percentages of low-income and transit-dependent residents. The evaluation of Alignments D1 (part of the proposed BLRT Extension project) and D2 (located along Penn Avenue in north Minneapolis) considered several environmental and social issues and impact areas. While each alternative has a number of benefits and impacts the surrounding area and residents, the social and environmental justice impacts associated with the displacement of many homes and disruption of community cohesion with Alignment D2 would be disproportionately adverse. With Alignment D1, the north Minneapolis community would not have the proposed BLRT Extension project stations on Penn Avenue; however, Metro Transit has been advancing the planning and design of an enhanced transit service for the Penn Avenue corridor to serve the transit-dependent populations. A network of arterial BRT lines is planned for the Minneapolis–St. Paul area, including the C Line along Penn Avenue. BRT is an enhanced transit service providing 25–30 percent faster trips and an improved experience for transit riders. This new BRT line would provide enhanced transit for this community, as well as opportunities for economic development, without the significantly adverse impacts associated with the proposed BLRT Extension project. The Council acknowledges your concern about public input into the planning process for the proposed BLRT Extension Project. Chapter 9 of the Final EIS describes the public outreach process used for public and stakeholder outreach. For the proposed BLRT Extension project, the Council has implemented a comprehensive public outreach program that has engaged nearby communities and underrepresented groups in the project design and engineering process. This includes appointing two voting members to the proposed BLRT Extension project Corridor Management Committee that represent the Blue Line Coalition (a community-based group working to advance local and regional equity and community health along the Blue Line corridor). The project has also established a Business Advisory Committee and Community Advisory Committee to seek public input and advise the CMC and the Council. The Council will continue to engage community groups directly and via local/neighborhood-based media to inform on project progress.
135B	Wall-Romana	Christophe	None provided	135	Email	4 – Social and Economic Effects	2. Page 7-33 of the DEIS stipulates that transit provides a positive role in promoting social equity. The problem with the Environmental justice section is that it does not analyze economic justice. In fact, that is the greatest problem with the Bottineau project: it is blatantly unfair to the community that is most in need of economic justice and it simply circumvents the key issue of how the Met Council approaches the redevelopment and reinvigoration of North Minneapolis.	Please see response to Comment 135A.
135C	Wall-Romana	Christophe	None provided	135	Email	4 – Social and Economic Effects	3. Golden Valley and other Southern Corridor communities (Crystal, New Hope, Robbinsdale) whose populations have declined over the last 20 years, are asked with the Bottineau Line to help with the job	Sochacki Park and Sochacki Park: Mary Hills Nature Area would be restored and enhanced following the completion of construction and continued coordination with the Sochacki Park Joint Powers Agreement partners (the Three Rivers Park District,

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							creation and residential increase in population of the Northern Corridor communities of Brooklyn Park and Maple Grove (DEIS, p. 1-13). The Southern cities should therefore receive the highest level of mitigation from the project for being 'good citizens', and Southern Corridor municipalities should hold back consent until project leaders recognize the need for respectful mitigations. The language in 4.2.5 proposes minimal or non-existent mitigations. Because there is no planned impact on community cohesiveness and character, mitigations are quickly reduced to Best Management Practices, limited to informing residents about construction disruptions and deigning "to keep access to bus stops open" (DEIS 4-36). Yet the DEIS has insufficiently studied the importance of Sochacki Park/Mary Hills for both the character and cohesiveness of populations of Golden Valley, Crystal and others that use and love these beautiful and peaceful watershed areas. Mitigation offered by the DEIS are paltry, patronizing and downright offensive	the city of Golden Valley, and the city of Robbinsdale). Additional supporting data and explanation have been added to the Final EIS and Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8). The park will remain open to recreational use during construction. Impacts to wetlands would be addressed in accordance with the Clean Water Act and the Wetland Conservation Act. One mitigation measure is for the project to construct a paved trail that would connect Theodore Wirth Parkway trail to Sochacki Park. Additional mitigation measures include environmental remediation, a revegetation plan, and prep for a future off-leash dog park. Additional measures can be found in the Final Section 4(f) and 6(f) Evaluation. Section 4.2 of the Final EIS describes each of the communities along the proposed BLRT Extension project (the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park) including park resources along the proposed BLRT Extension project corridor. The analysis of long-term and short-term direct neighborhood and community effects is based on the following three criteria: changes to community facilities access; changes to community character; and changes to community cohesion. No direct impacts are anticipated for the community facilities along the D1 alignment.
135D	Wall-Romana	Christophe	None provided	135	Email	5 – Environmental Effects	Letter from the Army Corps of Engineer, March 22, 2012: to US dept. of transportation: "Time and money spent on the proposal prior to applying for a section 404 permit cannot factored into the corps' decision whether there is a less damaging practicable alternative to the proposal." I ask that the same rationale be made clear in the final EIS: that money and efforts invested in this project must not constitute not the basis for its final acceptance by lead agency, the Met Council or municipalities that can withhold their consent if mitigations to their citizenry is not deemed sufficient.	Coordination between the Council and USACE for obtaining permit approval under Section 404 of the Clean Water Act has been ongoing since the initiation of the Draft EIS. Coordination with the USACE also included FTA and Council participation in a merger process between the NEPA and the Clean Water Act Section 404 permitting processes. The NEPA/404 merger process provided USACE with an opportunity to review and comment on four sequential concurrence points at key milestones during project development: (1) purpose and need (concurrence on June 19, 2013), (2) array of alternatives and alternatives carried forward (concurrence on June 19, 2013), (3) identification of the Preferred Alternative (concurrence on October 1, 2013), and (4) design phase impact minimization (concurrence on June 16, 2016).
135E	Wall-Romana	Christophe	None provided	135	Email	8 – Transportation System Effects	5. Frequency and alarm system are two key areas. The Bottineau is supposed to have a frequency into the 3-4 min. at peak times when the green line with 50% more ridership has only a 10 min. maximum with noise mitigation such as floating slab platforms. I ask that the Bottineau be not given carte blanche when it comes to frequency—and aggregate noise impact on quality of life has not been properly studied in the DEIS--and instead that municipalities reserve consent until a frequency lower than that of the green line is offered, that is, proportionally to the respective planned ridership of both lines. Horn should only be used for emergency or special operation as in the green line, and bell should be the default.	The Final EIS assumes that trains would operate at 10-minute frequencies for weekday operations. Travel times and operating assumptions for the proposed BLRT Extension project are discussed in Section 2.5.2.3 of the Final EIS. Concerning noise impacts: Please see MASTER RESPONSE #17.
135F	Wall-Romana	Christophe	None provided	135	Email	3 – NEPA Process and Public Involvement	6. The DEIS should include a section regarding mitigations offered on the Southwest Corridor line since residents and municipalities have a right to know and project leaders have a duty to inform. Frequency and noise levels should also be compared across the green line, the Southern corridor line and the Bottineau: again, there are no grounds to keep this very useful information out of the final EIS.	The proposed BLRT Extension project and the Southwest light rail project are independent projects with differing impacts and mitigation measures. While the Council is coordinating the development of both projects, it would not be appropriate to discuss the Southwest light rail project mitigation measures in the Final EIS for the proposed BLRT Extension project.
135G	Wall-Romana	Christophe	None provided	135	Email	6 – Noise and Vibration Effects	7. Construction hours. The project's leaders need to commit to respectful and reasonable construction hours, regardless of local noise ordnances: All residents impacts should have their noise comfort equally protected so that no environmental justice issues when it comes to noise is equal throughout the project area. The maximum construction allowed should be 8 am to 6pm, no work on weekends or holidays.	Construction would occur within the hours prescribed in each city's noise ordinance as summarized on page 5-56 of the Draft EIS. Construction activities would generally take place between 7:00 a.m. and 6:00 p.m. Anything outside of hours allowed in the respective noise ordinances would require a special permit and notification of residents. Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria for construction and operating phases. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 of the Final EIS.

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135H	Wall-Romana	Christophe	None provided	135	Email	3 – NEPA Process and Public Involvement	I note in closing an aggressive and dismissive tone among project leaders that is reflected by the DEIS when it comes to describing more candidly the pros and cons of the project and its impact. The tone is reflected by the use of the phrase “it is anticipated that” which conceals both the author(s) of the anticipated item and the rational for it. I would like every important decision – frequency, mitigation, aggregate noise impact – to be clearly and transparently explained to residents involved. The DEIS is a federally mandated way of entering into a fair discussion with the people which large project will impact. That conversation thus far is a bureaucratic monologue: most residents have no idea what is in store, the DEIS is dismal. Municipalities also must do a much better job at getting the word out of their citizenry, and elected officials have a duty to be answerable to their communities whether on the Met Council or in smaller entities. Do a better job at giving a clear picture of what the future holds for all residents impacted by Bottineau! In fact, it should be mandated that a document with pros and cons be circulated to all residents directly impacted per the DEIS.	Please see MASTER RESPONSE #6.
137A	Chesney	Steve	None provided	137	Email	7 – Alternatives, Engineering and Design	I support the routing of the transitway as described in the public meetings and the draft statement. There are negatives of course, homes will be bought out. There will be a different kind of traffic and noise through the neighborhood.	Please see MASTER RESPONSE #2.
137B	Chesney	Steve	None provided	137	Email	7 – Alternatives, Engineering and Design	But I think the routing mostly minimizes those effects by avoiding large natural areas and mostly following commercial and institutional strips. I think the cultural and human benefits outweigh the negatives. It’s a new way to bind together downtown, older neighborhoods and new developments in a way that highway and roads simply cannot accomplish. I do look forward to seeing the benefits on such things as the underused strip mall on 85th and Broadway. But mostly I look forward to being able to park near the intersection (only a mile or so from my home) and having easy access to Downtown and Target Field. It will be a plus to my environment.	Please see MASTER RESPONSE #2.
138A	Christle	Terry	None provided	138	Email	7 – Alternatives, Engineering and Design	Promise we won’t fight over a tunnel, just want and need our transit way done……hope we get funding and stay on schedule! Good work to all involved, we look forward to the train!	Please see MASTER RESPONSE #2.
140A	Bonniwell	Constance	None provided	140	US Mail	7 – Alternatives, Engineering and Design	I walked a ring around our woods from 27th Avenue North and the BN rail line to Golden Valley Road, then down the east side of the BN line to Highway 55, a 100+ acre expanse of wild life habitat your Draft EIS makes no reference about. I knocked only on the doors of properties abutting the BN line or abuting the wooded parkland that abuts the BN line (many of those owners have maintained private wild life habitat bordering park woods for decades) with some owners living directly across the street from park or BN wild life habitat. The owners on the front lines. Here are 96 of the 102 addresses I have collected so far. 4 of them are not on the front lines but I wasn’t telling anyone that they couldn’t sign a petition for no LRT in their woods. My biggest problem is people not answering doors. I have listened to many property owners and I can say with assurance that the true local preference is NO BUILD. A petition was attached as well. (This is the same correspondence as #27 sent to a different person)	Please see MASTER RESPONSE #1.
141A	Deikman	Cathy	None provided	141	Email	7 – Alternatives, Engineering and Design	I am writing to express my opposition to using the Burlington Northern Santa Fe Railroad corridor for LRT. This alignment is a triple negative: 1) it does not serve urban transit needs	Please see MASTER RESPONSE #1.

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141B	Deikman	Cathy	None provided	141	Email	5 – Environmental Effects	2) it is a physical and sensory blight that will significantly and permanently degrade adjacent Theodore Wirth Park	Please see response to Comment 91B and MASTER RESPONSE #14.
141C	Deikman	Cathy	None provided	141	Email	5 – Environmental Effects	3) it ruins the potential urban greenspace of the rail corridor.	Please see response to Comment 91B.
144	Flower	Jane	None provided	144	Email		Same comments as Paul Flower, cosigned letter	
144A	Flower	Paul	None provided	144	Email	7 – Alternatives, Engineering and Design	We are residents of Golden Valley. We live near the proposed route for the Bottineau light rail line. We are opposed to the proposed route for the light rail for the following reasons.	Please see MASTER RESPONSE #1.
144B	Flower	Paul	None provided	144	Email	5 – Environmental Effects	While we are not opposed, per se, to the idea of improving mass transit, we believe this particular proposal to be a bad idea. The area of the proposed route in Golden Valley is in an undeveloped nature area, with wetlands, a forest, a peaceful walking trail, and abundant wildlife. It is used and enjoyed by many people who have purposefully chosen to purchase homes near such an area to live and raise their families. Such as areas is something to be valued and preserved in the midst of a major urban center.	Chapter 8 of the Final EIS and the Amended Draft Section 4(f) Evaluation address the effects of the proposed BLRT Extension project on parkland. Theodore Wirth Regional Park, Sochacki Park: Sochacki Management Unit, and Sochacki Park: Mary Hills Management Unit were analyzed under Section 4(f). Please see also MASTER RESPONSES #14 and #15.
144C	Flower	Paul	None provided	144	Email	4 – Social and Economic Effects	This will all be greatly disturbed by the creation of additional rail lines and trains running every 7.5 minutes and continuing into the night. Besides the negative environmental impact, we believe that this proposal also needs to be looked at from the perspective of how will this particular route be of benefit to residents of Golden Valley. It does not run through a densely populated area, and it does not provide easy access for those who may wish to use the light rail. Rather, it goes through a nature area that will not provide much, if any, room for a stop or parking for a station. It would seem to make much more sense to run the line through a more populated area, such as along Penn Avenue, where many more people would be served by light rail. Rather, it goes through a nature area that will not provide much, if any, room for a stop or parking station. Such route would also serve North Memorial Hospital. Or, if the light rail is to serve Golden Valley, it should follow route near a major thoroughfare, such as Hwy 100 or 169. In short, we hope that this is not a “done deal”, and that the powers that be will look very closely at the negative aspects of the proposed route and will decide against proceeding with this plan.	Chapter 3 – Transportation of the Final EIS addresses ridership and connectivity of the Golden Valley Road and Plymouth Avenue stations by car, bus, and walk up. A park-and-ride would provide 100 parking spaces for users of the Golden Valley Road Station. Approximately 905 daily boardings would occur at the Golden Valley Road Station and 229 at the Plymouth Avenue Station. The evaluation of Alignments D1 and D2 (Penn Avenue) considered several environmental and social issues and impact areas. While each alternative has a number of benefits and impacts the surrounding area and residents, the social and environmental justice impacts associated with the displacement of many homes and disruption of community cohesion with Alignment D2 would be disproportionately adverse. With Alignment D1, the north Minneapolis community would not have the proposed BLRT Extension project stations on Penn Avenue; however, Metro Transit has been advancing the planning and design of an enhanced transit service for the Penn Avenue corridor. A network of arterial bus rapid transit (BRT) lines is planned for the Minneapolis–St. Paul area, including the C Line along Penn Avenue. BRT is an enhanced transit service providing 25–30 percent faster trips and an improved experience for transit riders. This new BRT line would provide enhanced transit for this community, as well as opportunities for economic development, without the significantly adverse impacts associated with the proposed BLRT Extension project.
145A	Heim	Erv	None provided	145	Email (to Jason Zimmerman	5 – Environmental Effects	Jason, hope you had a good holiday. I would like to make you aware of the wildlife along Bassett Creek and the surrounding area along the LRT. This area has noted at least 21 different birds. From this group only one is protected by the new U.S. Migratory Bird Act of 2013. That would be the Pileated Woodpecker. We (the neighborhood) are concerned that with this bird since it is seen about 8 months the year and requires larger dead trees for its habitat.	Chapter 5 (Section 5.8) of the Final EIS describes the preferred habitats of rare, threatened, and endangered species in the proposed BLRT Extension project study area and the expected impacts to plants and animals and their habitat from the No-Build Alternative and the proposed BLRT Extension project. The analysis includes all federally listed endangered and threatened species that have been documented in the area. The pileated woodpecker is not specifically listed as a species of note documented in the proposed BLRT Extension project study area. With implementation of acceptable measures to minimize impacts, there would be no impacts from the proposed BLRT Extension project to species covered under the Migratory Bird Treaty Act.
147A	Holm	Pamela	None provided	147	Email	5 – Environmental Effects	What is it about our green spaces that humans love to attack? Is it because of the lush greenness, the silence between birdsongs that makes some sadly afflicted humans think Hey! Let’s make noise! Let’s build! The less green space we have, even when it is a park, the more people want to “utilize” the space. Minimize everything green! Just	Concerning Sochacki Park: Please see MASTER RESPONSE #15. Section 5.8 of the Final EIS describes the preferred habitats of rare, threatened, and endangered species in the proposed BLRT Extension project study area and the expected impacts to plants and animals and their habitat from the No-Build Alternative and the proposed BLRT Extension project. The analysis includes all

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							another casualty of human progress. And so it goes for the poor Mary Hills Nature area and Walter Souchaki Park. Which, by the way, is the Bassett Creek Water Shed. Which is, of course, the Bassett Creek Watershed run off flood plain. Apparently your "Environmental Impact Studies" must be asleep at the wheel or even more sadly paid off by Target PAC because if one goes to the City Offices of Robbinsdale and Golden Valley, one can get the insurance environmental assessments of the area which state that this area is Flood Plain. This is also a marshland. So, how cynical and against the public interest does one have to be to infer that engineering wise, the costs of building on this will be significantly more than stated? Not to mention the environmental impact.	federally listed endangered and threatened species that have been documented in the area. Additionally, The Council reviewed the DNR NHIS Database, which provides information about Minnesota's Special Concern and State Watchlist plants and animals, native plant communities, and other sensitive rare natural resource features. Species of State Special Concern and species on the State Watchlist have no specific legal protections under state endangered species law. Similarly, inventoried native plant communities have no specific legal protection. Floodplains are protected by local, state, and federal legislation because of their ecological value and functionality. Regulatory and permitting authority for floodplain impacts falls to the LGU, which is typically the municipality. WMOs also regulate floodplain impacts to waters within their jurisdictional authority. Table 5.2-1 in the Final EIS shows that there is a loss of 16,800 cubic yards of flood storage volume in Bassett Creek due to the construction of the alignment and station. The floodplain mitigation area between the main stem of Bassett Creek and the LRT and BNSF rail corridor (partially in Theodore Wirth Regional Park and partially on private property; initially identified in the Draft EIS) has been further refined. The mitigation would include excavating adjacent ground below the 100-year floodplain elevation to provide compensatory floodplain storage for the fill placed in the floodplain.
147B	Holm	Pamela	None provided	147	Email	4 – Social and Economic Effects	And so let us go now to the alternative route Penn Avenue which has sadly been forgotten. This is the corridor refused because Target didn't want it's precious employees subjugated to the poor and the black Americans as it trundled through North Minneapolis. As good Minnesotans, lets us state the real truth. It was going to go through "too slow" as I heard in one meeting. Yeah, that's the reason. Shall we say RACISM. Let's not let those dirty blacks contaminate our light rail line. We'll just pay them off. And so to, sad to say, are the community activists cozy in the Penn and Plymouth intersection. Why should they be bothered while their constituents have to suffer? I'm sure that Target will give them money to "help the economically disadvantaged out". As I have pointed out in several meetings, apparently people have not studied the world public transit ways or even examined Minneapolis's own public bus line. There could be direct transit lines just like direct bus lines into Minneapolis from the suburbs to send people from Targets' campus down their federally subsidized transit line to downtown. Never mind, that that over 35% of houses on Penn or landlord owned. Never mind that over 50% of people in North Minneapolis do not have a car. Who are we federally and statewide subsidizing? Target corporation. Great. Poor birds. Poor animals. I live in hope that the people who attempted/succeeded to get this through will, in the future, have their effigies pilloried and descendants live in shame.	The proposed BLRT Extension project meets the intended purpose and need for the project, to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans. Chapter 1 of the Final EIS also describes the purpose and need for the project. In the Draft EIS, the evaluation of Alignments D1 and D2 (Penn Avenue) considered several environmental and social issues and impact areas. While each alternative has a number of benefits and impacts the surrounding area and residents, the social and environmental justice impacts associated with the displacement of many homes and disruption of community cohesion with Alignment D2 would be disproportionately adverse. With Alignment D1, the north Minneapolis community would not have the proposed BLRT Extension project stations on Penn Avenue; however, Metro Transit has been advancing the planning and design of an enhanced transit service for the Penn Avenue corridor. A network of arterial BRT lines is planned for the Minneapolis–St. Paul area, including the C Line along Penn Avenue. BRT is an enhanced transit service providing 25–30 percent faster trips and an improved experience for transit riders. This new BRT line would provide enhanced transit for this community, as well as opportunities for economic development, without the significantly adverse impacts associated with the proposed BLRT Extension project.
149A	Laundreaux	Rich	None provided	149	Email	4 – Social and Economic Effects	First, I understand what light rail can do for communities and future development within the city. Light rail is considered clean transportation. Benefits can be accounted for. However, what you have to understand is how it affects individual families. Fortunately for me, I bought my house and had a significant down payment. However with devaluation, etc., IF I were forced to sell, I would not come out. The proponents and agencies involved stated they would pay off mortgages where people are underwater. That's all fine and dandy, but what about potential sweat equity people put into their homes? What about the fact that they'll be forced to move and purchase new property? Do they have the money to put down on a new property? Will they have similar interest rate with what they are paying now? Those are all differences that must	Please see MASTER RESPONSES #7 and #10.

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							be accounted for with these families. If they're not forced to move, they don't to worry about those circumstances.	
149B	Laundreaux	Rich	None provided	149	Email	4 – Social and Economic Effects	For me specifically, I will be having my first child in the next few weeks. At this time, I have no idea what light rails means for me and my growing family. Proponents say values will increase and that anybody would want to have my home. Really?? What's the guarantee? And if values decrease because of this, how do you make up for it? Thankfully, values are now rebounding and will continue to do so, but when this process plays out, the shit of this deal is that values will naturally continue to rebound and improve but yet "an appraisal" will be done now, prior to values naturally rebounding. This is a pile of dung as the entities involved will be forcing home owners to take "fair market" value based on the low point of valuations in the past 10 years or more. How can you say this is a "fair" deal?	Please see MASTER RESPONSE #7.
149C	Laundreaux	Rich	None provided	149	Email	6 – Noise and Vibration Effects	Next, my home was built with the intent of "normal" residency……whatever that means. To me, it means normal traffic, normal neighbors, etc. Light rail isn't NORMAL. My home was not constructed with the intent of trains coming by every 10 minutes shaking and rattling my (our) home foundations. Unfortunately, I don't believe a value can be placed on what kind of damage all this vibration will do to homes, homes that weren't constructed with this in mind. The new library that is going in……I'd be willing to bet they are specifically planning how to construct the foundation with the intent that light rail will be there. I'd also be willing to bed that there would a different plan in place to construct the library if light rail was in the plans. Thus, homeowners who will have land bought, are getting screwed again……but most, including me, will have no idea how extensive this damage could be until it's too late. Who will be stuck with the damages and bills? More than likely, the unfortunate home owner is my guess.	The vibration levels generated by LRT operations are several orders of magnitude below even the most stringent thresholds for damage to the most sensitive structures. Vibration is discussed in Chapter 5 (Section 5.7) of the Final EIS. No vibration impacts are anticipated in Brooklyn Park as a result of the proposed BLRT Extension project.
149D	Laundreaux	Rich	None provided	149	Email	8 – Transportation System Effects	Next, traffic. Light rail will be in my back yard. Traffic will be increased. What is going to be done to homeowners who have to tolerate this? Air traffic was diverted in Minneapolis and home owners were provided upgrades to help with the sound issue. Is that in the plans for us home owners? Its bad enough local cops speed up and down W. Broadway with sirens blaring! It's ridiculous and now adding this will be dreadful. As for traffic, how will be able to access streets? Will be have full right of way? My guess is no. Again, as a homeowner it's affecting me. I will have to change plans to get to work. This adds minutes to my commute. I say minutes which doesn't sound like much, but add it up! Time is money!!! Over time, I'm losing a lot of money possibly!	No mitigation measures are warranted for long-term impacts to roads and traffic because the identified avoidance measures would prevent any adverse impacts as a result of roadway modifications. As shown in Table 3.3-2 of the Final EIS, the proposed BLRT Extension project includes a variety of roadway modifications that would avoid new congested intersections, and, with one exception, the proposed BLRT Extension project would not worsen conditions at intersections that would be congested with the No-Build Alternative in 2040. Concerning noise impacts: Please see MASTER RESPONSE #17.
149E	Laundreaux	Rich	None provided	149	Email	4 – Social and Economic Effects	How about the increase in random light rail travelers coming right through our back yard?	Please see MASTER RESPONSE #8.
149F	Laundreaux	Rich	None provided	149	Email	4 – Social and Economic Effects	What is the safety concerns that we need to worry about? What will BP or Hennepin County do to ensure our safety?	Please see MASTER RESPONSE #8.
149G	Laundreaux	Rich	None provided	149	Email	4 – Social and Economic Effects	As my children age, how will this affect my taxes? How will this affect schooling and commuting for my family?	Tax increases are affected by a variety of market conditions. Impacts of an LRT project on association dues and taxes are difficult to assess conclusively. The proposed BLRT Extension project meets the intended purpose and need for the project, to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and

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								statewide plans. Chapter 1 of the Final EIS also describes the purpose and need for the project. Section 4.6 of the Final EIS describes economic effects of the project to 2040.
149H	Laundreaux	Rich	None provided	149	Email	4 – Social and Economic Effects	General inconvenience…how about when the construction goes on? I will have to tolerate constant dust. Dust which gets into homes and makes for constant cleaning. Again, more dollars spent by me, the home owner! I've done a lot of work in my back yard…taking land is one thing but it may mean tearing up additional land to complete the road construction. What will become of my privacy fence and all my gardening plots? What will happen to my trees and bushes that I trim each year? What will the access from street to my backyard be? How much is safety taken into account?	Concerning construction dust: Please see MASTER RESPONSE #12. Concerning acquisitions and displacements: Please see response to Comment 94C and MASTER RESPONSE #10.
149I	Laundreaux	Rich	None provided	149	Email	2 – Fiscal Effects and Schedule	As for taxation, the project says it won't cost us anything…hat they're hoping for federal funds…what do the idiots of these projects think???? Do you realize we all pay taxes so we're paying for it in some way!	A breakdown of funding sources is located in Table 10.1-2 of Chapter 10 – Financial Analysis of the Final EIS totaling $1.496 billion. The Council is intending to seek CIG Program funding from FTA. The Council assumes that the region will secure 49 percent of the capital cost from FTA through the New Starts fund (through the CIG Program). FTA must evaluate and rate proposed projects seeking funding from the CIG Program under a set of project justification and local financial commitment criteria specified in law. The criteria evaluate the merits of the project and the project sponsor's ability to build and operate it as well as the existing transit system.
149J	Laundreaux	Rich	None provided	149	Email	2 – Fiscal Effects and Schedule	For me, take the $500 million or whatever that number is and invest it in our education system! That's where this money should go! For $500m, how about simply busing people to the light rail hubs????? That seems much more cost effective.	Please see MASTER RESPONSE #4.
149K	Laundreaux	Rich	None provided	149	Email	7 – Alternatives, Engineering and Design	I could go on and on with concerns…many of which are just beginning with a growing family. Many concerns will present themselves as time goes on so there are a lot of unanswered questions……a lot of questions that won't even be realized until later as the project unfolds…… I'd hope the council or whomever considers taking this project up through or by Fleet farm. Far less homes are affected… In closing, place yourself in the place of us homeowners. If you were us, how would you handle it? How would it affect you and your children? Just think about it……	Please see MASTER RESPONSE #1.
150A	Lehman	Karen	None provided	150	Email (to Jason Zimmerman	5 – Environmental Effects	Given that my home is literally in in the wildlife corridor between Wirth Park and Golden Valley Road, I am concerned that this development maintain as much of the natural character of the habitat as possible, as well as the darkness and quiet that go with that. Happy to learn that the line will only be lighted at the stations. I am in favor of that. I heard that no matter what, the wildlife corridor between Wirth Park and Golden Valley Road is going to be divided because the line will be fenced on both sides. That is a sad development for the foxes and deer who roam that area freely.	Please see MASTER RESPONSE #13.
150B	Lehman	Karen	None provided	150	Email (to Jason Zimmerman	6 – Noise and Vibration Effects	If there will be a barrier regardless, then I strongly support erecting a sound barrier wall, which could act as a visual barrier on the east side of the line below Zephyr Place and York. A sound barrier wall would blend in better visually with the natural environment for those living above it than just having a chain link fence with the trains whooshing by. For the engineering study, I would like them to assess how high such a wall would need to be, given that the affected houses are above grade and noise travels up. The ideal would be for the wall to be high enough that residents would not see the trains, and that sound would be greatly diminished. I would be happy to provide	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Impacts were identified in the Draft EIS in this area. An additional noise measurement was conducted in this area for the Final EIS and the results of the assessment and mitigation recommendations are included in Chapter 5 (Section 5.6) of the Final EIS. Interior testing to determine the appropriate mitigation measure is recommended for certain homes between 16th Avenue North and Golden Valley Road in Golden Valley, near Zephyr Place and York. See Table 5.6-7 in the Final EIS for a summary of

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							access to my property if that is necessary to take sound measurements.	proposed mitigation measures by location.
150C	Lehman	Karen	None provided	150	Email (to Jason Zimmerman	8 – Transportation System Effects	Want resident parking for Zephyr Place and York so that the quiet neighborly streets don't become parking lots.	Chapter 6 of the Final EIS addresses parking mitigation for indirect spillover parking in neighborhoods. The Council would coordinate with local jurisdictions to address the potential for spillover parking in neighborhoods adjacent to proposed LRT stations.
150D	Lehman	Karen	None provided	150	Email (to Jason Zimmerman	4 – Social and Economic Effects	Strongly oppose any trail development below Zephyr Place and York on the east side of the line. Wirth Park has adequate biking and hiking trails.	The proposed BLRT Extension project does not include trail development near Zephyr Place and York. A trail is proposed connecting Theodore Wirth Regional Park and Sochacki Park that would be located on the west side of the rail corridor within park property. See the Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8) of the Final EIS for additional information about this trail connection.
150E	Lehman	Karen	Golden Valley Residents	150	Email from Zimmerman	8 – Transportation System Effects	Lighting only at stations is a good thing.	Comment noted.
150F	Lehman	Karen	None provided	150	Email (to Jason Zimmerman	5 – Environmental Effects	Concerned about visual impacts to Zephyr Place and York.	Please see response to Comment 91B.
153A	Peschong	Jennifer	None provided	153	Email	4 – Social and Economic Effects	The Bottineau Transit Way was voted on and approved for segment B to be the alternate route years ago. However those studies showed only 11 homes being removed from segment B in the final report as of March 2010 and the current DEIS in March 2014 shows only 8 houses of full acquisition all south of Brooklyn Blvd. In 2007, the county road 103 plan was just to add turn lanes and sidewalks, not the project has turned into removal of at least 28 homes, another 23 homes and a church are in jeopardy, and 17 homes and 2 business partial acquisitions will be needed, all due to running a median in road for LRT. What the former report and the current DEIS are missing is that segment B from Candlewood drive to east 93rd avenue is not included in the report due to a county road project already planned. From Bottineau representatives at the meetings I was told, they only needed to disclose the project is already planned and not any additional information. As a citizen of this state, I ask how can a report say for Bottineau Transitway only 11 homes being removed and Met Council approve the alternate route based on this information. The option A was except to take a similar number of homes, which does seem realistic since the train would go through a small residential area and then through gravel yards.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. All property would be acquired in accordance with the Uniform Relocation Act and Minn. Stat. 117. The Council would pay fair market value for the property.
153B	Peschong	Jennifer	None provided	153	Email	7 – Alternatives, Engineering and Design	Segment B's information is incorrect in all the documentation provided on the Bottineau Transitway studies. What good is it to issue a report and information for met council to vote on that does not include all the information pertain to all projects involved? Where is the transparency of the project? Where is the accountability for met council to gather all the information regarding light rail line? I feel that this project was intentionally left out so segment B would be approved since it showed minimal impact and comparable to segment A option to Maple Grove. IT almost seems like the way it has been handled could border the definition of fraudulent. Is this a unique or a recurring situation that the county road projects can hide the significant impacts of LRT and not fully disclosed other projects in LRT projects/studies, so they get approved? For example, when you compare two different vehicles, the Ford F150 and the Dodge 1500, estimates are the same with same features. You agree and sign a deal with Dodge. Then Dodge comes back later and	Please see MASTER RESPONSE #1.

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							says well it stated on the sticker the base package the engineer is built by Joe Smith Company. Dodge now informs you the cost will be 3X the vehicle total but you already agreed and signed you were buying the Dodge. Then Dodge explains to the same customer that Dodge only builds the outside of the truck and the engineer is built by Joe Smith Company. Sorry it is two different projects but sorry we didn't have to disclose that information other than saying Joe Smith Company makes the engine. You need to go to Joe Smith Company and get the estimate for the engineer, sorry where have you been not attending the executive meetings with Dodge. In no other form of business would this be legal. This was example is basically what has happened to impacted neighborhoods.	
153C	Peschong	Jennifer	None provided	153	Email	3 – NEPA Process and Public Involvement	The residents of Brooklyn Park that are impacted just get answers like the Bottineau transit will have to answer that or Bottineau transitway representatives say the county represents need to answer. At May 21, 2014 meeting on the West Broadway Reconstruction, the question came up about funding and county representatives could not answer but handed off the question to the Bottineau transitway representatives. So the person explains how the Bottineau transitway is funded by that is incorrect for the County road 103 meeting which per county website is funded only by city and county. No one is accountable in this project to the impacted citizens, everyone either gives answers true to their project but not true to other parts of the project. The Bottineau transitway study, Hennepin County, and the City of Brooklyn Park should be ashamed at how this project has preceded without proper disclosure to the public. "I'm not saying that means we take homes, but I do think there are aspects of this project that are important," said Brooklyn Park Mayor Jeff Lunde on April meeting per Channel 12. However, the West Broadway Hennepin County website shows homeowner acquisition information for property owners in March. There seems to be so much confusion and wrong information given.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives and in Chapter 6 – Indirect Impacts and Cumulative Effects. The EAW findings for the separate road reconstruction project may affect the Maplewood Estates townhomes. Since publication of the Draft EIS, modifications to the preliminary design have resulted in the avoidance of several anticipated property acquisitions and resulting displacements with the proposed BLRT Extension project. No residential property displacements would occur as a result of the proposed BLRT Extension project. Section 4.3 of the Final EIS summarizes acquisitions and displacements. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
153D	Peschong	Jennifer	None provided	153	Email	1 – Purpose and Need	I still do not understand how the project presented only can have this impact when walking down West Broadway. I wonder if more homes will be need to be taken from the project. I have concerns about noise, vibrations of the trains, safety for small children, special assessments to home owners, traffic lights (not being able to turn across tracks without signal light), how close house will be to the train, and what will be done for landscaping/barriers to improve the look of the area.	Concerning homes: Please see MASTER RESPONSES #10 and #21 and the response to Comment 94C. Concerning noise: Please see MASTER RESPONSE #17. Concerning vibration: Please see MASTER RESPONSE #18. Concerning safety: Please see MASTER RESPONSE #8. Concerning assessments to home owners: The Council does not assess home owners. Concerning traffic operations: Section 3.3 of the Final EIS analyzes the impact of restricted left turns across the tracks at locations other than signalized intersections. This "right-in/right-out" operation does not resulting in a degraded level of service along the street running portions of the proposed BLRT Extension project. Concerning visual: Please see response to Comment 91B.
153E	Peschong	Jennifer	None provided	153	Email	3 – NEPA Process and Public Involvement	It needs to be looked into how LRT project and anything else the met council is involved in, are the projects being fully disclosed of the impacts and costs. Why is it just coming out on May 19, 2014 the number of properties impacted, when studies and etc. have been occurring since 2008 per the Bottineau transitway website? Reviewing the prior historical documentation of the Bottineau transit and the attendance to the meetings is very questionable. It seems the impacted people are not finding out they are impacted before everything is all ready for a final vote or already voted on. Policies and	Please see response to Comment 21C.

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							procedures need to be reviewed. Decisions can still be made, the point is that everything is done secretive and deceptive.	
154A	Reiter	Chris	None provided	154	Email	2 – Fiscal Effects and Schedule	It has become clear that this proposed (and now starting to be implemented) construction of this LRT line is motivated by money. Federal and State funds being dedicated to a fixed rail system this is unsuitable for police/EMS use and is uniquely vulnerable to attacks by potential terrorists. This project as proposed need to be chopped off at the ankles. It amounts to subsidized transportation and (in cases of non-daily riders who don't pay fares) free transportation. It is much easier for those who would prefer to ride for free to take light rail versus having to face a bus driver who may demand payment of a fare.	Please see MASTER RESPONSE #8.
154B	Reiter	Chris	None provided	154	Email	4 – Social and Economic Effects	I don't have the time to list all the reasons why this project is immoral, evil and just plain wrong. I saved for years to buy my house and now I'm facing being tossed out on the street for this fool's venture so a few people can grab their piece of the action, just like many others who face being unjustly displaced. Fortunately, in their smug arrogance, the people who rammed this through forgot a few vital details, which may likely lead to legal derails. The sad part is, I will funding both sides of this, as a Complainant and a Taxpayer.	Please see MASTER RESPONSE #1. Concerning acquisitions and displacements: Please see response to Comment 94C and MASTER RESPONSE #10.
155A	Rock	Amy	None provided	155	Email	7 – Alternatives, Engineering and Design	Abandon the LPA in Mpls. Routing LRT through the Burlington Northern Santa Fe Railroad corridor is extremely short term thinking. The corridor is an enormous asset as urban greenspace. Do not ruin it with LRT for which there can be only limited ridership in this location The County is not required by law to use this land for mechanized mass transit and should not proceed with this LPA.	Please see MASTER RESPONSE #1.
155B	Rock	Amy	None provided	155	Email	5 – Environmental Effects	Most importantly, LRT in this location will permanently degrade Theodore Wirth Park.	Please see MASTER RESPONSE #14.
155C	Rock	Amy	None provided	155	Email	5 – Environmental Effects	The purported and projected benefit of LRT is not equal to the vast economic and public health losses of permanently degrading adjacent Mpls parkland. What would Theodore Wirth do? Honor the legacy that has made Minneapolis' parks number 1 in the nation. http://parkscore.tpl.org/rankings.php	Economic benefit to the region is not the sole purpose for the proposed BLRT Extension project and is not the equalizer for potential park impacts. The Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8) of the Final EIS discusses impacts on park resources affected by the proposed BLRT Extension project and mitigation measures. Also, please see MASTER RESPONSE #14.
157A	Stein	Ben	None provided	157	Email	1 – Purpose and Need	Thank you for taking time to consider my comments. Three years ago, almost to the day, my family and I moved to Brooklyn Park from a north eastern suburb. Had we been aware of a plan to bring light rail down West Broadway, we would not have purchased the house we did. We have been blessed enough to be able to find and afford a good home in a cul-de-sac in a good neighborhood. At least two of our neighbors have lived here since the neighborhood was developed. Our house is now a home. Our neighbors are now are friends. Our children play together, we help each other with snow removal, yard and house projects and have grown stronger as a community. I understand the need for improving West Broadway. What I do not understand is need for light rail to run down the middle of West Broadway. I choose to live in the suburbs to avoid overly dense neighborhoods and the infrastructure that accompany it, such as trains.	Please see MASTER RESPONSE #1.
157B	Stein	Ben	None provided	157	Email	4 – Social and Economic Effects	Light rail would bring disruption to our community, including sight, sound, vibration, safety concerns for our children and motorists on West Broadway, not to mention the impact to housing values for those of us who would be very close to the trains.	Concerning sight: Section 4.5 of the Final EIS addresses visual and aesthetics impacts associated with the proposed BLRT Extension project. Visual impact assessment was based on direct field observation from multiple vantage points, including from neighboring properties and roadways; evaluation of existing visual character; and

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								review of proposed BLRT Extension project plans and features. Visual impact assessment was also based on photographic documentation of existing conditions for several key views of the proposed BLRT Extension project corridor. Adverse effects to visual quality would occur in some areas, such as areas where recreational and residential uses are located along or in the vicinity of the proposed BLRT Extension project corridor. At locations where adverse visual effects are anticipated, project elements added to the rail corridor may be visually screened or softened using landscaping where adequate space permits, and the loss of existing vegetation on side slopes for grading or access purposes would be replaced to the extent feasible. Concerning sound: Please see MASTER RESPONSE #17. No residual noise impacts requiring mitigation are anticipated along West Broadway Avenue. Concerning vibration: Please see MASTER RESPONSE #18. No vibration impacts are anticipated along West Broadway Avenue. Concerning safety: Please see MASTER RESPONSE #8.
157C	Stein	Ben	None provided	157	Email	7 – Alternatives, Engineering and Design	Please consider alternate routs for the train such as 83rd Ave N to Wyoming Ave N / Winnetka. Such a route would line the train for future expansion into Champlin.	Please see MASTER RESPONSE #1.
157D	Stein	Ben	None provided	157	Email	4 – Social and Economic Effects	Please consider not only all the homes which would be razed to make room for light rail, but the adjacent properties that will be impacted. If the road is to be improved, please skip the median and the train, do not send our community down the tracks.	Please see response to Comment 94C and MASTER RESPONSE #10.
161A	Wall-Romana	Margaret	None provided	161	Email	7 – Alternatives, Engineering and Design	This letter is to voice my strong objection to the Preferred Alignment of the proposed Bottineau LRT through Golden Valley, as described in the Draft Environmental Impact Study.	Please see MASTER RESPONSE #1.
161B	Wall-Romana	Margaret	None provided	161	Email	5 – Environmental Effects	Hennepin County Commissioner Mike Opat has described the area through which the line would run as “an active freight rail corridor, not a pristine wildlife corridor”, which he described as strewn with litter and poorly maintained. This is a disingenuous characterization. He is referring to a lovely, peaceful, wildlife-filled wetland area upon whose trails people stroll, run, bike, bird watch and dose their souls with the balm of natural beauty – through which a freight train track currently happens to run. Is it “pristine”? No it is not. Is anything in our urban area “pristine”? Is it wonderfully quiet except for birdsong? A great deal of the time it is, in fact. Is it of value, and a special, irreplaceable natural resource for its neighbors, its city and the Twin Cities area? Yes! Should we who value it accept that it will be ravaged? No!	Please see MASTER RESPONSE #13.
161C	Wall-Romana	Margaret	None provided	161	Email	5 – Environmental Effects	I object to this disingenuous denigration of Sochacki Park and Mary Hills Nature Area in pursuit of the Bottineau Line.	Please see MASTER RESPONSE #15.
161D	Wall-Romana	Margaret	None provided	161	Email	4 – Social and Economic Effects	What it will do is destroy a cherished nature area and the peace of neighbors along its path in order to allow several hundred trains a day to speed through the city, bypassing areas of greatest transit need, while serving the desires of other entities and communities.	The evaluation of Alignments D1 (part of the proposed BLRT Extension project) and D2 (located along Penn Avenue in north Minneapolis) considered several environmental and social issues and impact areas. While each alternative has a number of benefits and impacts the surrounding area and residents, the social and environmental justice impacts associated with the displacement of many homes and disruption of community cohesion with Alignment D2 would be disproportionately adverse. With Alignment D1, the north Minneapolis community would not have the proposed BLRT Extension project stations on Penn Avenue; however, Metro Transit has been advancing the planning and design of an enhanced transit service for the Penn Avenue corridor to serve the transit-dependent populations. A network of arterial BRT lines is planned for the Minneapolis–St. Paul area, including the C Line along Penn Avenue. BRT is an enhanced transit service providing 25–30 percent

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								faster trips and an improved experience for transit riders. This new BRT line would provide enhanced transit for this community, as well as opportunities for economic development, without the significantly adverse impacts associated with the proposed BLRT Extension project.
161E	Wall-Romana	Margaret	None provided	161	Email	7 – Alternatives, Engineering and Design	The Preferred Alternative will not serve the transit interests of Golden Valley – it is very badly placed for that.	Please see MASTER RESPONSE #1.
162	Heelan	Erin	West Broadway Business and Area Coalition (WBC)	162	Email	-	Not coded because just a summary of excerpts from DEIS.	Comments noted.
163A	Crawford	Freddy	None provided	163	Email	7 – Alternatives, Engineering and Design	In theory, I am personally very much in favor for mass transit in urban areas which I believe alleviates congested roads and drives down pollution.	Chapter 1 of the Final EIS summarizes the purpose and need for the project. Due to a continued increase in travel demand coupled with few highway capacity improvements planned for regional roadways in this area, congestion is expected to worsen by 2040. While transit investment is recognized regionally as one of the key strategies for managing congestion, transit would offer many other benefits to address the needs of proposed BLRT Extension project area residents and businesses.
163B	Crawford	Freddy	None provided	163	Email	7 – Alternatives, Engineering and Design	However, one area of the report particularly stands out as being contradictory and that is the decision that route D1 should take preference over route D2.	Please see MASTER RESPONSE #1.
163C	Crawford	Freddy	None provided	163	Email	5 – Environmental Effects	To build from Robbinsdale over the Walter Sochacki Park, through the Mary Hills Nature Area up to Golden Valley Road is a mistake based on these observations: 1. This is a floodplain. Building on floodplains is both notoriously difficult and expensive. In this area there are deep lakes, bogs and marshland which would require deep and costly drilling to find secure foundations for the track.	Floodplains are protected by local, state, and federal legislation because of their ecological value and functionality. Regulatory and permitting authority for floodplain impacts falls to the LGU, which is typically the municipality. WMOs also regulate floodplain impacts to waters within their jurisdictional authority. Table 5.2-1 in the Final EIS shows that there is a loss of 16,800 cubic yards of flood storage volume in Bassett Creek due to the construction of the alignment and station. The floodplain mitigation area between the main stem of Bassett Creek and the proposed BLRT Extension project and BNSF rail corridor (partially in Theodore Wirth Regional Park and partially on private property; initially identified in the Draft EIS) has been further refined. The mitigation would include excavating adjacent ground below the 100-year floodplain elevation to provide compensatory floodplain storage for the fill placed in the floodplain. Areas of poor soils complicate the design and construction phases of the proposed BLRT Extension project. Poor soils in the proposed BLRT Extension project study area could allow non-uniform settlement of built infrastructure if the soils are not adequately accommodated for in the design phase. The most concentrated area of poor soils is along the BNSF rail corridor between Olson Memorial Highway and 36th Avenue in Golden Valley and Robbinsdale. In order to address this concentrated area of poor soils, the Council has evaluated a range of mitigation alternatives from a relatively expensive conventional bridge structure spanning the poor soils to low-cost wick drains. Section 5.4 of the Final EIS discusses impacts to geology, soils, and topography.
163D	Crawford	Freddy	None provided	163	Email	7 – Alternatives, Engineering and Design	To build from Robbinsdale over the Walter Sochacki Park, through the Mary Hills Nature Area up to Golden Valley Road is a mistake based on these observations: 2. Route D1 does not serve anybody. Route D1 runs through uninhabited wetlands. D2 runs through an urban area. Mass transit is built to serve and transport people. I agree that the uninhabited route D1 is a quicker option if you are trying to transport people from one end to the other, but if this is the case why not use busses? I note it would be easy to have 'fast trains' during peak periods along route D2 if speed from one end to the other is a major concern, but this has not been mentioned in the report. Route D1 appears to be a private line avoiding the urban areas, which	Please see MASTER RESPONSE #1.

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							contradicts the reason for mass transit in the first place.	
163E	Crawford	Freddy	None provided	163	Email	4 – Social and Economic Effects	To build from Robbinsdale over the Walter Sochacki Park, through the Mary Hills Nature Area up to Golden Valley Road is a mistake based on these observations: 3. Neighborhood needs. Route D2 runs through a working class neighborhood. In other working class areas of Minneapolis where mass transit has been introduced, regeneration has been quick and has given a much needed boost to the economy of that area from property prices to flourishing local businesses. Building D1 through an uninhabited floodplain would offer none of these advantages and deprive a community of much needed growth. This appears to be an opportunity to do some good for a Minneapolis community and it is being squandered.	The PAC recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits.
163F	Crawford	Freddy	None provided	163	Email	5 – Environmental Effects	To build from Robbinsdale over the Walter Sochacki Park, through the Mary Hills Nature Area up to Golden Valley Road is a mistake based on these observations: 4. This area is full of wildlife. Walter Sochacki Park links into Theodore Worth Parkway and is a thoroughfare for deer and much other wildlife. When I walked the route I saw deer, coyote, turtles and raccoons including a doe giving birth to a fawn directly next to the current track. To have to build tunnels/bridges through the wetlands to accommodate these creatures' natural roaming patterns would be expensive.	Please see MASTER RESPONSE #13.
163G	Crawford	Freddy	None provided	163	Email	5 – Environmental Effects	To build from Robbinsdale over the Walter Sochacki Park, through the Mary Hills Nature Area up to Golden Valley Road is a mistake based on these observations: 5. Minneapolis is famous for its parks. The reason many people choose Minneapolis over other urban areas is due to its metro-area parks. These should be protected at all costs and not destroyed.	Please see MASTER RESPONSE #15.
163H	Crawford	Freddy	None provided	163	Email	2 – Fiscal Effects and Schedule	To build from Robbinsdale over the Walter Sochacki Park, through the Mary Hills Nature Area up to Golden Valley Road is a mistake based on these observations: 6. Cost. Revenue is generated by the paying customer. Although the initial build costs of D1 may perhaps be less expensive, building a line through an uninhabited area will not generate any future income. D2 will immediately generate revenue from the onset.	Please see response to Comment 3B.
164A	Binder	Lois	None provided	164	US Mail	7 – Alternatives, Engineering and Design	The Bottineau Transitway will be a great boon to our area and city and state.	Please MASTER RESPONSE #2.
164B	Binder	Lois	None provided	164	US Mail	6 – Noise and Vibration Effects	Every effort should be made to lessen noise impacts for the neighborhood.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS.
164C	Binder	Lois	None provided	164	US Mail	5 – Environmental Effects	I know it will alleviate the pollution factor from the thousands of cars that would otherwise drive through our area.	Comment noted.
164D	Binder	Lois	None provided	164	US Mail	2 – Fiscal Effects and Schedule	Build the project fast and build it safe.	Section 4.7 of the Final EIS addresses safety and security. Safety for rail users, area residents, local pedestrians and bicyclists, project construction workers, operators and vehicle occupants is an important consideration for the project. The framework for ensuring the highest level of safety to these groups would be established through conformance with the project site safety and health plan, construction contingency plan, the Council's Safety and Security Management Plan and the Metro Transit Security and Emergency Preparedness plan. Project operations in conformance with

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								these plans would necessarily be closely and continuously coordinated with local area law enforcement, medical, fire, transportation and other organizations with related emergency responsibilities within the proposed BLRT Extension project corridor. The proposed BLRT Extension project is anticipated to begin revenue service in 2021.
165A	Dalrymple	Pam	None provided	165	US Mail	4 – Social and Economic Effects	Does not want trains going through the middle of a neighborhood.	The Council seeks to develop the proposed BLRT Extension project while avoiding the disruptions to neighborhoods as much as possible. The Council strives to avoid and minimize impacts to environmentally sensitive areas. However, for those impacts that are unavoidable, the Council has developed mitigation measures that comply with appropriate local, state, and federal regulations. Where displacements cannot be avoided, mitigation measures required by the Federal Uniform Relocation Act, as well as any other state (Minn. Stat. 117) and local policies would be followed. Chapter 4 (Section 4.2) of the Final EIS discusses community character and cohesion. Impacts associated with the proposed BLRT Extension project were not severe enough to affect overall community character and cohesion.
165B	Dalrymple	Pam	None provided	165	US Mail	8 – Transportation System Effects	West Broadway does not need to be redone to 2 lanes on the other side of 85th Avenue – since 610 exits have opened there is not the 13,000 cars indicated in the 2011 study.	Please see MASTER RESPONSE #21.
165C	Dalrymple	Pam	None provided	165	US Mail	4 – Social and Economic Effects	There will be houses within 50 feet of the Light Rail. As far as I know the current and proposed Light Rails don't go through a neighborhood with houses 50 feet from the train.	The Council seeks to develop the proposed BLRT Extension project while avoiding the disruptions to neighborhoods as much as possible. The Council strives to avoid and minimize impacts to environmentally sensitive areas. However, for those impacts that are unavoidable, the Council has developed mitigation measures that comply with appropriate local, state, and federal regulations. Where displacements cannot be avoided, mitigation measures required by the Federal Uniform Relocation Act, as well as any other state (Minn. Stat. 117) and local policies would be followed. Chapter 4 (Section 4.2) of the Final EIS discusses community character and cohesion. Impacts associated with the proposed BLRT Extension project were not severe enough to affect overall community character and cohesion.
165D	Dalrymple	Pam	None provided	165	US Mail	6 – Noise and Vibration Effects	I don't want to replace my peace and quite at my home with train noise. I work downtown and know what noise the trains make.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 of the Final EIS. No residual noise impacts requiring mitigation are anticipated along West Broadway Avenue.
166A	Lamker	Darlene	None provided	166	US Mail	6 – Noise and Vibration Effects	I live behind the preferred alternative less than one block away – I've walked the valley for over 19 years – 4/5 days a week – 6:00 AM. The only noise you hear are animals and wildlife – ex – owls and birds and deer.	Please see MASTER RESPONSE #17.
166B	Lamker	Darlene	None provided	166	US Mail	5 – Environmental Effects	Wetlands – you will ruin – the 9.4 to 10.2 – acres of wetland – mitigation with moderate and severe impacts will take the only nature center in Golden Valley.	Please see MASTER RESPONSE #16.
166C	Lamker	Darlene	None provided	166	US Mail	7 – Alternatives, Engineering and Design	People in North Minneapolis want and need transit – D2 alignment would satisfy the reason for this train.	Please see MASTER RESPONSE #1.
166D	Lamker	Darlene	None provided	166	US Mail	1 – Purpose and Need	Our area is quiet with NO people who depend on transit. Only Target want our area for their employees.	Please see MASTER RESPONSE #17. The Council used its regional travel demand forecasting model to develop the transit ridership forecasts for the project. The proposed BLRT Extension project ridership modeling, as discussed in Section 3.1 of the Final EIS, is anticipated to be 27,000 riders per day.
166E	Lamker	Darlene	None provided	166	US Mail	5 – Environmental Effects	In Section 5.3 – all wetland areas with the potential area of disturbance were considered an impact.	Please see MASTER RESPONSE #16.

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166F	Lamker	Darlene	None provided	166	US Mail	7 – Alternatives, Engineering and Design	The only reason the B-C-D1 is preferred is because A) the one small trail was in expensive. B) its the cheapest.	Please see MASTER RESPONSE #1.
166G	Lamker	Darlene	None provided	166	US Mail	5 – Environmental Effects	The Environmental Impact forgot to mention all the wildlife within the area – a few are – Deer, woodchucks, wood ducks, geese – Loons (sometimes) Owls, Canadian Geese -, Fox, coyotes – Raccoons.	Please see response to Comment 21C and MASTER RESPONSE #13.
166H	Lamker	Darlene	None provided	166	US Mail	5 – Environmental Effects	Hazardous risks for material contamination should be NO-WHERE!	Please see response to Comment 117AD.
166I	Lamker	Darlene	None provided	166	US Mail	3 – NEPA Process and Public Involvement	This study is very limited and BIASED – I expected more from the Environmental experts.	Please see response to Comment 21C.
166J	Lamker	Darlene	None provided	166	US Mail	2 – Fiscal Effects and Schedule	Please have the federal government use the money elsewhere – this is a nature center please don't ruin it. We have very few people even using the buses in this area. The district uses the area for environmental classes.	Your comment regarding the use of federal government funding is noted. See Chapter 8 – Amended Draft Section 4(f) and 6(f) Evaluation of the Final EIS for impacts to proposed BLRT Extension project corridor parks.
166K	Lamker	Darlene	None provided	166	US Mail	6 – Noise and Vibration Effects	There is not noise at all except from animals – the train that goes thru twice a day is very quiet with no BELLS.	Please see MASTER RESPONSE #17.
167A	Lamker	Dean	None provided	167	US Mail	5 – Environmental Effects	We really need to do something for the environment and the future of our parks and wet-lands. Lets not just talk and have notes and money be a priority, but show that the environment is important by stopping the expansion of light-rail. This would show that we are serious about the future and put some real meaning in our words.	The Final EIS and Amended Draft Section 4(f) and 6(f) Evaluation addresses the effects of the proposed BLRT Extension project on parkland. Concerning wetlands: Please see MASTER RESPONSE #16.
168	Lundgren	Suzanne	None provided	168	US Mail		Same comments as Harriett Lerdal, co-signed letter	
168A	Lerdal	Harriett	None provided	168	US Mail	7 – Alternatives, Engineering and Design	Eliminate B-C-D1 and consider D2 alignment.	Please see MASTER RESPONSE #1.
168B	Lerdal	Harriett	None provided	168	US Mail	5 – Environmental Effects	We have lived at this address for 38 years and bought here because of green space, wildlife (Deer, wild turkeys, quiet eagles, hawks, and a variety of migratory birds). Theodore Wirth Park, the drive, St. Margaret's Church with open green space, parks and adjoining trails were all the reason to live in this area. The above will all be affected if the LRT-D1 route follows the present RR right of way through Golden Valley under GV Road.	No direct or indirect impacts are anticipated for the community facilities along Alignment D1 in Golden Valley. An evaluation of noise, access, and changes in visual character determined that the transitway would not disrupt the function of these community facilities. See Section 4.2 of the Final EIS. The Final EIS and Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8) addresses the effects of the proposed BLRT Extension project on Theodore Wirth Regional Park (please see MASTER RESPONSE #14).
168C	Lerdal	Harriett	None provided	168	US Mail	8 – Transportation System Effects	The GV/Wirth Intersection is already busy during certain times of the day. Adding parking, taking away green space to accommodate LRT and placing a station here would only cause more problems (traffic, noise, crime).	Concerning traffic: The traffic operations analysis indicates that the Golden Valley Road/Theodore Wirth Parkway intersection would operate at a level of service E in 2040 with either the No-Build Alternative or the proposed BLRT Extension project. See Table 3.3-3 in the Final EIS. Concerning noise: Please see MASTER RESPONSE #17. Concerning crime: Please see MASTER RESPONSE #8.
168D	Lerdal	Harriett	None provided	168	US Mail	4 – Social and Economic Effects	There has been a discussion to take out the fire station placing all of the area east of 100 in jeopardy.	Fire stations located within the proposed BLRT Extension project area are not anticipated to be impacted.
168E	Lerdal	Harriett	None provided	168	US Mail	8 – Transportation System Effects	The D1 route ridership is less than possibilities on D2, with D2 offering greater access to employment and housing.	Please see response to Comment 3B.
168F	Lerdal	Harriett	None provided	168	US Mail	5 – Environmental Effects	If I read correctly, 10.5 acres of wetlands would be affected with route D1. Filling in these areas will affect other areas that have not been addressed, not to mention the horticultural and wildlife impact.	Please see MASTER RESPONSE #16.
168G	Lerdal	Harriett	None provided	168	US Mail	7 – Alternatives,	If light rail is appropriate for Washington Ave. through the U of M,	The PAC recommended Alignment D1 over Alignment D2 because Alignment D1

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						Engineering and Design	why can't it run down Penn instead of through parks, wetlands, and green space? You will never be able to replace what you destroy – only to create other problems.	would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits. The Final EIS and Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8) addresses the effects of the proposed BLRT Extension project on Theodore Wirth Regional Park (please see response to Comment 92C). The Final EIS describes in detail several types of impacts to wetlands including direct impacts, indirect impacts, and potential cumulative effects and secondary impacts to wetlands. Section 5.3 of the Final EIS discusses the wetland impacts for both short- and long-term impacts as well as the avoidance, minimization, and mitigation measures (please see response to Comment 168F).
168H	Lerdal	Harriett	None provided	168	US Mail	7 – Alternatives, Engineering and Design	Therefore: Eliminate D1 and consider D2 where there will be potentially more ridership and fewer impacts to the environment.	Please see MASTER RESPONSE #1.
169A	Paulson	Linda	None provided	169	US Mail	4 – Social and Economic Effects	My back yard backs up against West Broadway. I've been told I'll probably lose "about 10 feet from that side of my yard due to this project." That will probably mean my fence will have to be removed as well as my lilac bushes and lilac tree will be removed. If that is the case then what I would like to see happen is: 1.) move my lilac tree to another location in my back yard 2.) Remove the hill completely leaving my yard as one level 3.) Install an 8-foot sound proof fence 4.) Remove the boulevard completely of grass eliminating my having to mow grass on the other side of the fence. Thank you for listening to me.	Please see response to Comment 94C.
170A	Spencer	Marta	None provided	170	US Mail	7 – Alternatives, Engineering and Design	Random thoughts: I speak as someone who will never use the Transitway to go to work, due to motion sickness. Also – I can drive to work faster than the transitway will get me there.	Please see MASTER RESPONSE #1.
170B	Spencer	Marta	None provided	170	US Mail	3 – NEPA Process and Public Involvement	I resent the fact that the word transitway was used instead of some for of railway city system. Transitway is a vague word. I thought it dealt with roads – not rail.	The term *transitway* is a route designed for use by public transportation, such as a busway or light rail line.
170C	Spencer	Marta	None provided	170	US Mail	7 – Alternatives, Engineering and Design	Maplebrook Estates will be greatly impacted by all of the construction along with noise, detours, our east entrance will not allow us to travel north along Broadway. The new library will add traffic, and possible accidents. There will be longer wait times for us at 85th as we try to leave our complex.	During construction, the Council will require the contractor to maintain access to all properties and to comply with appropriate state and local requirements concerning the closing of roadways. The mitigation measures required by the city for roadway access and traffic control also apply. Permits will be acquired by project contractors from the appropriate city offices for roadway disruptions and blockages. In cases of roadway blockages, neighboring property owners/operators would be notified and provided with descriptions of alternative routes. Concerning traffic operations: Section 3.3 of the Final EIS analyzes the impact of restricted left turns across the tracks at locations other than signalized intersections. Moving from an undivided configuration that allows full access into and out of every driveway along the West Broadway Avenue corridor to a divided configuration is expected to increase traffic capacity, improve traffic operations, and lower the rate of incidents (crashes). Multiple studies have documented the capacity, mobility, and safety improvements that can be achieved with this type of roadway design. By directing traffic to designated median openings, the proposed West Broadway Avenue corridor design would allow businesses and other private driveways full access to one direction of travel, with right-in/right-out access.
170D	Spencer	Marta	None provided	170	US Mail	6 – Noise and Vibration Effects	I don't look forward to hearing the chime of the bells ringing at intersections as trains cross, nor the sound of the train honking, no	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact

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							feel the possible vibrations of the train passes.	criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS. No residual noise impacts requiring mitigation are anticipated along West Broadway Avenue. Vibration impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures have been recommended. See Section 5.7 of the Final EIS. No vibration impacts are anticipated along West Broadway Avenue.
171A	Berg	Nils	None provided	171	Email from Zimmerman	3 – NEPA Process and Public Involvement	He said it seems like the materials are month too late or this meeting is a month too early to be productive and it feels as though this whole venture has a quick shuffle.	Please see response to Comment 24A and MASTER RESPONSE #5.
171B	Berg	Nils	None provided	171	Email from Zimmerman	4 – Social and Economic Effects	He said he finds it interesting that the Bottineau preferred alternative was selected because the planners didn't want to displace either 72 or 175 families in North Minneapolis both of which the LRT representatives have said. He said that's a noble thought even if it is more than a tad disingenuous.	The PAC recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits.
171C	Berg	Nils	None provided	171	Email from Zimmerman	1 – Purpose and Need	In reality, the LRT is all about social engineering. It goes beyond social planning it is about telling people where they have to live. Retrofitting trains through valued neighborhoods is all about community disruption and displacement and to think of it as anything else is an exercise in deception and illusion.	Section 4.2 of the Final EIS summarizes effects of the proposed BLRT Extension project on community character and community cohesiveness. No direct impacts are anticipated for the community facilities in the City of Golden Valley. An evaluation of noise, access, and changes in visual character determined that the proposed BLRT Extension project would not disrupt the function of these community facilities in the City of Golden Valley.
171D	Berg	Nils	None provided	171	Email from Zimmerman	5 – Environmental Effects	He said the DEIS document has an extensive section on water management and that's a good thing. Water flow going in and out of Rice Lake is a major concern for those who live in the area. He said Robbinsdale plugged up the flow under the BNSF tracks a number of years ago and as a result they experienced significant flooding in both Mary Hills Park and in their back yards. The water flow was so strong that they could literally white water raft in their yards. When Robbinsdale put in the new drainage culverts the matter was resolved and to this day those who live south of that area remain interested in any water tampering that's occurring upstream.	The proposed BLRT Extension project would run on a bridge over Grimes Pond. North Rice Pond would be largely unaffected, as the existing embankment upon which the BNSF rail corridor lies would not be altered.
171E	Berg	Nils	None provided	171	Email from Zimmerman	8 – Transportation System Effects	He asked what is in it for freight. Reports about train delays, accidents and oil movement seem to appear on a frequent basis in the Star Tribune. He said it makes him think that if he was Burlington Northern Rail and he had trains backed up he would be interested in gaining shipping capacity. If you won't or can't give that to them, why would they be interested in sitting across the table from them and if he was the Golden Valley City Council, he wouldn't want to have to go back to his constituents and tell them that he had been successful in getting the railroad to bring longer, heavier and possibly oil laden trains through their neighborhood.	The Council continues discussions with BNSF Railway for the use/purchase of 50 feet of their right-of-way. To date, BNSF has not agreed to any participation in the cost of the proposed BLRT Extension project.
171F	Berg	Nils	None provided	171	Email from Zimmerman	5 – Environmental Effects	He said his real concern is that he sees nothing in the DEIS addressing the fact that Mary Hills Nature Center and Sochacki Park are both sitting on a landfill. The landfill area is the final resting place for old Highway 100. The various paths in the parks have concrete slabs that can readily be seen are the remnants of the old roadway. The thing of interest about that is much of Highway 100 was built as a post-depression Department of Public Works project in the 1930s. Back then, before people knew any better, asbestos was commonly used in many forms of construction including highways. Asbestos fibers	Please see response to Comment 117AD.

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							bonded to and strengthened the cement. It was not affected by temperature changes and helped provide protection from salt damage to the roadways. He said he doesn't know if there is actually any asbestos present in the concrete and from what he can tell neither does the DEIS document because it doesn't mention it. He said he does know that a variety of respiratory ailments can be directly traced to asbestos. According to the Mesothelioma website exposure over time can have dire consequences. An article he read states that an unbroken block of cement presents no danger, but any time it is cracked or broken, microscopic bits of asbestos are released. Once airborne they can be breathed in by an unsuspecting victim who discovers years later that the material has lodged in their respiratory system. The article states that people can still be exposed to asbestos if they come across broken chunks of cement that contain the hazardous material. He said he doesn't bring this up to instill fear but to encourage caution. He said light rail does not exist in its own little vacuum you need to look at the whole picture. The City Council does not live in a vacuum either and needs to be acutely aware of how moving heavy freight more deeply into Mary Hills could negatively impact the health and welfare of City residents	
171G	Berg	Nils	None provided	171	Email from Zimmerman	6 – Noise and Vibration Effects	Anything that causes ground vibration could disturb materials that need to be kept dormant.	Vibration impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures have been recommended. See Section 5.7 of the Final EIS.
172A	Clausen	Joanie	None provided	172	Email from Zimmerman	5 – Environmental Effects	She received an email from a resident that she would like put on record. She has been told that there will fencing around the Bottineau line and she is concerned that would make it hard for animals and residents to go back and forth. The residents in the area near St. Margaret Mary would not be able to use the nature area in the same manner. She is also concerned about noise and said a sound wall with natural trees and bushes would be best or a temporary sound wall should be installed until trees mature.	Strategically placed fencing would be necessary to minimize collisions between the train and pedestrians and animals. Wildlife crossings are mentioned in the Final EIS under Unavoidable Impacts and Mitigation for wildlife environments (Section 5.8.5.5): "Where effective and feasible, suitable wildlife crossings would be accommodated within proposed culverts to allow wildlife species to cross from one side of the LRT/freight rail tracks to the other." Please see also MASTER RESPONSE #13.
172B	Clausen	Joanie	None provided	172	Email from Zimmerman	4 – Social and Economic Effects	The residents in the area near St. Margaret Mary would not be able to use the nature area in the same manner (due to fencing).	The proposed BLRT Extension project would be located within an existing active rail corridor. The construction of the proposed BLRT Extension project may result in temporary modifications to roadways and/or pedestrian or bicycle facilities that may result in changes to park access patterns. The informal (prohibited) crossings into Theodore Wirth Regional Park across the BNSF tracks at-grade will be fenced off during construction and permanently fenced off once the proposed BLRT Extension project is in operation. However, crossings at Golden Valley Road, Plymouth Avenue, and Olson Memorial Highway will be maintained permanently.
172C	Clausen	Joanie	None provided	172	Email from Zimmerman	6 – Noise and Vibration Effects	She is also concerned about noise and said a sound wall with natural trees and bushes would be best or a temporary sound wall should be installed until trees mature.	Trees and bushes (and any other foliage) are not effective noise barriers. Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS.
173A	Fahey	Sean	None provided	173	Email from Zimmerman	5 – Environmental Effects	The DEIS shows that Golden Valley is not going to get any open space or environmental benefit. If anything, there is going to be increased traffic and reduced air quality.	Concerning traffic: The traffic operations analysis indicates that the Golden Valley Road/Theodore Wirth Parkway intersection would operate at a level of service E in 2040 with either the No-Build Alternative or the proposed BLRT Extension project. See Table 3.3-3 in the Final EIS. Concerning air quality: Chapter 5 (Section 5.10) of the Final EIS contains a full

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								evaluation of air quality issues as they pertain to the existing conditions of the proposed BLRT Extension project corridor and the projected future conditions with construction and operation of the proposed BLRT Extension project. The analysis presented in this Final EIS demonstrates that air pollutant concentrations during the operating phase of the proposed BLRT Extension project would not exceed the National Ambient Air Quality Standards; therefore, no mitigation measures are necessary. The State of Minnesota does not require permits related to air quality for projects of this type.
173B	Fahey	Sean	None provided	173	Email from Zimmerman	5 – Environmental Effects	He said there may be development opportunities but from an environmental standpoint that just means there will be environmental degradation and wetland filling according to chapters five and six in the DEIS. He said the City should try to fight for mitigations as much as possible and use municipal consent as a way to get mitigations needed for sound and light.	Concerning wetlands – The Final EIS describes in detail several types of impacts to wetlands including direct impacts, indirect impacts, and potential cumulative effects and secondary impacts to wetlands. Section 5.3 of the Final EIS discusses the wetland impacts for both short and long-term impacts as well as the avoidance, minimization, and mitigation measures. The proposed BLRT Extension project would require coordination and permitting from local, state, and federal water resource agencies. The Council coordinated with the Wetlands Technical Evaluation Panel regarding mitigation strategies prior to submitting the Water Conservation Act and Clean Water Act Section 404 permit applications. The Council's analysis of preliminary mitigation strategies included establishing project-specific permittee-responsible mitigation sites and purchasing wetland mitigation bank credits. Based on this analysis, the Council determined that wetland impacts from the proposed BLRT extension project would be mitigated through a combination of on-site wetland mitigation and purchases of private wetland credits from existing mitigation banks in suitable major watersheds and Bank Service Areas. Concerning sound – Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS. Concerning light – Chapter 4 (Section 4.5) of the Final EIS describes the process for determining visual impacts to natural areas. The visual impacts of the proposed BLRT Extension project were determined by evaluating the changes to existing visual resources that would occur as a result of project implementation, and assessing the anticipated viewer response to those changes. Visual impact assessment was based on direct field observation from multiple vantage points, including from neighboring properties and roadways; evaluation of existing visual character; and review of proposed BLRT Extension project plans and features. Visual impact assessment was also based on photographic documentation of existing conditions for several key views of the proposed BLRT Extension project corridor. Adverse effects to visual quality would occur in some areas, such as areas where recreational and residential uses are located along or in the vicinity of the proposed BLRT Extension project corridor. At locations where adverse visual effects are anticipated, project elements added to the rail corridor may be visually screened or softened using landscaping where adequate space permits, and the loss of existing vegetation on side slopes for grading or access purposes would be replaced to the extent feasible. Several local plans address aesthetic and visual resources in the proposed BLRT Extension project area, and applicable policies include the establishment of design and landscape guidelines.
173C	Fahey	Sean	None provided	173	Email from Zimmerman	3 – NEPA Process and Public Involvement	He said the City shouldn't be afraid to use municipal consent as a tool to make this project as beneficial as possible to Golden Valley.	Municipal consent is not a part of the NEPA process.
174A	Johnson	Edward	None provided	174	Email from Zimmerman	3 – NEPA Process and Public Involvement	He is concerned about the comments that have been made so far. He hopes that this has not devolved into another situation currently being faced with the Southwest Corridor where the NIMBYs are definitely on the way to destroying that line. He would hate to see the	Comment noted.

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							same thing happen to this line. This nation, whether we want to realize it or not, is running out of energy, cheap oil, gas and coal and we need to do all we can to develop electrified rail in this country and especially here in the Twin Cities where we are so far behind compared to other cities.	
174B	Johnson	Edward	None provided	174	Email from Zimmerman	3 – NEPA Process and Public Involvement	He said he wants to make sure that this project is realized as a benefit both to the environment and to future generations.	Comment noted.
174C	Johnson	Edward	None provided	174	Email from Zimmerman	6 – Noise and Vibration Effects	He said there will be some construction noise and he lived along the Hiawatha line while it was being built and he had no problem with living with the construction noise and he has found that the line itself have very little noise compared to the traffic on Hiawatha Avenue.	An assessment of the impacts of construction noise was included in the Draft EIS and has been included in more detail in Chapter 5 (Section 5.6) of the Final EIS. Construction noise levels are subject to local noise ordinances and noise rules administered by MPCA (Minnesota Rules, Chapter 7030). The primary means of mitigating noise from construction activities is to require the contractor to prepare a detailed Noise Control Plan. A noise control engineer or acoustician would work with the contractor to prepare a Noise Control Plan in conjunction with the contractor's specific equipment and methods of construction.
174D	Johnson	Edward	None provided	174	Email from Zimmerman	8 – Transportation System Effects	He said he hopes the line and stations will be retrofitted with restrooms for the aging population because that seems like something that has been missed in the plans.	According to the Council's *Station and Support Facility Design Guidelines User Guide* (February 2012), "…transitway stations generally should not include public restrooms unless the station is part of a multi-use building or a major transfer point requiring significant wait times. Where stations are located within, or they themselves qualify as, an assembly area according to the State Building Code, public restrooms may be provided. Evaluation criteria include the number of passengers, and the routine length of wait times of one hour or more." Since none of the stations included in the proposed BLRT Extension project meet these criteria, public restrooms would not be provided.
174E	Johnson	Edward	None provided	174	Email from Zimmerman	8 – Transportation System Effects	He also hopes there will be some connecting street car lines eventually to mitigate some of the bus and traffic noise. He said we've got to get serious about electrified rail in this country and if we don't progress with the federal money that will help, we won't get any and Minnesota doesn't get much federal money compared to what we put into Washington. This is one way of getting some of our money back.	Chapter 3 (Section 3.1) of the Final EIS discusses the transit conditions of the proposed BLRT Extension project corridor and region. The proposed BLRT Extension project transit ridership forecasts reflect future development and planned and programmed transportation system investments. The 2040 regional travel demand model incorporates roadway system improvements identified in the fiscally constrained (current revenue) scenario of the Council's regional *TPP* adopted in January 2015. The alternatives analyzed in the travel demand forecast model include specific network modifications to existing transit service including changes in routing, frequency, and travel time. Network modifications are focused on providing an integrated "feeder" bus network to connect people to the proposed BLRT Extension project stations. Bus networks and transit plans would continue to be refined as the project progresses; final bus network changes would be subject to a robust public involvement process in accordance with Title VI requirements.
175A	Leach	Mary Ann	None provided	175	Email from Zimmerman	7 – Alternatives, Engineering and Design	She absolutely cannot understand why usage isn't being maximized. She finds it very difficult to understand why the Bottineau line is not running through North Minneapolis for people who need the transportation the most. There is the most vacant land for parking lots all along Broadway which is one demolished building after another.	The AA/Draft EIS and Final EIS process examined numerous alignment options detailed in Chapter 3 of both documents. The Draft EIS disclosed similar ridership forecasts among the build alternatives ranging from 26,000 to 27,600 daily boardings. See Table 3.1-5 in Chapter 3 of the Draft EIS for more information on ridership between alternatives considered. The proposed BLRT Extension project meets the purpose and need most efficiently and minimizes project impacts. The proposed BLRT Extension project anticipates approximately 27,000 daily boardings. See Chapter 3 (Section 3.1) of the Final EIS for more information on ridership.
175B	Leach	Mary Ann	None provided	175	Email from Zimmerman	2 – Fiscal Effects and Schedule	She just fails to understand why we aren't taking all this federal money and maximizing the usage for the greatest benefit for the greater good and people who really need this.	Table 10.1-1 in Chapter 10 – Financial Analysis of the Final EIS outlines a breakdown of cost for the different project elements totaling $1.496 billion. The Council is intending to seek CIG Program funding from FTA for one or more of the alternatives examined in the Final EIS. The Council assumes that the region will secure 49 percent of the capital cost from FTA through the New Starts fund (through the CIG Program). FTA must evaluate and rate proposed projects seeking funding from the CIG Program under a set of project justification and local financial commitment criteria

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								specified in law. The criteria evaluate the merits of the project and the project sponsor's ability to build and operate it as well as the existing transit system.
175C	Leach	Mary Ann	None provided	175	Email from Zimmerman	5 – Environmental Effects	She said she is also concerned about going through parkland which is such a precious and rare commodity. She said it is very hard to understand how plans have evolved to this point considering what the needs and objectives are.	The Final EIS and the Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8) address the effects of the proposed BLRT Extension project on parkland (see MASTER RESPONSES #14 and #15).
176A	Moudry	Father Paul	None provided	176	Email from Zimmerman	6 – Noise and Vibration Effects	Their concerns are noise and pollution. If a station is built across the street from their church and the tracks go along their western border the noise will be really incredible with 200 trains per day going by with bells ringing as the train comes and goes from the station.	Concerning noise: Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with FTA methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 (Section 5.6) of the Final EIS. In the section between 16th Avenue North to Golden Valley Road only one moderate noise impact is anticipated and with mitigation there would be no residual noise impacts. Table 5.6-7 in the Final EIS for a summary of proposed mitigation measures by location. Concerning air quality: Chapter 5 (Section 5.10) of the Final EIS contains a full evaluation of air quality issues as they pertain to the existing conditions of the proposed BLRT Extension project corridor and the projected future conditions with construction and operation of the proposed BLRT Extension project. The analysis presented in this Final EIS demonstrates that air pollutant concentrations during the operating phase of the proposed BLRT Extension project would not exceed the National Ambient Air Quality Standards; therefore, no mitigation measures are necessary. The State of Minnesota does not require permits related to air quality for projects of this type.
176B	Moudry	Father Paul	None provided	176	Email from Zimmerman	8 – Transportation System Effects	The lights that would go on at the station and potential parking areas would be detrimental to some of things that they do at their campus with the neighborhood as well.	Concerning visual: Chapter 4 (Section 4.5) of the Final EIS describes the process for determining visual impacts. The visual impacts of the proposed BLRT Extension project were determined by evaluating the changes to existing visual resources that would occur as a result of project implementation, and assessing the anticipated viewer response to those changes. At locations where adverse visual effects are anticipated, project elements added to the rail corridor may be visually screened or softened using landscaping where adequate space permits, and the loss of existing vegetation on side slopes for grading or access purposes would be replaced to the extent feasible. Several local plans address aesthetic and visual resources in the proposed BLRT Extension project area, and applicable policies include the establishment of design and landscape guidelines. Concerning parking: Section 3.3 estimates the impact of all park-and-ride locations on local traffic. Traffic operations in these areas are not anticipated to deteriorate to an unacceptable level of service.
176C	Moudry	Father Paul	None provided	176	Email from Zimmerman	5 – Environmental Effects	Another concern is the pollution. He knows the buses are scheduled to stop on Golden Valley Road which might be environmentally friendly, but all the automobiles coming to and from the station and park and ride with all their noise and exhaust would not.	Concerning pollution: Chapter 5 (Section 5.10) of the Final EIS contains a full evaluation of air quality issues as they pertain to the existing conditions of the proposed BLRT Extension project corridor and the projected future conditions with construction and operation of the proposed BLRT Extension project. The analysis presented in this Final EIS demonstrates that air pollutant concentrations during the operating phase of the proposed BLRT Extension project would not exceed the National Ambient Air Quality Standards; therefore, no mitigation measures are necessary. The State of Minnesota does not require permits related to air quality for projects of this type.
176D	Moudry	Father Paul	None provided	176	Email from Zimmerman	4 – Social and Economic Effects	He said their campus looks quiet and melancholy but it's very active 12 months of the year and they have an elementary school on the property so there are a lot of safety concerns. He said strangers cannot go across the school property. There are currently a few who go to the bus stop, but this would really increase if there is any kind of a light rail station.	Section 4.7 of the Final EIS addresses safety and security. Safety for rail users, area residents, local pedestrians and bicyclists, project construction workers, operators and vehicle occupants is an important consideration for the project. The framework for ensuring the highest level of safety to these groups would be established through conformance with the project site safety and health plan, construction contingency plan, the Council's Safety and Security Management Plan and the Metro Transit

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								Security and Emergency Preparedness plan. Project operations in conformance with these plans would necessarily be closely and continuously coordinated with local area law enforcement, medical, fire, transportation and other organizations with related emergency responsibilities within the proposed BLRT Extension project corridor.
176E	Moudry	Father Paul	None provided	176	Email from Zimmerman	3 – NEPA Process and Public Involvement	There have been offerings in some of the printed materials that their campus is one site being considered for a park and ride, they strongly oppose that. He wants to make it clear to everybody that their campus isn't for sale, their parish isn't dying, it is growing and that the parish owns the property, not the arch diocese. So noise, light and air pollution are some of their greatest concerns.	As design for the proposed BLRT Extension project has progress, an approximate 100 space park-and-ride at the Golden Valley Road Station has been developed. It is not on the church campus or property.
176F	Moudry	Father Paul	None provided	176	Email from Zimmerman	4 – Social and Economic Effects	And the traffic going to and from their parish with lots of senior citizens is confusing for them now, it will be even worse with added traffic.	Concerning additional traffic: The traffic operations analysis indicates that the Golden Valley Road/Theodore Wirth Parkway intersection would operate at a level of service E in 2040 with either the No-Build Alternative or the proposed BLRT Extension project. See Table 3.3-3 in the Final EIS.
177A	Thorsen	Madge	None provided	177	Email from Zimmerman	5 – Environmental Effects	The Draft EIS is legally inadequate in a number of ways. It doesn't analyze whether Mary Hills and Sochacki are being constructively used by the project within the meaning of Section 4F of the Federal Transportation Act when noise and vibration and defoliation and deforestation impacts essentially rob parks of their essence, that is a use, and a whole lot of things follow from that in terms of what needs to occur next if the parks are being used. Yet, the draft EIS is silent as to these two parks and that part of the required analysis. The same is true with respect to temporary occupancy. She said the DEIS recites in chapter four that the project is consistent with Comprehensive Plan of Golden Valley and Robbinsdale, but it doesn't mention the park sections of those plans. Chapter six in Golden Valley's plan says Mary Hills is a natural preserve for visual aesthetics and buffering, for walking and for passive recreational uses. Those appear to be inconsistent with shooting 82 decibels of linear noise down the tracks every 7 minutes, but you wouldn't even know that because that analysis is not provided, the facts are not there on which to base a decision.	Please see response to Comment 117AJ. The Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8) of the Final EIS use determinations for Sochacki Park: Mary Hills Management Unit and Sochacki Park: Sochacki Management Unit are both temporary occupancy during construction. Each management unit would be restored to pre-construction or better conditions (see MASTER RESPONSES #14 and #15).
177B	Thorsen	Madge	None provided	177	Email from Zimmerman	2 – Fiscal Effects and Schedule	If the costs are understated they can't be compared to the D2 or any other alignment and the comparison of options are deprived which is a core flaw in the analysis of the EIS document. So Golden Valley as stewards of public land really needs to make some serious comments about this draft EIS.	The project cost estimates for each of the alternatives considered as reported in the Draft EIS were developed with the same underlying assumptions for each project element. The cost estimates represent an "apples-to-apples" comparison of the alternatives based upon approximately 1-percent engineering. A revised project scope and cost estimate was approved by the Council on December 9, 2015, for the proposed BLRT Extension project in the Final EIS at a level of approximately 15 percent engineering. The revised project scope and cost estimate includes potential property acquisitions that are necessary to construct the proposed BLRT Extension project. Table 10.1-1 in Chapter 10 – Financial Analysis of the Final EIS outlines a breakdown of cost for the different project elements totaling $1.496 billion.
178A	Thorsen	Brad	None provided	178	Email from Zimmerman	5 – Environmental Effects	He needs to see some renderings of what this is going to look like. If you look at the environmental impacts in the DEIS they are moving the rail line, they are adding two other lines, they are putting up a sound barrier or possible fence, he has no idea what this will look like. He said some renderings have been done for the station in the Wirth area but there is nothing at all for the public to see as to what sort of impact that will have and how it will change the way the park can be used.	Project renderings are available to the public at public events or through individual requests. Aesthetics of noise barriers coincide with more advanced levels of design that occurs after the publishing of the Final EIS. The Final EIS (Section 4.5) includes several visualizations depicting what the proposed BLRT Extension project would look like form several points of view. Some methods may be feasible to lessen potential visual impacts, such as with strategic plantings. The Council will continue to coordinate with cities and other stakeholders as design advances, including landscaping in areas that are disturbed by the project.
179	Comment #179 was deleted. It was documented twice and is a repeat of #191.							

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
180	Comment #180 was deleted. It was documented twice and is a repeat of #190.							
182A	Dalrymple	Gwyn	None provided	182	US Mail	4 – Social and Economic Effects	I have lived in Maplebrook Estates for 13 years. I am a single mom, my son is 15 years old. I have always worked full time with no outside financial assistance help, except from family when needed. I have put a lot of money into this house just for up keep and expected to get some money out of it. My house is very close to West Broadway. As far as I can tell- the four or five units in front of me will be gone, which seems to me that I will be way too close to the light rail. NOT HAPPY about that at all. A lot of residents will be affected in many ways, not just the people that will be displaced. What about my property value?	The Council seeks to develop the proposed BLRT Extension project while avoiding the disruptions to neighborhoods as much as possible. The Council strives to avoid and minimize impacts to environmentally sensitive areas. However, for those impacts that are unavoidable, the Council has developed mitigation measures that comply with appropriate local, state, and federal regulations. Section 4.3 of the Final EIS reports there would be no residential displacements. Where business displacements cannot be avoided, mitigation measures required by the Federal Uniform Relocation Act, as well as any other state (Minn. Stat. 117) and local policies will be followed. Concerning property value: Please see MASTER RESPONSE #7.
182B	Dalrymple	Gwyn	None provided	182	US Mail	6 – Noise and Vibration Effects	What about the noise? This is a RESIDENTIAL AREA – what are you thinking ?!?!	Please see MASTER RESPONSE #17.
182C	Dalrymple	Gwyn	None provided	182	US Mail	8 – Transportation System Effects	I have no problem with fixing up West Broadway but the light rail is taking it to far. Please remember we all have a story – we are families. Times are tough already and this will not help some of our lives get better. Just worse!	Please see response to Comment 67L.
183A	Heim	Carmen	None provided	183	US Mail	7 – Alternatives, Engineering and Design	I support LRT that is in area of redevelopment, or existing roadways. Look how ugly university avenue is now. Mirror that in a concrete redev area that needs life.	Please see MASTER RESPONSE #1.
183B	Heim	Carmen	None provided	183	US Mail	5 – Environmental Effects	Unbelievable our GV council let this be explored for years and dollars. It's a CURSE ON GRACE" to do this to our parks in this city.	The Final EIS and Amended Draft Section 4(f) Evaluation (Chapter 8) address the effects of the proposed BLRT Extension project on proposed BLRT Extension project corridor parks (also please see MASTER RESPONSES #14 and #15).
183C	Heim	Carmen	None provided	183	US Mail	6 – Noise and Vibration Effects	No more noise disruption. I live in flourishing parks and wetlands. We live on Bassett Creek. We play outdoors. So maybe you are responsible for decreasing our God Given soulful serene life.	Please see MASTER RESPONSES #14, #15, #16, and #17. The proposed BLRT Extension project would not result in residential noise impacts in the area of Bassett Creek.
183D	Heim	Carmen	None provided	183	US Mail	3 – NEPA Process and Public Involvement	No D1. Low ridership for cheapest fastest route in the Grand Rounds National Scenic area. Scandal is what the EI of years of construction.	Please see response to Comment 3B.
184A	Heim	Ervin	None provided	184	US Mail	8 – Transportation System Effects	Upon review and pending process, the D1 line through Golden Valley is not well served. It does not serve the residents through walking – limited parking presently the local residents use the bus service find minimal riders, even at peak hours. This may be due to the fact that most GV residents have at least one car.	The proposed BLRT Extension project would serve approximately 368 walk up riders per day out of the 905 total riders per day at the Golden Valley Road Station. Chapter 3 (Section 3.1) of the Final EIS provides information about ridership by station and by mode of arrival at the station.
184B	Heim	Ervin	None provided	184	US Mail	7 – Alternatives, Engineering and Design	We would be better served with a review of the bus service. It can move through neighborhoods. Current blogs about the green line talk about having to travel further to get to the LRT since bus routes will be delayed.	The proposed BLRT Extension project would improve the transportation system by providing the proposed BLRT Extension project corridor with more travel choices and faster travel times between residential areas, major destinations, and employment centers.
184C	Heim	Ervin	None provided	184	US Mail	5 – Environmental Effects	But the major fact is the east edge of Golden Valley is a rural setting near a major downtown city with wild life not seen or equal in any part of the country, with the LRT this will be lost.	Please see MASTER RESPONSE #13.
184D	Heim	Ervin	None provided	184	US Mail	1 – Purpose and Need	We do not need the LRT as north Minneapolis residents stated – add more buses or that type of transportation.	The proposed bus network would be refined with input from the public prior to the proposed BLRT Extension project's opening day. Additionally, planning for the C Line, Bus Rapid Transit along Penn Avenue began in 2013.
185A	Jordan	Pat	None provided	185	US Mail	5 – Environmental Effects	I am concerned about losing the animals and park of Theodore Wirth.	Please see MASTER RESPONSES #13. The Final EIS and the Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8) address the effects of the proposed BLRT Extension project on parklands and recreational properties (please see MASTER RESPONSES #14 and #15).
185B	Jordan	Pat	None provided	185	US Mail	8 –	I am concerned that other people from Golden Valley will not use the	Please see response to Comment 3B.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
						Transportation System Effects	trains like North Minneapolis would.	
185C	Jordan	Pat	None provided	185	US Mail	5 – Environmental Effects	I am concerned that the flood plain by the tracks will pose problems.	Section 5.2 of the Final EIS discusses floodplains, which are protected by local, state, and federal legislation because of their ecological value and functionality. Regulatory and permitting authority for floodplain impacts falls to the LGU, which is typically the municipality. WMOs also regulate floodplain impacts to waters within their jurisdictional authority. The mitigation would include excavating adjacent ground below the 100-year floodplain elevation to provide compensatory floodplain storage for the fill placed in the floodplain.
185D	Jordan	Pat	None provided	185	US Mail	5 – Environmental Effects	I am concerned that the dumped debris from old Hwy 100 will be a hazardous mess when they have to dig it out.	Please see response to Comment 117AD.
185E	Jordan	Pat	None provided	185	US Mail	5 – Environmental Effects	I am concerned about the way it will damage the park along the tracks.	The Final EIS and the Amended Draft Section 4(f) and 6(f) Evaluation (Chapter 8) address the effects of the proposed BLRT Extension project on parklands and recreational properties (please see MASTER RESPONSES #14 and #15).
185F	Jordan	Pat	None provided	185	US Mail	6 – Noise and Vibration Effects	I am concerned about the noise from the trains.	Please see MASTER RESPONSES #17.
185G	Jordan	Pat	None provided	185	US Mail	5 – Environmental Effects	I am concerned about pollution from trains.	Please see MASTER RESPONSE #11.
187A	Steinberg	Dan	None provided	187	US Mail	5 – Environmental Effects	Table 5.1-3 Sanitary/MCES Interceptor Sewers is missing Kewanee Way.	It does not appear that there is a Metropolitan Council Environmental Services sewer line at Kewanee Way based on review of utility plans in that area. There is a city of Minneapolis water line in the area that is noted in Section 5.1 – Utilities of the Final EIS.
187B	Steinberg	Dan	None provided	187	US Mail	6 – Noise and Vibration Effects	Figure 5.7-3 Noise/Vibration Measurement Locations and Table 5.7-6 Ground-Borne Vibration Propagation Measurement Location do not show Bonnie Lane.	The Final EIS impact assessment includes Bonnie Lane; however, no vibration impacts have been identified for that location. Vibration is discussed in Chapter 5 (Section 5.7) of the Final EIS.
187C	Steinberg	Dan	None provided	187	US Mail	5 – Environmental Effects	Table 8.3-2 Historic Properties Evaluated for Section 4(f) Use does not include St. Margret.	The St. Margaret Mary Church and School campus has been determined not eligible for listing in the NRHP due to a lack of historical significance. The St. Margaret Mary Church and School campus is a good example of a large post-World War II suburban church complex. However, the church does not appear to have played any significant role in the development of Golden Valley or the Catholic Church, rather its development merely reflects a broader national trend of growth post-World War II. Also, it does not appear to be either a notable or an outstanding example of this type of complex. Therefore, the campus does not have significance under NRHP Criterion A. Additionally, architecturally, the church does not embody the characteristics of Mid-Century Modern ecclesiastical architecture and so does not have significance under NRHP Criterion C. St. Margaret Mary Church and School campus are not protected by Section 4(f) because they are not eligible for listing on the NRHP.
187D	Steinberg	Dan	None provided	187	US Mail	5 – Environmental Effects	Figure 5.5-1 Known Private Wells within Potential Area of Disturbance – no mention of hazardous materials.	Figure 5.5-1 in the Draft EIS does show the location of High to Low Contamination Risk sites along the proposed alignment corridors.
187E	Steinberg	Dan	None provided	187	US Mail	8 – Transportation System Effects	Need more information on proposed bus route changes.	Additional transit system enhancements, including changes in feeder bus routes and increased service frequencies, would be reviewed as design continues. Network modifications are focused on providing an integrated “feeder” bus network to connect people to the proposed BLRT Extension project stations. Bus networks and transit plans would continue to be refined as the project progresses; final bus network changes would be subject to a robust public involvement process in accordance with Title VI requirements. Additional information can be found in Section 3.1 of the Final EIS.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
187F	Steinberg	Dan	None provided	187	US Mail	6 – Noise and Vibration Effects	Figure 5.7-3 Noise/Vibration Measurement Locations and Table 5.6-3 Summary of Existing Ambient Noise Measurement Results do not show Bonnie Lane and Kewanee Way.	An additional noise measurement was conducted as a part of the Final EIS on Bonnie Lane. Chapter 5 (Section 5.6) of the Final EIS impact assessment includes Bonnie Lane and Kewanee Way.
187G	Steinberg	Dan	None provided	187	US Mail	7 – Alternatives, Engineering and Design	Study a tunnel section along D1 from Golden Valley Road to Abbot Road on the other side of North Memorial Hospital then cross the line up to back on C alignment	Please see MASTER RESPONSE #20.
189A	Comment #189 was deleted. It was documented twice and is a repeat of #20.							
190A	Wall-Romana	Margaret	None provided	190	Email from Zimmerman	6 – Noise and Vibration Effects	She is concerned about the noise that will come with this project and how it will impact the D1 neighborhood.	Section 4.2 of the Final EIS summarizes effects of the proposed BLRT Extension project on community character and community cohesiveness. No direct impacts are anticipated for the community facilities in the City of Golden Valley. An evaluation of noise, access, and changes in visual character determined that the proposed BLRT Extension project would not disrupt the function of these community facilities in the City of Golden Valley.
190B	Wall-Romana	Margaret	None provided	190	Email from Zimmerman	4 – Social and Economic Effects	She said a deeply felt imperative and core pleasure of every Minnesotan is to be outdoors as much as possible once winter is gone. A lot of recreational activities take place not necessarily at parks, but at home in front and back yards and on porches, stoops and balconies. Soaking up the warmth of family and friends, drinking, grilling, throwing a ball, watching the kids run through the sprinkler, chasing the dog, gardening, and taking a nap in the sun are the kinds of things we live to do in the warm weather months after suffering through our long winters, everybody knows this.	Please see response to Comment 190A.
190C	Wall-Romana	Margaret	None provided	190	Email from Zimmerman	6 – Noise and Vibration Effects	The DEIS includes a noise reading for her neighborhood that characterizes the ambient noise as rural ambient, that's how quiet their neighborhood is, it's unbelievable, and it's into this peaceful environment that the LRT will charge, effectively destroying people's ability to enjoy the use of their outdoor spaces in the way that they expect to be able to do. This will radically change people's lives not only temporarily with the construction activities, for how many years she hasn't been able to find out, but permanently with constant noise interruptions day in and day out. Some of her worst impacted neighbors will basically only be able to enjoy their homes when they are asleep, if they can stay asleep, which is a very wrong thing. She said she was flabbergasted to learn that in Golden Valley construction noise will be allowed 365 days a year between the hours of 7 am and 10 pm. This is an outrage and it must be corrected. Right now she asks that the City Council or the powers that be swiftly amend the City's noise ordinance to bring it in line with that of Minneapolis. It's ironic that Minneapolis, the big noisy, bustling city recognizes that its citizens need, and have the right to have, quiet after 6 pm while Golden Valley, whose quiet is one of its main treasures does not, and in fact has given it away and for what? It's admirable to be a cooperative regional neighbor, but not when the well-being and property rights of your own citizens are thrown under the train.	Please see MASTER RESPONSE #17. An assessment of the impacts of construction noise was included in the Draft EIS and has been included in more detail in Chapter 5 of the Final EIS. Construction noise levels are subject to local noise ordinances and noise rules administered by MPCA (Minnesota Rules, Chapter 7030). The primary means of mitigating noise from construction activities is to require the contractor to prepare a detailed Noise Control Plan. A noise control engineer or acoustician would work with the contractor to prepare a Noise Control Plan in conjunction with the contractor's specific equipment and methods of construction.
191A	Wall-Romana	Christophe	None provided	191	Email from Zimmerman	7 – Alternatives, Engineering and Design	He is a daily bus user and is strongly against the Bottineau LRT proposed alignment.	Please see MASTER RESPONSE #1.
191B	Wall-Romana	Christophe	None provided	191	Email from Zimmerman	4 – Social and Economic Effects	He said the DEIS asks Golden Valley to sacrifice its environmental and recreational assets for an LRT project that will benefit the City very little and will serve mostly other communities further north. He said	The proposed BLRT Extension project would improve the transportation system by providing the proposed BLRT Extension project corridor with more travel choices and faster travel times between residential areas, major destinations, and employment

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
							only 2.5% of the population will use the LRT and will meanwhile damage forever the peace and quality of life of all.	centers.
191C	Wall-Romana	Christophe	None provided	191	Email from Zimmerman	5 – Environmental Effects	It will also affect the beauty of two parks as well as Theodore Wirth which thousands of people from Golden Valley use. He said the project is expedient rather than respectful of people's lives.	Please see response to Comment 91B.
191D	Wall-Romana	Christophe	None provided	191	Email from Zimmerman	4 – Social and Economic Effects	He said the LRT alignment completely bypasses North Minneapolis which is a big problem because they are the densest users of mass transit, with the lowest income and lowest car ownership in all of the Twin Cities area.	The evaluation of Alignments D1 and D2 considered several environmental and social issues and impact areas. While each alternative has a number of benefits and impacts the surrounding area and residents, the social and environmental justice impacts associated with the displacement of many homes and disruption of community cohesion with Alignment D2 would be disproportionately adverse. With Alignment D1, the north Minneapolis community would not have the proposed BLRT Extension project stations on Penn Avenue; however, Metro Transit has been advancing the planning and design of an enhanced transit service for the Penn Avenue corridor to serve the transit-dependent residents in this area. A network of arterial BRT lines is planned for the Minneapolis–St. Paul area, including the C Line along Penn Avenue. BRT is an enhanced transit service providing 25–30 percent faster trips and an improved experience for transit riders. This new BRT line would provide enhanced transit for this community, as well as opportunities for economic development, without the significantly adverse impacts associated with the proposed BLRT Extension project.
191E	Wall-Romana	Christophe	None provided	191	Email from Zimmerman	7 – Alternatives, Engineering and Design	He said the D2 option along Penn Avenue is the only other given option which the DEIS invalidates in the name of environmental justice, rightly so and D2 is a bad alignment, but other alignments should be considered. Time and money should not pressure the City into accepting a flawed alignment.	Please see MASTER RESPONSE #1.
191F	Wall-Romana	Christophe	None provided	191	Email from Zimmerman	5 – Environmental Effects	He asked the Commissioners to preserve the natural environment in the City's recreational facilities and more importantly preserve the right of all present and future Golden Valley residents to enjoy these fragile resources by keeping the precious wetlands and beautiful landscape intact.	Please see MASTER RESPONSE #16.

Appendix G
Response to Draft EIS Comments

5 Index of Comments and Response to Comments – General Public Verbal Testimony

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Golden Valley Public Hearing, May 7, 2014 – Verbal Testimony

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
6A	Bonniwell	Constance	None provided	6	Verbal Testimony	5 – Environmental Effects	This is my statement. This is not the kind of environmental is that tells us how many trees this plan would have cut dead. It makes no mention of your intent to put LRT through 100-plus acres expanse of wildlife habitat, nor that this expanse is part of the wildlife corridor that starts on the south side of Bryn Mawr by the baseball field. This rare, quiet, inter-metro woods is only referred to as existing low-quality habitat.	Section 5.8 of the Final Environmental Impact Statement (Final EIS) describes the preferred habitats of rare, threatened, and endangered species in the study area and the expected impacts to plants and animals and their habitat from the No-Build Alternative and the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project. The analysis includes all federally listed endangered and threatened species that have been documented in the area. Additionally, the Metropolitan Council (Council) reviewed the Minnesota Department of Natural Resources (DNR) Natural Heritage Information System (NHIS) Database, which provides information about Minnesota's Special Concern and State Watchlist plants and animals, native plant communities, and other sensitive rare natural resource features. Species of State Special Concern and species on the State Watchlist have no specific legal protections under state endangered species law. Similarly, inventoried native plant communities have no specific legal protection. However, the proposed BLRT Extension project has been designed to minimize the impacts to forested park property; design, woodland impacts, and mitigation have been discussed with the cities of Golden Valley and Robbinsdale, the Minneapolis Park and Recreation Board, and the Three Rivers Park District. Mitigation would include revegetation of temporarily impacted areas; in many cases the clearing and revegetation efforts would remove invasive species.
6B	Bonniwell	Constance	None provided	6	Verbal Testimony	5 – Environmental Effects	Tell that to the turtles living in Turtle Pond, which you're trying to rename Grimes Pond. You say it's in a trench. We always thought it was a valley.	Grimes Pond is the name that is shown on current mapping of the area. Impacts to turtles, especially the Blanding's turtle (which is on the State Threatened Species list) have been evaluated and mitigation measures will be implemented. The DNR concurred with the Council's assessment impacts to and mitigation for the Blanding's turtle.
6C	Bonniwell	Constance	None provided	6	Verbal Testimony	6 – Noise and Vibration Effects	Here's a quote [from the Draft EIS] about South Halifax Park: Noise effects confined to limited areas. Like it's entire four acres. Another: The recreational experience in this park resource may be lessened due to the effects of transitway operations. Would be lessened" is more honest.	Please see MASTER RESPONSE #17. Active use parks are not considered noise sensitive receptors and are not included in the noise analysis. No moderate or severe noise impacts are anticipated at South Halifax Park.
6D	Bonniwell	Constance	None provided	6	Verbal Testimony	4 – Social and Economic Effects	I could tell from reading this that the writers had not a clue about the social factors in South Halifax Park. We in Robbinsdale are very pleased that there's so many neighborhood kids availing themselves of such a pretty little park. It is a crucial resource for them. On a Saturday when I have walked past it, I counted over 30 kids of all ages, and it wasn't that warm out. Every one of those kids were black. It's an area with exploitive rentals to black people. What would happen if those kids lost their healthy place to be outside and play basketball?	The proposed BLRT extension project would require a temporary occupancy of approximately 0.70 acre along the western border of South Halifax Park to facilitate construction activities. The portion of the park to be temporarily occupied during construction would be restored to existing conditions or better. There would be no permanent change to South Halifax Park as a result of project actions. Chapter 7 of the Final EIS presents the environmental justice (EJ) analysis for the proposed BLRT Extension project. No disproportionately high and adverse impacts to low income or minority populations with respect to parks were identified. The proposed BLRT Extension project would increase accessibility and connectivity of the park systems in Golden Valley and Robbinsdale through the enhancement of existing trails and construction of new trail connections.
6E	Bonniwell	Constance	None provided	6	Verbal Testimony	5 – Environmental Effects	What wildlife habitat is left in Wirth would take a big hit under your plan, that's right along the parkway there by the bridge.	Please see MASTER RESPONSE #14.
6F	Bonniwell	Constance	None provided	6	Verbal Testimony	5 – Environmental Effects	Here's a quote about Sochacki Park: The natural setting of Sochacki Park may be somewhat diminished due to the proximity of park trails to the line at D1. The honest version: The quiet refuge that is Sochacki Park would be destroyed. Over 220 trains a day.	Please see MASTER RESPONSE #15.

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6G	Bonniwell	Constance	None provided	6	Verbal Testimony	8 – Transportation System Effects	The only mention that is made of all the concerned owners of wildlife habitat to the east of the BN line is this, and I quote: There are several informal illegal crossings of the BNSF railroad corridor with parkland between 36th Avenue and Golden Valley Road. Pedestrians who cross at these unmarked locations are illegally trespassing on BNSF property. During the scoping process it was learned that residents of this area east of the park cross the BNSF railroad corridor at these illegal crossings to access the trail and Sochacki Park.	The proposed BLRT Extension project would be located within an existing active rail corridor and its construction may result in temporary modifications to roadways and/or pedestrian or bicycle facilities that may result in changes to park access patterns. The informal (unauthorized) crossings into Theodore Wirth Regional Park and Sochacki Park across the BNSF Railway (BNSF) tracks at-grade will be fenced off during construction and permanently closed once the proposed BLRT project is in operation. However, crossings at 36th Avenue, Golden Valley Road, Plymouth Avenue, and Olson Memorial Highway (Trunk Highway 55) would be maintained permanently. There may be temporary impacts to access during construction. The Council will develop a Construction Communications Plan which would be used to coordinate with emergency service providers as well as the public. See Section 4.7 – Safety and Security of the Final EIS for additional discussion on this topic.
7A	Fahey	Sean	None provided	7	Verbal Testimony	3 – NEPA Process and Public Involvement	Basically, I am disappointed in the DEIS. Joe laid out his five goals, and the ecological environment is really only addressed in the last half of four and five, so I feel like there's a lot of space in the DEIS that has nothing to do with the ecological environment. A lot of it has to do with the human-built environment.	The Final EIS includes a discussion of all known environmental issues and impacts at the time of publication.
7B	Fahey	Sean	None provided	7	Verbal Testimony	5 – Environmental Effects	My biggest concern is the effects on wetlands. So this training will go through three different ponds – four ponds possibly, yeah. At least in Golden Valley it will go through three different ponds. We're going to have to create two new tracks to go next to the existing track, and it may even be needed that we will have to take out a track and just rebuild three new tracks going through these wetlands. So the DEIS says we will lose about ten acres of wetland. We'll have ten acres of wetland. And to me, that's unacceptable.	Please see MASTER RESPONSE #16.
7C	Fahey	Sean	None provided	7	Verbal Testimony	3 – NEPA Process and Public Involvement	The only other thing I want to say is that we haven't had very much time to even read through the DEIS. We didn't get very much time to like look into it. It just came out April 1st. And for people that have jobs and they don't have a technical background, it's hard to read it, get organized, talk to their neighbors in this short amount of time.	Please see MASTER RESPONSE #5.
8A	Wildung	Cathy	None provided	8	Verbal Testimony	6 – Noise and Vibration Effects	But to me, my number one concern is the sound, if it's going to affect me in my house because I'm so close. It's really only a block or so away. I'd really like to see some kind of a sound barrier if they decide to do this, but I'm wondering if it's still going to affect me. I'm a very light sleeper. And, you know, the fact that these trains are going to be running early morning from 4:00 to 6:00 a.m., 20 – every 20 to 30 minutes. Rush hour probably isn't going to bother me too much. But peak periods, 6:00 to 9:00 a.m., that's pretty early, every seven and a half minutes. Late evening, 10:00 p.m. to 2:00 a.m., I'm sleeping. Every 30 minutes? What if I hear those trains running? I'm going to have to move. I'm sorry. And I'm wondering how many other people feel the same way. I hope it doesn't bother me, but I'm afraid it's going to. I'm worried about the bells and the whistles on the places where the train stations are going to be because they sound like they're going to be sounded every 20 – oh, I see, the train horns will sound 20 seconds before they arrive. The crossings, wayside bells will sound a total duration of 30 seconds. I don't know. That's my main concern.	Please see MASTER RESPONSE #17. The noise analysis indicates that there would be no noise impacts on residences along Kyle Avenue.
8B	Wildung	Cathy	None provided	8	Verbal Testimony	5 – Environmental Effects	Another concern I had, of course, was the wetlands also. And I'm just wondering, that area floods. We get a lot of flooding. Especially like with the heavy rains we've had, we've had problems with that. Is that	Floodplains are addressed in Section 5.2 of the Final EIS. The Council reviewed Federal Emergency Management Agency (FEMA) 100-year floodplains and FEMA floodways as part of the evaluation for the proposed BLRT Extension project. The floodplains and floodways were identified and evaluated based on current FEMA

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							going to affect our existing water situations when they are messing with those wetlands?	Flood Insurance Rate Maps (FIRM) and ancillary information. The data in this section are based on the information in the Preliminary Floodplain Impacts and Mitigation Strategies Technical Memorandum (January 2016), or Floodplain Technical Memorandum. The Council conducted the analysis in coordination with US Army Corps of Engineers (USACE), DNR, and local watershed organizations (Bassett Creek Water Management Commission, Shingle Creek Watershed Management Commission, West Mississippi Water Management Commission, and Mississippi Watershed Management Organization) as described in the Floodplain Technical Memorandum. No increase in flooding would occur as a result of the proposed BLRT Extension project. Concerning wetlands: Please see MASTER RESPONSE #16.
8C	Wildung	Cathy	None provided	8	Verbal Testimony	5 – Environmental Effects	And the statement – the Environmental Impact Statement was talking about how this area is over private wells and water that's used for the residents in the city. And how is all that going to be affected? I guess I'm concerned about that.	The Final EIS addresses drinking water in Section 5.1 dealing with utilities. Private and public wells within the proposed BLRT Extension project corridor are identified and the potential effects of the proposed BLRT Extension project are described. No long term effects to the supply of drinking water are anticipated. The construction phase of the proposed BLRT Extension project will also incorporate appropriate measures to avoid and minimize potential impacts to drinking water from public and private wells.
8D	Wildung	Cathy	None provided	8	Verbal Testimony	5 – Environmental Effects	And the other thing is that there's 790 recorded way sites in this preferred alternative area, BCD1, and are they going to be uncovering hazardous wastes material and what's going to happen when they uncover that material?	The Council is aware of the previous dumping that had occurred during the 1960s in Sochacki Park/Mary Hills Nature Center/Rice Lake Park. A Phase I Environmental Site Assessment (ESA) has been conducted, and a Phase II ESA is being conducted, to further evaluate the presence of contamination along the entire proposed BLRT Extension project corridor and proposed areas of construction. Information gathered from the Phase I and II ESA will be incorporated into the proposed BLRT Extension project's Response Action Plan (RAP) (which includes a Construction Contingency Plan for unidentified contamination) to properly handle, treat, store, and dispose of solid wastes, hazardous materials, petroleum products, and other regulated materials that could not be avoided during construction. Coordination with the Minnesota Pollution Control Agency, cities of Robbinsdale and Golden Valley, and the Three Rivers Park District will also be arranged.
9A	Lamker	Darlene	None provided	9	Verbal Testimony	3 – NEPA Process and Public Involvement	And I guess I'd like to start out by just saying real quick that I'm very disappointed that one vote has changed our lives so, as well as the track already there and it's the cheapest way to build this. It's just really – it's shocking that because of those three reasons we have to go through all this.	Please see MASTER RESPONSE #1.
9B	Lamker	Darlene	None provided	9	Verbal Testimony	5 – Environmental Effects	And I'd like to share the fact that I walk – I have for 20 years walked there four out of five mornings, and I still do. I was there this morning with many, many other people. And the environment in the wetland – I mean, I just can't imagine how you can mitigate anything like that and have it anywhere near what's necessary.	Please see MASTER RESPONSE #16.
9C	Lamker	Darlene	None provided	9	Verbal Testimony	8 – Transportation System Effects	Now, I believe in transit and I have to share with you why. I work in the Minneapolis schools and so even today I was over by the Hiawatha Line. And I've seen that Hiawatha Line go from the Vets to the Mall of America, with people who come in everywhere, who come to the Vets, for people who are working, or back and forth. And it's wonderful when it's used like that with that many people.	The Council appreciates your comment, and agrees that the Blue Line (formerly known as the Hiawatha Line) is an effective light rail transit (LRT) line that serves a wide variety of people and destinations.
9D	Lamker	Darlene	None provided	9	Verbal Testimony	7 – Alternatives, Engineering and Design	Now, today, just today alone, as I'm waiting at the stoplight, the bells and whistles are – my windows are closed – as loud as can be. I rolled down the window and the train left, and I can't tell you the noise it makes. It's just unbelievable. So I can't imagine taking that beautiful, wonderful place that Golden Valley has that's so special and changing it like you are.	Noise impacts have been assessed at sensitive locations throughout the proposed BLRT Extension project corridor consistent with Federal Transit Administration (FTA) methodology and impact criteria. Where impacts have been identified, mitigation measures, consistent with Metro Transit's noise mitigation policy, have been recommended. Noise is discussed in Chapter 5 of the Final EIS, including a discussion of mitigation measures such as Quiet Zones, noise barriers, and the use of wayside warning devices.

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								The noise analysis indicates that there would be no noise impacts on residences along Kyle Avenue.
9E	Lamker	Darlene	None provided	9	Verbal Testimony	7 – Alternatives, Engineering and Design	My alternative would be anything else. And my greatest alternative would be hopefully we can put this off for two years and the Feds won't give us the money. I'd like to see the – yeah. I'd like to see an alternative route. And the students and families in north Minneapolis are the ones that could really benefit if we did this the right way. But why can't we do something other than take out all those houses if we took the other route?	Please see MASTER RESPONSE #1.
9F	Lamker	Darlene	None provided	9	Verbal Testimony	4 – Social and Economic Effects	I just – I know the environment – I think the environmental – I haven't even read it all so – I have to say that, but I think environmentally, I can't imagine something like this would pass. I just can't imagine.	FTA and the Council have followed the requirements of the National Environmental Policy Act (NEPA) and the Minnesota Environmental Policy Act (MEPA) in making informed decisions regarding the social, economic, and environmental impacts of implementing the proposed BLRT Extension project. Significant efforts have been made to avoid, minimize, and/or mitigate impacts.
10A	McMahon	Kasia	None provided	10	Verbal Testimony	7 – Alternatives, Engineering and Design	I just wanted to discuss that --or I just wanted to talk about how this project shares a lot of similarities with the Southwest LRT project, which if anybody has been following that disaster, it's very similar. It's using a quiet, urban neighborhood as a, you know, commuter pass-through for, you know, excerpts and that the design of that was made using Bush-era criteria for, you know, these New Star projects and under the new criteria, this type of project I don't think would ever be designed in this way.	The Council is developing the Green Line Extension (Southwest Light Rail Transit) and the proposed BLRT Extension projects in accordance with FTA's New Starts criteria, which include completion of environmental review in accordance with NEPA and MEPA. The environmental review considers all anticipated social, economic, and environmental impacts, and appropriate avoidance, minimization, and mitigation measures.
10B	McMahon	Kasia	None provided	10	Verbal Testimony	8 – Transportation System Effects	And unfortunately, you know, our city didn't really stand up for the – didn't really represent Golden Valley in the way that it should have because clearly Golden Valley doesn't get anything from this project. I mean, we have two optional stations that may or may not be built. One of them may be built, and it – it serves so few people. I mean, I live extremely close to the Golden Valley Road Station – the potential station there, and it's still a half a mile walk from my house. And I can tell you that – as a, you know, a transit user, that's – that's an extreme distance to use every day. It's not very practical.	Please see MASTER RESPONSE #19.
10C	McMahon	Kasia	None provided	10	Verbal Testimony	8 – Transportation System Effects	And it's – to say that that route is comparable to D2, which would serve Broadway in Minneapolis, is completely ludicrous because I know for a fact that the 14 bus which serves Golden Valley now is -- I'm like the only person that rides it in the morning and in the evening. I actually can't imagine that that station would be used by more than a handful of people during rush hour. It's not likely. I mean, the DEIS claims that the ridership numbers between D1 and D2 are comparable, but I just honestly can't see how that is possible.	The Council used its regional travel demand forecasting model to develop the transit ridership forecasts for the proposed BLRT Extension project. The proposed BLRT Expansion project ridership modeling is discussed in Section 3.1 of the Final EIS. The Plymouth Avenue Station would have 229 riders per day, while the Golden Valley Road Station would have 905 riders per day, based on the results of the ridership model. The overall ridership forecasts are as follows: B-C-D1 – 27,000 boardings per day B-C-D2 – 26,000 boardings per day
10D	McMahon	Kasia	None provided	10	Verbal Testimony	3 – NEPA Process and Public Involvement	So I – I just would really hope that Golden Valley – representatives in Golden Valley would stand up for what makes sense for us because I don't think that necessarily is selfish at all. I think when you stand up for the people in your small local area, you're standing up for common sense on a larger scale.	Staff and elected officials from the city of Golden Valley participated in the issue resolution and public and agency involvement process throughout the development of the proposed BLRT Extension project. These processes are documented in Chapters 2 and 9 of the Final EIS. City staff and officials remain engaged in project design activities, and would do so throughout the completion of design, construction, and operation of the proposed BLRT Extension project.
11A	Coifman	Vicki	None provided	11	Verbal Testimony	5 – Environmental Effects	First of all, three things happened in the last week. We had the rainfall….I had not seen the golf course, the land between Golden Valley Road and Highway 55, as wet as it has been in the last week. I personally anticipate that that's going to get worse, given the report on global warming for – for people that came out a couple of days ago, and there was discussion of local Minnesota impacts of these	The new presidential Executive Order 13690 concerning floodplains is incorporated in the design of proposed infrastructure in and near mapped floodplains. Design standards in the Executive Order necessitates that infrastructure be designed to accommodate floods of 2 feet above the 100-year floodplain. This Executive Order was issued as a result of climate change studies which demonstrate that frequency

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							changes. I am assuming the rainfall incidents are not going to get better. They're going to get worse. Has the impact of the LRT on the floodplain been considered from the perspective of this very new situation of the last five years maybe -- visible in the last five years, and which is getting worse? Have those – has that impact of wilder, wetter changes in the local climate – how is that going to impact what looks to me like a floodplain.	and intensity of storm events in the future would likely be more severe than the present.
11B	Coifman	Vicki	None provided	11	Verbal Testimony	7 – Alternatives, Engineering and Design	Also, not to beat a dead horse, when we were talking about the preferred options for this line, we had two pretty crummy options in north Minneapolis: Penn Avenue and the one that is the preferred one. So I – again, the major population who needs the LRT is where the line is not going.	Several location and mode alternatives were considered during the proposed BLRT Extension project Alternative Analysis (AA) and Draft Environmental Impact Statement (Draft EIS) processes. The Council, Hennepin County, and the cities along the proposed BLRT Extension project corridor agreed that the proposed BLRT Extension project best meets the purpose and need. The proposed BLRT Extension project would improve the transportation system by providing more travel choices and faster travel times between residential areas, major destinations, and employment centers.
12A	Adair	Richard	None provided	12	Verbal Testimony	4 – Social and Economic Effects	I came here tonight because I also lived in Golden Valley for 23 years before that, so I've lived on each side of Wirth Park for --I don't want to say how many years, but a long time. I golf in it. I swim in it. I cross-country ski in it. I look at birds in it. I do all the things that my fellow testifiers here have talked about. But you're going to hear a slightly different slant on this from me. I'm asking you to look at a 30- to 50-year time frame, rather than what happens to me today. There are 3 million people in the Twin Cities. It's projected that very soon there will be 4 million people in the Twin Cities. Our freeways are clogged. And I'm not looking for a situation – looking forward to a situation where we have isolated pockets of poverty where people don't have access to transit, and this includes areas like the Frogtown area of St. Paul and north Minneapolis. So I'm asking you to look at the long run and to recognize that light rail transit is the key to knitting together our metropolitan area and making sure that it thrives in the future.	Please see MASTER RESPONSE #2.
12B	Adair	Richard	None provided	12	Verbal Testimony	3 – NEPA Process and Public Involvement	I also hope that you listen to every single one of the concerns that have been voiced by the speakers before me. These are very legitimate concerns. And I would say that if I were sitting in these chairs, that my job would not be to decide whether to do this or not, but how to do it in such a way as to pay the most attention to everybody who's impacted by it.	Please see MASTER RESPONSE #6.
12C	Adair	Richard	None provided	12	Verbal Testimony	4 – Social and Economic Effects	And regarding putting it down Penn Avenue, we have to listen to the people who live nearby. If there's one thing we've learned from the Southwest discussions is, for heaven's sake, let's listen to the people who live nearby. And as I understand it, they do not want to remove houses on Penn in order to make room for it.	The Policy Advisory Committee (PAC) recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the proposed BLRT Extension project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits.
13A	Lehman	Karen	None provided	13	Verbal Testimony	7 – Alternatives, Engineering and Design	I live in Chicago most of the time. And in Chicago I don't own a car, and I am a transit – public transit proponent. But the reason it works is that I have an express bus to Duluth outside my door. I have a train three blocks away. I have an hour car I can rent from my building. I have a rental car office four blocks away. I have a bike path next to me, and I can walk. And I can take cabs by putting a cab light on the building and the cab comes.	Please see MASTER RESPONSE #8. Crime Prevention through Environmental Design (CPTED) principles utilize landscaping, lighting, and structural elements in the design and construction of light rail stations to reduce the likelihood of criminal activity. Following the CPTED philosophy not only makes Metro Transit facilities aesthetically pleasing, but also helps to provide a safer environment for all of our customers. In addition, the proposed BLRT Extension project will use urban designs to minimize crime including lighting, landscaping, and structure design.

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							I use the hour car when I have to take public transit to a station that is isolated, where there aren't very many eyes on the street. And what I fear about the transit, the stops that we have in Golden Valley, is that we will have the worst of all possible worlds, where we will have isolated stops. What I don't want is an isolated station that's not – that doesn't have security staff so that I don't feel like I can use it.	
13B	Lehman	Karen	None provided	13	Verbal Testimony	6 – Noise and Vibration Effects	I also have one of those houses that is hanging out over the rail line, right there at the end of Zephyr Place. I'm concerned about the noise.	Please see MASTER RESPONSE #17. Interior testing to determine the appropriate mitigation measure is recommended for the location of 16th Avenue North to Golden Valley Road in Golden Valley, near Zephyr Place resulting in no residual noise impacts. See Table 5.6-7 in the Final EIS for a summary of proposed mitigation measures by location.
13C	Lehman	Karen	None provided	13	Verbal Testimony	5 – Environmental Effects	I'm concerned about the light. It is dark, which is wonderful.	Section 4.5 of the Final EIS describes the process for determining visual impacts to natural areas. The visual impacts of the proposed BLRT Extension project were determined by evaluating the changes to existing visual resources that would occur as a result of project implementation, and assessing the anticipated viewer response to those changes. Visual impact assessment was based on direct field observation from multiple vantage points, including from neighboring properties and roadways; evaluation of existing visual character; and review of proposed BLRT Extension project plans and features. Visual impact assessment was also based on photographic documentation of existing conditions for several key views of the proposed BLRT Extension project corridor. Adverse effects to visual quality would occur in some areas, such as areas where recreational and residential uses are located along or in the vicinity of the proposed BLRT Extension project corridor. At locations where adverse visual effects are anticipated, project elements added to the rail corridor may be visually screened or softened using landscaping where adequate space permits, and the loss of existing vegetation on side slopes for grading or access purposes would be replaced to the extent feasible. Several local plans address aesthetic and visual resources in the proposed BLRT Extension project area, and applicable policies include the establishment of design and landscape guidelines.
13D	Lehman	Karen	None provided	13	Verbal Testimony	5 – Environmental Effects	I like the fact that the animals can go wherever they want to go. So I think there are things you can do. You can really look at that wildlife corridor and take it seriously as a wildlife corridor and figure out, how are you going to protect Golden Valley? Because what I'm afraid of is the uniqueness of Golden Valley gets eroded.	Please see MASTER RESPONSE #13.
13E	Lehman	Karen	None provided	13	Verbal Testimony	8 – Transportation System Effects	The reason that people are going to have those stops there, then we're going to bring people in to use those transit stops. The parking is going to become an issue.	There is a proposed park-and-ride located at the Golden Valley Road Station that would accommodate 100 spaces. Additional information can be found in Chapter 3 (Sections 3.1, 3.3, and 3.5) of the Final EIS.
13F	Lehman	Karen	None provided	13	Verbal Testimony	3 – NEPA Process and Public Involvement	Other people have been much more on point than I can be about the special quality of Golden Valley and the natural resources that it represents, but I think that those voices are hard to hear sometimes because they can't speak, so we have to speak for them.	Please see MASTER RESPONSE #6.
14A	Milstein	Bernie	None provided	14	Verbal Testimony	4 – Social and Economic Effects	I have not been in favor of light rail in that area and for a couple reasons. Number one, it's going to impact the environment. It's going to be dirty, dusty. You're going to cause more traffic on Golden Valley Road than is necessary.	Concerning air quality: Please see MASTER RESPONSE #11. The traffic operations analysis indicates that the Golden Valley Road/Theodore Wirth Parkway intersection would operate at a level of service E in 2040 with either the No-Build Alternative or the proposed BLRT Extension project. See Table 3.3-3 in the Final EIS.
14B	Milstein	Bernie	None provided	14	Verbal Testimony	7 – Alternatives, Engineering and Design	That remote area over by Margaret Mary Church and the fire station is a remote area for Golden Valley. If we use Golden Valley for a square, that's over in the corner. The greater population of Golden Valley over on this side, Wesley Park and some of those other parks,	Please see MASTER RESPONSE #1.

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							is a vaster --Golden Valley is a pretty – it's a nice community, but it's – it's not as tight over there as it is in other areas. If you were to put in a light rail and divert it from where it is and bring it into downtown where we have train tracks --just reroute this thing and put it into downtown where there is the light rail --where there is train tracks, you'll have a greater population that will be for the greater good of Golden Valley than that isolated station over there.	
14C	Milstein	Bernie	None provided	14	Verbal Testimony	7 – Alternatives, Engineering and Design	So they're not thinking straight. I mean, they're trying to railroad our community from the north and for that area and railroad it through us. And when I say "railroad," I'm not talking about the railroad. I'm talking about they're trying to boondoggle us and ride over us. I'm trying to protect Golden Valley.	Please see MASTER RESPONSE #1.
14D	Milstein	Bernie	None provided	14	Verbal Testimony	5 – Environmental Effects	Now, the population that's around here is concerned about the environment by Theodore Wirth Golf Course, about the wetlands and all the animals that we have running around.	Concerning Theodore Wirth Regional Park: Please see MASTER RESPONSE #14. Concerning wetlands: Please see MASTER RESPONSE #16.The proposed BLRT Extension project has an elevated LRT rail platform across Grimes Pond and ponds north of Golden Valley Road. The proposed BLRT Extension project would use a bridge to cross these ponds, which are identified notable aquatic resources. The Draft EIS design concept would have used a continuous embankment of fill, which would have caused considerably more impacts to this aquatic resource. Also, please see MASTER RESPONSE #13.
14E	Milstein	Bernie	None provided	14	Verbal Testimony		But also it's a very quiet area. Very quiet. Very peaceful. That's what I love about Golden Valley. Golden Valley. It's a golden area to live. So you're going to cause more disruption. Now, for those of us that live in the area, if we go out and grill, we go out into our yards, and we're going to hear that stuff. Things that we never heard before. It's going to cause disruption.	Please see MASTER RESPONSE #17. In the Golden Valley area, mitigation for noise impacts will include noise barriers or interior testing to determine the appropriate mitigation measure.
14F	Milstein	Bernie	None provided	14	Verbal Testimony		I was just talking to one of the gentlemen outside who's been involved in this whole consternation, and the – the light rail is going to bring in – every seven minutes you're going to have, during peak times, you're going to have traffic coming in. During unpeak times, if that's a good word, they're going to come by every ten minutes.	Revisions to the proposed BLRT Extension project during the Project Development phase have changed the LRT frequency from 7 minutes to 10 minutes during peak periods.
14G	Milstein	Bernie	None provided	14	Verbal Testimony	4 – Social and Economic Effects	Property values are going to be dramatically affected. You have some of the best property values in Golden Valley over in Hidden Lakes and Heathbrooke. You think that people are going to want to stay in those properties when they hear noise every seven minutes and every ten minutes? What this community needs is rapid bus service, not rapid train service.	Please see MASTER RESPONSE #7. The Council is developing bus rapid transit (BRT) routes within its service area; however, light rail was selected as the preferred technology for the proposed BLRT Extension project corridor.
15A	Rosenquist	Gillian	None provided	15	Verbal Testimony	3 – NEPA Process and Public Involvement	When I was reading the draft DEIS, one of the things I was really thinking about is this process seems to be a little disjointed. Having gone to the Three Rivers meeting recently and thinking about the plans that Three Rivers has for Sochacki and Mary Hills. Also being involved in the bike trails. I'm not reading about – it seems to be like this is a very focused plan and they're not thinking about how the whole metro area is envisioning using these natural areas. So I would ask that there be better coordination, looking at not just environmental impacts right now, but environmental impacts in terms of – in terms of planning uses and in terms of future. And – because I know Three Rivers has ideas and plans, and so do the neighbors, for changes to this area.	Coordination continues between the Council, FTA, Hennepin County, and the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park as the proposed BLRT Extension project is further designed. See Chapter 2 of the Final EIS for a summary of the issue resolution process which coordinated stakeholders on issues identified from Draft EIS comments. Chapter 8 of the Final EIS describes the coordination between the cities of Golden Valley and Robbinsdale, the Three Rivers Park District, and the Council regarding coordination between LRT construction activities and improvements to Sochacki Park.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
15B	Rosenquist	Gillian	None provided	15	Verbal Testimony	5 – Environmental Effects	So we need to think about what goes in as far as floodplain mitigation and things like that in terms of what they want to do and what we want to do with those areas too. Not just how they are right now. I mean, some of the things that I saw were that the areas they were looking for floodplain mitigation are significantly south of the stations. And as one of the other people noted, we've had a lot of rain. It's a very wet area. And our trails and usage are impacted. And if we don't have kind of that addressed on the northern end, we are going to have reduced use in those areas for recreation, for programming, things like that. Let's see. I mean, one of the quotes from page 20 of the floodplain replacement was the size of the floodplain mitigation is anticipated to be small, ranging from an eighth to a quarter acre, and that does seem insufficient, especially in light of the water we've had.	The Council reviewed FEMA 100-year floodplains and FEMA floodways as part of the evaluation for the proposed BLRT Extension project. The floodplains and floodways were identified and evaluated based on current FEMA FIRM and ancillary information. Section 5.2 of the Final EIS describes the existing floodplains in the study area and describes several factors that have caused floodplain impacts to change in the study area since publication of the Draft EIS. These factors include refinements to the footprint of the proposed BLRT Extension project and modifications to the mapping of the 100-year floodplain in the Bassett Creek area. This section also describes the impacts of the No-Build Alternative and the proposed BLRT Extension project on floodplains. The data in this section are based on the information in the Preliminary Floodplain Impacts and Mitigation Strategies Technical Memorandum (January 2016), or Floodplain Technical Memorandum. The Council conducted the analysis for this section in coordination with USACE, DNR, and local watershed organizations (Bassett Creek Water Management Commission, Shingle Creek Watershed Management Commission, West Mississippi Water Management Commission, and Mississippi Watershed Management Organization) as described in the Floodplain Technical Memorandum. In Golden Valley, there would be a total of 16,800 cubic yards of floodplain impact. This would be mitigated by the excavation of compensatory storage in an area north of Olson Memorial Highway and west of the BNSF rail corridor. The design of this mitigation is being coordinated with the Minneapolis Park and Recreation Board to ensure a design that is in harmony with the surroundings and would avoid a reduction in recreational utility of the property.
15C	Rosenquist	Gillian	None provided	15	Verbal Testimony	5 – Environmental Effects	There also seems to be a little bit of confusion about who runs those areas. I mean, I saw Park Board. I saw Golden Valley. And they were talking about the same areas, so I think that needs to be cleared up in this plan so we know kind of who we're dealing with, and the Met Council and the county and the federal government also know who we're dealing with.	Please see response to Comment 15B. All appropriate agencies have been and would continue to be involved in floodplain mitigation.
16A	Linder	Bill	None provided	16	Verbal Testimony	4 – Social and Economic Effects	A couple of the issues that I'd like to at least get on the list here is property values. All along that corridor people live here, you've listened to it, because of its uniqueness. And people buy their homes there and they pay the prices for those homes because of its unique nature. That will ultimately change, even though we are not a noise dot on your noise map. Noise in Golden Valley is not the same thing as noise next to other facilities. This is a pristine, well-liked area.	Concerning property values: Please see MASTER RESPONSE #7. Concerning noise impacts: Please see MASTER RESPONSE #7. In the Golden Valley area, there are relatively few noise impacts; all are along the east side of the proposed BLRT Extension project corridor, and the majority are along Kewanee Way. Noise mitigation for impacted properties will consist of noise barriers, or interior noise testing to determine the appropriate mitigation measure.
16B	Linder	Bill	None provided	16	Verbal Testimony	4 – Social and Economic Effects	Taxes. Oh, I'm sure this is going to benefit the heck out of Golden Valley, so obviously our tax rates will be increased too because of this wonderful opportunity we have to ride light rail, which in practice, won't be very helpful to our community.	Concerning tax increases: property tax increases are affected by a variety of market conditions. Impacts of an LRT project on association dues and taxes are difficult to assess conclusively.
16C	Linder	Bill	None provided	16	Verbal Testimony	4 – Social and Economic Effects	I haven't heard anything about compensation for any of these issues, okay? Who wants to pay for this? These are costs that everybody along this corridor will be paying for.	Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minnesota Statute (Minn. Stat.) 117.
16D	Linder	Bill	None provided	16	Verbal Testimony	5 – Environmental Effects	And just ownership of the park. I have a lot of personal ownership in that park. I've lived there nearly 30 years and have picked up and cleaned up. And you go out there, show me the litter. I challenge any of you to. That's because myself and many others in the community take care of that park.	The Council does not anticipate that the proposed BLRT Extension project would impede the ability of concerned citizens to continue to care for parklands in the proposed BLRT Extension project area.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
17A	Wall-Romana	Margaret	None provided	17	Verbal Testimony	5 – Environmental Effects	I'll give you a little bit of background… When we bought our house that we're now selling in south Minneapolis, our neighbor next door…built an addition to his house ten feet away from our house. Blocked all of our light; made a big, ugly expansion; completely changed the house that we had purchased, so we were never able to live in the house we purchased…I feel like the same thing is happening to us again. It's our fault that we didn't do this due diligence. But we absolutely fell in love with this house on Kyle Avenue, which is magnificent. It's so not Minneapolis. It is so special. I go out in the morning and all I hear is birdsong. And I love the birds and I love the animals. And we have half an acre that looks out to, is it Sochacki Park? It's magnificent. It's special. It should be preserved. Not just for me because I want it but because, honestly, it's not Minneapolis. It's not any of the other places around here. It is a very special, particular place that is lovely and is unique to Golden Valley.	Please see MASTER RESPONSE #15.
17B	Wall-Romana	Margaret	None provided	17	Verbal Testimony	7 – Alternatives, Engineering and Design	And I do not understand why the city council of Golden Valley did not do what should have been done to protect the unique qualities of Golden Valley. I mean, there --there are other places that the line could run. Better yet, there should be better bus service, which would do much more for the entire area with far fewer impacts.	Please see MASTER RESPONSE #1.
17D	Wall-Romana	Margaret	None provided	17	Verbal Testimony	5 – Environmental Effects	And also I'd like to say one more thing, which is that one of the – one of the things that really struck me in the EIR is that at some point somebody discussed a waterway as though it was a trash-strewn, you know, nothing. And I have not found that to be the case.	The Council believes that waterways are very important resources to the community. They are committed to and required by law to avoid impacts or minimize impacts to them, and mitigate for unavoidable impacts to them. Through the use of effective best management practices the Council can minimize impacts to them and in many cases improve them compared to current conditions.
18A	Steinberg	Dan	None provided	18	Verbal Testimony	6 – Noise and Vibration Effects	Concerning – concerning Chapter 6-3, Table 5 of the noise mention -- of noise area with the dots, there's no mention of Kewanee Way. There is no mention of Kewanee Way on the noise – on noise on Table 5. And I'm a little bit in shock – in shock by that from the document that I read, considering that that street is right next to the rail line, if you've traveled down there and been down there.	Please see MASTER RESPONSE #17. Several noise impacts were identified on Kewanee Way in the Draft EIS (see Figures 26 and 27 in Appendix G of the Draft EIS). Impacts have been assessed in the Final EIS and appropriate mitigation has been recommended, consistent with Metro Transit's noise mitigation policy. Noise is discussed in Chapter 5 of the Final EIS. A noise barrier is proposed as a mitigation measure between the LRT and Kewanee Way. The noise barrier would eliminate the majority of noise impacts in this area; analysis indicates that one moderate and one severe impact would remain after implementation of the noise barrier.
18B	Steinberg	Dan	None provided	18	Verbal Testimony	8 – Transportation System Effects	Around page 105 of the document it talks about the change of bus routing on there, considering a new bus route, the possibility of changes and especially to the City of Golden Valley bus system, along with rerouting of Route 14 which runs through the north Minneapolis area. So I'd like to see – I'd like to see from Met Council representatives that are here tonight, and staff – I see many of them in the room – to address new bus routes --or tentative plans for bus routing going through or what their idea of a plan would be like for that draft, because it did talk it may have changes to the bus system going through, so obviously that area is going to have a lot of changes. So I do thank you for mentioning those past bus sites in there. And so those are pretty much what are my questions to that.	Chapter 3 of the Final EIS discusses transit changes that may occur as a result of implementing the proposed BLRT Project. According to the draft Bus Feeder Plan, bus routes 7 and 30 would serve the Golden Valley Road Station with drop off areas on Golden Valley Road. Network modifications are focused on providing an integrated "feeder" bus network to connect people to the proposed BLRT Extension project stations. Bus networks and transit plans will continue to be refined as the proposed BLRT Extension project progresses; final bus network changes will be subject to a robust public involvement process in accordance with Title VI requirements.
18C	Steinberg	Dan	None provided	18	Verbal Testimony	5 – Environmental Effects	All right. Then I think I'm around page 400. There was no mention of St. Margaret Mary as being a historic or looked at from a cultural standpoint. Yet, the Floyd – yet, Governor Floyd Olson's statue at the corner of Penn and Olsen Highway is mentioned in there before St. Margaret Mary. I'm a little bit dismayed by whoever – whoever decided that the statue and St. Margaret Mary do not fall into same category with that historic preservation.	The St. Margaret Mary Church and School campus has been determined not eligible for listing in the National Register of Historic Places (NRHP) due to a lack of historical significance. The St. Margaret Mary Church and School campus is a good example of a large post–World War II suburban church complex. However, the church does not appear to have played any significant role in the development of Golden Valley or the Catholic Church, rather its development merely reflects a broader national trend of growth post-World War II. Also, it does not appear to be

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								either a notable or an outstanding example of this type of complex. Therefore, the campus does not have significance under NRHP Criterion A. Additionally, architecturally, the church does not embody the characteristics of Mid-Century Modern ecclesiastical architecture and so does not have significance under NRHP Criterion C.

Minneapolis Public Hearing, May 8, 2014 – Verbal Testimony

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
29A	Moore	Vicki	None provided	29	Verbal Testimony	4 – Social and Economic Effects	A lot of the discussion in the community has been around alignments and stops and change. I see this as the potential for transit development. In my neighborhood, when we talk about trying to bring people and developers in, they'll say you don't have enough people to support the business. You don't have enough amenities for our workers. So going forward, I would like to see more conversation about economic development.	The Council has been has been working with Hennepin County on the Station Area Planning (SAP) efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities.
29B	Moore	Vicki	None provided	29	Verbal Testimony	7 – Alternatives, Engineering and Design	I really support the Penn Avenue Station and making the park a destination. I know that – I believe that if the park is a destination, there will be economic development going up Plymouth to Penn, small businesses, and that we should be growing small businesses that are community-owned businesses, and this is our opportunity to do that. I know that my neighborhood will be supporting businesses along Olson Highway.	Please see response to Comment 29A.
29C	Moore	Vicki	None provided	29	Verbal Testimony	4 – Social and Economic Effects	If we're going to do this, I think it's really important that – as we move forward that we consider equitable development standards and community benefits agreements. I think by doing so, you're engaging the community in a way that they can start to see the benefit and the potential of what's coming to us as this line moves through our neighborhood rather than just looking at change and perhaps wanting to keep things the way they are rather than looking at how things could be.	Please see response to Comment 29A.
30A	El-Amin	Arlene	None provided	30	Verbal Testimony	8 – Transportation System Effects	Would like a roundabout considered around 8th Ave N to slow down traffic, concerned about increase in traffic as people try to avoid LRT stops.	No roundabout is proposed at the 8th Avenue North and Elwood Avenue North intersection. This is outside of the limits of disturbance for the proposed BLRT Extension project. Chapter 3 of the Final EIS discusses the reconstruction of nearby Olson Memorial Highway as part of the proposed BLRT Extension project, which lowers the posted speed limit to 35 miles per hour (mph) and improves the pedestrian and bicycle accessibility and safety.
30B	El-Amin	Arlene	None provided	30	Verbal Testimony	8 – Transportation System Effects	Wants to see walking bridges to cross over Olson Hwy and traverse the rail line, concerned about pedestrian connections.	Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: the Penn Avenue Station and the Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. Americans with Disabilities Act (ADA)-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue, midblock between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Boulevard. The proposed BLRT Extension project would include a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge.
31A	Wynne	Elaine	None provided	31	Verbal Testimony	5 – Environmental Effects	Concerned about Wirth park.	Please see MASTER RESPONSE #14.
31B	Wynne	Elaine	None provided	31	Verbal Testimony	8 – Transportation System Effects	Concerned about ridership.	The AA/Draft EIS and Final EIS processes examined numerous alignment options detailed in Chapter 2 of both documents. The proposed BLRT Extension project meets the purpose and need most efficiently and minimizes project impacts. The Council used its regional travel demand forecasting model to develop the transit

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
								ridership forecasts for the proposed BLRT Extension project which is 27,000 boardings daily. Please see Section 3.1 of the Final EIS for more details.
31C	Wynne	Elaine	None provided	31	Verbal Testimony	7 – Alternatives, Engineering and Design	Golden Valley stop is not close to anybody and feels like Golden Valley is being treated like a drive-through.	The Plymouth Avenue and Golden Valley Road stations are included in the proposed BLRT Extension project scope and budget. Engineering analysis and environmental review was conducted for both stations including, floodplain, wetlands, noise, cultural resources, vegetation and park land impacts, parking, costs, and ridership. Housing units, population, employment and homes within a 10 minute walk were part of the analysis. Qualitative/social factors such as access to trails and adjacent neighborhood impacts were also considered. Chapter 2 of the Final EIS presents a summary of the alternatives analysis conducted for the proposed BLRT Extension project. Please see also MASTER RESPONSE #19.
31D	Wynne	Elaine	None provided	31	Verbal Testimony	7 – Alternatives, Engineering and Design	preferred the Hwy 100 and Penn Ave alignment the best; supports LRT	Please see MASTER RESPONSE #1.
31E	Wynne	Elaine	None provided	31	Verbal Testimony	5 – Environmental Effects	Concerned about the true impacts on wetlands since DEIS did not mention these cost figures.	Please see MASTER RESPONSE #16.
31F	Wynne	Elaine	None provided	31	Verbal Testimony	2 – Fiscal Effects and Schedule	How much will the owners and stockholders of BNSF Railroad be receiving for the purchase of this land needed for the light rail? And why have no agreements been negotiated – any tentative agreements at least? I know there are estimates, but do we actually know that those estimates are going to be anywhere close to what we're going to need to pay the railroad for this? And does it really in terms of cost balance out when you take that into consideration? Questions cost effectiveness when considering RR negotiations.	The Council continues discussions with BNSF for the use/purchase of 50 feet of their right-of-way. To date, BNSF has not agreed to any participation in the cost of the proposed BLRT Extension project. In accordance with NEPA and MEPA, the Council may not acquire any right-of-way until the Record of Decision has been published.
33A	Gallant	Linda	None provided	33	Verbal Testimony	7 – Alternatives, Engineering and Design	I want to say that I think, first of all, I would guesstimate that the majority of people in this room today believe that this is a done deal, do not believe that there is any further consideration for being honestly and seriously given to the other routes. I think we should all focus on that. That's what people believe.	Chapter 2 of the Draft EIS summarizes the alternatives considered during the Alternatives Analysis Study and in the Draft EIS. In the AA report, 12 BRT and nine LRT alternatives were recommended for technical evaluation. The Draft EIS studied four LRT build alternatives, a BRT alternative, and a no-build alternative. Displacement is a significant impact, and the proposed BLRT Extension project has proactively avoided these impacts since the release of the Draft EIS. The evaluation of Alignments D1 and D2 from the Draft EIS considered several environmental and social issues and impact areas, and the selection of the D1 alignment for the proposed BLRT Extension project avoids impacts to the north Minneapolis neighborhood, including the large number of displacements.
33B	Gallant	Linda	None provided	33	Verbal Testimony	4 – Social and Economic Effects	I think the report gives short shrift to the economic justice realities. Does not have any specifics, but how does this group that carefully avoids the population centers of North Minneapolis, carefully goes around them, how is it going to provide greater opportunities for people in my neighborhood. North Minneapolis, to get to better jobs? It says we're going to – I talked to the Metropolitan Transit person yesterday. We're going to look into that. We're going think about it. I think the time is now to be far more specific, far more focused, and far more willing to say this is what we're going to do in terms of if we're going to say this is a transit system to get people to those good jobs out in the burbs. We've got to say how we're going to do it, because right now we're not.	The study area for the EJ analysis documented 18.70 percent of the population below the poverty level and 48.40 percent of the study area population as minority groups. The proposed BLRT Extension project would benefit both EJ and non-EJ communities with reliable and higher-capacity service for transit riders, improved pedestrian and bicycle connections and access, and no residential property displacements. The full list of community benefits can be found in Chapter 7 – Environmental Justice of the Final EIS. The Council engaged members of the Blue Line Coalition during the Final EIS development phase to better understand their concerns based on this comment in the Draft EIS and also conducted public outreach to identify additional EJ populations in the proposed BLRT Extension project corridor. The Council will continue to work with the Blue Line Coalition and conduct direct outreach to EJ populations as design advances. The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities.

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33C	Gallant	Linda	None provided	33	Verbal Testimony	5 – Environmental Effects	I think the report gives short shrift to the massive impact – 220 trains a day – on Theodore Wirth Park. I want more attention paid to what is going to be done to try to reduce, mitigate the impact of this 220 trains a day on the most wonderful park in the Twin Cities.	Please see MASTER RESPONSE #14.
33D	Gallant	Linda	None provided	33	Verbal Testimony	6 – Noise and Vibration Effects	Wants to see more about noise mitigation since DEIS does not mention	Please see MASTER RESPONSE #17.
34A	Smithrud	Roger	None provided	34	Verbal Testimony	8 – Transportation System Effects	Having a light rail that has set time schedules that they are posting and saying how long they will be there would make a dramatic difference for me.	The Final EIS assumes that trains would operate at 10-minute frequencies for weekday operations. Schedules would be posted online and overhead schedule systems would be at station platforms.
34B	Smithrud	Roger	None provided	34	Verbal Testimony	7 – Alternatives, Engineering and Design	Favors D2 route rather than the D1 route.	Please see MASTER RESPONSE #1.
35A	Shabazz	Aasim	None provided	35	Verbal Testimony	3 – NEPA Process and Public Involvement	Outreach and engagement is critical.	Please see MASTER RESPONSE #6.
35B	Shabazz	Aasim	None provided	35	Verbal Testimony	4 – Social and Economic Effects	Concerned about the environmental impact as far as on businesses along Olson Memorial Highway.	No businesses along Olson Memorial Highway would be displaced by the proposed BLRT Extension project. To mitigate impacts on businesses during construction, the Council will develop a Construction Mitigation Plan, a Construction Communication Plan, and a construction staging plan. These tools will help the Council notify businesses and patrons in advance about any access issues or closures. The construction staging plan will also help businesses and patrons affected by LRT construction understand when construction would occur in different areas of the proposed BLRT Extension project corridor. Finally, a 24-hour construction hotline will be available for issue resolution and information about LRT construction. Chapter 3 – Transportation of the Final EIS addresses improvements to Olson Memorial Highway. Two stations would provide access to the communities along the highway: the Penn Avenue Station and the Van White Boulevard Station. While a six-lane roadway would be maintained, the lane widths would be reduced to 11 feet to accommodate pedestrian crossing length. The design speed and posted speed limit would be reduced to 35 mph. Existing sidewalks would be replaced with 6-foot-wide sidewalks on the north and south sides of the highway. Pedestrian refuges would be added in the median of the highway. ADA-compliant pedestrian crossings of Olson Memorial Highway would be facilitated by proposed signalized intersections at Bryant Avenue North, Van White Boulevard, Humboldt Avenue, James Avenue, Morgan Avenue, midblock between Newton Avenue and Oliver Avenue, Penn Avenue, Russell Avenue, and Thomas Avenue. The proposed BLRT Extension project would provide space on the north side of Olson Memorial Highway for a 10-foot two-way cycle track (to be constructed by others) between Thomas Avenue and Van White Boulevard. The proposed BLRT Extension project would include a multi-use trail on the north side of the reconstructed westbound Olson Memorial Highway bridge.
35C	Shabazz	Aasim	None provided	35	Verbal Testimony	8 – Transportation System Effects	When we look at the impact of the station between the Plymouth – I guess we're calling it Theodore Wirth Station – I'm not sure – and the Golden Valley Station, what is being done to look at or set correct expectations around the myths about the spacing and the lanes for the track and alternatives that are being presented right now? Because there are several arguments to say there's not enough space, and that way they're destroying wetlands. Are there opportunities to set that right in the near term, so in the final document, we know what the actual numbers are and what the potential damage is.	The Council used its regional travel demand forecasting model to develop the transit ridership forecasts for the proposed BLRT Extension project. The proposed BLRT Expansion project ridership modeling is discussed in Section 3.1 of the Final EIS. The Plymouth Avenue Station would have 229 riders per day, while the Golden Valley Road Station would have 905 riders per day, based on the results of the ridership model. Concerning wetlands: Please see MASTER RESPONSE #16.

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35D	Shabazz	Aasim	None provided	35	Verbal Testimony	4 – Social and Economic Effects	And the last part is the zoning around the three stops that are near North. That would be Van White, Plymouth, and then the one downtown at the interchange. When we look at that for the density, the residential, can we look at the development of the economic – the lack of economic business development opportunities that exist right now? It's heavily residential.	The Council has been has been working with Hennepin County on the SAP efforts at each station, incorporating community input into the considerations of land uses, types of development, and other strategies to address neighborhood concerns and ensure that the investments have benefits to the local communities. The Minneapolis Station Area Plan envisions mixed use and higher density residential near station areas along Olson Memorial Highway.
36A	Yaeger	Natalie	None provided	36	Verbal Testimony	7 – Alternatives, Engineering and Design	Disappointed that the north side really hasn't been represented in the current plan for where the railway is going. LPA doesn't serve the needs of North Minneapolis residents. I'm very concerned about the bus rapid transit option for those reasons, and I would like to see a lot of investment provided for an equitable transportation system for our area. And I really feel that the light rail was that option.	The PAC recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the proposed BLRT Extension project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits.
36B	Yaeger	Natalie	None provided	36	Verbal Testimony	7 – Alternatives, Engineering and Design	Wants a stop in Golden Valley for North Minneapolis residents	Please see MASTER RESPONSE #19.
37A	Greene	David	ISAIAH	37	Verbal Testimony	3 – NEPA Process and Public Involvement	Not enough time for the public hearing in terms of meeting length.	The Council strives to plan public hearings that allow all participants the ability to provide testimony. Your comment about the structure of public hearings has been noted; recent hearings have provided time for latecomers and those who do not initially sign up to speak. There are also alternative methods for providing comments during the comment period, such as submitting comments to the Council.
38A	Ware	Lenora	None provided	38	Verbal Testimony	7 – Alternatives, Engineering and Design	Opposes the LRT if it results in the loss of residential properties and displacement of current residents. Doesn't want people to lose their homes.	Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
38B	Ware	Lenora	None provided	38	Verbal Testimony	2 – Fiscal Effects and Schedule	Concerned about tax money funding inequitable transit services between suburbs and the city of Minneapolis.	The proposed BLRT Extension project meets the purpose and need by effectively addressing long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans. Cost is one of a number of factors considered. Purpose and Need is discussed in Chapter 1 of the Final EIS and a financial analysis of the proposed BLRT Extension project is discussed in Chapter 10 of the Final EIS.
38C	Ware	Lenora	None provided	38	Verbal Testimony	4 – Social and Economic Effects	Wants more safety, security, and a compassionate police force	Please see MASTER RESPONSE #8.
39A	Adams	Curtis	None provided	39	Verbal Testimony	4 – Social and Economic Effects	Oppose the LRT if it results in the loss of residential properties and displacement of current residents. Doesn't want people to lose their homes.	Please see response to Comment 38A and MASTER RESPONSE #10.
40A	Lipke-Pier	Alyssa	None provided	40	Verbal Testimony	7 – Alternatives, Engineering and Design	Preference for Plymouth Avenue Station over Golden Valley Road, sited north of Plymouth Avenue to serve North Minneapolis residents. In favor of both stations if both can be funded. Having a station at Plymouth Avenue would set up Theodore Wirth as a destination park to draw from the metro along the light rail lines.	Please see MASTER RESPONSE #19. The Plymouth Avenue Station would also be north of the street instead of south.
40B	Lipke-Pier	Alyssa	None provided	40	Verbal Testimony	8 – Transportation System Effects	North Minneapolis is cut off from most of the surrounding amenities by major roads; desires pedestrian bridges into Wirth park over the train tracks and how paths that have been used generationally by residents will be impacted.	Pedestrian bridges, bicycle facilities, and sidewalks have been evaluated and resolved with local authorities and partners in the Final EIS. Pedestrian access to the Golden Valley Road Station would be from Golden Valley Road or Theodore Wirth Parkway. The trail on the Theodore Wirth Parkway bridge would be widened, and vertical circulation facilities to access the Golden Valley Road Station would be added to the Golden Valley Road bridge. A new trail would be built extending from Theodore Wirth Parkway to Sochacki Park, beneath the Golden Valley Road and Theodore Wirth Parkway bridges, connecting to the existing trail near Bonnie Lane.

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								A trailhead would be constructed at the eastern corner of the proposed Golden Valley Road Station park-and-ride. This trailhead would provide access to the existing Minneapolis Park and Recreation Board trail system and access to the proposed Bassett Creek Regional Trail that would be constructed by the Three Rivers Park District along Golden Valley Road. Near Plymouth Avenue, pedestrians would be able to access the station vertical circulation from Plymouth Avenue or from the Wirth Trail via a stair connection at the Plymouth Avenue bridge. Additional information can be found in Section 3.4 of the Final EIS.
41A	Bakion	Candy	None provided	41	Verbal Testimony	3 – NEPA Process and Public Involvement	I would like to make sure that you hold fast to keep a focus on keeping the light rail stations planning in the community and community focused with a lens on equity and affordable for all. And my hope is to provide economic advantages for the surrounding communities along the light rail and beautification along with that, also access in ways of for the youth, for the elders, for the middle class to be able to access the lines, providing alternative methods and support at station area planning, and to make it pretty, and to provide more resources to the powers that be to engage the community and provide some really cool swag.	Please see response to Comment 29A.

Brooklyn Park Hearing, May 13, 2014 – Verbal Testimony

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Comment	Official Response
49A	Lokken	Barbara	None provided	49	Verbal Testimony	4 – Social and Economic Effects	I've got a couple of concerns certainly from where I live on what's happening. And one of them is what kind of – what will it do to the crime in the area. Brooklyn Park has so many problems with crime as it is now. And as a homeowner, I'm really concerned about what kind of crime it might bring to the area. And I know we don't have a crystal ball, and we can't predict that, but has there been any kind of a study done on that on other areas that have had light rail and how it's affected the crime in the area? So that's my first point.	Please see MASTER RESPONSE #8.
49B	Lokken	Barbara	None provided	49	Verbal Testimony	6 – Noise and Vibration Effects	My next point is that of noise. I'm just – there's a row of houses on the other side of us, and their backyards face West Broadway. And those people are going to have a lot of their backyards taken away. And I'm just really worried about the noise level that we're going to hear in the neighborhood and what's being done to help that noise level.	Concerning noise impacts: Please see MASTER RESPONSE #17. The Final EIS analysis indicates that no properties along West Broadway Avenue (County State-Aid Highway 103) would experience noise impacts that would require mitigation. Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
49C	Lokken	Barbara	None provided	49	Verbal Testimony	4 – Social and Economic Effects	And the third issue I have is that of property value. I'd like to see any kind of a study that's been done on property value and how it affects homes that are close to light rail. And how does the city respond to that? Or is it just tough luck for people who live close? You know?	Please see MASTER RESPONSE #7.
49D	Lokken	Barbara	None provided	49	Verbal Testimony	4 – Social and Economic Effects	And then I also have another question. Is there anything we can do to reverse it, maybe have that line go down not West Broadway but Highway 81? And I know they have done all kinds of studies and this and that, I'm sure. But as the people that live in Brooklyn Park, do we have any chance of reversing the current decisions on this? And if we do, how do we go about working through that process?	Please see MASTER RESPONSE #1.
50A	Althouse	Randy	None provided	50	Verbal Testimony	7 – Alternatives, Engineering and Design	I just wanted to say I read this literature, and I support the changes they're proposing. I think it's a great idea. And I like the new library idea and the light rail. I think it would be great, and I think it would help boost the property values of the homeowners in the area. That's really all I have to say.	Please see MASTER RESPONSE #2. Concerning property values: Please see MASTER RESPONSE #7.
51A	Ensrud	Lana	None provided	51	Verbal Testimony	7 – Alternatives, Engineering and Design	[Commenter is quoting articles about other light rail projects and wondering about effects of the BLRT Extension project] One article addresses the safety issue. This article is about the Green Line, which is launching soon. And it states that St. Paul Police are launching a safety campaign for drivers and pedestrians because trains will run as often as every 10 minutes. And the city council member in St. Paul said, quote, we got people crossing the barriers in some cases, we got motorists making left turns at times that they shouldn't or getting stuck in the middle of the intersection on the tracks in some cases, and we know that there have been accidents involving light rail.	Please see MASTER RESPONSE #8.
51B	Ensrud	Lana	None provided	51	Verbal Testimony	4 – Social and Economic Effects	There's been an issue with vibrations and noise. One article talks about, for example, Minnesota Public Radio, where they say, quote, the floor is vibrating, the ceiling is shaking, the structure is making noise, and the Met Council has been forced to spend a million dollars' worth of concrete and rubber pads outside the MPR, a couple of churches in the area, and a U of M research lab.	Concerning vibration impacts: Please see MASTER RESPONSE #18. Concerning noise impacts: Please see MASTER RESPONSE #17.
51C	Ensrud	Lana	None provided	51	Verbal Testimony	4 – Social and Economic Effects	There is an issue of how it will look, how hectic the area becomes. You know, to the southwest, residents are up in arms saying that the tranquility of those neighborhoods will be lost. The paper says they	Please see response to Comment 13C.

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							are worried about the aesthetics of 220 trains a day coming through their neighborhoods.	
51D	Ensrud	Lana	None provided	51	Verbal Testimony	5 – Environmental Effects	There's an issue with our own Brooklyn Park citizens, not just those who will lose their homes but anyone who currently drives on West Broadway or lives near it. You know, it is troubling to me that the decision on this light rail is being made by people who do not live in the neighborhoods. Our two city council members who oppose it are the only two of our city leaders who actually live in that district.	Regarding the loss of homes in Brooklyn Park, Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
51E	Ensrud	Lana	None provided	51	Verbal Testimony	4 – Social and Economic Effects	There is article after article about light rail that raises red flags about the wisdom of putting a line right through the middle of our city, tearing up streets while it's being built, access to neighborhoods, businesses, churches after its built.	The Council expects the construction of the proposed BLRT Extension project to cause disruptions to traffic operations, including lane closures, short-term intersection and roadway closures, and detours that would cause local increases in congestion. The details of construction staging will be developed by the Council in future stages of project design. Maintenance of traffic (MOT) plans will be required to be developed during final design or construction and submitted for approval to the roadway authorities. The MOT plans will address construction phasing, maintenance of traffic, traffic signal operations, access through the construction work zone, road closures, and any traffic detours. Section 4.2 of the Final EIS discusses community facilities/community character and cohesion. For Brooklyn Park, the effects on community cohesiveness are confined to limited areas and would not present a substantial physical or social barrier affecting community cohesion. Short-term construction impacts would be mitigated by the use of deliberate construction staging or phasing, signage, and signal control requirements during construction for roads, trails, and sidewalks to maintain access to neighborhoods and community facilities throughout the construction period. Although specific mitigation plans have not yet been developed, Best Management Practices (BMPs) would include working with residents and community facility managers to provide alternative access, giving residents and community facilities adequate notice about construction plans and phasing, keeping access to bus stops open, and alerting the public to detours.
51F	Ensrud	Lana	None provided	51	Verbal Testimony	4 – Social and Economic Effects	And, you know, having said that, light rail is coming to Brooklyn Park. The only question is where that route should go. Common sense tells me it is not a wise decision for our city. You know, we've talked about this before.	Please see MASTER RESPONSE #1.
51G	Ensrud	Lana	None provided	51	Verbal Testimony	7 – Alternatives, Engineering and Design	I have three questions for our city leaders I would like to hear the answers to. What is more desirable about the West Broadway route than any other option? Who will benefit specifically from this route? And why is Brooklyn Park unique from all these other suburbs who want light rail routed out of site and through unpopulated areas?	Please see MASTER RESPONSE #1.
52A	McCarthy	John	None provided	52	Verbal Testimony	8 – Transportation System Effects	I happen to live in a pocket neighborhood. If you do anything on West Broadway, you are going to severely hamper coming in and out of my neighborhood for all the residents in that neighborhood. I also work for the City of Minneapolis. And to this day, whenever I'm out on 26th and Hiawatha, all day long that light rail screws things up. You didn't put the money in there to sync the lights with the light rail. You still haven't fixed it. Things like that seem to be overlooked. You just want to cram the rail in and get the thing going, and it screws up the traffic wherever it goes. So syncing the lights.	Moving from an undivided configuration that allows full access into and out of every driveway along the West Broadway Avenue corridor to a divided configuration is expected to increase traffic capacity, improve traffic operations, and lower the rate of incidents (crashes). Multiple studies have documented the capacity, mobility, and safety improvements that can be achieved with this type of roadway design. By directing traffic to designated median openings, the proposed West Broadway Avenue corridor design would allow businesses and other private driveways full access to one direction of travel, with right-in/right-out access.
52B	McCarthy	John	None provided	52	Verbal Testimony	8 – Transportation System Effects	Also, you want to widen West Broadway. Are you going to cut into the college's land as well as the residents, or are you going to do it all on one side until they get past the college and then widen it on both sides? Are you going to have a dogleg? That's going to affect you laying sewer, water, all of that.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An Environmental Assessment Worksheet (EAW) for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives. Reference to West Broadway Avenue tech memos in Chapter 2 and in Chapter 6 – Indirect Impacts and Cumulative Effects of the Final EIS. The West Broadway Avenue Reconstruction project would include

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								acquisition of some right-of-way from North Hennepin Community College; the college is coordinating with Hennepin County on this item. Utility reconstruction/ relocation will be addressed as the design of West Broadway Avenue progresses.
52C	McCarthy	John	None provided	52	Verbal Testimony	4 – Social and Economic Effects	Are you going to completely close down West Broadway as you're working on that project? And if you do so, when you do set up for the light rail for later, if you're planning on splitting it right down the middle of West Broadway, that doesn't work so good downtown. In the winter, I work nights. In the summer, I work during the day. Wherever the light rail runs downtown, even where the infrastructure is set up for it, when you can only be on this side of the tracks or this side, all you have are headaches. You have people that cannot figure it out. You're always having congestion and light issues and people trying to turn.	The West Broadway Avenue Reconstruction project will include staging plans, maintenance of traffic plans, and other specifications to address maintaining traffic flow during construction. The Council will coordinate light rail construction-related activities with Hennepin County to facilitate coordinated communication to the public regarding both the West Broadway Avenue and proposed BLRT Extension projects. The proposed BLRT Extension project includes a variety of roadway modifications that would avoid new congested intersections, and, with one exception, the proposed BLRT Extension project would not worsen conditions at intersections under the No-Build Alternative in 2040. Additional information can be found in Section 3.3 of the Final EIS.
52D	McCarthy	John	None provided	52	Verbal Testimony	5 – Environmental Effects	Also, I don't know how the sewer system runs. When you start tearing all that up, are you going to have temporaries up for months and months and months while you refit?	Temporary service disruptions may result during construction of the proposed BLRT Extension project. Service disruptions would most likely be related to water distribution and sewer collection, although periodic temporary disruptions to local natural gas and electric service may also result. Coordination would occur with service providers (public and private) during construction and notices would be distributed to residents and business operators to alert of planned, temporary service disruptions. No long-term operational utility service changes are expected to result from the proposed BLRT Extension project.
52E	McCarthy	John	None provided	52	Verbal Testimony	4 – Social and Economic Effects	And will there be any additional assessments or levies put on us? Because you say, well, we're going to get the funding for this, and then this is going to pay for that. And then you go to do it, and, oh, gee, we're short of money, so guess who is going to take another short to pay for it.	A breakdown of funding sources is located in Table 10.1-2 of Chapter 10 –Financial Analysis of the Final EIS totaling $1.496 billion. The Council is intending to seek Capital Investment Grant (CIG) Program funding from FTA. The Council assumes that the region will secure 49 percent of the capital cost from FTA through the New Starts fund (through the CIG Program). FTA must evaluate and rate proposed projects seeking funding from the CIG Program under a set of project justification and local financial commitment criteria specified in law. The criteria evaluate the merits of the proposed BLRT Extension project and the project sponsor's ability to build and operate it as well as the existing transit system. The other 51 percent of the proposed BLRT Extension project costs come from the State of Minnesota (10 percent), the Hennepin County Regional Rail Authority (10 percent), and the Counties Transit Improvement Board (31 percent).
53A	Ostroum	Mary	None provided	53	Verbal Testimony	3 – NEPA Process and Public Involvement	The answer to that question [replying to a question the commenter heard from city of Brooklyn Park council members about Maplebrook Estates citizen participation] is simple. We've been at work. Maplebrook Estates consists largely of working-class people, residents who basically pour every dime into improving their homes. Our homes are getting a little older. We're at the point now where we're replacing windows, putting in new furnaces, putting in new central air-conditioners. We are a group of residents who care deeply about making improvements to our townhomes and making them the best they can be, improvements, I think, that would never be compensated by the county in their purchase price of our properties. And I think, if anything, planners should be looking at decreasing speed limits on West Broadway, adding more stoplights, and respecting the fact that this is a residential neighborhood. I don't know whose advice the planners and politicians who work for this project have been taking, but I think, clearly, that it is the wrong advice for Maplebrook Estates.	Hennepin County is developing the West Broadway Avenue widening project. An EAW for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives. Reference to West Broadway Avenue tech memos in Chapter 2 and in Chapter 6 – Indirect Impacts and Cumulative Effects of the Final EIS. Chapter 3 of the Final EIS discusses additional design changes that are proposed for this area including reduced speed limits, new full-access signalized intersections, elimination of free right turns, and access controlled left turns. Concerning public involvement: Please see MASTER RESPONSE #6. Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.

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54A	Sutphen	Chuck	None provided	54	Verbal Testimony	8 – Transportation System Effects	I'm one of those people who will be cut off. I won't be able to come here to meetings at the City Hall because the street will be torn up, and there's no way out of our neighborhood east – I mean west. There's no way out. So if you got West Broadway broken up, torn up, well, I won't be able to make any of the meetings.	Hennepin County is developing the West Broadway Avenue widening project. An EAW for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives. Reference to West Broadway Avenue tech memos in Chapter 2 and in Chapter 6 – Indirect Impacts and Cumulative Effects of the Final EIS. Mitigation measures for short-term (construction) impacts to roads and traffic would be implemented by the Council prior to and during construction through the Construction Mitigation Plan, which includes a Construction Communication Plan and a construction staging plan. The Minnesota Department of Transportation (MnDOT), Hennepin County, and all municipalities affected by construction activities related to the proposed BLRT Extension project would require compliance with applicable state and local regulations related to the closing of roads and the effects of construction activities.
54B	Sutphen	Chuck	None provided	54	Verbal Testimony	8 – Transportation System Effects	I spent seven years on the CLIC, the Citizen Long-Range Improvement Committee. And for six of those seven years, I tried to get people to fix this street, West Broadway, before some college kid gets run over, because there's no sidewalk on the west side of the street. And they keep saying, oh, we're going to have the light rail, we're going to get the light rail, we're going to get it all fixed.	Sidewalks are proposed on east side of West Broadway Avenue from 74th Avenue to 93rd Avenue park-and-ride station. Review of the LRT station locations with respect to pedestrians and bicyclists can be found in Section 3.4 of the Final EIS. Also, new or improved sidewalk crossing would be provided in final design at West Broadway Avenue. See Hennepin County's EAW on the widening of West Broadway Avenue.
54C	Sutphen	Chuck	None provided	54	Verbal Testimony	7 – Alternatives, Engineering and Design	There's a big mud puddle there at 83rd Avenue where the water won't run anywhere. In the wintertime, it's a sheet of ice. They won't fix it. They are waiting for the light rail. Well, I'm waiting for the light rail, too, to go somewhere else.	Please see MASTER RESPONSE #1.
54D	Sutphen	Chuck	None provided	54	Verbal Testimony	5 – Environmental Effects	I lived in New York where they have the L trains and the subways. I lived in Philadelphia where they had the L trains and subways. In the city proper, the trains were up, or they were underground. They weren't in the middle of the street. They took the trolleys out in Philadelphia and put in electric buses called trackless trams, tremendously more efficient than a train. And what about the geese who try to cross the street? They get run over by cars now. What's going to happen when the trains are coming through there, and the geese don't know to stop for the train?	See MASTER RESPONSES #13 and #20.
54E	Sutphen	Chuck	None provided	54	Verbal Testimony	8 – Transportation System Effects	If I go to the V.A., when I go to make my left turn into the compound, the red light is on. You know how that works. That red light stays on forever. And then when it finally does turn green, the things are down, and the train comes. Then the light turns green again, and the trains come from the other way. So then the light turns red again, and you're sitting there for 10 minutes waiting to get into the V.A. Now, is that ridiculous or what?	The access to the Northwest Metro US Department of Veterans Affairs (VA) Clinic would not be affected by the proposed BLRT Extension project.
54F	Sutphen	Chuck	None provided	54	Verbal Testimony	4 – Social and Economic Effects	So I would appreciate it – I mean, people need rapid transit. But the poor people who it's supposed to serve are not going to be able to get on the train because they have to take a taxi to the train station. I mean, my goodness, let's be practical. It's going to cost billions of dollars, and those dollars are not free, just like freedom isn't free.	The Final EIS includes an evaluation of the proximity of low-income populations and transit-dependent households to proposed stations as well as access to other enhanced transit options. Section 7.5 discusses how the proposed BLRT Extension project would "prevent the denial of, reduction in, or significant delay in the receipt of, benefits by minority and low-income populations" and improve transit for those most dependent upon it as part of an integrated system.
54G	Sutphen	Chuck	None provided	54	Verbal Testimony	2 – Fiscal Effects and Schedule	Freedom is not free. Your tax money, whether it's state, county, federal, it's all coming out of your pocket. And they are taking it to do some, what they call here a boondoggle. There's nobody that can ride that train for what it costs to operate it. Nobody.	A financial analysis of the proposed BLRT Extension project, including operating revenues, is discussed in Chapter 10 of the Final EIS. The funding for the operating and maintenance for the proposed BLRT Extension project comes first from the fare revenues; the remaining costs are split 50 percent state general funds and 50 percent Counties Transit Improvement Board. Minnesota Sessions Laws (2008) Section 473.4051 subd. 2 states that, after operating revenue and federal money have been used to pay for light rail operations, 50 percent of the remaining balance must be paid by the state of Minnesota (Minnesota Session Laws, 2008, Regular Session, Chapter 365 – House File No. 4072). State funding for transit operations is

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								derived from general fund appropriations and is appropriated by the state legislature on a biennial basis.
55A	Berne	Chris	None provided	55	Verbal Testimony	7 – Alternatives, Engineering and Design	I'm a light rail supporter, but I think the current plan up West Broadway is flawed. The roadway – I'll beg to differ what the Commissioner said earlier about that the road and the light rail are separate. They are integrated because the county wants to build the road now with light rail in mind, even though light rail hasn't been approved yet. So it is part and parcel of the same issue that we'll be talking about here next week.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An EAW for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 –Alternatives. Reference to West Broadway Avenue tech memos in Chapter 2 and in Chapter 6 – Indirect Impacts and Cumulative Effects of the Final EIS.
55B	Berne	Chris	None provided	55	Verbal Testimony	4 – Social and Economic Effects	The current plan for Broadway will dislodge 30 to 50 families out of a one-mile corridor of this road. And it will also negatively impact dozens of other families who don't necessarily butt up against the rail line but will be in very close proximity.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An EAW for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives. Reference to West Broadway Avenue tech memos in Chapter 2 and in Chapter 6 – Indirect Impacts and Cumulative Effects of the Final EIS. The West Broadway Avenue EAW disclosed that one building containing six residential units would be acquired if a signal were constructed at the West Broadway Avenue/Maplebrook Parkway intersection. No other residential displacements were identified in the EAW.
55C	Berne	Chris	None provided	55	Verbal Testimony	2 – Fiscal Effects and Schedule	Many of these homes that will be taken are under water. Everybody that lives there is middle income or low income. Many of these are immigrant families who have come to this country to find a better way. This is their home. This is their dream. And it will be taken away from them.	Please see response to Comments 51D and 55B.
55D	Berne	Chris	None provided	55	Verbal Testimony	7 – Alternatives, Engineering and Design	In the Middlebrook Townhouse Association where I live, it's a development of 436 people – families, not people. Excuse me. Families. It is slated to lose dozens of homes. The cost to purchase these homes is multiplied because most of these units are either quads or six-plexes. So if you take one, you need to take four. Now, when you buy the home, you have not bought the land. The land is owned by the common interest community of Maplebrook Townhouse Association. That land will need to be purchased. Furthermore, with the loss of eight to ten percent of our homes in that community, there will be an ongoing, permanent loss of revenue for our community that will need to be part of this discussion.	Please see response to Comments 51D and 55B.
55E	Berne	Chris	None provided	55	Verbal Testimony	7 – Alternatives, Engineering and Design	I have an alternative plan that I would like the engineers to take a look at. I've discussed it now with some of the city council members of Brooklyn Park and have gotten positive response. I'm a business owner, so I know what I'm going to be saying here may not sit well with business people. But I think what we need – what it needs to do is come in south of Fleet Farm along 83rd, go north up Wyoming, doglegging into Winnetka, across 610 where Winnetka used to go across. It is all public right-of-way. It is all roadway. There is not a single home that will be taken. There is not a single business that will need to be disrupted. There will be access issues, as there are access issues along Broadway. I get that. I understand that. But I think it deserves this consideration, and I think it needs to be looked at.	Please see MASTER RESPONSE #1. Also please see response to Comment 55A.
55F	Berne	Chris	None provided	55	Verbal Testimony	8 – Transportation System Effects	If the light rail were to go there, one of the issues is the community college will not be directly served. They will be within three blocks. If you've ever lived in Minneapolis, taken public transport, walking three blocks to your bus stop is nothing. Once you get downtown, you might have to walk three, four, five, six blocks to get to where you're going. Three blocks to serve the community college is not an issue as far as I'm concerned.	The walkshed for stations is considered approximately one-half mile surrounding stations. Section 3.4 of the Final EIS summarizes pedestrian and bicycle improvements as part of the proposed BLRT Extension project

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55G	Berne	Chris	None provided	55	Verbal Testimony		We don't want another Southwest Light Rail debate here. Let's get this done right on the front side rather than spending tens of millions of dollars afterwards to fix a problem that wasn't done right initially.	The Council appreciates your concerns about the development of the proposed BLRT Extension project.
56A	Couture	Daniel	None provided	56	Verbal Testimony	3 – NEPA Process and Public Involvement	And my issue with the Draft Environmental Impact Study is the fact that it's incomplete and inaccurate. I'm going to just ask everyone in the room. If you own a home between – along West Broadway between 78th Avenue North and 93rd Avenue North, please raise your hand. Hold them up, please. I want everybody to see.	The Draft EIS discusses numerous alternatives that were analyzed as a part of the environmental review process. Key issues or changes to the locally preferred alternative (LPA) occurring since publication of the Alternatives Analysis were identified and analyzed in the Draft EIS and are summarized Chapter 2 of the Final EIS. The process included a public comment period which provided the public a forum to raise concerns with respect to environmental issues.
56B	Couture	Daniel	None provided	56	Verbal Testimony	3 – NEPA Process and Public Involvement	The folks who are raising their hands right now are not reflected in this Draft Environmental Impact Statement, because the properties between 78th Avenue and 93rd Avenue aren't included in any of the statistics that were considered when you were evaluating Option A to go through Maple Grove or Option B to go through Brooklyn Park.	The Policy Advisory Committee recommended Alignment B over Alignment A because Alignment B would provide better service to people who depend on transit and to key civic and educational destinations, and access to greater numbers of new jobs and development. Please see also MASTER RESPONSE #1.
56C	Couture	Daniel	None provided	56	Verbal Testimony	4 – Social and Economic Effects	Is anyone here to talk about wetlands, saving wetlands, or are we basically here to save our homes, maintain our property values, to enjoy the peace and quiet that we presently enjoy along West Broadway? We don't want light rail trains coming 500 times a day every 10 minutes, 21 hours a day, from 4:00 a.m. to 1:00 a.m. clanging their bells all along West Broadway.	Concerning wetlands: Please see MASTER RESPONSE #16. Concerning property values: Please see MASTER RESPONSE #7. Concerning noise impacts: Please see MASTER RESPONSE #17.
56D	Couture	Daniel	None provided	56	Verbal Testimony	6 – Noise and Vibration Effects	The issue that I have – a cynical person would say that the reason why the West Broadway reconstruction project was broken out from the light rail Bottineau Transitway was to separate and to hide the impact of these people's homes on the project, because, currently, you're only showing that you have to take eight homes along segment B, when, in fact, the true number is closer to 60. And the number of homes impacted is closer to 100, not the 30 that are listed. That's what we're here about. We're not here to save wetlands or trails. We're not asking you to dig tunnels. We want you to put this somewhere else. Keep it along 81. Take it up through the granite quarry and head it towards Maple Grove. These folks want to hang onto their homes. They want to maintain their property values. People want to live near transit. They don't want to live on transit.	Concerning the assessment of residential impacts along West Broadway Avenue, please see response to Comment 51D. The PAC recommended Alignment B over Alignment A because Alignment B would provide better service to people who depend on transit and to key civic and educational destinations, and access to greater numbers of new jobs and development. Concerning property values, please see MASTER RESPONSE #7.
56E	Couture	Daniel	None provided	56	Verbal Testimony	5 – Environmental Effects	I think everyone who has seen this is familiar with this document. It's a scorecard that they use to evaluate all the options. On here it says, if any area, any one area of an alternative is considered poor, the entire alternative is graded poor. I think the fact that we're going to be losing 60 homes along West Broadway and impacting another 100 homes that we're taking property from is going to grade the adverse impacts for the BCD1 option poor, which then makes the Maple Grove option the only non-poor option remaining.	While the acquisition of homes along West Broadway Avenue has been analyzed as part of the West Broadway Avenue Reconstruction project and not in the proposed BLRT Extension project, it should be noted that the total residential displacements along West Broadway Avenue as a result of both projects is one building containing six residential units. The Policy Advisory Committee recommended Alignment B over Alignment A because Alignment B would provide better service to people who depend on transit and to key civic and educational destinations, and access to greater numbers of new jobs and development.
57A	Hanson	Thomas Alfred	None provided	57	Verbal Testimony	7 – Alternatives, Engineering and Design	I've lived in Brooklyn Park all my life. And I'm glad to see light rail coming up. My folks sold their house on 94 and Lyndale right where the fire station is, where an on-ramp – I bet everybody has drove up 94 and got on the on-ramp there from the farmer's market there at one time. And the freeway didn't actually end until 1979. My dad died before he ever had an opportunity to use it.	Please see MASTER RESPONSE #2.
57B	Hanson	Thomas Alfred	None provided	57	Verbal Testimony	3 – NEPA Process and Public Involvement	And you can't stop progress. Yeah, you can change it. You can alter it. But I do believe it's one of the best things that can possibly happen for Brooklyn Park. We have a lot of industry up there. We have the college. We have a new library coming. People who complain now are	Please see MASTER RESPONSE #2.

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							probably not good for anybody in 20 or 30 years when it becomes a valuable asset, and there will be more traffic than there is today on 94, 81, 252. I know everybody loves sitting in traffic. Where you can sit on a train and fly down to downtown, and it's just like the trunk, the tree, little limbs coming into the main trunk and they zip you downtown. Three dollars to go from here to the airport, Mall of America, St. Paul or Southwest is a phenomenal idea.	
57C	Hanson	Thomas Alfred	None provided	57	Verbal Testimony	3 – NEPA Process and Public Involvement	Yeah, it's going to impact people. Impacted my folks. We moved to Brooklyn Park. I live close to it. I'm for it 100 percent. Yeah, there's maybe an alternative going up the railroad tracks all the way to Monticello, but that's not what we're here for. So I like the ES55 alternative, BCD1 myself. And I think over a period of time, when we're all gone and we look back, it will be just like Chicago's L that's like riding a boxcar compared to light rail that goes down to the mall right now. And I'm glad to see the county and the city look ahead and say let's check Broadway before we decide to not build West Broadway and then turn around and tear it up a couple of months later or a couple of years later because all of a sudden it's going to go through no matter what. So I'm glad they're thinking ahead and working together as a team instead of everybody always saying they're spending my tax money, they should have done this before, they should have done this.	Please see MASTER RESPONSE #2.
57D	Hanson	Thomas Alfred	None provided	57	Verbal Testimony	5 – Environmental Effects	Well, everybody is commenting, and that's my comment. We've lost a lot of wetlands. We lose them all the time. And just take a drive out pheasant hunting in Montevideo, Minnesota. You can see drain tiling everywhere. I mean, you're worried about wetlands on West Broadway? Give me a break. There's drain tiling that just does not quit. And then they wonder why the rivers flood after the ground thaws and the drain tiles rip up.	Please see MASTER RESPONSE #16.
58A	Kidd	Jean	None provided	58	Verbal Testimony	3 – NEPA Process and Public Involvement	My issue is with the Met Council, that this is going to switch over to their control so that your elected officials are no longer in the loop of decision making. And this body that will govern over this project is not elected. And that's my issue with this entire project is that a group of individuals that are hand-picked, hand-selected, and not involved in the election process where we as members of a democracy get to participate are going to be making decisions about all of us.	The Council is acting as the lead local project sponsor for the proposed BLRT Extension project. Several advisory committees including a community advisory committee, business advisory committee, technical project advisory committee, corridor management committee, and issue resolution teams have been formed. The advisory committees are made up of citizens, local elected officials, city and parks staff, and regional elected officials. Chapter 9 of the Final EIS provides a summary of public involvement and advisory committees.
58B	Kidd	Jean	None provided	58	Verbal Testimony	5 – Environmental Effects	When it comes to the wetlands, I don't know how they're going to navigate or where they're proposing multiple stations right outside my door. And it's interesting that two bridges, one on Golden Valley Road and then one on Plymouth, were just recently redone. Their tracks would not fit underneath that. So you're talking about draining the wetlands down there. And I find it interesting that they want to propose a station on Plymouth Avenue when in fact I was part of a process when the bus company wanted to stop having bus service on Plymouth Avenue because they said we don't have the ridership to support it anymore. Then, lo and behold, we're going to put a station there.	Concerning wetlands: Please see MASTER RESPONSE #16. The bridges that span the BNSF rail corridor at Plymouth Avenue, Theodore Wirth Parkway and Golden Valley Road are being reconstructed. These reconstruction efforts are factored into the wetlands mitigation analysis in Section 5.3 of the Final EIS. Section 3.1 of the Final EIS reports ridership forecasts for boarding and alighting data by station. The Plymouth Avenue Station forecasts 229 daily boardings for the station. The station would be served by route 7.
58C	Kidd	Jean	None provided	58	Verbal Testimony	8 – Transportation System Effects	I am for light rail. What I'm looking for, though, is transparency in the process. And that, to me, does not exist. I don't know what's gone on from what I saw originally in 2008 what was proposed and what's looking – what I'm looking at now. It wasn't even remotely similar. And where did that happen? Because I've been involved. And it was like all of a sudden we've got a completely different project. And no one will – everybody always says, oh, well, I wasn't involved in the	Please see MASTER RESPONSE #6.

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							project back then. I don't know what happened. I'm not there. It's where is the accountability? Who does know? Linda Higgins probably knows. I know. The members of my community know. But like everybody here, they tend to take that path of least resistance where they think they can put things through and no one will show up. I'm so happy everybody showed up here. So I'm looking for transparency, and I want the Met Council to be a voted-on body, not people that just get to be put on there to make decisions and the elected officials are no longer in that process and then we say, oh, the Met Council did it. That's not fair. That's not why we live in America.	
59A	Greenman	Scott	None provided	59	Verbal Testimony	7 – Alternatives, Engineering and Design	I've lived in Brooklyn Park for 13 years. I grew up in San Francisco and in and around San Francisco, one of the only cities to keep their rail system. I've lived in Chicago. I spent a summer in New York. I know what rail does, and I'm for this project.	Please see MASTER RESPONSE #2.
59B	Greenman	Scott	None provided	59	Verbal Testimony	4 – Social and Economic Effects	I live at 7575 Louisiana Avenue North, which is an impacted property, right across from Cub and Target. Those homes – those twin homes are impacted. And it looks like they're going to go from what it says – what the map says.	Section 4.3 of the Final EIS discloses temporary and permanent acquisitions and displacements of residences and businesses. The Draft EIS identified four residential properties on the west side of West Broadway Avenue just south of 76th Avenue as total acquisitions. The additional engineering and environmental analysis conducted as part of the Final EIS process indicates that those four residential properties would no longer be total acquisitions; partial acquisition of the westernmost portion of those properties would be necessary, but the residences would remain in place. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
59C	Greenman	Scott	None provided	59	Verbal Testimony	7 – Alternatives, Engineering and Design	I think this project, and especially the alignment going up Broadway, is basically going to connect Target to Target, Minneapolis to Brooklyn Park North. And I think there are better ways to do it. We have a rail line that goes to Monticello, goes right into Maple Grove. Why not use that? Maple Grove probably doesn't want it. What do you think? I think they don't.	The Policy Advisory Committee recommended Alignment B over Alignment A because Alignment B would provide better service to people who depend on transit and to key civic and educational destinations, and access to greater numbers of new jobs and development.
59D	Greenman	Scott	None provided	59	Verbal Testimony	3 – NEPA Process and Public Involvement	I'm going to be impacted, like I said. I'm for the project. It's – I don't see any of my neighbors here. Does anyone live in that area? Anyone? Anyone? No? It's a big thing. Literally, my view is Cub and Target. And I'm – I don't know. I'm nervous. I'm concerned. And I'm trying to lend my voice to what's going on. And I'll be at all the other meetings, and I will keep an eye on what's going on.	Please see MASTER RESPONSE #6.
60A	Jones	Steve	None provided	60	Verbal Testimony	3 – NEPA Process and Public Involvement	I just found out about this shortly before the last meeting. And the lack of transparency around this is really concerning to me, as several other people have said. And now I'm just getting involved in it. I think we just need to look at it a little more. What's coming out in spades here is that what we're building here is a conduit to Target for low cost labor for them, and we're ruining my neighborhood for them, and I don't like it.	Please see MASTER RESPONSE #6.
61A	Kuehn	Harry	None provided	61	Verbal Testimony	4 – Social and Economic Effects	I just have a few comments. One of the council members at the last meeting said where have you been. He goes, where have you been? It's been in the papers. Yes, we all know that. Don't treat us like an idiot. We know it's coming. But the impact is not known. For example, if you want a new house, you have to be 50 feet at least minimum from the roadway. Now they are going to put that thing 20 feet from my deck. That's okay. We're going to grandfather you in. Thank you. You know? It's nuts. And I guess the city council members, were you going to put your face on the side of this train going down the road?	Hennepin County is developing the West Broadway Avenue Reconstruction project. An EAW for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives. Reference to West Broadway Avenue tech memos in Chapter 2 and in Chapter 6 – Indirect Impacts and Cumulative Effects of the Final EIS.

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							Because that will be your legacy. And would any of you want this thing to run 20 feet from your house? I don't think anybody would.	
62A	Kroll	George	None provided	62	Verbal Testimony	7 – Alternatives, Engineering and Design	I think we've heard a lot of good comments so far. And it seems like the people here realize that light rail is probably going to come. The question is what's it around. I think there's a lot of people in the community who aren't represented here tonight. And I just want to urge everyone to take one of these Bottineau Transitway forms and take them home. It says, "Draft Environmental Impact Statement." They were in that room out there. Get a copy. Circulate them to your neighbors. Make sure that your neighbors and that you yourselves send in your comments to the Hennepin County Housing, Community Works, and Transit so that your voices can be heard. We all need to rally our community members who aren't here so that their opinions can be heard.	Please see MASTER RESPONSE #6.
62B	Kroll	George	None provided	62	Verbal Testimony	7 – Alternatives, Engineering and Design	And I'm thinking the majority opinion here is that we don't want light rail coming down West Broadway. I think people realize that light rail will come, but there are better alternatives. And we need to make sure the people who aren't represented here in our community have their voices heard and these forms get into our decision makers. So I'm just urging everyone to do that.	Please see MASTER RESPONSES #1 and #6.

Crystal Public Hearing, May 14, 2014 – Verbal Testimony

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Issue	Comment	Official Response
75A	Bonniwell	Constance	None provided	75	Verbal Testimony	7 – Alternatives, Engineering and Design	1	Eliminating BRT as an option is unacceptable. If you do, you will only increase opposition to LRT. You have planned a good BRT grid on the north side. If you ran BRT down 81, you would have enough money to add an east-west route that connects 81 with Lowry. A lot of the public speakers at the May 7 public hearing spoke in support of Bus Rapid Transit. I would have, too, but my comments were cut off at three minutes. So this is the kind of Draft EIS you get when it's written to achieve one thing. LRT down the BN line is manipulative. 560 million for BRT. It's full of vague, rambling statements such as, Other elements of the project are established formally during subsequent engineering based on additional information, including openly near travel demand forecasts.	Please see response to Comment 33A.
75B	Bonniwell	Constance	None provided	75	Verbal Testimony	5 – Environmental Effects	3	Indeed, elements of the project are established, but they are not divulged. No map of the wetlands you intend to fill in, though you say you plan to fill in six acres with D1.	Please see MASTER RESPONSE #16.
75C	Bonniwell	Constance	None provided	75	Verbal Testimony	5 – Environmental Effects	10	No boring test results, which are of interest to property owners.	Chapter 5 (Section 5.4) of the Final EIS discusses poor or substandard soils. Detailed geotechnical analysis, including boring tests, has been conducted and the findings from those analyses are reflected in the Final EIS and project design. Chapter 5 (Section 5.5) of the Final EIS discusses hazardous and contaminated materials.
75D	Bonniwell	Constance	None provided	75	Verbal Testimony	7 – Alternatives, Engineering and Design	4	No map of staging areas, though Robbinsdale is already prepping your way into one in Sochacki Park.	Staging areas a shown on the Engineering Drawings found in Appendix E of the Final EIS. Also, please see MASTER RESPONSE #15.
75E	Bonniwell	Constance	None provided	75	Verbal Testimony	7 – Alternatives, Engineering and Design	5	You could have more accurately designated traction power stations.	A discussion of the traction power substations (TPSSs) can be found in Section 2.5.2.3 of the Final EIS. Currently, there are 17 TPSSs being proposed. TPSS sites would be about 4,000 square feet and able to accommodate a single-story building about 40 feet by 20 feet. Further design refinements would be completed as the proposed BLRT Extension project moves into the design phase. Locations for TPSSs are shown in Chapter 2 of the Final EIS.
75F	Bonniwell	Constance	None provided	75	Verbal Testimony	5 – Environmental Effects	3	You came up with so many maps that did not include Turtle Pond and other wetlands.	Please see MASTER RESPONSE #16. Turtle Pond is designated as Grimes Pond in the mapping that has been obtained by the Council.
75G	Bonniwell	Constance	None provided	75	Verbal Testimony	3 – NEPA Process and Public Involvement	2	People wonder if you are so reticent with information because you're trying to minimize the window of opportunity we have to repel your plans.	Concern about the timing of public involvement has been noted. The Council strives to alert community members to upcoming events and opportunities for public input regarding the proposed BLRT Extension project. Events are usually advertised at least two weeks prior to their occurrence. Council staff are available to follow up individually with any community member that requests additional information or is unable to attend an open house or other event.
75H	Bonniwell	Constance	None provided	75	Verbal Testimony	3 – NEPA Process and Public Involvement	1	We wonder if you were even at the step to do a Draft EIS, it lacks so much information.	The Draft EIS was prepared and published in accordance with NEPA and MEPA requirements. The level of information disclosed in the Draft EIS was consistent with other documents prepared for other LRT projects throughout the country.
75I	Bonniwell	Constance	None provided	75	Verbal Testimony	2 – Fiscal Effects and Schedule	4	And then back to the quote. Other elements of the project are established formally during subsequent engineering. Does this include the social engineering you do to get this LRT built? All those it's happening in articles in newspapers when Bot No! has never gotten state matching funds? The social engineering with these public hearings is unimpressive also.	The Council is unaware of "social engineering" as a component of the proposed BLRT Extension project. The proposed BLRT Extension project has been developed in accordance with general transportation and transit planning/engineering practices. A breakdown of funding sources is located in Table 10.1-2 of Chapter 10 – Financial Analysis of the Final EIS totaling $1.496 billion. The Council is intending to seek CIG Program funding from FTA for one or more of the alternatives examined in this NEPA document. The Council assumes that the region will secure 49 percent of the capital cost from FTA through the New Starts fund (through the CIG Program). FTA

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									must evaluate and rate proposed projects seeking funding from the CIG Program under a set of project justification and local financial commitment criteria specified in law. The criteria evaluate the merits of the proposed BLRT Extension project and the proposed BLRT Extension project sponsor's ability to build and operate it as well as the existing transit system. The other 51 percent of funding for the proposed BLRT Extension project would be provided by the State of Minnesota (10 percent), the Hennepin County Regional Rail Authority (10 percent), and the Counties Transit Improvement Board (31 percent).
75J	Bonniwell	Constance	None provided	75	Verbal Testimony	5 – Environmental Effects	13	The BCD1 plan would go through St. Mary Hills Park on its eastern border, Sochacki on its eastern border, Wirth on its eastern and sometimes western borders, South Halifax Park on its western border, and St. Mary Hills Nature Area is very close to that. That's five parks.	The Final EIS and Amended Draft Section 4(f) and 6(f) Evaluation address the effects of the proposed BLRT Extension project on parklands and recreational properties and determine whether there are reasonable or prudent alternatives for avoiding the identified park impacts. This evaluation was accomplished in coordination with Minneapolis Park and Recreation Board, the Three Rivers Park District, municipalities, and other governmental entities. These efforts included consideration of project sequencing (avoidance, minimization, and mitigation measures) to minimize harm to Section 4(f)/6(f) resources.
75K	Bonniwell	Constance	None provided	75	Verbal Testimony	5 – Environmental Effects	4	The number one reason people give for their opposition is protecting the woods…I have listened to many owners of wildlife habitat that abuts the BN line or park wildlife habitat. This Draft EIS gives us no reason to trust you with our woods.	Section 5.8 of the Final EIS describes the preferred habitats of rare, threatened, and endangered species in the study area and the expected impacts to plants and animals and their habitat from the No-Build Alternative and the proposed BLRT Extension project. The analysis includes all federally listed endangered and threatened species that have been documented in the area. Additionally, the Council reviewed the DNR NHIS Database, which provides information about Minnesota's Special Concern and State Watchlist plants and animals, native plant communities, and other sensitive rare natural resource features. Species of State Special Concern and species on the State Watchlist have no specific legal protections under state endangered species law. Similarly, inventoried native plant communities have no specific legal protection. The proposed BLRT Extension project has been designed to minimize the impacts to forested park property; design, woodland impacts, and mitigation have been discussed with the cities of Golden Valley and Robbinsdale, the Minneapolis Park and Recreation Board, and the Three Rivers Park District. Mitigation would include revegetation of temporarily impacted areas; in many cases the clearing and revegetation efforts would remove invasive species.
75L	Bonniwell	Constance	None provided	75	Verbal Testimony	7 – Alternatives, Engineering and Design	1	I can say with assurance that the true and localized you can get preference is no build.	Please see MASTER RESPONSE #1.
75M	Bonniwell	Constance	None provided	75	Verbal Testimony	2 – Fiscal Effects and Schedule	1	We do not understand your aversion to Bus Rapid Transit down Bottineau Boulevard, also known as Highway 81, the originally planned route. Your $56 million estimated cost for Bus Rapid Transit would probably make it the most expensive BRT per mile project in the country. You achieve this poor economic showing for Bus Rapid Transit by calculating the cost of it going down a railroad track…BRT down 81 is very popular. It keeps LRT out of our woods, it's closer to more densely populated areas, and it's cheaper. It's the mass transit of the 21st Century. A state-of-the-art BRT system in the Northwest Metro would be a fine legacy for Met Council and Hennepin County planners to provide transit users. Eliminating BRT as an option, as you're trying to do with this Draft EIS, is unacceptable. If you do, you will only increase opposition.	Please see response to Comment 33A.

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								More than half of the speakers at the May 7 public hearing spoke in favor of Bus Rapid Transit. And I would have, too, but my comments were cut off at three minutes.	
75N	Bonniwell	Constance	None provided	75	Verbal Testimony	5 – Environmental Effects	8	Your environmental report never mentions that zero emission natural gas buses are available.	Presumably the commenter is referring to low emission natural gas powered buses. Natural-gas-powered buses would have a combustion engine that emits air pollutants, so they are not a "zero-emission" mode of transportation.
76A	Thoman	Barb	Transit for Livable Communities	76	Verbal Testimony	8 – Transportation System Effects	6	Transit for Livable Communities has a number of members with disabilities who cannot drive and/or afford a vehicle	Metro Transit continually evaluates the needs of transit riders, including the introduction of mobility zones to areas where they may be useful. This analysis would be done as part of evaluating final service plans prior to the start of proposed BLRT Extension project revenue operations.
76B	Thoman	Barb	Transit for Livable Communities	76	Verbal Testimony	7 – Alternatives, Engineering and Design	1	The Bottineau Project is a really important link in an expanded transit system. The project, along with 2 arterial rapid bus, more express bus service, more local service, and additional rail lines are greatly needed in this region.	Please see MASTER RESPONSE #2.
76D	Thoman	Barb	Transit for Livable Communities	76	Verbal Testimony	4 – Social and Economic Effects	3	Line is important because it will connect people to jobs and parks since a lot of people who cannot get to parks because currently there is a lack of transit to parks.	Please see MASTER RESPONSE #2.
76E	Thoman	Barb	Transit for Livable Communities	76	Verbal Testimony	5 – Environmental Effects	13	Important to provide access to parks.	Please see MASTER RESPONSE #19. Two stations, at Golden Valley Road and Plymouth Avenue, are adjacent to Theodore Wirth Regional Park and are included in the Final EIS; see Chapter 2.
76F	Thoman	Barb	Transit for Livable Communities	76	Verbal Testimony	8 – Transportation System Effects	4	Parking is a problem at parks in the region that could be addressed by light rail access to parks.	Chapter 3 of the Final EIS discusses ridership by station and by mode: walk/bike, drive, and transit. Theodore Wirth Regional Park would be accessible by users of the proposed BLRT Extension project from the Plymouth Avenue and Golden Valley Road stations.
76G	Thoman	Barb	Transit for Livable Communities	76	Verbal Testimony	5 – Environmental Effects	8	LRT reduces emissions.	Comment noted.
76H	Thoman	Barb	Transit for Livable Communities	76	Verbal Testimony	2 – Fiscal Effects and Schedule	2	LRT is very cost efficient and has the lowest subsidy per passenger because of frequency and capacity.	A financial analysis of the proposed BLRT Extension project is discussed in Chapter 10 of the Final EIS. The purpose and need for the proposed BLRT Extension project is discussed in Chapter 1 of the Final EIS.
76I	Thoman	Barb	Transit for Livable Communities	76	Verbal Testimony	2 – Fiscal Effects and Schedule	4	Need more funding in the region for transit projects and wants people to support the Move Minnesota effort to increase funding for public transit, walking, biking, and road repair.	A breakdown of funding sources is located in Table 10.1-2 of Chapter 10 – Financial Analysis of the Final EIS totaling $1.496 billion. The Council is intending to seek CIG Program funding from FTA for one or more of the alternatives examined in this NEPA document. The Council assumes that the region will secure 49 percent of the capital cost from FTA through the New Starts fund (through the CIG Program). FTA must evaluate and rate proposed projects seeking funding from the CIG Program under a set of project justification and local financial commitment criteria specified in law. The criteria evaluate the merits of the proposed BLRT Extension project and the proposed BLRT Extension project sponsor's ability to build and operate it as well as the existing transit system.
77A	Nieman	Scott	None provided	77	Verbal Testimony	7 – Alternatives, Engineering and Design	1	And one of the observations that I have, there's no one here from the City of Minneapolis, the city council. And I do want to make a statement that, first of all, I'm very much in favor of the Bottineau Transitway, but I do think it's under serving North Minneapolis in its current preferred option.	The Council appreciates your support for the proposed BLRT Extension project. The PAC recommended Alignment D1 over Alignment D2 because Alignment D1 would result in significantly less property and neighborhood impacts, improved travel time, greater cost-effectiveness, and less disruption of roadway traffic operations. Discussion focused on the adverse impacts of Alignment D2 and that Alignment D1 better meets the proposed BLRT Extension project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits.
77B	Nieman	Scott	None provided	77	Verbal Testimony	5 – Environmental Effects	2	Section 2.6, there's a statement on the least damage to the environment. It contradicts the statements in the summary of Table 5.21, which shows that there was over 18,000 cubic yards of flood plain impact. That is not the least damage. I	As the agency tasked with regulating compliance with the Clean Water Act, USACE reviews documents related to the planning and design of infrastructure projects. They review all potential impacts of all alternatives proposed. Impacts include social impacts, environmental impacts and economic impacts. Some proposed

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								think most people know that the Theodore Wirth Parkway, the D1-7 wetland floods every single year. That concerns me significantly because of what would be planned for mitigation of that would probably be drudging or some other means to divert water which is in the floodplain.	alternatives may have high social impacts and other alternatives may have high environmental impacts. USACE is required to consider all impacts and must decide which alternative is the Least Environmentally Damaging Practicable Alternative (LEDPA). Thus, the LEDPA is a "best balance" alternative. The proposed BLRT Extension project, as described in the Final EIS, proposes 17,000 cubic yards of floodplain fill. However, mitigation for this fill would be required and would counteract the effects of the fill.
77C	Nieman	Scott	None provided	77	Verbal Testimony	7 – Alternatives, Engineering and Design	1	I really think that the D2 alternative was not adequately looked at. I do not see any evidence of a subway option being investigated to go underneath West Broadway and have a substation at where the old Burger King resided. An escalator going down and having a subway under Penn Avenue, which would have reduced impact to land acquisitions, would have lower, long-term maintenance cost.	Please see MASTER RESPONSE #20.
77D	Nieman	Scott	None provided	77	Verbal Testimony	7 – Alternatives, Engineering and Design	4	It [a D2 subway alternative] would have really no impact to vehicle traffic except during construction.	Please see MASTER RESPONSE #20.
77E	Nieman	Scott	None provided	77	Verbal Testimony	4 – Social and Economic Effects	7	And it [a D2 subway alternative] would have improved safety risks for pedestrians and vehicles. Similar – you know, we've had lots of accidents on Hiawatha. We don't want anymore, especially in this area.	Please see MASTER RESPONSE #20.
77F	Nieman	Scott	None provided	77	Verbal Testimony	2 – Fiscal Effects and Schedule	2	I do think that placing a substation [assume that the commenter meant an LRT station] at Penn and Broadway provides incredible economic development opportunities in an area that's been long trying to have an arts district serving the Capri Theater and other venues in the 5 Corners [*sic*] development effort. That has just basically failed. So – done?	The proposed BLRT Extension project is expected to have positive effects on the commercial and residential areas along the proposed BLRT Extension project corridor. It is anticipated that the proposed BLRT Extension project would contribute economic benefits by encouraging and supporting higher-density residential and commercial land uses around transit stations, including those in EJ neighborhoods consistent with local planning efforts. Increased mobility to both residents and business patrons within the proposed BLRT Extension project corridor is expected to support existing businesses and allow for their future growth. New transportation facilities could also create competitive advantages for businesses located in the proposed BLRT Extension project corridor.
78A	Nelson	Jolene	None provided	78	Verbal Testimony	6 – Noise and Vibration Effects	1	The line runs right behind my house, so the railroad is right behind my house. And my main concern with this is with the track moving, it's going to move closer to my home causing – the railroad track itself, causing more noise and vibration…and the highway noise from County Road 81, in addition to the light rail running, it's going to cause more noise there and vibration as well…Is there going to be any kind of noise mitigation, whether that be trees planted in place of what's taken down? Is there going to be a new wall to minimize the amount of noise and vibration that would happen?	Concerning noise impacts: Please see MASTER RESPONSE #17. Concerning vibration impacts: Please see MASTER RESPONSE #18. The commenter's home is on Hampshire Avenue; the Final EIS discloses that there would be no noise or vibration impacts to homes on Hampshire Avenue.
78B	Nelson	Jolene	None provided	78	Verbal Testimony	5 – Environmental Effects	4	And currently, there's trees that have grown up around there and in my backyard where my son plays. So my concern would be those trees are going to be removed, and I'm not going to see the train right away.	Much of the forested area in the proposed BLRT Extension project area is severely degraded from infestation of European buckthorn. Dense growth of European buckthorn limits regeneration of desirable tree species and with time eliminates any native herbaceous cover. Some of the areas disturbed from construction that lie outside of the trackage would be revegetated with a diverse compliment of tree and herbaceous species. In certain areas of the proposed BLRT Extension project area, fencing may be considered to provide visual screening.
78C	Nelson	Jolene	None provided	78	Verbal Testimony	7 – Alternatives, Engineering and Design	1	And so my concern is how fast the speeds are going to be.	The proposed BLRT Extension project is being designed to operate at speeds up to 55 mph.

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79A	Fischer	Bob	None provided	79	Verbal Testimony	7 – Alternatives, Engineering and Design	1	A couple of points. I certainly won't take my three minutes. I've lived in a city, in D.C., that had the Metro. So I know the advantages of that. So I'm 100 percent supportive of this. And I'm also supportive that it's going in my backyard.	Please see MASTER RESPONSE #2.
79B	Fischer	Bob	None provided	79	Verbal Testimony	6 – Noise and Vibration Effects	1	To Jolene's point, there needs to be some type of a barrier established. Whether it's natural or if it's a wall or if it's a wall with sound board, there certainly needs to be something, because it's disappointing to see the goals and not – there could be as easy a sixth goal of protecting the people that will be involved in this.	Please see MASTER RESPONSE #17. No noise impacts were identified at the homes along Hampshire Avenue, therefore no noise barriers would be implemented at this location. However, visual screening options will be explored as the proposed BLRT Extension project design process continues.
79D	Fischer	Bob	None provided	79	Verbal Testimony	8 – Transportation System Effects	6	I think there's a better opportunity to involve more people, because I work with developmentally disabled adults and senior populations. This just opens up a whole new world for them. So I applaud that.	Metro Transit continually evaluates the needs of transit riders, including the introduction of mobility zones to areas where they may be useful. This analysis would be done as part of evaluating final service plans prior to the start of proposed BLRT Extension project revenue operations.
79C	Fischer	Bob	None provided	79	Verbal Testimony	3 – NEPA Process and Public Involvement	2	I've lived in my house for three years. I've not gotten one piece of mail telling me that this was going to happen in my backyard. So I don't think that's asking for too much, because I know our neighbors up and down Hampshire Avenue would all take the same position as I have. I accidentally found out about this. And I know you've met your obligations by posting this how you need to, and it's on the public forum. But I think a piece of snail mail in three years would have been appropriate. So I'm very disappointed in that lack of communication.	Concern about the timing of public involvement has been noted. Chapter 9 of the Final EIS provides a summary of public involvement for the Final EIS, including a summary of open houses held during Final EIS preparation. The Council strives to alert community members to upcoming events and opportunities for public input regarding the proposed BLRT Extension project. Events are usually advertised at least two weeks prior to their occurrence. Council staff are available to follow up individually with any community member that requests additional information or is unable to attend an open house or other event.
80A	Couture	Daniel	None provided	80	Verbal Testimony	7 – Alternatives, Engineering and Design	1	I'm not against light rail. I understand the need for transit basically to support, you know, the growing population needs and disperse populations. However, I am coming here tonight to basically speak out against the locally preferred options known as BCD1 in favor of ACD1 primarily because – and it's unfortunate that the Draft Environmental Impact Statement doesn't accurately reflect the impact to the properties along West Broadway between 78th Avenue and 93rd Avenue to the north.	Please see MASTER RESPONSE #1. Also please see response to Comment 51D about acquisitions and displacements.
80B	Couture	Daniel	None provided	80	Verbal Testimony	4 – Social and Economic Effects	5	Because of a concurrent county project, which is barely referenced in the 800 pages – it's one paragraph out of the 800 pages where it talks about this project. Because of it, there's 100 homes that are going to be impacted, property that's going to be taken. About half those homes, at least 50 of them, the families are going to be displaced.	Please see response to Comment 51D about acquisitions and displacements.
80C	Couture	Daniel	None provided	80	Verbal Testimony	4 – Social and Economic Effects	15	And they're probably the lucky ones, because it's probably going to be financially devastating to the ones that are left behind. The ones that are going to be stuck with homes that could be as little as 50 feet away from the transit line, that are going to be virtually unsellable	Please see MASTER RESPONSE #7.
80D	Couture	Daniel	None provided	80	Verbal Testimony	6 – Noise and Vibration Effects	5	[Homes along West Broadway Avenue] would not be the kind of place, I think, anybody would want to live because these trains run 21 hours a day every 10 minutes, and they have very loud bells that clang anywhere near a station. And 85th Avenue would be a station.	Please see MASTER RESPONSES #17 and #21.
80E	Couture	Daniel	None provided	80	Verbal Testimony	3 – NEPA Process and Public Involvement	1	These are modest homes. This is a working-class neighborhood. Folks who live there are – there's a large number of seniors, a large minority population. A lot of the	The Council engages and will continue to engage the public in the preliminary engineering process and into construction. The Council will be key in notifying businesses and residents of construction plans, road closures and bus re-routes as

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Issue	Comment	Official Response
								folks can't make it to meetings like here tonight because they're still at work or they are having dinner with – sitting down to dinner with their families.	well as being a point of contact for construction related emergencies such as power outages. The outreach program provides many avenues for people to submit comments and concerns, which are forwarded to the planners and engineers.
80F	Couture	Daniel	None provided	80	Verbal Testimony	3 – NEPA Process and Public Involvement	2	I think, unfortunately, if the folks who are evaluating those various alternatives knew about these additional 100 homes that are going to be impacted, if they knew about the additional 50 families that would need to be displaced, I think it would definitely have affected the community cohesion score that the B segment would have received. I think that would have made it easier for folks to vote in favor of the Option A for the locally preferred option.	Please see MASTER RESPONSE #1. Please see response to Comment 51D about acquisitions and displacements.
80G	Couture	Daniel	None provided	80	Verbal Testimony	4 – Social and Economic Effects	3	The benefits – the price tags for the A versus B are the same. Both a billion dollars. Both have similar ridership of about 27,000 average riders a day. They both have a college as a destination. They both have major employers as well as residents at the tail end of the property. But the one thing that Maple Grove has that Brooklyn Park doesn't offer is a major regional retail center. So for that reason, I hope that it's not too late that the commissioners involved with making a final decision on what route is chosen could reconsider their option to go down West Broadway and vote in favor of ACD1.	Please see MASTER RESPONSE #1.
81A	Reiter	Christopher	None provided	81	Verbal Testimony	3 – NEPA Process and Public Involvement	2	First off, which by the way, we've had hearings – public hearings in Minneapolis, Brooklyn Park, Crystal, and one more – Golden Valley. But there hasn't been one for Robbinsdale, which I don't think is very fair. I think there should be one set up.	Please see MASTER RESPONSE #6. The Council has hosted numerous events for public input in the City of Robbinsdale. Open houses, public hearings, and city council work sessions have all been organized to provide information about the proposed BLRT Extension project and to solicit feedback from community members. The outreach team also attends community events and presents to local organizations.
81B	Reiter	Christopher	None provided	81	Verbal Testimony	6 – Noise and Vibration Effects	1	There's a lot of homeowners that are going to be impacted, many severely, according to the noise portion of this analysis, including myself…I do see – I'm reviewing the impact statement here that they plan on putting up – there's a plan to put up some barriers, but it doesn't say how high they are.	Please see MASTER RESPONSE #17.
81C	Reiter	Christopher	None provided	81	Verbal Testimony	4 – Social and Economic Effects	5	My tool and lawn shed and my fence will be impacted. The power line pole and probably a few 20 trees and numerous shrubberies that block that whole sight line towards the railroad tracks would have to be removed.	Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
81D	Reiter	Christopher	None provided	81	Verbal Testimony	4 – Social and Economic Effects	1	And with these scheduled to go by every 10 minutes, I can envision the value of my property plummeting to about probably maybe 70 percent of what it's worth right now if this goes through. And that's pretty optimistic, in my opinion.	Please see MASTER RESPONSE #7.
81E	Reiter	Christopher	None provided	81	Verbal Testimony	4 – Social and Economic Effects	8	I honestly think that either the line should run on Highway 81 and then Bottineau Boulevard. I don't think it should not only [*sic*] be going through all those houses that are impacted in Crystal and many in Robbinsdale, but if it's going to go to the – if it has to go in as opposed to buses – I know Connie mentioned the natural gas buses, which I think would be a great alternative. We could use existing infrastructure for that. It wouldn't have not only the impact of all the light rails going by every 10 minutes, but the construction. So I think that it should – the whole line should run along there. And as	Please see MASTER RESPONSE #1. Chapter 2 of the Draft EIS summarizes the alternatives considered during the Alternatives Analysis Study and in the Draft EIS. In the AA report, 12 BRT and nine LRT alternatives were recommended for technical evaluation. The Draft EIS studied four LRT build alternatives, a BRT alternative, and a no-build alternative.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Issue	Comment	Official Response
								opposed to the 42nd Avenue Station by the police department there, they should just have a station down at the corner of 42nd and Bottineau Boulevard. And right now, there's quite a good section of Bottineau that already has a major median running down the middle of it, which could be expanded out a little bit to accommodate the light rail.	
81F	Reiter	Christopher	None provided	81	Verbal Testimony	4 – Social and Economic Effects	1	But I just – I don't see the benefit of this program to anybody that happens to be severely impacted or even marginally impacted by this line. And I know we've had some other hearings, and I've been to one or two other hearings previously. And I just don't understand why with all this major impact to homeowners who – like in my case, this is my first house.	Section 4.3 of the Final EIS summarizes acquisitions and displacements. The proposed BLRT Extension project would not displace any residential properties. Loss of private residential property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Act and Minn. Stat. 117.
81G	Reiter	Christopher	None provided	81	Verbal Testimony	4 – Social and Economic Effects	3	And I don't really have the means to relocate right now, although I would like to because I know, like I said, just as soon as the work starts, the value of my property – the ability to sell it is going to – it's going to be hard to even sell at that point. And I don't know – I don't know how I'm possibly going to sleep at night with trains going by every 10 minutes	Please see MASTER RESPONSE #7.
81H	Reiter	Christopher	None provided	81	Verbal Testimony	6 – Noise and Vibration Effects	3	And I don't know – I don't know how I'm possibly going to sleep at night with trains going by every 10 minutes and get up for work at Hennepin County.	Please see MASTER RESPONSE #17.
81I	Reiter	Christopher	None provided	81	Verbal Testimony	4 – Social and Economic Effects	5	I really wish you would take a close look at reexamining the whole line that runs off of already existing thoroughfares.	Please see MASTER RESPONSE #1.
82A	Berne	Chris	None provided	82	Verbal Testimony	5 – Environmental Effects	15	The issue for us up in Brooklyn Park, as Dan Couture talked about a little bit earlier, is the final terminus route of this project up through the West Broadway corridor in Brooklyn Park. We are on an extremely fast track up there because the county in its wisdom is going to be rebuilding West Broadway. And what they want to do is make assumptions at this point in time that the rail line is going to go through, and they want to build the road with that in mind. The problem is it's going to take 30 to 50 homes with the idea that this might come through, and they want to do it starting this fall. So we're very concerned about that.	Hennepin County is developing the West Broadway Avenue Reconstruction project. An EAW for the roadway project was completed and a Negative Declaration finding issued. The Final EIS discloses this information in Chapter 2 – Alternatives. Reference to West Broadway Avenue tech memos in Chapter 2 and in Chapter 6 – Indirect Impacts and Cumulative Effects of the Final EIS. The West Broadway Avenue EAW disclosed that one building containing six residential units would be acquired if a signal were constructed at the West Broadway Avenue/Maplebrook Parkway intersection. No other residential displacements were identified in the EAW. Please see response to Comment 51D.
82B	Berne	Chris	None provided	82	Verbal Testimony	4 – Social and Economic Effects	5	Most of these homes are modest income, low income. There's a lot of minorities. The other thing that we have in Brooklyn Park is a lot of immigrants. And a lot of immigrant families who have come to this country with the great old American dream of home ownership are now going to be told you have to leave your home. That's not the message that we as Americans want to send to those that come to our country.	Please see response to Comment 33B.
82D	Berne	Chris	None provided	82	Verbal Testimony	7 – Alternatives, Engineering and Design	1	But we have also offered an alternative pathway just three blocks adjacent to West Broadway that does not require taking any homes. It does not require any industrial buildings to be taken or any businesses in any way to be taken. The Brooklyn Park City Council is now going to be taking a look at that. And so there may be some delays on this project because they want to take a look at what's happening up there. So I just wanted to make sure that everybody is aware of that. What's going on the north end hasn't been talked	West Broadway Avenue is the main through street in the immediate area, other streets within three blocks do not continuously connect and an alignment along them would result in property acquisition. Hennepin County is developing the West Broadway Avenue Reconstruction project in Brooklyn Park from 78th Avenue to just north of 93rd Avenue. This project includes a continuous four-lane urban road, which would include storm drainage instead of ditches, center median, and constructing a paved multi-use trail along both sides of the roadway. An EAW for the roadway project was completed and a Negative Declaration finding issued. The Final EIS references the West Broadway Avenue tech memo in Chapter 2 and in Chapter 6 – Indirect Impacts and Cumulative Effects of the Final EIS.

Comment ID	Last Name	First Name	Organization	Communication Number	Comment Type	Theme	Issue	Comment	Official Response
								about too much here tonight, but that is part and parcel of this project.	
82E	Berne	Chris	None provided	82	Verbal Testimony	2 – Fiscal Effects and Schedule	2	None of us want to have a repeat of the Southwest Light Rail Project nightmare. There's already too much rancor. There's already too much delay, too many tens of millions of dollars that are being wasted. And we would like to see this done in a better manner on this one. And hopefully, some cooler heads will prevail.	The Council hired an independent consultant to do a Technical Capacity Review of the Southwest Project Office and make recommendations; those lessons learned are being used to help inform future projects.

Appendix G
Response to Draft EIS Comments

6 Comments Received on Draft EIS – Agencies

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From:	Mike Opatz
To:	Bottineau Transitway/Hennepin
Cc:	Mike Opatz; Brent C Rusco
Subject:	City of Maple Grove staff comments on Bottineau Draft EIS:
Date:	Wednesday, April 23, 2014 5:07:16 PM
Attachments:	image001.png image002.png image003.png Maple Grove Comments Bottineau EIS.docx

Greetings,

Below and attached are City of Maple Grove staff comments on Bottineau Draft EIS. Thank you.

Mike Opatz
Transit Administrator
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Maple Grove, MN 55311

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mopatz@maplegrovemn.gov
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City of Maple Grove
Staff Comments on Bottineau Draft EIS
April 22, 2014

Comment #1

See cut image pasted below from Page 3-7. The City of Maple Grove would not alter any of its Maple Grove Transit express routes given the approved Bottineau line alignment/LPA, which does not serve the City of Maple Grove. Furthermore, the Route 787 would not be eliminated. Maple Grove would likely add local feeder service to the Bottineau line as demand and funding allows.

Maple Grove Transit Routes		
Maple Grove Transit 781	■ Rush Hour Service ■ AM: 20 SB ■ PM: 22 NB ■ Midday: 1 SB/1NB	■ No-Build: no change ■ Other alignments: Route 781 becomes local service that connects to LRT Stations
Maple Grove Transit 782	■ Rush Hour Service ■ AM: 5 SB ■ PM: 5 NB	■ A-C-D1 and A-C-D2: local route serving Hemlock Lane LRT Station and Maple Grove Transit Station
Maple Grove Transit 785	■ Rush Hour Service ■ AM: 8 SB ■ PM: 7 NB	■ Add trips
Maple Grove Transit 787	■ Flex Route Service ■ PM: 3 NB	■ No-Build: no change ■ Other alignments: route eliminated
Maple Grove Transit 788	■ Rush Hour Service ■ AM: 4 NB ■ PM: 5 SB	■ Add trips on all service, connect to LRT stations where applicable

[1] Midday is between the hours of 9 am and 3 pm.

Comment #2

See cut image below from page 3-8. The City of Maple Grove would reserve the right to conduct further research on the feasibility of the proposed Route 732 and to be the operator of that route if it decides the route should be implemented. The implementation would be contingent on additional funding being provided.

Table 3.1-2. End-to-End Travel Times for Enhanced Bus/TSM and Build Alternatives

Alternative		From	To	Travel Time
Enhanced Bus/TSM	Route 731[1]	Oak Grove Parkway	5th St/Marquette Ave	0:48:44
	Route 732[1]	Maple Grove Transit Station	5th St/Marquette Ave	0:50:50
A-C-D1		Hemlock Lane	5th St/Nicollet Mall Station	0:29:20
A-C-D2		Hemlock Lane	5th St/Nicollet Mall Station	0:33:19
B-C-D1 (Preferred Alternative)		Oak Grove Parkway	5th St/Nicollet Mall Station	0:32:47
B-C-D2		Oak Grove Parkway	5th St/Nicollet Mall Station	0:36:46

[1] Routes 731 and 732 are new services in the Enhanced Bus/TSM alternative designed to provide reverse commute and intra-corridor access along the Bottineau Transitway between downtown Minneapolis and Brooklyn Park (Route731) and Maple Grove (Route 732), supplementing the existing express and limited stop service.

Comment #3

See cut image below from page 10-7. The City of Maple Grove reiterates the statements from above related to page 3-7 given the adopted LPA and how it impacts table10.2.2. The City of Maple Grove would like to further understand the cost figures listed for the various scenarios, especially the LPA.

Table 10.2-2. Operations & Maintenance Cost Summary (in 2013 dollars[1] over No-Build)

Inputs	Enhanced Bus/TSM	A-C-D1	A-C-D2	B-C-D1 (Preferred Alternative)	B-C-D2
Metro Transit Bus	$14,188,393	$3,617,476	$3,617,476	$2,314,283	$2,314,283
Met Council (Contracted) Bus	$876,646	$1,005,793	$1,005,793	$876,646	$876,646
Maple Grove Transit Bus	$2,228,636	$2,949,539	$2,949,539	$2,228,636	$2,228,636
LRT[2] – Bottineau Transitway Only	$0	$25,201,860	$26,657,641	$27,120,249	$28,254,739
Total	**$17,293,675**	**$32,774,668**	**$34,230,449**	**$32,539,814**	**$33,674,304**

[1] O&M costs depicted in this section are based on actual 2010 expenses, consumption, and productivity factors and inflated to 2013 dollars using an annual inflation factor of three percent.
[2] Does not include costs related to Hiawatha LRT operations

Comment #4

On Pages 11-9 and 11-10, the document includes the following:

- *While Alternative A-C-D1 and A-C-D2 would have generally good transportation performance, there is uncertainty as to whether or not existing commuter express riders would choose to move from the current Maple Grove express bus service to LRT service, given the high quality of that current service. If this were the case, not all of the ridership benefits*

The above bulleted statement further reinforces the City of Maple Grove's above comments that we would not alter any of its Maple Grove Transit express routes given the approved Bottineau line alignment/LPA. If the EIS documents includes concern about Maple Grove express bus riders foregoing their bus option over a rail option that is located in their City, it would be feasible to conclude they would even be less likely to give up their bus option for a rail option that is in Brooklyn Park (the LPA option).

From:	Patrick Peters
To:	Bottineau Transitway/Hennepin
Subject:	City of Crystal DEIS Comments
Date:	Wednesday, May 21, 2014 2:01:48 PM
Attachments:	2014.05.21 DEIS Comment Letter_Executed.pdf

Communication #104

A hard copy of the attached letter is going out in today's mail, but I thought you might appreciate having the .pdf as well.

Thanks.

Patrick A. Peters
Community Development Director
City of Crystal
763.531.1130
patrick.peters@crystalmn.gov

CITY of CRYSTAL

4141 Douglas Drive North • Crystal, Minnesota 55422-1696

Tel: (763) 531-1000 • Fax: (763) 531-1188 • www.crystalmn.gov

May 21, 2014

Attn: Bottineau Transitway
Hennepin County Housing, Community Works & Transit
701 Fourth Avenue South, Suite 400
Minneapolis MN 55415

Re: City of Crystal's Formal Comments on Bottineau Transitway DEIS

Dear Sir or Madam:

In accordance with the parameters of the DEIS process, it is appropriate that the City of Crystal offer comments specific to the potential impacts that the construction and operation of the Bottineau LRT may have on the city and its residents. Following discussion at the May 20 Council Work Session, staff has prepared these comments that itemize the primary issues associated with the Bottineau line's planned route through Crystal and for which satisfactory mitigation measures will need to be identified in the FEIS and planned for implementation during the Project Development phase. The impacts identified in the DEIS that are of particular interest to Crystal are noise, vibration and traffic.

Noise

- With regard to the projected noise impacts along the that portion of the C Alignment in Crystal, the report indicates that there are a significant number of adjacent noise sensitive land uses that are predicted to experience noise impacts from LRT construction and operation, if unmitigated. A total of approximately 246 dwelling units (single-family, 2-family and apartment units) are assumed to have "severe" impacts from noise. While there are some anticipated impacts associated with construction noise, the DEIS does acknowledge the city's noise ordinance restrictions in that regard, and the construction activity is temporary.

  The predicted operational noise impacts that are of profound concern to the City are those most directly associated with the sounding of a train horn in advance of at-grade crossings at Corvallis and West Broadway, where the train is operating in excess of 45 miles per hour. Noise from the sounding of a train horn is particularly concerning at or near those two crossings because it poses an increase to the baseline noise within what are predominantly residential neighborhoods.

  In addition, the impacts associated with the horn are intensified by the number of train trips through these crossings as shown by the service schedule in the report, which is assumed to be:

- Early morning (4:00–6:00 a.m.): every 20-30 min.
- Peak periods (6:00–9:00 a.m. and 3:00 – 6:30 p.m.): every 7.5 min.
- Midday (9:00 a.m.–3:00 p.m.) and Evening (6:30-10:00 p.m.): every 10 min.
- Late evening (10:00 p.m.– 2:00 a.m.): every 30 min.

In keeping with DEIS preparation protocol, the report identifies a range of noise mitigation measures that may have varying levels of effectiveness in reducing the severity of the predicted impacts. *Table 5.6-8 Proposed Noise Mitigation Measures for Operational Impacts* identifies various potential noise mitigation methods that may be considered, including *the establishment of quiet zones, which the City contends will be the most effective method within the Crystal segment of Alignment C.* The report states that the request for quiet zones for at-grade crossings must be initiated by the respective municipality. However, it also states that "...the municipalities may also be required to provide improvements at grade crossings such as modifications to the streets, raised medians, warning lights, and other devices." It appears reasonably justified from the City's perspective that, *while the city will certainly work with responsible agencies on the quiet zone requests, any and all costs associated with quiet zone improvements must be borne by the project and not by the City.*

- With regard to the proposed crossing at West Broadway, the Crystal Comprehensive Plan (relevant excerpt enclosed) contemplates Hennepin County-initiated discussions with regard to removing that part of West Broadway (CSAH 8) south of Douglas from the county road system and subsequently whether the West Broadway s-curve crossing of the BNSF tracks at 48th Avenue North either ought to be reconstructed as is, reconfigured, replaced by a crossing in a different location or eliminated. *The Bottineau project should incorporate this roadway evaluation into the FEIS and Project Development phase to determine the feasibility of eliminating the rail crossing at West Broadway, thereby eliminating one of the two potential crossings in Crystal needing quiet zone treatment.*

- Finally, also regarding *Figure 22: Alignment C Noise Impact Locations*, there are two commercial/industrial properties misidentified as residential (the vacant industrial property at 5216 Hanson Ct and the vacant commercial property at 4940 West Broadway), and one commercial property (4947 West Broadway) that as of May 8, 2014, is no longer a church and will be developed for the City's a new Public Works facility. *These three properties should no longer be included in the list of properties with potential for severe impacts from noise.*

Vibration

- According to the DEIS, typical GBV levels from common sources range from imperceptible background vibrations of approximately 50 VdB to 100 VdB, the threshold for structural damage. Annoyance is reportedly not significant unless the vibration exceeds 70 VdB. Typical rapid transit GBV is around 70-72 VdB.

  Four residential properties (classified as "Category 2" uses) in Crystal have been identified as having potential for impacts from vibration (Figure 39 in the Technical Report) in the range of 72-90 VdB, depending on proximity to the track centerline. There are various mitigation measures identified in the study that can be implemented in the Crystal segment, but the report specifically discusses

"...modification or relocation of crossovers between Corvallis Avenue North and West Broadway Ave....as well as installation of track vibration isolation treatment." *The Bottineau project should incorporate successful vibration mitigation measures for evaluation in the FEIS and during Project Development.*

Traffic

- The only transit station proposed in Crystal will be located within the BNSF railroad right-of-way just south of Bass Lake Road. The current proposal for this station does not contemplate any park and ride or kiss and ride facilities. If this is to be the case, it is reasonable to expect that, without appropriate design considerations that anticipate such activity, some vehicles will drop off and pick up transit riders by stopping on Bass Lake Road and Bottineau Boulevard, thus obstructing traffic flow.

  The DEIS points out that station area plans, which would include the park and ride facilities (and presumably kiss and ride facilities, as well) have not been developed but *would include a full traffic analysis of such facilities.* The DEIS states that roadway improvements such as turn lanes or additional intersection controls may be needed to accommodate the additional traffic generated. Similarly, *the station area planning effort for the Bass Lake Road station, the FEIS and Project Development all need to include a detailed analysis that satisfactorily addresses the potential adverse impacts associated with the lack of an off-street drop off or parking area that can support the station without compromising traffic operations.*

- With regard to pedestrian crossings, the DEIS proposes that new or improved sidewalk crossings of the railroad corridor are to be included in the final design of the Bass Lake Road, Corvallis Avenue (replacing existing sidewalk on south side of roadway) and West Broadway Avenue crossings in Crystal. As an example, residents east of West Broadway between Corvallis and 47th Avenue North will need to be assured of safe crossing of the Transitway to access Welcome Park and points west. *The City looks forward to participating in the process to ensure that Crystal residents will have safe pedestrian facilities to access the station and that connect neighborhoods across the rail corridor.*

- The City is concerned that, with the frequency of trains and the regular closing of major crossings such as at Bass Lake Road, there is the potential for adverse impacts to public safety services, such as increased response time, reduced access and increased costs. *The pending traffic analysis must address and mitigate these possible impacts.*

- The City also is concerned that access to Bottineau Boulevard for residents north of the Canadian Pacific (CP) Rail will be compromised by the gated crossing at Bass Lake Road. Frequently the east-west CP Rail traffic blocks Douglas Drive and West Broadway. This forces residents north of the CP Rail to use Bass Lake Road to access Bottineau Boulevard and points south; and with the gates activated for LRT at the Bass Lake Road crossing, it may impose considerable traffic delays and queuing on Bass Lake Road that may take an inordinate amount of time to clear. *The pending traffic analysis must also address and mitigate these possible impacts.*

- Finally, the City expects that the FEIS and Project Development phases will be sensitive to any adverse impacts on the Crystal business community that may be caused by construction of the Transitway and that there will be *plans and programs in place to mitigate any anticipated adverse impacts.*

The City appreciates the opportunity to review and offer its formal comments on the Bottineau Transitway DEIS.

Sincerely,

Anne Norris
City Manager

Enclosure

cc: Patrick Peters, Community Development Director
Tom Mathisen, City Engineer
Mayor and City Council
Crystal Planning Commission

From: Leone, Renay
To: Bottineau Transitway/Hennepin
Cc: Youngquist, Jan (jan.youngquist@metc.state.mn.us)
Subject: MPRB Comment Letter to Bottineau LRT DEIS
Date: Tuesday, May 27, 2014 11:23:28 AM
Attachments: MPRB_BLRT_DEIS_Comment_Letter.pdf

Please contact me if you have any questions about this letter. I am also sending a hard copy to your mailing address.

Renay Leone
Real Estate Planner
Minneapolis Park & Recreation Board
2117 West River Road North
Minneapolis, MN 55411-2227

612-230-6477 direct
612-499-9078 mobile

Minneapolis Park and Recreation Board
Bottineau Transitway DEIS Comment Letter

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Transmittal Letter

May 21, 2014

Minneapolis
Park & Recreation Board

Administrative Offices
2117 West River Road
Minneapolis, MN 55411-2227

Operations Center
3800 Bryant Avenue South
Minneapolis, MN 55409-1000

Phone
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612-230-6500

www.minneapolisparks.org

Hennepin County
Housing, Community Works & Transit
ATTN: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

Re: Minneapolis Park and Recreation Board Comments on the Bottineau Transitway Draft Environmental Impact Statement

Dear Project Manager:

The Minneapolis Park and Recreation Board (MPRB) welcomes this opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Bottineau Transitway (LRT) project. Furthermore, the MPRB is obligated to ensure that parks and trails and the interests of current and future park and trail users are not substantially impaired by the project. MPRB prepared the following comment letter for Segment D1 of the Locally Preferred Alignment (LPA) for the project. It contains the MPRB's desired outcomes for the project relative to historical, cultural, visual, recreational, social, environmental, and safety impacts on the park and recreation resources it owns, manages or maintains.

There are several overarching messages the MPRB wishes to express regarding the Bottineau Transitway:

- MPRB, in general, is supportive of light-rail transit.
- MPRB disagrees with the *de minimus* finding for Section 4(f) in relation to Theodore Wirth Regional Park.
- The DEIS does not provide adequate information for the MPRB to concur or disagree with the Environmentally Preferred Alternative designation that has been applied to the LPA.
- Current park development adjacent to Segment D1 has an open and natural character that includes portions of the Grand Rounds Historic District, Theodore Wirth Regional Park, Theodore Wirth Parkway, Theodore Wirth Parkway Trail (bicycle and pedestrian), Valley View Park and Bassett's Creek Park. Park design in this area focuses on serenity, habitat restoration, minimal development, and passive recreation. To retain the area's character the water table levels and quality, cultural landscape, habitat, and open space must be protected and preserved.
- Several topics of keen interest to the MPRB, including wetland, floodplain and stormwater impacts, as well as noise, vibration, and visual impacts, are noted in the DEIS as requiring further analysis during preliminary engineering. To monitor and protect the parks, trails, and

President
Liz Wielinski
Vice President
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Commissioners
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Anita Tabb
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Superintendent
Jayne Miller
Secretary to the Board
Pamela Heinen

recreation areas of this project that are within its jurisdiction, the MPRB expects to have a central role in the design of Segment D1.

Thank you for this opportunity to comment on the DEIS for the LRT. If you have any questions, please do not hesitate to contact Jennifer Ringold, Director of Strategic Planning, at 612-230-6464 or jringold@minneapolisparks.org.

Sincerely,

Liz Wielinski
President, Minneapolis Park and Recreation Board

Introduction

The Minneapolis Park and Recreation Board (MPRB), a semi-autonomous government agency, was established in 1883 by the Minnesota State Legislature. It owns, operates, or maintains park land within the cities of Minneapolis, Golden Valley, Richfield, Robbinsdale, Saint Louis Park, and Saint Anthony. The MPRB is also one of 10 regional park implementing agencies that works with the Metropolitan Council to acquire and develop parks and trails to protect natural resources and provide outdoor recreation for public enjoyment in the Metropolitan Area.

In 2013, the MPRB celebrated 130 years of providing outstanding park and recreation services to residents and visitors of Minneapolis. In citywide surveys, residents often remark that the Minneapolis park system is essential to their quality of life and to the identity of the city. Founders of the system, such as H. W. S. Cleveland and Theodore Wirth, understood the role parks play in a healthy, livable, and balanced city. They made preserving land for future generations a priority. Their success shaped the character of Minneapolis and continues to improve people's lives.

Segment D1 and Segment D common of the Locally Preferred Alterative (LPA) of the Bottineau Transitway (LRT) and its station areas include, cross, and are adjacent to neighborhood and regional parks and regional trails that are owned or maintained by the MPRB. These include the following:

- Grand Rounds National Scenic Byway
- Theodore Wirth Regional Park
- Theodore Wirth Parkway
- Theodore Wirth Parkway Trail (bicycle and pedestrian)
- Wirth/Memorial Parkway Regional Trail (bicycle and pedestrian)
- Valley View Park
- Bassett's Creek Park
- Trunk Highway 55 Trees

With its extensive land holdings and maintenance responsibilities, the MPRB is obligated to identify the historical, cultural, visual, recreational, social, environmental, and safety issues and impacts related to Segment D1 of the LPA and ensure that these parks, trails, and the current and future interests of park and trail users are protected.

Comment Letter Structure

Beginning with the entire corridor, the content of this comment letter is organized by location from north to south, as shown in the Table of Contents.

Within the location sections, the comments focus on the topics affected by the proposed corridor. They include the following subsections:

- **Location and Description**: This describes the location and why it was selected by the MPRB for DEIS comments.
- **Issues**: The issue and why it is important at the particular location is described. For each issue, the MPRB then provides one or more of the following:
  - Outcomes: Critical *outcomes* that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.
  - Statements: MPRB's adopted positions on critical issues or processes that must be resolved, reconciled, reevaluated, or otherwise included in near-term design work and decision-making.
  - Corrections: Identified errors in the DEIS that must be corrected for the FEIS and subsequent work. These will be found in Appendix A and will be noted by section and page number for easier reference.

1 Corridor Segment D1

1.1 Location and Description

This section includes issues and outcomes that apply to all or most to Segment D1, the portion of the locally preferred alternative where the majority of affected Minneapolis Park and Recreation Board property is located. The sections that follow this focus on issues and outcomes that are specific to certain locations and topics.

1.2 Significance of Theodore Wirth Regional Park and the Grand Rounds

Theodore Wirth Regional Park and the Grand Rounds were conceived and designed in the early days of the Minneapolis Park and Recreation Board. This historically significant park and park system are a unique designed cultural landscape in terms of size and scale, as well as its connection of the various park components to each. Significant contributing features and linked amenities and features include the Minneapolis Chain of Lakes, Minnehaha Regional Park, and of course Theodore Wirth Regional Park. The eastern portion of Theodore Wirth Regional Park, which abuts the proposed D1 alignment, is known for its especially quiet and natural character and is enjoyed by thousands seeking a more passive recreational experience in the middle of a bustling urban community.

Below is the outcome that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

1.2.1 **Outcome:** Theodore Wirth Regional Park and the Grand Rounds must be separated from visual, noise, functional and other impacts which would significantly change or detract from the natural, quiet and scenic character of the park.

1.3 Design Character

The park land the MPRB owns, manages, and maintains adjacent to the corridor is classified as a regional park. A regional park according to the Metropolitan Council's 2030 Regional Parks Policy Plan is "area of natural or ornamental quality for nature-oriented outdoor recreation such as picnicking, boating, fishing, swimming, camping, and trail uses."

The MPRB recognizes that current development and public use of Segment D1 of the corridor within Minneapolis and Golden Valley from Trunk Highway 55 to Golden Valley Road has an open and natural area character that includes portions of the Theodore Wirth Regional Park. Portions of this area are within the Grand Rounds Historic District that is eligible for the National Register of Historic Places. Park design in this area focuses on serenity, habitat restoration, minimal development, and passive recreation. Minimizing impacts to water table levels and quality, cultural landscapes, habitat, and open space will be critical to retaining this area's character. LRT and station area design that is sensitive to these issues is essential to protect the activities, features, and attributes of the park land in this corridor.

Below are the critical outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

1.3.1 **Outcome:** Theodore Wirth Regional Park and adjoining park land remains a quiet, tranquil, serene, and natural park destination.

1.3.2 **Outcome:** Permeable paving materials are incorporated to reduce stormwater impacts to park land when hard surfaces are added by the project.

1.3.3 **Outcome:** The portion of Theodore Wirth Regional Park lying adjacent to Segment D1, continues to be used by those who desire a park experience in this natural, quiet setting.

1.4 Issue: Section 4(f) Analysis – Park land

A primary concern for the MPRB is protecting park land and recreational opportunities within and adjacent to the corridor for current and future generations. Chapter 8 of the DEIS contains the Section 4(f) evaluation of the project. It identifies potential permanent use, temporary use, and constructive use of park land for the project.

Overall, the DEIS indicates a *de minimis* Section 4(f) finding for Theodore Wirth Regional Park. For Segment D1 of the LPA it shows that up to one acre of parkland may be needed for permanent use for either the Plymouth Avenue/Theodore Wirth Regional Park station or the Golden Valley Road station, and a temporary easement is expected to be required at the intersection of the corridor and TH 55. But, the DEIS does not determine whether any constructive uses will be needed. The MPRB concludes that sufficient design and research has not been conducted for it to comment on constructive uses at this time.

Permanent and Temporary use: Within an urban setting continuous park land and linear corridors are critical to habitat management and connectivity for park users.

Constructive use: The DEIS articulates (8.1) that "use" of a Section 4(f) resource occurs when, among other things, "There is no permanent incorporation of land, but the proximity of a transportation facility results in impacts so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired (e.g., 'constructive use')." Based on this definition, the MPRB anticipates that park land and park users may experience long-term impacts of the LRT due to noise, vibration, visual impacts, and negative wetland, floodplain and stormwater effects. Park lands that are eligible for the National Register of Historic Places are considered especially vulnerable to these impacts. Depending on final design, these impacts may be so severe that they would constitute a *constructive use* of protected properties under Section 4(f) regulations.

Below are the critical statements and outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

1.4.1 **Statement:** The MPRB does not agree with a *de minimis* section 4(f) finding for Theodore Wirth Regional Park due to lack of information in several areas including, location of proposed wetland and floodplain mitigation, lack of category 1 noise analysis, and lack of analysis of constructive uses for Theodore Wirth Regional Park.

1.4.2 **Statement:** As the design progresses, park lands must be evaluated under Section 4(f) to identify all permanent and temporary uses.

1.4.3 **Statement:** As the design progresses, park lands must be re-evaluated under Section 4(f) to determine whether there are constructive uses of park land due to long-term noise, vibration and visual impacts, potential impacts to wetlands and floodplains within the park, and potential stormwater impacts.

1.4.4 **Statement:** As the design progresses, park lands must be re-evaluated under Section 4(f) to determine whether there are constructive uses of park land due to long-term impacts on the cultural characteristics of the parks, with attention focused on those that are considered eligible for the National Register of Historic Places.

1.4.5 **Outcome**: Park land along the corridor is preserved in the same or better condition.

1.4.6 **Outcome**: Park property is not used permanently as part of LRT development.

1.1 Issue: Section 4(f) Analysis/Section 106 Consultation – Cultural Resources

The MPRB is concerned about preserving the historic character of the Theodore Wirth Regional Park and Theodore Wirth Parkway in their critical role within the Grand Rounds. The Park is part of the Grand Rounds Historic District that is eligible for the National Register of Historic Places. While the DEIS notes that these issues will be addressed during preliminary engineering, the MPRB is concerned that they receive the most serious attention very early in the process.

The viewshed to and from the Chalet and other features within Theodore Wirth Regional Park are important to the park experience. The MPRB is concerned about the impacts on park land and users of the parks and trails by visual impacts of the LRT. These concerns include the impacts on view sheds within and outside of the parks, especially those that are part of the Grand Rounds Historic District, which is eligible for listing on the National Register of Historic Places.

The cultural and archaeological resources of Theodore Wirth Regional Park and park land adjacent to Segment D1 are critical to the Section 4(f) and the Section 106 review of the LRT project. Due to the current level of design and 106 review, it is difficult to comment on all points of this issue. However, the analysis so far does not acknowledge the cultural landscape aspect of the Grand Rounds. This network of landscapes connected to each other by parks, scenic roadways and natural areas is unique and therefore deserving of particular attention to the whole, rather than simply each part or feature on its own.

Below are the critical statements and outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

1.1.1 **Statement:** A number of archaeological features within Theodore Wirth Regional Park and adjoining areas were not discussed in the DEIS. Further research is needed to properly document all appropriate structures.

1.1.2 **Statement:** The Section 4(f) and Section 106 reviews need to evaluate the impacts to the cultural landscape of Theodore Wirth Regional Park and Bassett's Creek.

1.1.3 **Statement:** The impacts to the cultural resources within Theodore Wirth Regional Park are under-represented in the DEIS from a construction and operation perspective. Further research is needed to properly document impacts, especially in terms of noise, impacts on users, and cultural landscapes.

1.1.4 **Outcome:** Architectural areas of potential effect include entire park parcels where the intent of the parkland was preservation of a viewshed such as in Valley View/Glenview Terrace Park.

1.1.5 **Outcome:** The protection of the entire parkland viewshed shall be considered, from sunset hill (at 26th Av. N.) on Theodore Wirth Parkway through Valley View/Glenview Terrace Park.

1.1.6 **Outcome:** Assessment and prevention of impacts to cultural landscape features of the Grand Rounds Historic District will be done holistically, considering the overlapping of assets to avoid or mitigate impacts.

1.1.7 **Outcome:** Support and safety structures, as well as final transitway station designs, are harmonious, beautiful, and both historically and context sensitive.

1.1.8 **Outcome:** Wetland, floodplain or stormwater mitigation practices applied to the corridor protects the historic cultural landscape of Theodore Wirth Regional Park and Bassett Creek.

1.1.9 **Outcome:** The visual impact of the LRT and related infrastructure is minimized for trail and park users and honors the historic character of the Grand Rounds where it crosses or abuts the Grand Rounds.

1.1.10 **Outcome:** The train and station area lights have minimal visual impacts on trail and park users.

1.2 Issue: Environmentally Preferred Alternative

The DEIS indicates that the LPA is also the Environmentally Preferred Alternative. The MPRB is concerned that this designation has been articulated before the impacts on parklands it owns and manages can be fully evaluated, especially in relation to wetland and flood plain mitigation, stormwater, and noise.

Below is the critical statement that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

1.2.1 **Statement:** The MPRB concludes that sufficient design and research has not been conducted for it to articulate whether it concurs with the finding that the LPA is also the Environmentally Preferred Alternative.

1.3 Wetland/Floodplain/Stormwater

The DEIS indicates that MPRB property may be needed for flood plain and wetland mitigation, but does not provide details about location or design. The MPRB concludes that sufficient design and research has not been conducted for it to articulate whether any mitigation of floodplain or wetland on MPRB land would be reasonable.

Areas within Theodore Wirth Regional Park adjacent to Segment D1 that contain natural and constructed wetlands and flood plains that filter the water coming from the railroad bed and adjacent properties. Some of this area consists of wet meadow, a particularly high quality and important area for wildlife and for the preservation of water quality. Because the existing wetlands and floodplain areas are helpful in filtering water that runs into Wirth Lake, the MPRB is concerned that additional water on the property could hinder the filtering efforts.

Below are the critical statements and outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

1.3.1 **Statement:** Wetland and floodplain mitigation locations and design option within Theodore Wirth Regional Park need to be identified and evaluated under Section 4(f) and Section 106.

1.3.2 **Outcome:** The project's stormwater design does not increase the volume of runoff or pollutant loads in water bodies owned and/or managed by the MPRB.

1.3.3 **Outcome:** Wetland, floodplain or stormwater mitigation practices applied to the corridor protect water table levels and habitat within the park land that are dependent on those water levels.

1.3.4 **Outcome:** Wet meadow areas within Theodore Wirth Regional Park are high quality wildlife habitat and provide high quality water filtration benefits.

1.3.5 **Outcome:** Any mitigation of wetland on MPRB land shall be type-for-type.

1.3.6 **Outcome:** Any mitigation of floodplain on MPRB land shall use BMPs and will not impair existing recreation activities.

1.4 Issue: Noise and Vibration

The MPRB is concerned about LRT noise and vibration impacts on park lands and park and trail users due to the high number of trains that will travel through the corridor daily. An increase from a few freight trains per day to hundreds of LRT trains will dramatically increase the amount of time that park and trail users are exposed to noise and vibration. This could substantially diminish the park and recreation experience for park and trail users.

For noise, the MPRB is particularly concerned that park lands in the corridor are erroneously classified as a Category 2 land use. In FTA's land use categories for Transit Noise Impact Criteria, Category 2 is most commonly associated with residences and building where people sleep. By contrast, Category 1 is for tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use. Category 1 is more closely aligned with the regional park classification that applies to the majority of park land in the area.

Though sound has been measured at the Chalet in Theodore Wirth Regional Park and in one other Theodore Wirth Regional Park location, vibration has not been addressed since vibration is only considered relevant inside buildings near transit project. Nevertheless, we are concerned about the effects of both sound and vibration, during construction and long- term, on our park lands, structures and other features.

The DEIS makes several references to this issue, including the following:

- Table 5.6-4 – This table indicates that receptors placed in Theodore Wirth Regional Park were Category 2 and 3.
- 5.6.4.1 – This section indicates that MPRB concurs that the park is meant for active-use.
- 5.6.5 – Discusses mitigation measures for operational noise, including noise barriers in Corridor Segment D1

Below are the critical statements and outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

1.4.1 **Statement**: Category 1 is most consistent with the type of park land the MPRB owns or maintains adjacent to or within Segment D1. Noise impacts for these park lands and its users must be re-evaluated under the standards set for Category 1.

1.4.2 **Statement**: Theodore Wirth Regional Park has limited areas of active recreation. Section 5.6.4.1 indicates that the MPRB views the entire park as being meant for active-use and that it is not sensitive to noise impacts. The MPRB disagrees with this statement. Theodore Wirth Regional Park should be considered for sensitive noise impacts.

1.4.3 **Statement:** The JO Rivers Garden feature in Theodore Wirth Regional Park is an educational as well as recreational amenity visited regularly by school children and especially at risk for detrimental effects from noise and vibration associated with BLRT.

1.4.4 **Outcome:** The vibration impacts are minimized for park users.

1.4.5 **Outcome**: The noise impacts are minimized for park users and do not exceed the noise standards set for Category 1.

1.4.6 **Outcome**: Technology that reduces track noise and vibration are incorporated into transitway design and construction.

1.5 Issue: Trail access, use, and maintenance

The MPRB owns and maintains a trail that runs along the western boundary of the Segment D1 corridor and crosses onto BNSF property. This portion of Theodore Wirth Regional Park that is adjacent to Segment D1 is used daily, year-round by hikers, walkers, skiers and bikers. The MPRB is concerned that the LRT frequency and speed will impact this trail and users by reducing access to the trail from local neighborhoods and park lands, introducing use/user conflicts and safety problems, and making the trail more difficult to maintain year-round. The MPRB is also concerned about ensuring that people from throughout the community can access the park and the Luce Line Regional Trail from this trail, and that the trail remains fully functional.

Below are the critical outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary

engineering.

1.5.1 **Outcome:** Communities on the east side of the LRT safely and easily access the Luce Line Regional Trail at Highway 55.

1.5.2 **Outcome:** Communities on the east side of the LRT can access Theodore Wirth Regional Park and the trail the follows the east side of the park along the corridor.

1.5.3 **Outcome:** There is adequate access to the Theodore Wirth Regional Park from the east side of the LRT tracks, and access points are a reasonable walking distance apart.

1.5.4 **Outcome:** The trail design meets the needs of current and projected users.

1.5.5 **Outcome:** Bicycle and walking trail users have a positive, linear park-like experience, including being free of obstructions, having a 2-foot or greater buffer on each side of all trails, and retaining a sense of connection to open space.

1.5.6 **Outcome:** All trail connections are maintained or improved.

1.5.7 **Outcome:** At all points along the corridor, and especially at the narrowest locations, sufficient space remains for the Luce Line Regional Trail and the trail that runs along the east side of Theodore Wirth Regional Park, trail users, and year-round maintenance vehicles and crews.

1.6 Issue: Construction

Trail users rely on high quality trail facilities year round for recreation and commuting. A detour that requires significant rerouting of trail users or an extended closure of a trail will be a barrier to trail users on the western side of Minneapolis and the metro area.

Construction can result in extensive damage to vegetation and trees through removals and introduction of invasive species. The former results in a diminished quality of the park and recreation experience for trail and park users, the later results in long-term habitat management issues for MPRB staff. Additionally, construction can result in the altering the ground and surface water levels and quality if Best Management Practices (BMPs) are not implemented.

Below are the critical outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

1.6.1 **Outcome:** Surface and groundwater quality is protected during construction.

1.6.2 **Outcome:** Reasonable and safe alternative routes are provided for trail users when sections are closed during construction.

1.6.3 **Outcome:** Any flora that is lost to construction or LRT use is replaced with flora that is in accordance with MPRB plans, with monitoring through a plant survey and replacement for five (5) years after construction is complete.

1.6.4 **Outcome:** Soils and slopes are stabilized during construction.

1.6.5 **Outcome:** Construction dewatering protects water table levels and habitat within park lands that is dependent on those water levels.

1.6.6 **Outcome:** Construction practices prevent introduction of new invasive species to park lands and waters.

1.7 Issue: Connectivity and recreational use

Trail access is necessary for people who are walking, riding, or skiing, or who are making their way to other recreational opportunities within Theodore Wirth Regional Park or adjacent parks such as Bassett's Creek Park, Luce Line Regional Trail, and others.

Below is the critical outcome that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

1.7.1 **Outcome:** Users have access to Theodore Wirth Regional Park, Bassett's Creek Park, Luce Line Regional Trail, and other connecting recreational opportunities.

1.8 Issue: Environmental and Habitat Impacts

Theodore Wirth Regional Park and adjacent park lands provides a wildlife corridor along waterways and a string of parkland areas that allows people living in the area or visiting the park to experience wildlife in a more natural setting than is typically available in this urban setting. The wildlife habitat is beneficial to both the wildlife that lives or migrates through the area, as well as the people who live nearby or visit the park. Within the park there are several critical habitats to protect, including a stand of native oak trees near the proposed Golden Valley Road Station. The MPRB is concerned about protecting these habitats by design, through the construction process, and during operation of an LRT in Segment D1.

Bassett Creek is part of a wildlife corridor that stretches from the Mississippi River upstream to Medicine Lake. Impacts to the area as a wildlife corridor need to be considered, as well.

Below are the critical outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering

1.8.1 **Outcome:** The current wildlife habitat character of Theodore Wirth Regional Park, Bassett Creek Park and Valley View Park is sustained.

1.8.2 **Outcome:** Parkland adjacent to alignment is maintained in its natural open space character for enjoyment and exploration by park visitors.

1.8.3 **Outcome:** No net loss to potential Blanding's turtle habitat in Bassett Creek and adjacent open water.

1.8.4 **Outcome:** Oak trees near the proposed Golden Valley Road station are preserved.

2 Corridor Segment D Common

2.1 Issue: Protection of Bassett's Creek Park

Bassett's Creek Park is a consciously preserved natural landscape which serves as an important refuge, buffer and natural habitat with passive recreation features. Users of the existing trail currently enjoy a quiet area with infrequent freight rail use and impacts. While portions downstream are channelized, Bassett Creek along the corridor maintains higher water quality and minimal detrimental impacts. The MPRB is concerned that Bassett's Creek Park retain its open and natural feel. A large part of this park's character is historic as well as a highly valued native plant and habitat area.

Below are the critical outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

2.1.1 **Outcome:** Maintain or improve water quality of Bassett Creek.

2.1.2 **Outcome:** The natural and quiet character of Bassett's Creek Park is not negatively impacted by LRT.

2.1.3 **Outcome:** Visual and noise impacts do not reduce the quiet natural character of Bassett's Creek Park.

2.2 Issue: Destruction of tree canopy and years of forestry research

For many years, MPRB has been the steward of all public trees in the City of Minneapolis and throughout the MPRB park system. Dutch Elm disease has wreaked havoc on many boulevards, medians and along parkways throughout the area. The trees planted since 2000 in the median of Trunk Highway 55, in conjunction with a long term study by natural resource professors and forestry students at the University of Minnesota, are a unique mixture of hybrid elms being evaluated for their long term potential as replacement elm trees in public settings. This study is being evaluated by forestry professionals across the country and its abrupt end will cut short the potential benefits that could have been realized from its long term completion and evaluation.

Below are the critical statements and outcomes that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

2.2.1 **Statement:** The planting of dozens of trees in the median of TH55 in the early 2000s are, in addition to a canopy that emphasizes the green space and character of the drive, are also part of a long term University of Minnesota forestry study, the results of which will be prematurely shortened by the BLRT construction and destruction of the trees. This needs to be reflected in future analysis of the impacts to this corridor.

2.2.2 **Outcome:** Replacement trees have similar character and potential for research purposes.

3 Environmental Justice

3.1 Issue: Park and trail access

For residents of neighborhoods to the east of the corridor, the railroad corridor as it exists has operated as a barrier to divide the neighborhoods from Theodore Wirth Regional Park. The LRT project has the potential of accentuating this division. The MPRB is concerned that there will be a separation of EJ communities residing in north Minneapolis neighborhoods to open space and recreation opportunities during construction and operating phases of LPA.

Below is the critical outcome that the MPRB has adopted and must be addressed in the FEIS and preliminary engineering.

3.1.1 **Outcome:** Enhance or sustain the ease of access and safe connection for residents in North Minneapolis neighborhoods to recreation opportunities offered within Theodore Wirth Regional Park.

Appendix A Corrections

Appendix A - Corrections and Omissions Minneapolis Park and Recreation Board - Bottineau DEIS Comment Letter				
Chapter	**Section**	**Page No.**	**Corrections**	**Omissions**
4	4.4	46		Architectural APE should include entire park parcels where the intent of the parkland was preservation of a viewshed as in Valley View/Glenview Terrace Park
4	4.4.3.1	46		Architectural APE research dates not indicated. Contributing features of the Grand Rounds district not indicated.
4	4.4.3.2	46		Archaeological APE research completed in November 2012 should have included the Germania Brewery site approved by SHPO in March 2012 (Two Pines 3-2012)
4	4.4.3.2	47		Visual inspection of archaeological APE on public park land was not addressed. It was not disclosed if the consultant conducted on site pedestrian surveys of park land.
4	4.4	page 51, Figure 4.4-4 and page 55, Figure 4.4-6	Grand Rounds-Theo Wirth section of the historic district boundary is incorrect. Theo Wirth Park NRHP district segment does not extend west of the extension of France Avenue (though there is parkland there it was acquired after the POS)	
4	4.4	page 51, Figure 4.4-4 and page 55, Figure 4.4-6	Grand Rounds-Theo Wirth section of the historic district boundary is incorrect. Theo Wirth Park NRHP district segment includes parcels east of the BN RR corridor both north and south of Plymouth Avenue	
4	4.4	page 51, Figure 4.4-4 and page 55, Figure 4.4-6		The overall park cultural landscape as well as contributing features within the park are not discussed or evaluated

Chapter	Section	Page No.	Corrections	Omissions
4	4.4	page 51, Figure 4.4-4 and page 55, Figure 4.4-6		Bassett Creek Park has also been recommended NRHP eligible (Blondo 2-2014)
4	4.4	page 51, Figure 4.4-4 and page 55, Figure 4.4-6		Archaeological NHR eligible site-Germania Brewery (Two Pines 3-2012) is not shown on the figure or included in the research
4	4.5	68	The waterbody named "Bassett Lake" does not exist. Lagoons in Bassett Creek are a cultural landscape feature created in the 1930s. The Lagoon North of Plymouth Ave station is Lagoon E	
4	4.5	68	2nd PP-Description of Bassett Creek meandering through a golf course is incorrect. The creek meanders through a distinct area of the park which contains a series of important natural areas with varied native plant communities including upland oak forest, wet meadow and riparian floodplain forest and meadow. This are is not part of a "golf course" but is important on its own as a natural habitat area.	

Chapter	Section	Page No.	Corrections	Omissions
4	4.5	69	The description of Segment D Common does not signify the importance of the median elm trees to the character of this segment as a wide, grand city boulevard. While it is not an official parkway, it has parkway characteristics which make it a distinct landscape type, different from a typical highway, (which it is west of Theodore Wirth Regional Park). These remnant and hybrid elm specimens have been used for the past two decades for research on disease resistance. The median also includes some remnant elms which have natural resistance and may be important for future development of disease resistant cultivars. In addition, future expected loss of ash trees on side boulevards due to EAB will make the loss of middle-aged elms in the central median more pronounced. No trees will buffer or beautify this grand city boulevard.	
4	4.5	71	Glenview Terrace/Valley View Park determination of "minimal affect" is incorrect from MPRB's perspective. This parcel was acquired by Theodore Wirth as part of Theo Wirth Parkway primarily to preserve its viewshed. The viewshed begins at Sunset Hill overlook at 26th Ave N and the view terminates at the RR corridor. This viewshed will be highly impacted by temporary and permanent effects of the LRT project. High overhead lines will be visible and high frequency trains will be visible and likely be audible from the high vantage point at Sunset Hill	
4	4.5	72	Theodore Wirth Regional Park (omit Golf course)	

Chapter	Section	Page No.	Corrections	Omissions
4	4.5	72	Theodore Wirth Regional Park is mischaracterized along the project corridor. This part of the park is not the golf course. It is a consciously preserved natural landscape which serves as an important refuge for park visitors, plants, and animals. It is a quiet buffer to the neighborhood and natural habitat with passive recreation features including a well-used trail. Current rail operation is so infrequent that this character has persisted and been planned since the early 1900s.	
4	4.5	72	Theodore Wirth Parkway impacts as per comments on Glenview Terrace/Valley View Park above	
4	4.5	72	Plymouth Avenue Bridge over Bassett Creek, **Theo Wirth Park Trail** and BNSF RR, the trail impact is omitted and this is a HIGH IMPACT AREA	

From: Laszewski, Virginia
To: Bottineau Transitway/Hennepin; public.info@metc.state.mn.us
Cc: Laszewski, Virginia
Subject: Bottineau Transitway DEIS - EPA"s DEIS comment letter, dated 05/27/2014
Date: Wednesday, May 28, 2014 10:43:03 AM
Attachments: EPA-Bottineau-DEIS-Ltr-05-27-2014.pdf

Please see attached pdf file for a copy of EPA's comments on the above referenced DEIS.

Thank you,

Virginia Laszewski
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Office of Enforcement and Compliance Assurance (OECA)
NEPA Implementation Section
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 27 2014

REPLY TO THE ATTENTION OF:

E-19J

Communication #120

Marisol R. Simon
Regional Administrator
Federal Transit Administration
200 West Adams Street, Suite 320
Chicago, Illinois 60606

Brent Rusco
Senior Professional Engineer
Hennepin County
Housing, Community Works & Transit
701 Fourth Avenue South, Suite 400
Minneapolis, Minnesota 55415-1843

Re: Draft Environmental Impact Statement – Bottineau Transitway, Hennepin County, Minnesota. CEQ # 20140108

Dear Ms. Simon and Mr. Rusco:

The U.S. Environmental Protection Agency (EPA) has reviewed the Federal Transit Administration's (FTA) March 2014, Draft Environmental Impact Statement (DEIS) for the Bottineau Transitway Project. Our comments are provided pursuant the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

FTA, the Hennepin County Regional Railroad Authority (HCRRA) and the Metropolitan Council propose to construct and operate a light rail transit (LRT) project to improve transit service in the Bottineau Transitway Corridor in Hennepin County, Minnesota. The proposed Bottineau Transitway Project is a 13-mile corridor of transportation improvements that extends from downtown Minneapolis to the northwest, serving north Minneapolis, Golden Valley, Robbinsdale, Crystal, New Hope, Osseo, Brooklyn Park, and Maple Grove. The purpose of the project is to provide transit service that will satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public. A No-build Alternative, an Enhanced Bus/Transportation System Management Alternative and four light rail transit alignment alternatives are evaluated in the DEIS. The DEIS identifies LRT Alternative B-C-D1 as the Preferred Alternative.

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EPA rates the DEIS preferred alternative as "EC-2, Environmental Concerns-Insufficient Information." In order to fully assess environmental impacts, additional analysis regarding the vulnerability of water resources and biological resources should be undertaken. In order to fully protect the environment, additional avoidance, minimization and compensation mitigation measures should be identified in the Final EIS (FEIS). An explanation of our rating system can be found in the enclosure entitled, "Summary of Rating Definitions and Follow-Up Actions." Our detailed comments are enclosed.

In addition, EPA recommends the project proponents consider incorporating green building strategies into the Bottineau Transitway Project. By adopting green building strategies, the project proponents can maximize economic and environmental performance. Green building methods can be integrated into a project's facilities (e.g., transit stations, and operation and maintenance facilities) at any stage, from design and construction, to operation and maintenance.

EPA understands that the FTA environmental review will culminate in a combined FEIS/Record of Decision (ROD). We recommend FTA convene a participating resources agencies meeting to present and discuss FTA's proposed draft written responses to DEIS comments prior to FTA issuing an FEIS/ROD. This will allow the resources agencies an opportunity to react to the proposed responses to the agencies' DEIS comments and for revisions to be made (if appropriate) prior to release of the FEIS/ROD.

Virginia Laszewski, of my staff, is EPA's lead NEPA reviewer for this project. She may be reached by calling 312/886-7501 or by email at laszewski.virginia@epa.gov. EPA requests at least a two-week advance notice prior to our receipt of project materials for review and prior to project meeting/conference calls. We also request one hardcopy and 3 DVDs of the FEIS/ROD, when it is available.

Sincerely,

Kenneth A. Westlake
Chief, NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Enclosures (2): 1) EPA Comments - FTA Bottineau Transitway DEIS, and 2) "Summary of Rating Definitions and Follow-Up Actions."

Cc: Arlene McCarthy, Director, Metropolitan Transportation Services, Metropolitan Council, 390 Robert Street North, St. Paul, Minnesota 55101-1805
Melissa Jenny, USACE-St Paul, 180 5th Street East, Suite 700, St Paul, MN 55101
Andrew Horton, USFWS-Twin Cities Field Office, 4101 American Blvd East, Bloomington, MN 55425-1665
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Lisa Joyal, MnDNR, Box 25, 500 Lafayette Road, St. Paul, MN 55155
Melissa Doperalski, MnDNR, 1200 Warner Road, St Paul, MN 55106

Kate Drewry, MnDNR, 1200 Warner Road, St. Paul, MN 55106
Kelly Gragg-Johnson, SHPO, Minnesota Historical Society, 345 Kellogg Blvd. W., St. Paul, MN 55102-1903
Barbara Mitchell Howard, SHPO, Minnesota Historical Society, 345 Kellogg Blvd. W., St. Paul, MN 55102-1903

EPA Comments - Federal Transit Administration (FTA) Draft Environmental Impact Statement (DEIS) – Bottineau Transitway, Hennepin County, Minnesota (CEQ # 20140108)

ALTERNATIVES

DEIS Alternatives: A No-build Alternative, an Enhanced Bus/Transportation System Management (TSM) Alternative and four light rail transit (LRT) alignment alternatives (Alternative A-C-D1, Alternative A-C-D2, Alternative B-C-D1, and Alternative B-C-D2 are evaluated in the DEIS. The DEIS identifies Alternative B-C-D1 as the Preferred Alternative.

DEIS Preferred Alternative (B-C-D1): Alternative B-C-D1 alignment begins in Brooklyn Park just north of TH 610 near the Target North Campus, follows West Broadway Avenue, and crosses Bottineau Boulevard at 73rd Avenue to enter the BNSF railroad corridor. Adjacent to the BNSF freight rail tracks, it continues in the railroad corridor through the cities of Crystal, Robbinsdale, and Golden Valley. At TH 55, the alignment turns to the east and follows TH 55 to Target Field Station in downtown Minneapolis.

Alternative B-C-D1 includes up to 10 new stations. The decision to use either the Golden Valley Road or Plymouth Avenue/Theodore Wirth Regional Park station option is yet to be determined. Three of the stations would include park-and-ride lots: 1) the 93rd Avenue station; 2) the existing 63rd Avenue park-and-ride facility; and 3) the Robbinsdale station. Two options for the location of an Operation and Maintenance Facility (OMF) are identified as: 1) the existing park-and-ride station at 93rd Avenue and 2) the northwest quadrant of the intersection of Winnetka Avenue [County State Aid Highway (CSAH) 103] and 101st Avenue. The location for the OMF is yet to be determined. Alternative B-C-D1 includes four new bridges and modifications to eight existing bridges and modifications to an undisclosed number of culverts.

- In Alignment D1, two station location options are identified, but only one will be built. Regarding the Golden Valley Road station – it is not clear who this station will be serving. A station at this location looks hard to access; there are adjacent wetlands and streams, no adjacent parking, and few nearby residential areas. Conversely, the Plymouth Avenue station appears to be closer to residential areas, potentially with fewer wetland impacts.

  Recommendation: EPA recommends the FEIS identify how station location decisions will be made. These decisions should be documented based on how alternatives fulfill project purpose and need and their relative impacts.

- Two options for the location of the proposed Operation and Maintenance Facility (OMF) are identified as: Site 1) the existing park-and-ride station at CR 103 and 93rd Avenue; and Site 2) the northwest quadrant of the intersection of Winnetka Avenue [County State Aid Highway (CSAH) 103] and 101st Avenue. The DEIS indicates that the OMF at CR 103 and 93rd Avenue appears to have fewer potential wetland and habitat impacts.

Recommendation: We recommend the FEIS identify how the OMF location decision will be made. We recommend selection of the alternative at CR 103 and 93rd Avenue because of its apparent fewer impacts.

DEIS Identified "Environmentally Preferred Alternative:" The DEIS identifies Alternative B-C-D1 as both the Preferred Alternative and the Environmentally Preferred Alternative. Section ES-9 of the DEIS says; *"Alternative B-C-D1 meets the purpose and need of the Bottineau Transitway project and is the environmentally preferred alternative because it will cause the least damage to the biological and physical environment and it best protects, preserves, and enhances historic, cultural, and natural resources."* However, of all the DEIS alternatives, Alternative B-C-D1 has the greatest amount of wetland, floodplain and wildlife habitat impacts, and potential impacts to Blanding's turtles and their habitat. While Alternative B-C-D1 may best protect, preserve and enhance historic and cultural resources, it does not cause the least damage to the biological and natural resources of the physical environment.

Recommendation: We recommend the FEIS acknowledge that Alternative B-C-D1 does not cause the least damage to the biological and natural resources of the physical environment.

AIR QUALITY

Intersection-level carbon monoxide (CO) modeling was performed for the worst operating intersection under worst-case conditions. The CO modeling results presented in the DEIS show that the Bottineau Transitway Project is not expected to cause CO concentrations exceeding state or federal standards. Based on the qualitative assessment presented the DEIS, the Project is not expected to cause exceedances of the other criteria pollutants.

Mobile Source Air Toxics (MSATs) / Air Toxics: A qualitative mobile source air toxics impacts analysis is presented in the DEIS. While operation of the transit project is anticipated to reduce emissions from private vehicles, the LRT system may add electric generation emissions for trains and diesel-related air toxics during project construction.

Recommendation: Because MSATs can cause adverse health impacts, especially to vulnerable populations such as children, the elderly, and those with existing respiratory health issues, EPA recommends the FEIS identify potential mitigation measures to decrease the exposure of these populations to MSATs emissions during construction and operation of the proposed project. Such measures may include, but should not be limited to, strategies to reduce diesel emissions, such as project construction contracts that require the use of equipment with clean diesel engines and the use of clean diesel fuels, and limits on the length of time equipment is allowed to idle when not in active use (EPA recommends idling not exceed 5 minutes).

Climate Change/Green House Gases GHG)/Increased Frequency and Intensity of Precipitation Events: Given the increased frequency and intensity of precipitation events associated with climate change, we recommend the FEIS identify and discuss how such precipitation events might impact the proposed Bottineau Transitway and its associated facilities during construction

and operation.

> **Recommendation: We recommend that the FEIS identify and discuss any anticipated effects of climate change on the project and possible adaptation measures. For example, discuss any effects that predicted increases in the number and/or intensity of precipitation events associated with climate change may have on sizing bridge spans, culvert openings, and stormwater management measures in order to accommodate such events and ensure project longevity, public health, and safety.**

WATER RESOURCES – WETLANDS AND STREAMS

The DEIS discloses that wetlands and several surface waterbodies (streams) are present within the project corridors under consideration. The DEIS discloses that of the four build alternatives, the Preferred Alternative (Alternative B-C-D1) is estimated to have the greatest amount of direct wetland impact (9.4 to 10.2 acres of wetland fill). In addition, EPA noted, at a minimum, the following stream crossings: one stream crossing in Alignment A; one stream crossing in Alignment B and the potential for headwater stream impact at a proposed Operations & Maintenance Facility[1]; and at least one stream crossing in Alignment D1.

EPA expects that a Section 404 permit under the Clean Water Act will be required for this project by the U.S. Army Corps of Engineers (USACE) for proposed discharges of dredged or fill materials to Waters of the United States. The 404 approval is contingent upon the project complying with the Section 404(b)(1) guidelines under the Clean Water Act. These guidelines are summarized as follows:

- Least Environmentally Damaging Practicable Alternative (LEDPA)[2] – There must be no practicable alternative to the proposed discharge (impacts) which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences;
- No Violation of Other Laws – The proposed project must not cause or contribute to violation of state water quality standards or toxic effluent standards, and must not jeopardize the continued existence of federally-listed endangered or threatened species or their critical habitat(s);
- No Significant Degradation – The project must not cause or contribute to significant degradation of Waters of the United States; and
- Minimization and Mitigation of Adverse Impacts – The project must include appropriate and practicable steps to avoid impacts to regulated Waters of the United States. Where impacts are unavoidable, there must be demonstration of how impacts have been minimized. Finally, compensatory mitigation must be provided to offset unavoidable, minimized impacts to the aquatic ecosystem.

EPA's review of aerial photography and area maps for the proposed Preferred Alternative's Alignment D1 corridor indicates that wetlands are present along both sides of the alignment

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[1] The proposed OMF Facility/Park and Ride at the northeast corner of CR 103 and 93rd Ave.

[2] Furthermore, an alternative is considered practicable if "it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." [40 CFR Part 230.3]

along nearly the entire D1 corridor. Impacts to large, contiguous wetlands as well as open water wetlands (within South Halifax Park) that would be required to construct Alignment D1 appear to be sizeable. While wetlands are adjacent to an existing disturbed corridor associated with the Burlington Northern Santa Fe (BNSF) rail line, wetland impacts associated with this alignment will be larger than an alternative using the Alignment D2 corridor. The justification for choosing Alignment D1 instead of Alignment D2 as part of the Preferred Alternative is an important consideration for compliance with the 404(b)(1) guidelines and CWA/Section 404 permitting.

Recommendations: EPA recommends the FEIS include:

- **A specific discussion of how sequencing established by the Clean Water Act Section 404(b)(1) guidelines has been applied. This sequence is: avoidance first, then demonstrated impact minimization, then mitigation for remaining unavoidable, minimized impacts;**

- **A 404(b)(1) analysis; and,**

- **A discussion on proposed mitigation for unavoidable, minimized wetland and stream impacts.**

The DEIS does not include wetland delineations, or wetland and stream quality assessments. Without formal wetland delineations and quality assessments, the wetland and stream impacts information presented in the DEIS for each action alternative is insufficiently detailed.

Recommendations:

- **The FEIS should include wetland delineations, USACE jurisdictional determinations, and wetland and stream quality assessments. This information should encompass all areas of right-of-way (ROW), adjacent construction access and access road locations, staging areas, station locations, and park-and-ride lots associated with the Preferred Alternative. This information will provide accurate baseline date on existing wetlands and water resources, and accurate quantification of potential impacts.**

- **To help inform decisions regarding the location of the OMF and choice between two station locations in Alignment D1, the FEIS should include potential aquatic resource impacts for all options, based on wetland delineations, and wetland and stream quality assessments.**

- **Potential permanent and temporary wetlands and stream impacts noted on FEIS impact summary tables and impact narratives in the FEIS should be based on the delineations and assessments. The FEIS should address and discuss construction staging and access, and identify how wetlands adjacent to construction areas will be protected from incidental**

fill during construction. Restoration of all temporary wetland impacts should also be discussed.

- **The FEIS should discuss stream impacts associated with each alignment, station locations and potential OMF locations. The FEIS should provide impact summary totals for the preferred alignments [i.e., linear footage of impact, stream impact location maps (including new or modified stream crossings or culvert work, with narrative discussion of impacts), and a description of stream impacts].**

- The DEIS (Section 5.9 – Water Quality and Stormwater) identifies several streams that would be crossed and that are specifically listed as impaired (i.e., not meeting state water quality standards) on the Minnesota Pollution Control Agency's (MPCA) Clean Water Act Section 303(d) list of impaired waterbodies. Additionally, several receiving waterbodies located downstream of potentially impacted channels are also listed on the 303(d) list.

  Recommendation: The FEIS should provide information on the location and number of proposed stream crossings or stream impacts (associated with culvert repair, extension, etc.), whether or not the waterbody is a 303(d)-listed waterbody or upstream of a 303(d)-listed waterbody, and describe how the project could potentially affect each listed waterbody with regard to specific listed impairments.

- The DEIS does not discuss the potential for indirect impacts to wetlands due to shading from construction of transit stations in or adjacent to existing wetlands or offer mitigation of indirect wetland impacts. The DEIS also did not include any discussion on the potential for temporary wetland impacts associated with construction access or staging. Appendix E Conceptual Drawings (e.g., Sheet #76 of 122) show what appear to be temporary access roads built in wetlands along portions of the proposed alignments. If these are in fact proposed temporary access roads or construction access, they were not labeled as such on the drawings.

  Recommendations:

  - **EPA recommends that FTA coordinate with the USACE, U.S. Fish and Wildlife Service (USFWS), EPA and Minnesota Department of Natural Resources (MnDNR) to determine if wetland mitigation for indirect impacts is expected and required. If mitigation for indirect impacts, to include shading, is required, the FEIS should discuss this point.**

  - **The FEIS should discuss acreages of impact from both direct and indirect impacts, as well as proposed mitigation ratios for both direct and indirect wetland impacts.**

  - **The FEIS should discuss temporary wetland impacts, and how those wetland impacts will be restored. Monitoring of restored wetland areas**

to ensure full restoration is expected. Conceptual monitoring plans should be included in the FEIS.

- **To avoid confusion or misunderstanding of the information depicted on project figures, we also recommend that FEIS project figures/drawings include comprehensive legends.**

THREATENED OR ENDANGERED SPECIES

The USFWS has noted multiple species, including endangered and proposed-as-endangered species, as being located in Hennepin County. Additionally, many state-listed, threatened, endangered, and special concerns species are found in Hennepin County, including Blanding's turtles. Email correspondence from USFWS in Appendix D (Andrew Horton, dated February 18, 2012) does not specifically state that USFWS concurs that there will be no impacts to threatened or endangered species. Furthermore, USFWS correspondence does not discuss any potential impacts of the proposed project on the northern long-eared bat, which is proposed as endangered and will likely be listed as endangered in the near future. Last, USFWS correspondence recommended additional eagle nest surveys and further coordination with USFWS as the DEIS was being developed, but the DEIS did not include any additional correspondence from USFWS past 2012.

The only correspondence provided by the MnDNR is an email from Lisa Joyal dated November 2, 2012 2:07pm to Ashley Payne, Kimberly-Horn and Associates, Inc.: "I have reviewed your assessment of the potential for the above project to impact rare features, and concur with your assessment." This email does not identify exactly what assessment MnDNR is concurring with. Page 5-85 of the DEIS states, "*Blanding's turtles may be found in Bassett Creek and adjacent open water wetland areas in Theodore Wirth Regional Park. The project is anticipated to result in some wetland impacts, and therefore there would be some potential impact to turtle habitat anticipated for the Alignment D1 section of this alternative.*"

Recommendation: EPA recommends that FTA continue to coordinate with USFWS and the MnDNR to determine if any of the proposed activities would or could detrimentally affect any Federally- or state-listed species, species proposed for listing, or their critical habitat. The FEIS should include updated correspondence from USFWS and MnDNR confirming whether the proposed project will, or will not, affect any Federally- or state-listed threatened or endangered species, including the northern-long eared bat and the Blanding's turtle.

- Page 5-92 of the DEIS discusses standard guidelines for avoiding impacts to bald eagle nesting sites and future eagle nest surveys to be conducted during final design.

Recommendation: These guidelines and surveys are commitments that should be reiterated and formalized in the FEIS/ROD.

- Page 5-92 of the DEIS states that during the early stages of final design, bridge structures and forested areas within the construction limits would be field-checked in compliance with the

Migratory Bird Treaty Act to determine whether swallows' or other species' nests are present. If active nests are documented, appropriate mitigation measures would be implemented during construction, such as seasonal work windows or nest and tree removal during the non-nesting season. The measures selected for construction mitigation would be made in consultation with the appropriate agencies.

Recommendation: The FEIS should specify the agencies with which consultation will be undertaken, and specify the timeframes during which mitigation measures would be implemented. These surveys and mitigation measures should be commitments in the FEIS/ROD.

- The Fish and Wildlife Coordination Act (FWCA) requires that Federal agencies consult with the state wildlife agencies and USFWS concerning the conservation of wildlife resources where the water of any stream or other water body is proposed to be controlled or modified by a Federal agency or any public or private agency operating under a Federal permit. As this project proposes impacts to several Waters of the United States, consultation with these agencies is warranted.

Recommendation: EPA recommends that FTA continue coordination efforts with USFWS and state wildlife agencies as appropriate to meet the conditions of the Fish and Wildlife Coordination Act. Correspondence to and received from coordinating agencies documenting FWCA coordination should be included in the FEIS/ROD.

FLOODPLAINS

Figure 5.2-6 of the DEIS show several identified potential floodplain mitigation sites; however, these sites may already be existing wetland or surrounded by existing wetland, and nearly all appeared to be covered with a mature forest canopy. EPA does not support the use of forested areas for floodplain mitigation, as mitigation would require site excavation and forest impacts.

Recommendation: We recommend the FEIS provide information on potential floodplain impacts (acres of impact plus acre-feet of impact), and potential floodplain mitigation information (including expected mitigation ratios, updates on status of coordination with permitting entities, and identification of potential mitigation sites that are not currently forested).

STORMWATER

The "Stormwater Technical Report" and DEIS briefly discuss long- and short-term mitigation measures, such as implementation of permanent best management practices (BMPs), to include detention and infiltration facilities to control and treat stormwater runoff caused by an increase in impervious surfaces as a result of project implementation. However, the DEIS does not discuss any sustainable BMPs to control stormwater, including the use of pervious pavement at park and ride areas. The DEIS also does not confirm that stormwater detention basins will be built to avoid any wetland areas.

Recommendations: All stormwater BMPs and detention areas should be built and located outside of natural wetlands and streams. Existing natural wetlands should not be used as primary detention facilities, and any treated stormwater discharged to natural wetlands should not cause a change of existing wetland type and function (i.e., should not change an emergent wetland to an open water wetland, etc.). Sustainable stormwater technologies, including the use of pervious or porous pavement, should be utilized throughout the project.

FORESTED IMPACTS

Trees provide valuable habitat and protect water quality, in part, by stabilizing soils in a watershed. The DEIS does not quantify or discuss impacts to mature trees (in non-wetland areas) associated with the project.

Recommendations: We recommend the FEIS quantify acreage and number of upland trees to be removed by the project. EPA recommends further coordination with USFWS, MnDNR, and local municipalities regarding providing voluntary upland forested mitigation for these losses. The FEIS should include specific information on what forest mitigation is being offered (e.g., a summary of mitigation ratios, a summary of how mitigation will be offered). If applicable, the FEIS should clarify forest mitigation provided for bat habitat impacts versus forest mitigation provided for impacts to upland forest.

ADDITIONAL COMMENTS

Noxious Weeds/Invasive Species: The DEIS identifies that noxious weeds/invasive species may be within or near the DEIS-identified Preferred Alternative ROW. Early recognition and control of new infestations is essential to stopping the spread of infestation and avoiding future widespread use of herbicides, which could correspondingly have more adverse impacts on biodiversity and nearby water quality.

Recommendations: We recommend the FEIS include a vegetative management plan that addresses the identification and control of noxious weed/invasive species in and near the project ROW and associated facilities during project construction and operation. The plan should list the noxious weeds and exotic plants that occur in the resource area. In cases where noxious weeds are a threat, EPA recommends the document detail a strategy for prevention, early detection of invasion, and control procedures for each species.

Sustainability and Greening: By adopting green building strategies, such as energy-efficient lighting, the project proponents can maximize economic and environmental performance (e.g., protection and/or enhancement of surface water and groundwater quality). Green building methods can be integrated into transit stations, park-and-ride lots, and OMF at any stage, from design and construction, to operation and maintenance. For additional information on green building, we recommend you visit our website at www.epa.gov/greenbuilding/.

Recommendation: EPA recommends project proponents consider using green building strategies for the Bottineau Transitway project.

DEIS CORRECTIONS/ADDITIONS

Glossary of Terms (pp. xv to xx): The DEIS uses the following terms and associated acronyms: Locally Preferred Alternative (LPA), Preferred Alternative, Environmentally Preferred Alternative, Least Environmentally Damaging Preferred Alternative (LEDPA), Least Environmentally Damaging Practicable Alternative (LEDPA). However, these terms are not defined in the DEIS Glossary of Terms.

Recommendation: In order to help avoid reader confusion, EPA recommends each of the above referenced terms be defined in the FEIS Glossary of Terms and their associated acronyms included in the Acronyms section of the FEIS.

Acronyms (pages xxi to xxii): The LEDPA acronym (page xxii) is typically associated with U.S. Army Corps of Engineers' Clean Water Act/ Section 404 permitting process where it is understood that LEDPA stands for the "least environmentally damaging **practicable** alternative." However, on page xxi of the DEIS the LEDPA acronym is identified as "the least environmentally damaging **preferred** alternative."

Recommendation: EPA recommends the Acronym section of the FEIS identify the LEDPA acronym to mean "the least environmentally damaging practicable alternative."

SUMMARY OF RATING DEFINITIONS AND FOLLOWUP ACTIONS*

ENVIRONMENTAL IMPACT OF THE ACTION

LO——Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC—Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO——Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU——Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1——Adequate

EPA believes the draft EIS adequately sets forth the environmental impart(s) of the preferred alternative and those of the alternatives reasonably avail able to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2—Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3—Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

**From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment.*

From: Brent C Rusco
To: Joseph Scala
Cc: Kimberly R Zlimen
Subject: FW: Bottineau Corridor DEIS - Minneapolis Comments
Date: Wednesday, May 28, 2014 10:56:45 AM
Attachments: DEIS Comments.pdf

Joe,

Please log in these comments.

Brent

From: Pflaum, Donald C. [mailto:Donald.Pflaum@minneapolismn.gov]
Sent: Wednesday, May 28, 2014 9:58 AM
To: Brent C Rusco
Cc: Joseph R Gladke
Subject: Bottineau Corridor DEIS - Minneapolis Comments

Brent,

On Friday May 23, 2014, the Minneapolis City Council approved the staff comments for the Bottineau Corridor Draft Environmental Impact Statement (DEIS).
Council Action: http://www.ci.minneapolis.mn.us/meetings/council/WCMS1P-125136
Transportation and Public Works Committee Materials:
http://www.minneapolismn.gov/meetings/tpw/WCMS1P-124484

Attached are the approved City of Minneapolis comments. Please accept this e-mail as the formal submittal for the City of Minneapolis.

Thank You.

Donald Pflaum, P.E., PTOE
City of Minneapolis Public Works
309 2nd Avenue South – Room 300
Minneapolis, MN 55401-2268
612-673-2129

Attachment #2 - Bottineau Corridor LRT
Draft Environmental Impact Statement Comments
City of Minneapolis
May 13, 2014

Overall Comments:

1) The City of Minneapolis supports the Locally Preferred Alternative (LPA) route.
2) The City of Minneapolis supports the purpose and need for this project.

The Purpose and Need section of the DEIS accurately describes the reasons why the Bottineau Transitway is needed, including:
(a) The need to provide a higher level of transportation service to North Minneapolis, especially for those who do not have a car.
(b) The need to provide greater connectivity to and between North Minneapolis and the rest of the region. This line will increase and expand the connectivity between residents and employment opportunities.
(c) The need to accommodate future population growth (to meet the Metropolitan Council's population projections), to increase new jobs and access to existing jobs, and to strengthen neighborhoods.

General Technical Comments:

1) Two local north/south streets that currently have median openings on Olson Highway are proposed to be closed, thereby limiting vehicular access to right-in/right-out movement (Russell Avenue North and Elmwood Avenue North). Bicycle and pedestrian crossings must be maintained through the alignment, across LRT tracks and Olson at both intersections.
2) Bicycle and pedestrian crossings exist at four additional locations in alignment with streets that do not currently include a vehicle median break (but do have sidewalks) along Olson Highway (Queen Avenue North, Sheridan Avenue North, Newton Avenue North, and Logan Avenue North). Bicycle and pedestrian crossings must be maintained through the alignment, across LRT tracks and Olson at all four intersections.
3) Diverted vehicular traffic must be accommodated in a manner that is compatible with the surrounding neighborhood context.
4) The City of Minneapolis is opposed to the placement of the Operations and Maintenance Facility for this line within the City of Minneapolis.
5) Both stations within the corporate boundaries of Minneapolis (Penn and Van White) must be constructed.
6) Construction of both the Golden Valley Road Station and the Plymouth Avenue Station is necessary to adequately serve the corridor travelshed, including a significant portion of North Minneapolis. Though these stations are located outside of Minneapolis corporate boundaries, they are located close enough to ensure improved access to the regional fixed rail system for residents in North Minneapolis, and will improve ridership.
7) Conduct additional study to ensure the narrowing of Olson Highway so that the combination of street and LRT line will help to catalyze a denser, more urban development pattern within the corridor; one that will ensure that new development along the line is truly transit-

oriented, rather than highway-oriented. The existing highway environment needs to be redesigned and modified in order to provide greater balance. Specifically, the roadway needs to be designed in order to accommodate the necessary vehicular traffic while also accommodating and enhancing connectivity between transit, pedestrian, and bicycle networks. The project office will need to work on this critical topic with Hennepin County Community Works and the City of Minneapolis as station area planning progresses.

8) Specific ridership (not a range) at individual stations must be determined (both boarding and alighting). Further work is needed to determine pedestrian capacity and needed infrastructure improvements at the Downtown Minneapolis stations given that the Bottineau Corridor will be the fourth LRT line to run along the high-volume 5th Street corridor.
9) Safety and security at station locations and routes to/from stations is critical. It is recommended that measures such as (but not limited to) surveillance cameras and street lighting (per the City of Minneapolis street lighting policy) be installed and that station design allows for visibility at stations.
10) The City of Minneapolis requires that local stormwater policies and ordinances be adhered to. Stormwater management, wetland and flood plain mitigation must consider not only the specific area of impact, but broader impacts on the local area and regional system.
11) The City of Minneapolis does not support park-and-ride facilities within City limits. Vacant lots near the proposed Van White Station are needed for TOD redevelopment, which will help improve density and ridership at that station.
12) Traction power substations and signal bungalows must be appropriately placed and the visual impact mitigated. Traction Power Substations should be appropriate for the community context, should be landscaped, should be fenced for safety, and should be designed with architectural fencing instead of chain link fence.
13) Utilities and street infrastructure disrupted as part of the project must be replaced at the project's expense.
14) Noise and vibration from the LRT operations must be mitigated
15) The City of Minneapolis is opposed to LRT pre-emption at signalized crossings.
16) The City of Minneapolis supports efforts to minimize project impacts on identified historical or cultural resources.
17) The project must minimize tree loss; salvage trees where possible and replace tress per the Minneapolis Park and Recreation Board urban tree policy. Boulevard design should be consistent with the Minneapolis Design Guidelines for Streets and Sidewalks.
18) Public art must be integrated into station design.
19) Pedestrian Level Street Lighting should be evaluated in accordance with the City of Minneapolis Street Lighting Policy. Traffic impacts to the Olson Highway/I-94 bridge need to be mitigated. Any ornamental railings and artwork must be salvaged.
20) Catenary poles along Olson Highway should reflect the same style used along University Avenue (painted tapered tubular design).
21) Embedded track should be constructed along the entire length of Olson Highway.
22) Best practices for mitigating the construction impacts for local businesses should be implemented.
23) Traffic impacts along the corridor need to be mitigated, especially traffic impacts to the Olson Highway/I-94 Bridge, the segment east of I-94 into the Interchange, and the at-grade crossing at 7thStreet10thStreet.

The general technical comments above and the detailed technical comments found in this attachment will help mitigate the impacts of the project and will better serve the needs of Minneapolis.

Detailed Technical Comments (By Chapter):

Executive Summary

- No Comments

Chapter 1 –Purpose and Need

- Page 1-10, Section 1.3 – The purpose statement is just about transportation for businesses and people. It should also include reference for serving and creating transit-supportive development opportunities along the line, particularly near station areas. This is inherent in how station areas are designed so should be identified up front as part of the purpose of this project.
- Page 1-25, Table 1.5-1 – The development section of this table should more specifically reference development near station areas, in addition to the more general language here.

Chapter 2 –Alternatives

- The City of Minneapolis concurs that LRT on the D1 alignment is the preferred alternative. For the D1 and D Common portion of the LPA that runs along Olson Memorial Highway (Hwy 55) there are significant impacts to the bike, vehicular, and pedestrian function for the surrounding neighborhoods; there are potential visual impacts; and there is limited development potential. The corridor is currently a barrier between the communities to the north and south of the highway and the addition of the LRT should not further complicate this condition; it should resolve this condition by connecting communities. Decisions about the impacts of the D1 and D Common alignment on Olson Memorial Highway are based on assumptions of traffic operations and do not consider all of the above noted impacts. The future design and function of LRT on Olson Memorial Highway should not be precluded by these traffic assumptions and should be based on a study of the feasibility of, but not limited to, a combination of travel lane reductions, travel lane narrowing, elimination or relocation of frontage roads, and other pedestrian access and safety strategies with the intent of creating developable parcels at station areas and along Olson Memorial Highway. The DEIS, station area planning, and future stages of the project should consider the form, function, and visual impacts of Olson Memorial Highway to mitigate any negative impacts and to create significant development opportunity and pedestrian and bike access and safety. The completed traffic study for Olson Memorial Highway, while acceptable for studying traffic impacts, based on current operating assumptions, does not address the larger issues of development potential, connections between neighborhoods, and the barrier that Olson Memorial Highway creates between neighborhoods and that will be exacerbated by the addition of LRT without appropriate mitigation or planning. Additional study is needed to consider this

issue in relation to station area planning, enhancing TOD opportunities and creating nodes where population and employment density can be increased.

- Page 2-13, Table 2.4-1 – The Golden Valley Rd and Plymouth Avenue stations are needed for reasons beyond the initial forecasted ridership such as access to transit, economic opportunities, access to jobs, and access to Theodore Wirth Regional Park from other parts of the region.
- Page 2-14, Operations and Maintenance Facility – The city supports proposed OMF sites in Brooklyn Park.
- Page 2-18, Traction Power Substations (TPSS) – The DEIS states that TPSS locations are anticipated to be within the existing right-of-way. If in fact private property acquisition is needed, there should be early notification of impacted property owners to ensure time for coordination/negotiation. The City of Minneapolis will also want to review in more detail the location of the TPSS sites as they are refined. It should be a priority to place these in unobtrusive locations, such as under overpasses, and to appropriately screen them from view with architectural fencing and landscaping.
- Page 2-18, Trackway – Embedded track should be utilized on the D1 and D Common portions of the project in the Hwy 55 corridor.

Chapter 3 –Transportation Analysis

- General Comment - The construction of LRT should be designed and built in a way to enhance connectivity rather than compounding disconnectivity between places and neighborhoods.
- Page 3.3.5 –More study is needed to look at traffic, pedestrian, and development impacts at Hwy 55 and Penn, Van White, and the 7th St/6th Ave area near Target Field.
- Page 3-4, Affected Environment – Please analyze the transit service area past the southern edge at Highway 55. For example, Route 9 serves the neighborhood immediately to the south, but is not mentioned here.
- Page 3-6, Table 3.1.1 – More information is necessary regarding the elimination of route 19H; Consider adding evaluation of Route 30.
- Page 3-15, Footnote – The CCLRT is a good place to start with the process. However, some concerns were raised by the stakeholders along CCLRT in response to perceived deficiencies and limitations in the outreach. It would be better to state it would be the intent to "build upon" what was done along CCLRT rather than to say it would simply be replicated.
- Page 3-31, Alignment D2 – The restriction of traffic on many cross-streets (cul-de-sacs and right-in/right-out) can have a negative impact on traffic flows in the larger area. Any necessary modifications to the vehicular circulation system must be made in a way that is urban in character, not suburban. Modifications that eliminate vehicular connectivity

should not be de facto interuptions to the pedestrian and bicycle networks that currently exist or potentially might be built in order to enhance the urban grid.

- Page 3-31, Table 3.2-2 – More information will be necessary about the bridge modifications to assess their impacts.
- Page 3-32, Alignment D – The elimination of the pedestrian crossing of TH 55 on the west side of Lyndale is problematic. This crossing connects two residential neighborhoods, and there are few nearby alternatives for those wishing to cross on foot. Removal of a designated crossing may encourage illegal and potentially unsafe crossing in the vicinity. Is there a potential to add a pedestrian actuated signal to ensure it does not interfere with normal signal operations when no pedestrian is present?
- Page 3-36, Alignment D1 – The closure of pedestrian crossings at three consecutive streets crossing Highway 55 (Queen, Russell, and Sheridan) creates a fairly large gap in the pedestrian network. Will there be any barriers to discourage or prevent crossing? Was there any assessment if a significant number of people currently use these crossings?
- Page 3-37, Alignment D2 – As with vehicle traffic, this route alignment greatly curtails pedestrian connectivity in this area. This is indicated later on p. 4-36.
- Page 3-37, Alignment D - The closure of pedestrian crossings at three consecutive streets crossing Highway 55 (Oliver, Newton, Logan, and James) creates gaps in the pedestrian network. Will there be any barriers to discourage or prevent crossing, and what would those likely be? Was there any assessment if a significant number of people currently use these crossings? How will remaining pedestrian crossings be enhanced?
- Page 3-45, 3.5.3 Alignment D2 – Removal of parking may negatively impact businesses and residences in the area that depend on on-street parking due to limited off-street parking. It is unclear from later in the text (3-53) if the project would propose funding the construction of off-street parking to mitigate the loss of on street spaces.
- Page 3.36 – Under Alignment D1, the non-signalized pedestrian crossings of TH 55 at the intersections with Sheridan, Russell, and Queen Avenues would be closed. The nearest pedestrian crossings are at Thomas Avenue to the west and Penn Avenue to the east. It is expected that pedestrian crossings will increase at proximate signalized intersections due to diverted traffic from closed crossings and increased activity at and around station areas. Pedestrian safety enhancements should be made at these crossings, especially at the unsignalized intersection of Thomas Avenue. General strategies to improve pedestrian safety and comfort should include, but are not limited to, a combination of the following: travel lane reduction, travel lane narrowing, curb extensions, pedestrian median waiting areas, durable enhanced crosswalk markings, and landscaping.
- Page 3.37 – Under Alignment D2, pedestrians would be allowed to cross the LRT guideway only at signalized intersections along West Broadway Avenue and along Penn Avenue. Along West Broadway the unmarked pedestrian crossings of 27th Avenue/Thomas Avenue and Sheridan Avenue would be closed. The nearest pedestrian crossings are at 29th Avenue, 26th Avenue, and Penn Avenue. Along Penne Avenue, the

unmarked pedestrian crossings of 21st, 17th, 15th, 14th, 12th, and 8th Avenues would be closed. The nearest pedestrian crossings that would remain open are at West Broadway Avenue, Golden Valley Road, 16th Avenue, Plymouth Avenue, Oak Park Avenue, and TH 55. It is expected that pedestrian crossings will increase at proximate signalized intersections due to diverted traffic from closed crossings and increased activity at and around station areas. Pedestrian safety enhancements should be made at these crossings. General strategies to improve pedestrian safety and comfort should include, but are not limited to, a combination of the following: travel lane reduction, travel lane narrowing, curb extensions, pedestrian median waiting areas, durable enhanced crosswalk markings, and landscaping.

- Page 3.37 – Under Alignment D2, the crossing of West Broadway Avenue at 27th Avenue/Thomas Avenue would be closed. The 2011 Minneapolis Bicycle Master Plan identifies Thomas Avenue as a bicycle boulevard from 42nd Avenue to Oak Park Avenue. This bikeway is planned, but currently unfunded. A closure of 27th Avenue/Thomas Avenue at West Broadway Avenue would create a barrier and disrupt a continuous bicycle boulevard route along Thomas Avenue. The future bikeway would need to be rerouted to cross West Broadway Avenue at 26th or 29th Avenue.
- Page 3.37 – Under Alignment D2, the crossing of Penn Avenue at 8th Avenue would be closed. The 2011 Minneapolis Bicycle Master Plan identifies 8th Avenue as a signed bicycle route from Theodore Wirth Park to Van White Boulevard. This bikeway is planned, but currently unfunded. A closure of 8th Avenue at Penn Avenue would create a barrier and disrupt a continuous bikeway along 8th Avenue. The future bikeway would need to be rerouted to cross Penn Avenue at Oak Park Avenue.
- Page 3.37 – Under Alignment D2, the signalized intersection of Oak Park Avenue at Penn Avenue would remain open. The 2011 Minneapolis Bicycle Master Plan identifies Oak Park Avenue as a bicycle boulevard from Theodore Wirth Park to Irving Avenue. This bikeway is planned, but currently unfunded. Maintaining east-west bicycle access at the intersection of Oak Park Avenue and Penn Avenue would preserve a continuous route for a future bikeway.
- Page 3.37 – Under Alignment D2, bicyclists would share roadway lanes with vehicular traffic on West Broadway and Penn Avenues. There are currently no bicycle facilities on West Broadway and Penn Avenues, so the existing conditions would be maintained. However, future conditions may include a bicycle facility. The 2011 Minneapolis Bicycle Master Plan identifies bike lanes on Penn Avenue between 42nd Avenue and the south I-394 Frontage Road. With the addition of the LRT guideway system along Penn Avenue, it appears that there will not be enough right-of-way to accommodate bike lanes of a minimum standard width. Under Alignment D2, bike lanes on Penn Avenue between West Broadway Avenue and TH 55 would not be feasible. Access Minneapolis, the City of Minneapolis' transportation management plan includes a provision for such cases: If a bikeway identified on the 2011 Minneapolis Bicycle Master Plan cannot be installed on

the target street, a parallel bikeway should be installed that serves the same travel shed. Under Alignment D2, this provision would need to be executed.

- Page 3.37 – Under Alignment D Common Section, the non-signalized pedestrian crossings of TH 55 at the intersections of Oliver, Newton, Logan, and James would be closed. It is expected that pedestrian crossings will increase at proximate signalized intersections due to diverted traffic from closed crossings and increased activity at and around station areas. Pedestrian safety enhancements should be made at these crossings. General strategies to improve pedestrian safety and comfort should include, but are not limited to, a combination of the following: travel lane reduction, travel lane narrowing, curb extensions, pedestrian median waiting areas, durable enhanced crosswalk markings, and landscaping.
- Page 3.37 – The existing marked pedestrian crossing of TH 55 at West Lyndale Avenue would also be closed due to the number of lanes that would need to be crossed, the resulting number of vehicle conflicts, and poor signal operations. It is recommended that two considerations are made with respect to this proposed closure. First, evaluate if the hazards identified can be mitigated through travel lane reeducation, lead pedestrian intervals, protected signal phasing, durable and enhanced crosswalk markings, or other pedestrian safety measures. Second, if the crossing is closed, ensure that pedestrian access is physically restricted to ensure that there is no expectation that this is a safe and legal pedestrian crossing.
- General comments for Section 3.4 Pedestrians and Bicycles. Evaluating the alternatives from the perspective of pedestrian and bicycle impacts, the Locally Preferred Alternative D-D1 has less of a negative impact than Alternative D-D2. Both Alternatives D-D1 and D-D2 significantly impact the urban street grid by closing off local pedestrian and bicycle access at many crossings. The relative severity of impacts is greater for Alterative D-D2 because the urban street grid is more intact along West Broadway Avenue and Penn Avenue than along TH 55. West Broadway Avenue and Penn Avenue currently have narrower street widths, with fewer travel lanes and more pedestrian destinations. TH 55 is currently much wider with a greater number of travel lanes and a limited number of pedestrian destinations. To preserve existing pedestrian environments, it would be better to close crossings along TH 55 where the walkability is quite low, rather than close crossings along West Broadway Avenue and Penn Avenue, where the walkability is relatively higher.

<u>Chapter 4 –Community and Social Analysis</u>

- For the entire chapter, it should be kept in mind that the construction of LRT should be designed and built in a way to enhance connectivity rather than compounding disconnectivity between places and neighborhoods.
- Page 4.3.4.1–Traction Power Station locations are important, and should be strategically sited/mitigated, especially if one is needed in Theodore Wirth Park.

- Page 4-5, Alignment D – the language about Urban Neighborhoods should be amended to read " Urban Neighborhood is a predominantly residential area with a range of densities that may include other small-scale uses, including neighborhood-serving commercial, and institutional and semi-public uses (for example, schools, community centers, religious institutions, public safety facilities, etc.) scattered throughout. More intensive non-residential uses may be located in neighborhoods closer to Downtown and around Growth Centers.
- Page 4-5 – For the D1 Alignment the DEIS states: "As shown in Exhibit 4-11, the primary land uses are park and low-density residential uses with no plans for changes in the future. Along TH 55, existing and future planned land uses are primarily low-density residential uses." Language should be added to say that "future land use in the station areas will be evaluated in the station area planning process, which may result in amended land use policy and maps as a part of the adopted station area plans."
- Page 4.6.4.1- Acquisition impacts are small in Minneapolis using the preferred alternative, but the potential redevelopment opportunities are also small, due to station location and the elevation/disconnection with neighbors to the east.
- Page 4-6 – For the D common alignments, add language to say that "future land use in the station areas will be evaluated in the station area planning process." (1) At the Van White Station area there a several large vacant properties that are potential development sites and other underutilized sites that could be intensified with development. Station area planning will evaluate and recommend the most appropriate form and type of transit oriented development for these parcels and the surrounding station area, which may result in amended land use policy and maps with the adoption of the station area plans. (2) At the Penn Avenue/Hwy 55 station area, while there are not large vacant parcels and the area is predominantly single-family homes, station area planning will evaluate and recommend the most appropriate form and type of land use for the surrounding station area. At this station area higher density and intensity land uses will depend on a long-term strategy of parcel assemblage and strategies that could include the narrowing and/or elimination of travel lanes on Hwy 55 and frontage roads along Hwy 55, all which should be studied in the station area planning process. Station area planning will evaluate and recommend the most appropriate form and type of transit oriented development for these parcels and the surrounding station area, which may result in amended land use policy and maps with the adoption of the station area plans.
- Page 4-18, Minneapolis – The section describing the Near-North neighborhood references areas in the Sumner-Glenwood neighborhood. The section should be revised.
- Page 4-33, Alignment D2 – The project would have direct and significant impacts to community character and cohesion that would need to be mitigated.
- Page 4-39, Table 4.3-3 – Alignment D2 would result in major impacts in terms of property acquisitions, and would involve the displacement of a large number of residents, some of which are low income. This would need to be mitigated.

- Page 4-61, Table 4.4-1 – Alignment D2 would have an adverse effect on the Homewood historic district, as well as significant visual impacts on area resources.
- Page 4-74 – Impacts from Alignment D1 on Wirth Park should be mitigated with additional planting and screening as needed, since the project will involve thinning out the vegetation in the area. This is suggested later on p. 4-76. However, vegetation should not be allowed to block station areas and their access points in a way that is unsafe and obscures activity.
- Page 4-84, Design Elements – Safety and security should be addressed not only in station area design, but along major pedestrian routes leading to the stations (including those within the 0.25 mile radius called out earlier in this section). These should be visible, well lighted, and regularly monitored. This should be true throughout the corridor, including residential areas, parklands, and rail corridors that otherwise might have little traffic and activity, and therefore may result in travelers being more isolated.

Chapter 5 –Physical and Environmental Analysis

- City Water Utilities - This comment is to address the large water mains that may be affected by the future Bottineau LRT line as indicated by the current layout shown on the Met Council web page (http://www.metrocouncil.org/Transportation/Projects/Furture-Projects/Bottineau-Transitway/Bottineau-Maps/Bottineau-Transitway-Map-Large.aspx). There are many smaller water mains that cross under the proposed Bottineau line and the final condition of those mains will need to be addressed eventually. The large water mains of concern are as follows: There is a 36-inch water main in Aldrich Avenue North crossing under Olson Memorial, there is a 24-inch water main in Penn Avenue North crossing under Olson Memorial and there is a 48-inch water main crossing under the existing tracks just north of Golden Valley Road at the western border of the City. These mains need to remain in place and at a minimum will need to be cathodically protected under the tracks and isolated on either side of the future track alignment. Concrete encasement of each of these mains may be necessary and if deemed necessary, the existing pipe to be concrete encased shall be removed and replace with new pipe prior to concrete encasement. This work to alter the existing pipe shall only occur during the time frame between the months of October and April inclusive.
- Page 5-9 – Table 5.1-3, Alignment D - In addition to the sanitary sewer line running located on the south side of TH55/ 6th Ave N, there are several sanitary sewers crossing TH 55/ 6th Ave N
- Page 5-11, Overhead Utilities – More information is needed about the potential need for relocation of overhead utility poles, particularly those requiring relocation outside of transitway right-of-way. Would this require additional land purchases and/or easements, over and above what is already identified? Is there a potential to move some of the power lines underground as part of this project? What are the costs? What models are being used in other metropolitan areas to address and mitigate the conflicts brought about by overhad utilities and urban development? From the engineering drawings, it appears this

will result in high voltage transmission lines right on the edge of the BNSF right-of-way that is adjacent to residential areas. Is there accommodation of a needed easement for this outside the ROW, for both maintenance and to account for the fall distance of the poles?

- Page 5-21, Alignment D1 – More information is needed about potential location of floodplain storage mitigation, and its impacts on the surrounding area, including parkland, the golf course, and any nearby residential areas that might be impacted.
- Page 5-23, Figure 5.2-6 – The locations identified for potential floodplain mitigation appear to be on land currently being used for a trail loop around the perimeter of Wirth Park that connects with the Luce Line Trail and various park amenities; would this require a trail relocation?
- Page 5-24, Wetlands – There are significant wetland impacts outside the city limits. To mitigate the wetlands new wetlands must be created. It should be noted that there is no room for replacement wetlands within the city. Vacant parcels within the city are needed for redevelopment. The construction of this line should not contribute to the pollution of the Basset Creek Valley watershed; it should continue toward – or at least not complicate – the clean up of this watershed.
- Page 5-49, Noise – The project noise levels for D1 and D2 reflect moderate to severe impacts compared with existing ambient noise levels. How will this be mitigated?
- Page 5-61, Table 5.6-9 – Noise barriers are called out as a potential mitigation strategy for D1 noise impacts. More information is needed regarding the type, placement, and size of these walls. This mitigation measure should also be considered in context of other factors, such as blocking views of the park amenity from adjacent residential communities, likelihood of graffiti/tagging on barriers in less populated areas, and public safety issues associated with areas blocked from view by barriers. These issues should be addressed through a robust and inclusive community engagement process to ascertain community preference. Additionally, more information is needed regarding the potential use of sound insulation along D1 and D2 – how would this be implemented? This could be an environmental justice issue.
- Page 5-71, Table 5.7-6 – The D2 option would need proactive outreach early in the design process to KMOJ and medical care facilities regarding noise and vibration issues early in the process to determine if special mitigation needed. While the analysis suggests this is not the case, this could possibly be disputed.
- Page 5-92, 5.8.5 – This section says there will be no impact on the wetland habitat of Blanding's Turtle. However, the floodplain mitigation section says there will be new floodplain storage, likely constructed near to existing wetland areas, required as part of the project, which could impact the wetlands. This should be addressed in more detail. (This is discussed to an extent on p. 8-20)
- Page 5-93 – 5.9.1 States that Physical Infrastructure (storm sewer) associated with stormwater management is discussed in Section 5.1, but Section 5.1. (page 5.8) says the existing storm sewers are discussed in detail in the Stormwater Technical Report

(Appendix F) which does not discuss storm sewer infrastructure in detail. It just discusses stormwater management and mentioned the need to reconfigure storm sewer utilities. The impacts to Old Basset Creek tunnel crossing in particular should be discussed in more detail.

- Page 5-97 – Table 5.9-2 – Line MPCA (Cities) indicates that these requirements are also the Cities'. This is not correct. This is a copy of Table 3 from the stormwater technical report, but it does not say Cities under MPCA. Neither table actually lists the City requirements.
- Page 5-101, Table 5.9-4 – For Alignment D, are the ditches identified for infiltration existing, and do they have adequate size and capacity for what is proposed? Looking at the cross sections provided, ditches do not appear in most of them. For alignments D2 and D, have locations been identified for the proposed pond and infiltration BMPs? This urban environment is fairly constrained, with limited land available for improvements such as these. Maps are shown for locations along Alignments A-C, but not for the others.
- Page 5-110, Alignment D – The analysis does not take this into account directly, but the presence of institutions serving vulnerable populations (e.g. youth and elderly), including a day care, school, library, and low income housing, suggests a priority in finding ways to mitigate air quality impacts. This includes optimizing travel to avoid lengthy queues and idling at intersections. This is also potentially an environmental justice issue, since low income and minority populations are disproportionately impacted. When there are deficiencies in modeling (as noted here), there should be a commitment to following up with adjustments as needed once the project has advanced.

Chapter 6 –Indirect Effects and Cumulative Impacts

- Page 6-6, Table 6.3-1 – While the text states that the actions listed here are in no way dependent on the completion of the Bottineau transitway, it is possible that some additional development may occur in the Downtown/North Loop station areas of Alignment D at least in part related to improved transit connectivity through this and other projects (although some of it will occur regardless).
- Additional development is intended and expected along the Olson Highway portion of the project. For the D common alignments, future land use in the station areas will be evaluated in the station area planning process. (1) At the Van White Station area there are several large vacant properties that are potential development sites and other underutilized sites that could be intensified with development. Station area planning will evaluate and recommend the most appropriate form and type of transit oriented development for these parcels and the surrounding station area, which may result in amended land use policy and maps with the adoption of the station area plans. (2) At the Penn Avenue/Hwy 55 station area, while there are not large vacant parcels and the area is predominantly single-family homes, station area planning will evaluate and recommend the most appropriate form and type of land use for the surrounding station area. At this

station area higher density and intensity land uses will depend on a long-term strategy of parcel assemblage and strategies that could include the narrowing and/or elimination of travel lanes on Hwy 55 and frontage roads along Hwy 55, all which should be studied in the station area planning process. Station area planning will evaluate and recommend the most appropriate form and type of transit oriented development for these parcels and the surrounding station area, which may result in amended land use policy and maps with the adoption of the station area plans.

- Page 6-9, 6.4.1 – This section states that bicycle and pedestrian activity is likely to increase as a result of this project. However, the project proposes closing a number of currently active pedestrian crossings. How are these two things being reconciled? Will the project support pedestrian connectivity in other ways? Construction of LRT should be designed and built in a way to enhance connectivity rather than compounding disconnectivity between places and neighborhoods. Any necessary modifications to the vehicular circulation system must be made in a way that is urban in character, not suburban. Modifications that eliminate vehicular connectivity should not be de facto interuptions to the pedestrian and bicycle networks that currently exist or potentially might be built in order to enhance the urban grid.
- Page 6-13, 6.4.10 – The potential to negatively impact lower income populations due to increased property values is called out as an indirect and cumulative impact. No mitigation is identified. However, regional planning for affordable housing specifically prioritizes supporting funding affordable units near transit stations. While this wouldn't be undertaken as part of the Bottineau transitway project itself, it could be considered a form of mitigation. This was a major discussion topic along the CCLRT alignment, and has resulted in significant investment in new affordable housing there.

Chapter 7 –Environmental Justice

- Page 7-3, Table 7.3-1 – If available, it would also be interesting to be able to contrast the minority percentages with other transitway corridors in the region, to allow for more ready comparison of the strategies being used in each area. While the methodology focuses on equal treatment of all populations in the study area, it should be noted that Bottineau has a higher overall concentration of low income and minority populations, and environmental justice should take into account not just approaches within the Bottineau corridor but along other comparable corridors as well.
- Page 7-21, 7.4.3 – The list of ways that input from the meetings impacted the project and DEIS to date is a good start. It would be helpful to understand if there were any major concerns raised by the community about the project, and how those were addressed.
- Page 7-23, Safety and Security – This should consider ways to create safe routes to the transit station in addition to the conditions at the stations.
- Page 7-25, Pedestrian and bicycle facilities – the Hwy 55 corridor will have impacts on bike and pedestrian facilities that need to be mitigated.

- Page 7-27, Visual/Aesthetics – If the noise barriers are constructed as mitigation, this will have some visual impacts on the community (including potentially blocking views of the park); it doesn't appear that this is taken into consideration here; while they are not fully defined, it appears that they will be near to low income communities.
- Page 7-33, 7.5.3.1 – As the project advances, it will be important to ensure that overall service levels on connecting bus routes remain at current levels or better. There could be an unintended negative impact on local riders if local bus service is replaced in any way by light rail, resulting in longer headways and station locations that are farther apart. This does not appear to be the plan, but there will no doubt be a route study at some point to look at potential changes to nearby routes.
- Page 7-34, 7.5.3.3 – Will there be an effort to hire DBE/WBE firms and employees during the construction phase? Local employment in the project would be a significant benefit.
- Wetlands in Golden Valley are part of the Basset Creek Valley Watershed (BCV) and these flow into the corporate boundaries of the the City of Minneapolis. This line should not contribute to the pollution of the BCV watershed; it should continue toward – or at least not complicate – the clean up of this watershed.

Chapter 8 –Draft Section (4f) Evaluation

- The City of Minneapolis recognizes that the Minneapolis Park and Recreation Board is the local park authority responsible for determining parkland impacts.
- Page 8-19, 8.4.1.2 – The 4(f) evaluation notes that the project will only take a small amount of land in Wirth Park. However, earlier in the document it makes it clear that it will be removing over 10 acres of wetland with the proposed alternative – while the plan for stormwater is to accommodate it largely within existing ditches. Is this all within railroad right-of-way? And is there an assurance that any potential drainage impacts to the larger area will be taken into account, including those outside the project's construction limits?

Chapter 9 –Consultation and Coordination

- Page 9-1, 9.1.1 – Goals should clearly call out the intention to proactively involve underrepresented groups, including low income populations and communities of color. It appears this was done, but it is not stated up front this was a goal.

Chapter 10 –Financial Considerations

- Page 10-2, Table 10.1-1 – Does the right-of-way cost estimate for D2 take into account cost of relocation assistance for residents from the homes that would be removed? And does the construction cost of D1 take into account the construction of noise barriers and other noise mitigation features, and the cost of wetlands bank purchases?
- Page 10-3, Construction Costs – Is there a map or graphic to show the limits of construction to demonstrate where improvements included in the cost estimates will be

made? This is needed to determine what projects will be identified as mitigation/betterments outside the scope of the main project and therefore needing additional funding to be completed.

Chapter 11 –Evaluation of Alternatives

- Page 11-11, Alternative B-C-D1 – The significant wetlands impact is identified as differentiator, but needs to be better qualified as it is a negative for this alternative (i.e. doesn't directly support its status as a preferred alternative).
- Wetlands in Golden Valley are part of the Basset Creek Valley Watershed (BCV) and these flow into the corporate boundaries of the the City of Minneapolis. This line should not contribute to the pollution of the BCV watershed; it should continue toward – or at least not complicate – the clean up of this watershed.

Appendices

- Appendix E; Alignment D – The City of Minneapolis is working on a possible art installation, the John Biggers Seed Project, on Bridge 27785 over I-94. City staff has been consulting Hennepin County and MnDOT. Consultation and coordination between the applicable agencies regarding the proposed LRT project and this art installation should continue.

MILLE LACS BAND OF OJIBWE

Executive Branch of Tribal Government

April 22, 2014

Hennepin County, Housing Community Works and Transit
Attn: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

Re: Section 106 NHPA Tribal Review and Compliance: Hennepin County, Housing Community Works and Transit: a 13 mile corridor of transportation improvements that extends from downtown Minneapolis to the northwest, serving North Minneapolis, Golden Valley, Robbinsdale, Crystal, New Hope, Osseo, Brooklyn Park, and Maple Grove, MN.

DNR/THPO 14-0411-03: Regarding Draft Enviromental Impact Statement describing the transportation and environmental impacts associated with the construction and operation of a light rail transit promect to improve transit service in the Bottineau Transitway Project.

To Whom It May Concern:,

Thank you for the opportunity to comment on the above reference project. It has Been reviewed pursuant to the responsibilities given to the Tribal Historic Preservation Officer (THPO) by the National Historic Preservation Act of 1966, as amended in 1992 and the Procedures of the Advisory Council on Historic Preservation (38CFR800).

I have reviewed the documentation; after careful consideration of our records, I have determined that the Mille Lacs Band of Ojibwe (DNR/E) does not have any known recorded sites of religious or cultural importance in these areas

Should any human remains or suspected human remains be encountered, all work shall cease and the following personnel should be notified immediately in this order: County Sheriff's Office and the office of the State Archaeologist. If any human remains or culturally affiliated objects are inadvertently discovered this will prompt the process to which the Band will become informed.

Please note: The above determination does not 'exempt' future projects from Section 106 NHPA review. In the event any other tribe notifying us of concerns for a specific project, we may reenter into the consultation process.

You may contact my staff at (320) 532-7450 if you have questions regarding our review of this project. Please refer to the MLB-THPO Number as stated above in all correspondence with this project.

Respectfully Submitted,

Susan Klapel, Commissioner
Department of Natural Resources

DISTRICT I
43408 Oodena Drive • Onamia, MN 56359
(320) 532-4181 • Fax (320) 532-4209

DISTRICT II
36666 State Highway 65 • McGregor, MN 55760
(218) 768-3311 • Fax (218) 768-3903

DISTRICT IIA
2605 Chiminissing Drive • Isle, MN 56342
(320) 676-1102 • Fax (320) 676-3432

DISTRICT III
45749 Grace Lake Road • Sandstone, MN 55072
(320) 384-6240 • Fax (320) 384-6190

URBAN OFFICE
1433 E. Franklin Avenue, Ste. 7c • Minneapolis, MN 55072
(612) 872-1424 • Fax (612) 872-1257

Bassett Creek Watershed Management Commission

MAY 2 2 2014

May 20, 2014

Mr. Brent Rusco
Hennepin County, Housing Community Works and Transit
Attention: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

Re: Bottineau Transitway – Draft Environmental Impact Statement
BCWMC #2014-07

Dear Mr. Rusco:

Thank you for providing the Bassett Creek Watershed Management Commission (BCWMC) with the opportunity to review and to provide comments on the Bottineau Transitway Draft Environmental Impact Statement (EIS). On behalf of the BCWMC, we reviewed the Draft EIS and offer the following comments on the areas potentially impacted by the project that are within the BCWMC jurisdiction.

General/Background

As shown in Figure 5.9-1, portions of three of the proposed alignment alternatives are located in the jurisdiction of the BCWMC:

- Nearly all of Alignment D1 (part of the preferred alternative), from about Russell Ave. N. in Minneapolis to the intersection of Alignment D1 and Alignment C at 34th Ave. N, near the Robbinsdale/Crystal border. As noted in the Draft EIS, stormwater runoff from the existing railway corridor along this route discharges directly into surrounding ditches and is conveyed to adjacent waterbodies, including Bassett Creek, Grimes Pond, North Rice Pond and South Rice Pond (which eventually drain to Bassett Creek).

- Portions of Alignment D2, from about 17th Ave. N. and Penn Ave. N. to West Broadway and Xerxes Ave. N. in Minneapolis (Robbinsdale/Minneapolis border), and along 34Th Ave. N. from just west of France Ave. N. to the intersection with Alignment C. Stormwater runoff from this portion of the route will also discharge directly to Bassett Creek, via storm sewer systems.

- A small portion of Alignment C (part of the preferred alternative), from 34th Ave. N. to 36th Ave. N.

Floodplain Issues

Alignment D1 follows the Burlington-Northern Santa Fe (BNSF) railroad corridor. A portion of this route in Golden Valley (and Wirth Park in particular) is located along the Main Stem of Bassett Creek and South Rice Pond. In Robbinsdale, the route is located along Grimes Pond, North Rice Pond and South Rice Pond. The BCWMC's 100-year floodplain elevation for Bassett Creek along Alignment D1 ranges from elevation

826.0 ft. (NGVD29) at the upstream end of TH 55 to 832.0 ft. (NGVD29) at the downstream side of Bassett Creek Drive. In addition, the BCWMC's 100-year floodplain elevation for Grimes Pond/North Rice Pond is 838.0 ft (NGVD29) and for South Rice Pond is 831.5 ft (NGVD29).

The preferred alternative (Alternative B-C-D1) will result in 18,700 cubic yards of total floodplain impacts. Of this, 11,000 cubic yards will be within the Bassett Creek floodplain, along Alignment D1.

As discussed in previous correspondence, the BCWMC will not allow filling within the BCWMC-established floodplain without mitigation. Proposals to fill within the floodplain must obtain BCWMC approval and provide compensating storage (1:1 basis) and/or channel modifications so that the flood level is not increased at any point along the creek due to fill. Figure 5.2-6 in the Draft EIS identifies two areas within Theodore Wirth Regional Park as potential sites to provide compensating floodplain storage. As noted in Section 5.2.5 of the Draft EIS, the design of the compensatory storage sites would need to be coordinated with the Minneapolis Park and Recreation Board, appropriate city/cities, and the approving agencies (including the BCWMC). We encourage the Metropolitan Council to contact BCWMC as early in the design process as possible to discuss these storage sites.

In addition to reviewing proposals for floodplain fill, the BCWMC must review and approve crossings of the Bassett Creek trunk system, including changes to existing crossings. The Draft EIS notes (Section 5.3.4.1) that Alignment D1 will cross a backwater channel of Bassett Creek, just north of TH 55.

Floodplain management policies are listed in Section 5.2.2.2 of the BCWMC's 2004 Watershed Management Plan. Please also see the BCWMC's submittal and design requirements for projects ("Requirements for Improvements and Development Proposals," 2008). These documents can be found on the BCWMC website: www.bassettcreekwmo.org.

Runoff and Rate Control

The BCWMC regulates stormwater runoff discharges and volumes to minimize flood problems, flood damages, and future costs of stormwater management systems along the Bassett Creek trunk system. The selected alternative for the Bottineau Transitway project will increase impervious surface 31% within the overall project area. Within the Bassett Creek watershed (Alignment D1), the project will increase the amount of impervious surface by 15 acres, a 40% increase within the Alignment D1 project area (from Technical Report Stormwater in the Draft EIS). The increased impervious surface will be in close proximity to the creek itself and will result in increased runoff rates if not controlled. Best management practices must be implemented to ensure flood profiles are not increased along Bassett Creek.

Water Quality

The BCWMC and its member cities have committed significant resources to the improvement of the quality of stormwater runoff reaching the Mississippi River, by reducing nonpoint source pollution carried as stormwater runoff. The BCWMC strongly encourages the Metropolitan Council to implement best management practices to treat transitway runoff to ensure that the project does not increase pollutant-loading to adjacent water bodies. The BCWMC's water quality policies are listed in Section 4.2 of the Watershed Management Plan.

The BCWMC expects the Bottineau Transitway project design to include stormwater treatment and erosion control measures that will reduce the amount of phosphorus and sediment carried by stormwater

runoff to Bassett Creek. The BCWMC also expects the Metropolitan Council to consider measures to minimize the amount of increased impervious surfaces resulting from the project.

Additional pollutants of concern to the BCWMC include chloride from road salting, fuel, oils, metals and construction runoff which could enter storm drains and downstream water resources. Adequate permanent and temporary construction BMPs must be implemented as part of the project.

The Draft EIS proposes the construction of infiltration basins in ditches adjacent to the transitway to provide some water quality treatment before runoff is discharged to Bassett Creek. All proposed water quality treatment facilities will be reviewed for conformance to the design requirements outlined in the "Requirements for Improvements and Development Proposals," (2008). These documents can be found on the BCWMC website: www.bassettcreekwmo.org. The BCWMC is in the process of updating its Watershed Management Plan, which could include significant new standards for stormwater management. We expect approval of the BCWMC Plan sometime in fall 2015, which means the new standards will likely be in place before engineering design begins on the transitway project.

Maintenance

Maintenance of stormwater management (water quality and flood control) features is critical to ensure proper operation. The Draft EIS does not appear to include the maintenance measures the Metropolitan Council proposes to undertake to ensure the effectiveness of stormwater management features. The final EIS should describe the maintenance measures and it should also identify the parties responsible for inspections, the parties responsible for maintenance, and the inspection and maintenance schedules. The BCWMC is concerned that if these operation and maintenance responsibilities are not clearly laid out, the responsibility will fall on the member cities or BCWMC to perform the duties.

Erosion Control

A BCWMC goal is to prevent erosion and sedimentation to the greatest extent possible to protect the BCWMC's water resources from increased sediment loading and associated water quality problems. Temporary and permanent best management practices must be implemented to control construction and post-development erosion and runoff from the site. The BCWMC is particularly concerned about erosion and sediment control during construction because of the proximity of Alignment D1 to numerous water resources, Alignment D1 is immediately adjacent to Grimes Pond and South Rice Pond, and adjacent to or very near Bassett Creek and its adjacent wetlands. Extra care will need to be taken during construction to avoid sediment and other pollutants from entering these water resources. The EIS should acknowledge the extra difficulty in preventing erosion and sedimentation along the portions of the route with numerous water resources in close proximity, such as Alignment D1.

In addition to the NPDES Construction Stormwater Permit from the MPCA (as noted in Section 5.9.5 of the Drat EIS), the BCWMC reviews projects for erosion and sediment control. The BCWMC's erosion and sediment control plan requirements are outlined in "Requirements for Improvements and Development Proposals" (2008). The BCWMC's erosion and sediment control policies are also listed in Section 6.2 of the BCWMC Watershed Management Plan. These documents can be found on the BCWMC website: www.bassettcreekwmo.org.

Wetland Management

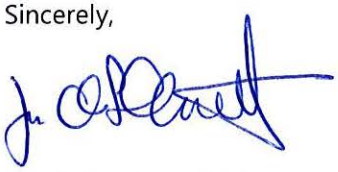
The BCWMC wetland goal is to achieve no net loss of wetlands in the Bassett Creek watershed in conformance to the Minnesota Wetland Conservation Act (WCA) and associated rules (Minnesota rules 8420). The portion of the preferred alternative (B-C-D1) and Alternative B-C-D2 in BCWMC is in Minneapolis, Golden Valley and Robbinsdale. Minneapolis and Golden Valley are the local governmental units (LGUs) responsible for administering the WCA in their cities; BCWMC is the LGU for administering WCA in Robbinsdale. Table 5.3-4 in the Draft EIS shows the total wetland disturbance or fill for Alignment D1 (part of preferred alternative) to be 6.1 acres. All of this wetland disturbance or fill along Alignment D1 is within BCWMC. At least two acres appears to be in Robbinsdale. For the portion of Alignment C within BCWMC, there appears to be 0.4 acres of wetland disturbance or fill; this is located in Robbinsdale. Alignment D2 includes 0.7 acres of wetland disturbance or fill, all of which is in BCWMC and in Robbinsdale. BCWMC will be responsible for administering WCA for the Robbinsdale portions of the alignments. Wetland management policies are listed in Section 8.0 of the BCWMC Watershed Management Plan. The BCWMC's submittal and design requirements for projects are included in "Requirements for Improvements and Development Proposals" (2008). These documents can be found on the BCWMC website: www.bassettcreekwmo.org.

BCWMC Capital Improvement Project

In late 2014, the City of Minneapolis (through the Minneapolis Park and Recreation Board) will be constructing a BCWMC capital improvement project to stabilize a reach of Bassett Creek between Golden Valley Road and Irving Avenue North at an estimated cost of $856,000. The portion of the creek stabilization project between Golden Valley Road and Highway 55 is adjacent to or very near Alignment D1. The creek stabilization project will be completed before the Bottineau Transitway project construction would begin. However, the planning, design and construction of the Bottineau Transitway project needs to ensure the integrity of the BCWMC's creek stabilization project. We will provide you with the as-built plans for the creek stabilization project.

The BCWMC appreciates the opportunity to provide these comments and looks forward to working with the Metropolitan Council to ensure the project can be constructed and operated while protecting the health of the BCWMC's water resources. Please feel free to contact the BCWMC Engineer, Karen Chandler at 952-832-2813 (or kchandler@barr.com), or the Commission Administrator, Laura Jester, at 952-270-1990 (or laura.jester@keystonewaters.com), if you have questions or would like further information.

Sincerely,



Jim de Lambert. Chair
Bassett Creek Watershed Management Commission

c: BCWMC Commissioners and Alternate Commissioners
BCWMC Technical Advisory Committee

From:	Brent C Rusco
To:	Joseph Scala
Cc:	Kimberly R Zlimen
Subject:	FW: Bottineau Transitway DEIS Comments
Date:	Thursday, May 29, 2014 1:13:18 PM
Attachments:	DEIS Comments 05-28-2014.pdf

Joe,

I believe the FAA comments came in today's mail.

Brent

From: Gina.Mitchell@faa.gov [mailto:Gina.Mitchell@faa.gov]
Sent: Wednesday, May 28, 2014 2:14 PM
To: Brent C Rusco
Cc: Maya.Sarna@dot.gov; Bridget.Rief@mspmac.org; Barry.Cooper@faa.gov; Jesse.Carriger@faa.gov; Andy.Peek@faa.gov; Gordon.Nelson@faa.gov; Jeanne.Witzig@kimley-horn.com
Subject: Bottineau Transitway DEIS Comments

Attached please find FAA's comments on the DEIS for the Bottineau Transitway Project. A hard copy will be sent to you in the mail. If you have any questions, please feel welcome to contact me. Thanks.

Gina M. Mitchell, AICP
Community Planner

Federal Aviation Administration
Minneapolis Airports District Office
6020 28th Avenue South, Room 102
Minneapolis, MN 55450
T (612) 253-4641
F (612) 253-4611

U.S. Department
of Transportation
**Federal Aviation
Administration**

May 28, 2014

Mr. Brent Rusco, Senior Professional Engineer
Hennepin County Housing, Community Works & Transit
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415-1843

Mr. Brent Rusco:

As a Cooperating Agency for the Bottineau Transitway Project, thank you for the opportunity to comment on the Draft EIS dated March 2014.

FAA Minneapolis Airports District Office (ADO) is continuing to seek FAA Regional and Headquarters concurrence on the conclusions of the February 10, 2014 Crystal Airport Runway Protection Zone Alternatives Analysis (RPZ AA). Upon completion of the RPZ AA, we will forward our comments for incorporation into the Final EIS. When the Final EIS is available, the FAA ADO will want to ensure the proposed transportation project is consistent with the findings of the RPZ AA.

If you have any questions or would like to discuss this information further, please feel welcome to contact Gina Mitchell, Community Planner, at (612) 253-4641 or gina.mitchell@faa.gov .

Sincerely,

Andy Peek, P.E., Assistant Manager
Minneapolis Airports District Office

cc Maya Sarna, FTA (by email)
Bridget Rief, Metropolitan Airports Commission (by email)
Barry Cooper, Regional Administrator, FAA Great Lakes Region (by email & mail)
Jesse Carriger, Acting Planning & Programming Manager, FAA Great Lakes Airports Division (by email)

From:	Darby, Valincia
To:	Bottineau Transitway/Hennepin
Cc:	Brent C Rusco
Subject:	Bottineau Transitway Light Rail Project, MN
Date:	Thursday, May 29, 2014 12:45:33 PM
Attachments:	er 14-235.pdf

Communication #143

Dear Ms. Simon,

The Department of the Interior's comments on the subject project are attached. If there are questions please contact this office at (215) 597-5378.

Best Regards,

Valincia Darby

--

Valincia Darby

Regional Environmental Protection Assistant

Department of the Interior, OEPC

200 Chestnut Street, Rm. 244

Philadelphia, PA 19106

Phone: (215) 597-5378 Fax: (215) 597-9845

Valincia_Darby@ios.doi.gov

United States Department of the Interior

OFFICE OF THE SECRETARY Communication #143
Office of Environmental Policy and Compliance
Custom House, Room 244
200 Chestnut Street
Philadelphia, Pennsylvania 19106-2904

IN REPLY REFER TO:

May 29, 2014

9043.1
ER 14/0235

Ms. Marisol Simon
Regional Administrator
Federal Transit Administration
200 West Adams Street, Suite 320
Chicago, Illinois 60606

Dear Ms. Simon:

As requested, the Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (EIS), Federal Transit Administration (FTA), Hennepin County Regional Railroad Authority (HCRRA), for the Bottineau Transitway Light Rail Project, Hennepin County, Minnesota. The Department offers the following comments and recommendations for your consideration.

Biological Environment Comments

The Northern long-eared bat (*Myotis septentrionalis*) (NLEB) was proposed for federal listing under the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) on October 2, 2013. At this time, no critical habitat has been proposed for the NLEB. Although species proposed for listing are not afforded protection under the ESA, when a species is listed, the prohibitions against jeopardizing its continued existence and unauthorized "take" are effective immediately, **regardless of an action's stage of completion**. The state of Minnesota is considered to be within the known range of the NLEB. During the summer, NLEBs typically roost singly or in colonies in a wide variety of forested habitats, in cavities or crevices or underneath loose bark of both live trees and snags (>3 inches dbh) and forage for insects in upland and lowland woodlots and tree lined corridors. We recommend adding the NLEB to Section 5.8.3, Endangered Species and addressing potential project impacts to the species.

Based on the information provided in this EIS, Alternative D-1 will likely result in the loss of some summer roosting and foraging habitat. We recommend quantifying available summer roost habitat that will be removed as a result of this project and assessing those impacts to the species. In order to avoid take of the species once listed, we recommend that all tree clearing associated with this project be conducted outside the summer maternity roost season for the NLEB. The summer maternity season in Minnesota is from April 1 through September 30. If tree clearing

cannot be accomplished outside of this time period, surveys should be conducted to determine presence/absence of the species and consultation should be initiated with the United States Fish and Wildlife Service's Twin Cities Field Office.

Section 4(f) Evaluation Comments

The FTA, along with the HCRRA and the Metropolitan Council, has proposed the construction and operation of the Bottineau Transitway, a light rail transit (LRT) system that would provide for transit improvements in the Twin Cities extending approximately 13 miles from downtown Minneapolis to the northwest suburbs. The draft section 4(f) evaluation identified several properties in the project study area eligible to be considered under Section 4(f) of the Department of Transportation Act of 1966 (48 U.S.C. 1653(f)).

Similar to the comments we had for the proposed Southwest Transitway in Hennepin County, the analysis of impacts to eligible 4(f) properties is not entirely straightforward, and it seems much of the decision making has been put off waiting for further analysis and consultation. Alternatives are anticipated to result in direct impacts to recreational facilities including the Rush Creek Regional Trail, Theodore Wirth Regional Park, and the Minneapolis Public Schools Athletic Field. Alternatives are anticipated to have direct impacts to two historic properties, the Homewood Historic District and the Grand Rounds Historic District (Theodore Wirth segment). Based upon the existence of an alternative that would avoid direct use of the Minneapolis Public Schools Athletic Field and the Homewood Historic District, the FTA believes that it can avoid a 4(f) use of these properties. Based on measures to minimize harm, the FTA proposes a *de minimis* finding under section 4(f) for the direct impacts to the Rush Creek Regional Trail and the Grand Rounds Historic District (Theodore Wirth segment). Finally, the FTA has determined that its preferred alternative will result in a direct use of the Theodore Wirth Regional Park.

The Section 4(f) Evaluation appears rather preliminary in that additional design will be needed to determine the full extent of some impacts to or avoidance of resources, and impacts to the two historic properties will need concurrence from the Minnesota State Historic Preservation Office (SHPO) on a "no adverse effect" determination under section 106 of the National Historic Preservation Act.

Therefore, the Department would concur with the FTA that there were no feasible or prudent avoidance alternatives to the preferred alternative presented which results in impacts to Theodore Wirth Regional Park.

Impact mitigation for all other 4(f) properties is dependent upon additional design information, as well as consultation with the SHPO and other consulting parties. Therefore, the Department cannot concur that all possible planning needed to minimize harm to 4(f) resources has been employed.

The Department will withhold its final concurrence that there are no feasible or prudent avoidance alternatives and that all possible planning needed to minimize harm to the 4(f) resources have been employed until more information is included in the final evaluation.

The Department has a continuing interest in working with the FTA to ensure impacts to resources of concern to the Department are adequately addressed. For continued consultation

and coordination with the issues concerning historic resources identified as section 4(f) resources, please contact Regional Environmental Coordinator Nick Chevance (Midwest Regional Office, National Park Service, 601 Riverfront Drive, Omaha, Nebraska 68102; telephone 402-661-1844; email *nick_chevance@nps.gov).* For issues concerning federally proposed or listed species, please contact Lisa Mandell, Deputy Field Supervisor, Twin Cities Field Office (4101 American Blvd East, Bloomington, Minnesota 55425; telephone 612-725-3548, extension 2201; email *lisa_mandell@fws.gov).*

We appreciate the opportunity to provide these comments.

Sincerely,



Regional Environmental Officer
Office of Environmental Policy and Compliance

cc: Brent Rusco
Senior Professional Engineer
Hennepin County
Housing, Community Works & Transit
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

From:	Brent C Rusco
To:	Joseph Scala
Cc:	Kimberly R Zlimen
Subject:	FW: DEIS13-001A Bottineau Transitway DRAFT EIS
Date:	Thursday, May 29, 2014 3:58:32 PM
Attachments:	DEIS13-001B Bottineau Transitway-052914.pdf

From: Corbett, Michael J (DOT) [mailto:Michael.J.Corbett@state.mn.us]
Sent: Thursday, May 29, 2014 3:48 PM
To: Brent C Rusco; Shekur, Hailu (DOT); Kelly, Brian (DOT); Craig, E.Buck (DOT); Nelson, Douglas (DOT); Fischer, Jose (DOT); Erickson, Chad (DOT); Lackey, Clare (DOT); Wilson, Ryan (DOT); Mitteco, Gina (DOT); Bursaw, Pat (DOT); Czech, Paul (DOT); Bly, Lynne (DOT); Jensen, Carl P (DOT); Walding, Shawn (DOT); Christianson, Dave (DOT); Wasko, Peter (DOT); Sorenson, Deb (DOT); Kannankutty, Ramankutty (DOT); Rauchle, Ron (DOT); Griffith, John (DOT); Jacobson, Nancy (DOT); russell.owen@metc.state.mn.us
Cc: Sherman, Tod (DOT); McCartney, Molly (DOT)
Subject: RE: DEIS13-001A Bottineau Transitway DRAFT EIS

Hello Mr. Brent Rusco,

Attached is a letter containing MnDOT's comments on the Bottineau Transitway Draft Environmental Impact Statement. If you have any questions concerning this letter, please let me know.

Michael Corbett, PE
MnDOT Metro Division – Planning
1500 W County Road B-2
Roseville, MN 55113
651-234-7793
Michael.J.Corbett@state.mn.us

Minnesota Department of Transportation
Metropolitan District
Waters Edge Building
1500 County Road B2 West
Roseville, MN 55113

Communication #151

May 29, 2014

Mr. Brent Rusco, Project Manager
Hennepin County
Housing, Community Works and Transit
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

SUBJECT: Bottineau Transitway Draft EIS
MnDOT Review # DEIS13-001B
Hennepin County

Dear Mr. Rusco:

Thank you for the opportunity to review the Bottineau Transitway Draft Environmental Impact Statement (DEIS). MnDOT recognizes the significant role that the Bottineau Transitway has in the planned Twin Cities regional transitway system. Please note that MnDOT's review of this DEIS does not constitute approval of a regional traffic analysis and is not a specific approval for access or new roadway improvements. MnDOT's staff has reviewed the document and offers the following comments:

Planning

Partnering with MnDOT is essential during project development, engineering, and construction to help ensure timely and appropriate identification of and resolution to any impacts to MnDOT facilities. As the project progresses, work with MnDOT to ensure that all impacts to State Highway infrastructure (e.g. along TH 55 in Minneapolis, and crossings over TH 100, TH 610, and I-94) are reviewed and approved through the layout approval process, consistent with policy and criteria outlined in the MnDOT Road Design Manual.

MnDOT has expectations that detailed design considerations along the Bottineau corridor where State Highways are impacted will be compatible and coordinated with MnDOT's multimodal objectives. These objectives include extensive collaboration with local partners and residents to achieve an improved transportation corridor that promotes and invites all non-motorized traffic to move along and across the corridor in a safe and convenient manner.

As design work develops, continue to partner and work with MnDOT Metro District staff and functional groups to resolve project development technical issues identified by MnDOT and other key stakeholders.

Design

It is anticipated that all trunk highway impacts will be reviewed and approved through the layout approval process and proposed alterations will use the policy and criteria presented in the MnDOT Road Design Manual. Additional information on MnDOT's Geometric Design and Layout Development process can be found at:
http://www.dot.state.mn.us/design/geometric/index.html

Water Resources

It appears that drainage permits will be required where the corridor crosses and parallels state roads within MnDOT's right of way. MnDOT expects these determinations will be made when the final design plan is submitted.

Right-of-Way/Permits

Any use of or work within or affecting MnDOT right-of-way requires a permit. It is anticipated that more specific impacts to MnDOT right-of-way will be identified during the FEIS and Project Development (Preliminary Engineering) phases.

Thank you for the opportunity to review the Bottineau Transitway Draft Environmental Impact Statement.

Sincerely,



Michael J. Corbett, PE
Senior Planner – MnDOT Metro Office of Planning, Program Management and Transit

Copy sent via E-Mail:
Brian Kelly, Water Resources
Hailu Shekur, Water Resources
Buck Craig, Permits
Doug Nelson, Right of Way
Tony Fischer, Freeway Liaison
Chad Erickson, West Area Traffic
Tiffany Kautz, Right-of-way
Nancy Jacobson, Design
Ryan Wilson, Transit
Gina Mitteco, Planning
Pat Bursaw, Planning
Paul Czech, Planning
Lynne Bly, Planning
Shawn Combs Walding, Planning
Carl Jensen, Metro State Aid
Dave Christianson, Freight
Peter Wasko, Noise
Deb Sorenson, Aeronautics
John Griffith, Area Manager
Ramankutty Kannankutty, Area Engineer
Ron Rauchle, Area Engineer
Clare Lackey, Traffic
Russell Owen, Metropolitan Council

From:	Tegdesch, Elizabeth (MPCA)
To:	Bottineau Transitway/Hennepin
Cc:	Kain, Kevin (MPCA); Affeldt, Craig (MPCA); Hastings, Tyler (MPCA); Smith, Amanda (MPCA); Brist, Jim (MPCA)
Subject:	MPCA Comment Letter - Bottineau Transitway
Date:	Thursday, May 29, 2014 8:22:50 AM
Attachments:	Bottineau Transitway_DEIS.pdf

Attached are the Minnesota Pollution Control Agency's comments on the Bottineau Transitway Draft Environmental Impact Statement. A paper copy will follow by U.S. mail.

Please acknowledge receipt of this comment letter to Kevin Kain at kevin.kain@state.mn.us

Thank you.

Elizabeth Tegdesch
Environmental Review and EQB Support
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155 / 651-757-2100
elizabeth.tegdesch@state.mn.us

Minnesota Pollution Control Agency
520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300
800-657-3864 | 651-282-5332 TTY | www.pca.state.mn.us | Equal Opportunity Employer

Communication #152

May 29, 2014

Hennepin County, Housing Community works and Transit
Attention: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

Re: Bottineau Transitway Draft Environmental Impact Statement

To Whom it May Concern:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement Draft (EIS) for the Bottineau Transitway project (Project) located in the city of Minneapolis, Minnesota. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility and other interests, the MPCA staff has the following comments for your consideration.

1. Please be aware that Shingle Creek and Bassett Creek are listed on the MPCA Inventory of Impaired Waters located on the MPCA website at http://www.pca.state.mn.us/water/tmdl/tmdl-303dlist.html. We recommend you utilize the MPCA Special Waters and Impaired Waters Search mapping tool to identify special or impaired waters located near proposed projects. The mapping tool is located on the MPCA website at: http://pca-gis02.pca.state.mn.us/CSW/index.html. Shingle Creek and Bassett Creek are listed as impaired for turbidity and fecal coliform. The impairment will dictate additional increased stormwater treatment during construction and require additional increased permanent treatment post construction. These requirements will be included in the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater (CSW) permit. The project proposer should determine that compliance with these increased stormwater water quality treatments can be achieved on the Project site or elsewhere. Information regarding the MPCA's Construction Stormwater Program can be found on the MPCA's website at http://www.pca.state.mn.us/water/stormwater/stormwater-c.html. Questions regarding Construction Stormwater Permit requirements should be directed to Roberta Getman at 507-206-2629.

2. The permanent treatment requirements are old – the 2013 CSW permit now requires one inch from the new impervious over one acre added to be retained on site. Table 5.9-2 needs to be updated, and their proposed ponds will need to be reevaluated to meet the new requirement (no specifics are given, but they need to comply with the new requirements).

a. In Section 5.9.5, the statement "Due to the linear nature of the project, BMPs that are compatible with linear corridors would be used to the extent possible without the need to purchase additional right-of-way" would not comply with the 2013 CSW permit. The requirement is to meet the one inch water quality volume unless infeasible. Part of the specific requirements for linear projects: For work on linear projects with lack of right-of-way where the Permittee(s) cannot obtain an easement or other permission for property needed to install treatment systems capable of treating the entire water quality volume on site, the Permittee(s) must maximize the water quality volume that can be treated prior to discharge to surface waters. Treatment can be provided through other methods or combination of methods such as grassed swales, filtration systems, smaller ponds, or grit chambers, prior to discharge to surface waters. A reasonable attempt must be made to obtain right-of-way during the project planning process. Documentation of these attempts must be in the Stormwater Pollution Prevention Plan (SWPPP) per Part III.A.5.m. in the section addressing infeasibility.

3. Traffic
The Project is designed to provide less congested access and improve traffic flow, so increased air pollution due to increased congestion should not be a problem. The Draft EIS briefly addresses concerns of traffic during construction. Disruption to traffic operations, including lane closures, short-term intersection and roadway closures, as well as detour will occur during construction of the Project and would cause localized increases in congestion. Therefore, traffic control measures should be developed during subsequent stages of the project to address these construction phased-impacts. Traffic flow and access to adjacent development must be maintained throughout the construction period. Construction related impacts must also be minimized within the neighborhoods adjacent to the project area. Amanda Smith (Amanda.smith@state.mn.us) would like to see a copy of the construction phasing plan when it is developed.

4. Carbon Monoxide (CO) Hot-Spot Analysis
The effects of this Project on air quality were conducted through analysis of predicted impacts on CO concentrations. Analysis was conducted on five intersections in the study area, one representing the worst-case condition along each alignment under consideration. Based on these results, concentrations of CO in the study area would not exceed state one hour or eight hour standards. Therefore, the construction of the Project is not expected to cause any exceedance of the state CO standards. Based on the qualitative assessment presented in the Draft EIS, the Project would not cause exceedances of other criteria pollutants.

5. Mobile Source Air Toxics (MSAT)
The Draft EIS has provided a detailed qualitative analysis of MSATs. Since the traffic volumes for this project are below the threshold of 140,000 vehicles per day, a quantitative MSAT analysis is not required. Based on the qualitative assessment provided in the Draft EIS, it is not anticipated that this Project will cause a significant increase in MSAT emissions.

6. Noise
   The Draft EIS includes a detailed noise analysis. However, the noise analysis was conducted using Leq, rather than L10 and L50, which are the applicable state noise standards. The Project must comply with state noise standards and the final noise mitigation plan must address these state standards.

We appreciate the opportunity to review this Project. Please provide your specific responses to our comments. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the Project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this Draft EIS, please contact me at 651-757-2482.

Sincerely,

Kevin Kain
Planner Principal
Environmental Review Unit
Resource Management and Assistance Division

KK:bt

cc: Craig Affeldt, MPCA
Tayler Hastings, MPCA
Amanda Smith, MPCA
Jim Brist, MPCA

Communication #160

From: Jonathan Vlaming
To: Bottineau Transitway/Hennepin
Cc: jan youngquist (jan.youngquist@metc.state.mn.us); Kelly Grissman; Ann Rexine
Subject: Bottineau DEIS Comments 5 28 2014 Three Rivers Park District
Date: Thursday, May 29, 2014 7:40:28 AM
Attachments: Bottineau DEIS Comments 5 28 2014 Three Rivers Park District.pdf

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Three Rivers Park District is submitting written comments on the Bottineau Transitway DEIS. Please call if you have questions. Thank you.



Jonathan Vlaming
Associate Superintendent -
Planning, Design & Technology
Three Rivers Park District
3000 Xenium Ln N
Plymouth, MN 55441
Wk: 763-694-7632
Cell: 612-490-5220

ThreeRivers
PARK DISTRICT

Three Rivers Park District Board of Commissioners

Penny Steele
District 1

Jennifer DeJournett
District 2

Daniel Freeman,
Vice Chair
District 3

John Gunyou,
Chair
District 4

John Gibbs
District 5

Larry Blackstad
Appointed
At Large

Steve Antolak
Appointed
At Large

Cris Gears
Superintendent

5/28/2014

Hennepin County Housing, Community Works & Transit
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415
Attn: Bottineau Transitway

RE: Three Rivers Comments on Bottineau DEIS - 8.0 Draft section 4(f) Evaluation

Three Rivers Park District staff have reviewed the final Draft Environmental Impact Statement (DEIS) for the Bottineau Transitway. Thank you for incorporating previous staff comments into the revisions leading up to the final DEIS. The final DEIS is comprehensive, well written and logical in its conclusions. With one exception, Three Rivers staff have no concerns with the DEIS.

Issue: Proposed *de minimis* impact determination of the OMF facility on the Rush Creek Regional Trail (page 8-18)

The DEIS indicates that the FTA is proposing a *de minimis* determination for Rush Creek Regional Trail for construction of the OMF located in an east/west alignment north of 101st Avenue. The *de minimis* classification proposal is new information for Three Rivers and the DEIS is incorrect in stating that Three Rivers "provided input regarding potential *de minimis* use of park property". The *de minimis* proposal requires additional discussion and collaboration between Three Rivers and the Bottineau Transitway project team as the project advances.

The Rush Creek Regional Trail corridor is one of a handful of metro regional trail corridors that were acquired prior to development of the surrounding area, and involved a significant investment in land acquisition to provide a natural-resources rich greenway buffer between the trail and future development. Over 250 acres were secured for this trail greenway. The trail meanders through a greenway composed of woodlands, prairie and wetlands, and provides a rare experiential trail setting offering solitude and escape from the sights and sounds of neighboring developments that have risen from the farm fields once adjacent to the trail greenway. Over 372,000 annual visitors now enjoy this trail greenway and the respite from modern life it offers. The success of this trail greenway reflects solid long-range planning and investments starting nearly 30 years ago.

Encroachment into the trail greenway by the OMF site threatens to disrupt the experiential setting offered by the trail greenway. The trail greenway offers two trails – a paved trail for bicyclists, in-line skaters and others who prefer a smooth surface, and an unpaved trail – originally designed for horses when the area was rural - and now used by runners and walkers looking for an even more natural setting. The paved trail comes within 400 feet of the OMF site, and the unpaved trail is directly adjacent to the OMF site.

The DEIS states:

> "*De minimis* impact is defined in 23 CFR 774.17 as follows:
>
> > "For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f)."

The DEIS does not provide enough information (OMF scale, noise impacts, visual impacts, air quality impacts, hours of operation, secondary impacts such as traffic to/from the site, etc.) to accurately determine if the OMF impact on the regional trail greenway corridor is *de minimis*. Consequently, at this time Three Rivers staff can not recommend to the Three Rivers Board of Commissioners that the direct use of the trail greenway corridor for the OMF site warrants *de minimis* status.

The DEIS does recognize that *de minimis* resolution of 4(f) property impacts requires agreement by the agency with jurisdiction over that property. Three Rivers will work with the Bottineau Transitway design team to assess the potential impacts of the OMF site on the regional trail and its visitors, and will work collaboratively to find creative solutions that meet the needs of Three Rivers, trail users, and the Bottineau Transitway project.

Thank you for your consideration of this concern. I look forward to working with the Bottineau team as the project advances.

Respectfully,

Sincerely,



Jonathan Vlaming
Associate Superintendent of Planning, Design and Technology
Three Rivers Park District
jvlaming@threeriversparkdistrict.org
C: 612-490-5220
W: 763-694-7632

C: Jan Youngquist, Metropolitan Council

May 20, 2014

MAY 3 0 2014

Communication #181

city of golden valley
7800 Golden Valley Road
Golden Valley, MN 55427

The Honorable Peter McLaughlin
Chair, Hennepin County Regional Railroad Authority
A-2400 Government Center
300 South 6th Street
Minneapolis, MN 55487

Mr. Chair;

The City of Golden Valley would like to take this opportunity to review and provide comments to the Bottineau Transitway Draft Environmental Impact Statement (EIS) Document. The City supports alternate transportation modes and appreciates Hennepin County's commitment to building a robust transit corridor in the northwest metro area. While the Bottineau Transitway would be an important component in providing mass transportation to the region, the City continues to have concerns surrounding the impacts of the line that is proposed to cross through northeast Golden Valley along the Burlington Northern Santa Fe (BNSF) railroad corridor.

The City has received feedback from several of its commissions, as well as residents. Most of the comments pertain to concerns over the potential impacts that the Bottineau Transitway would have to natural areas in the city, as well as potential impacts to surrounding properties. The City also has concerns relating to the infrastructure within the vicinity of the proposed stations serving the line—primarily the roadway system and the need for improved multi-modal facilities to serve the stations.

Based upon review of the Draft EIS, the City feels that greater effort and attention must be given to the following areas—not listed in any particular order or with indication of priority—during the upcoming Project Development phase of work:

- The likely impacts on the aesthetic and recreational aspects of Mary Hills Nature Area with an eye on both preserving and enhancing the park for future users.
- Projected traffic impacts (during and after construction) and impacts to infrastructure on Golden Valley Road, Wirth Parkway, and surrounding local streets near each station location, and how those impacts might be addressed. Consideration should be given to a design of Golden Valley Road that incorporates multiple modes of transportation, including transit, bicycles, pedestrians, and the proposed Bassett Creek Regional Trail.
- Highlight the differing impacts that a given station location or locations would imply for the immediately surrounding areas, including the effects of noise, lights, vibration, litter, pollution, and auto and bus traffic. The design of a given station should strive to

safeguard the personal safety of transit users as they arrive at, depart from, or wait at the platform.

- Mitigation measures should attempt to address the impacts as experienced by the residents of Golden Valley and not just the tangible aspects of the physical environment.
    - The mitigation of visual impacts as experienced from parks and residential areas, including the impacts from lights and lighting along the Bottineau Transitway and around potential station locations.
    - The mitigation of noise impacts for properties where noise barriers were not specifically identified in the Draft EIS. In general, the study of noise levels was inadequate and more locations must be examined.
    - The location of mitigation efforts for flood plain impacts along the corridor, especially in areas that may impact parks and nature areas.
    - Issues of accountability if the mitigation measures fail in the future and ownership and the responsibility for maintenance of infrastructure such as pipes and culverts should be examined.
- Beyond the quantitative measurement of noise and vibration, the City is interested in a qualitative analysis of the impacts the Bottineau Transitway project might generate—especially within Mary Hills Nature Area and Theodore Wirth Park.
- Parking options and passenger drop-off access at the proposed Golden Valley Road station. Consideration should be given to the construction of a park and ride facility at or near the Golden Valley Road station location.
- A more complete accounting of the impacts to Golden Valley residents, neighborhoods, streets, and the entire transportation system during the lengthy construction period.
- Many areas of Golden Valley have substandard soils which are unsuitable for construction without proper correction or engineering. A good portion of the Transitway corridor through Golden Valley is located within floodplain, lowland, or wetland areas. In addition, there are areas in Golden Valley that were found to be filled with construction debris in the past. The presence of contaminated material is likely. A careful and detailed analysis of the soils, including possible contamination, must be included as part of the project. Mitigation measures consistent with all applicable laws must be included in the project if contaminated material is discovered.
- Pedestrian movement throughout Mary Hills Nature Area by users on both sides of the existing rail line constitute an important community connection. The City requests a study of a safe pedestrian-only grade crossing.

In its previous communications with the County regarding the Bottineau line, the City has raised a number of concerns. While some issues have been addressed in the work completed as part of the Draft EIS, the City believes that continued attention must be paid to the following:

Natural Resources

The proposed alignment for the Bottineau Transitway (known as the Locally Preferred Alternative, or LPA) is to be located within and adjacent to Theodore Wirth Regional Park, as well as the Mary Hills Nature Area and Glenview Terrace Park. These areas are invaluable and unique natural and recreational amenities to the City as well as the northwestern Twin Cities region. The Comprehensive Plan for the City establishes clear goals that provide protection of these natural areas. The City shall be involved in all decisions that impact the parks.

Any impacts to the floodway or floodplain must be mitigated in accordance with the laws and policies of the regulating agencies. The City recognizes that mitigation within the existing railroad corridor will be challenging; it encourages the County to work closely with the City of Golden Valley, the Bassett Creek Watershed Management Commission (BCWMC), the Minneapolis Park and Recreation Board, and other BCWMC member cities to identify potential flood storage areas outside of the railroad rights-of-way, if necessary.

Wetland impacts will need to be mitigated in accordance with the laws and policies of the regulating agencies. The City of Golden Valley is the local government unit responsible for administration of the Wetland Conservation Act. If necessary, the County should identify potential mitigation solutions outside the railroad right-of-way that are satisfactory to the local partners.

The Transitway project will need permits or approvals from all agencies regulating stormwater, including but not limited to the City, BCWMC, and Minnesota Pollution Control Agency. At a minimum, best management practices addressing erosion and sediment control will need to be implemented during construction. It is possible that rate control and stormwater treatment that reduces pollutants and runoff will be required, especially with the development of a transit station, park and ride facility, or other impervious surfaces.

The natural areas located within the LPA Alignment are home to vast array of wildlife. Care must be taken to avoid impacts to the habitat and travel ways of all wildlife, including endangered, threatened, or special concern species. The City requests more specific information about the location of fencing along the LPA Alignment, as well as what type of fencing would be used. The movement and safety of wildlife through the natural areas may be impeded by certain types of fencing and the City would like to explore options for waivers from the requirement. In addition, new wildlife surveys may be warranted given the age of the surveys used in the Draft EIS.

As the proposed project has the potential to impact areas within large parks and natural areas, and areas adjacent to Bassett Creek, the corridor has been studied for the presence of historic and cultural resources. Both the bridge over Basset Creek in

Theodore Wirth Park (Bridge No. L9327) and the Grand Rounds Historic District have been identified as architectural resources that are eligible for listing in the National Register of Historic Places. The City shall be involved in all decisions that impact these two resources.

Station Location

The Draft EIS has identified two potential station locations in the City of Golden Valley along the LPA and suggests that only one will be chosen for construction. Both of the station locations—at Golden Valley Road near Wirth Parkway and on Plymouth Avenue near Wirth Parkway—would potentially require the acquisition of property owned by the Minneapolis Park and Recreation Board.

Prior Draft EIS information indicates that the Golden Valley Road station would serve mostly Golden Valley residents and businesses and the Plymouth Avenue station would serve mostly Minneapolis residents, businesses, and Wirth Park facilities. Golden Valley businesses in the immediate area include regional destinations (Courage Kenney Rehabilitation Institute, Minneapolis Clinic of Neurology, Regency Hospital of Minneapolis, Wirth Park) and local destinations (Church of St. Margaret Mary, Unity Christ Church, The Family Partnership). Additional businesses that would likely use the Golden Valley Road station via additional transit connections include Honeywell and General Mills, among others.

While a station located at Plymouth Avenue would likely have less effect on Golden Valley neighborhoods and community resources, the Golden Valley Road station would provide more direct access for Golden Valley residents and businesses. In addition, the Golden Valley Road location is on an existing bus line with potential feeder bus connections and has planned regional trail connections. As Metro Transit buses would not be allowed to use Theodore Wirth Parkway, a Plymouth Avenue station location would limit potential Golden Valley ridership. The City believes overall transit ridership numbers would be maximized with a Golden Valley Road station location.

As part of Project Development, the City will require more detailed information about how buses would be incorporated into the station areas, including the amount and frequency of feeder buses serving the stations, and information about how bus drop-off and pick-up would function at the stations. The City is also interested in the expected revisions to the bus system as routes are reconfigured to serve the stations and the potential impacts these changes would generate in Golden Valley.

As proposed, parking options at either station location are limited or non-existent. The City needs more detailed information about how parking would function at the station locations. The number of parking spaces at each location and whether or not parking ramps are being considered for the sites must be determined. The City believes

providing adequate parking at the stations is a necessity to avoid undesirable impacts on the surrounding streets and properties.

The Draft EIS does not include plans for a park and ride facility at either station location and land use and zoning controls that are currently in place at the proposed station location sites do not allow parking that is not associated with park uses. To allow for parking to be constructed, changes to land use and zoning controls would need to be made by the City Council. The City requests that funding be made available to allow for planning studies, which include consideration for parking options. Surrounding landowners have expressed concerns about their existing parking conditions so the integration of public and private parking improvements could be an opportunity for further study.

The ridership levels and trip generation from the proposed station or a future park and ride facility may result in the need to modify, enhance, or expand the nearby transportation system, which includes roads, trails and sidewalk facilities—specifically, Golden Valley Road as well as its intersection with Theodore Wirth Parkway. It is expected that the Bottineau Transitway Project would partner with the appropriate road authority to address and mitigate any traffic concerns.

Sidewalks currently serve both station locations. The existing sidewalk and trail system will require upgrades and/or expansion to meet accessibility design requirements and the needs of the community. It is expected that this would be accomplished as part of the site access evaluation and implementation. The City of Golden Valley owns and maintains concrete sidewalks on both sides of Golden Valley Road at the intersection with the proposed Transitway, though gaps in the sidewalk system exist on the north side of Golden Valley Road to the west. In addition, Three Rivers Park District has identified the Golden Valley Road corridor for the proposed Bassett Creek Regional Trail which would connect French Regional Park and the Medicine Lake Regional Trail to Wirth Regional Park and the trails along the Grand Rounds National Scenic Byway. This network of trails and sidewalks would also require year-round maintenance—especially for accessibility purposes—for LRT to succeed in this multi-modal transportation area. Funding for this maintenance should be discussed as part of Project Development.

The City owns and maintains an asphalt trail near the BNSF Railway in the Mary Hills Nature Area. This trail provides an important north-south connection from Golden Valley Road north into Robbinsdale via Sochacki Park. It is anticipated that a new Transitway may impact this trail and the City must be actively involved with any reconstruction or realignment of this trail. In addition, the City urges that the potential construction of a station at the Golden Valley Road location be done in a way that provides a trail connection between existing trails in Theodore Wirth Park and the Mary Hills Nature Area.

The costs to reconstruct Golden Valley Road and the existing multi-modal facilities discussed above, in addition to any facilities deemed necessary to fully meet the anticipated needs, must be considered in the evaluation of the potential station location. The Final EIS should identify and pursue opportunities for a Hennepin County Community Works project related to the possible reconstruction of Hennepin County State Aid Highway (CSAH) 66. The project could work in conjunction with the proposed Bassett Creek Regional Trail, which is identified to be partially located within the CSAH 66 corridor.

Property Impacts

The potential noise and vibration impacts from the Bottineau Transitway are a significant concern. While current and possible future freight rail traffic also create noise, it is different from consistent noise associated with a regional transit system. These effects should be studied in greater detail. The City needs more information about the presence of potential sound walls and other barriers that may cause visual obstructions to surrounding properties.

Ways to incorporate natural buffers such as trees and other vegetative cover as well as natural boulder retaining walls should be considered.

With high frequency transit service, the potential Transitway and transit station will have a visual impact on surrounding properties. Most notably will be the addition of lights and lighting that does not exist with the current freight rail. The effects of lighting must be studied and the screening of adjacent neighborhoods and park areas must be considered as part of this project.

The Final EIS should further assess the impacts to properties along the corridor and look for ways for the County and the Metropolitan Council to address any negative impacts, including pursuing funding opportunities for improvements to homes that are negatively impacted or possible acquisition of homes adjacent to the corridor for the purposes of mitigation.

Additional research should be done in the area of station and corridor noise mitigation. The City requests the study of the option to produce a quiet zone throughout the corridor, including the station stops between 36th Avenue North in Robbinsdale and Olson Memorial Highway in Golden Valley. This would include incorporating safe station train operation practices in order to eliminate the use of train bells or whistles while operating along the corridor and approaches into and departures from stations.

Community Resources

The proposed Transitway and transit stations would likely require an increase in community resources such as police, fire, public works maintenance, and traffic

management. Since the proposed transit system is managed by the Metropolitan Council, it is anticipated that Metro Transit Police will be the primary law enforcement agency at the station.

The City of Golden Valley owns watermain, sanitary sewer, and storm sewer facilities in the area of the proposed route. Some of these facilities parallel or cross under the existing BNSF Railway. The City requires more information about how these facilities might be impacted by the Transitway. Record drawings and other information are available in the City's engineering office to assist in the planning and design of the project. The City shall be consulted on all design and construction considerations and field decisions involving City-owned utilities.

The City of Minneapolis owns a 48-inch watermain which passes under the BNSF Railway north of Golden Valley Road and Metropolitan Council Environmental Services owns a large sanitary sewer interceptor which parallels the BNSF railway in Wirth Park. The City shall be consulted along with the custodial agency on all design and construction considerations and field decisions involving these utilities.

It has been estimated that as many as fifteen Xcel Energy transmission line towers may need to be relocated as a result of the proposed Transitway. The City's Right-of-Way Management Ordinance currently requires that any proposed reconstruction, relocation, or replacement of overhead utility lines over 300 feet be buried underground. This code requirement may apply to this situation.

The City of Golden Valley respectfully requests that these concerns be addressed in a sufficient manner, and that they become part of public record associated with the Bottineau Transitway Draft Environmental Impact Statement. As previously stated, the City recognizes the regional significance of transit in the northwest metro area, but remains concerned over the impacts the Bottineau Transitway project would have on Golden Valley. Thank you for continuing to work with the City to address these concerns. Golden Valley believes these comments will result in a more complete and better realized Final Environmental Impact Statement.

Respectfully,

Shepard Harris, Mayor

Joanie Clausen, Council Member

Steve Schmidgall, Council Member

Larry Bonnest, Council Member

Andy Snope, Council Member

Appendix G
Response to Draft EIS Comments

7 Comments Received on Draft EIS – Businesses

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Bottineau Transitway

Draft Environmental Impact Statement

Comments from Businesses

From: eric@crystalwineandspirits.com
To: Bottineau Transitway/Hennepin
Cc: jim.adams@crystalmn.gov; john.m.budziszewski@gmail.com; uuijad@aol.com
Subject: Bottineau LRT- OPPOSE
Date: Thursday, May 15, 2014 2:12:06 PM

Good Afternoon,

I very strongly oppose the railroad project. My wife and I own Crystal Wine and Spirits and the business is going to be either demolished or negatively affected by the track crossing on Broadway. The best case scenario is us allowed to keep our store but with multiple trains crossing across West Broadway means less traffic and customers. That's not even mentioning how our customers would get in and out of our parking lot. As a taxpayer I am perplexed at the fascination with trains. Back in the early to mid 1900's the trains were removed because of their inefficiency... and now we are trying to bring them back? Trains are a fixed mode of transportation, you can't make a left or right turn with them. Communities grow and decline over the years making trains very costly and ineffective. What is a highly populated area now does not mean it will be heavily populated in five or ten years. What do we do then? Move the tracks? More subsidies? More trains? Close it down? This is the biggest government waste I've seen in my 46 years in Minnesota. I understand this is a majority of federally funded project but the last time I checked I pay federal taxes and this is still a waste of tax money. If there is a greater need for public transportation then use the money to by more energy efficient and environmentally friendly buses. Bus routes can be rerouted as needed according to needs unlike trains.
In closing the Bottineau project is a waste of money. There are much better ways to spend the money and trains should not be in consideration.

Sincerely,
Eric Charlson

From: Kathy Forberg
To: Bottineau Transitway/Hennepin
Subject: Bottineau DEIS
Date: Wednesday, May 21, 2014 4:08:22 PM

Dear Sirs,

My name is Kathy Forberg, I own/operate Marr-Don Apartments on 4825 Vera Cruz in Crystal. I am very concerned about the impact of this project on my multi family property. I understand the trains will be 17-25 feet from my property. I am concerned about the noise, vibration, dust, and among other detriments the lack of privacy for my tenants. I am also concerned about the frequency of said trains, it's my understanding there will be a train every 7.5 minutes along with the wind, dust,pollution, and noise they will provide. I also understand there is a proposed crossing on Broadway, next to our building. This is not only very dangerous , as there are visibility issues there, but also more noise etc. This is way to close to a multifamily dwelling. I am looking forward to a discussion of these intensely important issues related to this project. I request you keep me updated via email , in reference to my property, when these issues can be discussed.

Thank you,

Kathy Forberg
4825 Vera Cruz
Crystal, MN
(612) 388-8166

From: Pence, Alison K
To: Bottineau Transitway/Hennepin
Subject: Comment on DEIS
Date: Thursday, May 29, 2014 11:54:15 AM
Attachments: DEIS response.docx

Please see the attached comment from Allina Health/Courage Kenny Rehabilitation Institute in support of the Locally Preferred Alternative as identified in the DEIS.

Thank you,
Alison

Alison Pence, MPH
Director of Community Engagement • West Metro • Allina Health
Phone: 612-262-1451 • Cell: 612-644-6953 • Alison.Pence@allina.com
Mail Route 10111 • 2925 Chicago Ave S • Minneapolis, MN 55407

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May 28, 2014

Hennepin County
Housing, Community Works & Transit Dept
701 Fourth Avenue South
Minneapolis, MN 55415

To Whom It May Concern,

Thank you for providing the opportunity to comment on the DEIS for the Bottineau Transitway project. On behalf of Allina Health and the Courage Kenny Rehabilitation Institute (formerly known as Courage Center), we would like to express our support and endorsement for the creation of the Bottineau Transitway and for the inclusion of a transit station at Golden Valley Road.

At Allina Health, we understand the importance of having a robust transportation infrastructure in place to enhance the health of our communities and we appreciate the role that reliable transportation options play in reducing health inequities and improving the health of the overall population.

Limited access to safe, reliable transportation has been shown to result in decreased opportunities for employment, education and recreation for certain populations and communities. This is especially true for persons with disabilities. The Courage Kenny site located on Golden Valley Road, currently provides services for about 6,000 patients per year, most of whom arrive for therapy and treatment via Metro Mobility, Metro Transit bus or private/for-hire transportation. For patients arriving by Metro Mobility or private/for-hire transportation, service is spotty at best. Our patients are frequently late or miss their appointments all together due to their reliance on these limited transportation options. Overtime, this delay in treatment and therapy frequently results in slower progress and poorer outcomes. These delays are also costly to the healthcare system and frustrating for the care providers waiting to see if the patients will arrive that day.

Building the Bottineau Light Rail Line with a stop at Golden Valley Road, as identified in the DEIS as the Locally Preferred Alternative, would be highly beneficial to both our patients and our staff. At the Golden Valley Courage Kenny location, we currently have about 500 employees. Employee parking at our facility is extremely limited, with no on-street options for overflow parking nearby. Having access to a reliable transportation option, such as a nearby light rail station, would definitely encourage public transportation usage by our employees, most of whom are not currently served by the busline.

As you are planning the Bottineau Transitway project and the Golden Valley Road station in particular, we would ask that you pay special attention to ensuring that the rail cars and the stations are handicap accessible and friendly to those with complex disabilities. The administration at the Courage Kenny Golden Valley site would like to invite your station and transitway planners to visit our facility to understand the level of disabilities that our patients, your future riders, face and the accommodations that can be made to make this form of transit accessible to all. This awareness will be important not just to Courage Kenny patients, but also to the general ridership as the residents of Minneapolis and the northwest suburbs age and become reliant on LRT as their only source of transportation.

In closing, thank you for providing this opportunity for Allina Health and the Courage Kenny Rehabilitation Institute to express our support for the Bottineau Transitway project and for the inclusion of a station at Golden Valley Road. We welcome this type of transit in this part of town and our patients and staff look forward to having increased access to safe, reliable transportation available to them.

Sincerely,

Alison Pence
Director of Community Engagement, West Metro Region
Allina Health

From: Shawn.Carriere on behalf of David.Marquis
To: Bottineau Transitway/Hennepin
Subject: Bottineau Letter of Support
Date: Thursday, May 29, 2014 10:43:39 AM
Attachments: image2014-05-29-104133.pdf

Hello-

Please see attached for David Marquis' letter of support. Please let us know if a hard copy also needs to be mailed.

Thank you!

Shawn Carriere | Assistant to David Marquis, Sr. Director, Corporate Real Estate | BE YOU. BE | 1000 Nicollet Mall TPN-1201 | Minneapolis, MN 55403 | (612) 761-6683 **(ph)** | My Site

TARGET

May 28, 2014

Hennepin County Housing, Community Work and Transit
Attn.: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

RE: BOTTINEAU TRANSITWAY
MINNEAPOLIS TO BROOKLYN PARK, MN

Your consideration is requested to approve the completion of the LRT Blue Line from the central business district of Minneapolis to Brooklyn Park (Bottineau Transitway). The Bottineau Transitway is the fourth phase of a comprehensive LRT strategy. This phase, an approximately 12 mile corridor, needs to be completed for the overall LRT strategy to realize its full potential of enabling growth in a flexible, connected and efficient manner. It will help, slow the growth of traffic congestion and serve the region's economic needs including encouraging expanded choices in housing locations and types, and improved access to jobs and opportunities through transit-oriented development.

Target owns 340 acres along a portion of Bottineau Transitway in Brooklyn Park at the 97th Avenue station and is in the process of expanding its presence with new buildings that will be occupied by the end of 2014, providing a workplace environment for more than 5,000 employees. Interest in additional development adjacent to Target's campus in the form of service retail, restaurants, hotels and housing is emerging. A master plan has been developed that incorporates the Transitway to provide quick and convenient access to the site from a large regional trade area extending along the rail corridor. The completion of TH-610 to I-94 teamed with the Bottineau Transitway will promote the creation of a transit hub for the northern and far northern suburbs and stimulate development in the quadrants of TH-610 and Highway 169, largely undeveloped land.

Significant investment has been made in the LRT network. The completion of the fourth phase to link Brooklyn Park with the central business district of Minneapolis and points beyond will encourage private investment that is likely to exceed the funding needed to complete the project.

Thank you for your consideration of this request.

Sincerely
TARGET CORPORATION

David A. Marquis
Senior Director, Corporate Real Estate
1000 Nicollet Mall
Minneapolis, MN 55403
612-761-1553
david.marquis@target.com

MAY 23 2014

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

Federal and state environmental rules require that an Environmental Impact Statement (EIS) be prepared for the proposed Bottineau Transitway project. The EIS process includes the preparation of a Draft EIS, which must be made available for public review and comment.

The Draft EIS discusses the purpose and need for the project, the alternatives considered, the impacts of these alternatives, and the agencies and persons consulted.

Comments on the Draft EIS will be accepted through May 29, 2014. All comments must be received by that date. Please include a return mailing address with all comments.

Public hearings on the Draft EIS will be held on May 7, May 8, May 13, and May 14, 2014. To learn more about the hearings and for more project information, visit the project website at http://www.bottineautransitway.org/.

Name: Kathy Forberg Organization: Marr-Don Apartments

Address: 4825 Vera Cruz Crystal, MN

Email: kaforberg@gmail.com

I am totally opposed to this project, Please See attached. Thank-you!

MARR-DON APARTMENTS
4825 VERA CRUZ
CRYSTAL, MN 55429

May 21,2014

Dear Sirs, I emailed my concerns about the proposed Bottineau Transitway project to you, and am following up with a hard copy. I own/operate Marr-Don Apartments located at 4825 Vera Cruz in Crystal. I am very concerned about the impact of this project on my multi family property. I understand the trains will be 17-25 feet from my property. This is a huge problem, I am concerned about the noise, vibration, dust, and among other detriments, the lack of privacy and comfort of my tenants. I am also very concerned about the frequency of said trains, its my understanding there will be a train every 7.5 minutes along with the wind, dust, pollution, and noise they will provide. I also understand there is a proposed crossing on Broadway along side of our property. This is not only very dangerous, as there are visibility issues there, but also more various noises from the horns and trains themselves. This is way too close to a multi family dwelling. I am also concerned about the negative impact on our multi family business, and the negative effect on the property value of my investment. I am looking forward to a discussion of these intensely important issues. I request you email me as to when these important issues can be addressed.

Thank you
Kathy Forberg
4825 Vera Cruz
Crystal, MN 55429
(612) 388-8166

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

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Name: John Rothbauer Organization: Sawhorse, Inc.

Address: 4740 42nd Ave. N. and 4750 42nd Ave. N., Robbinsdale, MN.

Email: Johnrothbauer@Sawhorseusa.com

On page 4-79 of the Impact statement under table 4.6-3. stating the number of on-street parking spaces lost at zero is NOT Correct. The 17 parking spaces are NOT on-street and are on Sawhorse, Inc. property. Sawhorse, Inc. purchased the property that has the 17 parking spaces over 15 years ago. Sawhorse, Inc. would like the Transitway Authority to purchase the Entire property(s), Land and building from Sawhorse, Inc. Sawhorse believes this is reasonable, because, Sawhorse will be left with only 2 parallel parking spots on the western side of our building, no handicap parking, and will only have access to 6 spots on the eastern side of the office building. So, with only up to 8 parking spots available for a business with over 18 employees, plus needed customer parking, Sawhorse Inc. feels this is the justified and correct approach.

Sincerly, John Rothbauer
President, Sawhorse, Inc.

Appendix G
Response to Draft EIS Comments

8 Comments Received on Draft EIS – Civic and Community Organizations

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From:	Lisa Larson
To:	Bottineau Transitway/Hennepin
Subject:	Comments
Date:	Thursday, May 22, 2014 12:03:41 PM
Attachments:	North Hennepin Community College Student Senate letter Bottineau Transitway.pdf Audua Pugh NHCC Student Public Transportation letter.docx Tarsha Davis NHCC student Bottineau Transitway Comments.docx

I am sending three documents on behalf of North Hennepin Community College students regarding their feedback to the Bottineau Transitway.

Please let me know if you have questions.
Thank you



Dr. Lisa Larson, Interim President | North Hennepin Community College |www.nhcc.edu | 7411 85th Avenue North - Brooklyn Park, MN 55445 - map | lisa.larson@nhcc.edu | 763-424-0820 || Deborah Pope, Assistant to the President | deborah.pope@nhcc.edu | 763-424-0812 | 763-493-0577 - fax | Find us on Facebook

North Hennepin Community College is a member of the Minnesota State Colleges and Universities and an equal opportunity employer and educator. This document is available in alternative formats to individuals with disabilities by calling 763-493-0555 or through the Minnesota Relay Service at 1-800-627-3529. North Hennepin Community College's Disability Access Services office can be reached at 763-493-0556.

To whom it may concern:

In my capacity at the college I spend my days getting to know the student body as well as advocating for students on various issues. The issue of transportation is a common theme. As a commuter campus we all have to get to North Hennepin Community College some way. I have driven and received rides during my tenure at the college. I have also given a heck of a lot of rides too. Having light rail access or increased access to public transit is something that students feel is very important to the college and the community. The impact on the community is easy to see. A larger educational footprint is the building block of a successful community. With the incredible growth in Brooklyn Park coupled with increasing demand for education, this rail project would be a natural step in improving our community. In addition, for some students, public transit allows them to attend college. Period. Not all students can be successful with certain telecommuting educational options. Being able to attend class and be face to face with their professor is crucial to the success of their education. I would also offer that some statistics show a college will have better completion and retention rates with students that spend more time on campus. The final idea I would introduce is the opportunity cost of less transit options. It takes a ton of time to ride the bus, transfer and actually get where you need to be. By having light rail and other expanded transportation options, we increase the opportunity capital of the students using these services. This means more time to work, raise a family or just study. I'm glad that this project continues to be considered and hope we can move from planning to implementation soon. The students, our future, depend on it.

Sincerely,

Richard Barnier
President
NHCC Student Senate

The undersigned students have read and support this position in addition to the general support my conversations with students all year have had.

Idil Hassan

Hamid Mokhtarzadeh.

From: Tarsha Davis <TDavis@nhcc.edu>
Date: May 20, 2014 at 12:04:33 PM CDT
To: Michael Birchard <MBirchard@nhcc.edu>
Subject: RE: Comments

Hi,
I think having the light rail stop by NHCC would be great for college students. I currently take two buses to get to school which can be an inconvenience on days when it is snowing and or raining. Having light rail stop at North Hennepin Community College would help in enrollment because being a college student you are looking for something close to home and or easy to commute too.

May 19, 2014

To whom it may concern,

A light rail is important to North Hennepin Community College because as of today, the students of NHCC that ride public transportation have to either: wait and hour for a bus to pick them up from the front of campus or walk about 5 blocks to the transit station located on Brooklyn Blvd. and there aren't any sidewalks. I personally don't take public transportation, but I see students struggling in the winter and during bad weather to get to campus. I know some students that have dropped out of school because it's difficult to get to NHCC on public transportation.

There are students that want to be successful students, but it's difficult because a need is not being met. I know other students that attend MCTC only because it's convenient due to public transportation. Enrollment would possibly be higher at NHCC if continent public transportation was available.

Thanks,

Audua Pugh

From: Deborah Pope
To: Bottineau Transitway/Hennepin
Cc: Lisa Larson
Subject: Letter of Support
Date: Friday, May 23, 2014 7:40:23 AM
Attachments: NHCC EIS.docx

Please see the attached letter of support on the Bottineau Transitway project from Interim President Lisa Larson.

Deborah Pope
Executive Assistant to the President
North Hennepin Community College
7411 85th Avenue North
Brooklyn Park, MN 55455
763-424-0812 (O) 763-493-0577 (F)
deborah.pope@nhcc.edu

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Office of the President

May 22, 2014

Brent Rusco
Bottineau Transitway Study Manager
Hennepin County
701 4th Avenue S, Suite 400
Minneapolis, MN 55415

Dear Mr. Rusco:

Thank you for the opportunity to comment on the Bottineau Transitway Draft Environmental Impact Statement. Transportation is an essential aspect of student success at North Hennepin Community College. On behalf of the College, I support the Bottineau Transitway Project, specifically the option B-C-D1 option.

North Hennepin Community College is located along the proposed line for the Bottineau Transitway project. This project will provide advantages to our current and future students.

- One of the options to the Bottineau Transitway project provides a convenient drop off and pick up very close to NHCC. Many of our students depend on a public transportation system. Current systems are limited in their service and it can result in an additional two-three hours to a student's daily travel to and from the college. We believe this project will provide improved options, travel time and access.

- The project provides the opportunity for students and staff to take this as a transportation option rather than their own vehicle. Reliable transportation is a challenge for many NHCC students. This opportunity will help students with a consistent transportation option. Additionally, our students and staff are interested in having an alternative to driving individually as well as driving through rush hour traffic.

- The project provides access to employment opportunities for our students. Students would have options to work or have internships in downtown Minneapolis and know they have the transportation to get to and from work.

- The project provides Minneapolis residents access to North Hennepin Community College. Minneapolis residents can consider NHCC to pursue their educational or training needs.

North Hennepin Community College is excited with this new transportation opportunity. It will provide so many wonderful benefits. Please let me know how we can continue to advance this important need in our community.

Sincerely,

Lisa Larson

Lisa Larson, Ed.D
Interim President

Handout at from Russ Adams
at Minneapolis public hearing

Russ Adams
URoC 5/8/2014
Communication #42

Equity Commitments for SWLRT Community Compact

I. TRANSIT IMPROVEMENTS

Plan and develop multi-modal transit connections to the Penn Ave and Van White Southwest Light Rail stations

1. **A connection from Penn Ave BRT or enhanced bus service to the Penn Ave SWLRT Station**

a) Direct Service: The **Met Council** will commit to run high frequency bus connections with extended weekday and weekend service hours along Penn Ave. N. to the SW Penn Ave. station stop.

b) Full analysis of bus connections and new routing to maximize access and connectivity of SW LRT: The **Southwest Project Office** will conduct a transit service plan that will analyze the existing bus systems and reconfigure to support the transit rider needs and uses in the SWLRT area.

A national model of community engagement for this process is the Trusted Advocate Program at **District Councils Collaborative of St. Paul and Minneapolis (DCC)** see http://dcc-stpaul-mpls.org/content/transit-more-ride-trusted-advocate-project This was a direct partnership between Metro Transit and DCC to execute the community engagement.

c) Community Partnerships/Contracts for future transit service planning: The Met Council commits to award community-based community engagement contracts to local community organizations to participate in two areas.

i. **Coordinated transit service planning** with the Met Council for the SWLRT, Penn Avenue BRT, Bottineau LRT, Fremont/Girard Avenue and West Broadway Avenue corridors.

ii. **Coordinated land use planning** with city, county and Met Council for SWLRT, Penn Avenue BRT, Bottineau LRT, Fremont/Girard Avenue and West Broadway Avenue corridors.

   a. **A focus should be on sensible density principles**

URoC 5/8

2. Prioritize bicycle and pedestrian access

a) Incorporate bicycle and pedestrian planning into the coordinated transit service and land use planning efforts **(Item I. 1. C)**

   a. Incorporate Complete Street policy principles and practices when making transit investments.

b) Support innovative opportunities to connect transit investments to health outcomes.

3. Create favorable conditions for future transit connections to the SWLRT, including a Northside circulator, other proposed BRT lines, streetcars, and regional rail.

a) Adoption of Regional Street Car Policy: The **Met Council** will recognize the cities of **Minneapolis** and **St. Paul** Street Car analysis and commits to adopting a regional street car policy, though it can't yet commit to providing funding for the street car network.

b) Adoption of Nicolet/Central Street Car project into the TPP: The **Met Council** commits to providing a Locally Preferred Alternatives recommendation for the Nicolet/Central Street Car project and will work to have this line adopted into the TPP by the end of 2014, subject to the approval of the TAB.

c) 21st Street Station: The **Met Council** commits to including a 21st Street station along the SWLRT corridor as a critical connection point for buses from Franklin Avenue serving south Minneapolis - in particular the Phillips Community and Whittier neighborhood.

Community members want a commitment to east-west bus connectivity to access the SW line to enhance connections to the population base of south Minneapolis. We recognize that having this station would eliminate a northern tunnel option along the *Kenilworth Trail*.

d) North Minneapolis Bus Circulator concept: The **Met Council** commits to study and make recommendations on the viability of operating a new bus circulator route for the Northside of Minneapolis. The circulator would provide access to origins and destinations within the neighborhoods of North Minneapolis as well as connecting them to the regional transit system and all of the economic, social, and environmental opportunities the region affords.

Background: Most residents in North Minneapolis would be within a 10-minute walk of the circulator and the access it could provide both within the neighborhoods and into the rest of the region. **Jamil Ford** of the architectural firm **Mobilize Design & Architecture** and **Jim Erkel** of the **Minnesota Center for Environmental Advocacy (MCEA)** are teaming up to release a report

exploring the circulator concept. They initially worked up the idea as an add-on or mitigation for Bottineau particularly after the alignment selected as the locally preferred alternative will move around, not through, the neighborhoods. However, the circulator and its route could be easily adapted to improve the equity performance of Southwest or take into account any other transit investment such as streetcars or arterial BRT. In transportation terms, the circulator would act in urban neighborhoods like park-and-rides lots work in suburban areas to artificially concentrate ridership/densities.

Mobilize Design & Architecture and MCEA argue for measures that would create a triple bottom line for the neighborhoods. First, they point to specific equipment -- completely electric buses that are sized to fit the residential and mixed-use forms of the neighborhoods. Next, they argue that Metro Transit should maintain the buses in the neighborhoods and hire drivers and maintenance staff from the neighborhoods. Third, leverage this transit investment by creating a partnership between the **city and/or county** and **Xcel Energy** for the use of distributed photovoltaic arrays on homes and in community gardens which should also be installed by people hired and trained out of the neighborhoods.

Invest in North Side transit infrastructure and amenities

4. Heated bus shelters

a) Met Council commitment to add ___ *[number]* of heated bus shelters (full (C-style) standard Metro Transit shelter) along routes **5, 7 9, 14, 19, 22, and 30**

b) Met Council commitment to add ___ *[number]* of security cameras and emergency call boxes at strategic locations along routes **5, 7 9, 14, 19, 22, and 30**

c) Met Council commitment to adopt snow removal management practices at shelters in north Minneapolis with higher ridership

5. Lower bus fares

a) Met Council commits to **at least a 25 cent drop in regular route fares** in urbanized portions of the region

b) Longer transfer times: Met Council commits to extending the time period allowed for transferring from one vehicle to another after initial payment by one hour – from 2 ½ hours to **3 ½ hours** (this has been a consistent request among transit riders).

6. Lower wait times

a) Service Frequency: Met Council agrees to study the feasibility of higher frequency service with extended hours and higher frequency service on weekends. A model for defining what this could look like would be how higher frequency is defined in the Central Corridor service plan.

II. REGIONAL DEVELOPMENT

Prioritize Van White Station development

1. City and County collaboration are needed to maximize the development potential already planned for by the community

a) Van White Station Prioritization: The **City of Minneapolis** commits to prioritizing funding development at the Van White station along the SWLRT and commits to working closely with the **Bryn Mawr** and **Harrison neighborhood associations** to achieve the vision of the **Bassett Creek Valley (BCV) Master Plan** for a mixed-use, mixed-income development including affordable rental and homeownership options .

b) No Land Transfer at Van White Station: The **City of Minneapolis** commits to not transfer the land surrounding the SW Van White station area **(Linden Yard West and East)** for the use of commuter train storage.

c) No Train Storage at Van White Station: As a core commitment to Environmental Justice principles and racial equity outcomes, **MnDOT** agrees not to pursue a diesel train storage yard at the SW Van White station area **(Linden Yards East).**

d) Removal of city Impound Lot: The **City of Minneapolis** commits to dismantling, clean up and reclamation of the city impound lot to residential and park/recreation standards consistent with prior commitments of city comprehensive planning documents and the 4 stages of redevelopment in the BCV Master Plan.

e) Develop community agreed upon design guidelines for Van White station development.

f) Invest in energy efficient development.

2. Maintain and Expand affordable housing base (modified title)

a) Housing Choices: The **City of Minneapolis, Hennepin County** and the **Met Council** commit to working with local neighborhood associations, private and community nonprofit housing developers such as Urban Homeworks and the City of Lakes Housing Trust to fund the maintenance and preservation of a rich balance of housing choices affordable for current and future residents and workers within and near the transitway corridors. Affordability definitions should be calibrated to median income levels for the city of Minneapolis (lower percentages than regional median income levels to better reflect on-the-ground conditions)

b) The **City of Minneapolis** commits to a strategy of preventing involuntary displacement of low-wealth communities from transitway corridors.

3. Promote and engage with Glenwood Ave. Business District to catalyze growth through more of North Minneapolis

a) The **City of Minneapolis** commits to working with local neighborhood associations and business owners to coordinate station area planning and land use planning that anticipates multiple transitway investments. The **Glenwood Ave. Business District** and **Van White Memorial Blvd.** should serve as demonstration projects for this purpose.

b) The **City of Minneapolis, Hennepin County** and the **Met Council** agree to coordinate efforts with local neighborhood associations and nonprofit community development organizations to plan for new business development along northside commercial corridors, achieve TOD density goals, create entrepreneurial incubator programs and maximize local job/workforce programs.

III. REGIONAL EQUITY/HUMAN CAPITAL DEVELOPMENT (change of title) ~~BUSINESS/CAREER DEVELOPMENT~~

1. Develop a system that connects job seekers with employment and entrepreneurial opportunities along corridor (altered sub-title)

a) A system should be developed to ensure people of color have opportunities to secure employment with Anchor Institutions and businesses in key growth sectors of the regional economy.

Public officials and agencies need to recognize this leg of a broader rail system will connect segregated populations to employment centers (industrial parks, etc.) and training agencies throughout the system. Employers along the transit development should be engaged to understand their employee needs and this opportunity, both now and moving forward. Their projections along with job descriptions can be used to design a community based recruitment and training program for these jobs. Similar to construction, this program would create a pool of available workers to fill future employer needs.

Public agencies should use their leverage to bring employers to the table and to ensure those employers are hiring people of color. All anchor institutions along the transit line that receive public benefits or simply benefit from the transit development should have hiring goals for people of color as they hire new workers in the future.

Community based training organizations should be utilized in the effort to design such a program to recruit, identify, and if necessary train community workers to meet the needs of Anchor employers based on the similar successful effort of the Employment Assistance Firm being implemented as a part of the development of the Minnesota Multi-use Sports Facility (i.e. the Vikings Stadium.)

b) Hennepin County and DEED commit to create framework to operationalize this program with Northside employment outreach and training groups such as Summit Academy OIC and the Urban League to design and fund a program such as the Employment Assistance Firm model (EAFs) to intentionally and successfully connect unemployed and underemployed Northside residents to jobs along the SW Corridor.

Program design based on best practices:

i. Assessment of employers' employee needs –current and projected.
ii. A trusted intermediary to bridge employee connections to employers. (Hopefully, EAF under another name)
iii. A means of recruitment
iv. Training aligned with identified employer needs.

v. Identifying regional development/employment opportunities in expanding industries.

vi. Organize the proposed North Minneapolis Workforce Center's program and tenancy to be the anchor for this effort.

Possible partners: the county can look to their work with the **Northside Community Response Team (NCRT)** and **DEED** can work with its ***North Minneapolis Workforce Center*** Community Advisory Committee (CAC) & the other Community-Based Organizations that performed outreach. Another stakeholder partner that should be approached is the **Northside Funders Collaborative**. This program should also employ lessons learned from the successes and failures of the Central Corridor efforts on anchor institutions.

The partners should engage local and regional businesses committed to job training and local-source hiring in a coordinated effort with Penn Ave Community Works and other targeted development in North Minneapolis.

2. Exceed the proposed 32% minority/6% female construction hiring goal (amended sub-title)

a) The Met Council agrees to increase Equitable Hiring Goals to 40% people of color and 10% women (above the required 32% people of color and 6% women).

With the increased interest in creating employment opportunities for people of color, particularly those in North Minneapolis, and the availability of the premier construction employment training program in Hennepin County in North Minneapolis, the required hiring goals can and should be increased.

When compared to other areas in the region, North Minneapolis has a higher percentage of people of color and higher rates of poverty. Increased opportunities for employment have a significant opportunity to improve the economy of the neighborhoods.

The Met Council has set a precedent for increasing hiring goals when the development is in communities of color and high areas of poverty. On CCLRT construction, the Met Council set a

hiring goal nearly 70% higher than the required goal. In this instance, the Met Council should set a goal equal to the percentage of people of color living in Minneapolis. This number is lower than the percentage of people of color in North Minneapolis and will still be lower than the percentage of people of color living in the city by the time construction begins, let alone when it ends.

b) The Met Council should contract with a Community Based Recruitment and Training Organization.

Similar to the Employment Assistance Firm being utilized on the construction of the Multi-purpose Sports Facility in Downtown Minneapolis, the Met Council should contract with a community-based recruitment and training organization to organize this effort.

The overall purpose of this organization is to ensure that there is a pool of trained and skilled people of color and women available to work on this construction project. The organization will recruit both skilled workers and those needing training. For those needing training, the organization will provide the necessary training.

The organization needs to have strong community ties to be able to recruit people into the program. Training organizations must have experience working with communities of color and women. The organizations must also have relationships with organized labor to ensure that the workers and trainees have access to union employers.

This system is already underway on the new football stadium and should be used as a model.

c) There should be targeted zip code employment goals set for communities of color and areas high in poverty.

On the construction of CCLRT, the Met Council identified zip codes with high percentages of people of color and high rates of poverty. Employers tracked the number of workers in these zip codes and publicly reported these numbers on a monthly basis.

Not only should this happen on this construction project, but there should be targets for the number of employees from these zip codes.

On previous construction projects, local government agencies have stated that federal regulations prohibit them from having local hiring goals when US Department of Transportation dollars are involved. There are ways around this, particularly with the involvement with the US Department of Housing and Urban Development.

HUD administers the Section 3 program, which is designed to create employment opportunities for low-income individuals living near HUD financed development. When HUD contributes to housing development along a transit line, Section 3 requirements could potentially be applied.

This would be of particular interest given the strong desire for benefits in North Minneapolis. The USDOT and HUD should be contacted in connection with this project to explore this opportunity.

d) Explore opportunities to unbundle contracts for construction and professional projects to ensure that small, minority, and women owned businesses are included and able to prosper.

Funding should be provided to offer technical assistance and support to these businesses as needed to ensure their success. The services that the Metropolitan Economic Development Association, (MEDA) provided to CCLRT could serve as a model for this assistance.

From:	Joan Vanhala
To:	Bottineau Transitway/Hennepin
Cc:	Russ Adams
Subject:	AMS comments to the Bottineau DEIS
Date:	Thursday, May 29, 2014 12:56:11 PM
Attachments:	AMS Bottineau DEIS comments May 29 2014.pdf

Bottineau Project Staff,

Please accept the attached Alliance for Metropolitan Stability comments to the Bottineau Draft Environmental Impact Statement.

Joan Vanhala, Coalition Organizer
Alliance for Metropolitan Stability
2525 E. Franklin Avenue
Minneapolis, MN 55406
612-332-4471; http://www.metrostability.org/

I learned this… that if one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with a success unexpected in common hours.
Henry David Thoreau

TO: Hennepin County
Housing, Community Works & Transit
ATTN: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

May 29, 2014

From: Alliance for Metropolitan Stability
2525 E. Franklin Avenue
Minneapolis, MN 55406
Contact: Joan Vanhala, Coalition Organizer
612-332-4471; joan@metrostability.org

Public Comment for the Bottineau Light Rail Transit Draft Environmental Impact Statement

The Alliance for Metropolitan Stability (AMS) is a coalition of grassroots organizations that advances racial, economic and environmental justice in growth and development patterns in the Twin Cities region. Our 31 member groups represent communities of color, low-income communities, housing advocates, faith-based organizations, research and policy organizations, economic developers and environmental, transit and land-use policy advocates. See http://www.metrostability.org/about_us/member_list.php

Environmental Justice:

Bottineau LRT corridor is 52% people of color and 14% are transit dependent. Bottineau Corridor connects 2 significant environmental justice communities to our regional transitway system – Brooklyn Park and North Minneapolis. It is Important that the transit investment, the corresponding land use and economic development has community benefits for the low income communities and communities of color in the corridor.

AMS is a member of the Corridors of Opportunity Community Engagement Team and through this work is supporting 16 environmental justice groups through a re-granting program to actively engage their community members in the planning of the Bottineau LRT project (Blue Line Extension). These groups are:

1. African Career Education Resource Inc.
2. African Economic Development Solutions
3. African Immigrant Services
4. Asian Media Access
5. Asian Economic Development Association
6. Center for Asian Pacific Islanders
7. Centro Trabajdores Unidos en La Lucha
8. Cleveland Neighborhood Organization
9. Harrison Neighborhood Association
10. Heritage Park Neighborhood Association
11. La Asamblea de Derechos Civiles
12. Laos Assistance
13. Masjid An-Nur
14. MICAH (Metropolitan Interfaith Council on Affordable Housing)
15. Northside Residents Redevelopment Council

16. West Broadway Business and Area Coalition

The groups have formed the Blue Line Coalition to secure community benefits for environmental justice communities in the Bottineau Corridor. AMS continues to provide technical and organizing support to this effort. These groups provide project planners with a relationship base that should be utilized in all project planning community engagement moving forward.

AMS recommends a corridor wide community compact similar to the Red Line Community Compact in Baltimore. The community compact process should model best practices in community engagement and be a partnership between Metro Transit, Hennepin County, the cities, and the environmental justice communities within the Bottineau LRT corridor.

The environmental justice communities' resources have not been adequately documented in the draft environmental impact statement. Just along HWY 55 there are schools, libraries, public housing, and churches. To truly understand the impacts, the corridor environmental justice community resources need to be documented and included in the planning process. This includes businesses, schools, churches, libraries, community centers, social service agencies and non profits.

A very important environmental justice community resource has no mention in the draft environmental impact statement. Located directly adjacent to the Van White Station, Summit Academy OIC is the only community-based vocational training and job placement program in North Minneapolis. They serve up to 600 students who attend from throughout the region. They have a goal to enroll 1000 students by 2016. They have been an active participant through HIRE MN (http://hiremn.org/)to ensure that MN Department of Transportation reaches its 32% hiring goals in Hennepin County for people of color and women. They should be engaged as a partner for:

a. Hiring construction workers for the Bottineau LRT project
b. Physical impacts to their site at the Van White Station during construction, station location, infrastructure investments for Summit OIC students access to the Bottineau LRT and the regional system.

Community Engagement:

Regionally Hennepin County Bottineau project staff has modeled some of the best community engagement of environmental justice groups for Alternatives Analysis. We look forward to continued authentic engagement.

As the Community Advisory Committee is re-formed during the transition from Hennepin County to Metro Transit/Metropolitan Council, the Corridors of Opportunity Community Engagement Steering Committee (http://engagetc.org/steering-committee/) recommends that the Blue Line Extension Community Advisory Committee:

a) Be a community driven body with staff support.
b) Be a resource and check point for community engagement by reviewing and approving a corridor project community engagement plans.
c) Identify issues and assign problem solving teams that include community members and project staff.
d) Elect a representative member on the transitway corridor policy advisory committee/management committee.
e) Be formed early in the scoping phase of the transitway corridor planning process.

f) Membership will be selected by communities they represent.
g) Elect a chairperson who represents a grassroots community.
h) Have the ability to set their own agenda, pass motions, and make recommendations to the corridor policy advisory committee/management committee.
i) Will be combined with Business Advisory Committees ensuring coordinated issues and efforts.
j) CE Steering committee will support project staff with connections to underrepresented groups i.e.: Faith communities; Cultural communities; Place based groups; Communities of color ; Small and Ethnic businesses; Community Engagement Steering Committee members; Disability community; New immigrant communities; Low-income communities; Students at high schools, community colleges
k) Orientation will include a focus on environmental justice, equitable development, and cultural awareness.
l) Construction Communication Committees set up at least one month in advance of construction, with representatives appointed by community groups.

AMS also recommends that Blue Line Extension project planners contract directly with community groups for future community engagement. A national model of community engagement is the Trusted Advocate Program at District Councils Collaborative of St. Paul and Minneapolis (DCC) see http://dcc-stpaul-mpls.org/content/transit-more-ride-trusted-advocate-project This was a direct partnership between Metro Transit and DCC to execute the community engagement.

Project coordination/community cohesion:

North Minneapolis has a regionally unique intersection of Metro Transit transitway projects that are in process: Southwest LRT, Bottineau LRT, Penn Avenue BRT, West Broadway Transit Study. These projects impact these neighborhoods: Harrison, Heritage Park, Near North, Willard Hay, Hawthorne, and Jordan. Because of the overlapping corridors and planning areas, AMS is recommending coordinated planning across these transit projects by Metro Transit, Hennepin County, and the City of Minneapolis for:

a) Harrison neighborhood because they are bordered by 3 of these transit projects: Bottineau Light Rail Transit, Southwest Light Rail Transit, Penn Avenue Bus Rapid Transit. The planning areas of these projects combined cover every block in the Harrison neighborhood. Harrison Neighborhood Association should be a major partner in coordinating the planning. See attached map.
b) Transit Service Plan/Transit Study planning with Metro Transit
c) Land Use planning with city of Minneapolis and Hennepin County.
d) Economic development planning with city of Minneapolis, Hennepin County, Metropolitan Council Transit Oriented Development office.
e) Incorporate Complete Streets policies and practices into the land use planning.
f) Infrastructure investments in these neighborhoods that ensure safe connections to all planned transit projects for neighborhood residents - pedestrians, bicyclists, and bus riders with a specific focus on the Highway 55/Olson Memorial Highway.
g) Efficient and effective transit connections to neighborhood businesses and transit – recommends an accurate inventory of North Minneapolis businesses.

Olson Memorial Highway/HWY 55 is currently not pedestrian friendly or safe. Annual pedestrian fatalities result from people trying run across this divided highway. HWY 55 currently is a barrier within this environmental justice community. The Bottineau LRT project has the potential to exacerbate this barrier or to provide the opportunity to reconstruct this corridor to be safe and welcoming for

pedestrians and bikes with traffic calming strategies. Special attention should be given to redesigning HWY 55 with safe and livable crossing connections for pedestrians and bicycles.

Transit service planning

North Minneapolis Bus Circulator concept: Alliance recommends the Met Council commits to study and make recommendations on the viability of operating a new bus circulator route through the center of North Minneapolis for future connections to the Bottineau LRT, Southwest LRT, Penn Avenue BRT, and the West Broadway transit study

AMS recommendations on heated bus shelters, transfer Stations and other improvements:

a) Metro Transit commits to add at least 24 heated bus shelters (full C-style standard Metro Transit shelter) along routes 5, 7 9, 14, 19, 22, and 30 by 2015.
b) Metro Transit commits to add security cameras and emergency call boxes at strategic locations along routes 5, 7 9, 14, 19, 22, and 30.
c) Metro Transit commits to adopt snow removal management practices at shelters in north Minneapolis with higher ridership
d) Metro Transit commitment to work with northside community-based partner groups to study and identify sites for constructing at least two north Minneapolis Transfer Stations for bus and rail transit riders.

Economic Development

Throughout the Bottineau Corridor there are environmental justice small businesses. Every effort should be made to maximize the benefit and minimize the impacts of the project on these entrepreneurs.

For North Minneapollis, the Bottineau LRT project provides a once in a life time opportunity to increase the wealth in this low income community. The City of Minneapolis, Hennepin County and the Met Council should agree to coordinate efforts with local neighborhood associations and nonprofit community development organizations to plan for new business development along northside commercial corridors, achieve TOD density goals, create entrepreneurial incubator programs and maximize local job/workforce programs.

2 1/5 miles of Glenwood Avenue (city of Minneapolis border to downtown Minneapolis) is within a station planning area (Penn Station, Van White, and Target Field). Land use planning should promote and engage with Glenwood Ave. “West Market Business District” to catalyze growth through more of North Minneapolis

a) Hennepin County and the city of Minneapolis should commit to working with local neighborhood associations and business owners to coordinate station area planning and land use planning that anticipates multiple transitway investments.

Affordable Housing

Displacement is currently a real issue in the Bottineau LRT Corridor. North Minneapolis is barely recovering from the foreclosure crisis and the Northwest suburbs face inevitable displacement of privately owned affordable housing in the station areas. AMS recommends:

a) Housing Choices: Cities in the corridor, Hennepin County and the Met Council commit to working with local neighborhood associations, private and community nonprofit housing

developers to fund the maintenance and preservation of a rich balance of housing choices that are affordable for current and future residents and workers. Each city should establish goals to develop mixed-income communities. Affordability definitions should be calibrated to median income levels for the corridor (lower percentages than regional median income levels to better reflect on-the-ground conditions).

b) The cities/Hennepin County and Metropolitan Council commit to a strategy of preventing involuntary displacement of low-wealth communities from transitway corridors.

Jobs

AMS recommends that Metro Transit/Hennepin County develop a system that connects job seekers with employment and entrepreneurial opportunities throughout the Bottineau corridor. A system should be developed to ensure people of color have opportunities to secure employment with the Bottineau project, Anchor Institutions and businesses in key growth sectors of the regional economy.

a) Hennepin County and DEED commit to create framework to operationalize this program with corridor wide employment outreach and training groups such as Summit Academy OIC and the Urban League to design and fund a program such as the Employment Assistance Firm model (EAFs) to intentionally and successfully connect unemployed and underemployed Northside residents to jobs along the Bottineau Corridor.
b) Bottineau LRT project contracts should exceed the state required 32% minority/6% female construction hiring goal by increasing the hiring goal to 40%
c) There should be targeted zip code employment goals set for communities of color and areas high in poverty.
d) Explore opportunities to unbundle contracts for construction and professional projects to ensure that small, minority, and women owned businesses are included and able to prosper.

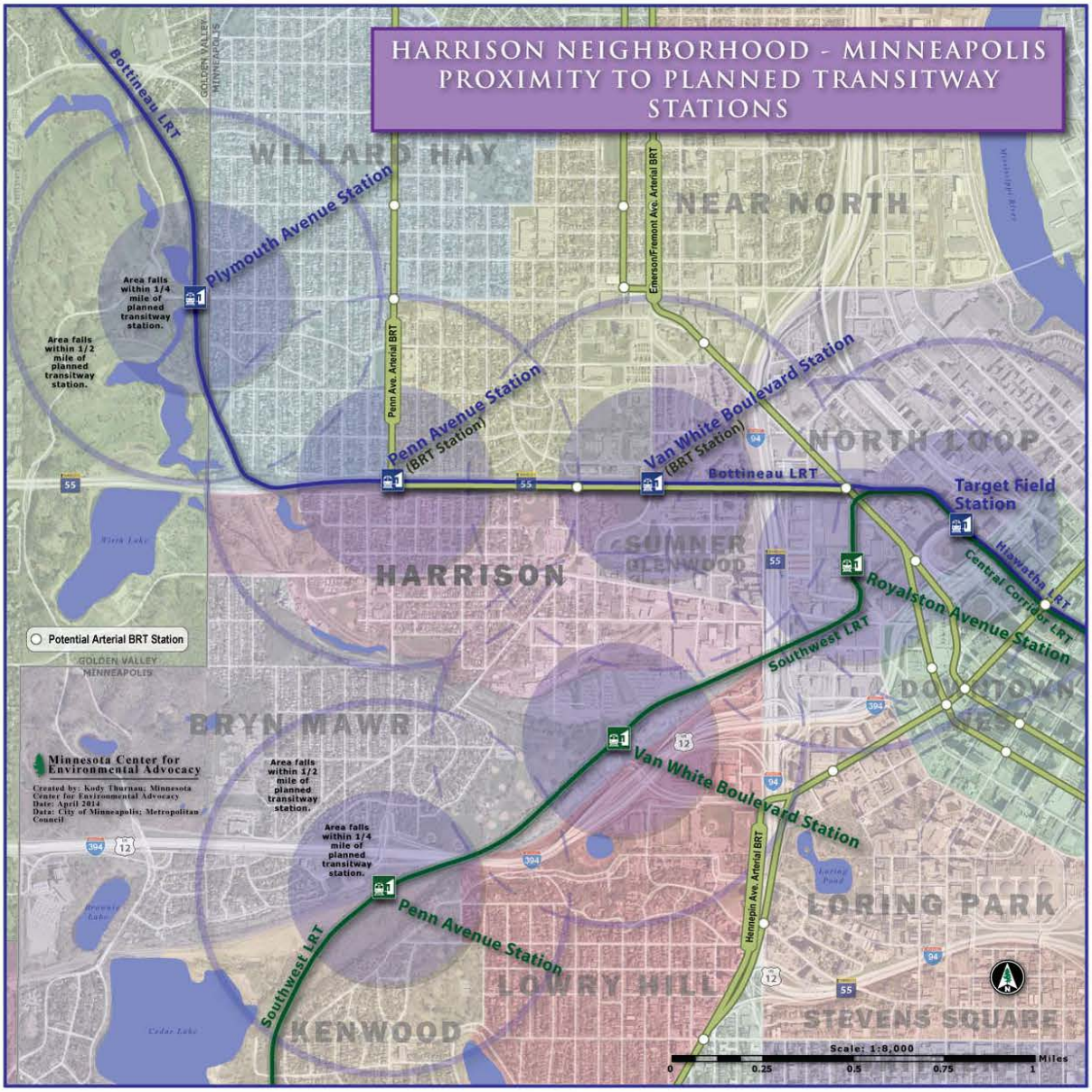
Northwest Suburbs

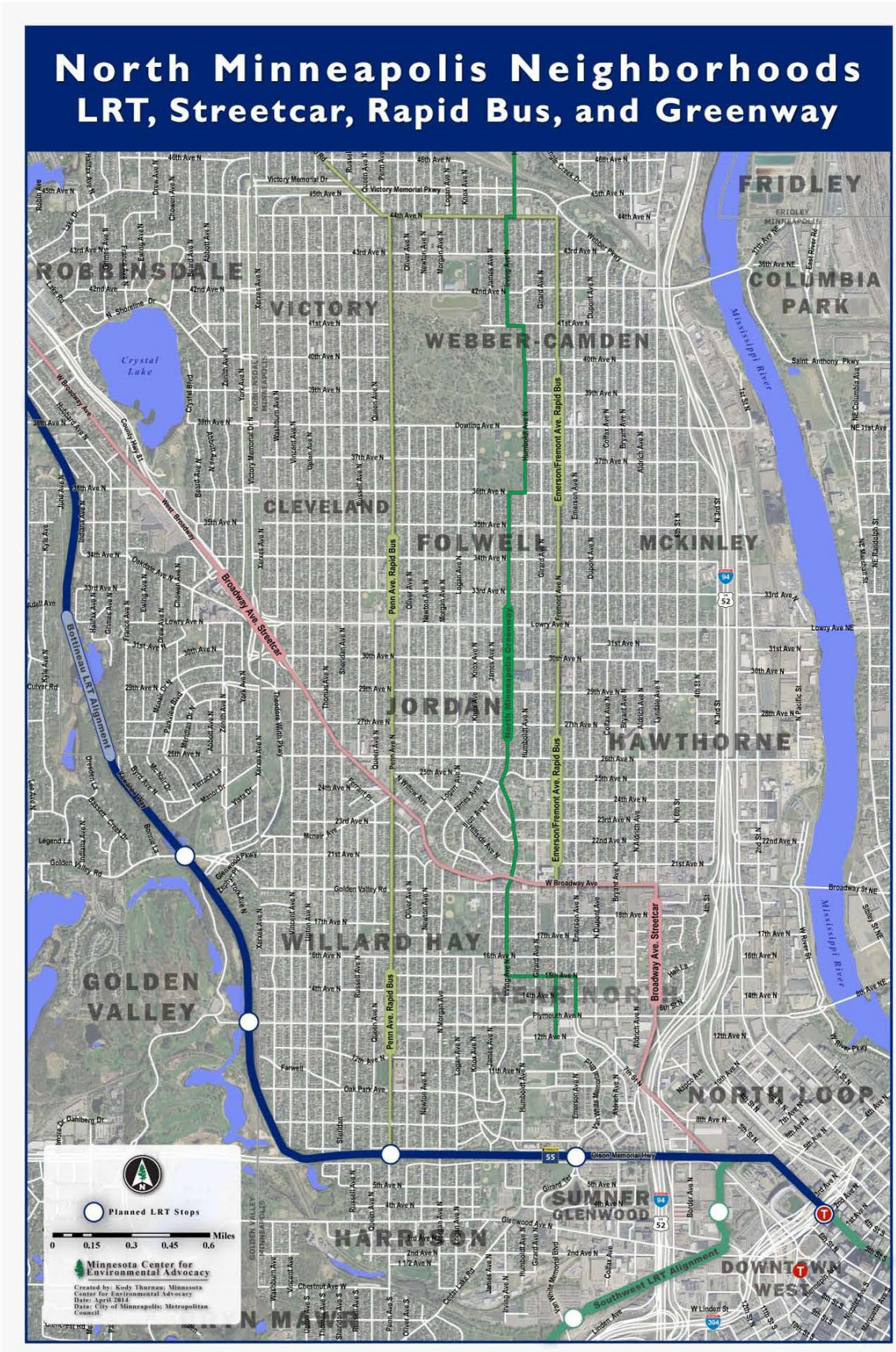
Brooklyn Park will have 5 stations on the Bottineau LRT line. The city of Brooklyn Park is 50% people of color. Through the Community Engagement Team the Alliance is working with 6 environmental justice community groups in the Northwest suburbs. They will continue to be active partners in the development of the Bottineau Transitway project and corridor:

a) ACER has partnered with North Hennepin Community College and the Neighborhood Development Center to provide entrepreneur training for Northwest suburban residents. Opportunities to locate entrepreneurs in the station areas should be included in the station area planning.
b) ACER is actively meeting with Target Corporation whose Northwest Campus is in Brooklyn Park. One component that is being implemented now is that Target Corporation is working with North Hennepin Community College to design curriculum to prepare Northwest communities for careers at Target.
c) Healthy living and health equity is an important factor in designing the station areas to design the station areas for pedestrian, bicycle, and bus rider access.
d) The built environment in the Northwest suburbs has been designed with a priority on the automobile. The station area planning process should be focused on the opportunity to redesign the land use that is pedestrian and bike friendly using Complete Streets policies and practices.

e) Access to Operation and Maintenance Facility jobs should prioritize Northwest suburban residents
f) The transit service plan for the Northwest suburbs should utilize the expertise of the Community Engagement grantees to effectively engage bus riders and transit dependent populations using the Trusted Advocate model from Central Corridor LRT.

Attached maps:
Harrison neighborhood - Minneapolis: proximity to planned transitway stations
North Minneapolis neighborhoods: LRT, Streetcar, Rapid Bus and greenway


HARRISON NEIGHBORHOOD - MINNEAPOLIS
PROXIMITY TO PLANNED TRANSITWAY STATIONS
Bottineau LRT
GOLDEN VALLEY
MINNEAPOLIS
WILLARD HAY
NEAR NORTH
Plymouth Avenue Station
Area falls within 1/4 mile of planned transitway station.
Area falls within 1/2 mile of planned transitway station.
Penn Ave. Arterial BRT
Emerson/Fremont Ave. Arterial BRT
Penn Avenue Station (BRT Station)
Van White Boulevard Station (BRT Station)
NORTH LOOP
Bottineau LRT
Target Field Station
Hiawatha LRT
Central Corridor LRT
SUMNER GLENWOOD
HARRISON
Royalston Avenue Station
Southwest LRT
Potential Arterial BRT Station
GOLDEN VALLEY
MINNEAPOLIS
DOWNTOWN
BRYN MAWR
Minnesota Center for Environmental Advocacy
Created by: Kody Thurnau; Minnesota Center for Environmental Advocacy
Date: April 2014
Data: City of Minneapolis; Metropolitan Council
Area falls within 1/2 mile of planned transitway station.
Area falls within 1/4 mile of planned transitway station.
Van White Boulevard Station
Hennepin Ave. Arterial BRT
LORING PARK
Penn Avenue Station
Southwest LRT
LOWRY HILL
STEVENS SQUARE
KENWOOD
Scale: 1:8,000
0
0.25
0.5
0.75
1
Miles


North Minneapolis Neighborhoods
LRT, Streetcar, Rapid Bus, and Greenway
FRIDLEY
COLUMBIA PARK
ROBBINSDALE
VICTORY
WEBBER-CAMDEN
CLEVELAND
FOLWELL
McKINLEY
JORDAN
HAWTHORNE
WILLARD HAY
GOLDEN VALLEY
NORTH LOOP
SUMNER GLENWOOD
HARRISON
DOWNTOWN WEST
Crystal Lake
Mississippi River
Penn Ave. Rapid Bus
Emerson/Fremont Ave. Rapid Bus
North Minneapolis Greenway
Broadway Ave. Streetcar
Bottineau LRT Alignment
Southwest LRT Alignment
Planned LRT Stops
Miles
0 0.15 0.3 0.45 0.6
Minnesota Center for Environmental Advocacy
Created by: Kody Thurman; Minnesota Center for Environmental Advocacy
Date: April 2014
Data: City of Minneapolis; Metropolitan Council

From: Ange Hwang
To: Bottineau Transitway/Hennepin
Subject: Re: MIDNIGHT Bottineau DEIS comments due May 29th
Date: Thursday, May 29, 2014 7:13:39 PM
Attachments: 140529TransitComments.doc
140529Comments.doc

==========
Ange Hwang, Executive Director
Asian Media Access
Minneapolis Office/Mailing & Delivery Address: 2418 Plymouth Ave N., Mpls., MN 55411
St. Paul Office: 550 Rice Street, St. Paul, MN 55103
612-376-7715 (Phone)
612-376-7730 (Fax)
angehwang@amamedia.org
www.amamedia.org
==========
Celebrating 21 Years of Connecting the Disconnected!!!
==========

On May 29, 2014, at 1:07 PM, Joan Vanhala wrote:

> Hi All,
>
> Just a friendly reminder that comments to the Bottineau Draft Environmental Impact Statement are due
>
> **today Thursday May 29th by MIDNIGHT**
>
> For more information see the Bottineau Transitway website:
> http://bottineautransitway.org/
>
> 1. Send written comments by email to bottineau@co.hennepin.mn.us
> 2. Send written comments by mail to:
> Hennepin County
> Housing, Community Works & Transit
> Attn: Bottineau Transitway

701 Fourth Avenue S, Suite 400
Minneapolis, MN 55415
Please include a return mailing address and/or email address with all comments so that we may communicate with you about comments received and next steps.

See full Bottineau Draft Environmental Impact Statement
here http://bottineautransitway.org/2012_deis_documents.htm

Feel free to contact me with any questions – I will be in the office tomorrow working on our comments.

Joan

Joan Vanhala, Coalition Organizer
Alliance for Metropolitan Stability
2525 E. Franklin Avenue
Minneapolis, MN 55406
612-332-4471; http://www.metrostability.org/

I learned this… that if one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with a success unexpected in common hours.
Henry David Thoreau

<Bottineau DEIS North Minneapolis Excerpts 2014.docx><Bottineau DEIS Northwest suburbs Excerpts 2014.docx>

Sharing Voices • Connecting Dreams

TO: Hennepin County
May 29, 2014
Housing, Community Works & Transit
ATTN: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

From: Asian Media Access
2418 Plymouth Ave. N.,
Minneapolis, MN 55411
Contact: Ange Hwang, angehwang@amamedia.org

Public Comment for the Bottineau Light Rail Transit Draft Environmental Impact Statement

Asian Media Access supports Alliance for Metropolitan Stability (AMS)'s position on following comments:

Environmental Justice:

Bottineau LRT corridor is 52% people of color and 14% are transit dependent. Bottineau Corridor connects 2 significant environmental justice communities to our regional transitway system – Brooklyn Park and North Minneapolis. It is Important that the transit investment, the corresponding land use and economic development has community benefits for the low income communities and communities of color in the corridor.

AMS recommends a corridor wide community compact similar to the Red Line Community Compact in Baltimore. The community compact process should model best practices in community engagement and be a partnership between Metro Transit, Hennepin County, the cities, and the environmental justice communities within the Bottineau LRT corridor. The environmental justice communities' resources have not been adequately documented in the draft environmental impact statement. Just along HWY 55 there are schools, libraries, public housing, and churches. To truly understand the impacts, the corridor environmental justice community resources need to be documented and included in the planning process. This includes businesses, schools, churches, libraries, community centers, social service agencies and non-profits.

A very important environmental justice community resource has no mention in the draft environmental impact statement – minorities community-based agencies in North Minneapolis. Since 2013, Asian Media Access has partnered with Pathway Learning Center, and the Native American Zintkala Luta to build an Educational Complex in North Minneapolis, to expand the after school and community-based vocational training and job placement programs around Plymouth/Penn Corridor area. We anticipate to bring in 200 students in the area that need a better connection through Plymouth Ave to connect Bottineau LRT station to Penn Bus stops, additionally, more rest spots or open public places beyond single family housing is needed to increase walk-ability in the area.

Community Engagement:

Regionally Hennepin County Bottineau project staff has modeled some of the best community engagement of environmental justice groups for Alternatives Analysis. We look forward to continued authentic engagement. AMA supports AMS's recommendations that Blue Line Extension project planners contract directly with community groups for future community engagement. A national model of community engagement is the Trusted Advocate Program at District Councils Collaborative of St. Paul and Minneapolis (DCC) see http://dcc-stpaul-mpls.org/content/transit-more-ride-trusted-advocate-project This was a direct partnership between Metro Transit and DCC to execute the community engagement.

Project coordination/community cohesion:

North Minneapolis has a regionally unique intersection of Metro Transit transitway projects that are in process: Southwest LRT, Bottineau LRT, Penn Avenue BRT, West Broadway Transit Study. These projects impact these neighborhoods: Harrison, Heritage Park, Near North, Willard Hay, Hawthorne, and Jordan. Because of the overlapping corridors and planning areas, AMA supports AMS's recommendations with coordinated planning across these transit projects by Metro Transit, Hennepin County, and the City of Minneapolis. Olson Memorial Highway/HWY 55 is currently not pedestrian friendly or safe. Annual pedestrian fatalities result from people trying run across this divided highway. HWY 55 currently is a barrier within this environmental justice community. The Bottineau LRT project has the potential to exacerbate this barrier or to provide the opportunity to reconstruct this corridor to be safe and welcoming for pedestrians and

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bikes with traffic calming strategies. Special attention should be given to redesigning HWY 55 with safe and livable crossing connections for pedestrians and bicycles.

Economic Development

Throughout the Bottineau Corridor there are environmental justice small businesses. Every effort should be made to maximize the benefit and minimize the impacts of the project on these entrepreneurs. For North Minneapollis, the Bottineau LRT project provides a once in a life time opportunity to increase the wealth in this low income community. The City of Minneapolis, Hennepin County and the Met Council should agree to coordinate efforts with local neighborhood associations and nonprofit community development organizations to plan for new business development along northside commercial corridors, achieve TOD density goals, create entrepreneurial incubator programs and maximize local job/workforce programs.

2 and 1/5 miles of Plymouth Avenue and Penn Ave Corridor should have been better developed. Asian Media Access supports the Twin Cities Regional Center Collaborative's Recommendations to support cluster business and block-by-block neighborhood-centered development. Land use planning and zoning reviews should be conducted and engage with Plymouth Ave and Penn Ave Corridor neighbors and business owners, to catalyze growth. Asian Media Access and our partner - Twin Cities Regional Center Collaborative all commit to working with local neighborhood associations and business owners to coordinate station area planning and land use planning that anticipates multiple transitway investments that will benefit Plymouth Avenue and Penn Ave Corridor, as we defined it – ***the Nile River of the North.***

Sincerely,



Ange Hwang
Executive Director

Asian Media Access

2418 Plymouth Avenue North
Minneapolis, MN 55411

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Fax (612) 376-7730
amamedia@amamedia.org

www.amamedia.org

Twin Cities Regional Center
c/o Asian Media Access
2418 Plymouth Avenue North
Minneapolis, MN 55411
Tel: (612) 376-7715
Email: info@tcrc-mn.org

Twin Cities Regional Center

To: Bottineau Transit Planning Committee

May 29, 2014

Greetings from Twin Cities Regional Center Collaborative. We are a multi-cultural collaborative supporting economic development opportunities in North Minneapolis.

We like to focus our comments regarding the Report on ***Page 4-17: Minneapolis,*** particularly on the Corridor at Plymouth and Penn. Our Partners, Asian Media Access and Project Sweetie Pie, have been pioneers and continue to develop the presence of Plymouth Ave from downtown to the Theodore Wirth Parkway, where we refer to Plymouth Ave as ***the Nile River of the North*** for its ability in nurturing agriculture and civilization.

The Report continuously refers to ***Near North (as) primarily residential.*** TCRC has concerns toward an all-residential zoning design, particularly in areas between Theodore Wirth Parkway and Penn Ave.. There is a total lack of functional business, community center, and other designations to create walk-ability for shopping/leisure/networking spots. With an all-residential zoning, there is no incentive to stop in North Minneapolis; many riders would just pass through. TCRC likes to **call for zoning reviews** with following residential neighborhood sensitive economic development principles to stimulate more business friendly development between 2 major public transportation lines, between Theodore Wirth Parkway and Penn Ave.

- Utilizing the Equitable Transit Oriented Placemaking model;
- Thinking Small (ex. small business, small block development), from the bottom up;
- Focusing on Evolving Over Time, instead of Revolution Over Night;
- Avoiding Gentrification Effect in the neighborhoods; it is important to preserve the characteristics of neighborhoods, along with economic development opportunities.

A. ECONOMIC DEVELOPMENT STRATEGY #1 – ONE BLOCK A TIME

A large city should be made up of one hundred Better Blocks that are all well connected (pedestrian, bike, car, and public transit), but have small spaces that locals can create their own dream business which helps support the community.

by *Better Block* co-founder Andrew Howard, http://betterblock.org/

Many principles of TCRC Collaborative are from ***Better Block* - building neighborhood from within,** which we truly believe that is the only strategy to improve and grow the entrepreneurship in distressed neighborhoods. We call it *The Process of Natural Progression of Good Ideas.*

Traditionally, the Transit-Oriented Development means high density with mixed-use development. There would be a major developer, making the best plan that would attract the right people to come *from somewhere else* and make that plan happen. But if we choose to believe in the *Better Block*'s philosophy, which is that every community already has everybody they need. They just need to activate the talented people who are already there, and collectively decide one block at a time, and that block can become better really quickly. So instead of the high-rise development, we call for the small-block development, with sustainable small business establishment, maybe just a coffee shop to start with.

Although the TCRC Collaborative is not against larger, high density development, which is not less important nor inappropriate, but should not be THE ONLY development. Often the resources all get channeled into that one development in the area, ignoring other small business needs. Therefore, we advocate for a more balanced approach, and propose alternative/localized developments that may better support the neighborhood needs, and create sustainable impacts.

TCRC calls to redefine the approach - instead of focusing only on big business developments, channel into the distressed neighborhoods with smaller entrepreneurship idea, so we can change the neighborhood one block at a time and sustain the neighborhood culture, so it can become a walk-able community, matching well with the overall Transit Development trend.

B. ECONOMIC DEVELOPMENT STRATEGY #2 – EQUITABLE TRANSIT ORIENTED PALCEMAKING

Urban design, planning, and architecture are tools for creating a physical environment, but Placemaking is the process that creates the crucial, ephemeral quality — the sense of place — that ultimately animates any physical space and ***transforms design into destination.***

From Project for Public Spaces http://www.pps.org/

Placemaking is a powerful agenda for change that is beginning to take hold in cities throughout the world. It is not a new profession, discipline or field of study, but a growing global movement that brings out the best of community and professional expertise, and empowers communities to improve the neighborhoods in which they live.

Often the city/county/state have mapped out the Economic Development Plan for the region, by working with local chamber of commerce and corporations, seldom the Plan is generated from the neighborhood level, due to lack of economic data and capitals. It is hard for the neighborhoods in realizing it is the data and statistics that guide the design and resource allocations. It is also hard for Public Planners to realize that ACTUAL PLACE is more important than a historical zoning design.

TCRC calls for redefining the urban development model, instead of top-down (just data) or bottom up (just dreams), but supporting a balanced approach, channeling the data back to the distressed neighborhoods and build community capacity to better understand the data, community development process, and incorporating the knowledge into the DREAMS; to mount a holistic, integrated and highly effective movement that drives the mentality change in all levels to ensure the long term viability of such place-specific design in making for North Minneapolis.

C. ECONOMIC DEVELOPMENT STRATEGY #3 – CLUSTER FOCUS

"Cluster is defined as a geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a nation or region. Cluster development initiatives are an important new direction in economic policy, building on earlier efforts in macroeconomic stabilization, privatization, market opening, and reducing the costs of doing business."

From the Harvard Business School

Often Cluster strategy is private market led, applying to well-established corporations and startup technology companies coming together *to increase the productivity*. The past 2 years, with Federal's Regional Innovative Cluster grants, the idea has panned away from MATURE INDUSTRY-EMERGING TECHNOLOGY, to LOCAL-TRADE focus, such as Craft Arts Cluster in Vermont, Oregon's Creative Services and Arts Clusters, etc.. Such local-trade approach has opened the door for many small- and medium-scale enterprises (SMEs), and they have been using such a cluster idea to further create a designation to generate more foot traffic. Besides creating a collective designation, such ***Networking*** offers an important route for individual SMEs to coordinate their events/marketing effort, and achieve optimal scale in the use of machinery and pool production capacities to meet large-scale orders. Such local-trade cluster strategy contributes greatly to employment generation, poverty reduction and wider distribution of wealth and opportunities represents a major window of opportunity for distressed neighborhoods.

Often larger corporations form the same Industry Cluster may form the Special Economic Zone and seek public support for infrastructure development. And the small businesses in the neighborhoods have never enjoyed such benefits because of their sizes. Individual SMEs experience difficulties in achieving economies of scale in the purchase power, finance and consulting services and are often unable to take advantage of market opportunities that require large production quantities, homogenous standards and regular supply.

TCRC calls to redefine the Industry Cluster model. Instead of developing a large area with newly created cluster businesses, support a conservation development along with an integrated site planning approach. Work with the neighborhoods to analyze its characters and trade potentials, and use these assets to create the Low Impact Economic Development opportunities with a group of SMEs closer together in order to create destination, share amenities and increase social interactions.

Twin Cities Regional Center Collaborative brings fresh and innovative new ideas into the North Minneapolis neighborhood, and has combined the characters of various successful models, and made them neighborhood-friendly to truly support the distressed communities. There is the need to reconsider how the zoning design hinder or promote further walk-ability and transit friendly development. This dynamic regeneration of existing innovation models is an essential element for sustainability in the low-income neighborhoods, particularly in north Minneapolis. However, such new thinking often falls outside of conventional process. It is important to include in the Bottineau Transit Design process these emerging trends and invest in a strategic effort, to better support such integrated dynamics approaches to create a win-win situation for all.

Sincerely,



Penny Vang, the Board Chair

Ange [illegible] asurer



Twin Cities Regional Center Collaborative

- Asian Media Access – Ange Hwang
- CJC Mpls - Atl LLC - Anthony Cox
- E.D.E.N. (Eating Delicious Eating Nutritious) – Catherine Fleming
- Iny Asian Dance Theater – Iny Xiong
- Hamline University – Rachel Endo
- Hawman Company – Penny Vang
- Pan Asian Arts Alliance – See Xiong
- Pathway Learning Center – Ethel Norwood
- Project Sweetie Pie – Michael Chaney
- Trifacta – Tyree Lawrence
- Zintkala Luta – Anita Gates

From: jennifer.racho@capiusa.org
To: Bottineau Transitway/Hennepin
Cc: Sandy Ci Moua; "sandycimoua@gmail.com"
Subject: DEIS comments from CAPI
Date: Thursday, May 29, 2014 2:53:59 PM
Attachments: DEIS CAPI Blue Line comments submitted 5.29.14.pdf

---

Hello:

Attached are CAPI USA's comments regarding the DEIS. Thank you for the opportunity to provide feedback from the communities we work with. Please let us know if you have any questions.

Kind Regards,
Jennifer

Jennifer Racho
Workforce & Community Development Manager
CAPI USA | 612-767-3680
3702 E. Lake Street
Minneapolis, MN 55411
Fax: 612-724-6085

Guiding refugees and immigrants in the journey toward self-determination and social equality: www.capiusa.org

To guide refugees and immigrants in the journey toward self-determination and social equality

CAPI DEIS Comments

About CAPI:

Since 1982, CAPI USA has been a community-based direct-service organization and a direct implementer of anti-poverty programs to create jobs, housing, food, health education, youth and senior social services.

Through these direct services CAPI promotes economic independence and self-advocacy of 3,000 refugees and immigrants, and low-income families, annually.

Most of our CAPI participants reside in Brooklyn Park, Brooklyn Center and North Minneapolis within the areas of the Bottineau Light Rail transit construction and transit line. They will be affected by all light rail developments and therefore, CAPI is working to ensure that 1. Their voices are heard throughout this entire process and reflected within our CAPI DEIS comments and 2. As a Corridors of Opportunity grantee, we are working to educate and engage our participants, the public and other non-profit organizations.

As a Blue Line coalition member, in alignment our coalition partners which include ACER, NRRC, Harrison Neighborhood Association and more, we are also working to create a dialogue with all light rail-affiliated entities (Met Council, Hennepin County, contractors/consultants) to ensure that their processes and policies are changed to authentically and equitably serve the needs of CAPI participants and the public.

Our comments below are based partially on DEIS portions that cover North Minneapolis station planning and Brooklyn Park and Brooklyn Center. We shared parts of this with 30 of our participants during a program presentation and a transit line tour of the 4 proposed North Minneapolis stations.

These participants mainly live in North Minneapolis, speak Hmong, are low-income and are between age 40 and 70+.

We anticipate on-going engagement with other CAPI participants which includes the Somali, Vietnamese, Karen, African and African-American communities to solicit their feedback.

DEIS COMMENTS

North Minneapolis proposed stations:

- We prefer that all 4 station stops are implemented because we recognize that residents and participants live all along these 4 stations.
- However, if only 3 were possible, our surveyed CAPI participants prefer the Golden

Valley Road station (vs. the Plymouth Ave station) but only if bus lines are created, increased or kept to ensure that riders can seamlessly go from light rail to bus lines.

- For all the stations, there needs to be constant lighting, signs in Hmong and other languages, and an emergency call button to talk to multi-lingual transit staff, especially those who speak Hmong, 24 hours a day.
- There also needs to be ample parking spots for riders who prefer a park and ride option.
- We would like to see a parking lot for the Van White station because Olson Memorial Hwy and Penn intersection is a heavy traffic intersection with the need for this.
- We would like to see if this parcel of land could be developed into the park and ride spot. It is at the corner of Van White Blvd. and Olson Memorial Hwy:



Brooklyn Park and Brooklyn Center/ Overall Residents:

According to the Star Tribune, "dozens of Brooklyn Park homes could be razed for road expansion, possible light-rail route" as West Broadway is widened.

Article is here: http://www.startribune.com/local/north/261027911.html

We asked that all residents along the line are minimally impacted and if their property is destroyed or impacted in any way, they are equitably financially compensated and first and foremost, directly engaged and listened to with their comments being part of actively informing and shaping Bottineau Line pre-construction.

As we've seen, historically, the Rondo neighborhood and homeowners, most of who were African-

American, were destroyed- their community displaced and land bought for far below the actual value during the hwy 94 construction of the 1960s. (Source: http://libguides.mnhs.org/rondo).

We've seen, recently, the tensions between Frogtown, Midway and Rondo residents and business owners with Green Line and Met Council and county affiliates which turned in a civil rights lawsuit and rallies.



We must ensure that the Bottineau Line pre and post and actual construction and engagement process is a testament to lessons gained from these two examples.

Employment:

We ask that all Light rail pre, post and actual construction jobs, including consultant and contractor positions maintain a quota to hire transit line residents within a 3 mile radius as well as people of color, those with English as a second language and immigrants/refugees.

We also recommend that the hiring process and employment opportunities are shared with the public and nonprofit/community-based organizations as an actual part of transit outreach and engagement. We are particularly concerned that immigrants and refugees may not hear of such opportunities without targeted outreach.

Comments on existing transit:

To improve upon existing light rail transit lines and stations and apply that towards the Bottineau Line, we recommend the following:

- Target Field station: clearer signs on where to go to board the train. There were multiple signs but they were about getting to Target Field (not the train), to the skyway or parking lots.

- Intercom announcements of stops: volume needs to be louder to be heard over the sounds of conversation and transit noise. The announcement also needs to be repeated more than 2x.
- Train doors need to remain open longer to accommodate those with children or the elderly or disabled.
- There needs to be multi-lingual signs to meet the needs of our diverse riders and languages.

Thank you for the opportunity to comment. We hope that our comments and feedback are taken into consideration and that this is only some of the initial steps to have on-going engagement with all light rail affiliates, our CAPI participants and the public.

We can be reached at:

CAPI

Sandy'Ci Moua, Community Development Coordinator

3702 East Lake St.

Minneapolis, MN 55406

612-721-0122 office main

Sandyci.moua@capiusa.org

From:	Staci Horwitz
To:	Bottineau Transitway/Hennepin
Cc:	Brent C Rusco
Subject:	Bottineau DEIS Comments
Date:	Thursday, May 29, 2014 6:49:37 PM
Attachments:	Bottineau DEIS_CommentForm_2014 - Indirect Effects.pdf Bottineau DEIS_CommentForm_2014 - Land Use & Community Facilities.pdf

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To Whom It May Concern:

Attached please find comments on the Bottineau Transitway DEIS. Thank you.

Staci

Staci S. Horwitz
Program Director
CITY OF LAKES COMMUNITY LAND TRUST
1930 Glenwood Avenue
Minneapolis MN 55405
(612) 594-7148
www.clclt.org

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

Federal and state environmental rules require that an Environmental Impact Statement (EIS) be prepared for the proposed Bottineau Transitway project. The EIS process includes the preparation of a Draft EIS, which must be made available for public review and comment.

The Draft EIS discusses the purpose and need for the project, the alternatives considered, the impacts of these alternatives, and the agencies and persons consulted.

Comments on the Draft EIS will be accepted through May 29, 2014. All comments must be received by that date. Please include a return mailing address with all comments.

Public hearings on the Draft EIS will be held on May 7, May 8, May 13, and May 14, 2014. To learn more about the hearings and for more project information, visit the project website at http://www.bottineautransitway.org/.

Name: Staci Horwitz Organization: City of Lakes Community Land Trust

Address: 1930 Glenwood Avenue, Minneapolis, MN 55405

Email: staci@clclt.org

6.0 Indirect Effects & Cumulative Impact. The DEIS does not appear to address directly the potential negative economic and social impacts that could arise from any one of the transit scenarios evaluated. Of primary concern is the lack of evaluation relating to the longer-term impact on low-income households as development occurs along the transit corridor. There is brief mention that property taxes, rents and market values may rise but no comments about mitigation efforts needed to ensure residents - particularly minority and low-income households - are not displaced by being priced out of a developing market. Additionally, there is no evaluation of the economic and social impact on households and and communities (e.g. increase in housing costs and/or livability costs associated with new transit or need to relocate further out from City core to attain affordable housing) should significant displacement result from transit-oriented development. Is it not reasonable to expect that an evaluation of the impact of this transit investment include analysis through this lens or identify economic, social and environmental thresholds that a community and/or low-income household (less than 80% of area median income) can sustain without the proposed transit investment becoming a negative influence?

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

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Name: Staci Horwitz Organization: City of Lakes Community Land Trust

Address: 1930 Glenwood Avenue, Minneapolis, MN 55405

Email: staci@clclt.org

4.1 Land Use Compatibility: DEIS comments the current low-density residential zoning along TH55 segment of the LPA is likely not to change. No potential change in the current zoning has the potential to limit the degree of residential and commercial development along this corridor - that with competent planning and neighborhood engagement - could assist the economic development and recovery of North Minneapolis. An analysis of the economic and neighborhood impact of zoning-related restrictions on land use would be helpful in understanding where policy changes could be beneficial and leveraged to maximize this transit investment. Higher density, mixed-used developments have been identified repeatedly as an element needed to support economic growth in North Minneapolis.

4.2 Community Facilities/Community Character Cohesion: TH55 already impacts the overall community character of North Minneapolis by creating an indirect separation of the Harrison Neighborhood from the rest of North Minneapolis. Implementation of the Bottineau LRT may create further segregation of this community with the elimination of the many "illegal" crossing points. Ensuring there is adequate areas for crossing this segment of the LPA is going to be essential for ensuring ready residential access to amenities and services north of TH55 for Harrison and Bryn Mawr residents. How will the number of crossing areas - separate from station stops - be determined along TH55?

From: MacLaughlin, Dan
To: Bottineau Transitway/Hennepin
Subject: The Bottineau Transitway Draft Environmental Impact Statement (Draft EIS)
Date: Thursday, May 29, 2014 3:48:53 PM
Attachments: Bottineau LRT Draft EIS Letter.pdf

Please find attached a letter from the Downtown Minneapolis Transportation Management Organization in support of the development and launch of the Bottineau LRT Line. We have also sent a hard copy via post. Thank you!

Dan MacLaughlin
Executive Director
Downtown Minneapolis TMO
Commuter Connection
612.370.3987 x206

Downtown Minneapolis Transportation Management Organization
220 South Sixth Street, Suite 230
Minneapolis, MN 55402
(612) 370 - 3987

May 23, 2014

Hennepin County - Housing, Community Works & Transit
Attn: Bottineau Transitway
701 Fourth Avenue S, Suite 400
Minneapolis, MN 55415

RE: The Bottineau Transitway Draft Environmental Impact Statement (Draft EIS)

To Whom This May Concern,

The Downtown Minneapolis Transportation Management Organization (TMO) was formed 23 years ago to address the concern that downtown street capacity had reached its limit and that future growth required moving more commuters into mass transit. The TMO operates as a private-public partnership between the downtown business community and the City of Minneapolis. Our mission is to advocate for and promote a sustainable transit and transportation system that supports a vital and growing downtown Minneapolis.

Bottineau LRT will be an important component in sustaining the role of downtown Minneapolis as the premier employment and activity center of the metro area. In addition to strengthening travel links to northwest Hennepin County, Bottineau LRT will be an integral part of the regional transit network, with downtown Minneapolis serving as the largest transit hub of the region.

The importance of the Bottineau LRT and a strong downtown transit hub cannot be underestimated. As the region grows in population, downtown business and civic leaders need to develop transportation and land use strategies which make downtown easily accessible to people throughout the region, and maximize development potential to grow our economy and employment base. Bottineau LRT will contribute to a more vibrant downtown, with less traffic congestion, cleaner air, more land for development and improved bicycle and pedestrian infrastructure. Downtown businesses and their workers, residents, and visitors will all benefit from the Bottineau LRT line.

The Downtown Minneapolis TMO supports the development and launch of the Bottineau Light Rail Transit Line.

Respectfully,

Lee Davis
Chair, Downtown Minneapolis Transportation Management Organization

CC
Hennepin County Regional Rail Authority
Mayor Betsy Hodges
Minneapolis City Council Members
Counties Transit Improvement Board (CTIB)

From:	Willis, Kennedy
To:	Bottineau Transitway/Hennepin
Cc:	Pearce, Shauen; Bergren, Claire; Willis, Kennedy
Subject:	Bottineau DEIS Comments (see attachment for full comment)
Date:	Thursday, May 29, 2014 7:12:10 PM
Attachments:	HNA Bottineau DEIS comments May 29 2014.pdf

May 29, 2014

To: Hennepin County
Housing, Community Works & Transit

ATTN: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

From: Harrison Neighborhood Association
503 Irving Avenue North Ste 100
Minneapolis, MN 55405
Contact: Kennedy Willis, Claire Bergren, and/or Shauen Pearce
(612) 374-4849; shauen@hnampls.org, kennedy@hnampls.org, Claire@hnampls.org

Public Comment for the Bottineau Light Rail Transit Draft Environmental Impact Statement

The Harrison Neighborhood Association is the officially recognized Citizen Participation Organization representing the Harrison neighborhood. The neighborhood meets the definition of an Environmental Justice (EJ) Community, which calls for the redress of past and ongoing environmental injustices in particular communities disproportionately affected by such injustices. The Harrison community has a median income being $38,000 compared to the region's $65,000 median income and is a racially diverse consisting of 40% African Americans; 29% white; 17% southeast Asian, namely Lao and Hmong; and 9% Latino (2010 U.S. Census). According to 2010 Minneapolis Community Planning and Economic Development, based upon from the 2010 U.S. Census of Population and Housing, Harrison's unemployment rate was 14.2% compared to 5.4% for Minneapolis as a whole. Furthermore, the community was disproportionately impacted by the housing crisis leading to many foreclosures and loss of long-time residents.

As an Environmental Justice (EJ) Community and neighborhood carrying a disproportionate weight of development burdens including school bus and semi-truck storage facilities and industrial facilities (some of which have been abandoned and/or found to be sources of dangerous pollutants), the Harrison Neighborhood Association requests that the Harrison neighborhood and surrounding EJ communities be seen in their totality and that future and ongoing plans for transit, such as the Blue Line/Bottineau LRT, be comprehensive and integrated as opposed to segmented between multiple government and private entities and federally, state, and city-funded transit projects. It is also important that with gains (as in the form of light-rail stops) there are not even more burdens added to our community (as in the form of maintaining the impound lot barrier between our community and neighboring downtown or the development of a commuter rail layover facility).

The borders of Harrison, a destination, serve as a nexus of regional growth and Blue Line LRT development is viewed as an essential opportunity to move the community toward having a more balanced share of the benefits and burdens of development and away from isolation by highways and interstates with poor access and transit service, especially with stops along Olson Highway at Penn Avenue and Van White Boulevard (see appended maps). Paired with the Green Line/SW LRT stops, the station areas will invigorate Harrison with connective access and potential for development. Thus, Harrison largely supports the Blue Line development, especially if two stops will be developed along Olson Memorial Highway at Penn Avenue and Van White Boulevard.

We continue to support the Southwest LRT development and expect to be served by and make use of 2-3 station areas from that line. In December 2012, we submitted a SW LRT DEIS public comment and expect to continue and/or increase our engagement of the line's planning and development (see

appended maps). The proposed Van White Station Stop for the SW LRT is surrounded by roughly 30 acres of developable land owned by the City of Minneapolis with a portion already committed to a private developer. The Central Corridor Line, SW LRT, and Blue Line are currently designed to meet at the Interchange just on the edge of the Harrison neighborhood, and there is nearly 20 acres of land to redevelop in Heritage Park, bordering Harrison, along the proposed Blue Line/Bottineau LRT that is owned by Minneapolis Public Housing (see appended maps). The potential for development and growth in Harrison is highly anticipated, necessary and supported, especially with LRT and coordinated bus developments.

Opportunities do not come without large challenges. Nearly a century of urban policies and land use decisions have contributed to the environmental deterioration, social marginalization and economic decline of the area in and around the Harrison neighborhood. The history of local decisions has included overt and covert policies that resulted in racial segregation, anti-Semitism, and discrimination directed at ethnic minorities, immigrants, and refugees. The history of discrimination has been well documented and was the basis of the Hollman vs. Cisneros Consent Decree, which started as a class action lawsuit brought forward by public housing.

In light of Harrison's interest in and support of Blue Line development, residents are still concerned with any plans that do not consider and take seriously:
1. The neighborhood's status as an Environmental Justice Community,
2. A full and immediate Environmental Justice Scoping of all potential commuter train storage maintenance and/or layover facility locations, including other regional sites. Thus, immediate action is requested to mitigate harm already created by local government's persistent efforts to site the facility in an area contradicting the community, City of Minneapolis, and Metropolitan Council approved area plans.
3. An end to the segmentation of the diesel commuter train storage/maintenance/layover yard siting decision. The uncertainty caused by the specter of such a facility has already harmed the marketability of the future development of the area, an area in which Ryan Companies was given 5-year exclusive development rights to by the City of Minneapolis in 2008. There are deep concerns regarding segmentation of the site because the potential to further exacerbate and contribute to adverse impacts for EJ communities in the form of pollution, reduction/delay/denial of benefits associated with Transit Oriented Development, which would divert needed community capacity fro other projects and finally undermine the democratic process and voice of EJ communities,
4. The other ongoing community and public works projects such as the Penn Avenue Community Works project, the North Minneapolis Greenway project, the Penn Avenue BRT project, other transit projects, and the Great Streets initiative that targets revitalization along the Glenwood Corridor, which is fully saturated by the proposed Blue Line/Bottineau LRT station areas (see appended maps),
5. Importance of transit ridership and access among students, teachers, and staff at Harvest Preparatory School, PICA Head Start, Summit Academy OIC, etc.
6. The full inclusion and consideration of the businesses, churches, nonprofits and other community amenities such as Harvest Preparatory School, PICA Head Start, Summit Academy OIC, etc. Any continued omission of these community resources would be troubling and contributing to past failures to understand the resources and needs of EJ communities,
7. Pedestrian's safety crossing Olson to access the Blue Line LRT,
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11. The equity commitments that Harrison has contributed to and that have been circulated in relation to the Green Line extension/SW LRT, especially where the commitment requests apply to Blue Line planning and development

Attached maps:
Harrison neighborhood - Minneapolis: proximity to planned transitway stations
North Minneapolis neighborhoods: LRT, Streetcar, Rapid Bus and greenway

To: Hennepin County May 29, 2014

Housing, Community Works & Transit
ATTN: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

From: Harrison Neighborhood Association
503 Irving Avenue North Ste 100
Minneapolis, MN 55405
Contact: Kennedy Willis, Claire Bergren, and/or Shauen Pearce
(612) 374-4849; shauen@hnampls.org, kennedy@hnampls.org, Claire@hnampls.org

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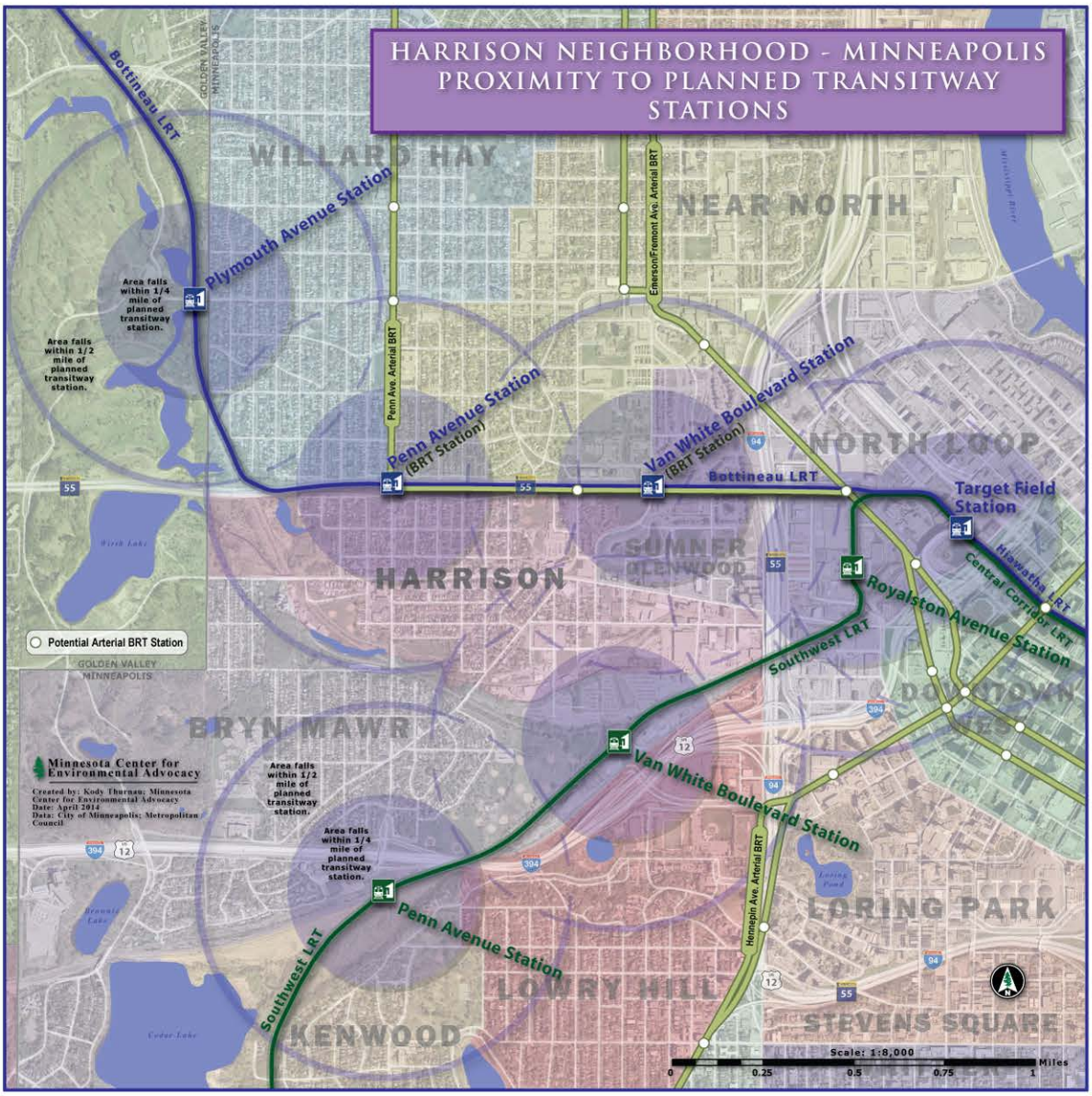
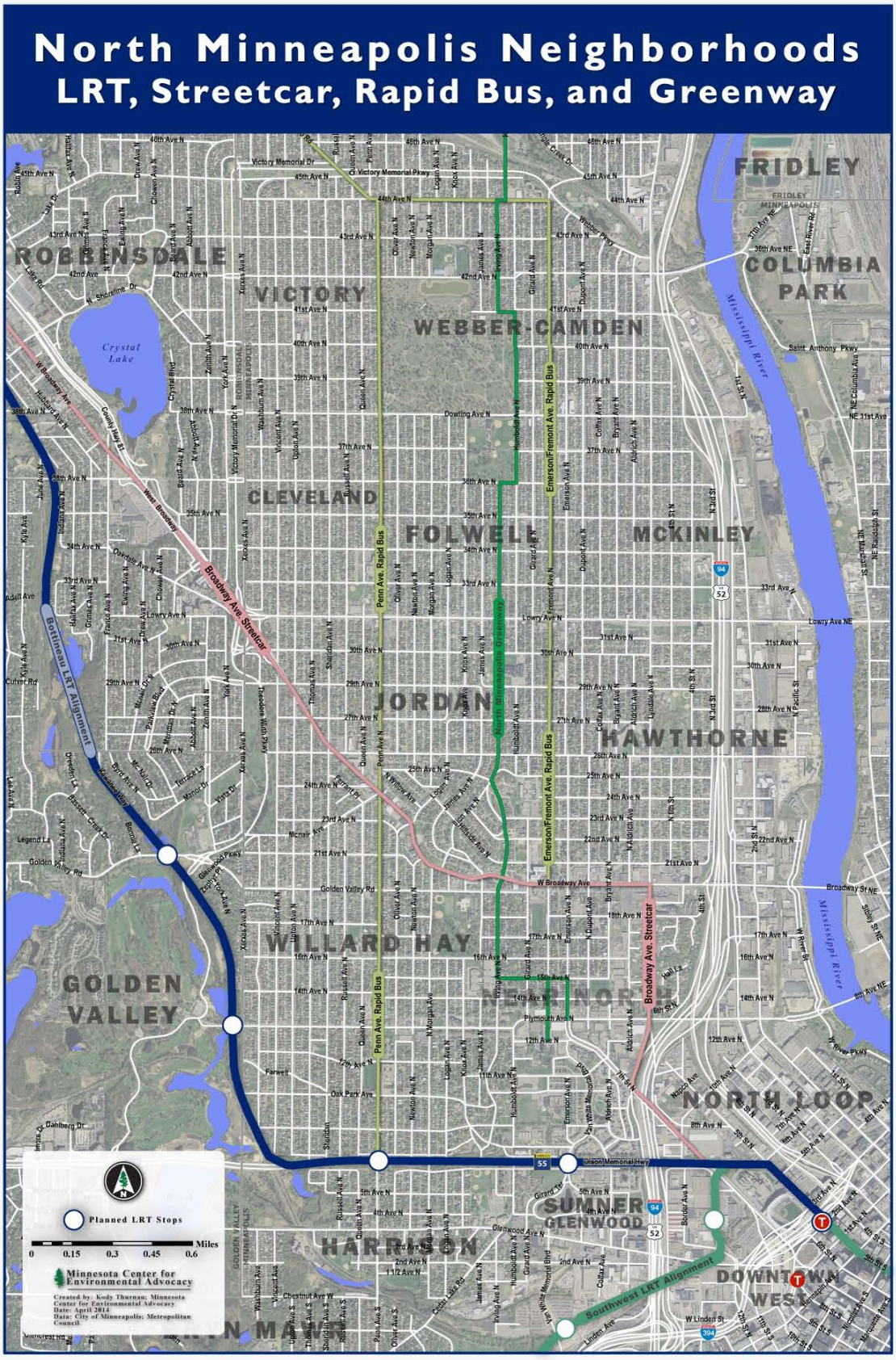

HARRISON NEIGHBORHOOD - MINNEAPOLIS
PROXIMITY TO PLANNED TRANSITWAY STATIONS
Bottineau LRT
Plymouth Avenue Station
Area falls within 1/4 mile of planned transitway station.
Area falls within 1/2 mile of planned transitway station.
Penn Ave. Arterial BRT
Penn Avenue Station (BRT Station)
Emerson/Fremont Ave. Arterial BRT
Van White Boulevard Station (BRT Station)
Bottineau LRT
Target Field Station
Hiawatha LRT
Central Corridor LRT
Royalston Avenue Station
Southwest LRT
Van White Boulevard Station
Henneplin Ave. Arterial BRT
Penn Avenue Station
Southwest LRT
Potential Arterial BRT Station
Minnesota Center for Environmental Advocacy
Created by: Kody Thurnau; Minnesota Center for Environmental Advocacy
Date: April 2014
Data: City of Minneapolis; Metropolitan Council
WILLARD HAY
NEAR NORTH
NORTH LOOP
HARRISON
SUMNER GLENWOOD
BRYN MAWR
DOWNTOWN
LORING PARK
LOWRY HILL
KENWOOD
STEVENS SQUARE
GOLDEN VALLEY
MINNEAPOLIS
Scale: 1:8,000
0
0.25
0.5
0.75
1
Miles


North Minneapolis Neighborhoods
LRT, Streetcar, Rapid Bus, and Greenway
FRIDLEY
COLUMBIA PARK
ROBBINSDALE
VICTORY
WEBBER-CAMDEN
CLEVELAND
FOLWELL
MCKINLEY
JORDAN
HAWTHORNE
WILLARD HAY
GOLDEN VALLEY
NORTH LOOP
SUMNER GLENWOOD
HARRISON
DOWNTOWN WEST
Crystal Lake
Mississippi River
Broadway Ave. Streetcar
Bottineau LRT Alignment
Penn Ave. Rapid Bus
Emerson/Fremont Ave. Rapid Bus
North Minneapolis Greenway
Southwest LRT Alignment
Planned LRT Stops
Miles
0 0.15 0.3 0.45 0.6
Minnesota Center for Environmental Advocacy
Created by: Kody Thurnau; Minnesota Center for Environmental Advocacy
Date: April 2014
Data: City of Minneapolis; Metropolitan Council

From:	hpnampls@gmail.com on behalf of Terra Cole, Executive Director
To:	Bottineau Transitway/Hennepin
Subject:	Bottineau DEIS statement from Heritage Park Neighborhood Association
Date:	Thursday, May 29, 2014 1:03:07 PM
Attachments:	Heritage Park DEIS CommentForm.pdf

Please accept the following comments from the Heritage Park Neighborhood Association.

Terra Cole
Executive Director
Heritage Park Neighborhood Association (HPNA)
1000 Olson Memorial Highway
Minneapolis, MN 55411
(612) 767-1061 direct
www.hpnampls.org

HPNA, *"working to educate and empower the residents of Sumner-Glenwood and the Heritage Park community by creating a welcoming, self-sustaining unified community environment that values and embraces diversity."*

BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

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Public hearings on the Draft EIS will be held on May 7, May 8, May 13, and May 14, 2014. To learn more about the hearings and for more project information, visit the project website at http://www.bottineautransitway.org/.

Name: Terra Cole, Executive Director Organization: Heritage Park Neighborhood Association

Address: 1000 Olson Memorial Highway Minneapolis, MN 55411

Email: hpnampls@gmail.com

The Heritage Park/Sumner-Glenwood Neighborhood is a highly diverse/mixed income gateway community linking the northside of Minneapolis to the North Loop neighborhood and the rest of downtown. Comprised of approximately 667 housing units where 86% of existing housing units are occupied by renters and approximately 14 acres of vacant land on the southside of Olson and another 7 acres (aprox.) of vacant lots on the northside of Olson Highway , the Heritage Park/Sumner-Glenwood Neighborhood stands to gain tremendously from the Bottineau Transitway. However, given the sheer amount of vacant land held in the hands of local government and the neighborhoods proximity to downtown and in particular the Van White transit station- which is slated to be built in the middle of the neighborhood, it is important that great care is given to ensure the economic, racial and age cohesion of the neighborhood. Due diligence must be served as to not leave current residents at a disadvantage or return to the days prior to the Holman Decree by creating a concentrated area of race and poverty.

These are the issues that we are most concerned with as it relates to the creation of the Van White Stationary Stop and the Bottineau Transitway:

- The Bifurcation of the neighborhood separating the neighborhood into two districts: the "White and affluent" southside 55405 "good zip code" with its businesses, high income housing and lion's share of neighborhood amenities and the "Colored" northside 55411 "bad zip code" with 90% rental, low income housing, no economic amenities and continued perception of being the "new projects.
- The need to provide safe, viable pathways for pedestrians, bikers and those who are visually and physically disabled by creating sustainable pathways to existing & future amenities, on the southside of Olson Highway.
- The lack of a poignant plan (with allocated funding) for the creation of economic development opportunities on both sides of the stationary stop with in the 1 mile walking shed. for the majority of residents who live on the north side of Olson that will occur because of economic development related to the transit station.
- The historical and continued isolation the neighborhood and its residents experience because area parks, trails and pedestrian pathways are not connected to downtown, the Kenwood/Walker Art Center and the proposed North Minneapolis Greenway.

• Gentrification; in that those with “money” will be white and those “without” and “on assistance” will be of color. With over 80% of current residents hailing from Somali, African American, Ethiopian, Asian, Hispanic, descent, it is imperative that a transit/ stationary stop plan takes into consideration an even split in housing unit density on both sides of the stationary stop that provides pathways for ownership to current residents as well as new.

Communication #148

Attach First Class Postage Here

Hennepin County Housing, Community Works, and Transit
Attn: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

From:	Aasim Shabazz
To:	Bottineau Transitway/Hennepin
Cc:	Arlene Elamin; Makram El-Amin; Kamillah El-Amin
Subject:	Bottineau DEIS Comments
Date:	Friday, May 30, 2014 12:01:30 AM
Attachments:	Microsoft Word - AMS Bottineau DEIS comments May 29 2014.docx.pdf

Regards,

Aasim Shabazz
President
Masjid An-Nur
Gallup's Strengths: strategic | restorative | responsibility | arranger | relator
o: 612-305-8779 m: 612-840-1310
aasim@masjidannur.org

"Masjid An-Nur, a multi-ethnic Islamic community in the Twin Cities area, devoted to the Worship of One G'd, providing Islamic education, developing future leaders, expanding our interfaith and multicultural relationships, and transcending misinformation and stereotypes."

This communication is intended only for the recipient(s) named above; may be confidential and/or legally privileged; and, must be treated as such in accordance with state and federal laws. If you are not the intended recipient, you are hereby notified that any use of this communication, or any of its contents, is prohibited. If you have received this communication in error, please return it to the sender and delete the message from your computer system.

TO: Hennepin County May 29, 2014
Housing, Community Works & Transit
ATTN: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

From: Masjid An-Nur
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Public Comment for the Bottineau Light Rail Transit Draft Environmental Impact Statement

Masjid An-Nur is a Blue-Line coalition of member of organizations that advances racial, economic and environmental justice in growth and development patterns in the Twin Cities region. 21 groups have participated and contributed toward the forming of the Blue Line Coalition. Groups represent and are connected to communities throughout the corridor (combination of place based groups, culturally-based groups, faith-based, organizing and social services organizations).
Almost all are frontline community organizations having impact in on households everyday throughout the region.

Environmental Justice:

Bottineau LRT corridor is 52% people of color and 14% are transit dependent. Bottineau Corridor connects 2 significant environmental justice communities to our regional transitway system – Brooklyn Park and North Minneapolis. It is Important that the transit investment, the corresponding land use and economic development has community benefits for the low income communities and communities of color in the corridor.

MAN is a member of the Corridors of Opportunity Community Engagement Team and through this work collaborating with 16 other environmental justice groups to actively engage community members in the planning of the Bottineau LRT project (Blue Line Extension). These groups are:

1. African Career Education Resource Inc.
2. African Economic Development Solutions
3. African Immigrant Services
4. Asian Media Access
5. Asian Economic Development Association
6. Center for Asian Pacific Islanders
7. Centro Trabajdores Unidos en La Lucha
8. Cleveland Neighborhood Organization
9. Harrison Neighborhood Association
10. Heritage Park Neighborhood Association
11. La Asamblea de Derechos Civiles
12. Laos Assistance
13. Masjid An-Nur

14. MICAH (Metropolitan Interfaith Council on Affordable Housing)
15. Northside Residents Redevelopment Council
16. West Broadway Business and Area Coalition

The groups have formed the Blue Line Coalition to secure community benefits for environmental justice communities in the Bottineau Corridor. Our Mission is to build community-based power to advance local and regional equity and community health by securing community benefits, changing policies and systems to support the creation of wealth and well-being of historic communities of color, immigrant/refugees, migrants, people living with disabilities and low-income communities along the Blue Line Corridor.

MAN recommends a corridor wide community compact similar to the Red Line Community Compact in Baltimore. The community compact process should model best practices in community engagement and be a partnership between Metro Transit, Hennepin County, the cities, and the environmental justice communities within the Bottineau LRT corridor.

The environmental justice communities' resources have not been adequately documented in the draft environmental impact statement. Just along HWY 55 there are schools, libraries, public housing, and churches. To truly understand the impacts, the corridor environmental justice community resources need to be documented and included in the planning process. This includes businesses, schools, churches, libraries, community centers, social service agencies and non profits.

A very important environmental justice community resource has no mention in the draft environmental impact statement. Located directly adjacent to the Van White Station, Summit Academy OIC is the only community-based vocational training and job placement program in North Minneapolis. They serve up to 600 students who attend from throughout the region. They have a goal to enroll 1000 students by 2016. They have been an active participant through HIRE MN (http://hiremn.org/)to ensure that MN Department of Transportation reaches its 32% hiring goals in Hennepin County for people of color and women. They should be engaged as a partner for:

a. Hiring construction workers for the Bottineau LRT project
b. Physical impacts to their site at the Van White Station during construction, station location, infrastructure investments for Summit OIC students access to the Bottineau LRT and the regional system.

Community Engagement:

Regionally Hennepin County Bottineau project staff has modeled some of the best community engagement of environmental justice groups for Alternatives Analysis. We look forward to continued authentic engagement.

As the Community Advisory Committee is re-formed during the transition from Hennepin County to Metro Transit/Metropolitan Council, the Corridors of Opportunity Community Engagement Steering Committee (http://engagetc.org/steering-committee/) recommends that the Blue Line Extension Community Advisory Committee:

a) Be a community driven body with staff support.
b) Be a resource and check point for community engagement by reviewing and approving a corridor project community engagement plans.

c) Identify issues and assign problem solving teams that include community members and project staff.
d) Elect a representative member on the transitway corridor policy advisory committee/management committee.
e) Be formed early in the scoping phase of the transitway corridor planning process.
f) Membership will be selected by communities they represent.
g) Elect a chairperson who represents a grassroots community.
h) Have the ability to set their own agenda, pass motions, and make recommendations to the corridor policy advisory committee/management committee.
i) Will be combined with Business Advisory Committees ensuring coordinated issues and efforts.
j) CE Steering committee will support project staff with connections to underrepresented groups i.e.: Faith communities; Cultural communities; Place based groups; Communities of color ; Small and Ethnic businesses; Community Engagement Steering Committee members; Disability community; New immigrant communities; Low-income communities; Students at high schools, community colleges
k) Orientation will include a focus on environmental justice, equitable development, and cultural awareness.
l) Construction Communication Committees set up at least one month in advance of construction, with representatives appointed by community groups.

MAN also recommends that Blue Line Extension project planners contract directly with community groups for future community engagement. A national model of community engagement is the Trusted Advocate Program at District Councils Collaborative of St. Paul and Minneapolis (DCC) see http://dcc-stpaul-mpls.org/content/transit-more-ride-trusted-advocate-project This was a direct partnership between Metro Transit and DCC to execute the community engagement.

Project coordination/community cohesion:

North Minneapolis has a regionally unique intersection of Metro Transit transitway projects that are in process: Southwest LRT, Bottineau LRT, Penn Avenue BRT, West Broadway Transit Study. These projects impact these neighborhoods: Harrison, Heritage Park, Near North, Willard Hay, Hawthorne, and Jordan. Because of the overlapping corridors and planning areas, MAN is recommending coordinated planning across these transit projects by Metro Transit, Hennepin County, and the City of Minneapolis for:

a) Harrison neighborhood because they are bordered by 3 of these transit projects: Bottineau Light Rail Transit, Southwest Light Rail Transit, Penn Avenue Bus Rapid Transit. The planning areas of these projects combined cover every block in the Harrison neighborhood. Harrison Neighborhood Association should be a major partner in coordinating the planning. See attached map.
b) Transit Service Plan/Transit Study planning with Metro Transit
c) Land Use planning with city of Minneapolis and Hennepin County.
d) Economic development planning with city of Minneapolis, Hennepin County, Metropolitan Council Transit Oriented Development office.
e) Incorporate Complete Streets policies and practices into the land use planning.
f) Infrastructure investments in these neighborhoods that ensure safe connections to all planned transit projects for neighborhood residents - pedestrians, bicyclists, and bus riders with a specific focus on the Highway 55/Olson Memorial Highway.
g) Efficient and effective transit connections to neighborhood businesses and transit – recommends an accurate inventory of North Minneapolis businesses.

Olson Memorial Highway/HWY 55 is currently not pedestrian friendly or safe. Annual pedestrian fatalities result from people trying run across this divided highway. HWY 55 currently is a barrier within this environmental justice community. The Bottineau LRT project has the potential to exacerbate this barrier or to provide the opportunity to reconstruct this corridor to be safe and welcoming for pedestrians and bikes with traffic calming strategies. Special attention should be given to redesigning HWY 55 with safe and livable crossing connections for pedestrians and bicycles.

Transit service planning

North Minneapolis Bus Circulator concept: Masjid An-Nur recommends the Met Council commits to study and make recommendations on the viability of operating a new bus circulator route through the center of North Minneapolis for future connections to the Bottineau LRT, Southwest LRT, Penn Avenue BRT, and the West Broadway transit study

MAN recommendations on heated bus shelters, transfer Stations and other improvements:

a) Metro Transit commits to add at least 24 heated bus shelters (full C-style standard Metro Transit shelter) along routes 5, 7 9, 14, 19, 22, and 30 by 2015.
b) Metro Transit commits to add security cameras and emergency call boxes at strategic locations along routes 5, 7 9, 14, 19, 22, and 30.
c) Metro Transit commits to adopt snow removal management practices at shelters in north Minneapolis with higher ridership
d) Metro Transit commitment to work with Northside community-based partner groups to study and identify sites for constructing at least two north Minneapolis Transfer Stations for bus and rail transit riders.

Economic Development

Throughout the Bottineau Corridor there are environmental justice small businesses. Every effort should be made to maximize the benefit and minimize the impacts of the project on these entrepreneurs.

For North Minneapolis, the Bottineau LRT project provides a once in a life time opportunity to increase the wealth in this low income community. The City of Minneapolis, Hennepin County and the Met Council should agree to coordinate efforts with local neighborhood associations and nonprofit community development organizations to plan for new business development along Northside commercial corridors, achieve TOD density goals, create entrepreneurial incubator programs and maximize local job/workforce programs.

2 1/5 miles of Glenwood Avenue (city of Minneapolis border to downtown Minneapolis) is within a station planning area (Penn Station, Van White, and Target Field). Land use planning should promote and engage with Glenwood Ave. “West Market Business District” to catalyze growth through more of North Minneapolis

a) Hennepin County and the city of Minneapolis should commit to working with local neighborhood associations and business owners to coordinate station area planning and land use planning that anticipates multiple transitway investments.

Affordable Housing

Displacement is currently a real issue in the Bottineau LRT Corridor. North Minneapolis is barely recovering from the foreclosure crisis and the Northwest suburbs face inevitable displacement of privately owned affordable housing in the station areas. MAN recommends:

a) Housing Choices: Cities in the corridor, Hennepin County and the Met Council commit to working with local neighborhood associations, private and community nonprofit housing developers to fund the maintenance and preservation of a rich balance of housing choices that are affordable for current and future residents and workers. Each city should establish goals to develop mixed-income communities. Affordability definitions should be calibrated to median income levels for the corridor (lower percentages than regional median income levels to better reflect on-the-ground conditions).
b) The cities/Hennepin County and Metropolitan Council commit to a strategy of preventing involuntary displacement of low-wealth communities from transitway corridors.

Jobs

MAN recommends that Metro Transit/Hennepin County develop a system that connects job seekers with employment and entrepreneurial opportunities throughout the Bottineau corridor. A system should be developed to ensure people of color have opportunities to secure employment with the Bottineau project, Anchor Institutions and businesses in key growth sectors of the regional economy.

a) Hennepin County and DEED commit to create framework to operationalize this program with corridor wide employment outreach and training groups such as Summit Academy OIC and the Urban League to design and fund a program such as the Employment Assistance Firm model (EAFs) to intentionally and successfully connect unemployed and underemployed Northside residents to jobs along the Bottineau Corridor.
b) Bottineau LRT project contracts should exceed the state required 32% minority/6% female construction hiring goal by increasing the hiring goal to 40%
c) There should be targeted zip code employment goals set for communities of color and areas high in poverty.
d) Explore opportunities to unbundle contracts for construction and professional projects to ensure that small, minority, and women owned businesses are included and able to prosper.

Northwest Suburbs

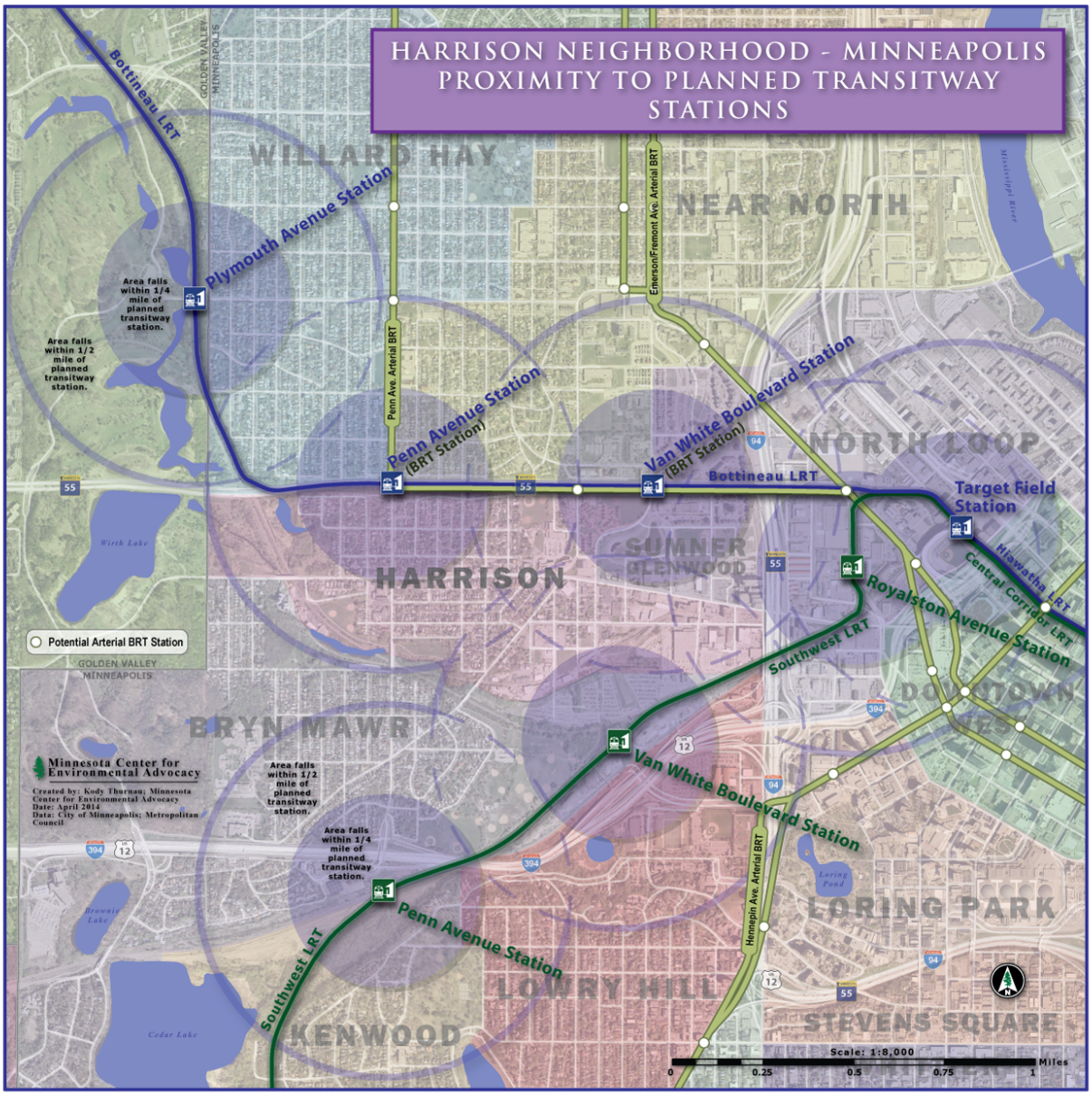
Brooklyn Park will have 5 stations on the Bottineau LRT line. The city of Brooklyn Park is 50% people of color. Through the Community Engagement Team the Masjid An-Nur is working with 6 environmental justice community groups in the Northwest suburbs. They will continue to be active partners in the development of the Bottineau Transitway project and corridor:

a) ACER has partnered with North Hennepin Community College and the Neighborhood Development Center to provide entrepreneur training for Northwest suburban residents. Opportunities to locate entrepreneurs in the station areas should be included in the station area planning.
b) ACER is actively meeting with Target Corporation whose Northwest Campus is in Brooklyn Park. One component that is being implemented now is that Target Corporation is working with North Hennepin Community College to design curriculum to prepare Northwest communities for careers at Target.

c) Healthy living and health equity is an important factor in designing the station areas to design the station areas for pedestrian, bicycle, and bus rider access.
d) The built environment in the Northwest suburbs has been designed with a priority on the automobile. The station area planning process should be focused on the opportunity to redesign the land use that is pedestrian and bike friendly using Complete Streets policies and practices.
e) Access to Operation and Maintenance Facility jobs should prioritize Northwest suburban residents
f) The transit service plan for the Northwest suburbs should utilize the expertise of the Community Engagement grantees to effectively engage bus riders and transit dependent populations using the Trusted Advocate model from Central Corridor LRT.

Attached maps:
Harrison neighborhood - Minneapolis: proximity to planned transitway stations
North Minneapolis neighborhoods: LRT, Streetcar, Rapid Bus and greenway

Adapted with permission from AMS




North Minneapolis Neighborhoods
LRT, Streetcar, Rapid Bus, and Greenway
FRIDLEY
COLUMBIA PARK
ROBBINSDALE
VICTORY
WEBBER-CAMDEN
CLEVELAND
FOLWELL
McKINLEY
JORDAN
HAWTHORNE
WILLARD HAY
GOLDEN VALLEY
NORTH LOOP
SUMNER GLENWOOD
HARRISON
DOWNTOWN
Crystal Lake
Mississippi River
Broadway Ave. Streetcar
Penn Ave. Rapid Bus
Emerson/Fremont Ave. Rapid Bus
North Minneapolis Greenway
Bottineau LRT Alignment
Southwest LRT Alignment
Planned LRT Stops
Miles
0 0.15 0.3 0.45 0.6
Minnesota Center for Environmental Advocacy
Created by: Kody Thurman; Minnesota Center for Environmental Advocacy
Date: April 2014
Data: City of Minneapolis; Metropolitan Council

From: ggarnett@saoic.org
To: Bottineau Transitway/Hennepin
Subject: Comments on EIS Community Impact
Date: Thursday, May 29, 2014 1:26:43 PM

Regarding the proposed Bottineau alignment and development, Summit Academy OIC has the following comments:

We are amazed that a community institution on State Highway 55 (Olson Memorial Highway) owning a block of land on this Minneapolis alignment was completely omitted in any assessment of the impacts of this development. Our first comment without this assessment is that we are community-based adult training organization with an annual enrollment of over 600 low-income students. There is no assessment of impacts on our institution by construction.

Our second comment is that given that we are in the business of training low income minority and female construction workers, we hope and expect that the most aggressive legal goals for the workforce utilization of these groups will be applied, which currently are 32% for minorities and 6% for women on state funded projects.

George A. Garnett
Director, Strategic Development
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612 278-5283

From:	Erin Heelan
To:	Bottineau Transitway/Hennepin
Subject:	Bottineau DEIS comments
Date:	Thursday, May 29, 2014 8:49:33 PM
Attachments:	Bottineau DEIS North Minneapolis Excerpts 2014.docx ATT00001.htm Bottineau DEIS Northwest suburbs Excerpts 2014.docx ATT00002.htm

Greetings,
When considering the D1 alignment it is important to consider the potential consequences of NOT putting the line down the the existing main commercial corridor in North Minneapolis, West Broadway.

As development projects tend to follow large infrastructure investments such as rail we need to be aware that there is a possibility that the line could slow or stop the revitalization of the a West Broadway Corridor.

It would be beneficial to know how the Bottineau line will impact other commercial corridors and what steps need to be taken to mitigate or leverage funding to assure that all corridors will continue to be a priority for our local governments not just the ones with rail.

Thanks!
Erin Heelan
WBC Executive Director
612-310-3715

Sent from my iPhone

Begin forwarded message:

> **From:** Joan Vanhala <joan@metrostability.org>
> **Date:** May 29, 2014 at 1:07:13 PM CDT
> **To:** Aasim Shabazz <Shab0010@umn.edu>, Abdullah Kiatamba <akiatamba@aisusa.org>, Aneesa Parks <aneesamparks@gmail.com>, Ange Hwang <angehwang@amamedia.org>, Anisah Clark <anisah.ed@askcsupply.com>, Ariah Fine <ariah@clevelandneighborhood.org>, Bobby Joe Champion <sen.bobby.champion@senate.mn>, Brian Payne <brian@ctul.net>, Candy Bakion <candybakion@hotmail.com>, Catherine Fleming <cefleming14@gmail.com>, Claire Bergren <claire@hnampls.org>, Dave Greene <greened@obbligato.org>, David Kang <davidkang.hmd@gmail.com>, Deanna Cummings <info@juxtaposition.org>, Denise Butler <dbutler@acerinc.org>, Dorothy Robinson <drobinson@nrrc.org>, Erin Jerabek <erin@westbroadway.org>, Eugene Dix <eugene2xl@embarqmail.com>, Fred Olson <fholson@cohousing.org>, Gene Gelgelu <ggelgelu@aeds-mn.org>, George Garnett <ggarnett@saoic.org>, Gloria Castillo <gloria@asamblea-mn.org>, Grover Jones <grover@neon-mn.org>, Ishmael Israel <iisrael@nrrc.org>, James Everett <success_ful1_2000@yahoo.com>, Jamil Ford <jamilford@gmail.com>, Jay Clark <clark037@umn.edu>, Jim Erkel <jerkel@mncenter.org>, John

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Subject: MIDNIGHT Bottineau DEIS comments due May 29th

Hi All,

Just a friendly reminder that comments to the Bottineau Draft Environmental Impact Statement are due

today Thursday May 29th by MIDNIGHT

For more information see the Bottineau Transitway website:
http://bottineautransitway.org/

1. Send written comments by email to bottineau@co.hennepin.mn.us
2. Send written comments by mail to:
   Hennepin County
   Housing, Community Works & Transit
   Attn: Bottineau Transitway
   701 Fourth Avenue S, Suite 400
   Minneapolis, MN 55415
   Please include a return mailing address and/or email address with all comments so that we may communicate with you about comments received and next steps.

See full Bottineau Draft Environmental Impact Statement here
http://bottineautransitway.org/2012_deis_documents.htm

Feel free to contact me with any questions – I will be in the office tomorrow working on our comments.

Joan

Joan Vanhala, Coalition Organizer
Alliance for Metropolitan Stability
2525 E. Franklin Avenue
Minneapolis, MN 55406
612-332-4471; http://www.metrostability.org/

I learned this… that if one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with a success unexpected in common hours.
Henry David Thoreau

Bottineau DEIS North Minneapolis Excerpts
April 21, 2014

Overall Bottineau LRT project benefits and impacts:
Executive Summary http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/9-Executive%20Summary.pdf

Chapter 1 – Purpose and Need: http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/10-Chapter%201-Purpose%20and%20Need.pdf

page 1-10:
1.3 Project Purpose
The purpose statement below specifically defines the fundamental reasons why the Bottineau Transitway project is being proposed.
The purpose of the Bottineau Transitway is to provide transit service which will satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public.

1.4 Project Need
This section outlines the foundation for the statement of the project purpose defined in Section 1.3. More specifically, this section identifies the problems or "needs" that the Bottineau Transitway project is intended to address and the underlying causes of the defined "needs."
The Bottineau Transitway project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.

Five factors contribute to the need for the Bottineau Transitway project:
■ Growing travel demand resulting from continuing growth in population and employment
■ Increasing traffic congestion and limited fiscal resources
■ People who depend on transit
■ Limited transit service to suburban destinations (reverse commute opportunities) and time-efficient transit options
■ Regional objectives for growth stated in the Regional Development Framework

Chapter 2: Alternatives: http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/11-Chapter%202-Alternatives.pdf

Page 2-11; **2.4 Alternatives Advanced for Further Study in Draft EIS**

Page 2-13; **Table 2.4-1. Stations by Alignment**
Alignment D1:
■ Golden Valley Road or Plymouth Ave/Theodore Wirth Regional Park3
■ Penn Avenue
■ Van White Boulevard
■ Target Field Station2

Page 2-18: ***Traction Power Substations***
Typically, TPSS sites are spaced less than one mile apart. A distance greater than one mile reduces the ability to safely deliver and return power from a traveling train.

Page 2-19: **Potential locations for the TPSS sites are shown in Figure 2.4-4.**

Page 2-21: **Table 2.4-2. Alternative Descriptions**
Alternative B-C-D1
Northern terminus Brooklyn Park
Length 13.3 miles
Capital cost ($2017, in millions) $997
Operating cost ($2013 in millions) $32.5
Ridership (total) 27,000
Bottineau Stations:
10 Stations
■ Oak Grove Parkway
■ 93rd Avenue
■ 85th Avenue
■ Brooklyn Blvd
■ 63rd Avenue
■ Bass Lake Road
■ Robbinsdale
■ Golden Valley Rd or Plymouth Avenue/Theodore Wirth Regional Park
■ Penn Avenue
■ Van White Blvd
Station Constructed by Others Where Bottineau LRT Alignment Would Connect with Regional Rail System:
Target Field Station

Page 2-23: Alternative B-C-D1 includes up to 10 new stations, as illustrated in Figure 2.4-7 and summarized in Table 2.4-2. With the D1 alignment, it is assumed that either the Golden Valley Road or Plymouth Avenue/Theodore Wirth Regional Park station option would be chosen due to the proximity of these stations and their similarity in transit markets served.

Page 2-30; 2.6 **Environmentally Preferred Alternative**
As summarized in Chapter 11 Evaluation of Alternatives, Alternative B-C-D1 meets the purpose and need of the Bottineau Transitway project and is environmentally preferred alternative because it will cause the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources

Chapter 3 **Transportation Analysis** http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/12-Chapter%203-Transportation%20Analysis.pdf

Page 3-1: This chapter identifies and evaluates effects to six parts of the transportation system: transit, freight rail, general motor vehicle traffic, pedestrians and bicycles, parking, and aviation.
■ Transit is analyzed for the Bottineau Transitway.
■ Freight rail is analyzed within the affected Burlington Northern Santa Fe (BNSF) and Canadian Pacific Railway (CP) rights-of-way.
■ General motor vehicle traffic is analyzed at all intersections along the transitway alignments that are signalized, would be anticipated to be signalized, or unsignalized and anticipated to be controlled by gate arms.
■ Pedestrians and bicycles are analyzed within ½ mile of the transitway alignments.
■ Parking is analyzed within anticipated construction limits.
■ Aviation impacts are analyzed for the areas where the preliminary construction limits are within the Crystal Airport Runway Protection Zone and Safety Zone A.

Page 3-6: **Table 3.1-1. Summary of Existing Transit Service and Changes Under Alternatives**
(JV notes: this table refers to changes in service for Route 5-only for non LPA routes; Route 7; Route 14; Route 19; Route 22; Route 32)

Page 3-14: **Figure 3.1-4. 2030 Forecast Daily Station Use for Build Alternatives**
JV notes: Approximate daily boardings + alightings D1alignment: Golden Valley Road – 1000; Penn Avenue – 3000; Van White Boulevard – 1000

Page 3-15: **3.1.4.3 Construction Phase Impacts**
Existing routes in the Bottineau Corridor are shown in Figure 3.1-1. Construction of any of the Build alternatives could result in intermittent impacts to bus operations on any of these routes within the construction area. These may include temporary stop relocations or closures, route detours, or suspensions of service on segments of routes operating on streets where LRT is being constructed. As project planning and engineering advances, transit routes will be reevaluated and transitway construction will be planned to minimize disruption to transit service.

Page 3-15: **3.2 Freight Rail Conditions**
HCRRA has discussed with BNSF representatives the acquisition of the eastern 50 feet of BNSF's right-of way for LRT purposes and preserving the western 50 feet for the freight track and access road. Additional coordination will take place as the project advances into further stages of project development.

Page 3-16: **3.2.3 Affected Environment**
Within the study area, the BNSF operates on one freight rail track generally located in the center of a 100-foot right-of-way that the railroad owns and maintains. Within this area, there are several locations where the BNSF right-of-way is less than 100 feet. BNSF operates one freight train per day on this track. During peak operations in previous years, up to five trains per day operated in the corridor. Future freight operations could increase or decrease based on the future needs of BNSF.

Page 3-18: **3.2.4.1 Operating Phase (Long-Term) Impacts**
The Build alternatives include constructing the proposed LRT guideway in the eastern half of the BNSF right-of-way (see discussion under Section 3.2). The project would divide the existing 100-foot right-of-way to accommodate both the BNSF and LRT tracks. This would require that the BNSF track be relocated approximately 25 feet to the west, allowing BNSF to operate within the western 50 feet of the right-of-way while, providing 25 feet of horizontal clearance from the rail track centerline at most locations. The LRT tracks would operate in the eastern 50 feet of the existing right-of-way. Proposed project construction would include a 12-foot wide access road generally located between the relocated BNSF track and the LRT guideway. See Figure 3.2-2 for a typical section diagram.

Pages 3-21, 3-22: **Table 3.2-3. Potential Bridge Modifications**
Golden Valley Road:
Existing slope paving and portions of the embankment would be removed and new retaining walls would be constructed within the west portal to accommodate the relocated freight rail track. The west abutment was designed to accommodate a future track within the west portal of the bridge. Existing piers would require modifications to provide adequate crash wall protection based on current MnDOT and AREMA standards. No change to BNSF operations or maintenance requirements.

Theodore Wirth Parkway:
Existing slope paving and portions of the embankment would be removed and new retaining walls would be constructed within the west portal in order to accommodate the relocated freight rail track. Within the east portal, removal of the existing slope paving and portions of the embankment along with construction of a new retaining wall would occur in order to accommodate the LRT guideway. The west abutment was designed to accommodate a future track within the west portal of the bridge. Existing piers would require modifications in order to provide adequate crash wall protection based on current MnDOT and AREMA standards. No change to BNSF operations or maintenance requirements.

Plymouth Avenue:
Existing slope paving and portions of the embankment would be removed and new retaining walls would be constructed within the portal east of the existing track in order to accommodate the LRT guideway. Existing piers would require

modifications in order to provide adequate crash wall protection based on current MnDOT and AREMA standards. No change to BNSF operations or maintenance requirements.

TH 55:
The north half of the TH 55 Bridge would be reconstructed in order to accommodate the transition of the LRT guideway out of the BNSF right-of-way into the median of TH 55. These bridge reconstruction impacts are not associated with the relocation of the freight rail track. No change to BNSF operations or maintenance requirements.

3.4 Pedestrians and Bicycles
Page 3-36
3.4.4 Environmental Consequences
3.4.4.1 Operating Phase (Long-Term) Impacts
Alignment D1 (part of the Preferred Alternative)
East of the BNSF/TH 55 transition, LRT would operate in the median of TH 55. Non-signalized pedestrian crossings of TH 55 at the intersections with Sheridan, Russell, and Queen Avenues would be closed. Alternate crossings are available within 1/8 mile for each location.

Page 3-37
Alignment D Common Section (part of the Preferred Alternative)
Pedestrian crossings will be limited to signalized intersections on TH 55, which are the same intersections where marked pedestrian crossings are currently provided. Four unmarked pedestrian crossings, where a sidewalk is provided in the median but signage is not provided, are proposed to be closed. These unmarked crossings include: Oliver, Newton, Logan, and James Avenues. Additionally, one existing marked pedestrian crossing of TH 55 is proposed to be closed at West Lyndale Avenue due to the number of lanes that would need to be crossed and the resulting number of vehicle conflicts and poor signal operations. Due to the urban street grid, each closing would result in a diversion of less than 1/10 mile to the next nearest crossing.

Page 3-42 (map) **Figure 3.4-4. Alignment D1 and D Common Section: Impacts to Pedestrian and Bicycle Facilities**

Page 3-44: **3.4.5 Avoidance, Minimization, and/or Mitigation Measures**
Current planning for the Bottineau Transitway supports the enhancement of pedestrian facilities. These enhancements are intended to act both as an improvement and as a natural separation to protect pedestrians, bicyclists, and transit vehicles. All pedestrian crossings would be designed in accordance with current American Disabilities Act (ADA) design requirements and standards to ensure access and mobility for all users, and station areas would be designed according to best practices for bicycle and pedestrian safety.

Measures would be taken to discourage pedestrians from illegally crossing the tracks and to enhance safety at permitted crossing locations, such as providing pedestrian signals and well-marked crosswalks.

If trail impacts cannot be avoided, potential reconstruction options and design guidelines would be discussed with the agencies that have jurisdiction over the facility. If trail facilities have restrictive covenants due to funds used for construction, these requirements would also be addressed. Potential indirect impacts to trail facilities, including safety concerns and visual impacts, would also be identified.

In the short-term, mitigation for potential disruptions to bicycle and pedestrian facilities during construction would include appropriate access provisions in MOT plans, and best management practices (BMPs) to manage debris.

If crosswalks are temporarily closed, pedestrians would be directed to use alternate crossings nearby. Every effort would be made not to close adjacent crosswalks at the same time to allow for continued pedestrian movement across streets. All sidewalks and crosswalks would be required to meet minimum standards for accessibility and be free of slipping and tripping hazards. Temporary sidewalk closures would be discouraged but, if required, would be conducted in such a way

as to minimize impacts. Depending on how construction activities would impact sidewalk areas, special facilities (such as handrails, fences, barriers, ramps, walkways, and bridges) may be required to maintain bicyclist and pedestrian safety. During final design, it is expected that a plan would be developed to manage the closure of pedestrian crossings and other restrictions on non-motorized transportation facilities and crossings throughout the construction process. For proposed closures on TH 55, MnDOT's policy regarding Temporary Pedestrian Access Routes will be followed.

Chapter 4.0 Community and Social Analysis
http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/13-Chapter%204-Community%20and%20Social%20Analysis.pdf

4.1 Land Use Plan Compatibility
Page 4-5: *Alignment D1 (part of the Preferred Alternative)*
Alignment D1 begins near 34th Avenue in Robbinsdale and continues south into the city of Golden Valley crossing the municipal boundary at 26th Avenue.

As shown in Exhibit 4-7 and Exhibit 4-9, existing land uses east and west of Alignment D1 in Robbinsdale and Golden Valley are primarily low-density residential and park uses, with limited areas of institutional use. As depicted in Exhibit 4-10, the *City of Golden Valley Comprehensive Plan 2008-2018* indicates these land uses are planned to remain. The existing and planned future land uses near the Golden Valley Road and Plymouth Avenue/Theodore Wirth Regional Park station options are also low-density residential and park uses.

Alignment D1 continues along the BNSF railroad corridor southeast through eastern areas of Golden Valley, with Theodore Wirth Regional Park to the west and low-density residential land uses to the east. Alignment D1 enters Minneapolis north of TH 55 then travels east to CSAH 2 (Penn Avenue) where it joins the Alignment D Common Section. As shown in Exhibit 4-11, the primary land uses are park and low density residential uses with no plans for changes in the future. Along TH 55, existing and future planned land uses are primarily low-density residential uses.

Page 4-8: **4.1.5 Operating Phase (Long Term) Impacts**
Build Alternatives
Overall, the Bottineau Transitway Build alternatives would be compatible with the local land use planning policies of Maple Grove, Brooklyn Park, Crystal, Robbinsdale, Golden Valley, and Minneapolis. Although Golden Valley's comprehensive plan does not specifically mention the Bottineau Transitway Project, LRT would be compatible with the transit goal and objective of the city's comprehensive plan. The Build alternatives would also be compatible with regional land use planning policies.

4.2 Community Facilities/Community Character and Cohesion
(*JV notes this section includes maps)*

Page 4-15/16: **Golden Valley**
Golden Valley does not have any officially designated neighborhoods within its boundaries. Alignment D1 travels through the city parallel to the BNSF railroad corridor from 34th Avenue to TH 55. The area adjacent to Alignment D1 consists of parkland to the west and residential neighborhoods to the east. The BNSF railroad corridor (Alignment D1) and parkland separate the residential neighborhoods from one another. Some residential areas to the east have limited vehicle access to the parks. Theodore Wirth Parkway, part of the Grand Rounds Scenic Byway, provides an important connection to Golden Valley Road and connects parkland to nearby neighborhoods. Refer to Figure 4.2-5 for primary physical features in Golden Valley.

Page 4-17: **Minneapolis**
Within Minneapolis, Alignment D1, Alignment D2, and the Alignment D Common Section pass through five officially designated neighborhoods: Jordan, Willard-Hay, Harrison, Near-North, and Sumner-Glenwood. These residential

neighborhoods, illustrated in Figure 4.2-6, generally have an urban character with a grid street pattern and residential housing in a variety of densities along the alignments.

The neighborhoods bordering the portion of Alignment D2 where it parallels West Broadway Avenue are Jordan and Willard-Hay. These neighborhoods are primarily residential with commercial uses along West Broadway Avenue. Victory Memorial Parkway runs north-south along the western Minneapolis border, crossing under the proposed Alignment D2 on the western border of Minneapolis.
……
Alignment D1 enters Minneapolis also in the Willard-Hay neighborhood. Theodore Wirth Regional Park is a major community feature west of the alignment. In some instances (near Plymouth Avenue), the park is also east of Alignment D1.

The neighborhoods adjacent to Alignment D1 along TH 55 and the Alignment D Common Section are Harrison to the south, Near-North to the north, and Sumner-Glenwood just west of I-94.

The Harrison neighborhood, located south of TH 55, is primarily residential. TH 55 is a wide arterial street with neighborhood connections provided by north-south street crossings with traffic signals at TH 55 intersections. The wide median with trees and green space within the right-of-way serve as a buffer between the highway and the adjacent neighborhoods.

Near-North is primarily residential. Major landmarks include the historic Sumner Library and the recently redeveloped Heritage Park, a mixed use residential development that includes public housing. International Market Square, a redeveloped factory containing commercial businesses, is also a major landmark in the neighborhood. Near-North is bordered on the east by I-94, which physically separates the neighborhood from downtown Minneapolis.

The Alignment D Common Section continues into downtown in the North Loop neighborhood, which has a mixed use urban character.

Page 4-27 ■ Golden Valley
No direct or indirect impacts are anticipated for the community facilities along Alignment D1 in Golden Valley, which are identified in Table 4.2-12. An evaluation of noise, access, and changes in visual character determined that the transitway would not disrupt the function of these community facilities.

Park resources along Alignment D1 in Golden Valley are listed in Table 4.2-13. Figure 4.2-5 shows the location of Mary Hills Nature Area, Glenview Terrace Park, and Theodore Wirth Regional Park. Mary Hills Nature Area is located west of the BNSF railroad. A meandering trail system connects Mary Hills Nature Area with Sochacki Park to the north. The trail generally parallels the existing railroad corridor, with deciduous vegetation providing some visual screening. The recreational experiences of this park resource may be lessened due to the effects of increased transitway operations and change in setting.

Although Glenview Terrace Park is adjacent to Alignment D1, the active uses of the park are well buffered by a ravine and wooded area.

Theodore Wirth Regional Park is located generally between a line extending along France Avenue on the west (France Avenue is discontinuous and exists north and south of the park only), Xerxes Avenue on the east, I-394 to the south, and Golden Valley Road on the north. Some of the walking trails and crosscountry ski trails are near Alignment D1. Although deciduous trees provide some visual screening of the existing railroad corridor, their buffering effect would be reduced as a result of leaf loss during the winter months. Recreational experiences within the park may be somewhat diminished due to the effects of transitway operations and change in setting.

An evaluation of noise, access, changes in visual character, and location relative to Alignment D1 determined that Stockman Park, Rice Lake Nature Area, Valley View Park, and Sweeney Lake Park would not be adversely affected by the transitway.

Page 4-28:
Direct/indirect effects can be summarized as follows:
■ There are two potential station sites for Alignment D1: the Plymouth Avenue/Theodore Wirth Regional Park station option and the Golden Valley Road station option. No additional right-of-way is needed if the Plymouth Avenue/Theodore Wirth Regional Park station option is selected.
■ To construct the transitway, permanent property acquisition is anticipated from Theodore Wirth Regional Park near where Alignment D1 crosses Plymouth Avenue. A small amount of right-of way (0.4 acre) is anticipated due to the slope at this location. The property is owned by the Minneapolis Park & Recreation Board (MPRB).
■ To construct the Golden Valley Road station option, permanent acquisition of less than one half acre is expected from Theodore Wirth Regional Park. The property would be acquired from the MPRB.

Effect on community character:
Potential changes in the setting of Sochacki Park and Mary Hills Nature area and minor property acquisitions from Theodore Wirth Regional Park are not anticipated to change the community character of the area surrounding Alignment D1 in Golden Valley. Property acquisitions would occur near the park's eastern boundary and are not anticipated to impact park facilities or recreational use. Coordination with the MPRB regarding potential park impacts is ongoing. Construction of either proposed station is anticipated to improve access to Theodore Wirth Regional Park.

Effect on community cohesiveness:
The effects described would be confined to limited areas and are not anticipated to present a substantial physical or social barrier affecting community cohesion.

Page 4-28/29: ■ Minneapolis
Two community facilities, both of which are parks, were identified along Alignment D1 in Minneapolis and are listed in Table 4.2-14.

No direct or indirect impacts to Farwell Park are anticipated due to its distance from Alignment D1. A temporary easement from Theodore Wirth Regional Park would be required to construct the LRT guideway north of TH 55 where it transitions from the BNSF railroad corridor to TH 55. The property would be acquired from the MPRB. The location of Theodore Wirth Regional Park is depicted in Figure 4.2-6 and further discussion of park impacts is provided in Chapter 8 Draft Section 4(f) Evaluation.

Page 4-29**: Direct/indirect effects can be summarized as follows:**
■ East of the BNSF railroad/TH 55 transition, three non-signalized pedestrian crossings of TH 55 would be closed (Sheridan Avenue, Russell Avenue, and Queen Avenue).
■ Nearby low- and medium-density residential areas would experience the effects of general activity surrounding the Penn Avenue station.

Effect on community character:
The closure of three pedestrian crossings and the increased activity near the Penn Avenue station is not anticipated to change the community character of the area surrounding Alignment D1 in Minneapolis. Residences and community facilities near the station would benefit from improved transit access. The effects would be confined to limited areas and are not expected to affect the overall community character.

Effect on community cohesiveness:
The effects would be confined to limited areas and would not present a substantial physical or social barrier affecting community cohesion.

Page 4-34: ***Alignment D Common Section (part of the Preferred Alternative)***
■ Minneapolis
Community facilities along the Alignment D Common Section in Minneapolis are listed in Table 4.2-19.
Access closures at Oliver Avenue, Newton Avenue, Logan Avenue, and James Avenue are not expected to affect pedestrian traffic associated with community facilities as access closures would require a diversion of less than 0.1 mile. An evaluation of right-of-way requirements, noise, access, and changes in visual character determined that the transitway would not disrupt the function of community facilities along the Alignment D Common Section in Minneapolis.

Page 4-34: **Table 4.2-19. Community Facilities along the Alignment D Common Section in Minneapolis**
(Jv notes this table lists all the organizations and facilities in this section of the LRT line)

Page 4-34: No direct or indirect impacts to park resources are expected along the Alignment D Common Section in Minneapolis, which are listed in Table 4.2-20. Harrison Park, Lovell Square, Mary McLeod Bethune Park, and Sumner Field are more than 350 feet from the Alignment D Common Section while Barnes Place and Humboldt Triangle Park are comprised primarily of green space.

Page 4-35:
The Alignment D Common Section would run in the median of TH 55, which currently has high traffic volumes. Due to the buffer area between homes and TH 55, and the fact that TH 55 is an existing busy road, the transitway is not expected to substantially increase noise or traffic on TH 55. Refer to the Traffic Technical Report (Kimley-Horn and Associates, 2012) for details regarding TH 55 traffic volumes.

Direct/indirect effects can be summarized as follows:
■ Four existing unmarked pedestrian crossings of the TH 55 median would be closed (Oliver Avenue, Newton Avenue, Logan Avenue, and James Avenue).
■ One existing marked pedestrian crossing of TH 55 would be closed at West Lyndale Avenue.
■ Medium-density residential areas near the Van White Boulevard station are expected to experience the effects of transitway operations and general activity.

Effect on community character:
Access closures along TH 55, transitway operations, and general activity associated with the proposed transit stations are not anticipated to change the overall community character of the Harrison, Sumner-Glenwood, and Near-North neighborhoods. Residences and nearby community facilities would benefit from improved transit access, and the changes would be relatively minor. Evaluation of pedestrian access closures along TH 55 would continue during project design and development. The Van White Boulevard station would improve transit access to future planned mixed use areas along Glenwood Avenue to the south, less than a half mile away from the transit station. The effects would be confined to limited areas and are not expected to affect the overall community character.

Effect on community cohesiveness:
Overall effects would be confined to limited areas and would not present a substantial physical or social barrier affecting community cohesion.

Traction Power Substations
The TPSS buildings are generally small enough to not be visually intrusive and are not anticipated to affect community character. Siting of TPSS facilities would take into account potential visual impacts and ability to screen with appropriate landscaping, especially in residential areas.

Page 4-37: **4.3 Displacement of Residents and Businesses**
The Bottineau Transitway Project would require the acquisition of land (partial and full) for the construction and operation of the transitway. Each alignment would require additional land beyond that already dedicated to

transportation purposes. This section summarizes land acquisition and residential, commercial, and farmland displacements associated with the proposed alignments and alternatives.

Page 4-38: **Build Alternatives**
The operating phase of the Bottineau Transitway Project would require the permanent acquisition of right-of-way from residential, commercial, industrial, park, and farm properties. Estimated full and partial acquisitions, based on project alignments, are provided in Table 4.3-1.

Page 4-39:
There are two potential station sites for Alignment D1: the Plymouth Avenue/Theodore Wirth Regional Park station option or the Golden Valley Road station option. No additional right-of-way is needed if the Plymouth Avenue/Theodore Wirth Regional Park station option is selected (a small amount of right-of-way is anticipated near Plymouth Avenue due to the slope at this location). If the Golden Valley Road station option is selected, two additional partial acquisitions totaling approximately 0.4 acre are expected.

Page 4-40: **Traction Power Substations**
Proposed TPSS would be located along the LRT line and spaced approximately ¾ mile to one mile apart, with most located near LRT stations. TPSS would be located on limited access sites that would be approximately 4,000 square feet (less than 0.1 acre) in size and able to accommodate a single-story building that is about 40 feet by 20 feet. Although most TPSS are expected to fit within the transportation right-of-way, there may be cases where these buildings may be sited outside of existing right-of-way.

Page 4-64: **4.5 Visual/Aesthetics**
Information included in this section is based on the information provided in the Visual Quality Technical Report (SRF Consulting Group, 2012).

4.5.1 Introduction
This section assesses the existing physical character of the Bottineau Transitway study area including physical development, vegetation and other natural features, and visually sensitive landmarks and views. Potential impacts on the visual character of the areas adjacent to the alternatives are also evaluated. The Visual Quality Technical Report (SRF Consulting Group, 2012), which provides the basis for this assessment of visual quality, is incorporated into this Draft EIS by reference.

Page 4-68: **Alignment D1 (part of the Preferred Alternative)**
Along the edge of the Robbinsdale and Minneapolis city limits, Alignment D1 would run in the eastern 50 feet of the total 100-foot wide BNSF railroad corridor alongside the BNSF railroad tracks. This alignment is independent of other roads. From 36th Avenue southward, the transitway would be depressed in relation to the surroundings with wooded embankments on both sides. Adjacent land uses primarily include residential neighborhoods and public parkland.

While some of the residential areas are secluded from the rail corridor by wider vegetative buffers, others are in proximity or have less vegetative buffer such as along the eastern edge on Indiana Avenue, Kewanee Way, parts of Xerxes Avenue, and the area near the transition to TH 55. Along the western edge of the rail corridor, a linear natural area is comprised of a series of parks that are a natural retreat from the surrounding urban and suburban development including Sochacki Park, South Halifax Park, Rice Lake Park, Mary Hills Nature Area, Glenview Terrace/Valley View Park, and Theodore Wirth Regional Park and Golf Course. The Visual Quality Technical Report (SRF Consulting Group, 2012) includes a description of each park. Within Theodore Wirth Regional Park, Bassett Creek meanders through a patchwork of forested areas at the edge of the golf course as it heads south toward Bassett Lake and TH 55.

The BNSF railroad corridor is also a primary utility corridor. A power substation is located adjacent to the BNSF corridor near 34th Avenue. A high-voltage power line with metal lattice towers runs along the east side of the railroad corridor. The presence of the railroad and utilities through this generally natural area indicates the natural area has been

previously disturbed. At TH 55, the transitway would turn east under the westbound TH 55 bridge over the BNSF railroad corridor to the center median of TH 55.

Higher quality visual features identified along Alignment D1 include:
■ Theodore Wirth Regional Park and Golf Course
■ Bassett Creek and Bassett Lake
■ Theodore Wirth Parkway
■ Sochacki Park, South Halifax Park, Rice Lake Park, and Mary Hills Nature Center
■ Glenview Terrace/Valley View Park
■ Plymouth Avenue Bridge over Bassett Creek and BNSF railroad corridor

Page 4-69: **Alignment D Common Section (part of the Preferred Alternative)**

The Alignment D Common Section runs along TH 55 towards downtown Minneapolis. As part of the *Minneapolis Near Northside Master Plan* (2000), TH 55 was envisioned as a "gateway" corridor. This plan acknowledges that LRT would need to be accommodated in the right-of-way in the future. Since the plan's adoption, a number of improvements have been implemented, including new boulevard and median tree plantings to complement the mature trees along the south frontage road.

Along TH 55, homes in the adjacent residential neighborhoods face inward to the local streets and do not face the highway directly. Some multi-family residential buildings ranging from two to six stories do have some units facing the highway. On the south side of TH 55, Harrison Park includes ball fields and a community center building. Additionally, several civic buildings and spaces have prominent locations.

East of I-94, industrial and civic buildings line the route, and there is little greenery. The intersection of TH 55, 6th Avenue, and 7th Street is a skewed configuration and a challenging area to navigate visually. 7th Street branches off as a multi-lane road to access downtown Minneapolis. Approaching the Target Field Station, 6th Avenue realigns to the street grid of downtown becoming 5th Street. The roadway narrows where it runs parallel to the existing Blue Line and Green Line (Central) LRTs. The taller buildings of downtown Minneapolis are visible in the near distance.

Higher quality visual features identified along the Alignment D Common Section include:
■ Boulevard and median trees along TH 55 west of I-94
■ Harrison Neighborhood gateway sculptures
■ Floyd B. Olson memorial
■ Zion Baptist Church
■ Seed Academy and Wayman Church
■ Sumner Library
■ Metro Transit headquarters
■ HERC site landscaping

4.5.6 Environmental Consequences

Page 4-72:

Plymouth Avenue Bridge over Bassett Creek and BNSF railroad – Minimal
Some modifications to the bridge would be necessary to make space for the transitway whether or not the Plymouth Avenue/Theodore Wirth Regional Park station option is constructed at this location. In either case, the overall visual quality of the bridge would be minimally affected since the primary aesthetic features including the pier arches, railing, and lighting on the deck would remain unchanged. In order to accommodate the new LRT tracks an area below the bridge would be altered from a paved slope to a clear opening with infill walls added to two of the existing arched piers for crash protection and to retain grade. This modification would only be visible from the pedestrian trail west of the

BNSF track and would be unnoticeable from Plymouth Avenue above. A transit station at this location would have a visual presence. Design modifications, such as an enclosed elevator, would be needed to provide transit patrons with access to the station.

■ Bassett Creek and Bassett Lake – Moderate
Bassett Creek and Bassett Lake would be moderately affected similarly to Theodore Wirth Regional Park since they are part of the park's natural scenery.

4.6 Business Impacts
Page 4-77: **4.6.3 Affected Environment**
Existing Economic Activity
The following section outlines the existing economic activities within the Bottineau Transitway. Existing uses are described for each alignment.

Page 4-78
Alignment D Common Section (part of the Preferred Alternative)
No businesses are located in the western portion of the Alignment D Common Section.

East of I-94, the Alignment D Common Section enters the downtown area of Minneapolis, characterized by commercial and industrial uses. The alignment transitions to the existing Blue Line LRT at the Target Field Station, which is currently transitioning from industrial uses to a signature mixed use development adjacent to the Minnesota Twins ballpark as indicated in The Future Land Use Plan map for the Downtown Sector from *The Minneapolis Plan*. The last station to be constructed as part of the Bottineau Transitway would be at Van White Boulevard. The terminal station at the transition to the Blue Line would be located at the Target Field Station, an intermodal transit station under construction and planned to open in 2014. The *North Loop Small Area Plan* (2010) guides redevelopment for the North Loop area and calls for mixed use developments organized to support transit.

Page 4-81: 4.6.5 Avoidance, Minimization, and/or Mitigation Measures
The alternatives development process sought to minimize impacts to the greatest degree possible while preserving project benefits.

Loss of commercial property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with applicable laws and statutes, as noted in Section 4.3 Displacement of Residents and Businesses.

While not a specific mitigation measure, Hennepin County and the Metropolitan Council would support local communities' station area planning efforts to enhance the potential economic benefits of the Bottineau Transitway through community development.

Measures to avoid and/or minimize adverse impacts to businesses during project construction including maintenance of traffic, maintenance of access, business signage, and advance communication of construction activities would be provided.

4.7 Safety and Security

Page 4-84: *Design Elements*
Station areas would be designed according to best practices for safety. Stations would include public address systems, video monitoring, and emergency telephones. A public address system, with both speakers and signs, would convey information to people with disabilities in compliance with ADA requirements. Speakers and signs would be positioned to be clearly audible and visible. To deter vandalism, the speakers and signs would be out of public reach. Closed circuit television would record activity at ticket vending areas and platforms. Camera locations would be coordinated with the

locations of other equipment such as lighting, audio equipment, and signage. Cameras would be visible to the public but not readily accessible. Stations would incorporate an emergency telephone on or near the platform for use in emergency situations.

General illumination of stations areas as well as vehicular and pedestrian circulation lighting would be consistent with established guidelines. Emergency lighting would be provided in all public areas, including platforms. Pedestrian lighting would be located along walkways, crosswalks, ramps, stairs, and bicycle storage areas. Vehicular traffic areas within station boundaries, such as bus loading and unloading zones, would be illuminated. Lighting would also be provided for park-and-ride facilities.

Station platforms would be fenced on the side not used to access the transitway at median stations and where significant grade changes exist at side platforms. Fencing would also be installed at locations where informal (illegal) crossing of the existing freight rail track have been identified.

Safety and security within the Bottineau Transitway is the joint responsibility of the operator and local law enforcement authorities. Metro Transit has its own licensed police force to address public safety on and near the transit system. Transit police routinely patrol the bus routes and bus stop areas, as well as the Blue Line LRT. Transit police officers on the Blue Line system, which is similar to the Bottineau Transitway system, provide security at the LRT stations and in the rail cars.

Page 4-85: ***Alignment D1 (part of the Preferred Alternative)***
Community concerns related to the safety of park and trail users were expressed during the Scoping process. There are several informal (illegal) crossings of the BNSF railroad corridor within parkland between 36th Avenue and Golden Valley Road. Pedestrians who cross at these unmarked locations are illegally trespassing on (private) BNSF property. During the Scoping process, it was learned that residents of the area east of the park cross the BNSF railroad corridor at these illegal crossing to access the trail and Sochacki Park. Fencing along informal crossings in Sochacki Park and Mary Hills Nature Area would increase safety of trail users.

St. Margaret Mary Catholic Church and Loveworks Academy are situated north of the Golden Valley Road station option. Loveworks Academy is a public charter school serving students in kindergarten through the eighth grade. Adherence to design guidelines and other measures would maintain a safe and secure transit environment for schoolchildren near the proposed Golden Valley Road station option.

Chapter 5.0 Physical and Environmental Analysis
http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/14-Chapter%205-Physical%20and%20Environmental%20Analysis.pdf

Page 5-18 (map) **Figure 5.2-4. Alignments D1 and D2 Floodplain and Wetland Resources and Impacts (north end)**

Page 5-19 (map) **Figure 5.2-5. Alignments D1 and D2 Floodplain and Wetland Resources and Impacts (south end)**

Page 5- 21 & 5-22
5.2.5 Avoidance, Minimization, and/or Mitigation Measures
Potential on-site or project specific floodplain storage mitigation has been preliminarily evaluated for the project, which included low areas adjacent to existing floodplain that are not wetland. The Bassett Creek Watershed Management Commission (BCWMC) has identified that floodplain storage mitigation is required to be located within the same drainage channel (culvert to culvert) as the impact. Adjacent to Alignment D1, there are two areas within Theodore Wirth Regional Park that could meet the storage volume replacement requirement. Based on existing floodplain and wetland sources, both are located outside existing wetland and floodplain. One of these parcels is owned by the

Canadian Pacific (CP) Railroad (located within the park), as shown in Figure 5.2-6. The details of how these areas would be designed to meet replacement requirements would need to be coordinated with the Minneapolis Park & Recreation Board (park manager), the landowner (if different), and the approving agencies (city, DNR, Watershed Management Organization (WMO)). Review of the scope and location of flood storage mitigation in Theodore Wirth Regional Park would be conducted by the Metropolitan Council to determine consistency with the Council's Regional Parks Policy Plan and other relevant park planning documents.

Page 5-23 (map) **Figure 5.2-6. Alignment D1 Potential Floodplain Storage Mitigation Sites**

Page 5-29 **5.3.5 Avoidance, Minimization, and/or Mitigation Measures**
Wetland permits from the USACE (Section 404), Minnesota Pollution Control Agency (MPCA) (Section 401 certification), and DNR (Public Waters) would be required as a part of this project. Additionally, the designated local government unit (LGU) would need to make a Wetland Conservation Act wetland replacement plan determination for the project. Because this is a linear project, Build alternatives cross through several cities and four watershed management organization boundaries – Shingle Creek Watershed - Management Commission (WMC), West Mississippi WMC, Bassett Creek WMC, and Mississippi Watershed Management Organization (WMO). The LGU that experiences the most wetland impact within its jurisdiction would be considered the lead agency and make the WCA wetland replacement plan determination for this project. The LGU would be determined as the project advances into further stages of project development.

Wetland impacts have been avoided and minimized to the extent practical. Wetland impacts will be further studied and a wetland delineation will be completed as part of the 404 permitting process.

5.6 Noise
Page 5-39: **Noise Impact Criteria**
Noise Sensitive Land Use Categories
The FTA classifies noise-sensitive land uses into the following three categories:
■ Category 1: Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use. Also included are recording studios and concert halls.
■ Category 2: Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity is assumed to be of utmost importance.
■ Category 3: Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, museums, campgrounds, and recreational facilities can also be considered to be in this category. Certain historical sites and parks are also included, such as parks used for passive recreation like reading, conversation, meditation, etc. However, most parks used primarily for active recreation would not be considered noise sensitive.

Page 5-54: **Alignment D1 (part of the Preferred Alternative)**
For Alignment D1, the total number of impacts differs depending on which LRT station option is selected -- the Golden Valley Road station option or the Plymouth Avenue/Theodore Wirth Regional Park station option. This variation is due to changes in LRT speed depending on station location. Severe noise impact is predicted to occur at 40 residences and moderate noise impact is predicted to occur at up to 56 residences, South Halifax Park, and The Family Partnership School. The impacts in this section are largely due to receiver proximity to the track and crossovers. The residential noise impacts occur east of the alignment because the properties to the east are closer to the track and there are fewer residences to the west as the corridor is positioned along Walter Sochacki Park and Theodore Wirth Regional Park.

Page 5-54 & 5-55: **Alignment D Common Section (part of the Preferred Alternative)**
For the Alignment D Common Section moderate noise impact is predicted to occur at 18 residences. The predicted impacts in this section are due to proximity to the track and crossovers. There are few impacts in this section due to

higher existing noise levels in this area as the corridor nears downtown Minneapolis and the placement of the alignment in the median of TH 55, which is a six-lane roadway along most of the alignment. There is also no predicted use of the high-horn in this section.

Page 5-59: **Table 5.6-8. Potential Noise Mitigation Measures for Operational Impacts**
(*JVnotes this table outlines the types of noise mitigation measures)*

Page 5-61 **Table 5.6-9. Potential Noise Mitigation Measures by Alignment**
(*JV notes: this info is excerpts from chart)*
D1 (part of the Preferred Alternative) - Potential mitigation could include three noise barriers on the east side of the alignment between 34th Avenue North and 31 ½ Avenue North, 27th Avenue North and Golden Valley Road, and North Oak Park Avenue and TH 55. Further potential mitigation includes additional noise barriers, sound insulation or modifications to the design, settings or use of audible warning devices.

D Common Section (part of the Preferred Alternative) - Potential mitigation could include sound insulation or relocating or modifying crossovers.

Page 5-77: **5.8 Biological Environment (Wildlife Habitat and Endangered Species)**

Page 5-90 (map) **Figure 5.8-4. Alignments D1, D2, and D Common Section Wildlife Habitat Impacts**

Page 5-92: **5.8.5 Avoidance, Minimization, and Mitigation**
There were no impacts identified to state or federal listed threatened, endangered, and special concern species as a result of the Build Alternatives (alignments, stations, OMF, park-and-rides, or TPSS sites). Therefore, no long-term mitigation measures are warranted.

Chapter 6.0 Indirect Effects and Cumulative Impacts
http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/15-Chapter%206-Indirect%20Effect%20and%20Cumulative%20Impacts.pdf

Page 6-4: (map) **Figure 6.2-1 Primary Study Areas for Indirect and Cumulative Impacts**

Page 6-4: **6.4.3 Community Character, Services, and Facilities**
Indirect
As described elsewhere, a potential indirect effect of the project would be that new businesses and residential developments are attracted to locate in the station areas. This new development could in turn result in increased use of and demand for community services (parks for example) and facilities (recreation centers, for example) and changes in community character (a quiet area becomes busier). For locations where comprehensive plans call for mixed-use development, such changes in character would be consistent with planned growth and development.

Cumulative
Over time, continued development of transit and transportation facilities in the project area, combined with future actions and the direct and indirect effects of the Bottineau Transitway Project, would place increased demands on community services and facilities and would change community character. For locations where comprehensive plans call for mixed-use development, such changes in character would be consistent with planned growth and development.

Page 6-12: **6.4.8 Business Impacts**
Indirect

Adverse indirect impacts to businesses could result from displacement as a result of new development (see Section 6.4.4). Potential positive indirect impacts could include improved access to customers and employees as a result of the improved connectivity provided by the Bottineau Transitway.

Cumulative
Continued development of transit and transportation facilities in the project area over time, combined with future actions and the direct and indirect effects of the Bottineau Transitway Project, may cumulatively strengthen the business climate by providing improved transportation access to customers and employees. While individual businesses could be affected negatively, the overall (cumulative) result would be expected to be positive.

Mitigation
Development that occurs in response to the Bottineau Transitway and the reasonably foreseeable future actions would be expected to increase access to businesses in the area and expand the base of potential local consumers. No additional mitigation is required.

Page 6-12: **6.4.9 Safety and Security**
Indirect
It is possible that the increased development density and intensity anticipated around new transit stations would affect law enforcement and security providers. New planned concentrations of residential, commercial, and other uses would put more transit riders, pedestrians, and bicyclists in proximity with transit vehicles, tracks, crossings, and freight rail, potentially creating safety conflicts. This could in turn place greater demands on security providers and/or require changes in current patrol routes, schedules, and equipment needs.

Cumulative
The continued development of transit and transportation facilities in the project area over time, combined with future actions, natural population growth, and the direct and indirect effects of the Bottineau Transitway Project, may cumulatively add to the demands on law enforcement and security providers, potentially affecting staffing levels and budgets over the long-term.

Mitigation
Safety and security measures to address induced development and future actions would be planned for by the local municipalities, counties, and emergency service providers. Metro Transit will provide security at and around the stations, and transit rider, pedestrian, and bicycle safety features will be incorporated into design and maintained/enforced over time. No additional mitigation is required.

Page 6-13: **6.4.10 Environmental Justice**
Indirect
Potential indirect effects on environmental justice populations could result from increased development and redevelopment in the station areas. While not every station area is likely to see significant change in the short-term, those where demand for new development is stronger would be likely to experience increased property values and corresponding increases in rents and real estate taxes. While these impacts would be experienced by all populations within the study area, low-income persons may experience them to a greater extent and, particularly if they rent rather than own property, more likely as an adverse impact.

Cumulative
Development around station areas in combination with future actions could result in increased property values and corresponding increases in rents and real estate taxes. While these impacts could be experienced by all populations in the study area, low-income persons are more likely to experience them as adverse.

Mitigation
No mitigation is identified.

Page 6-17 thru 6-21: **Table 6.4-1. Summary of Indirect Effects and Cumulative Impacts**
(*JV notes – this table outlines all Indirect Effects and Cumulative Impacts along with any mitigation proposed)*

Chapter 7.0 Environmental Justice http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/16-Chapter%207-Environmental%20Justice.pdf

Page 7-2: **7.2.3 Identifying Minority and Low-Income Populations**
As defined in *FTA Circular 4703.1*, minority populations are any readily identifiable group or groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed or transient persons such as migrant workers or Native Americans who will be similarly affected by the proposed project. Minority includes persons who are American Indian and Alaska Native, Asian, Black, or African American, Hispanic or Latino, and Native Hawaiian and other Pacific Islander.

2010 Census data were used to map the percentage of minorities in each census block in the Bottineau Transitway study area. In addition, the presence of minority populations in the corridor were further recognized and documented through engagement work by the Corridors of Opportunity grantee organizations, extensive public engagement in the corridor as part of the NEPA process, interviews and outreach as part of the *Bottineau Transitway Health Impact Assessment* (*HIA*), and data analysis, outreach, and research as part of Bottineau Station Area Pre-Planning. Please see Section 7.4.1 for more information on these efforts.

Page 7-3: **Table 7.3-1. Minority Population by State, Region, County, and Corridor**
Bottineau Transitway: Total population – 74,099; Non-Minority population 35, 266; Minority population – 38,833; Percent Minority – 52.4%
JV notes: I just excerpted the Bottineau Transitway statistics see table for complete comparisons

Page 7-3:
Environmental Justice 7.3 Populations in the Study Area
Minority populations were further analyzed to identify individual minority statistics. While census data identify African Americans, Asian Americans, and Latino populations shown in Figures 7.3-2 through 7.3-4, community engagement and Corridors of Opportunity grantee organizations have facilitated a more nuanced understanding of study area populations. A significant part of the African American population in the study area is comprised of new immigrants primarily from Somalia and Ethiopia, and Hmong and Lao are distinct Asian American communities in the corridor. Further discussion of minority populations, Corridors of Opportunity, and community engagement is in Section7.4.

Page 7-4: **Table 7.3-2. Low-Income Population by State, Region, County, and Bottineau Transitway**
Bottineau Transitway: Total population – 98951; Population living above poverty line – 80,966; Population living below the poverty line 17,985; Percent in Poverty – 18.1%
JV notes: I just excerpted the Bottineau Transitway statistics – see table for full comparisons; also maps of minority populations and low income on pages 7-5 thru 7-9

Page 7-10
7.4 Public Engagement
7.4.1 Project Engagement Efforts
Engagement efforts throughout the Bottineau Transitway Draft EIS process built upon local knowledge of the project and processes as well as outreach efforts carried out through the Alternatives Analysis phase of project development. Station area pre-planning and *Bottineau Transitway HIA* outreach efforts coincided with outreach on the Draft EIS and provided additional opportunities for residents and businesses in the corridor to learn more about the project. Committee meetings, interviews, focus groups, and data gathered as part of station area pre-planning and the *HIA*

provided additional information to the HCRRA, Metropolitan Council, and FTA regarding low-income and minority populations in the study area.

JV notes: detailed community engagement efforts on pages 7-10 thru 7-12

Page 7-13: **7.4.2 Corridors of Opportunity Grantee Organization Community Engagement Efforts**
The Corridors of Opportunity Initiative awards grants to place-based organizations that work with underrepresented communities to educate and organize communities around transit corridor decisionmaking, planning, and implementation opportunities important to them.

Ten Corridors of Opportunity grantee organizations have engaged minority and low-income populations in the Bottineau Transitway. Organizing work is carried out independently from the Metropolitan Council, HCRRA, and FTA, but has enabled effective dissemination of project information, and enhanced agencies' understanding of the communities in the corridor. These organizations and their engagement efforts related to the Bottineau Transitway are described in the following sections.

JV notes: Each Corridors of Opportunity grantee organization has a description on pages 7-13 thru 7-15

Page 7-21: **7.5 Environmental Justice Impacts Analysis**
7.5.1 Operating Phase (Long-Term) Impacts
A multi-step process was used to identify the potential for disproportionately high and adverse effects on Environmental Justice populations.

First, impact categories were selected including land use, traffic, parking, community character and facilities (including parks), right-of-way and relocations, visual quality, safety and security, noise, vibration, air quality, traction power substations (TPSS), and operations and maintenance facilities (OMFs). These categories were selected because the impacts in these categories tend to be localized and have the potential for high or disproportionate impact to environmental justice populations. Other categories evaluated in this Draft EIS were not considered because they either presented no impacts, or their effects would be experienced by all populations living in the study area, regardless of race, ethnicity, or socioeconomic status.

Each Bottineau Transitway alternative was then evaluated in each category, as shown in Table 7.5-1. The evaluation is based on the results documented in Chapter 3 Transportation Analysis,12 Chapter 4 Community and Social Analysis,13 and Chapter 5 Physical and Environmental Analysis.14 Categories with potential effects were then carried forward to another level of analysis to determine whether those effects were high or disproportionate to environmental justice populations.

Page 7-22 thru 7-23: **Table 7.5-1. Operating Phase: Potential Impacts by Alternative**
JV notes – in my excerpts I am only including the impacts of the Locally Preferred Alignment – see table and following narratives for more complete info

Impact Categories	Potential Effects by B-C-D1 (preferred alternative)	Analyze for potential high & adverse effects to EJ populations
Land Use	No	No
Vehicular Traffic	No	No
Pedestrian and Bicycle Facilities	No	Yes
Parking	No	Yes
Community Facilities/Community Character and Cohesion	No	Yes
Displacement of Residents and Businesses	Yes	Yes
Visual/Aesthetics	Yes	Yes

Safety and Security	No	No
Noise	Yes	Yes
Vibration	Yes	Yes
Air Quality	No	No
TPSS (Traction Power Substations)	No	No
OMF (Operations Maintenance Facility)	No	No

Page 7-29: **Table 7.5-5. Construction Phase: Potential Impacts by Alternative**
JV notes – in my excerpts I am only including the impacts of the Locally Preferred Alignment – see table and following narratives for more complete info

Impact Categories	Potential Effects by B-C-D1 (preferred alternative)	Analyze for potential high & adverse effects to EJ populations
Land Use	No	No
Vehicular Traffic	Yes	Yes
Pedestrian and Bicycle Facilities	Yes	Yes
Parking	No	Yes
Community Facilities/Community Character and Cohesion	No	Yes
Displacement of Residents and Businesses	N/A	No
Visual/Aesthetics	No	No
Safety and Security	No	No
Noise	Yes	Yes
Vibration	Yes	Yes
Air Quality	No	No
TPSS (Traction Power Substations)	No	No
OMF (Operations Maintenance Facility)	No	No

Page 7-33: **7.5.3 Offsetting Project Benefits**

7.5.3.1 Increased Transit Service

Community members have identified providing affordable, accessible, and equitable transportation to low-income and minority residents so that they can have access to financial opportunities (jobs), educational opportunities, health services, and healthy food sources as one of the benefits of the Bottineau Transitway Project.26 The *Bottineau Transitway HIA* also identified that reliable, accessible public transportation could decrease reliance on automobiles, reducing household transportation costs and making the combined costs of housing and transportation more affordable in this corridor.

The Bottineau Transitway would provide significant increase in safe, reliable, and efficient transportation options for minority and low-income populations located along all proposed alignments. Table 7.5-7 summarizes the daily hours of user benefits that would accrue to new and existing (as accounted for in the Enhanced Bus/TSM alternative) transit riders as a result of each alternative. User benefits reflect travel time savings compared to the Enhanced Bus/TSM alternative, including factors such as walk access, service frequency, travel speed, and connections at transfer points. See the Transportation Technical Report (Kimley-Horn and Associates & SRF Consulting Group, 2012) Section 3.0 for additional information.

Page 7-34

7.5.3.2 Operational Phase Economic Benefits

Each of the Bottineau Transitway alternatives is anticipated to create jobs and additional earnings as a result of Operations and Maintenance (O&M) expenditures. Although these O&M expenses would originate from local sources, they represent spending that would not take place except for the implementation of this service. The expansion of transit service associated with the alternatives creates an expansion of economic activity in the counties of the Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area (MSA), thus generating recurring net economic impacts (long-term). Other potential sources of federal funding for maintenance exist as grants and could be applied to preventative maintenance in later years. If future federal funds are received and applied to maintenance activities, they could generate additional net economic effects to the local and state economies through increased employment and earnings. Community members also identified economic development, increased business investments, and revitalization in north Minneapolis and Brooklyn Park as a potential benefit of the Bottineau Transitway project.

7.6 **Environmental Justice Analysis Conclusions**
Page 7-36 **7.6.3 Alternative B-C-D1 (Preferred Alternative)**
This alternative does not impose disproportionately high and adverse human health or environmental effects on EJ populations.

8.0 Draft Section 4(f) Evaluation http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/17-Chapter%208-Draft%20Section%204(f)%20Evaluation.pdf

Page 8- 1: 8.1.1 **Types of Section 4(f) Properties**
The Bottineau Transitway, as described in Chapter 2, may receive federal funding; therefore, compliance with Section 4(f) of the US Department of Transportation Act of 1996, 49 USC 303(c) is required. Section 4(f) requires consideration of:
■ Parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public
■ Publicly-owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public to the extent that public access does not interfere with the primary purpose of the refuge
■ Historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public

Page 8-8 (map) Figure 8.3-1. Park and Recreational Properties adjacent to the Bottineau Transitway

Page 8-19 thru 8-28: ***Section 4(f) Evaluation***
The Bottineau Transitway would require the use of less than one acre from the 759-acre Theodore Wirth Regional Park. The potential areas of use near Golden Valley Road and Plymouth Avenue are shown in Figure 8.4-2. The MPRB has indicated that the woodland on the west edge of the rail corridor proximate to the proposed Golden Valley station option includes high quality old growth oaks and that impacts in this area are of high concern. The areas of potential direct use along the eastern edge of the park are considered valuable for their quietude and opportunity for nature appreciation, whereas other park edges do not share this characteristic. Loss of land in this area could diminish the setting, and thereby the park user experience, in this area of the park. A bicycle path and walking path are located along the north side of Theodore Wirth Parkway near Alignment D1 at Golden Valley Road. There is also a walking path near the west side of Alignment D1 at Plymouth Avenue. Although the Bottineau Transitway would not preclude the use of these paths, it is anticipated that users of the walking path west of Alignment D1 at Plymouth Avenue would experience changes that would include the sights and sounds of the Bottineau Transitway.

There are two potential station locations within Theodore Wirth Regional Park: the Plymouth Avenue/Theodore Wirth Regional Park station option or the Golden Valley Road station option under consideration with the Preferred Alternative (B-C-D1) as well as Alternative A-C-D1. Further discussion regarding station locations is provided in Chapter 2. Construction of a station at either location along Alternative A-C-D1 or Alternative B-C-D1 would require direct use of park property. Permanent and temporary easements would be required near the Plymouth Avenue bridge, whether or

not a station is constructed at that location, although the amount of easement required is less if the station is not in this location. Temporary easements are discussed in Section 8.6.

Right-of-way would be needed from Theodore Wirth Regional Park in the area of Golden Valley Road, whether or not a station is constructed in this location. Between Golden Valley Road and Theodore Wirth Parkway, the BNSF track is very close to the railroad right-of-way limits on the west, necessitating grading within park property and outside of the BNSF right-of-way. Alignment D1 cannot be moved farther away from the park at this location due to the need to align LRT and BNSF tracks with portals at the existing Golden Valley Road and Theodore Wirth Parkway bridges. The Parkway bridge has been identified as historic and the assumptions regarding potential use of Theodore Wirth Parkway are predicated on its remaining in place. Refer to Figure 8.4-4 and Figure 8.4-5 for potential use areas.

Page 8-20: Theodore Wirth Regional Park is owned and operated by the MPRB. Hennepin County has undertaken coordination efforts with the MPRB as well as the Cities of Minneapolis and Golden Valley to minimize impacts to Theodore Wirth Regional Park. Coordination efforts with the MPRB will continue through the preliminary engineering phase to avoid, minimize, and/or mitigate park impacts as the D1 alignment is included in the Preferred Alternative for the project.

Pages 8-21 thru 8-25: Theodore Wirth Park maps re: Bottineau Transitway

Page 8-26:
Measures to Minimize Harm
…Alignment D1 was positioned to avoid bridges, high voltage power lines, and adjacent properties. For example, at Golden Valley Road, the transitway and freight rail alignments shift westward to avoid impacts to the Theodore Wirth Parkway bridge, a historic structure, that passes over the existing freight rail corridor. As previously noted, the BNSF track would be closer to the railroad right-of-way limits between Golden Valley Road and Theodore Wirth Parkway than at other locations adjacent to the park property. This would necessitate grading within park property and outside of the BNSF right-of-way. As depicted in Figure 8.4-7, a retaining wall may be constructed in lieu of grading…

Page 8-27: Along the D1 alignment adjacent to the park, the transitway and freight rail alignments were shifted within the existing BNSF right-of-way to minimize wetland, floodplain, and park impacts. Cross sections were minimized to the greatest extent possible to keep the transitway within the existing rail right-of-way as much as possible. Additional measures to reduce the use of park property will be explored during preliminary engineering.

Page 8-33: **Grand Rounds Historic District – Theodore Wirth Segment 8.4.2.2 (Alignment D1 – part of the Preferred Alternative)**

Section 4(f) Evaluation
Alternative A-C-D1 and Alternative B-C-D1 would require the conversion of less than one acre from the 759-acre Theodore Wirth Regional Park, a contributing element of the district, to a transportation use. It has been concluded that there is a potential for Section 4(f) use with either the Golden Valley Road or Plymouth Avenue/Theodore Wirth Regional Park station options under these alternatives; however, this cannot be definitely determined until further engineering work is completed.

The design of the Golden Valley Road/Plymouth Avenue station, the guideway (including the LRT tracks, poles, and catenary) and the TH 55 bridge extension could have a potential effect on the Grand Rounds Historic District and its setting. Further, station area redevelopment activities, including transit-related parking, may also have a potential effect on the district and its setting. These effects may include visual effects (including those from lighting), noise, and transit-related traffic effects. Due to the proximity of the Plymouth Avenue station option to key elements of the Grand Rounds Historic District, avoidance of potential impacts may be more feasible with the Golden Valley Road station option.

Page 8-34:

Measures to Minimize Harm

Measures to minimize harm to the Grand Rounds Historic District – Theodore Wirth Segment include:

■ Minimization of lighting and visual impacts through station design. Refer to Section 4.5 for a detailed discussion about the visual/aesthetic characteristics of the study area.

■ Minimization of potential effects to the historic district by integrating historic properties into station area planning

■ Minimization of potential effects through the adoption of measures to avoid, reduce, or mitigate noise. Refer to Section 5.6 for a detailed discussion about noise.

Chapter 9.0 Consultation and Coordination

http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/18-Chapter%209-Consultation%20and%20Coordination.pdf

Page 9-1: **9.1 Public Outreach Approach**
Page 9-4: **9.2 Summary of Public Outreach Activities**
Page 9-9: **9.3 Agency Coordination**

Appendix:

Technical Report Environmental Justice

http://bottineautransitway.org/library/draft_EIS_march_2014/technical_reports/Environmental%20Justice%20Tech%20Report_December%202012.pdf

JV notes this section has more detailed demographics ie city by city.

Bottineau DEIS Northwest Suburbs Excerpts
April 24, 2014

Overall Bottineau LRT project benefits and impacts:
Executive Summary http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/9-Executive%20Summary.pdf

Chapter 1 – Purpose and Need: http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/10-Chapter%201-Purpose%20and%20Need.pdf

page 1-10:
1.3 Project Purpose
The purpose statement below specifically defines the fundamental reasons why the Bottineau Transitway project is being proposed.
The purpose of the Bottineau Transitway is to provide transit service which will satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public.

1.4 Project Need
This section outlines the foundation for the statement of the project purpose defined in Section 1.3. More specifically, this section identifies the problems or "needs" that the Bottineau Transitway project is intended to address and the underlying causes of the defined "needs."
The Bottineau Transitway project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.

Five factors contribute to the need for the Bottineau Transitway project:
■ Growing travel demand resulting from continuing growth in population and employment
■ Increasing traffic congestion and limited fiscal resources
■ People who depend on transit
■ Limited transit service to suburban destinations (reverse commute opportunities) and time-efficient transit options
■ Regional objectives for growth stated in the Regional Development Framework

Chapter 2: Alternatives: http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/11-Chapter%202-Alternatives.pdf

Page 2-11; **2.4 Alternatives Advanced for Further Study in Draft EIS**

Page 2-13; **Table 2.4-1. Stations by Alignment**
■ Oak Grove Parkway
■ 93rd Avenue
    ■ Park-and-ride: 11.2 acres - footnote: Proposed station where park-and-ride would be provided. The existing 565 vehicle park and ride facility on 6.5 acres at the 63rd Avenue site would be expanded through modification of the existing structure (additional parking deck level) to accommodate up to approximately 725 vehicles on the 6.5 acre site.
■ 85th Avenue
■ Brooklyn Boulevard
■ 63rd Avenue
    ■ Park-and-ride: 6.5 acres (existing 565 vehicle facility is located on the 6.5 acre site)
■ Bass Lake Road
■ Robbinsdale1
    ■ Park-and-ride: acres TBD

Page 2-16: (map) **Figure 2.4-2. Alignments A, B, and C: Park-and-Ride Locations**

Page 2-14: ***Operations and Maintenance Facility***
Within Alignment B, two OMF site options were identified adjacent to West Broadway at 93rd Avenue and 101st Avenue. The 93rd Avenue OMF site was originally identified in the AA and was carried forward from the AA due to the availability of suitable undeveloped property adjacent to the guideway. The 101st Avenue OMF site was selected due to the availability of suitable undeveloped property that is owned by the City of Brooklyn Park. In addition, the 101st Avenue site was identified to reduce potential noise and visual impacts adjacent to the residential neighborhood located at West Broadway and 93rd Avenue. Only one of these sites will be chosen for the OMF.

The OMF site would be occupied by a storage and maintenance building that is approximately 128,000 square-feet, surface parking for employees and visitors, trackwork, and open space. The facility would include areas to store, service, and maintain up to 36 LRVs, vehicle washing and cleaning equipment, and office space to accommodate staff that would report for work at this facility. The facility would be equipped to perform daily cleaning and repair activities on the LRVs as they enter and leave revenue service. To ensure operational safety and reliability, scheduled service and maintenance inspections would be performed in this facility.

Page 2-17: (map) **Figure 2.4-3. Potential OMF Sites**

Page 2-18: ***Traction Power Substations***

TPSS sites are necessary to convert existing electrical current to an appropriate type (AC to DC) and level to power LRT vehicles through an overhead catenary system. They do not generate electricity. TPSS sites would be approximately 4,000 square feet (SF) in size and able to accommodate a single-story building that is approximately 40 feet by 20 feet. Access to the building must also be accommodated.

Typically, TPSS sites are spaced less than one mile apart. A distance greater than one mile reduces the ability to safely deliver and return power from a traveling train.

Page 2-19: **Potential locations for the TPSS sites are shown in Figure 2.4-4.**

Page 2-21: **Table 2.4-2. Alternative Descriptions**
Alternative B-C-D1
Northern terminus Brooklyn Park
Length 13.3 miles
Capital cost ($2017, in millions) $997
Operating cost ($2013 in millions) $32.5
Ridership (total) 27,000
Bottineau Stations:
10 Stations
■ Oak Grove Parkway
■ 93rd Avenue
■ 85th Avenue
■ Brooklyn Blvd
■ 63rd Avenue
■ Bass Lake Road
■ Robbinsdale
■ Golden Valley Rd or Plymouth Avenue/Theodore Wirth Regional Park
■ Penn Avenue
■ Van White Blvd

Station Constructed by Others Where Bottineau LRT Alignment Would Connect with Regional Rail System:
Target Field Station

Page 2-30; 2.6 **Environmentally Preferred Alternative**
As summarized in Chapter 11 Evaluation of Alternatives, Alternative B-C-D1 meets the purpose and need of the Bottineau Transitway project and is environmentally preferred alternative because it will cause the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources

Chapter 3 **Transportation Analysis** http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/12-Chapter%203-Transportation%20Analysis.pdf

Page 3-1: This chapter identifies and evaluates effects to six parts of the transportation system: transit, freight rail, general motor vehicle traffic, pedestrians and bicycles, parking, and aviation.
■ Transit is analyzed for the Bottineau Transitway.
■ Freight rail is analyzed within the affected Burlington Northern Santa Fe (BNSF) and Canadian Pacific Railway (CP) rights-of-way.
■ General motor vehicle traffic is analyzed at all intersections along the transitway alignments that are signalized, would be anticipated to be signalized, or unsignalized and anticipated to be controlled by gate arms.
■ Pedestrians and bicycles are analyzed within ½ mile of the transitway alignments.
■ Parking is analyzed within anticipated construction limits.
■ Aviation impacts are analyzed for the areas where the preliminary construction limits are within the Crystal Airport Runway Protection Zone and Safety Zone A.

Page 3-6: **Table 3.1-1. Summary of Existing Transit Service and Changes Under Alternatives**
(JV notes – excertps are for the preferred alternative only see table for more details)
Changes in suburban service:
Suburban Local Routes:
Route 705 – Extend route to Target North Campus via Route 724 alignment
Route 716 - Route modified to include stops at Bass Lake Road stations, Frequencies increased to 30 min
Route 721 - Increase midday frequencies; Route 722 - Increase midday frequencies to 30 min. for full route alignment
Route 723 - route terminates at Brooklyn Center/Starlite Transit Station
Limited Stop and Express Routes:
Route 758 - Replace Route 758N trips with Route 7 service, Route 758D to Robbinsdale
Route 760 - Route modified to terminate at 63rd Avenue/Brooklyn Boulevard Park-and-Ride. Local service replaced with new Route 759.
Route 764 - Converted to local route operating 60 min. frequencies between Robbinsdale and Starlite Transit Centers
Route 765 – route eliminated
Route 767 – route eliminated
Maple Grove Transit Routes:
Route 781 - Route 781 becomes local service that connects to LRT Stations
Route 785 - Add trips
Route 787 – route eliminated
Route 788 - Add trips on all service, connect to LRT stations where applicable

Page 3-8:
There are no changes proposed for the following routes under any alternative: 717, 755, 756, 761, 762,763, 766,780, and 783.

In addition to the routes listed in Table 3.1.1, four new routes would be developed in the study area.

Routes 729 and 759 would provide local service with 30 and 60 minute frequencies, respectively. Routes 731 and 732 are new services in the Enhanced Bus/TSM alternative designed to provide reverse commute and intra-corridor access along the Bottineau Transitway between downtown Minneapolis and Brooklyn Park (Route731) and Maple Grove (Route 732), supplementing the existing express and limited stop service. Please see Transit Operations Plans Report (Connetics Transportation Group, 2012) for a full explanation of all proposed changes to the bus transit network associated with each alternative.

Page 3-14: **Figure 3.1-4. 2030 Forecast Daily Station Use for Build Alternatives**
(JV notes – see chart for details)

Page 3-15: **3.1.4.3 Construction Phase Impacts**
Existing routes in the Bottineau Corridor are shown in Figure 3.1-1. Construction of any of the Build alternatives could result in intermittent impacts to bus operations on any of these routes within the construction area. These may include temporary stop relocations or closures, route detours, or suspensions of service on segments of routes operating on streets where LRT is being constructed. As project planning and engineering advances, transit routes will be reevaluated and transitway construction will be planned to minimize disruption to transit service.

3.2.4 Environmental Consequences

Page 3-15: **3.2 Freight Rail Conditions**
HCRRA has discussed with BNSF representatives the acquisition of the eastern 50 feet of BNSF's right-of way for LRT purposes and preserving the western 50 feet for the freight track and access road. Additional coordination will take place as the project advances into further stages of project development.

Page 3-16: (map) Figure **3.2-1. Freight Rail Study Area**

Page 3-16: **3.2.3 Affected Environment**
Within the study area, the BNSF operates on one freight rail track generally located in the center of a 100-foot right-of-way that the railroad owns and maintains. Within this area, there are several locations where the BNSF right-of-way is less than 100 feet. BNSF operates one freight train per day on this track. During peak operations in previous years, up to five trains per day operated in the corridor. Future freight operations could increase or decrease based on the future needs of BNSF.

Page 3-18: **3.2.4.1 Operating Phase (Long-Term) Impacts**
The Build alternatives include constructing the proposed LRT guideway in the eastern half of the BNSF right-of-way (see discussion under Section 3.2). The project would divide the existing 100-foot right-of-way to accommodate both the BNSF and LRT tracks. This would require that the BNSF track be relocated approximately 25 feet to the west, allowing BNSF to operate within the western 50 feet of the right-of-way while, providing 25 feet of horizontal clearance from the rail track centerline at most locations. The LRT tracks would operate in the eastern 50 feet of the existing right-of-way. Proposed project construction would include a 12-foot wide access road generally located between the relocated BNSF track and the LRT guideway. See Figure 3.2-2 for a typical section diagram.

The Build alternatives include modifications to active warning devices and signals for at-grade crossings in order to accommodate the relocated BNSF and new LRT tracks. This would include relocation of existing active warning devices, such as gate arms, to accommodate the relocated BNSF track and LRT track, and installation of new active warning devices, such as gate arms, at locations where they are not currently provided. The project would include fencing at LRT stations to provide additional separation between pedestrians using the LRT station platform and the freight rail operations. Replacement of existing fence located on the BNSF right-of-way line affected by construction would also be provided.

Page 3-29: Table 3.3-4. Alignment A 2030 PM Peak Traffic Operations

Alignment B (part of the Preferred Alternative)
Alignment B includes CSAH 103, which is currently in the planning stages for a roadway reconstruction project from north of CSAH 30 to south of Candlewood Drive. The proposed roadway improvement project is a Hennepin County project, separate from the Bottineau Transitway Project, and includes expanding the roadway from a two-lane undivided to a four-lane divided section with a median wide enough to accommodate a future transportation purpose. Construction activities for the CSAH 103 roadway improvements are scheduled for late 2015.

The intersections in Alignment B affected by the proposed action would be expected to operate acceptably during the PM peak hour Build alternative. The results of this analysis are shown in Table 3.3-5.

Seven public intersections would be converted from full access to right-in/right-out in Alignment B. Five new traffic signals would also be added, with a potential for two additional traffic signals with the 101st Avenue OMF Alternative. Two traffic signals would be removed and the intersections would be converted to right-in/right-out. In addition, Alignment B would include two at-grade crossings on Jolly Lane and Lakeland Avenue. Similar to Alignment A, one signalized crossing with gates would be included at 71st Avenue.

3.4 Pedestrians and Bicycles
Page 3-36
3.4.4 Environmental Consequences
3.4.4.1 Operating Phase (Long-Term) Impacts
Alignment B (part of the Preferred Alternative)
Alignment B would result in closing four crossings of West Broadway Avenue in the city of Brooklyn Park: 92nd Avenue, Maplebrook Parkway, 84th Avenue, and 76th Avenue. Alternate crossings are available in each location within 1/8 mile.

The OMF option at 101st Avenue could potentially require realignment of a small portion of the unpaved trail associated with the Three Rivers Park District Rush Creek Regional Trail.

The proposed project and planned improvements by other agencies would result in considerable enhancement of the non-motorized transportation environment within Alignment B. New or improved sidewalk crossings of the BNSF/LRT alignment would be included in final design of the transitway at 73rd Avenue. The existing off-street trails on both sides of West Broadway Avenue north of 93rd Avenue would be crossed by the proposed LRT alignment in vicinity of 94th Avenue. Any direct impacts to the trails would be reconstructed. South of 93rd Avenue, a continuous bicycle/pedestrian facility between 93rd Avenue and Candlewood Drive is included in the design plans for the CSAH 103 reconstruction project, which has been programmed independent of Bottineau Transitway and will be completed by Hennepin County. Reconstruction of the sidewalks south of Candlewood Drive would be completed by the Bottineau Transitway Project, providing for continuous facilities along both sides of West Broadway Avenue for the entire alignment.

Alignment C (part of the Preferred Alternative)
The project would not result in permanent closure of any existing bicycle or pedestrian crossings of the BNSF railroad corridor. The transitway would pass over a local trail on a continuous structure also used for TH 100. The project's construction limits would come within 10 feet of the existing trail in Lee Park but would not alter the trail itself. As a result, no impacts to pedestrian or bicycle access or facilities are expected.

The project would improve existing pedestrian crossings and facilitate connections to station platforms.
New or improved sidewalk crossings of the BNSF/LRT corridor would be included in final design of the transitway at nine locations: 71st Avenue, 63rd Avenue, Bass Lake Road, Corvallis Avenue (replacing existing sidewalk on south side of roadway), West Broadway Avenue, 45th ½ Avenue (sidewalk on south side of roadway), 42nd Avenue (with connection to

LRT station parallel to BNSF track), 41st Avenue/Noble Avenue (with connection to LRT station parallel to BNSF track), and 39th ½ Avenue (new sidewalk on north side of roadway).

Page 3-42 (map) **Figure 3.4-4. Alignment D1 and D Common Section: Impacts to Pedestrian and Bicycle Facilities**

Page 3-44: **3.4.5 Avoidance, Minimization, and/or Mitigation Measures**
Current planning for the Bottineau Transitway supports the enhancement of pedestrian facilities. These enhancements are intended to act both as an improvement and as a natural separation to protect pedestrians, bicyclists, and transit vehicles. All pedestrian crossings would be designed in accordance with current American Disabilities Act (ADA) design requirements and standards to ensure access and mobility for all users, and station areas would be designed according to best practices for bicycle and pedestrian safety.

Measures would be taken to discourage pedestrians from illegally crossing the tracks and to enhance safety at permitted crossing locations, such as providing pedestrian signals and well-marked crosswalks.

If trail impacts cannot be avoided, potential reconstruction options and design guidelines would be discussed with the agencies that have jurisdiction over the facility. If trail facilities have restrictive covenants due to funds used for construction, these requirements would also be addressed. Potential indirect impacts to trail facilities, including safety concerns and visual impacts, would also be identified.

In the short-term, mitigation for potential disruptions to bicycle and pedestrian facilities during construction would include appropriate access provisions in MOT plans, and best management practices (BMPs) to manage debris.

If crosswalks are temporarily closed, pedestrians would be directed to use alternate crossings nearby. Every effort would be made not to close adjacent crosswalks at the same time to allow for continued pedestrian movement across streets. All sidewalks and crosswalks would be required to meet minimum standards for accessibility and be free of slipping and tripping hazards. Temporary sidewalk closures would be discouraged but, if required, would be conducted in such a way as to minimize impacts. Depending on how construction activities would impact sidewalk areas, special facilities (such as handrails, fences, barriers, ramps, walkways, and bridges) may be required to maintain bicyclist and pedestrian safety. During final design, it is expected that a plan would be developed to manage the closure of pedestrian crossings and other restrictions on non-motorized transportation facilities and crossings throughout the construction process. For proposed closures on TH 55, MnDOT's policy regarding Temporary Pedestrian Access Routes will be followed.

Chapter 4.0 Community and Social Analysis
http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/13-Chapter%204-Community%20and%20Social%20Analysis.pdf

4.1 Land Use Plan Compatibility
Page 4-4
Alignment B (part of the Preferred Alternative)
Alignment B begins in Brooklyn Park just north of TH 610 and ends where Alignment C begins near 71st Avenue. Proposed stations would be located at Oak Grove Parkway, 93rd Avenue, 85th Avenue, and Brooklyn Boulevard, all along West Broadway Avenue.

Land uses at the north end of Alignment B are transitioning from agricultural use/open space to commercial use. The Brooklyn Park 2030 Land Use Plan figure in the *Brooklyn Park 2030 Comprehensive Plan* designates a portion of this area near the Oak Grove Parkway station for Signature Mixed Use (including the Target North Campus) with most of the area southwest of the 93rd Avenue station planned for expansion of business parks. The Signature Mixed Use designation indicates commercial development, which shapes a strong image for the City, including "high quality and landmark buildings or coordinated group of buildings with significant height and scale."

Between the proposed 93rd and 85th Avenue stations, land uses are primarily residential with plans to continue such use in the future.

At 85th Avenue, land uses include North Hennepin Community College and some limited commercial uses along 85th Avenue, with the predominant land use being residential. Residential uses extend south toward Brooklyn Boulevard. These uses are planned to remain. Hennepin County is planning a new library for the northeast quadrant of 85th and West Broadway Avenues. The proposed Brooklyn Boulevard station is located within a large suburban commercial node characterized by "big box" (e.g., Target) and other auto-oriented retail uses. As illustrated in Exhibit 4.4, this commercial center is expected to remain in the future.

Alignment C (part of the Preferred Alternative)
Alignment C begins in Brooklyn Park and largely follows CSAH 81 through Crystal and Robbinsdale. Stations would be located at 63rd Avenue, Bass Lake Road, and downtown Robbinsdale.

As depicted in Exhibit 4-3, existing land uses east and west of Alignment C in Brooklyn Park consist of primarily industrial and commercial uses with some residential uses. Exhibit 4-4 indicates that the majority of these land uses are planned to remain, with some uses transitioning to business park use.

Near the proposed 63rd Avenue station area, existing uses are a mix of commercial, industrial, and high density residential land uses with an existing Metro Transit park-and-ride structure on the west side of CSAH 81. Uses are planned to transition to high-density residential, institutional, and mixed use.

South of 63rd Avenue, Alignment C passes into the city of Crystal. As shown in Exhibit 4-5, land uses between 62nd Avenue and Bass Lake Road are predominantly low-density residential to the west and commercial and airport uses to the east. Currently, high-density residential, commercial, and some park uses are adjacent to the proposed Bass Lake Road station area. Exhibit 4-6 indicates these uses are planned to remain. South of Bass Lake Road, the existing uses are primarily commercial and industrial with some park uses. Again, these land use patterns are generally planned to remain in the future.

From Crystal, Alignment C enters the northwest corner of Robbinsdale at 47th Avenue approximately four blocks north of TH 100. As illustrated in Exhibit 4-7 and Exhibit 4-8, existing and planned future land uses east and west of Alignment C are primarily low-density residential, with some commercial, high-density residential, and park uses.

East of the proposed Robbinsdale (42nd Avenue) station lies "downtown" Robbinsdale, a large retail/office area centered on both West Broadway Avenue and CSAH 81. West of the Burlington Northern Santa Fe (BNSF) railroad corridor, residential uses predominate. As illustrated in Exhibit 4-8, the *Robbinsdale 2030 Comprehensive Plan* indicates increasing density in the downtown area including transition of some parcels to mixed use.

Page 4-8: **4.1.5 Operating Phase (Long Term) Impacts**
Build Alternatives
Overall, the Bottineau Transitway Build alternatives would be compatible with the local land use planning policies of Maple Grove, Brooklyn Park, Crystal, Robbinsdale, Golden Valley, and Minneapolis. Although Golden Valley's comprehensive plan does not specifically mention the Bottineau Transitway Project, LRT would be compatible with the transit goal and objective of the city's comprehensive plan. The Build alternatives would also be compatible with regional land use planning policies.

4.2 Community Facilities/Community Character and Cohesion
(Jv notes: this section includes maps of each city)

Page 4-11: **Brooklyn Park**
Brooklyn Park does not have any officially designated neighborhoods within its boundaries. In the northern portion of the city, the existing area near Alignment B north of TH 610 is currently undeveloped. Future development, including commercial uses, is planned for the area north of TH 610 along Alignment B near the Oak Grove Parkway station. TH 610 separates the future development area from the neighborhoods to the south. Refer to Figure 4.2-2 for primary physical features in Brooklyn Park.

Existing residential neighborhoods are located on either side of Alignment B (West Broadway Avenue) from 93rd Avenue to approximately 71st Avenue. Higher density town homes are present in the area of 85th Avenue. North Hennepin Community College and a future Hennepin County library are near the location of the 85th Avenue station. The existing neighborhoods have winding internal circulation streets and do not generally face Alignment B (West Broadway Avenue). Residential areas are also located along both sides of Alignment C (CSAH 81) from around 70th Avenue to the city boundary at 62nd Avenue.

Within Brooklyn Park, 93rd Avenue, 85th Avenue, and 63rd Avenue serve as important cross community connectors that link neighborhoods. Proposed station locations at 93rd Avenue and 85th Avenue are anticipated to support connectivity among neighborhoods. In contrast, I-94 presents a barrier to north south travel within the city. Brooklyn Park has a low- to medium-density suburban character with higher density town homes in the area of 85th Avenue. Neighborhoods east and west of Alignment B (West Broadway Avenue) and Alignment C (CSAH 81) are separate and cohesive in relation to themselves but not across these major roadways.

Page 4-12 (map) **Figure 4.2-2. Primary Physical and Community Features in Brooklyn Park**

Page 4-13: **Crystal**
The city of Crystal is comprised of 14 officially recognized neighborhoods. The six neighborhoods adjacent to Alignment C are Lions Park, Skyway, Becker, Twin Oaks, Welcome Park, and Cavanagh Oaks. The location of each neighborhood is illustrated in Figure 4.2-3. These neighborhoods are generally residential.

Within Crystal, Alignment C parallels Bottineau Boulevard then diverges to parallel the existing BNSF railroad south of Bass Lake Road. Along Alignment C (CSAH 81) the neighborhoods are separated by CSAH 81 and the BNSF railroad corridor. The neighborhoods are generally cohesive within themselves but not across the boulevard and the railroad. The Crystal Airport is a major feature embedded within a primarily residential neighborhood east of Alignment C and north of Bass Lake Road.

South of Bass Lake Road, Alignment C deviates from Bottineau Boulevard and shifts to the BNSF railroad corridor then continues along the freight line to the city boundary at 47th Avenue. Between Bass Lake Road and 47th Avenue, Alignment C passes through commercial and residential areas. In this area of Crystal, the Canadian Pacific (CP) railroad (east-west orientation) and BNSF railroad corridors (north-south orientation) present a barrier for movement between neighborhoods. Residential neighborhoods in Crystal have a suburban residential character with a grid street pattern.

Page 4-14/15: **Robbinsdale**
Robbinsdale does not have any officially recognized neighborhoods within its boundaries. Within the city, Alignment C parallels the BNSF railroad corridor. Downtown Robbinsdale is located east of Alignment C. Cross-community connections are provided by 42nd Avenue, 39½ Avenue, and 36th Avenue. Neighborhoods within the city are generally separated by TH 100, Bottineau Boulevard, and the BNSF railroad corridor. Residential neighborhoods are cohesive within themselves but are separated by major roadways and the railroad. Refer to Figure 4.2-4 for primary physical features in Robbinsdale.

Alignment D1 parallels the BNSF railroad from approximately 34th Avenue to 26th Avenue. Parkland and residential neighborhoods are located on both sides of Alignment D.

Residential neighborhoods in Robbinsdale have a suburban residential character with a grid street pattern. The grid street pattern is somewhat interrupted by several lakes within the city boundaries. The lakes also present natural barriers that influence access and connectivity within the city.

4.2.4 Environmental Consequences
4.2.4.1 Operating Phase (Long-Term) Impacts

Page 4-20 ■ **Brooklyn Park**
Community facilities along Alignment B in Brooklyn Park are listed in Table 4.2-4. The effect of transitway noise is expected to occur near Prince of Peace Lutheran Church. As worship activities are assumed to be indoors, no adverse impacts are anticipated.

Consideration of noise, access, and visual impacts determined that no other community facilities listed in Table 4.2-4 are expected to be directly or indirectly affected by the transitway. Although changes in access are anticipated, they would not adversely affect the resources described below.
■ The access closure at 78th Avenue, which would be required to maintain pedestrian safety, is not expected to affect pedestrian access to Brooklyn Park Evangelical Free Church as pedestrians would be diverted ⅛-mile (5 minute walk) to cross at Candlewood Drive.
■ North Hennepin Community College, Step by Step Montessori School, and the future Hennepin County Library are near the proposed 85th Avenue station. The access closure at 84th Avenue, which would be necessary to maintain pedestrian safety, would divert pedestrians ⅛-mile to cross at College Park Avenue and is not expected to impact community facilities near the 85th Avenue station. The college, businesses, residents, and future library patrons are expected to benefit from improved transit access provided by the 85th Avenue station. The Brooklyn Boulevard station would provide improved access to retail activity in the area near the proposed station.

Page 4-21: Park resources along Alignment B in Brooklyn Park are listed in Table 4.2-5.
Reconstruction of West Broadway Avenue between CSAH 30 (93rd Avenue) and Candlewood Drive would be completed by Hennepin County prior to construction of the Bottineau Transitway Project, a committed project (construction activities to begin late 2015) included under the No-Build alternative. Because the Bottineau Transitway would be built within the median of the reconstructed West Broadway Avenue, no changes in park or trail access are anticipated.

The direct effect of property acquisition (5.2 acres) from Three Rivers Park District is anticipated if an OMF is constructed at the 101st Avenue location. Construction of the OMF may affect the turf portion of Rush Creek Regional Trail. The location of the trail and a detailed discussion of trail impacts are provided in Chapter 8 Draft Section 4(f) Evaluation.

The Bottineau Transitway is not expected to affect any of the other parks identified in Table 4.2-5 due to their location in relation to Alignment B. Tessman Park consists primarily of green space, and the recreation facilities in College Park are set back from the proposed alignment. The character of the North Hennepin Community College ball fields and the adjacent trail would not change as a result of the Bottineau Transitway. An evaluation of noise, access, changes in visual character, and location relative to Alignment B determined that the transitway would not disrupt the function of Brooklyn Acres, Tessman Acres Park, or Park Lawn Park.

Page 4-22: **Direct/indirect effects can be summarized as follows:**
■ An OMF may be constructed at 101st Avenue or 93rd Avenue and property acquisitions would be needed for either of the OMF options. Construction of an OMF would add a large built structure to the landscape, changing the existing visual character. The area around the OMF option at 101st Avenue is currently undeveloped, but future mixed use is planned at this location. The OMF at 101st Avenue would also require approximately five acres owned by Three Rivers Park District. Should the OMF option at 101st Avenue move forward as the preferred location, formal review would be required by Metropolitan Council and the Park District Board of Commissioners to address restrictive covenants associated with this property. The OMF option at 93rd Avenue may be used as a park-and-ride or a combined OMF and park-and-ride. The area around the OMF option at 93rd Avenue is planned for future business park use.

■ Potential noise impacts to residents along Alignment B.
■ Property acquisitions are anticipated along Alignment B between the Oak Grove Parkway station and the 93rd Avenue station.
■ Acquisition of a narrow strip of right-of-way would occur adjacent to Alignment B to allow for roadway widening to accommodate the transitway south of Candlewood Drive to 75th Avenue.
■ Full property acquisitions are anticipated for eight residential properties east of West Broadway Avenue and south of 76th Avenue.
■ One commercial property acquisition is expected near 75th Avenue.
■ Four crossings of West Broadway Avenue in Brooklyn Park would be closed (92nd Avenue, 84th Avenue, 78th Avenue, and commercial access to Starlite Center/76th Avenue).

Page 4-22: Effect on community character:
Although minor variations in visual character directly adjacent to the proposed changes may occur due to the construction of an OMF, acquisition and removal of residential and commercial properties, and access closures, these changes are not expected to change the overall community character of the areas near Alignment B in Brooklyn Park. The effects are confined to limited areas and are not anticipated to affect the overall community character.

Page 4-23: Effect on community cohesiveness:
The effects are confined to limited areas and would not present a substantial physical or social barrier affecting community cohesion.

Page 4-23: ■ **Brooklyn Park**
Four community facilities, all of which are parks, were identified along Alignment C in Brooklyn Park. An evaluation of noise, access, changes in visual character, and location relative to Alignment C determined that the transitway would not disrupt the function of any of the park resources identified in Table 4.2-6.

Direct/indirect effects can be summarized as follows:
■ Potential for noise impacts to residences north of I-94.
■ Change of access to one commercial property (a drive-in restaurant) along West Broadway Avenue
■ Expansion of the park-and-ride west of the 63rd Avenue station is anticipated. Adjacent residential neighborhoods may experience the effect of increased traffic.

Effect on community character:
Potential for increased noise at several residences, acquisition of one commercial property, and increased traffic near the park-and-ride are not anticipated to change the overall community character of the area near Alignment C in Brooklyn Park. The effects would be confined to limited areas and are not expected to affect the overall community character.

Effect on community cohesiveness:
The effects would be confined to limited areas and would not present a substantial physical or social barrier affecting community cohesion.

Page 4-23: ■ **Crystal**
Community facilities along Alignment C in Crystal are listed in Table 4.2-7.

Increased noise is anticipated to occur at Doug Stanton Ministries. As activities of the ministry are assumed to be indoors, no adverse impacts are anticipated. No other direct or indirect impacts are expected for the community facilities identified in Table 4.2-7. An evaluation of noise, access, right-or-way requirements, and changes in visual character determined that the transitway would not affect the function of these community facilities.

Page 4-24:
No direct or indirect impacts are anticipated for park resources along Alignment C in Crystal, which are identified in Table 4.2-8.

The Bass Lake Road station would be located directly east of Becker Park. The location of Becker Park is depicted in Figure 4.2-3. Fencing along the eastern boundary of the park provides a barrier to the existing railroad and the proposed transit station. Becker Park, nearby commercial uses, and a senior housing complex located just south of the park may benefit from improved transit access provided by the proposed station.

An evaluation of noise, access, changes in visual character, and location relative to Alignment C determined that Broadway Park, Skyway Park, North Bass Lake Park, Lions Soo Line Park, Cavanagh Park, North Lions Park, and Welcome Park would not be adversely affected by the transitway.

Page 4-24/25:
Direct/indirect effects can be summarized as follows:
■ Potential for existing residences at several locations adjacent to Alignment C to experience the effect of increased noise

Effect on community character:
Increased noise is not anticipated to affect the community character of the area surrounding Alignment C in Crystal.

Effect on community cohesiveness:
Potential noise impacts would not affect community cohesion as it is localized and does not present a physical or social barrier.

Page 4-25: ■ **Robbinsdale**
No direct or indirect impacts are anticipated for the community facilities along Alignment C in Robbinsdale, which are identified in Table 4.2-9. An evaluation of noise, access, right-of-way requirements, and changes in visual character determined that the transitway would not disrupt the function of these community facilities.

Park resources along Alignment C in Robbinsdale are listed in Table 4.2-10.
Triangle Park is located adjacent to Alignment C, and park users are expected to experience the effects of increased noise. The perimeter of Triangle Park is bounded by chain-link fencing. Lee Park is bordered by the railroad corridor on the east, with fencing providing a barrier between the railroad corridor and the park. The fencing is expected to remain, thereby providing a barrier between park activities and transitway operations. The location of Triangle Park and Lee Park are shown in Figure 4.2-4.

An evaluation of noise, access, and changes in visual character determined that Spanjers Park, Mielke Park, Thomas Hollingsworth Park, Lakeview Terrace Park, and Lee Park would not be adversely affected by the transitway.

Page 4-25/26: Direct/indirect effects can be summarized as follows:
■ Residences adjacent to Alignment C, particularly along the east side, are expected to experience the effect of increased noise generated by transitway operations.
■ Five commercial parcels (three properties with buildings and two parking lots) would be acquired to accommodate parking near the Robbinsdale station. Hubbard Marketplace, one of the three commercial properties, would likely be replaced by another structure that would serve as a transit facility.

Effect on community character:
Increased noise and the acquisition of five commercial properties are not anticipated to change the overall community character of the area surrounding Alignment C in Robbinsdale. Although minor changes in visual character may occur due to the removal of commercial properties, the positive effect of improved access provided by the Robbinsdale station is anticipated to support retail and commercial activity in the area. The effects would be confined to limited areas and are not expected to affect the overall community character.

Effect on community cohesiveness:
The effects would be confined to limited areas and would not present a substantial physical or social barrier affecting community cohesion.

Page 4-26: ■ **Robbinsdale**
Three community facilities, all of which are parks, were identified along Alignment D1 in Robbinsdale. These parks are listed in Table 4.2-11.

Sochacki Park is bordered by June Avenue and residential backyards on the west and the BNSF railroad corridor on the east. There is a trail within Sochacki Park that parallels the railroad north of Grimes Pond. The trail is less than 50 feet from the railroad in some locations. The natural setting of Sochacki Park may be somewhat diminished due to the proximity of the trail to Alignment D1. The location of Sochacki Park is depicted in Figure 4.2-4.

South Halifax Park is east of Alignment D1 and south of Lowry Avenue. East of Alignment D1, the existing BNSF railroad corridor is buffered by an Xcel Energy substation facility, South Halifax Park, and large densely vegetated backyards. Deciduous vegetation provides some screening of the existing railroad corridor for residents along Indiana Avenue. Given its proximity to Alignment D1, moderate visual impacts are possible. The location of South Halifax Park is shown in Figure 4.2-4.

No direct or indirect impacts are anticipated for Parkview Park, as it is located far enough away from Alignment D1 that no impacts are expected.

Page 4-27: Direct/indirect effects can be summarized as follows:
■ Noise impacts are anticipated for residents north of South Halifax Park along Indiana Avenue between 33rd Avenue and Lowry Avenue.

Effect on community character:
Increased noise for residents north of South Halifax Park is not anticipated to change the community character of the area surrounding Alignment D1 in Robbinsdale. The effects would be confined to limited areas and are not expected to affect the overall community character.

Effect on community cohesiveness:
The effects would be confined to limited areas and would not present a substantial physical or social barrier affecting community cohesion.

Page 4-37: **4.3 Displacement of Residents and Businesses**
The Bottineau Transitway Project would require the acquisition of land (partial and full) for the construction and operation of the transitway. Each alignment would require additional land beyond that already dedicated to transportation purposes. This section summarizes land acquisition and residential, commercial, and farmland displacements associated with the proposed alignments and alternatives.

Page 4-40: **Operations and Maintenance Facilities**
In addition to the right-of-way needed to construct the proposed alternatives, the Bottineau Transitway Project would require the construction of an OMF. Three potential OMF locations have been identified, one of which would be selected for the proposed project.
……
For the alternatives including Alignment B, an OMF facility would be located at the northern end of the alternative in Brooklyn Park on one of two potential sites: the 93rd Avenue and West Broadway Avenue park-and-ride site or the northwest quadrant of the Winnetka Avenue and 101st Avenue intersection. The OMF site north 93rd is currently undeveloped farmland. The OMF site north of 101st Avenue consists of an undeveloped parcel owned by the City of Brooklyn Park and a parcel that contains a portion of the Rush Creek Regional Trail, which is under the jurisdiction of Three Rivers Park District. Table 4.3-5 provides an estimate of the number of parcels and acres required for each OMF alternative. The number of parcels and acres needed for the OMF would be in addition to the right-of-way requirements identified in Table 4.3-1 and Table 4.3-2.

Page 4-40: **Traction Power Substations**
Proposed TPSS would be located along the LRT line and spaced approximately ¾ mile to one mile apart, with most located near LRT stations. TPSS would be located on limited access sites that would be approximately 4,000 square feet (less than 0.1 acre) in size and able to accommodate a single-story building that is about 40 feet by 20 feet. Although most TPSS are expected to fit within the transportation right-of-way, there may be cases where these buildings may be sited outside of existing right-of-way.

Page 4-40: **Displacements and Relocations**
The Bottineau Transitway Project is expected to require the relocation of residents (both renters and property owners) as well as several commercial properties.1 Table 4.3-6 depicts the number of residential and business displacements by alignment, while Table 4.3-7 shows the number of displacements by project alternative. The financial and other compensation that displaced residents and businesses would be entitled to is described under Section 4.3.5 Avoidance, Minimization, and/or Mitigation Measures.

Page 4-42: *Alignment B (part of the Preferred Alternative)*
Eight owner-occupied residential parcels east of West Broadway Avenue and south of Brooklyn Boulevard in Brooklyn Park would be acquired to construct the LRT tracks and guideway. A search of available housing in the area indicates that similar housing stock currently exists as a potential source of relocation.

Relocation of one business is anticipated north of 73rd Avenue where Alignment B transitions from West Broadway Avenue to CSAH 81. Commercial property of similar use is currently available in the area.

Alignment C (part of the Preferred Alternative)
Two business relocations are anticipated along Alignment C to construct the Bottineau Transitway. Two businesses (electronics store and Asian market) are situated east of the proposed Robbinsdale station. Commercial property of similar use is currently available in the area.

A drive-in restaurant is located west of CSAH 81 and north of I-94 in Brooklyn Park. The parking lot of the restaurant is currently located on railroad right-of-way. Access to this property would be impacted by the project. Refinements would be considered during final design to minimize and/or mitigate these impacts.

Alignment D1 (part of the Preferred Alternative)
No residential or business relocations would be necessary along Alignment D1.

4.6 Business Impacts
Page 4-77: **4.6.3 Affected Environment**
Existing Economic Activity
The following section outlines the existing economic activities within the Bottineau Transitway. Existing uses are described for each alignment.
Alignment B (part of the Preferred Alternative)
Agricultural activities at the north end of Alignment B are currently transitioning from agricultural to commercial use, most notably with the development of the Target North Campus and developing business parks in the area of the proposed 93rd Avenue station.

The proposed Brooklyn Boulevard station lies within a large suburban commercial node characterized by "big box" (e.g., Target) and other auto-oriented retail.

Alignment C (part of the Preferred Alternative)
Numerous commercial and industrial uses surround Alignment C in the cities of Brooklyn Park, Crystal, and Robbinsdale. At the proposed 63rd Avenue station area, a small cluster of businesses is located on the west side of CSAH 81. The *Brooklyn Park Comprehensive Plan* guides future redevelopment of this area to mixed use.

South of 63rd Avenue, few businesses are located adjacent to the Bottineau Transitway with the exception of the Crystal Airport located on the east side of CSAH 81. Commercial activity increases south of the Bass Lake Road station area.

East of the Robbinsdale station lies "downtown" Robbinsdale, a large retail/office area centered on both West Broadway Avenue and CSAH 81. The *City of Robbinsdale Comprehensive Plan* envisions intensification of commercial use in the downtown area.

Page 4-81: 4.6.5 **Avoidance, Minimization, and/or Mitigation Measures**
The alternatives development process sought to minimize impacts to the greatest degree possible while preserving project benefits.

Loss of commercial property would be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with applicable laws and statutes, as noted in Section 4.3 Displacement of Residents and Businesses.

While not a specific mitigation measure, Hennepin County and the Metropolitan Council would support local communities' station area planning efforts to enhance the potential economic benefits of the Bottineau Transitway through community development.

Measures to avoid and/or minimize adverse impacts to businesses during project construction including maintenance of traffic, maintenance of access, business signage, and advance communication of construction activities would be provided.

Chapter 5.0 Physical and Environmental Analysis
http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/14-Chapter%205-Physical%20and%20Environmental%20Analysis.pdf

5.6 Noise
Page 5-39: **Noise Impact Criteria**
Noise Sensitive Land Use Categories
The FTA classifies noise-sensitive land uses into the following three categories:

■ Category 1: Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use. Also included are recording studios and concert halls.
■ Category 2: Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity is assumed to be of utmost importance.
■ Category 3: Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, museums, campgrounds, and recreational facilities can also be considered to be in this category. Certain historical sites and parks are also included, such as parks used for passive recreation like reading, conversation, meditation, etc. However, most parks used primarily for active recreation would not be considered noise sensitive.

Page 5-48/49: **5.6.3 Affected Environment**
Alignment B (part of the Preferred Alternative)
This alignment is located along CSAH 103 and CSAH 130, and the predominant noise sources are traffic on CSAH 103, CSAH 130, and local roadways. Activity from residential neighborhoods, schools, and commercial land uses also contribute to the existing noise environment. Noise-sensitive land use includes North Hennepin Community College, Step by Step Montessori School, and several single- and multi-family residences north and south of CSAH 109 (85th Avenue).

Alignment C (part of the Preferred Alternative)
This alignment is located within the BNSF railroad corridor from 73rd Avenue North in Brooklyn Park to 36th Avenue North in Robbinsdale. The alignment is located along CSAH 81 starting from the north, and then shifts to run along West Broadway Avenue after crossing the CP railroad tracks. This alignment also passes by Crystal Airport. The predominant noise sources affecting the existing noise environment are traffic on CSAH 81 and West Broadway Avenue, BNSF train traffic, and airport activity. Noise-sensitive land use includes single- and multi-family residences, schools, churches, several hotels, parks identified for passive use, and Glen Haven Memorial Garden Cemetery, located about 450 feet west of the proposed alignment.

Page 5-54: **5.6.4 Environmental Consequences; Alignment B (part of the Preferred Alternative)**

For Alignment B, severe noise impact is predicted to occur at eight residences and moderate noise impact at 150 residences. Moderate noise impact is also predicted to occur at Prince of Peace Lutheran Church. The impacts in this section are largely due to receiver proximity to the track and wayside crossing signals, as well as proximity to crossovers.

Alignment C (part of the Preferred Alternative)
For Alignment C, the total number of impacts differs depending on the north alignment option selected (Alignment A or B) as the assumed LRT speed at the 71st Avenue grade crossing is lower with Alignment A due to the proximity to the 71st Avenue station. The noise analysis assumes a bell will be sounded at the 71st Avenue grade crossing with Alignment A and a horn will be sounded with Alignment B. Severe noise impact is predicted to occur at up to 481 residences, and also at Robin Hotel, Doug Stanton Ministries, and Triangle Park. Moderate noise impact is predicted to occur at up to 689 residences, and also at Washburn McReavy Funeral Home, Sacred Heart Church and School, Welcome Park, and Lee Park. The impacts in this section are largely due to the use of the LRV high-horn audible warning device. Impacts are also caused by receiver proximity to the LRT track, the relocated BNSF rail line, and crossovers.

Page 5-59: **Table 5.6-8. Potential Noise Mitigation Measures for Operational Impacts**
(*JVnotes this table outlines the types of noise mitigation measures)*

Page 5-61 **Table 5.6-9. Potential Noise Mitigation Measures by Alignment**
(*JV notes: this info is excerpts from chart)*

B (part of the Preferred Alternative): Potential mitigation could include the implementation of quiet zones from 73rd Avenue to 40th Avenue, sound insulation, and modification to the design, settings, or use of audible warning devices.

C2 (part of the Preferred Alternative): Potential mitigation could include the implementation of quiet zones from 73rd Avenue to 40th Avenue, modifying or relocating crossovers located between 39th Avenue North and 37th Avenue North, and the potential installation of two noise barriers on the east side of the alignment between Corvallis Avenue North and West Broadway Avenue and between 40th Avenue North and 34th Avenue North. Further potential mitigation includes modifications to the design, settings, and use of audible warning devices at grade crossings, additional noise barriers, or sound insulation.

Chapter 6.0 Indirect Effects and Cumulative Impacts
http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/15-Chapter%206-Indirect%20Effect%20and%20Cumulative%20Impacts.pdf

Page 6-4: (map) **Figure 6.2-1 Primary Study Areas for Indirect and Cumulative Impacts**

Page 6-4: **6.4.3 Community Character, Services, and Facilities**
Indirect
As described elsewhere, a potential indirect effect of the project would be that new businesses and residential developments are attracted to locate in the station areas. This new development could in turn result in increased use of and demand for community services (parks for example) and facilities (recreation centers, for example) and changes in community character (a quiet area becomes busier). For locations where comprehensive plans call for mixed-use development, such changes in character would be consistent with planned growth and development.

Cumulative
Over time, continued development of transit and transportation facilities in the project area, combined with future actions and the direct and indirect effects of the Bottineau Transitway Project, would place increased demands on community services and facilities and would change community character. For locations where comprehensive plans call for mixed-use development, such changes in character would be consistent with planned growth and development.

Page 6-12: **6.4.8 Business Impacts**
Indirect
Adverse indirect impacts to businesses could result from displacement as a result of new development (see Section 6.4.4). Potential positive indirect impacts could include improved access to customers and employees as a result of the improved connectivity provided by the Bottineau Transitway.

Cumulative
Continued development of transit and transportation facilities in the project area over time, combined with future actions and the direct and indirect effects of the Bottineau Transitway Project, may cumulatively strengthen the business climate by providing improved transportation access to customers and employees. While individual businesses could be affected negatively, the overall (cumulative) result would be expected to be positive.

Mitigation
Development that occurs in response to the Bottineau Transitway and the reasonably foreseeable future actions would be expected to increase access to businesses in the area and expand the base of potential local consumers. No additional mitigation is required.

Page 6-12: **6.4.9 Safety and Security**
Indirect
It is possible that the increased development density and intensity anticipated around new transit stations would affect law enforcement and security providers. New planned concentrations of residential, commercial, and other uses would

put more transit riders, pedestrians, and bicyclists in proximity with transit vehicles, tracks, crossings, and freight rail, potentially creating safety conflicts. This could in turn place greater demands on security providers and/or require changes in current patrol routes, schedules, and equipment needs.

Cumulative
The continued development of transit and transportation facilities in the project area over time, combined with future actions, natural population growth, and the direct and indirect effects of the Bottineau Transitway Project, may cumulatively add to the demands on law enforcement and security providers, potentially affecting staffing levels and budgets over the long-term.

Mitigation
Safety and security measures to address induced development and future actions would be planned for by the local municipalities, counties, and emergency service providers. Metro Transit will provide security at and around the stations, and transit rider, pedestrian, and bicycle safety features will be incorporated into design and maintained/enforced over time. No additional mitigation is required.

Page 6-13: **6.4.10 Environmental Justice**
Indirect
Potential indirect effects on environmental justice populations could result from increased development and redevelopment in the station areas. While not every station area is likely to see significant change in the short-term, those where demand for new development is stronger would be likely to experience increased property values and corresponding increases in rents and real estate taxes. While these impacts would be experienced by all populations within the study area, low-income persons may experience them to a greater extent and, particularly if they rent rather than own property, more likely as an adverse impact.

Cumulative
Development around station areas in combination with future actions could result in increased property values and corresponding increases in rents and real estate taxes. While these impacts could be experienced by all populations in the study area, low-income persons are more likely to experience them as adverse.

Mitigation
No mitigation is identified.

Page 6-17 thru 6-21: **Table 6.4-1. Summary of Indirect Effects and Cumulative Impacts**
(*JV notes – this table outlines all Indirect Effects and Cumulative Impacts along with any mitigation proposed)*

Chapter 7.0 Environmental Justice http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/16-Chapter%207-Environmental%20Justice.pdf

Page 7-2: **7.2.3 Identifying Minority and Low-Income Populations**
As defined in *FTA Circular 4703.1*, minority populations are any readily identifiable group or groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed or transient persons such as migrant workers or Native Americans who will be similarly affected by the proposed project. Minority includes persons who are American Indian and Alaska Native, Asian, Black, or African American, Hispanic or Latino, and Native Hawaiian and other Pacific Islander.

2010 Census data were used to map the percentage of minorities in each census block in the Bottineau Transitway study area. In addition, the presence of minority populations in the corridor were further recognized and documented through engagement work by the Corridors of Opportunity grantee organizations, extensive public engagement in the corridor as part of the NEPA process, interviews and outreach as part of the *Bottineau Transitway Health Impact Assessment* (*HIA*),

and data analysis, outreach, and research as part of Bottineau Station Area Pre-Planning. Please see Section 7.4.1 for more information on these efforts.

Page 7-3: **Table 7.3-1. Minority Population by State, Region, County, and Corridor**
Bottineau Transitway: Total population – 74,099; Non-Minority population 35, 266; Minority population – 38,833; Percent Minority – 52.4%
JV notes: I just excerpted the Bottineau Transitway statistics see table for complete comparisons

Page 7-3:
Environmental Justice 7.3 Populations in the Study Area
Minority populations were further analyzed to identify individual minority statistics. While census data identify African Americans, Asian Americans, and Latino populations shown in Figures 7.3-2 through 7.3-4, community engagement and Corridors of Opportunity grantee organizations have facilitated a more nuanced understanding of study area populations. A significant part of the African American population in the study area is comprised of new immigrants primarily from Somalia and Ethiopia, and Hmong and Lao are distinct Asian American communities in the corridor. Further discussion of minority populations, Corridors of Opportunity, and community engagement is in Section7.4.

Page 7-4: **Table 7.3-2. Low-Income Population by State, Region, County, and Bottineau Transitway**
Bottineau Transitway: Total population – 98951; Population living above poverty line – 80,966; Population living below the poverty line 17,985; Percent in Poverty – 18.1%
JV notes: I just excerpted the Bottineau Transitway statistics – see table for full comparisons; also maps of minority populations and low income on pages 7-5 thru 7-9

Page 7-10
7.4 Public Engagement
7.4.1 Project Engagement Efforts
Engagement efforts throughout the Bottineau Transitway Draft EIS process built upon local knowledge of the project and processes as well as outreach efforts carried out through the Alternatives Analysis phase of project development. Station area pre-planning and *Bottineau Transitway HIA* outreach efforts coincided with outreach on the Draft EIS and provided additional opportunities for residents and businesses in the corridor to learn more about the project. Committee meetings, interviews, focus groups, and data gathered as part of station area pre-planning and the *HIA* provided additional information to the HCRRA, Metropolitan Council, and FTA regarding low-income and minority populations in the study area.

JV notes: detailed community engagement efforts on pages 7-10 thru 7-12

Page 7-13: **7.4.2 Corridors of Opportunity Grantee Organization Community Engagement Efforts**
The Corridors of Opportunity Initiative awards grants to place-based organizations that work with underrepresented communities to educate and organize communities around transit corridor decision making, planning, and implementation opportunities important to them.

Ten Corridors of Opportunity grantee organizations have engaged minority and low-income populations in the Bottineau Transitway. Organizing work is carried out independently from the Metropolitan Council, HCRRA, and FTA, but has enabled effective dissemination of project information, and enhanced agencies' understanding of the communities in the corridor. These organizations and their engagement efforts related to the Bottineau Transitway are described in the following sections.

JV notes: Each Corridors of Opportunity grantee organization has a description on pages 7-13 thru 7-15

Page 7-21: **7.5 Environmental Justice Impacts Analysis**

7.5.1 Operating Phase (Long-Term) Impacts

A multi-step process was used to identify the potential for disproportionately high and adverse effects on Environmental Justice populations.

First, impact categories were selected including land use, traffic, parking, community character and facilities (including parks), right-of-way and relocations, visual quality, safety and security, noise, vibration, air quality, traction power substations (TPSS), and operations and maintenance facilities (OMFs). These categories were selected because the impacts in these categories tend to be localized and have the potential for high or disproportionate impact to environmental justice populations. Other categories evaluated in this Draft EIS were not considered because they either presented no impacts, or their effects would be experienced by all populations living in the study area, regardless of race, ethnicity, or socioeconomic status.

Each Bottineau Transitway alternative was then evaluated in each category, as shown in Table 7.5-1. The evaluation is based on the results documented in Chapter 3 Transportation Analysis,12 Chapter 4 Community and Social Analysis,13 and Chapter 5 Physical and Environmental Analysis.14 Categories with potential effects were then carried forward to another level of analysis to determine whether those effects were high or disproportionate to environmental justice populations.

Page 7-22 thru 7-23: **Table 7.5-1. Operating Phase: Potential Impacts by Alternative**

JV notes – in my excerpts I am only including the impacts of the Locally Preferred Alignment – see table and following narratives for more complete info

Impact Categories	Potential Effects by B-C-D1 (preferred alternative)	Analyze for potential high & adverse effects to EJ populations
Land Use	No	No
Vehicular Traffic	No	No
Pedestrian and Bicycle Facilities	No	Yes
Parking	No	Yes
Community Facilities/Community Character and Cohesion	No	Yes
Displacement of Residents and Businesses	Yes	Yes
Visual/Aesthetics	Yes	Yes
Safety and Security	No	No
Noise	Yes	Yes
Vibration	Yes	Yes
Air Quality	No	No
TPSS (Traction Power Substations)	No	No
OMF (Operations Maintenance Facility)	No	No

Page 7-29: **Table 7.5-5. Construction Phase: Potential Impacts by Alternative**

JV notes – in my excerpts I am only including the impacts of the Locally Preferred Alignment – see table and following narratives for more complete info

Impact Categories	Potential Effects by B-C-D1 (preferred alternative)	Analyze for potential high & adverse effects to EJ populations
Land Use	No	No
Vehicular Traffic	Yes	Yes
Pedestrian and Bicycle Facilities	Yes	Yes

Parking	No	Yes
Community Facilities/Community Character and Cohesion	No	Yes
Displacement of Residents and Businesses	N/A	No
Visual/Aesthetics	No	No
Safety and Security	No	No
Noise	Yes	Yes
Vibration	Yes	Yes
Air Quality	No	No
TPSS (Traction Power Substations)	No	No
OMF (Operations Maintenance Facility)	No	No

Page 7-33: **7.5.3 Offsetting Project Benefits**

7.5.3.1 Increased Transit Service

Community members have identified providing affordable, accessible, and equitable transportation to low-income and minority residents so that they can have access to financial opportunities (jobs), educational opportunities, health services, and healthy food sources as one of the benefits of the Bottineau Transitway Project.26 The *Bottineau Transitway HIA* also identified that reliable, accessible public transportation could decrease reliance on automobiles, reducing household transportation costs and making the combined costs of housing and transportation more affordable in this corridor.

The Bottineau Transitway would provide significant increase in safe, reliable, and efficient transportation options for minority and low-income populations located along all proposed alignments. Table 7.5-7 summarizes the daily hours of user benefits that would accrue to new and existing (as accounted for in the Enhanced Bus/TSM alternative) transit riders as a result of each alternative. User benefits reflect travel time savings compared to the Enhanced Bus/TSM alternative, including factors such as walk access, service frequency, travel speed, and connections at transfer points. See the Transportation Technical Report (Kimley-Horn and Associates & SRF Consulting Group, 2012) Section 3.0 for additional information.

Page 7-34

7.5.3.2 Operational Phase Economic Benefits

Each of the Bottineau Transitway alternatives is anticipated to create jobs and additional earnings as a result of Operations and Maintenance (O&M) expenditures. Although these O&M expenses would originate from local sources, they represent spending that would not take place except for the implementation of this service. The expansion of transit service associated with the alternatives creates an expansion of economic activity in the counties of the Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area (MSA), thus generating recurring net economic impacts (long-term). Other potential sources of federal funding for maintenance exist as grants and could be applied to preventative maintenance in later years. If future federal funds are received and applied to maintenance activities, they could generate additional net economic effects to the local and state economies through increased employment and earnings. Community members also identified economic development, increased business investments, and revitalization in north Minneapolis and Brooklyn Park as a potential benefit of the Bottineau Transitway project.

7.6 **Environmental Justice Analysis Conclusions**

Page 7-36 **7.6.3 Alternative B-C-D1 (Preferred Alternative)**

This alternative does not impose disproportionately high and adverse human health or environmental effects on EJ populations.

8.0 **Draft Section 4(f) Evaluation** http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/17-Chapter%208-Draft%20Section%204(f)%20Evaluation.pdf

Page 8- 1: 8.1.1 **Types of Section 4(f) Properties**
The Bottineau Transitway, as described in Chapter 2, may receive federal funding; therefore, compliance with Section 4(f) of the US Department of Transportation Act of 1996, 49 USC 303(c) is required. Section 4(f) requires consideration of:
■ Parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public
■ Publicly-owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public to the extent that public access does not interfere with the primary purpose of the refuge
■ Historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public

Page 8-8 (map) **Figure 8.3-1. Park and Recreational Properties adjacent to the Bottineau Transitway**

8.3.2 **Park and Recreational Properties**
Page 8-7:
The *North Hennepin Community College ball fields* are located at the southern boundary of the 75-acre campus. The two ball fields occupy the area east of West Broadway Avenue and south of Campus Park Drive. Although public use of the ball fields is not prohibited, arrangements must be made with the facilities manager. According to athletic department staff, the ball fields are seldom used by the public and special arrangements are required. Therefore, the ball fields are not considered a Section 4(f) resource.

Two *Conservancy Districts* are identified in the Brooklyn Park Zoning Map (revised October 2012). One parcel is located along Alignment B (west of West Broadway Avenue and south of 82nd Avenue) and one parcel is located along Alignment C (west of CSAH 81 and north of 62nd Avenue). According to the City's zoning code, the *Conservancy District is intended to provide for a district for areas that contain valuable environmental qualities which are to be preserved as park or open space amenities and to prevent the over-crowding of land, to avoid undue concentration of population, a specific public purpose, and/or alleviate the burden of development from environmentally sensitive lands. These areas may also have been found to be unsuitable for residential, commercial, or industrial development due to flooding or bad drainage, slope, adverse soil conditions, rock formations, and/or unique natural features.* The properties located adjacent to the Bottineau Transitway function as drainage control and the City's comprehensive plan does not identify them as recreational lands. Therefore, they are not considered Section 4(f) resources.

On-road bicycle trails are present along Bass Lake Road, Plymouth Avenue, 26th Avenue, and Lowry Avenue. These on-road trails serve primarily a transportation purpose rather than a recreational function. Therefore, they are not considered Section 4(f) resources.

Page 8-9 thru 8-11: **Table 8.3-1. Publicly Owned Park and Recreational Properties Adjacent to the Bottineau Transitway**
(*JV notes: detailed table on each park and recreational property)*

Page 8-17: *Measures to Minimize Harm*
Potential mitigation (avoidance, minimization, and compensation efforts) for this resource include:
■ Design of the OMF site to avoid or minimize impacts to the 4(f) resource. Measures to reduce the footprint of the OMF will be explored during preliminary and final project design and development. Reconfiguration of the OMF may avoid or minimize impacts to the turf trail located south of the paved Rush Creek Regional Trail.
■ Relocation of affected park facilities (turf trail). If necessary, the turf trail would be realigned to create a greater distance between the turf trail and the proposed OMF. Trees and shrubs would be planted to provide visual screening

between the realigned turf trail and the OMF. If design refinements determine that the turf trail would not need to be realigned, plantings could still be added to provide visually screening.
■ Provision of replacement land for land required by the OMF. Construction of the proposed OMF at 101st Avenue would require partial acquisition of a parcel owned by Three Rivers Park District. Acquisition of an adjacent undeveloped property to the east would also be necessary. Only the southern portion of the undeveloped parcel, owned by the City of Brooklyn Park, would be needed to construct the OMF. City land dedicated to parkland adjacent to the Rush Creek Regional Trail north of the proposed OMF could be considered for mitigation purposes, should the portion of the Three Rivers Park District property be converted to transportation use. Three Rivers Park District has not reviewed this land mitigation proposal but indicates intent to coordinate with project staff to evaluate the potential natural resource and recreation impacts and identify creative mitigation solutions.

Chapter 9.0 Consultation and Coordination
http://bottineautransitway.org/library/draft_EIS_march_2014/by_section/18-Chapter%209-Consultation%20and%20Coordination.pdf

Page 9-1: **9.1 Public Outreach Approach**
Page 9-4: **9.2 Summary of Public Outreach Activities**
Page 9-9: **9.3 Agency Coordination**

Appendix:

Technical Report Environmental Justice
http://bottineautransitway.org/library/draft_EIS_march_2014/technical_reports/Environmental%20Justice%20Tech%20Report_December%202012.pdf

JV notes this section has more detailed demographics ie city by city.

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

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Comments on the Draft EIS will be accepted through May 29, 2014. All comments must be received by that date. Please include a return mailing address with all comments.

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Name: Fr. Paul Moudry Organization: St. Margaret Mary

Address: 2323 Zenith Av. N., G.V. 55422

Email: dmareck@smm-gv.org

(1) support public transportation
(2) concerned about LRT station across the street from our church, noise, safety etc.
(3) Believe parkland should be treasured + saved.
(4) Residents of G.V. own cars, etc. Ridership mostly from outside G.V.?
(5) NIMBY is involved. Also "NIYBY" is in effect. Riders from suburbs and downtown are saying "Not in Your back Yard" – your back yard meaning North Mpls.
As church we support transit to be located where people w/o transportation will have access.
(6) Disruption in immediate time period needs to be put in comparison to long range development, improvements, and increased property value and neighborhood improvement, and transportation to jobs.

Appendix G
Response to Draft EIS Comments

9 Comments Received on Draft EIS – General Public – Written

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From: Andrew Balfour
To: Bottineau Transitway/Hennepin
Subject: Alignment Public Comment
Date: Tuesday, May 06, 2014 3:29:53 PM

I am in favor of A-C-D2 alignment. I think connecting the Maple Grove transit center, downtown Robbinsdale, going through the neighborhoods (not a park) in North Minneapolis, and finally connecting to The Interchange is the best placement for the line.

D1 shouldn't be considered. Ridership and convenience are what is important, not scenic (sparsely populated) views of a park.

Thank you.

Andrew Balfour
[redacted]
Minneapolis

From: Paul Schaper
To: Bottineau Transitway/Hennepin
Cc: [redacted]
Subject: Light rail
Date: Tuesday, May 06, 2014 3:42:30 PM

About light rail waste of time and $. One billion dollars could go a lot farther fixing and expanding the roads we have now. Examples on the west metro, 494 between county road 6 and the split is still only 2 lanes each way. Highway 394 from Plymouth to downtown is already outdated. That took10 years to build. Heavy traffic at 10:00 pm. Interstate 94 from the split to Monticello is a mess. Basically the state wants to keep people from driving their own cars. This will not happen. Anyone figure cost benefit.

Sent from my iPad

I care about the wild life in the park. All of that will change. The noise pollution is a big factor. Having a station on G.V. Road will alter access to Mpls and the park way. The station there is a poor decision. Pat Jordan Dale Runke

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Name: Richard Adair Organization: Bryn Mawr Neighborhood Assoc.

Address: [redacted]

Email: [redacted]

I support the locally preferred alternative.
There will always be "not in my back yard" concerns.
Keep your eyes on the prize — a transforming
integrated transit system that moves people around
and knits us together, especially transit-dependent
people in high-poverty areas.
We are building a future for generations to come.

Golden Valley 5/7

BottineauTransitway
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Name: Wesley D. Johnson Organization: _____

Address: [redacted]

Email: [redacted]

The ditch next to the tracks is the Storm runoff and storm water storage for all of KEWANEE WAY. We are the low house. We have had our basement flooded before and have a sump pump to keep ground water intrusion under control. Any changes to the storm ~~drain~~ drainage through the ditch to the swamp would affect the viability of housing on KEWANEE WAY if it affects the storm drainage. Currently it is something we have to watch and worry about with every major storm.

Many residents of KEWANEE WAY and the streets above use a pathway across the tracks to the fire station, ~~daily~~ easily to catch buses on Golden Valley Road, and to vote. Cutting off this access is more than inconvienient. Most people would not be able to walk around as it is 3 or 4 times longer and has steep hills. Cutting off access across the tracks would isolate this part of Golden Valley from the parks, firestation, transit, and the rest of Golden Valley as regards walking or bicycle usage.

There is heavy DEER and animal traffic ~~across~~ across the tracks. Blocking this will force them onto the roadways, probably Golden Valley Road bridge.

Golden Valley 5/7

BottineauTransitway
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Name: Pat Jordan Organization:

Address: [redacted]

Email: [redacted]

(1) LRT in G.V. does not serve the public who would be using it.

(2) The wild life, environment, pollution, noise, air quality, traffic - all are going to see big changes.

(3) Do you realize the land by Golden Valley Road and where tracks are located is a dump under neath the top layer.
It's a flood zone in areas there. The old Hwy 100 concrete etc was dumped there.

Golden Valley 5/7

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Name: Joan Joska Organization:

Address: [redacted]

Email: [redacted]

Where is the $ for this - won't pay for itself

1. Theodore Wirth park is the main feature of our quality of life and the intent was to protect it - BOT would destroy the principle law of that (try planting a tree on Hiawatha line - none)

2 Our Lake system puts us on the map for quality of life - reroute Bottineau - more buses

3 - Doesn't serve people who need public transportation minimam pop along T.W. vs Bottineau

4 If this was right for the people there wouldn't be such strong opposition - citizens are against what is our voice

5 my home is adjacent to tracks & has major structural issues ANY construction could cause house to collapse

Public trans. is for people who need it!

~~No~~

Golden Valley 5/7

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Name: Brian Jonas Organization:

Address: [redacted]

Email: [redacted]

I am against the proposed LRT route along West Broadway in Brooklyn Park. I live nearby and I am greatly concerned about traffic disruptions going both in and out of my property. Turning restrictions along West Broadway would prevent me from being able to turn Left onto Maplebrook Parkway to enter Maplebrook Estates, and it would prevent me from turning left exiting from Maplebrook Parkway to go North on West Broadway. I also work in Brooklyn Park and the construction would impact my route to work, possibly sending me Miles out of my way. Turning restrictions along West Broadway would affect my access to Brooklyn Park Businesses causing me to take My business to other cities. I am also concerned about the number of homes that would be lost due to LRT and West Broadway reconstruction. I am concerned about increased noise from the LRT, the roadway, and the LRT station proposed at 85th Ave, which I live near. Please reconsider the current plan and send it to Maple Grove instead of disrupting homeowners.

Brooklyn Park 5/13

Bottineau Transitway
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Name: Rebecca Dougherty Organization: home owner

Address: [redacted]

Email:

I support the light Rail coming to Brooklyn Park 100%

If any of the issues of access or loss of property can be addressed that would be great - I know they all can't be satisfied but any is better than none

Living near the LR not on the LR is valid comment but people also need to consider the extra expense of a tunnel or elevated train.

Informing the public more of access to college et business & how that is a positive is so important

Thankyou for your work on this project - we do Need Light Rail to Brooklyn Park

Brooklyn Park 5/13

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

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Name: Sharon Davis Organization: Citizen

Addres [redacted]

Email:

Get Rid of MET COUNCIL.
People should vote on this.
Waste of money.
People Do Not Want It.
STOP NOW

Brooklyn Park 5/13

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Name: DENIS F. DAVIS Organization: _____

Address: [redacted]

Email: [redacted]

No Lite Rail whatsoever, No where
~~Dissolve~~ Dissolve the Met Council,
Not cost effective, do any rail system
operate in the Red?

40 Million per mile
10 Million to add a lane of road } do.

Brooklyn Park 5/13

From: Karen Lehman
To: Bottineau Transitway/Hennepin
Subject: Golden Valley impacts
Date: Thursday, May 08, 2014 12:55:57 PM

Hello all,

My address is [redacted], and my property will be one of those most affected by the line. I am on a hillside nearly suspended over the tracks. I spoke last night at the Golden Valley City Council meeting, so some of my comments are recorded there. I would like to make some additional comments, based on what I have learned.

Given that my home is literally in the wildlife corridor between Wirth Park and Golden Valley Road, I am concerned that this development maintain as much of the natural character of the habitat as possible, as well as the darkness and quiet that go with that. I am happy to learn that the line will only be lighted at the stations. I am in favor of that.

I heard that no matter what, the wildlife corridor between Wirth Park and Golden Valley Road is going to be divided because the line will be fenced on both sides. That is a sad development for the foxes and deer who roam that area freely.

However, if there will be a barrier regardless, then I strongly support erecting a sound barrier wall, which could also act as a visual barrier on the east side of the line below Zephyr Place and York. A sound barrier wall would blend in better visually with the natural environment for those living above it than just having the chain link fence with the trains whooshing by.

For the engineering study, I would like them to assess how high such a wall would need to be, given that the affected houses are far above grade--and noise travels up. The ideal would be for the wall to be high enough that residents would not see the trains, and that sound would be greatly diminished. I would be happy to provide access to my property if that is necessary to take sound measurements.

I also strongly oppose any trail development below Zephyr Place and York on the east side of the line. Wirth Park has adequate biking and hiking trails.

Finally, I want resident permitted parking for Zephyr Place and York so that our quiet neighborly streets don't become parking lots.

Thank you for your consideration.

Regards,

Karen Lehman
[redacted]

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Name: Shaun Lewis Organization: Urban League

Address: [redacted]

Email: [redacted]

The Community need both Golden Valley Road Station and Plymouth Station

URoC 5/8

DEIS COMMENTS #2 -- May 8, 2014

Marietta Smith Minneapolis Resident
[redacted]

Despite the DEIS indicating that D1 (the LPA) is the best alternative of the routes being considered, I disagree.

The negative impacts outweigh the benefits to this part of North Minneapolis -- which is further from the Penn Avenue area surroundings that would most benefit from this project. I understand that the Penn Avenue option was dropped due to the number of houses that would need to be razed.

However, there should be a better alternative -- what about Olson Highway. Granted that Plymouth Avenue is closer to the Chalet but this alternative is more costly (I'm sure there will be soil "surprises" once construction begins but that will be a bit late to make any substantial changes) and disruptive.

There are already transportation routes that culminate at Olson Highway and could easily tie into a station there.

I just believe there are too many negative impacts and costs to make the Plymouth Ave. Station the best alternative. All the land on the route from Plymouth Avenue to Golden Valley Road is ecologically sensitive and valuable. Surely there is a better alternative.

Marietta Smith

URoC 5/8

Bottineau Transit Draft Environmental Impact Statement -- May 8, 2014

COMMENT FORM

I don't believe that the conclusions of the DEIS implying that the D1 Plymouth Station location is the best alternative were made taking into consideration the permanent detrimental impact it will have on this urban ecological area.

The natural urban wetland and wildlife habitat refuge provided by the area proposed for the Plymouth Station is unique. There is no way to mitigate the damage it will impose by any mitigation means. I'm told that the mitigation does not need to be -- and likely won't be -- in the damaged area. One reason many of us purchased our homes in this area is because we loved the rural feel and aspect of that strip of land from Plymouth northward.

Because those of us who live on Xerxes Avenue North -- just across from the proposed LRT Station -- live on the Minneapolis side of the street we were not included in the initial findings -- which, coincidentally, originally did not envision a station in the Theodore Wirth BNSF corridor. It was completely short-sided and unfair to ignore our input and the impact it would have on our area. The proposed project is virtually in our FRONT YARDS and BACK YARDS!.

As I understand it, the station is proposed to be constructed to the north of the Plymouth Avenue bridge. That area is just a narrow strip of land that can barely accommodate two additional sets of rail tracks, not even considering an LRT Station. The existing BNSF railroad tracks have been a part of the landscape and ~~was~~ were built decades before the current residential development of this area.

The damage that will be done by the heavy equipment and heavy construction cannot be repaired enough to restore the current ecological environment of that narrow strip of land. Forcing it to accommodate the proposed station by filling in the wetlands and marsh areas doesn't appear to be a good solution.

The reality of the years of noise, dirt, dust, additional traffic, loss of neighborhood safety -- just to mention a few detrimental environmental impacts -- in a decades old residential and urban ecological area is just devastating.

Also the short 45-day comment period for such a comprehensive report and its referenced reports and studies is unconscionable.

Marietta Smith Marietta Smith
[redacted]

URDC 5/8

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Name: Marietta Smith, Organization: Minneapolis Resident

Address: [redacted]

Email: [redacted]

We need more time to review this voluminous report.

I still need to review Chapters 2, 3, 4, 6, 7, and 11.

How do we get additional review time?

URM 5/8

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Name: KIM BOYCE Organization: _____

Address: [redacted]

Email: [redacted]

I am very supportive of the proposed transitway. Providing easier access to public transit for residents and visitors to the northwestern suburbs, as well as North Minneapolis, could prove to be a substantial asset to this region.

As I did a quick review of the reasoning and rationale outlined in the Executive Summary of the EIS, I have a much better understanding of why the D1 option was selected over the D2 option. The potential displacement of so many residents in the D2 option does create a significant negative impact on that portion of the community.

Having adequate traffic control and drop-off spaces at the proposed stations at Golden Valley Road and Theo Wirth Park are important considerations. Not everyone will be able to easily walk to these locations.

URoC 5/8

To: Brent Rusco

Re: Bottineau Transitway

I walked a ring around our woods from 37th Ave. North and the BN rail line to Golden Valley Road, then down the east side of the BN line to Highway 55, a 100+ acre expanse of wild life habitat your Draft EIS makes NO reference about. I knocked only on the doors of properties abutting the BN line or abutting wooded parkland that abuts the BN line (many of these owners have maintained private wild life habitat bordering park woods for decades), with some owners living directly across the street from park or BN wild life habitat: The owners on the front lines. Here are 96 of the 102 addresses I have collected so far. 4 of them are not on the front lines but I wasn't telling anyone they couldn't sign a petition about no LRT in the woods. My biggest problem is people not answering their doors.

I have listened to many property owners and I can say with assurance that the true local preference is NO BUILD!

Constance Boaniwell

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line.

ADDRESS	NO LRT
1223 Washburn Ave N. Mpls	X
1217 Washburn Ave No "	X
1207 Washburn Ave N. "	X
818 Washburn Ave N Mpls.	X!
701 Vincent Ave NO "	X
617 Thomas Ave N "	X
615 Thomas Ave N Mpls.	X
3416 Kyle Ave N. Crystal	X
2924 Kyle Avenue No Golden Valley	X
2912 Kyle Avenue N	X
4300 Culver Golden Valley	X
3656 Kyle Ave. No "	X
7620 Kyle Ave No	X
2610 Kyle Ave No	X
3300 Indiana Ave N	X
4107 Glenway Ave N	NO X

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line.

ADDRESS	NO LRT
~~[illegible] 3250 No Indiana Ave~~	XNO
3446 Indiana North Robbinsdale	NO LRT
3432 Indiana Av. N. Robbinsdale	NO LRT
3424 Indiana Ave No. Robbinsdale	NO LRT
3420 Indiana Ave No. Robbinsdale	NO LRT
3412 Indiana Ave N Robbinsdale	NO LRT
3309 Halifax Ave N Robbinsdale	NO LRT
3506 Indiana Ave N. Robbinsdale	NO LRT
3530 Indiana Ave N "	NO LRT
3532 Indiana Ave N. "	NO LRT
3540 INDIANA AVE N "	NO LRT
3542 Indiana Ave N. Robbinsdale	NO LRT
3614 Indiana Ave No Robbinsdale	NO LRT
3610 Indiana Ave No Robbinsdale MN	NO LRT
3649 HALIFAX AVE N ROBBINSDALE MN	NO LRT
3505 June Ave N. Crystal	NO LRT

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line that abuts our property!

ADDRESS			NO LRT
2308	Kewanee Way	Golden Valley	✓
2340	Kewanee Way	Golden Valley MN	✓
2324	Kewanee Way	Golden Valley, MN	✓
2332	Kewanee Way	Golden Valley	NO ✓
2350	Kewanee Way	Golden Valley	NO ✓
2416	Kewanee Way	Golden Valley	NO LRT
2460	Kewanee Way	Golden Valley	NO LRT
2450	Kewanee Way	Golden Valley	NO LRT
2500	Kewanee Way	Golden Valley	NO LRT
2601	France Ave N	Robbinsdale MN	NO LRT
2145	Bonnie Lane	Golden Valley MN	NO LRT
2631	MANOR AVE N	GOLDEN VALLEY	NO LRT
2485	Bonnie Lane	Golden Valley	NO LRT
2530	Bassett Crk Dr	G.V.	NO LRT
3840	Bassett Creek Dr.	G.V.	NO LRT
3900	Bassett Creek Dr.	G.V.	NO LRT

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line.

ADDRESS	NO LRT
3408 Kyle Ave N	✓
3350 Kyle Ave N	✓
3338 Kyle Ave N	✓
3332 Kyle Ave. No.	✓
3326 Kyle Ave N	✓
3320 Kyle Ave N	✓
3314 Kyle Ave N	✓
3310 Kyle Ave N	✓
3527 Kyle Ave. N. Mark K.	✓
3036 Kyle Ave N	✓
3000 Kyle Ave N	✓
2940 Kyle Ave N	✓
2835 JUNE AVE NORTH, GOLDEN	✓
2811 June Ave No Golden Valley, MN	✓
2741 June Ave [illegible] Valley	✓
2751 June Ave N Golden Valley MN 55422	✓NO

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line that abuts our property!

ADDRESS	NO LRT
3520 JUNE AVE. NO ROBBIN. NO	X
3612 June Ave N Robbinsdale	NO LRT
3624 June No.	NO LRT
3554 JUNE AVE NO. "	NO LRT
3528 June Ave N "	NO LRT
3622 Indiana Ave No	NO LRT
3651 Halifax Ave N	NO LRT
3663 Halifax Ave N	NO LRT
3651 Halifax Ave N	NO LRT
3501 June Ave N	NO LRT
2631 France Ave N	NO LRT
2901 FRANCE AVE N	NO LRT
2905 FRANCE AVE N.	NO LRT
2917 France Ave N	NO LRT
2235 Indiana Ave N	NO LRT
3910 BASSETT CREEK DR	NO LRT

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line.

ADDRESS	NO LRT
824 Washburn Ave N MPS, MN	NO LRT
2916 Oak Park No Mpls	NO LRT
2924 Oak Park No Mpls	NO LRT
1324 Xerxes Ave No.	NO LRT
1306 Xerxes Ave No	NO LRT.
1422 Xerxes Ave No	NO LRT
1511 Xerxes Ave North	NO LRT
1541 XERXES AV. N	NO LRT
1631 Xerxes Ave	NO LRT
1707 Xerxes Ave No. Gallant	NO LRT
1717 Xerxes Ave No ✓	NO LRT
1801 Xerxes Ave No	NO LRT
1825 Zephyr Place	NO LRT
1815 Zephyr Place	NO LRT
1806 Zephyr Place	NO LRT
1831 YORK	NO LRT

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Name: Cathy Wilcox Organization: _____

Address: [redacted]

Email: [redacted]

The issues that concern me that the Report details:

1. Impact on floodplains, wetlands, water sources for drinking & wells - public & private.
2. The possibility of uncovering hazardous materials - 790 Recorded sites in the B-C-DI Preferred Alternative area.
3. Noise - both during the construction phase in which Noise decibal levels will exceed Recommended levels for Residential use - and the Rail Noise, which, between 80-100 decibels equates to a concrete mixer, a jackhammer, and a Rock drill. This is from the Report on page 5-39.
4. The Constant operating hours + service frequencies of the light Rail, especially during early morning + late evening hours. Bells, horns, Rail Noise will impact everyone nearby -

Golden Valley 5/7

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Name: Dan Steinberg Organization: GV. Park and Rec Commission

Address: [redacted]

Email:

Would like to see a tunnel study from Golden Valley Rd. to Abbot Dr. Underground. Then zig zag the rail through Robbinsdale.

All I am asking for is a study before track is laid down.

Golden Valley 5/7

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Name: Robin Price Organization: ~~Bassett Creek Neighbors~~

Address: [redacted]

Email: [redacted]

1. 30 days has not been enough to review the EIS before this meeting.
2. Continued concerns about health & integrity of Bassett Creek.
3. Concern over lack of access to quiet space in this corner of Golden Valley
4. I want to see the rail go down ~~on~~ Hwy 55 or Broadway. Communication #45
5. If there needs to be a light ~~rail~~ stop it should serve downtown G.V. to encourage business growth.
6. Many G.V. residents are opposed to this route
7. This is NOT MY Prefered ROUTE.
8. Please keep T. Wirth Park pristine & on the historical register
9. ~~It~~ Currently Bassett Creek floods near the homes on Bassett Creek Dr. - it could get worse with 100 feet of development around the rail.
10. ~~Parking~~ Parking or drop off spots will be dangerous on Golden Valley Rd.

Golden Valley 5/7

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Name: Amy Overby Organization: resident

Address: [redacted]

Email: [redacted]

Regarding the social environment of proposed stations at Golden Valley Road or Plymouth Avenue:

How will safety be provided for commuters? Specifically, when individuals leave the visibility and relative safety of street level (Golden Valley Road, particularly), who will ensure safety and peace of mind at a station located under a bridge, next to a ~~wooded~~ woodland occasionally inhabited by transients?

In both of those locations (G.V. Road + Plymouth Ave.), I am unwilling to walk alone or with my dog when it is dark; those areas do not feel safe, because of the isolation and the highly/deeply wooded locations. If the goal of a station at those locations is to increase business/commuter traffic and usage, the isolated, invisible nature of those ~~two~~ locations will actually discourage commuter usage.

Golden Valley 5/7

MAY 19 2014

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Name: Debbie Bladine Organization:

Address: [redacted]

Email: [redacted]

I am opposed to the Bottineau line in its current form:
Noise issues
loss of private homes
Crime concerns
Alternate routes not given sufficient consideration
Want to see ridership surveys done
Believe route chosen to appease Target - they have not been a good community steward.

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Name: **Tyree Lawrence** Organization: **Resident and Stakeholder**

Address: [redacted]

Email: [redacted]

The City of Brooklyn Park has a mission statement: *"... a Thriving Community, Inspiring Pride, Where Opportunities Exist for ALL."* Our community and City Council stood by this statement and went on to declare that no projects would be considered unless they were in direct alignment with our mission, vision, and purpose. In order to remain consistent with building a thriving community, this project has to invest its resources where opportunities exist for us ALL. These opportunities MUST be transparent, authentic and very tangible. Here are some suggestions:

- Invest in the economic development initiated by the community for the community...
  -A business hub that will cultivate aspiring entrepreneurs who desire to start a business.
  -Fund the land and development of a space where people come together and feel a sense of pride where, currently, there is a void as the majority flock to other cities to satisfy the lack.
  -Invest in the support of small businesses by identifying the struggles of their current environment fueling an opportunity for REAL success vs. standardized programs that only large companies qualify for.
- Invest in LOCAL talent, goods, and services that will provide sustenance and capacity growth organically vs. OUTSOURCING and/or MAINSTREAMING to the "highly favored" benefactors.
- Invest in our YOUTH projects...
  -Contribute to the development of a pool or slash pad, so our families can bond with their children.
  -Focus on youth related transit issues so they remain connected to opportunities, programs, jobs, and internships.
- Invest grass-roots efforts and genuine engagement of community members...
  -Upgrade in communications so people feel connected to projects vs. rejection on both sides.
  -Support our leaders as an extension to the hard to reach demographics.

These are just some initial suggestions to get things moving in the right direction. These suggestions will drastically improve the quality of life in our community and counteract the negatives associated with LRT projects in general. I will be happy to personally get involved and lend any type of direction as needed from the perspective of a community stakeholder. Thank You for considering my comments and suggestions.

Communication #93

From: Tyree Lawrence
To: Bottineau Transitway/Hennepin
Cc: Crystal J Myslajek
Subject: Bottineau Transitway Draft EIS Comment Form - Tyree Lawrence
Date: Sunday, May 18, 2014 6:22:47 AM
Attachments: TL - LRT Comments.pdf

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- Invest in the economic development initiated by the community for the community…
  -A business hub that will cultivate aspiring entrepreneurs who desire to start a business. As well as grow NEW business around LRT projects.
  -Fund the land and development of a space where people come together and feel a sense of pride where, currently, there is a void as the majority flock to other cities to satisfy the lack.
  -Invest in the support of small businesses by identifying the struggles of their current environment fueling an opportunity for REAL success vs. standardized programs that only large companies qualify for.

- Invest in LOCAL talent, goods, and services that will provide sustenance and capacity growth organically vs. OUTSOURCING and/or MAINSTREAMING to the already "highly favored" benefactors.

- Invest in our YOUTH projects…
  -Contribute to the development of a pool or slash pad, so our families can bond with their children.
  -Focus on youth related transit issues so they remain connected to opportunities, programs, jobs, and internships.

- Invest grass-roots efforts and genuine engagement of community members…
  -Upgrade in communications so people feel connected to projects vs. rejection on both sides.
  -Support our leaders as an extension to the hard to reach demographics.

These are just some initial suggestions as to where funding should focus to get things moving in the right direction. These suggestions will drastically improve the quality of life in our community and counteract the negatives associated with LRT projects in general. I will be happy to personally get involved and lend any type of direction as needed from the perspective of a community stakeholder. Thank You for considering my comments and suggestions.

Blessings,

TYREE LAWRENCE
Community Stakeholder and Resident
[redacted]
Brooklyn Park, MN 55445

This E-mail is confidential. It may also be legally privileged. You may not copy, forward, disclose or use any part of it without expressed written consent of Tyree Lawrence. If you have received this message in error, please delete it and all copies from your system and notify the sender immediately by return E-mail. Internet communications cannot be guaranteed to be timely, secure, error or virus-free. The sender does not accept liability for any errors or omissions. Sender is not a Securities Dealer, Broker or US Investment Adviser. Receipt of any attached documents and/or content is acknowledgment and acceptance that this is privileged, proprietary and confidential and will not be forwarded to any party (s) without prior written consent from the sender.

To the powers that be.

Especially the Golden Valley City Council and Met Council.

Re: Bottineau Transitway

Though I have attended numerous planning and public input meetings, which have shown an overwhelming lack of public support for the "preferred" and proposed, formerly known as the D1 route, it is frustrating to observe that these efforts and voices are largely ignored.

The EIS, Environmental Impact Study, while enormously expensive, is disappointing in that while it provides pages of data and mitigation proposals, it misses the point entirely.

Yesterday, I took a walk in the Mary Hill and Sochacki parks near my home. I stopped and closed my eyes and listened. By sound alone, I could identify, chickadees, cardinals, a red winged black bird, baby hawks, sparrows, frogs, ducks, and geese and the lovely sound of moving water. Lest I get labeled just another tree hugger, I would point out that the city planning greats of yesteryear, like Francis Gross, Charles M. Loring, Eloise Butler, and Theodore Wirth showed great foresight in preserving these wetlands and green spaces and some form of park access to every neighborhood throughout the city. They understood well, just as anyone who has travelled to NYC, and stepped into Central Park, the value of a quiet green space open to the public for refreshment and respite from the frenetic pace and noise of the city. It is a shame that after all of these years, and the will to preserve these valuable places for the well being and health of all, that we would at this juncture make such a huge mistake as to ruin the aesthetic of not one, but three beautiful parks every seven minutes. These three parks are Theodore With, Mary Hill and Walter Sochacki Parks.

"Minneapolis parks encompass the city's defining lakes and the river banks at the core of the city's development. Acquired by purchase and donation, the parks include features of astonishing beauty, historical significance and ecological wonder, all within a thriving urban setting. More than this, the parks are imbued with personal meaning—the playgrounds that live in the memories of generations of people, are the soul of our communities." Minneapolis Park Board

If the LRT is for commuters, it should be accessible to commuters, promote not only jobs during construction, but also neighborhood revitalization and long term business opportunities. All three of the other previously proposed routes achieve these goals to a far greater degree than the so called “preferred route”. Preferred by who? BNSF? Perhaps it can be instructive to look at the recent LRT projects. What was the reasoning of running the Green Line right down University Avenue? And how has this enhanced the revitalization of business along this route? Why is the Southwest route so heavily opposed and mired in legal battles?

Once you ruin the peaceful, tranquil aesthetic of these parks, there is no turning back. This would be a travesty: especially with regard to Theodore Wirth Park, a treasure to the Twin Cities of inestimable value.

BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

MAY 16 2014

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

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Name: Patricia Giles Organization: Maplebrook Estates

Address: [redacted]

Email: [redacted]

West Broadway has been an easy way of catching buses and connecting with other bus lines and being able to walk to any of the businesses along 85th to brooklyn blvd.

Why would you want to take away the beauty and the peaceful tranquility from these locations, where people are out taking walks, walking their dogs, meeting and greeting one another along the way.

Have you really step and picture it, where the sound and the noise that will take place.

Have you really consider how this effects peoples home and their privacy or how things will be for driving how they get to places that didn't take them as long, now they will get in longer time

It effects everything.

MAY 16 2014

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Name: Stacy Bellward Organization:

Address: [redacted]

Email: [redacted]

Love light rail, love that it is coming to our neighborhood!! The faster it gets here the better!

MAY 15 2014

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Name: JEANNE D. WEISKE Organization:

Address: [redacted]

Email: [redacted]

This is an integrated community, of retirees, middle class working families, and immigrants, looking for the "American Dream". I worked 46 yrs, bought the home I want to retire in. Now that I'm retired, the wheels of goverment, are rolling across our homes. And you offer, what? market values? That's about half of the present value, and half what those of us still with a mortgage are paying. I've seen this way too often a City Council, rod's over an established community, drives out the settled residents, All for the "greater good" - whose "Greater Good"? Yours? The future? WE Pay your salaries! We, the tax payers, the ones you wish to drive out. For a change, listen to the people!

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Name: Terry Lambert Organization: Home owner

Address: [redacted]

Email: [redacted]

Where is the study for 85th to 93rd on West Broadway? Impact on loss of homes - many immigrant families, noise, loss of home property values. North Mpls would not allow it - why is Brooklyn Park considering this? Where is the environmental impact Statement for West Broadway Expansion Project? Very low I know - Kill the West Broadway Expansion Project - Bad deal for all residents on or near West Broadway.

MAY 15 2014

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Name: Mary Ann Duggan Organization: _____

Address: [redacted]

Email: _____

I feel that the Light Rail is a good thing but I do not feel that coming up Broadway avenue is the way to go with it. There will be so many homes & people impacted by this decision if made. The noise & Confusion of it all will hurt all of us in this area. Please Consider an alternative way to go with the L. Rail. I bought my home in Maplebrook 19 yrs. ago & love it here. If the L. Rail Comes down Broadway ave. It will change every thing to Something that does not benefit anyone in the area. I'm 69 yrs. old & my Plan is to stay here for alot of yrs yet. I want my retirement to be an enjoyable one not one with noise & Confusion.

Thank you, Mary Ann Duggan

Communication #85

From: Mike Burakowski
To: Bottineau Transitway/Hennepin; planning@goldenvalleymn.gov; Marlene Jacobs
Subject: Bottineau Line EIS
Date: Thursday, May 15, 2014 8:07:02 AM

Good morning,
I was unable to attend the public meetings regarding the EIS but have reviewed the 800+ page document and wanted to share my thoughts with you.

My son and I live on Kewanee Way so this project has been a regular topic of discussion with our neighbors and friends. We have attended previous meetings at the Wirth chalet and at the Golden Valley City Hall and have read just about every document, email and update that has been provided. When interacting with our council members prior the third, strategically scheduled Golden Valley vote, the message was clear that they were voting to add Golden Valley's support to the EIS. They were also clear that if the project was not in the best interest of the city of Golden Valley, the council members would withdraw their support and suggest an alternative to the preferred route. The majority of those Golden Valley residents in attendance were not in favor of this preferred route, but I believed the word of our representatives and watched for the long awaited EIS report

Having reviewed the document, I am not convinced that the alternate route is best for Golden Valley and all prospective users. I am also not at all confident that Golden Valley or any other representative body will object to this route and demand an alternate. Subsequent emails about station planning also tells me that this is moving forward and that this email is futile.

Here's a partial list of why I object to the preferred route:

- This route appears to be "preferred" due to the least amount of impact on private property and the associated costs. While a route down Bottineau Blvd/Broadway would result in more displacement, it would broaden transportation options, provide easier access to north Minneapolis businesses and North Memorial Hospital and support growth like that seen along the Hiawatha and Green lines.
- I object to the data that suggests more riders and development as a result of the "preferred" route. The BNSF corridor takes the Bottineau line through well-established areas of Robbinsdale, woodlands and wetlands in Golden Valley and the Theodore Wirth Park. I'm at a loss to explain how those areas would support housing and business growth and increased ridership when compared to a route through north Minneapolis.
- I have to admit that I am one of the "trespassers" who regularly crosses the BNSF tracks in front of my house to get to Mary Hills and Sochacki parks. I haven't dwelled on the illegality of our actions, focusing on the ease of access that we have enjoyed for 10+ years from Kewanee Way. With that being said, our neighborhood has also been the caretakers of the surrounding property that appears to be a "no man's land" for Excel Energy, BNSF and the City of Golden Valley. Neighbors cut the grass while Excel dispatches Asplundh tree service periodically to haphazardly provide

"preventive" service to the area, ignoring trees and brush in problem areas and laying bare other areas that appear to pose no threat to overhead power lines. Buckthorn and fallen trees are a problem that neither BNSF and Golden Valley will claim. My calls to both agencies tend to be informational now - we are removing buckthorn and fallen trees when both agencies point me to the other in a maddening circle. Our care of these areas doesn't trump our "trespassing" over the tracks, but you need to be aware of our commitment to these soon-to-be-off-limits-areas for our neighborhood.
- I had a totally different understanding of the EIS and patiently waited for someone to knock on my door to interview me to determine how this project would impact us; I even emailed the Bottineau team to inquire about the lack of contact with our neighborhood. The data provided in the report is simply scientific - noise and vibration levels recorded at the top of our street. The impact to our street and others along the line cannot simply be measured in decibels and important details are missing: the deer in my backyard this morning, sleeping with the windows open and hearing only crickets and our 4:45 cardinal wakeup, the visual impact of three lines of tracks and overhead wires in place of trees and shrubs. I do not negate the impact of a rail line down the middle of Penn Ave. N. to city residents, but the quality of life on Kewanee Way enjoyed since the mid-60's will change forever. Yet the report suggests "minimal impact" to me and my neighbors, a gap in reporting that is made worse by the assertion that only five houses at the top of Kewanee Way would be sufficiently affected by noise and vibration to warrant mitigation efforts. Really? Sit with me in my office in St. Paul along the Green Line - listen to the trains (about 10 times the distance from my front window at home), listen to the bells and whistles, feel the vibration and then tell me that we won't be impacted by trains 100 feet from my front door.
- Speaking solely as a Golden Valley resident, this line does not benefit our city. If the Golden Valley Road station is chosen in your already-planned-meetings, I see few GV residents having easy access to the line. There will no parking, so connector bus lines will bring riders to the station. I will have to traverse the woods at the end of the street for access in order to avoid a 1.5 mile walk down Byrd and Zenith. I'm not sure if the Theodore Wirth station would technically be in Minneapolis or Golden Valley, but that option decreases the likelihood of Golden Valley resident use of the line. The Bottineau Blvd/Broadway option would not benefit Golden Valley resident access but I can't help but think that ridership would increase in a more populated area.

I am a proponent of light rail and will use the line wherever it ends up, but I don't feel that the preferred route is the best overall plan for the region and strongly encourage that Golden Valley and the Met Council move the Bottineau Line to the Bottineau/Broadway corridor.

Sincerely,
Mike Burakowski
[redacted]
Golden Valley
[redacted]

From: [redacted]
To: Bottineau Transitway/Hennepin
Subject: EAS Public Comment
Date: Thursday, May 15, 2014 2:50:19 PM

Hello.

A large concern I have is for the Southern half of the Willard Hay neighborhood. We are already cut off from Theodore Wirth Park, this project has the ability to make connecting even harder. We currently have two ways to get there, cross six lanes of traffic at Highway 55 to a sidewalk on the southside or go up to the Plymouth Avenue Bridge, but no close or easy access to the trail under the bridge due to the the golf course and archery range.

I hope that trail connections from the area of Thomas North to Washburn North are being looked at. Along the Northside of Highway 55 sidewalk/trail connection over the rail road tracks to connect to the walking/bike trails on the West side of the rail road trench would be very appreciated. Also, a flyover walking/bike trail bridge at 8th or Oak Park at Washburn would also help connect the neighborhood to a park that is very hard to get to.

A city issue, I know, but we are also missing sidewalks in the neighborhood. With light rail, I expect walking to become more common and sidewalks will be needed instead of people walking down the middle of the street. Areas of concern are: 900 block of Washburn. 8th Street between Washburn and Upton and Oak Park between Xerxes and Vincent. Upton to Thomas Service Road just north of Highway 55.

Brian Anderson
[redacted]
Mpls, MN 55411

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Name: Constance Boniwell Organization: _____

Address: [redacted]

Email: _____

I went to the Golden Valley public hearing and was cut off at 3 minutes so I returned to the Crystal meeting, gave some of my comments to the transcriber so I wasn't cut off again, but I was, and what were the remarks I could not make to the public at the public meeting?

Met Council and Hennepin County come up with over 15 pounds of Scoping, Draft EIS and Health reports, and we are given 3 minutes to respond. Many of us attending these meetings want to hear what our fellow citizens have to say about your project, but half the people in Golden Valley and Crystal were cut off. So while you limit how much you have to listen to us, you also limit our opportunity to hear our fellow citizens.

You go through the cost and effort of holding these public meetings and the actual public hearing lasts, in Golden Valley 40 minutes and Crystal's 20 minutes I have never been to one that's gone over 47 minutes since some people have already experienced being cut off they don't speak, they file written comments.

Crystal 5/14 →

Attach First
Class Postage
Here

Hennepin County Housing, Community Works, and Transit
Attn: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

These are people who have waded through much of your reports and we don't get to hear from them at all. There's a great response about BRT that's getting filed via computer. We have no reason to trust the Met Council and Hennepin county with our 100+ acre expanse of woods down the BN line.

Bot No!

LRT? NO!

We, the owners of the properties listed below,do not want LRT going down the Burlington Northern rail line.

ADDRESS		NO LRT
1223 Winkler Ave N.	Mpls	X
1217 Washburn Ave No	"	X
1207 Washburn Ave N.	"	X
818 Washburn Ave N	Mpls.	X!
701 Vincent Ave	NO "	X
617 Thomas Ave N	"	X
615 Thomas Ave N	Mpls.	X
3416 Kyle Ave N.	Crystal	X
7929 Kyle Avenue	No Golden Valley	X
2912 Kyle Avenue N		X
4300 Culver	Golden Valley	X
2656 Kyle Ave.	No "	X
7670 Kyle Ave	No	X
3610 Kyle Ave	No	X
3300 Indiana Ave N		X
4107 Conway Ave N		NO X

LRT? NO!

We, the owners of the properties listed below,do not want LRT going down the Burlington Northern rail line.

ADDRESS		NO LRT
[illegible]	3258 No. Indiana Ave	NO
3446	Indiana North	Robbinsdale NO LRT
3432	Indiana Ave N.	Robbinsdale NO LRT
3424	Indiana Ave No.	Robbinsdale NO LRT
3420	Indiana Ave No.	Robbinsdale NO LRT
3412	Indiana Ave N.	Robbinsdale NO LRT
3309	Halifax Ave N	Robbinsdale NO LRT
3506	Indiana Ave N.	Robbinsdale NO LRT
3530	Indiana Ave N	" NO LRT
3531	Indiana Ave N.	" NO LRT
3540	INDIANA AVE N	" NO LRT
3542	Indiana Ave N.	Robbinsdale NO LRT
3614	Indiana Ave No	Robbinsdale NO LRT
3610	Indiana Ave No	Robbinsdale MN NO LRT
3649	MALIFAX AVE N	ROBBINSDALE MN NO LRT
3505	June Ave N.	Crystal NO LRT

LRT? NO!

We, the owners of the properties listed below,do not want LRT going down the Burlington Northern rail line that abuts our property!

ADDRESS			NO LRT
2308	Kewanee Way	Golden Valley MN	✓
2340	Kewanee Way	Golden Valley MN	✓
2324	Kewanee Way	Golden Valley, MN	✓
2332	Kewanee Way	Golden Valley	NO ✓
2350	Kewanee Way	Golden Valley	NO ✓
2416	Kewanee Way	GOLDEN VALLEY	NO LRT
2460	Kewanee Way	Golden Valley	NO LRT
2450	Kewanee Way	Golden Valley	NO LRT
2500	Kewanee Way	Golden Valley	NO LRT
2601	France Ave N	Robbinsdale MN	NO LRT
2191	Bonnie Lane	Golden Valley MN	NO LRT
2631	MAJOR AVE N	GOLDEN VALLEY	NO LRT
2885	Bonnie Lane	Golden Valley	NO LRT
2830	Bassett Cr. Dr.	G.V.	NO LRT
3840	BASSETT CREEK DR.	G.V.	NO LRT
3900	Bassett Creek Dr.	G.V	NO LRT

LRT? NO!

We, the owners of the properties listed below,do not want LRT going down the Burlington Northern rail line.

ADDRESS		NO LRT
3408 Kyle Ave N		✓
3350 Kyle Ave N		✓
3338 Kyle Ave N		✓
3332 Kyle Ave. No.		✓
3326 Kyle Ave N		✓
3320 Kyle Ave N		✓
3314 Kyle Ave N		✓
3310 Kyle Ave N		✓
3527 Kyle Ave. N.	Mark K.	✓
3036 Kyle Ave N		✓
3000 Kyle Ave N		✓
2940 Kyle Ave N		✓
2835 JUNE AVE	NORTH, GOLDEN	✓
2811 June Ave No	Golden Valley MN	✓
2741 June Ave	Golden Valley	✓
2751 June Ave N	Golden Valley MN 55422	✓NO

LRT? NO!

We, the owners of the properties listed below,do not want LRT going down the Burlington Northern rail line that abuts our property!

ADDRESS			NO LRT
3520	JUNE AVE. NO	ROBBIN. NO	X
3612	June Ave N	Robbinsdale	-NO LRT-
3624	June Ave	"	NO LRT
3554	JUNE AVE. NO.	"	NO LRT
3528	June Ave N	"	NO LRT
3622	Indiana Ave. No		NO LRT
3651	Halifax Ave N		NO LRT
3663	Halifax Ave N		NO LRT
3651	Halifax Ave N		NO LRT
3501	Jane Ave N		NO LRT
2631	France Ave N		NO LRT
2901	FRANCE AVE N		NO LRT
2905	FRANCE AVE N.		NO LRT
2917	France Ave N		NO LRT
2235	Indiana Ave N		NO LRT
3910	BASSETT CREEK DR		NO LRT

LRT? NO!

We, the owners of the properties listed below,do not want LRT going down the Burlington Northern rail line.

ADDRESS		NO LRT
824	Washburn ave N	MPS, MN NO LRT
2916	Oak Park No.	Mpls. NO LRT
2924	Oak Park No	Mpls NO LRT
1324	Xerxes Ave No.	NO LRT
1306	Xerxes Ave No	NO LRT.
1422	Xerxes Ave NO	NO LRT
1511	Xerxes Ave North	NO LRT
1541	XERXES AV. N	NO LRT
1631	Xerxes Ave	NO LRT
1707	Xerxes Ave NO.	Gallant NO LRT
1717	Xerxes Ave No	✓ NO LRT
[illegible]	1801 Xerxes Ave	NO LRT
1925	Zephyr Place	NO LRT
1815	Zephyr Place	NO LRT
1806	Zephyr Place	NO LRT
1831	YORK	NO LRT

Bottineau Transitway Project:

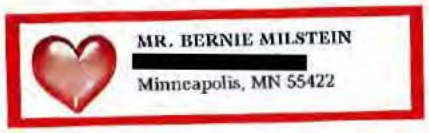
We Of Heathbrooke Neighborhood Association, Hidden Lakes Neighborhood Association, Bassett Creek Neighborhood Association, Sweeney Lake Neighborhood Association, are absolutely opposed to this project station at Golden Valley Road, next to the Fire Station, west of St. Margaret Mary Church, South of Theodore Wirth Parkway & Golden Valley Rd., Golden Valley for the following reasons:

1. This station will cause irreparable harm to the natural environment in the area.
2. The station should be rerouted to the tracks & central area of Downtown Golden Valley near the City Hall. It would serve the greater population and greater good of Golden Valley by being there.
3. Being at the station on Golden Valley Rd. would create excess traffic, noise, pollution, crime and noise along that Road, neighborhoods, and corridor.

4. Putting the station & transportation along Golden Valley Rd, & Wirth Parkway will detrimentally affect the property values in our neighborhoods, because of noise, pollution, dirt, excess traffic, crime, over amount of traffic on the Light Rail.
5. Our properties are sacrosanct, they are our refuge, as are the great amount of environmental refuges in this area. And, this light rail that you are trying to roll over our neighborhoods is going to be harmful to our health and mental & physical well being!
6. You have not provided us with an actual noise decibel study, a projected dirt and air quality study. You have written a deeply flawed and amateurish Health projection affects.

So, we plead with you to reroute this Light Rail project to Downtown Golden Valley, and certainly cease and desist the current plan which will greatly harm our neighborhoods!

Sincerely, Bernie Milstein, a Golden Valley Resident of 47 years, who knows and loves the beauty and community of Golden Valley!
Do not destroy our neighborhoods!



From: Randy
To: Bottineau Transitway/Hennepin
Subject: light rail and library
Date: Tuesday, May 13, 2014 5:56:41 PM

I support these projects being proposed for my neighborhood. As a resident of the west Broadway area, I believe this will enhance our property values and make my neighborhood a more livable place.

Sent from my Samsung Galaxy S®III

From: Paul Bellward
To: Bottineau Transitway/Hennepin
Subject: Bottineu Transitway Comments
Date: Tuesday, May 13, 2014 11:44:11 PM

To whom it may concern,

I would like to share my excitement at the idea of light rail coming to Brooklyn Park and being part of the Bottineau Transitway. I am originally from Britain where public transport is far more widespread and would love to see the same sort of access to an affordable far reaching transit system here. I see light rail as a big way to keep the Twin Cities moving forward and being part of the solution to of mass transit problem for many years to come.

The thought of being able to walk out of my door to a nearby station and being able to ride to downtown Minneapolis, MOA, airport St Paul or other cities is fantastic. This is a much needed addition to Brooklyn Park. I would hate to think of our city losing out and not being connected to the rest of the Twin cities in this way.

I do own a property relatively close to the planned rail line, I am sure that I will be able to hear the bells as the train pulls into the closest station but this small disadvantage is far outweighed by the benefits.

Please bring light rail to Brooklyn Park!
Many Thanks,
Paul Bellward
[redacted]
Brooklyn Park, MN 55445

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Name: Maxine Wilson Organization:

Address: [redacted]

Email: [redacted]

We are concerned about our property value, safety, Noise is our main issues. Not wise for us!!

Brooklyn Park 5/13

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Name: JEANNE WEISE Organization:

Address [redacted]

Email: [redacted]

THE EIS DOES NOT CONSIDER THE IMPACT OF THE NOISE AND ANNOYANCE THAT RESIDENTS ARE being ignored

Brooklyn Park 5/13

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Name: Randy Swanson Organization: _____

Address: [redacted]

Email: [redacted]

I own property that is impacted @ 73rd and Highway 81. I object and am frustrated by this project taking control over my property For the past 2 years & For the next several years! I cannot sell or expand or improve this property since it will eventually be taken. This also applies to All homeowners ALong the corridor. We are Frozen in place until this project runs it inevitable Mind numbing pace to eventual construction.

This confiscation during this period doesn't cost the gov't entities a dime but will cause us who are affected potential extreme hardships. I had a bonafide buyer For my property in NOV 2013 who was serious enough to bring in his Architect For plan approval & was told NO by the city of BP because it would be eventually acquired For LRT. I am at retirement age & would like to sell - what are my options? None according to Hennepin county - until the project reaches property ACQUISITION stage 2-3 yrs? From today.

Brooklyn Park 5/13

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Name: Sharon Spence Organization:

Address: [redacted]

Email: [redacted]

1. How many transit trains are expected to run along West Broadway, and what will the time interval be.

2. How many families will lose their homes due to widening West Broadway.

3. How much traffic noise may we expect due to the Bottineau transit.

4. What caused the West Broadway Improvement project to go from 109' to 178'?

Brooklyn Park 5/13

Leslie Olson

[redacted]

Brooklyn Park, MN 55445

ROAD EXANSION/LRT NEGATIVE IMPACTS

SIGNIFICANT REDUCTION IN QUALITY OF LIFE

*Declining townhouse values...up to $20,000 depreciation per Realtor meeting

*Difficulty in selling townhouse during each phase (being in limbo as final decision is being made by county & city/road expansion construction/LRT construction)

Need to disclose county plans for road/LRT
Maplebrook sellers all looking for the exact same buyer

*Double Lane Road (possible 45-50 mph)

More traffic (trucks/semis going to warehouses, rush hour, emergency vehicles)

Significant increase in noise level

45-50 mph road turns into 55-60 mph with speed of traffic

*Wide biking/walking paths

More foot traffic

Less privacy

*Loss of berm/three evergreens to accommodate paths/roadway

Less privacy

Less appealing (look directly upon traffic)

Increased noise due to loss of barrier

No barrier to stop cars that swerved off road in accidents (direct access to townhouse unit)

*Loss of mature trees/bushes /grassy area in association (loss of nature)...more cement/pavement

*Closer proximity of power lines/poles to townhouse(less appealing)

*Higher association dues likely to occur as a result of loss of acquired townhouses

•Lose neighborhood feel to the community

•Lose townhouses in association/whole new look to association (less appealing)

•Ukely to be higher crime rate due to more foot traffic/road traffic

•Restricted access to W Broadway (lose ability to turn North from N. Maplebrook Circle)

Limits ease of access to Hwy 610/169

•Addition of county library increases car/foot traffic/noise

•Construction phase...widening of W Broadway (long duration of construction)

Vibration of construction to home

Noise level of construction

Reduced access to road

Constant dirt/dust in house

Windows must be closed due to noise/dirt

•Addition of LRT

See all negative impacts associated with phase 1 construction (widening of road)

Once active: Increased noise (possible station announcements, bell, noise level of train)

Increased vibration to townhouse with each LRT run

Frequency of train ???

IF I WAS A NEW BUYER, WOULD I HAVE EVER CONSIDERED A UNIT WITH THESE CONDITIONS/NEGATIVE VARIABLES?

ABOSLUTELY NOT

From: Amanda.Nerud
To: Bottineau Transitway/Hennepin
Subject: ATTN: Bottineau Transitway Comment
Date: Tuesday, May 27, 2014 5:02:27 PM

Hello Housing, Community Works & Transit Team:

I became a resident of the Maplebrook Estates association a little under a year ago. Having just recently become aware of the intended expansion of West Broadway, with the intent to include the possible addition of the Metro Light Rail at a later time, some more informed parties indicated that the existing Bottineau Transitway Impact Study only lists minimal impact to the Maplebrook Estates community. In the city's most recent estimate, there would be as many as 38 impacted homes. 7 buildings are a 4-corners design with half the homes affected (so the city would have to acquire all 4 corners/homes), and one building is consisting of 6 townhomes. So in the broad view, it may appear that only 8 buildings are impacted, but it becomes a much larger impact when the multi-family aspect of the building is taken into account. It was indicated at the most recent public meeting that your Impact Statement indicated a smaller list of homes to be acquired than what the city is indicating, and therefore this route was more highly preferred than others.

And this is only considering the impacted homes in the Maplebrook Estates community; further south there are additional homes (some twin homes) and other businesses (including a church) that are foreseen to be acquired to make room for the road's expansion to accommodate the 'green space' for the possible future expansion for the LRT.

I would strongly urge your team to reevaluate your study information and ensure your impact study takes into account the appropriate amount of affected homes and families when deciding which route the LRT will ultimately follow.

I appreciate your time and diligence that went into these projects already and want to make sure my opinion is posted on this matter.

Sincerely,
Amanda Nerud
(Maplebrook Estates Resident)
[redacted]
Brooklyn Park, MN 55445

From: Mary Ann Fairbanks
To: Bottineau Transitway/Hennepin
Subject: West Broadway light rail
Date: Saturday, May 24, 2014 8:40:11 PM

I moved to Brooklyn Park in 1970 when it was about nothing but potato and corn fields. I watched the city grow and prosper. We had great restaurants, retail, neighborhoods, etc. I then watched it deteriorate to a point to where people were embarrassed to say they were from Brooklyn Park. It is starting to make a comeback. I moved into the Maplebrook Estates townhomes in 1973. Pretty much like the city, it was a wonderful place to live, great neighborhood. Again, like the city, it went through some not so good times when the housing market took a huge downfall. Some homes are under water. From about 2008, our property values for tax purposes dropped each year – dropping by about 50%. Finally, the 2014 value for taxes payable in 2015 showed a slight increase. Light rail going through a residential area is going to drop the value of our homes again. Many homes will be lost, retired homeowners with mortgages paid off will be forced to move and enter into another mortgage, children will be forced to relocate and change schools. The homes that are not totally lost will be harmed dramatically – from the noise, the vibration, the loss of neighborhood. Even MPR and the Star Tribune have negative comments about light rail. After going through some rough times, Maplebook Estates has remained a great neighborhood. With hard work by homeowners and the association, the area always looks clean and nice. It is a quiet neighborhood. Walk through the area. It is a neighborhood full of proud homeowners where a retired couple or a family can take a walk at night. Now we have people who know nothing about Brooklyn Park, nothing about Maplebrook Estates, and live nowhere close making a decision to run light rail though the residential area and force people out of their homes. The original draft EIS did not have light rail running down West Broadway. Alternatives have been presented that would not interfere with ONE home. Yet, Met Council and Hennepin County do not seem to be at all interested. If your retired parents lived in Maplebrook Estates, would you approve light rail going through their living room? I really don't see any reason that light rail is needed in Brooklyn Park but if it is to come, an alternate route should be chosen where people are not forced out of their homes. Putting a train down the middle of a residential road and disrupting families is just wrong. It's dangerous, it's noisy, it's disruptive. All one has to do is drive down Hiawatha in South Minneapolis to see how the train takes over a road and makes life difficult for those in cars, on bikes or pedestrians. PLEASE choose an alternate route - not West Broadway. Thank you.

Mary Ann Fairbanks
[redacted]
Brooklyn Park, MN 55445

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Name: JEANNE D. WEISKE Organization: RESIDENT

Address: [redacted]

Email: [redacted]

THE SO CALLED "ENVIRONMENTAL IMPACT STATEMENT", TOTALLY IGNORED THE IMPACT OF THE NOISE AND VIBRATION OF THE "LRT" ON THE RESIDENTS ALONG THE PROPOSED CORRIDOR. I, AND MANY OTHERS, ARE EXTREMELY SENSITIVE TO INFRASOUND VIBRATIONS. ESPECIALLY deep BASS, OR, THE RUMBLE OF WHEELS ON TRACKS. THIS IS NOT, IN ANY WAY, AN ENHANCEMENT TO OUR AREA. THAT VIBRATION IS EASILY CARRIED BY THE bed ROCK OR SOFT SOIL. WE ARE NOT STUPID. WE DO NOT WANT TO LIVE IN AN URBAN AREA. THAT'S WHY WE ARE HERE, NOT IN THE CITIES. THIS IS JUST ANOTHER CASE OF POLITICAL OBFUSCATION. A little HONESTY, CLARITY, would go A LOT FARTHER.

Mrs. Jeanne D. Weiske
[redacted]
Brooklyn Park, MN 55445

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Name: Masuma Mulla Organization: Home Business

Address: [redacted]

Email: [redacted]

"Please Save our Homes and our Neighborhood."

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Name: Hassanali A. Mulla Organization: Retired MN 55445

Address: [redacted]

Email: [redacted]

" Please Save our Homes and Neighborhood ", thank you

MAY 23 2014

May 28, 2014

MAY 2 3 2014

Hennepin County Housing, Community Works & Transit
Attn: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, Mn 55415

Re: Comments to the draft EIS for the Bottineau Transitway

These comments are made to address the impact of construction on small businesses located in and near the construction zone. Of particular concern are the business nodes in the Robbinsdale (42nd Avenue) Station area, the Bass Lake Road station area, and the Brooklyn Boulevard station area.

These comments relate to the following sections of the draft EIS:

> Section 4.6.4.2 Construction Phase Impacts: "Businesses may experience short-term disruptions of utility services during construction activities if utilities need to be moved or replaced."
>
> Table 4.6 – 5: Summary of Economic Effects by Alternative: Mentions access changes, temporary loss of parking, nuisance impacts (noise & dust),
>
> Section 4.6.5 Avoidance, Minimization, and/or Mitigation Measures: "Measures to avoid and/or minimize adverse impacts to businesses during project construction including maintenance of traffic, maintenance of access, business signage, and advance communication of construction activities would be provided."

The Minnesota Department of Transportation has identified seven impacts to be examined in determining the impact of construction on businesses: pedestrian access; traffic and vehicle access; temporary loss of parking; utility shut off; noise and vibrations; increase dirt and dust; and visual impacts. (Minnesota Department of Transportation, Report on Mitigation of Transportation Construction Impacts, prepared for the Legislature of the State of Minnesota, prepared by CH2MHILL (February 2009), available at http://www.dot.state.mn.us/businessimpacts/pdfs/business-impacts-report-feb2009.pdf)

Variations in intensity of these impacts – particularly noise, vibrations, dirt, dust and visual impacts -- may occur due to such things as multiple types of machinery; pile driving and pavement breaking; jackhammers and hoe rams; heavy tracked equipment such as bulldozers and backhoes; increased emissions due to construction operations or traffic back-ups; and smells from sewer grates or gas leaks. Temporary fencing, equipment placement and materials storage may obstruct views, leading customers to erroneously assume a business is not open. Debris and rubble may be unsightly, pose access problems or cause injuries to customers and employees. Traffic and pedestrian access may be disrupted or even prohibited during the construction phase. The temporary removal of pedestrian lighting, sidewalks, parking and roadbeds, restrictions on turning patterns, closure of cross streets and unregulated intersections will impact accessibility.

Disruptions – particularly traffic congestion -- will impact not only the businesses next to the areas under construction, but also the businesses that rely on pedestrian and vehicular traffic that comes from the opposite side of the construction zone.

The duration of the construction project, construction sequencing, hours of construction and even trash removal will all have an impact on the operation of a business.

Utilities -- hot and cold running water, fiber optic communications, and sewer, electricity, natural gas, and telephone services -- are the lifeline for any business.

In order to minimize the loss of business revenue expected to be experienced by small businesses, the mitigation measures must address each of the seven impacts identified by MnDOT and these specific impacts. Attention to the details of mitigation measures to address these impacts is critical to the survival of small businesses. It isn't enough to maintain traffic corridors and access points; congestion must be minimized or potential customers will find other businesses to patronize. Business signage must be erected before construction begins and must provide information to both vehicular traffic and pedestrian traffic. What constitutes "advance communication" of construction activities will depend on the type of business. Businesses should be consulted long before construction begins as to the mechanism for communication (e.g. telephone, email, flyers, etc.) and the notice period desired.

In addition, mitigation measures should address not only the intentional or planned interruption of utilities but also the unintentional or unplanned disruption of these services.

The actions of the contractor and subcontractors can minimize impacts to businesses by limiting the magnitude of the construction. Therefore, the construction contract should contain terms such as regulating the days and hours of construction, mandating access requirements, requiring clean-up measures, prohibiting portable toilets within a specified zone around grocery stores and eating establishments, setting communication requirements and other measures to mitigate these impacts.

Thank you.



Diane Marie Dube
[redacted]
Minneapolis, Mn 55419

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Name: Pamela Peters Organization: Harrison Resident

Address: [redacted]

Email: [redacted]

I am in favor of improving transportation for our state, city and most important the Harrison Neighborhood. I have seen mass transit lessen for people that use it in our neighborhood The Wirth Corp defenitely needs to have a stop on Girard & Van White as well as having a spot on the advisory Board I am also concerned about continuing to have affordable housing in my neighborhood

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Name: Dolores Fischer Organization: townhouse owner

Address: [redacted]

Email: [redacted]

Do not like proposed Bottineau transitway project because it would not allow left turns on to Broadway. It would also cause considerable land and building loss. If other option are available persue that alternative.

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Name: Jane Wilson Organization: Resident, and North Hennepin Community College employee

Address: [redacted]

Email: [redacted]

As a 37-year resident of Brooklyn Park and as a Dean at North Hennepin Community College, I am in full support of the Bottineau light rail line. I'm excited by the prospect of using it as my transportation option to the airport, the train depot, events in downtown Minneapolis or St. Paul, ~~or~~ or even to go to Robbinsdale!

Our students will benefit greatly from the transit line; it has the potential to make North Hennepin a premier destination for metro area students, a potential that brings revenue & growth not just to the college, but to the greater Brooklyn Park community.

Thank you

Jane Wilson

Dean of Fine Arts, Communication & Languages

North Hennepin Community College

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Name: TROY KESTER Organization: _____

Address: [redacted]

Email: [redacted]

ROUTING LRT THROUGH THE TREES OF GOLDEN VALLEY, EFFECTIVELY BYPASSING NORTH MINNEAPOLIS, WILL PERPETUATE SYSTEMIC OBSTACLES TO INVESTMENT IN OUR COMMUNITY. INVESTMENT IN HOUSING AND INFRASTRUCTURE WILL FOLLOW THE LRT LINE. THIS FORM OF INSTITUTIONAL RACISM, SHOULD NOT BE PERPETUATED IN 2014.

Bottineau Transitway
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Name: D. J. TOFTUM Organization:

Address: [redacted]

Email: [redacted]

My take on this new Rail-Line is that this Proposed Line is JUST NOT needed. I am in full support of the Light-rail system expanding into the north metro and Brooklyn Park in general. Running along County Rd 81 (Bottineau) makes perfect sense to me. Plenty of room, existing rail tracks, and even a new parking ramp at 63rd Avenue, makes this the ideal spot for it.

This Proposed Line to me would destroy a neighborhood by widening West Broadway, add CONSTRUCTION/CONGESTION Nightmares, And be a general eye-sore And increase Noise ~~Point~~ pollution for the whole area.

Having Lived in Brooklyn Park for over 17 years, I want good, solid public transportation for the entire community. This plan seems to ignore the public interest while serving only Corporate (Target) best-interest. Please do NOT allow this plan to continue.

Thanks alot

D J Toftum

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Name: SUSAN SIMMONS Organization:

Address: [redacted]

Email: [redacted]

NO ONE WANTS TO TAKE THE LONG WAY AROUND TO G/O.

DON'T NEED TO HEAR THE BELLS AND ANNOUNCEMENTS ALL DAY LONG.

SAFTY OF KIDS IN THE AREA.

EMERGENCY CREWS GETTING IN & OUT OF COMPLEX

MAY 1 9 2014

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Name: Lee Schiestl Organization: Home owner

Address: [redacted]

Email:

Location 30 feet FROM TRACK - NO To BOTTINEAU TRANSITWAY because of Noise - Property Values - Flood PLAIN destruction - Neighbor congestion - Would Require Buyout AT REASONABLE TERMS.

MAY 1

Communication #97

Where do I start this conversation?

When will the government at all levels start to do the right thing for the people? When will the government stop wasting tax payer money and time? When will the government be accountable for their actions? When will the government actually work for the people of this country rather than big corporations? When will the government use common sense? When will the government stop lying to the people? When will the government stop taking bribes from rich people? When will the government do what is right for a majority of the people?

Because status quo is to do what everyone else does rather than stepping up and doing the right thing it can be hard to do and scary too. For those of us who have lived here all our lives and had grandparents and great grandparents, and great great grandparents that also lived here we are the least listened too and least benefited from this government. When our government starts to do the right thing(s), make ethical and moral choices America again will be a great place to live. We are settling for behaviors and actions less than stellar of our government.

With this being said please stop the widening of West Broadway as it is a neighborhood that should not be disturbed nor do we need a train disrupting our quiet safe neighborhood with noise, congestion, accidents, crime, vandalism, tax increases, and associations due increases. At the town hall meeting people shared so many reasons including that this train should go down Co Rd 81 where there is already a track, and the city government flip flops it's rules to fit the needs of the government or big corporations. Let's be honest here, if the board members who want this road widening and train going through owned and lived where I do they would be fighting tooth and nail to stop this entire process from being approved. You know this is true, but because they don't live here they don't care who it affects. I would be willing to trade ownership of my home for the ownership of any board member that wants this road and train process to pass and see how they like it.

17 year Maplebrook Townhome resident, Brooklyn Park

Lori Sanoski

[redacted]

MAY 19 2014

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Name: RANDY J. OLSON Organization: MAPLEBROOK ESTATES

Address: [redacted]

Email:

I NEED TO BE ABLE TO VOTE ON THIS ISSUE. I DIDN'T GET TO VOTE ON THE TWINS OR VIKINGS STADIUMS FOR WHICH I WILL NEVER ENTER ETHER ONE. BUT I'M PAYING FOR BOTH OF THEM. I WON'T BE USEING THE LRT LINE AS WELL. FURTHER MORE IT SOUNDS LIKE I JUST MIGHT BE LOOSING MY HOME DO TO THE MISS-PLACEMENT OF THE LINE GOING DOWN THE MIDDLE OF WEST BROADWAY IN BROOKLYN PARK. THIS IS NOT THE PLACE FOR THIS LINE, ITS TOO CONGESTED AS IT IS. I BELEAVE IN THE LRT FOR THE FUTURE, BUT NOT HERE. RUNNER DOWN 81, NO HOMES NEED TO BE TORN DOWN. PLEASE DON'T RAMROD THIS THING THREW US!

Communication #95

MAY 19 2014

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Name: BARBARA LOKKEN Organization:

Address: [redacted]

Email: [redacted]

I AM A very concerned resident of Brooklyn Park over the plan for light rail to go down West Broadway. Why would you ever put it so close to houses and disrupt entire neighborhoods when you could run it down 81 + cut over towards the School + Target? This is not in the best interest of home owners, nor the quality of life for those whose homes will be very close. I'm concerned about Crime, the kids of people that will have easy access to our neighborhoods, the noise impact, property value loss, and the disregard for the opinions + voice of the people.

It appears that this decision is based solely on business interests. Unless the path is reconsidered, I will be putting my home up for sale.

Brooklyn Park already has a terrible reputation for crime. As people put their homes up for sale + home depreciate, it will continue to flood people into the area that can afford low cost housing. For the life of me, I cannot understand why you would sacrifice the rights of an entire community. Let the people vote. Let the people vote, Let the people VOTE!!! Reconsider this plan. Take a step back and reconsider. If this were your home on the line - you would never, ever approve this plan.

From: MADGE THORSEN
To: Bottineau Transitway/Hennepin
Subject: Public Comment on Bottineau Transitway
Date: Tuesday, May 27, 2014 2:27:27 PM
Attachments: BOTTINEAU TRANSITWAY DEIS Public Comment.docx

Attached please find comments on the Bottineau Transitway project. Thank you.

Madge S. Thorsen
[redacted]
Golden Valley, MN 55422
[redacted]

May 27, 2014

PUBLIC COMMENT BOTTINEAU TRANSITWAY DEIS

The DEIS is inadequate. The following discussion of inadequacies concentrates on alignment D-1 as it crosses Golden Valley and parts of Robbinsdale. This commentator is opposed to D-1.

I. GENERL COMMENTS

A. Sochacki and Mary Hills Nature Preserve will be irreversibly damaged.

The DEIS inappropriately downplays the damage to Sochacki and Mary Hills (and other) parks and says they are not being converted to transportation use. The DEIS is in error with respect to its conclusions about impact and FTA Section 4(f).

B. The community character of D-1 will be severely impacted.

Alignment D-1 contains acres of land with mature forests, ponds, wetlands, wildlife and a quietude that merits classification as rural. High speed transit running every seven to ten minutes 24 hours a day in such a setting is a fundamental and extremely negative change to the land and to community character. The DEIS inadequately explains any reason for concluding otherwise.

C. Cost assessment of D-1 appears understated which means comparisons among alternatives cannot be accurately made.

The real cost for D-1 appears understated because the Report makes no reference to or analysis of "constructive takings" of properties through noise and other intense transit disturbances. All of the homes adjacent to parks along D-1 are especially vulnerable and likely to experience diminution in value because of the LRT; yet such takings and damages are apparently not accounted for. It also appears that no economic analysis of the impact of loss of parkland on property values and therefore on city tax bases was done.

D. The DEIS inadequately addresses numerous additional open questions.

E. Notification about the DEIS and the comment period have been insufficient.

II. THE DEIS INADEQUATELY ADDRESSES THE IMPACT OF THE PROJECT ON PARKS

A. Parks along Alignment D-1 are Passive and Natural Settings

1. The most telling single word in the DEIS about alignment D-1 is a <u>punctuation mark</u>. When the Report refers to the character of Sochacki, Mary Hills, South Halifax, Rice Lake (and even Wirth) parks, it puts quotation marks around the word "natural." Like this: the "natural"

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Golden Valley, MN 55422 [redacted]

character of the parks (Chapter 4). Is it suggesting that the parks are "fake" or "unnatural?" Or unworthy of serious consideration? This disrespect for community attitudes and concerns about these important neighborhood resources reflects a biased rather than objective assessment.

2. The same bias shows at page 1 where the DEIS recites that the character of the Bottineau Transitway project area "transitions from a moderately dense urban setting in north Minneapolis to a less dense suburban setting starting in Robbinsdale, Golden Valley, and Crystal, and extending through Brooklyn Park and Maple Grove at the north end of the corridor."

It should state that "in the area from Golden Valley Road to 36th Avenue, the setting is light residential density enhanced by natural parks and rural ambient sound levels."

3. Altering the land from natural forests and wetlands to a very active rail and freight corridor has serious community and economic consequences unrecognized in the DEIS.

B. The DEIS Inadequately Addresses Impacts on Mary Hills Nature Preserve and Sochacki Park

1. Classification of the Parks

The DEIS apparently does not treat Sochacki Park or Mary Hills Nature Preserve as noise sensitive. They are not specifically listed as category 1 receptors nor identified as passive use. See Technical Report, Noise and Vibration, Appendix. The report recites FTA guidelines which state that parks in general are not noise sensitive, Chapter 8. However, the report omits the rest of the guideline which instructs:

> *"some parks---even some in dense urban areas-–are used for passive recreation like reading, conversation, meditation, etc. These places are valued as havens from the noise and pace of everyday city life and they should be treated as noise sensitive. The noise sensitivity of parks should be determined on a case-by-case basis after carefully considering how each facility is used.*" FTA Transit Noise and Vibration Impact Assessment FTA-VA-90-1003-06 May 2006 (emphasis added)

The DEIS neither mentions this language, conducts a "case by case" study, delves into the actual character of the parks, nor explains why this guideline was not followed.

2. Incompatibility with City Comprehensive Plans

The DEIS does not offer any explanation for how and whether the proposed Project is consistent with city comprehensive plans regarding the parks. DEIS Chapter 4 talks about comprehensive plans in general, but does not address the chapters of those plans that specifically cover parks.

a. The City of Robbinsdale's Comprehensive Plan Update 2030, Chapter 6 designates Sochacki as a "conservancy community park" intended for passive uses such as nature identification.

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[redacted]

b. Mary Hills Nature Preserve is identified in the City of Golden Valley's Comprehensive Plan Chapter 6 as "Nature and Open Space" and described as a nature area intended for visual aesthetics/buffering and preservation of natural resources, walking and "other passive uses."

The DEIS does not appear to treat Sochacki as a passive use or conservancy property and does not treat Mary Hills Nature Preserve as "nature and open space" intended for passive use. Nor does it explain how high decibel transit every 7-10 minutes day and night promotes or is consistent with each cities' plans and uses for these properties as serene natural havens.

3. Activities, Features and Attributes of the Parks are Unstudied

The DEIS does not accurately catalogue the activities, features or attributes of the parks which omission in turn affects every other conclusory statement throughout the report about the purported lack of impact of the Project on the parks, see Chapters 4, 5, 6, 8 and 10. Yet, information about park activities, features and attributes on a case by case basis is readily available:

a. Current. If residents and park visitors, who come from all around the two host communities, were asked how they use the parks, the answers would be: hiking, dog-walking, cross-country skiing, snow-shoeing, biking, running, photography, bird and wildlife observation, quiet contemplation, solitude - these uses are the heart of the parks' existence. Users are so adamant about the importance of these park features that in May 2009, for example, community testimony defeated a proposition to allow as mild an activity as disc golf in Sochacki Park. A typical comment at the public hearing back then explains the park's use: "[the user] has found Sochacki Park to be a jewel and a place to escape and to commune with nature. It is secluded and beautiful and he finds spirituality and peace of mind at the park. He sees dogs, kids, and older people out walking getting exercise. The park gives the City of Robbinsdale a sense of wonderment and elation." City Council Meeting Minutes, City of Robbinsdale, May 12 2009. See also, Reusse, "Robbinsdale Gem Sacrificed for Disc Golf and Chump Change," Star Tribune, May 10, 2009, http://www.startribune.com/featuredColumns/44646172.html. The park has always been used in that passive way. For uses of Mary Hills as a quiet getaway in a wetland woodland, see e.g., http://goldenvalley.patch.com/listings/mary-hills-nature-area; City of Golden Valley Comprehensive Plan, Chapter 6.

b. History. These uses go way back. In 1989, 300 volunteers planted 5,000 trees in an event called "I Helped Plant Sochacki Park." The 37 acre park was then described as "the largest in Robbinsdale, dedicated to being a place to watch wildlife in the marshes and walk among nature prairie grasses and wildflowers." Shading our Cities; a Resource Guide for Urban and Community Forests at p. 213. The forestry manager of the city at the time said the event was to help kids gain "roots" and be able to return to "check on their trees." The draft does not identify the impact of the Project on this legacy (or on "their trees").

c. Plans. Plans for passive programming of the parks continue. For example, in 2013 an event in Sochacki let kids observe a bird of prey, meet farm chickens, and take pictures with digital cameras. http://www.threeriversparks.org/events/Groups/sampler-robbinsdale.aspx

(2013). Arbor Day was celebrated by tree planting in 2014. The two contiguous parks hosted the Birdtown Half Marathon in May, 2014. Three Rivers Park District is assisting Robbinsdale in supplying educational programming and enhancement of natural resources in Sochacki. These are tranquil uses that recognize what the city council of Robbinsdale acknowledges is a "unique" city resource. City Council Meeting Minutes, November 26, 2013.

4. No Park Noise or Vibration Measurements Were Conducted

a. The DEIS does not appear to report any baseline measurements of noise *within* the parks; the closest approximation that a lay reader can discern is from two homes that were monitored, Receptors L-10 and L-11, Noise and Vibration Technical Report at p.14. Their noise levels in 24 hours of monitoring ranged from 45 to 51 decibels, or "rural ambient noise" levels. Within the parks it is likely even quieter. Although common sense seems conclusive that converting rural ambient noise levels into 82 decibels of linear LRT noise every 7-10 minutes is a "severe impact" if there is any doubt, at a minimum, base noise levels must be measured within the parks and impacts specifically assessed (including in winter months when any dampening effects of foliage would be gone).

b. In addition, the DEIS used only FTA screening guidelines, apparently. It should have taken into account that portion of the federal guidelines which states that its noise screening procedures are not necessarily determinative: "It should be noted that these [noise] criteria are based on general community reactions to noise at varying levels which have been documented in scientific literature and *do not account for specific community attitudinal factors which may exist*. FTA Transit Noise and Vibration Impact Assessment FTA-VA-90-1003-06 May 2006 at 3-7 (emphasis added). The DEIS did not explore and does not report on specific community attitudinal factors related to these parks and to their conversion to predominate transitway use.

c. The DEIS does not carefully address or analyze vibration within the parks. Trails are within and closer than 50 feet from the proposed tracks in many locations and common sense says they would be negatively impacted by vibration.

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May 27, 2014

5. Treatment of Visual Effects in and alongside the Parks is Inadequate

The DEIS concludes, without supplying adequate facts or reasoning, that visual impacts within the Parks are "moderate." That is inadequate because:

a. The photographs of Sochacki in the DEIS reflect an effort to create an "industrial feel" by including shots of the current power lines in each and every picture. But the DEIS itself says visuals are to be assessed from the point of view of people on the ground. Here's an alternative look at the parks from a neighborhood photographer:



Barred owl, Mary Hills

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Morel Mushroom, Mary Hills Nature Preserve


Baby snapping turtles, Mary Hills Nature Preserve

(published in The Cities, NPR News, Article by Laura Yuen, December 19, 2012)

See also photos of Mary Hills and Sochacki at http://www.goldenvalleymn.gov/parks/maryhills/index.php and https://foursquare.com/v/walter-j-sochacki-park/.../photos

b. No specific description of the trees to be removed, or their number, or vegetation to be stripped is given, nor is any assessment of whether replacements or replanting would even be possible. Mature trees cannot be replaced; defoliation cannot always be overcome.

c. No description or sketch or analysis is given of the planned appearance of anything within the parks including the dramatic change based on planned raised berms, tracks, roads and

catenaries as well as artificial retaining walls, all of which would traverse Grimes Pond and the wetlands. This visual impact (and wetland destruction) does not appear to have any realistic mitigation possibilities.

d. The DEIS seems to emphasize that the parks already have one track and power lines, presumably in support of the idea that LRT would have only a "moderate" impact. But the Report does not specifically address the impact of one track being replaced by three new tracks plus a service road; that the current power lines and towers are well-screened but will be moved for the LRT and presumably become unscreened; that additional support poles, catenaries, TPSS buildings, and the trains themselves create a permanent visual intrusion in the narrow confines of Sochacki and Mary Hills. Instead, the Report concludes blandly and without factual support that impacts on the perceived "natural" (sic) characters of the parks would only be moderate. Chapter 4. The conclusion is unsubstantiated.

e. In the end, the DEIS does not answer the question: How can replacing bucolic views with a constant vision of passing trains day and night and secondary utilitarian structures be anything other than a "high" visual impact?

6. Impossibility of Effective Mitigation (Tunnels?)

a. Although the report mentions "mitigation" over and over again, no explanation is given as to how light rail noise or visual impact or destruction of wetlands could be mitigated *within* the parks (visitors and wildlife want wetlands preserved not moved or traded in a bank).

b. Sound walls are proposed on the east side of the parks near heavily impacted homes. They are not proposed for the west. Even if sound walls mitigated noise for a few properties, they sacrifice views on both sides of the parks and do nothing for park users on the trails and meandering paths right next to noisy unscreened trains. Nothing is proposed that could feasibly or physically enclose the tracks from 36th Avenue to Golden Valley Road and beyond into Wirth Park in order to mitigate visual impact and sound.

c. It seems the only realistic option is to reject D-1 and place trains in an urban environment instead or put them underground. Where is the analysis of the alternative of tunnels, in D-1 or D-2? (common sense suggests they wouldn't work in a wetland park but a subway in North Minneapolis might well be a terrific resource that would lessen undesirable impacts of the LRT and enhance density and development).

7. Inaccurate Analysis of Wildlife and Self-Contradiction in DEIS

The DEIS does not adequately address impacts to wildlife in and along the parks. (Chapter 5)

a. First, the wildlife inhabiting the parks is not accurately inventoried or catalogued (e.g., opossum).

b. Wildlife movement, behavior, corridors and habitat are not thoroughly analyzed. Most of the wildlife is dismissed as urban and adaptable, not rare enough to worry about. But people

experience the parks (and their yards) through interaction with wildlife. If animals are driven from the two parks and parts of Wirth to other locations, that attribute and use disappears.

c. The report is *self-contradictory.* On the one hand, it states that "deer will be able to cross where they do today" and on the other hand, it says that the track will be fenced where humans cross. Since humans cross at every point along the railroad ROW, the report apparently means to suggest the entire line between 36th Avenue and Golden Valley road will be fenced; deer and other animals would have no access to their typical crossings, feeding or resting grounds if that is the case. Which is it?

8. Restrictions on Human Access

If the entire track is fenced, humans could not cross either, as they do regularly today. It is no answer to say humans are crossing illegally. First, they have done that since the invention of tracks, here and everywhere in the world (it was shocking that the Scoping Document reported officials were "first learning" of trespass on the tracks! Really?!). Second, closing crossings to humans is infeasible because in these communities, accustomed as people are to free travel between parts of town, people are going to figure out a way to cross even if fences are erected to keep deer out. Safety and connectivity demands that if the alignment were to be built, alternative human crossings (like tunnels?) between east and west would be required.

9. Hazardous Materials

The DEIS fails to analyze thoroughly hazardous waste dangers that could arise from disturbing the parks. Although waste sites are mentioned, they are not detailed and more importantly the question of concrete is inadequately addressed. (Chapter 5).

a. These two parks were once a site of construction debris, including WPA-era concrete from Highway 100. Nature has reclaimed the areas and transformed them into beautiful park land, but conducting construction activities with heavy equipment and running heavy trains on a new corridor relocated to the west and rebuilt on the east may disturb the soil and uncover asbestos-containing concrete, both during construction and every day thereafter.

b. Oral history indicates that decades ago, a locomotive derailed along the tracks and sank into the bog near and around Grimes Pond (Source: members, Robbinsdale Historical Society). Reportedly, it has never been recovered. Whether the history is true or urban legend is unknown, but the DEIS should address it in the event there may be any environmental impact (hazardous conditions or instability).

C. Other Parks: South Halifax, Rice Lake, Triangle, Lee, Wirth

1. Impacts on other parks are inadequately addressed (Chapter 4)

a. Similar inadequacies plague the purported treatment of other D-1 parks. Lee and Triangle are said to be basically unimpacted because they have metal fences between the children and the extremely close tracks. (Triangle park users will "experience the effects of increased noise" (Chapter 4), but apparently, it doesn't matter since nothing else is said about it.)

Presumably, the DEIS means to suggest that a wire fence is sufficient to mitigate all issues of noise, visual impact and safety, but the conclusion is unsubstantiated.

b. No analysis of impacts based on the new uses at Lee has been done.

c. South Halifax is said to have some impacted views, but as to noise, safety and other aesthetics, the DEIS is essentially silent.

d. Wirth Park is such a huge topic, others will have to address it thoroughly; suffice to say it too has unique features involving quiet and solitude in the areas the tracks will run and where the stations might be built. The DEIS does not adequately analyze impact and disturbance to this rare natural resource.

Even in New York, they don't run trains through Central Park.

III. THE DEIS SECTION 4(F) ANALYSIS IS LEGALLY INADEQUATE

The Section 4(f) analysis is legally inadequate and does not afford a sufficient basis for decision.

A. Temporary occupancy

1. The DEIS offers a confusing discussion that purports to find a temporary occupancy of Mary Hills and Sochacki during construction, but implies that the temporary occupancy is not a "use" under law because all five required conditions that make temporary occupancy not a use would be met. But in its conclusion, the DEIS recites the five conditions inaccurately.

2. In its list of the five conditions, the DEIS recites that there would be no "permanent adverse physical impact" on the parks. Chapter 8, p. 8-42.

But this is a truncated statement; the regulations actually describe this condition as: "*no interference with the protected activities, features, or attributes of the property on a temporary or permanent basis.*" (emphasis added). That is not the same as "adverse physical impact" alone.

3. So did the DEIS silently analyze "interference with activities, features and attributes" and conclude there was none, even on a temporary basis, and so the temporary occupancy is not a use? Or does it conclude that there is at least temporary interference with the activities, features and attributes of the property and so the temporary occupancy is a use? The DEIS is less than clear in this regard.

B. Constructive Use

1. Whatever it meant to say about temporary occupancy, the DEIS omits constructive use assessment of these two parks altogether. Constructive use occurs when the "project's proximity results in impacts so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only if the protected activities, features, or attributes of the resource are substantially diminished." As courts have said, a project which respects a park's territorial integrity may still,

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by means of noise, air pollution and general unsightliness, "dissipate its aesthetic value, crush its wildlife, defoliate its vegetation and "take it" in every practical sense." DC Federation of Civil Association v. Volpe, 459 F. 2d 1231, cert. denied. March 27 1972.

2. The DEIS does not report on any study of the parks' activities, features or attributes or the whether the impacts of noisome transit disturbances amount to constructive use. It does not discuss the fact that noise which interferes with quiet uses is by definition a constructive use. 23 CFR 774.15 (e)(iv). No objective empirical evidence is presented that could support conclusions or decisions about 4(f) constructive use. This in turn means that the rest of the 4(f) analyses, such as fairly evaluating feasible and prudent alternatives, cannot reasonably be done.

3. The Supreme Court's famous articulation of the reason Section 4(f) exists should be taken to heart here:

> the very existence of the statute indicates that protection of parkland was to be given paramount importance. The few green havens that are public parks were not to be lost unless there were truly unusual factors present in a particular case or the cost or community disruption resulting from alternative routes reached extraordinary magnitudes. If the statutes are to have any meaning, the Secretary cannot approve the destruction of parkland unless he finds that alternative routes present unique problems. Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 412-413 (1971)

Even after many years of intervening case law and statutory changes, the FTA still recognizes the core point of a Section 4(f) evaluation: the thumb is supposed to be weighted on the scale on the side of the environment.

Here, the environmental impact on these parks is barely acknowledged; empty (and incorrect) recitation of legal language is substituted for genuine and legally required investigation.

IV. THE DEIS INADEQUATELY ADDRESSES COMMUNITY IMPACTS

The parks do come in for a little bit more discussion in connection with community impacts, Chapter 4.

A. Time for a Detailed Discussion of the Parks, right?

Ah, perhaps here is where we will find parks' history; how they are actually used; why they are so treasured by individuals and the public; to what degree quiet, solitude, listening to bird song, taking pictures and strolling or biking along forest trails are THE essential elements of both Sochacki and Mary Hills parks and others. Here is where we will find out empirically how a constant wall of trains (traveling day and night with lights and bells and whistles and wheel squeal), construction of TPSS stations, relocation of towers, noise, vibration, pollution, deprivation of easements of light and air and view and all the rest are perfectly compatible with these unique, natural and open space preserves. Here is where the report will have to become more transparent.

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May 27, 2014

Here is what the DEIS reports:

> The natural setting of Sochacki Park may be "somewhat diminished" due to the proximity of the trail to Alignment D1. Chapter 4, p. 4-26
>
> The "recreational experiences of [Mary Hills Nature Preserve] may be lessened due to the effects of increased transitway operations and change in setting." Chapter 4, p. 4-27.
>
> Kids in Triangle park will experience the effects of noise. Chapter 4
>
> The parks including South Halifax will experience "moderate" visual impact.
>
> Things will be bad during construction (paraphrased) but no huge problem when those years have passed.

That's about it. That is the only so-called "analysis."

B. The Changes in Community Character are Severe.

1. The DEIS acknowledges a change in setting and a diminution of both parks (as well as others) and then skips along to conclude that whatever happens, it would not "change the community character."

a. A change in setting would seem by definition to be a change in community character. Municipal owned parks are non-renewable resources that once lost cannot be restored. For that reason alone, major changes to parks are major changes to communities and should rarely occur.

b. In looking at community character, shouldn't there be some empiricism? Studies? Oral histories about what these parks mean? Community interviews? Deep analysis of how humans (from miles away and from many communities) interact with park features like the morel mushrooms and the snapping turtles and the deer? Where are community attitudinal factors taken into account? Where are photos, renderings, explanations of how it is even remotely possible for these parks to retain their natural character with trains slicing through them and traveling constantly round the clock, in some areas just feet from a trail? At the south end of Sochacki, the new alignments, tracks, road and TPSS may make the corridor so narrow that hikers and bikers and dog-walkers would literally be within arms length of the trains. And where is the study of impacts on neighboring homes that sit now along parkland and would sit then on a busy rail corridor and/or behind ugly sound walls?

c. A change in community character could hardly seem more obvious than in and adjacent to these parks. Sochacki in particular is a rare resource for Robbinsdale. It represents one-third of all of the cities' park acreage. Residents and visitors view it as an enchantment and place of wonder, see above. Mary Hills is likewise unusual and treasured. Introducing LRT levels of noise, vibration and all the rest seems so clearly likely to destroy these resources. Consider:

i. Trains will split the parks in half; transit operations will reduce walkability; noise and vibration will destroy the sounds of silence, of bird song and of the forest. Kids'

programming uniquely tied to quiet uses like meeting chickens or planting trees, will be lost. The chance to spot and photograph wildlife will disappear.

ii. These parks, and others, are an essential link by foot, by ski, by bike, among Robbinsdale, Golden Valley and Wirth Park; getting from one to another will be impeded and connectedness among these three communities impaired. The DEIS inadequately addresses these points.

d. The DEIS does not adequately answer the question: how is permanent change in noise, vibration, visual aesthetics, wildlife, and uses of parks, in effect their destruction as natural preserves, not a severe impact on community character?

V. CHAPTER 10 OF THE DEIS DOES NOT ACCURATELY REFLECT COSTS

A. ROW acquisition costs have been withheld from the public.

Knowing how much the "preferred route" and all alternatives will cost rests on accurately reporting what the government will have to spend on acquiring land for the Project. Yet, reports on those costs have not been made public.

Chapter 10 of the Draft says:

> Right of way costs identified in SCC 60 were developed by reviewing tax-assessed values for each of the impacted properties throughout the corridor. Tax assessed values were increased to develop appropriate acquisition costs to account for relocation and potential damages costs for partial takes, full takes, and temporary easements. An appraisal was completed in 2012 to determine costs associated with constructing and operating within the BNSF right of way. These costs have been included in the updated capital cost estimate. The appraised value was based on across the fence (ATF) value multiplied by a corridor enhancement factor, which is defined as the premium above and beyond the ATF value, to determine the right of way cost that was included in the capital cost estimate." (Chapter 10).

Upon inquiry, this commentator was told that copies of or further information about these reports, calculations and methodologies, are not available to the public. Thus:

1) the review of tax-assessed values and the identification of "each of the impacted properties" are unavailable to the public;

2) the "appraisal" said to have been conducted in 2012 is unavailable to the public;

3) whatever these figures may be, they must be at least two years out of date;

4) the analyses apparently do not include constructive takings.

The data should immediately be made publicly available.

B. Omitting estimations/projections of constructive takings, particularly in D-1 along the parks, distorts cost comparisons.

1. Under the Minnesota Constitution and case law since Alevizos v. Metropolitan Airports Commission, private property cannot be constructively taken for public use without payment of just compensation. While not every inconvenience, annoyance or loss of peace and quiet caused by noise and other serious nuisance gives rise to inverse condemnation claims, where a property is deprived of its practical enjoyment and a definite and measurable loss in market value occurs which the property-owning public in general does not suffer, compensation must be paid.

2. Along D-1, park property is being converted into a highly traveled rail corridor . Residences in turn will experience a change from rural silence, views, seclusion, serenity and clear air to the blight of LRT noise, vibration, visual effects and pollution (light, noise, air). The impact on this small segment is more profound (Bassett Creek Drive, Bonnie Lane, Dresden Lane, June, Kyle, Halifax, Kewanee Way, Xerxes and others) than anywhere else in the Project. Hundreds of parcels along the parks would be disproportionately damaged for the benefit of other citizens elsewhere. These owners are the most likely to bring and win inverse condemnation lawsuits if compensation is not paid for the diminution of their property values. The true cost of this alignment must therefore take into account these expenses, which could amount to millions in damages and legal fees. Failure to account for constructive takings understates the ROW and other build costs of D-1 in particular.

3. The DEIS therefore artificially promotes D-1 over other potentially cheaper choices. Alignment D-1 may in fact prove more expensive than any other alternatives if all the data were analyzed. Analysis before and not after the "30%" engineering step should be done.

C. The DEIS relies on generalized studies of LRT effects on community property values but does not come to grips with individual diminution of property value.

The DEIS strives to show that LRTs favorably impact property values. It cites to selective studies that purport to show that property values go up or hold steady as a result of LRT projects. This is inadequate in that:

1. Most studies find LRT impacts are mixed and that nuisance factors do reduce property values for residences in very close proximity to LRT tracks, even in urban areas (whereas property values along D-1 in Robbinsdale and Golden Valley are even harder hit because essentially rural). See e.g., http://www.tandfonline.com/doi/full/10.1080/03081060.2012.739311#tabModule. This disproportionate impact is exactly what the Constitution prohibits: some properties cannot be forced to bear unique burdens in order to enhance the value of other properties or communities.

2. Both sound walls and power lines can negatively impact property values. The DEIS proposes new sound walls and relocates power lines in and along the parks, but apparently does not account for the monetary damage of any of this on the parks or parkway private property. See e.g., http://homeguides.sfgate.com/much-power-lines-lower-real-estate-value-2979.html; http://998top.com/fba/irer/papers/past/vol10n2_pdf/06Julien_and_Lanoie%20_113-130.pdf.

3. No noise measurements were made at numerous clusters of houses along the parks and tracks, presumably (it is not clear) because they were more than 350 feet away. But noise and other impacts can travel much further; some receptors along other alignments were located as much as 700 feet away. Chapter 8, Noise and Vibration Technical Report. No moderate or severe impacts were identified on the west side of the tracks in D-1, even though these homes are currently at rural ambient noise levels and the tracks are being moved closer to them. Impact upon relevant residences and property values has therefore not been adequately measured or taken into account.

4. The report concludes that D-2 should be rejected as an alternative to D-1 primarily because D-2 would experience more takes and partial takes of property. But it does no projections or estimates of constructive takes of high value parkway property and other residences adjacent to the proposed expanded tracks and so understates the effects and costs of D-1. Without that thorough analysis, alignment D-2 and other alternatives cannot be accurately compared to D-1 and a "preference" can only be based on speculation. D-1 may in fact be the most expensive and least prudent and feasible of all alternative choices, but the DEIS does not enable the public or decision-makers to accurately conduct that analysis.

D. No economic impact analysis of park loss has been done.

1. Even if LRT impacts do not amount to constructive takings, the economic impacts resulting from the LRT's use of and damage to the parks must be considered.

2. Research confirms that park amenities, especially passive use amenities, increase property values, often throughout the whole community. See e.g., Crompton, The Impact of Parks and Open Space on Property Values, http://www.cprs.org/membersonly/winter07_propertyvalues.htm. Loss of such park amenities correspondingly decrease property values, especially proximate properties.

3. In urban locations, LRT may not have significant negative economic impacts and may in fact improve the economics for places like North Minneapolis. But ruining Sochacki and Mary Hills may decrease property values substantially in those cities substantially, especially of homes in close proximity but also for property blocks away. This damage may not amount to constitutional takings, but may sufficiently reduce home values such that the tax bases of both Robbinsdale and Golden Valley would suffer to the tunes of millions in assessed valuations.

3. Think of it this way. Let's say that Golden Valley's City Council was presented with a proposition that said: "we planners have a great idea that would reduce the value of 100-150

Golden Valley homes, with a median value of $200,000, by 20% each. In return, Golden Valley receives minor benefits, if any. Want to sign up?" Would decision-makers say "sure?" That is why the impact of the loss of park amenities has to be taken into account in any analysis of the financial costs of D-1.

4. Economic impact analysis of park loss must be done to make fair financial assessments possible.

VI. MISCELLANEOUS QUESTIONS

A. Ridership and Alternatives

1. Anticipated ridership appears to be overstated and overly optimistic based on the data presented. Didn't the Hiawatha line lose riders in 2013; why are Bottineau projections so robust?

2. RBT is cheaper, less impactful, and more consistent with realistic ridership expectations, isn't it?

3. What does the City of Golden Valley get for its citizens in return for giving up its parks?

4. Where is the cost-benefit analysis that incorporates the fact that an average mile of light-rail line costs two to five times as much as one mile of an urban freeway lane? In Portland, the light rail carries one percent of the city's travelers but cost 2.3 billion. How does that make sense, as opposed to a more comprehensive approach to travel in general: electric buses, go cars, better highways and street repair, integrating other green transportation like segways, pedal cabs, bikes, whatever. More jobs, more development, less pain.

B. Why is North Minneapolis shortchanged once again?

1. North Minneapolis is in deep need of urban transit and of the hoped-for accompanying development opportunities. Yet it is excluded as a preferred alternative.

2. North Minneapolis is already a busy urban corridor that would be far more appropriate for light rail or for RBT or a more modern and green comprehensive treatment of mass transit. Residents actually need it; Golden Valley does not.

3. Ways to avoid the concerns expressed about D-2 in North Minneapolis have been inadequately explored (what about tunnels and subways? what about moving homes rather than removing them; what about revisiting a path other than Penn Avenue?)

C. What role does BNSF Play?

1. BNSF seems to gain a great deal of private benefit from the expenditure of public finds on all these studies of its privately-owned land. How much is BNSF paying toward the costs of the DEIS, EIS and related procedures? How much will it pay for construction? 2. How much

is BNSF to be paid for the prospective use of its ROW all along the "preferred alternative" versus other alternatives studied?

3. Is there anything about this project that enables BNSF to significantly change its freight traffic along the "preferred alignment" especially D-1? In other words, does the co-location, new proposed tracks or type of tracks, building of an access road, shift in the location of the current tracks, total and partial and constructive takings of private land, permitting and zoning processes - does any of that enable BNSF to increase its own use over what it could have otherwise done independently without the LRT? For example, is it going to be easier to transport hazardous products like frac sand or frac sand oils because of public cooperation?

4. What are its plans for its future freight traffic along D-1 in particular?

5. Who are BNSF's lobbyists for this project and is there any record of their activities?

6. Planners at open houses repeatedly justified the choice of D-1 and the impact on the parks by saying that BNSF could use its right of way however it wanted, anyway, so the cities might as well have some degree of control. First, does BNSF really have carte blanche and second, what did BNSF indicate it planned to do if planners did not choose alignment D-1 in particular? Why is everybody so eager to recite unknown future activity of BNSF to justify D-1? Help the public understand what pressures, if any, were brought to bear.

D. Gateway Project

The Gateway Project is now ahead of Bottineau in terms of preference for federal funding. What impact does that have on projected time frames? Does that mean we have more time to start all over again and get this right, choosing other more sensible alternatives than an already obsolete technology along an alignment that destroys public parks and benefits so few?

D. Historic and Other Property

1. What empirical support is there for the idea that the art gallery and historical museum in the Robbinsdale Library Building would not be disturbed by three tracks, 50 feet closer at an open intersection with bells and whistles and wheel squeal?

2. Where is the discussion of impacts on the Golden Valley fire station?

3. A station at Saint Mary Margaret's would interfere with learning, play and safety of the children at this school. The DEIS inadequately addresses these problems.

4. Minneapolis reports that it wants to see intensive commercialization and development along the LRT route. Is that appropriate for Wirth Park, Mary Hills and Sochacki and the adjoining quiet residential neighborhoods? No, it isn't. That's why the tracks should be located in cities, not in parks.

Madge S. Thorsen
[redacted]
Golden Valley, MN 55422
[redacted]

May 27, 2014

Communication #117

E. Answer now

Throughout this process, the public has been told that answers will come later - during initial phases, the Scoping Process would be the answer; after the Scoping Process, we were assured that the DEIS would be the answer; now, we will probably be told that answers will come at the 30 percent engineering phase or in the final EIS. Why not answer questions quicker, faster and cheaper rather than continually postponing responses to legitimate inquiry?

F. Efforts to inform the public have been insufficient and the comment period too short.

The DEIS is 834 pages long, full of technical jargon. The comment period is too short to enable the public to fully assimilate, study, organize and comment on the complex issues covered (or not covered) in the report. This is especially true when supporting information for the DEIS was withheld, see above.

Efforts to inform the public of the release of the report were inadequate. Low tech methods of notification like leafleting and posters in public places, as well as higher tech mechanisms like television, radio and social media, were all underutilized. The process has been handled almost exclusively with website notifications, which do not reach everyone. Local residents have expressed surprise that the process was even happening right now. A few evening and afternoon public meetings was not enough.

The comment period should be extended or reopened and better notice given.

G. Proviso and Thanks

The DEIS is highly technical and difficult for any non-engineer, non-acoustic expert, non- biologist, etc. to understand, so if any of these comments are flat-out in error, it is unintentional. We can only do our best!

Many people no doubt worked in good faith on the DEIS, so to them, thanks.

May 17, 2014
DEIS Comments:

When the Pre-Planning Committee issued its July 2012 report there was no mention of a Plymouth Avenue Station.

My concern is how did the Plymouth Avenue Station go from not even being considered to LPA status in such a short span of time. It appears that there was not the amount of advance planning notices with opportunities for input, comments from the most directly impacted communities on the "proposed" new route as was available during the original planning pre-July 2012.

Originally, the D2 Route (there was no Plymouth Avenue D1) was scheduled to go down Penn Avenue North -- the route which most directly services the target community in several of the LRT project's objectives. Now it has been totally ruled out of consideration. When asked why, the answer given is because it would have required the removal of too many homes.

However, at the Crystal Community Center DEIS meeting on Thursday, May 14, 2014, one of the commentors stated that according to the current plans about 80 homes -- in just one area around the 93rd Avenue North area (and many around 63rd? Avenue) would have to be removed to accommodate the current configuration of the Bottineau (Blue Line) LRT. Why is that acceptable there but not on the more appropriate Penn Avenue configuration?

I am also concerned that the DEIS investigators did not do a thorough investigation of the Plymouth Avenue-Theodore Wirth area -- including some of the Golden Valley areas especially since this corridor was a more recently considered route than those detailed in the July 2012 Pre-Planning Report.

After having attended numerous meetings and reviewing several documents -- although insufficient time was NOT ALLOWED to review the DEIS Report -- it appears that the decision was already made to build this stretch of the Bottineau (Blue Line) LRT corridor as "proposed" regardless of community input and concerns. It appears that many of these meetings and "exercises" were/are just held to satisfy requirements of "community input" without due consideration to concerns raised.

Marietta Smith, [redacted]

TO: Bottineau Transitway Committee **DATE:** May 27, 2014
FROM: Norm Sannes, Golden Valley resident
Re:

Bottineau Follies (a.k.a. Northwest Passage, Five Centuries Later)

After listening to proponents make a case for this project it is clear this idea is half baked . . . an expensive solution struggling to find a problem it might solve.

This is nothing more than an opportunity for government to spend a billion dollars or more of other people's money on itself while plunging clumsy footprints thru "environmentally sensitive" areas of Theodore Wirth Park, Mary Hills Nature Area and Sochaki Park. In the EIS material this portion of the route is euphemistically described merely as "existing railway corridor". An "in person" walk along this "railway corridor" reveals that it is literally PACKED with stuff environmentalists routinely go to the mat to protect: large ponds, bogs, swamps and other wetland . . . a literal wildlife refuge in the middle of town. I can't imagine ANY other project, public or private, that would be granted the permits required to build access ways and infrastructure in these areas.

It is obvious this route was chosen over more typical routes for public transportation—routes through neighborhoods where there are PEOPLE LIVING—because IT IS MORE EXPEDIENT to build where THERE ARE NO PEOPLE LIVING NEARBY. When you plow thru existing neighborhoods, people push back. When you slash through the parks, ponds and marshes, there's no one living there you have to bother with. The deer, rabbits, turtles and owls don't VOTE and they don't PAY TAXES—the only two things that matter to our governmental "betters". But deer, rabbits and birds don't ride trains, either. If anyone is going to ride in these shiny streetcars (cutting edge technology if we were living in the 1870's) you ought to route them thru neighborhoods where there are some people who might want to ride in them. It's hard to see where more than a handful of people are going to get on or off these trains along the proposed route all the way from Highway 55 and Penn Avenue in Minneapolis to 63rd Avenue North in Brooklyn Park. And projected ridership north of that is what used to be called "blue sky". But none of this matters because the project MUST BE BUILT! That is ALL that matters. Dozens of government jobs and political "careers" depend on the money tied to the project moving forward. By the time everyone sees that nobody rides the trains and taxpayers are left saddled with the costs of keeping them running attention will be focused on some other project that MUST BE BUILT!

When I attended the public meeting in Golden Valley and looked at the ID tags on people promoting the project and the names of the various and numerous governmental units and agencies hoping to gorge themselves on pieces of this billion dollar pie it brought into focus just "WHY" the train MUST BE BUILT. The economic value of this project is LESS than worthless; taxpayers would be better served if the money were poured into a trench and burned.

Norm Sannes
[redacted]
Golden Valley MN 55422

[redacted]

MAY 2 8 2014

BottineauTransitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

Federal and state environmental rules require that an Environmental Impact Statement (EIS) be prepared for the proposed Bottineau Transitway project. The EIS process includes the preparation of a Draft EIS, which must be made available for public review and comment.

The Draft EIS discusses the purpose and need for the project, the alternatives considered, the impacts of these alternatives, and the agencies and persons consulted.

Comments on the Draft EIS will be accepted through May 29, 2014. All comments must be received by that date. Please include a return mailing address with all comments.

Public hearings on the Draft EIS will be held on May 7, May 8, May 13, and May 14, 2014. To learn more about the hearings and for more project information, visit the project website at http://www.bottineautransitway.org/.

Name: Mike Rockford Organization: Homeowner

Address: [redacted]

Email: [redacted]

WHAT IS THE IMPACT ON THE WATER TABLES - level AND FLOW OF WATER IN SOCIANKI AND MARY HILLS CULVERT WILL THE WATER GO - WE HAVE HAS MANY ISSUES WITH FLOODING - WHAT IS THE IMPACT OF THE NEW LRT GOING TO HAVE ON THIS?

I SEE NOTHING ADDRESSING THIS

MAY 28 2014

Bottineau Transitway
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Name: Mae Moren Organization:

Address: [redacted]

Email:

Bottineau Transitway

Having lived on Theodore Wirth Parkway most of my life Im opposed to the LRT here because of the problems with the bus system - When I was a teenager it was no problem taking a bus downtown for a dance or to meet friends at night - While working downtown I'd take a bus and there were few problems but now if you don't go at rush hour it becomes a very different expirience, not at all pleasant If there isn't safety measures for buses why add more problems - Address the problems that are here a new shiny LRT is not going to make going to places safe -

Sincerely
Mae Moren

MAY 2 7 2014

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

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Name: LeAnn Linderman Organization: _____

Address: [redacted]

Email: [redacted]

When I bought my future retirement home in Maplebrook Estates – over 20 years ago – it never occurred to me that my home would be condemned. Broadway was well developed and has continued to fill in the few empty spots – example churches, a business complex, many houses, a large townhouse complex, the college, a car dealership, a park, a ball diamond, 4 shopping areas. Why must the light rail destroy this neighborhood? This area is too developed for light rail. It should be placed in a route which does NOT destroy established neighborhoods. Broadway is not a proper place. What about the 20 hour per day noise of the LR? What about the vibration? This LR should be placed elsewhere where there is room so homes, etc. do not have to be destroyed or impacted.

I am not against Broadway becoming 4 lanes. But Broadway is NO place for light rail or medians with trees, grass. Too much damage is being done ~~to~~ to our community.

From: nilslois berg
To: Bottineau Transitway/Hennepin
Subject: Comments on Bottineau and the DEIS
Date: Wednesday, May 28, 2014 7:36:03 PM
Attachments: I don't want to spend much time talking about process.docx

I don't want to spend much time talking about process, but a few words need to be said. My wife and I attended the last DEIS meeting on May 7, but since I hadn't had the opportunity to read the document beforehand, I decided to just listen. I did have the opportunity to ask a few questions after the meeting and that was helpful.

I learned the document was 1200 pages long and even the representatives present probably had not read it either. After all, it had only been "recently released." And then this past Tuesday evening a new set of demographics appeared from Hennepin County. I guess it leaves me wondering why all of this pertinent material arrives just prior to these get togethers. Terrible timing. Who can possibly wade through all of this stuff and then hope to participate in an intelligent conversation on the other side of it?

The materials are either a month too late or these meetings are a month too soon to be productive or useful. It makes this whole venture feel like a quick shuffle.

One thing I did learn from the latest meeting that I did find interesting, though, was that the Bottineau Preferred Alternative route was selected because the planners did not want to displace somewhere between 72 and 175 families in North Minneapolis. (LRT representatives have given me both of these figures in this very room). That's a noble thought—even if it is more than a tad disengenious. In reality, LRT is all about social engineering and about telling people where they have to live. Retrofitting trains through valued neighborhoods, parks and lake areas is all about community disruption and displacement. To think of it as anything else is an exercise in deception and illusion.

Be that as it may, let me get to my major concerns:

1. The DEIS document has an extensive section on water management. That's good. Waterflow going in and out of Rice Lake is a major concern for many of us. Robbinsdale apparently plugged up the flow under the BNSF tracks a number of years ago and we experienced significant flooding in both Mary Hills and our backyards as a result. The flow was so strong you could nearly whitewater raft in our yards. When Robbinsdale put in the new drainage culverts, things improved somewhat for us, but not for our neighbors who live downstream. To this day we all remain interested in any water tampering that is occurring upstream.

2. What is in it for freight? Reports about train dalays, accidents and oil movement seem to appear on a frequent basis in our edition of The Star Tribune. Maybe you have seen the articles. It makes me think that if I was running the BNSF and I have trains backed up I would be interested in gaining shipment capacity. If you won't or can't give that to me, why would I be interested in sitting across the table from you? And if I am on the Golden Valley City Council, I wouldn't want to have to go back to my constituents and tell them that I had been successful in getting the railroad to bring longer, heavier and possibly oil laden trains through our neighborhood.

3. Finally, my real concern for the evening. I see nothing in the DEIS addressing the fact that the Mary Hills Nature Center and Sochacki Park are both sitting on a landfill. The landfill area is the final resting place of old Highway 100. If you walk through the various paths in the parks, the concrete slabs you will readily see are the

remnants of the roadway. The interesting thing about this
is that much of Highway 100 was built as a post depression, Department of Public Works Project in the 1930's. Back then, before people knew better, a mineral called asbestos was commonly used in many forms of construction-- including highways. Asbestos fibers apparently bonded to and strengthened the cement. They were not affected by temperature changes and they helped provide protection from salt damage. I don't know if there actually is asbestos present in the concrete and, from what I can tell, neither does the DEIS document mention it. I do know though that a variety of respiratory ailments can be directly traced to asbestos. And according to the Mesothelioma website, exposure over time can have dire consequences. The article states " an unmarred block of cement presents no danger, but…. any time it is cracked or broken, microscopic bits of asbestos are released. Once airborne, they can be breathed in by unsuspecting victims who discover years later that the material has lodged in their respiratory system. The article states that people can still be exposed to asbestos if they come across broken chunks of cement that contain the hazardous mineral."

I bring this up not to instill fear but to encourage caution should this project proceed. Light rail does not exist in its own little vacuum. Any effort to displace freight and reroute it through the Mary Hills Nature Center could conceivably turn a dormant landfill into a Hazardous Waste site.

Everything truly is interconnected and needs to be dealt with as such!

Sincerely,

H. Nils Berg

!

From: nilslois berg
To: Bottineau Transitway/Hennepin
Subject: Comments on DEIS Statement/Bottineau LRT
Date: Wednesday, May 28, 2014 7:43:06 PM
Attachments: Document2.docx

May 17, 2014

Assisting with my infant grandson's tub bath last evening got me to thinking about , of all things, water displacement. The more toys we added, the higher the water rose. We didn't get anywhere near the point where the tub's built-in drain took over, but if we had, that drain would have automatically siphoned off water to prevent overflow. Funny how the mind works, but this, in turn, got me to thinking further about the Mary Hills flood plain.

We live on Dresden Lane abutting the Mary Hills Nature Center. Since we have experienced times of substantial flooding in the past, we remain very concerned about any development occurring upstream from our property. I mentioned this at the Golden Valley Bottineau concerns meeting on May 15, 2014. Actions undertaken by Robbinsdale both caused and corrected a portion of our flooding problem. But, again, our concern remains…and here is why.

Like the tub, the water-holding areas in Sochacki Park are a limited, well-defined area. They can only contain a certain volume of water. If you place more things in the water, like the substantially enlarged footings for three sets of railroad tracks instead of the current one, you wind-up filling in a significantly larger segment of the water catchment area. This would cause the water to deepen and/or spread out. This would pose a major problem for those of us living downstream and for the Mary Hills Nature Center. Even a small rainfall could produce major flooding. If you were to try to address this issue by placing more large culverts in the two water basin areas, the volume of water flowing out of these areas and into Rice Lake would increase markedly and would potentially be a problem for landowners who live around the Lake. Even if those

culverts functioned efficiently, like the aforementioned tub drain, the amount of water they would channel into Rice Lake would quickly overtake the capacity of the lake. The Lake, in turn would try to pass this faster moving, higher volume of water into Bassett Creek. The problem would now be shared with property owners downstream. I say shared because the problem has not disappeared for the residents upstream. Bassett Creek, you see, already has difficulty handling the volume of water we get in a heavy rainfall. It is unable to stay within its banks and will frequently overflow. If you were to walk along the creek banks, you would readily see that the water is in the process of carving a deeper channel with wider banks. Erosion is becoming more of an issue as the root systems of bank-anchoring trees are being more progressively exposed and the trees themselves are falling into the Creek. Even though the outflow of water has deepend and sped up, the Creek is unable to handle the increasing volume of water flowing into it. As a result, the water can't get downstream so it backs up. And for those of us living upstream from Bassett Creek , while our flooding used to come from upstream, it now comes from downstream. Our recent rainstorms bore witness to that.

The only feasible way to correct this worsening situation is to start corrective actions below Theodore Wirth Park and then begin working your way back upstream.

Any Draft EIS document that does not address this issue is little more than a "fill-in-the-blanks" exercise at best. At worst, if the motivation behind the Draft is to "prove" that the Preferred Alternative is the only rail route worth considering, then the Draft itself is little more than a cherry-picking document that is determined to prove its case at the expense of the facts and the experiences of those of us who live along the proposed route.

Communication #129

From:	Scott Nieman
To:	Bottineau Transitway/Hennepin
Cc:	Margo Ashmore; Opinion@startribune.com; joe.bowen@ecm-inc.com; editor@camdenews.org; contact@nenorthnews.com
Subject:	Analysis of Draft Environmental Impact Statement (Draft EIS) for Bottineau Transitway
Date:	Wednesday, May 28, 2014 11:17:38 PM
Attachments:	Bottineau Transitway Letter - Scott Nieman 2014-05-26.pdf

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Please find attached a detailed analysis of the Draft EIS for the Bottineau Transitway - an extension of the Blue line. I understand the deadline for comments are May 29, 2014.

Best regards,

Scott Nieman

Scott Nieman
[redacted]
Robbinsdale, MN 55422
[redacted]

May 26, 2014

Subject: Bottineau Transitway Draft EIS

To all concerned individuals and stakeholders:

This letter is a follow up to my **3 minutes** allotted time for comments at the public forum held at the Crystal Community Center. As previously stated, I am very much in support of the intent of Bottineau Transitway as positive step forward to advancing our public transportation needs in the Twin Cities area. However, after detailed review of the Draft Environmental Impact Statement I am very concerned that:

1) the report **misrepresents** the **environmental consequences** and **the overall benefits** of the 'Preferred Alternative'; specifically the **D1** segment that passes through Theodore Wirth Parkway the proposed construction of either of the two stations options at the park, and
2) a **D2 subway option was never even considered, mentioned, or cost estimated** (based on total cost of ownership, not just immediate project construction costs),
3) there was **very limited public service announcements for the public forums**, especially to known community groups that have vested interest in public transportation, and embarrassingly insufficient time for residents to articulate their views, and there was no representation from the Minneapolis City Council.

The remaining content of this letter elaborates upon these concerns, and provides feedback in the form of a community 'report card'.

To elaborate on the first point:

- The summary statement in Section 2.6 **completely contradicts the summary** of the EIS data in Table 5.2-1. The D1 option running through the Theodore Wirth Park along Bassett Creek clearly has the **most environmental impact** of ALL the segments (A, B, C, D1, D2). Why was this concluded as the preferred option in Section 2.6?
- The D1-7 'wetland' (as discussed in section 5.2.4.1) *floods* near the proposed Plymouth Avenue Station practically every year I have lived in the area including the week of May 3 of this year, requiring closure of the parkway. Flooding of the roadway **limits access to the proposed station**, making it an illogical option.
- This Bassett Creek area has an incredible and very sensitive **ecosystem** that would be unquestionably disturbed if there is any attempt to mitigate (5.2.5) future flooding for the sake of a light rail station. That is unacceptable -- every historical attempt that humans have made to **'make nature better'** has ultimately failed via some form of downstream ripple effect. The URL below provides is a video example of that ecosystem less than 100 yards from where the Plymouth station is proposed (the video shows the flood and the sound of the frogs and birds, which would be replaced by the future sound of a train):
  http://www.mediafire.com/view/53vu293ch9becle/20130622_171343.mp4
  If one argues that the damage has already been done via the existing rail, that only proves my point.

- The Golden Valley station option on the D1 segment is clearly not a much better environmental option; the construction of the proposed underground parking -- especially the access road to the parking area - will feed unwanted sediment into Bassett Creek.



2013-06-22 Flooded Theodore Wirth Parkway

- It is naive to believe that North Minneapolis residents would be well served by placing a substation at either the proposed Plymouth Avenue or Golden Valley Road locations. Very few people will take a bus traveling west, so they can ride the light rail to travel east -- they will instead use a bus -- therefore the use by North Minneapolis residents will be extremely limited, failing to meet ridership objectives. When I brought this matter up with Joe Gladke of Hennepin County, he responded that most Northsiders prefer to ride the bus anyway -- which raises suspicion that by-passing North Minneapolis was very intentional.
- The report does not address the noise pollution for residents, or provide a mitigation plan for the noise in the form of diffusion walls, which would not be acceptable in areas near Theodore Wirth Park adjacent to residential areas. This was one of the major concerns raised by the residents attending the secret public forums.
- By-passing North Minneapolis is a huge mistake and lost opportunity for economic development in an area that has been economic depressed, worsened by the 2011 tornado which devastated the specific area which a train station should be located. It has wide open spaces for development, hence very low cost.

In summary, the D1 option therefore fails to meet a majority of the key objectives of the project, including increasing ridership for those in need, minimizing environmental impact, and promotion of economic development for North Minneapolis residents who need jobs. I provide later for the record, a detailed 'report card' of how the D1 option compares to the key objectives outlined in the Draft EIS.

Regarding point #2, I find it disturbing that the D2 option was ruled out when all the available options were not considered or documented. An urban subway approach fits Minnesota weather much more than above ground light rail, and shows a sense of maturity in the form of urban public transportation. Applying light rail in a dense urban setting is not logical, and is a symptom of the classic 'I have a hammer everything looks like a nail' mistake. Light rail transit only works in the suburbs, and when you get into the city, you must go underground. I recommend a rail approach modeled after the MetroRail in Washington D.C., whereas when you get out to Gaithersburg, Maryland, the rail goes above ground.

The D2 subway approach provides the following benefits:

- Lower long term maintenance costs since the rail would not be exposed to winter elements.
- Lower construction costs than above-ground total construction and maintenance costs
    - Consider Seattle's on-going efforts where they are drilling through volcanic rock, vs. Minneapolis' clay, sand and limestone
    - Reduced land acquisition costs since the rail would be directly under Penn Avenue Station
    - No bridges to construct or bridge maintenance
    - No sound barriers to construct
    - No snow removal required
- Little to no impact to vehicle traffic and parking after construction, improved access to local businesses; compared to the new traffic problems on University Avenue since the Green Line construction
- Reduced noise pollution, which was echoed as a major concern at the public forums I attended
- Increased ridership for those in need
- Improved public safety
    - low risk to pedestrians and bicycles,
    - eliminates the potential of accidents, consider we have had an average of 8 accidents per year on the existing Hiawatha Avenue Blue line in the last 10 years, and 3 car accidents already on the Green line before it officially opens

  http://kstp.com/article/stories/s3438823.shtml
- Guaranteed rider payment, if Metro Transit uses of a similar ticketing system to the MetroRail,
- Utilization of available, wide open spaces created by the North Minneapolis 2011 tornado; there is great opportunity to place an escalator at the NW corner of Penn Avenue and West Broadway intersection, for access to the subway.
- Placing a transfer station at Penn Avenue and West Broadway intersection provides great economic development opportunities in an area that has long attempted to create an Arts District; e.g., consider the redevelopment of the Capri Theater and the Five Corners development project, which is still struggling to find an anchor business such as the jazz club/ restaurant originally envisioned. (This approach is consistent with the Penn Avenue Community Works Project RESOLUTION NO. 12-0238, which has had extremely little progress since passed in 2012).
- Eliminates the perception of racism.



Vision of Penn Avenue Subway Construction (ref: Seattle's SoundTransit web site)

Regarding point #3, implementation of a D2 subway option addresses the concerns raised by Neighborhoods Organizing for Change (NOC). Recently, this group has made presentations to Metropolitan Council members, as there is great concern that North Minneapolis not getting its fair share of transit amenities, despite having a heavily transit-dependent population. They have raised concerns about disproportion number of shelters to protect against the weather, when compared to South Minneapolis riders, who have much lower ridership levels. This group has appeared to gain support of Metropolitan Council Member Gary Cunningham, husband of Minneapolis Mayor Betsy Hodges.
http://www.startribune.com/local/minneapolis/258843021.html
Please take note that I will be forwarding this analysis/ letter to Met Council members as well.

When compared to the D.C. MetroRail system, our rail system is infant in its maturity, and is not yet viewed as the strategic asset it could be, to improve the vitality of downtown Minneapolis and St Paul. By comparison, downtown Washington D.C. economy thrives largely due to the Metro -- in general, there are very few vehicles downtown other than taxis. Most people hop on the MetroRail to very quickly get downtown and its mostly underground for a reason. As for Minneapolis, its downtown is struggling because its too much of a hassle to park and businesses are leaving as they cannot survive as a result. And we lost a huge opportunity to place the rail system underground on 5th Street, eliminating traffic and pedestrian concerns, preserving the limited on-street parking.

In light of these concerns, while I am in support of the Bottineau Transitway to extend the Blue line, the project needs to be put on hold until a D2 subway option through North Minneapolis analysis is completed. We must do better.

Best regards,

Scott

Community 'Report Card'

Goal	Objectives	Report Card on 'Preferred Alternative'; particularly comparing D1 vs D2 Subway
Goal 1: Enhance Regional Access to Activity Centers	1 Maximize total transit riders 2 Improve service to people who depend on transit 3 Expand reverse commute and off-peak transit opportunities 4 Increase transit system linkages, access to regional destinations, and multimodal transportation opportunities 5 Maximize transit access to housing, employment, schools, community services, health care facilities, and activity centers	1 D1 fails; D2 subway maximizes 2 D1 makes it harder than bus; D2 subway segment better 3 D1 is marginal, while D2 maximizes opportunity assuming that the A leg is used for 'service' jobs in Maple Grove 4 D1 is marginal, while D2 subway maximizes 5 D1 fails; D2 subway maximizes opportunity with activity centers include YMCA and Capri Theater
Goal 2: Enhance the Effectiveness of Transit Service within the Corridor	6 Maximize new transit riders 7 Maximize passengers per hour of revenue service 8 Maximize traveler time savings	6 D1 and D2 both do not address new ridership; North Mpls has the highest use of MTC ridership in metro, therefore D2 subway relieves the existing strain on the transit system 7 D2 maximizes, D1 provides lowest opportunity 8 D1 increase time; D2 subway provides a major hub at Penn / Broadway
Goal 3: Provide a Cost-Effective and Financially Feasible Transit System	9 Balance project costs and benefits 10 Minimize project capital and operating cost 11 Maximize long-term investment in the regional transit system 12 Maximize flexibility to efficiently expand the transit investment to accommodate transitway demand beyond 2030 weekday travel demand forecasts	9 D1 is potentially cheaper due to existing rail, but benefits are low, and side effect and long term costs and risks are high; D2 subway has higher labor expenditure, lower capital costs, and greatest long term benefits 10 D1 is lower capital, higher operating costs; D2 subway has higher capital, lower operating costs (traffic accidents/law suits, weather mitigation, 11 D2 subway provides maximum long term investment, 12 D2 Subway option is the start of a subway system modeled after DC MetroRail, and can be best expanded under existing Hennepin County roads (and should have been the Green Line model)
Goal 4: Promote Sustainable Development Patterns	13 Promote land development and redevelopment that supports sustainable transportation policies 14 Ensure compatibility with local and regional comprehensive plans 15 Support economic development and redevelopment efforts	13 D1 does not promote land development, and is not acceptable for Theodore Wirth Park; D2 subway opportunity is NOW consider the North Mpls land now available since the tornado; e.g., Penn Avenue / W Broadway area 14 Clearly there is not an effective plan, considering LRT and BRT are the only options being considered; need new thinking and models that are working for other cities 15 D1 fails; D2 subway maximizes
Goal 5: Support Healthy Communities and Sound Environmental Practices	16 Minimize impacts on wetlands/water/floodplains, parks, visual resources, noise/vibration, and historic/cultural resources 17 Minimize short- and long-term impacts to property, property access, and on-street parking 18 Maximize cohesion, preservation, and enhancement of Bottineau Transitway communities	16 D1 fails; D2 subway maximizes 17 D2 subway maximizes 18 D1 fails miserably 19 D1 is closer to bicycle trail, however, as a bicyclist, I don't consider that necessarily a good thing. D2 subway option has good access at multiple locations, including Penn Avenue/West Broadway and Plymouth and Penn Avenue 20 Noise pollution is highest with D1; D2 subway puts the noise underground and eliminates that concern.

	19 Maximize pedestrian and bicycle connections to the Bottineau Transitw ay 20 Maximize health, environmental, and economic benefits to the Bottineau Transitw ay communities 21 Minimize disproportionately high and adverse impacts on the region's minority and/or low income communities 22 Minimize area traffic impacts	D2 provides greatest potential for uirban economic development 21 D1 bypasses the North side (perhap intentionally); D2 subw ay directly targets those in need 22 D1 has great impact to Theodore Wirth Park, creating congestion and parking concerns on the parkw ay; D2 subw ay minimizing traffic since the train is under existing roadw ays

From:	Amy Rock
To:	Bottineau Transitway/Hennepin
Subject:	Bottineau comment
Date:	Thursday, May 29, 2014 11:07:32 PM

Hennepin County:

Abandon the LPA in Mpls . Routing LRT through the Burlington Northern Santa Fe Railroad corridor is extremely short term thinking. The corridor is an enormous asset as urban greenspace. Do not ruin it with LRT for which there can be only limited ridership in this location The County is not required by law to use this land for mechanized mass transit and should not proceed with this LPA.

Most importantly, LRT in this location will permanently degrade Theodore Wirth Park.

The purported and projected benefit of LRT is not equal to the vast economic and public health losses of permanently degrading adjacent Mpls parkland. What would Theodore Wirth do? Honor the legacy that has made Minneapolis' parks number 1 in the nation. http://parkscore.tpl.org/rankings.php

Amy Rock
Minneapolis

From: Chris
To: Bottineau Transitway/Hennepin
Subject: Bottineau LRT is poorly planned
Date: Thursday, May 29, 2014 10:35:34 PM

Dear Citizens and city and county board members:

It has become clear that this proposed (and now starting to be implemented) construction of this LRT line is motivated by money. Federal and State funds being dedicated to a fixed rail system this is unsuitable for police/EMS use and is uniquely vulnerable to attacks by potential terrorists. This project as proposed need to be chopped off at the ankles. It amounts to subsidized transportation and (in cases of non-daily riders who don't pay fares) free transportation. It is much easier for those who would prefer to ride for free to take light rail versus having to face a bus driver who may demand payment of a fare.

I don't have the time to list all the reasons why this project is immoral, evil and just plain wrong. I saved for years to buy my house and now I'm facing being tossed out on the street for this fool's venture so a few people can grab their piece of the action, just like many others who face being unjustly displaced. Fortunately, in their smug arrogance, the people who rammed this through forgot a few vital details, which may likely lead to legal derails. The sad part is, I will funding both sides of this, as a Complainant and a Taxpayer.

Best,

Chris Reiter
Robbinsdale, MN

From: [redacted]
To: Bottineau Transitway/Hennepin
Subject: Comments to Draft Environmental Impact Statement Bottineau Transitway
Date: Thursday, May 29, 2014 11:33:52 PM

The Bottineau Transitway was voted on and approved for segment B to be the alternate route years ago. However those studies showed only 11 homes being removed from segment B in the final report as of March 2010 and the current DEIS in March 2014 shows only 8 houses of full acquisition all south of Brooklyn bvld. In 2007, the county road 103 plan was just to add turn lanes and sidewalks, now the project has turned into removal of at least 28 homes, another 23 homes and a church are in jeopardy, and 17 homes and 2 business partial acquisitions will be needed, all due to running a median in road for LRT. What the former report and the current DEIS are missing is that segment B from Candlewood drive to past 93rd avenue is not included in the report due to a county road project already planned. From Bottineau representatives at the meetings I was told, they only needed to disclose the project is already planned and not any additional information. As a citizen of this state I ask how can a report say for Bottineau transitway only 11 homes being removed and the met council approve the alternate route based on this information. The option A was except to take a similar number of homes, which does seem realistic since the train would go though a small residential area and then through the gravel yards.

Segment B's information is incorrect in all the documentation provided on the Bottineau Transitway studies. What good is it to issue a report and information for met council to vote on that does not include all the information pertain to all projects involved? Where is the transparency of the project? Where is the accountability for met council to gather all the information regarding a light rail line? I feel that this project was intentionally left out so Segment B would be approved since it showed minimal impact and comparable to segment A option to go to Maple Grove. It almost seems like the way it has been handled could border the definition of fraudulent. Is this a unique or a recurring situation that the county road projects can hide the significant impacts of LRT and not fully disclosed other projects in LRT projects/studies, so they get approved?

For example when you compare two different vehicles, the Ford F150 and Dodge 1500, estimates are the same with same features. You agree and sign a deal with Dodge. Then Dodge comes back later and says well it stated on the sticker the base package the engine is built by Joe Smith Company. Dodge now informs you the cost will be over 3x the vehicle total but you already agree and signed you were buying the Dodge. Then Dodge explains to the customer that Dodge only builds the outside of the truck and the engine is built by Joe Smith Company. Sorry it is two different projects but sorry we didn't have to disclose that information other than saying Joe Smith Company makes the engine. You need to go to Joe Smith Company and get the estimate for the engine, sorry where have you been not attending executive meetings with Dodge. In no other form of business this would be legal. This was example is basically what has happened to the impacted neighborhoods.

The residents of Brooklyn Park that are impacted just get answers like the Bottineau transit will have to answer that or Bottineau transitway representatives say the county represents need to answer. At May 21, 2014 meeting on the West Broadway Reconstruction the question came up about funding and county representatives could not answer but handed off the question to the Bottineau transitway representatives. So the person explains how the Bottineau transitway is funded but that is incorrect

for the County road 103 meeting which per county website is funded only by city and county. No one is accountable in this project to the impacted citizens, everyone either gives answers true to their project but not true to other parts of the project. The Bottineau transitway study, Hennepin County, and the City of Brooklyn Park should be ashamed at how this project has preceded without proper disclosure to the public. "I'm not saying that means we take homes, but I do think there are aspects of this project that are important," said Brooklyn Park Mayor Jeff Lunde on April meeting per Channel 12. However, the West Broadway Hennepin County website shows homeowner acquisition information for property owners in March. There seems to be so much confusion and wrong information given.

I still do not understand how the project presented only can have this impact when walking down West Broadway. I wonder if more homes will be need to be taken from the project. I have concerns about noise, vibrations of the trains, safety for small children, special assessments to home owners, traffic lights (not being able to turn across tracks without signal light), how close house will be to the train, and what will be done for landscaping/barriers to improve the look of the area.

It needs to be looked into how LRT project and anything else the met council is involved in, are the projects being fully disclosed of the impacts and costs. Why is it just coming out on May 19, 2014 the number of properties impacted, when studies and etc have been occurring since 2008 per the Bottineau transitway website? Reviewing the prior historical documentation of the Bottineau transit and the attendance to the meetings is very questionable. It seems the impacted people are not finding out they are impacted before everything is all ready for a final vote or already voted on. Policies and procedures need to be reviewed. Decisions can still be made, the point is that everything is done secretive and deceptive.

Jennifer Peschong

From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley residents 2
Date: Thursday, May 29, 2014 11:12:31 AM

Dear members of the Golden Valley City Council and Commissioner Higgins,

Thank for the opportunity to share my comments on May 7 with all of you. My property is at [redacted]. I have since submitted written comments to the Bottineau Transitway team at the Metropolitan Council. I have some additional thoughts I would like to share with all of you, given your interest in protecting Golden Valley's interests without standing in opposition to larger regional interests.

It is clear that Golden Valley is in an adaptation and mitigation situation all around. As a stand-alone community, we would be better served by better bus transit than by light rail. However, it appears that the D1 option is the only truly viable option for the outlying communities. So we must adapt as best we can.

I am in favor of only one station in Golden Valley, preferably at Golden Valley Road, largely to decrease environmental disruption. I say that, even though I am likely to suffer the negative noise, parking, and decreased security consequences on Zephyr Place. If I am not mistaken, the impacts on wetlands will be greater at the Plymouth stop. Let's not do that. However, if the priority is Plymouth, then I think we should not develop Golden Valley Road. We only truly need one stop in Golden Valley, if we are thinking about people getting out of our community to places they want to go.

I now understand that no matter what, the line will be fenced, and that it will only be lit at the stations: one bad thing for the natural areas, and one good thing. Fencing will cut the wildlife corridor connecting Theodore Wirth Park and the east side of the line for the four-legged animals. Fortunately, birds will not be as affected. And the majority of the area will be unlit, which is great. I support that.

So I am now focused on how to reduce the impact on those of us living on York and Zephyr Place whose homes hang out over the rail line, particularly for noise and visual pollution. Given that the line will be fenced regardless, I request that you advocate for a sound barrier below York and Zephyr Place, adequate to address the fact that sound travels up. The engineering study would need to address this unique aspect of above-grade housing. The barrier may require more height, or different placement (for example, on the informal path that currently exists on the east side of the line). It would be a plus that it might also provide a sight barrier so that we would continue to see trees and a neutral static wall, rather than seeing trains whizzing by every 10 minutes. This would allow this area to maintain some of its unique character and reduce impacts that might encourage me, and perhaps others, to sell our homes.

For security reasons, I also request that you not develop a path along the east side of the line. I have already had one attempted break-in from someone using the informal path, and making it easier for people to have this "back door" out of the neighborhood with no eyes on the street would be detrimental to the community. People might think that a lighted path is safe. If no one is looking, it doesn't matter, and then we just deal with light pollution in a currently blessedly dark place. Wirth Park has good paths. Making sure that there are good sidewalks on Golden Valley Road should be adequate.

As I said to Commissioner Higgins and Council Member Clausen after the meeting, what you heard at the meeting was not resistance to change, but expression of loss. Golden Valley will be a different place once the line goes through, and people know that. Many will choose to leave to seek a place that has the qualities that Golden Valley currently possesses, and new people will come in who are more interested in getting to work easily. For those leaving, Golden Valley will be a worse place, and for those arriving, it will look better. My goal is not to leave, to protect as much of Golden Valley's current natural character as possible. If I can tolerate the change in the environment, I will stay. At this point, tolerable is all I'm aiming for.

All the best,

Karen Lehman
[redacted]

Jason Zimmerman | City Planner | City of Golden Valley
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763.593.8099 | 763.593.8109 (Fax) |763.593.3968 (TTY)
jzimmerman@goldenvalleymn.gov

From: [redacted]
To: Bottineau Transitway/Hennepin
Cc: [redacted]
Subject: Bottineau lightrail
Date: Thursday, May 29, 2014 11:38:23 PM

I reside at [redacted].

First, I understand what light rail can do for communities and future development within the city. Light rail is considered a clean transportation. Benefits can be accounted for.

However, what you have to understand is how it affects individual families. Fortunately for me, I bought my property and had a significant down payment. However, with devaluation, etc. IF I were forced to sell, I would not come out. The proponents and agencies involved stated they would pay off mortgages where people are underwater. That's all fine and dandy, but what about potential sweat equity`people put into their homes? What about the fact that they'll be force to move and purchase new property? Do they have the money to put down on a new property? Will they have a similar interest rate with what they're paying now? Those are all differences that must be accounted for with these families. If they're not forced to move, they don't have to worry about those circumstances!

For me specifically, I will be having my first child in the next few weeks. At this time, I have no idea what light rail means for me and my growing family. Proponents say values will increase and that anybody would want to have my home. Really??? What's the guarantee? and if values decrease because of this, how do you make up for it? Thankfully, values are now rebounding and will continue to do so, but when this process plays out, the shit of the deal is that values will naturally continue to rebound and improve but yet "an appraisal" will be done now, prior to values naturally rebounding. This is a pile of dung as the entities involved will be forcing home owners to take "fair market" value based on the low point of valuations in the past 10 years or more. How can you say this is a "fair" deal?

Next, my home was built with the intent of "normal" residency....whatever that means. To me, it means normal traffic, normal neighbors, etc. Light rail isn't NORMAL. My home was not constructed with the intent of trains coming by every 10 minutes shaking and rattling my (our) home foundations. Unfortunately, I don't believe a value can be placed on what kind of damage all this vibration will do to homes, homes that weren't constructed with this in mind.

The new library that is going in.....I'd be willing to bet they are specifically planning on how to construct the foundation with the intent of light rail being there. I'd also be willing to bet that there would be a different plan in place to construct the library if light rail was not in the plans. Thus, homeowners who will have land bought, are getting screwed again.....but most, including me, will have no idea how extensive this damage could be until it's too late. Who will be stuck with the damages and bills? More than likely, the unfortunate home owner is my guess!

Next, traffic. Light rail will be in my back yard. Traffic will be increased. What is going to be done to homeowners who have to tolerate this? Air traffic was diverted in Minneapolis and home owners were provided upgrades to help with the sound issue. Is that in the plans for us home owners? Its bad enough local cops speed up and down W. Broadway with sirens blaring! It's ridiculous and now adding this will be dreadful. As for traffic, how will be able to access streets? Will be have full right of way? My guess is no. Again, as a homeowner it's affecting me. I will have to change plans to get to work. This adds minutes to my commute. I say minutes which doesn't sound like much, but add it up! Time is money!!! Over time, I"m losing alot of money possibly! How about the increase in random llight rail travelers coming right through out back yard? What is the safety concerns that we need to worry about? What will BP or Hennepin County do to ensure our safety?

As my children age, how will this affect my taxes? How will this affect schooling and commuting for my family?

General inconvenience....how about when the construction goes on? I will have to tolerate constant dust..dust which gets into homes and makes for constant cleaning. Again, more dollars spent by me, the home owner! I've done alot of work in my back yard....taking land is one thing but it may mean tearing up additional land to complete the road construction. What will become of my privacy fense and all my gardening plots? What willl happen to my trees and bushes that I trim each year? What will the access from street to my backyard be? How much is safety taken into account?

As for taxation, the project says it won't cost us anything...that they're hoping for federal funds....what do the idiots of these projects think???? Do you realize we all pay taxes so we're paying for it in some way!

For me, take the $500 million or whatever that number is and invest it in our education system! That's where this money should go! For $500m, how about simply busing peolple to the light rail hubs????? That seems much more cost effective.

I could go on and on with concerns....many of which are just beginning with a growing family. Many concerns will present themselves as time goes on so there are alot of unanswered questions.....a lot of questions that won't even be realized until later as the project unfolds.....

I'd hope the council or whomever considers taking this project up through or by Fleetfarm. Far less homes are affected....

In closing, place yourself in the place of us homeowners. If you were us, how would you handle it? How would it affect you and your children? Just think about it.....

--Rich Laundreaux, a concerned resident

From: PAMELA HOLM
To: Bottineau Transitway/Hennepin
Subject: bottineau blueline proposal 2014
Date: Friday, May 30, 2014 12:01:52 AM

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whom it may concern,

What is it about our green spaces that humans love to attack? Is it because of the lush greenness, the silence between birdsongs that makes some sadly afflicted humans think Hey! Let's make noise! Let's build! The less green space we have, even when it is a park, the more people want to "utilize" the space. Minimize everything green! Just another casualty of human progress. And so it goes for the poor Mary Hills Nature area and Walter Souchaki Park. Which, by the way, is the Bassett Creek Water Shed. Which is, of course, the Bassett Creek Watershed run off flood plain. Apparently your "Environmetal Impact Studies" must be asleep at the wheel or even more sadly paid off by Target PAC because if one goes to the City Offices of Robbinsdale and Golden Valley, one can get the insurance environmental assessments of the area which state that this area is Flood Plain. This is also a marshland. So, how cynical and against the public interest does one have to be to infer that enginering wise, the costs of building on this will be significantly more than stated? Not to mention the environmental impact.

And so let us go now to the alternative route Penn Avenue which has sadly been forgotten. This is the corridor refused becaused Target didn't want it's precious employees subjugated to the poor and the black Americans as it trundled through North Minneapolis. As good Minnesotans, lets us state the real truth. It was going to go through "too slow" as I heard in one meeting. Yeah, that's the reason. Shall we say RACISM. Let's not let those dirty blacks contaminate our lightrail line. We'll just pay them off. And so to, sad to say, are the community activists cosy in the Penn and Plymouth intersection. Why should they be bothered while their constituents have to suffer? I'm sure that Target will give them money to "help the economically disadvantaged out". As I have pointed out in several meetings, apparently people have not studied the world public transitways or even examined Minneapolis's own public bus line. There could be direct transit lines just like direct bus linesinto Minneapolis from the suburbs to send people from Targets' campus down their federally subsidized transit line to downtown. Nevermind, that that over 35% of houses on Penn or landlord owned. Nevermind that over 50% of people in North Minneapolis do not have a car. Who are we federally and statewise subsidizing? Target corporation. Great. Poor birds. Poor animals.

I live in hope that the people who attempted/succeeded to get this through will, in the future, have their effigies pilloried and descendants live in shame.

Pamela Holm

Communication #145

From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley residents 1
Date: Thursday, May 29, 2014 11:13:25 AM

Jason, Hope you had a good holiday.I would like to make you aware of the wild life along Bassett Creek and the surrounding area along the LRT. This area has noted at least 21 various birds. From this group only one is protected by the new U.S. Mogratory Bird Act of 2013, that would be the Pileated Woodpecker. We (the Neighborhood) are concerned with this bird since it is seen about 8 months of the year and require large dead trees for its habitat .
Thank you,
Erv Heim
[redacted]

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jzimmerman@goldenvalleymn.gov

Communication #144

From:	Paul Flower
To:	Bottineau Transitway/Hennepin; Shep Harris; Joanie Clausen; asnope@goldenvalleymn.gov; lfonnest@goldenvalleymn.gov; sschmidgall@goldenvalleymn.gov
Subject:	Bottineau Light Rail Comment
Date:	Thursday, May 29, 2014 8:06:14 AM

To the Metropolitan Council, Hennepin County Board and Golden Valley City Council,

We are residents of Golden Valley. We live near the proposed route for the Bottineau light rail line. We are opposed to the proposed route for the light rail line for the following reasons. While we are not opposed, per se, to the idea of improving mass transit, we believe this particular proposal to be a bad idea. The area of the proposed route in Golden Valley is in an undeveloped nature area, with wetlands, a forest, a peaceful walking trail, and abundant wildlife. It is used and enjoyed by many people who have purposely chosen to purchase homes near such an area to live and raise their families. Such an area is something to be valued and preserved in the midst of a major urban center. This will all be greatly disturbed by the creation of additional rail lines and trains running every 7.5 minutes and continuing through the night. Besides the negative environmental impact, we believe that this proposal needs to also be looked at from the perspective of how will this particular route be of benefit to residents of Golden Valley. It does not run through a densely populated area, and it does not provide easy access for those who may wish to use the light rail. Rather, it goes through a nature area that will not provide much, if any, room for a stop or parking for a station. It would seem to make much more sense to run the line through a more populated area, such as along Penn Avenue, where many more people would be served by light rail. Such a route would also serve North Memorial Hospital. Or, if the light rail is to serve Golden Valley, it should follow route near a major thoroughfare, such as Hwy. 100 or 169. In short, we hope that this is not a "done deal", and that the powers that be will look very closely at the negative aspects of the proposed route and will decide against proceeding with this plan.

Respectfully yours,

Paul and Jane Flower
[redacted]
Golden Valley, MN 55422
[redacted]

From:	Cathy Deikman	Communication #141
To:	Bottineau Transitway/Hennepin	
Subject:	Bottineau DEIS comment	
Date:	Thursday, May 29, 2014 11:26:48 PM	

I am writing to express my opposition to using the Burlington Northern Santa Fe Railroad corridor for LRT. This alignment is a triple negative: 1) it does not serve urban transit needs 2) it is a physical and sensory blight that will significantly and permanently degrade adjacent Theodore Wirth Park 3) it ruins the potential urban greenspace of the rail corridor.

Cathy Deikman
Minneapolis

To Susan Haigh

Re: Bottineau Transitway

I walked a ring around our woods from 37th Ave. North and the BN rail line to Golden Valley Road, down the east side of the BN line to Highway 55, a 100+ acre expanse of wildlife habitat your Draft EIS does not make any acknowledgement of. I knocked only on the doors of properties abutting the BN line or abutting wooded park land abutting the BN line (many of these owners have maintained private wildlife habitat bordering park woods for decades), with some owners living directly across the street from park or BN wildlife habitat. Here are 96 of the 102 addresses I have collected so far. My biggest problem is people not answering their doors.

I have listened to many property owners and I can say with assurance that the true locally preferred alternative is

NO BUILD!

Sincerely,
Constance Bonniwell

Metropolitan Council
MAY 9 2014
Received Chair's Office
Communication #140

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line.

ADDRESS			NO LRT
1223 Washburn Ave N.	Mpls		X
1217 Washburn Ave No	"		X
1207 Washburn Ave N.	"		X
818 Washburn Ave N	Mpls.		X!
701 Vincent Ave	NO	"	X
617 Thomas Ave N		"	X
615 Thomas Ave N	Mpls.		X
3416 Kyle Ave N.	Crystal		X
7929 Kyle Avenue No	Golden Valley		X
2912 Kyle Avenue N			X
4300 Culver	Golden Valley		X
21656 Kyle Ave. No		"	X
7620 Kyle Ave No			X
2610 Kyle Ave No			X
3300 Indiana Ave N			X
4107 Cloverly Ave N			NO X

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line.

ADDRESS		NO LRT
16 [illegible] 2250 No. Indiana Ave		NO
3446 Indiana North	Robbinsdale	NO LRT
3432 Indiana Ave N	Robbinsdale	NO LRT
3424 Indiana Ave No.	Robbinsdale	NO LRT
3420 Indiana Ave No.	Robbinsdale	NO LRT
3412 Indiana Ave N.	Robbinsdale	NO LRT
3309 Halifax Ave N	Robbinsdale	NO LRT
3506 Indiana Ave N.	Robbinsdale	NO LRT
3530 Indiana Ave N	"	NO LRT
3532 Indiana Ave N.	"	NO LRT
3540 INDIANA AVE N	"	NO LRT
3542 Indiana Ave N	Robbinsdale	NO LRT
3614 Indiana Ave No	Robbinsdale	NO LRT
3610 Indiana Ave No	Robbinsdale MN	NO LRT
3649 HALIFAX AVE N.	ROBBINSDALE MN	NO LRT
3505 June Ave N.	Crystal	NO LRT

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line that abuts our property!

ADDRESS			NO LRT
2308	Kewanee Way	Golden Valley MN	✓
2340	Kewanee Way	Golden Valley MN	✓
2324	Kewanee Way	Golden Valley, MN	✓
2332	Kewanee Way	Golden Valley	NO ✓
2350	Kewanee Way	Golden Valley	NO ✓
2416	Kewanee Way	GOLDEN VALLEY	NO LRT
2460	Kewanee Way	Golden Valley	NO LRT
2430	Kewanee Way	Golden Valley	NO LRT
2500	Kewanee Way	Golden Valley	NO LRT
2601	[illegible]	Robbinsdale MN	NO LRT
2195	Bonnie Lane	Golden Valley MN	NO LRT
2631	MAJOR AVE N	GOLDEN VALLEY	NO LRT
2285	Bonnie Lane	Golden Valley	NO LRT
2330	Bassett Crk Dr.	G.V.	NO LRT
3890	BASSETT Creek Dr.	G.V.	NO LRT
3900	Bassett Creek Dr.	G.V	NO LRT

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line.

ADDRESS		NO LRT
3408 Kyle Ave N		✓
3350 Kyle Ave N		✓
3338 Kyle Ave N		✓
3332 Kyle Ave. No.		✓
3326 Kyle Ave N		✓
3320 Kyle Ave N		✓
3314 Kyle Ave N		✓
3310 Kyle Ave N		✓
3527 Kyle Ave. N.	Mark K.	✓
3036 Kyle Ave N		✓
3000 Kyle Ave N		✓
2940 Kyle Ave N		✓
2835 JUNE AVE.	NORTH, GOLDEN	✓
2811 June Ave No	Golden Valley MN	✓
2741 June Ave	Golden Valley	✓
2721 June Ave N	Golden Valley MN 55422	✓ NO

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line that abuts our property!

ADDRESS		NO LRT
3520	JUNE AVE. NO. ROBBIN. NO	X
3612	June Ave N Robbinsdale	NO LRT
3624	June No.	NO LRT
3554	JUNE AVE. NO. "	NO LRT
3528	June Ave N "	NO LRT
3622	Indiana Ave No	NO LRT
3651	Halifax Ave N	NO LRT
3663	Halifax Ave N	NO LRT
3651	Halifax Ave N	NO LRT
3501	June Ave N	NO LRT
2631	France Ave N	NO LRT
2901	FRANCE AVE N	NO LRT
2905	FRANCE AVE N.	NO LRT
2917	France Ave N	NO LRT
2235	Indiana Ave N	NO LRT
3910	BASSETT CREEK DR	NO LRT

LRT? NO!

We, the owners of the properties listed below, do not want LRT going down the Burlington Northern rail line.

ADDRESS		NO LRT
824	Washburn Ave N	Mpls, MN NO LRT
2916	Oak Park No.	Mpls. NO LRT
2924	Oak Park No	Mpls NO LRT
324	Xerxes Ave No.	NO LRT
1306	Xerxes Ave No	NO LRT.
1422	Xerxes Ave No	NO LRT
1511	Xerxes Ave North	NO LRT
1541	XERXES AVE. N	NO LRT
1631	XERXES AVE	NO LRT
1707	Xerxes Ave No.	Garfield NO LRT
1717	Xerxes Ave No	NO LRT
1801	Xerxes Ave No	NO LRT
1925	Zephyr Place	NO LRT
1815	Zephyr Place	NO LRT
1806	Zephyr Place	NO LRT
1831	YORK	NO LRT

Communication #138

From: Terry Christle
To: Bottineau Transitway/Hennepin
Subject: super pumped
Date: Thursday, May 29, 2014 9:52:22 AM

Promise we won't fight over a tunnel, just want and need our transit way done.....hope we get funding and stay on schedule!

Good work to all involved, we look forward to the train!

Thanks

Terry Christle
Champlin, MN

From:	Steve Chesney
To:	Bottineau Transitway/Hennepin
Subject:	Public Comment on the Draft Environmental Impact Statement
Date:	Thursday, May 29, 2014 7:08:11 PM

Communication #137

I support the routing of the transitway as described in the public meetings and the draft statement. There are negatives of course, homes will be bought out. There will be a different kind of traffic and noise through the neighborhood.

But I think the routing mostly minimizes those effects by avoiding large natural areas and mostly following commercial and institutional strips. I think the cultural and human benefits outweigh the negatives. IT's a new way to bind together downtown, older neighborhoods and newer developments in a way that highways and roads simply cannot accoumplish.

I look forward to seeing the benefits on such things as the underused strip mall on 85th and Broadway. But mostly I look forward to being able to park near that intersection (only a mile or so from my home) and having easy access to Downtown abd Target Field. It will be a plus to my environment.

Steve Chesney

[redacted]

Brooklyn Park, MN 55443

From:	Christophe Wall-Romana
To:	Bottineau Transitway/Hennepin
Subject:	Comments on the DEIS
Date:	Thursday, May 29, 2014 11:10:42 PM

Communication #135

1. The Bottineau Line project aims to bring the LRT to the northeast quadrant of the greater Twin Cities area. Among the benefits sought and adduced as rationales are road decongestion and positive economic fallout for the region. But the Bottineau Line plans serve mostly low-density areas, shirking low-income communities of color of North Minneapolis, and instead, as touted in the Hennepin County video 'Bottineau LRT' it uses the "190 high-paying jobs" planned at Baxter Pharmaceuticals in Brooklyn Park as a justification. Linking with corporate campuses seems to play too central a role in the design and location of the Bottineau Line, to the detriment of other factors, such as the distribution of low-income high mass transit users in the project area. The Bottineau Blvd axis running SE-NW from the Target Field Transit Center to W. Broadway Ave. (closest to proposed alignment 2d) is the obvious and preferred location as it intersects the areas of North Minneapolis (roughly between Glenwood and Dowling and Penn and Lyndale) that are all at once the densest (according to the 2008 Population Census Density Map by Census Block Group [ESRI, 2008, DEIS 7-7]), have the lowest income (according to the 2013 Median Household Income Map by Census Block Group [ESRI, 2013]), and the least proportion of vehicles per household (DEIS 1-22). My main opposition to the project centers therefore on its avoidance of the central challenge presented by the North metro area: committing to develop a historically under-served and economically segregated area for the betterment of the greater Twin Cities. The D2 proposed line (and its avatars, D2a, b and c) was a very poor choice: it has high environmental impacts with insufficient mitigation; low neighborhood buy-in or participation (Section 11-10 mentions the Maple Grove express bus whose service is so good that users may not switch to LRT, proving that low-impact express bus service is a stronger alternative than investigated by the DEIS); and botched interactions with the public (2012 presentation of D2 project, for instance; also the Golden Valley joint commission meeting on 5/21 was said to have been badly advertised and explained to the citizenry by one member of the commission). The Bottineau Line project fails to contribute adequately to economic injustice redress while the input of corporate stakeholders is disproportionately represented, to the detriment of the majority of the low-income population of color of the area. The push for a regional LRT solution instead of expanded local, express and suburban bus service—which represent together 86% of ALL transit in the metro area, and is thus the favored mode by most transit riders—may be misdirected when it comes to the North. The Bottineau study area is 52.4% minority, that is minorities are the majority. Yet the bulk of that population in North Minneapolis, will not be served by the D1 alternative. The rationale of the project is to aid minorities which aren't being helped by the final design.

2. Page 7-33 of the DEIS stipulates that transit provides a positive role in promoting social equity. The problem with the Environmental justice section is that it does not analyze economic justice. In fact, that is the greatest problem with the Bottineau project: it is blatantly unfair to the community that is most in need of economic justice and it simply circumvents the key issue of how the Met Council approaches the redevelopment and reinvigoration of North Minneapolis.

3. Golden Valley and other Southern Corridor communities (Crystal, New Hope, Robbinsdale) whose populations have declined over the lat 20 years, are asked with the Bottineau Line to help with the job creation and residential increase in population of the Northern Corridor communities of Brooklyn Park and Maple Grove (DEIS, p. 1-13). The Southern cities should therefore receive the highest level of mitigation from the project for being 'good citizens', and Southern Corridor municipalities should hold back consent until project leaders recognize the need for respectful mitigations. The language in 4.2.5 proposes minimal or non-existent mitigations. Because there is no planned impact on community cohesiveness and character, mitigations are quickly reduced to Best Management Practices, limited to informing residents about construction disruptions and deigning "to keep access to bus stops open" (DEIS 4-36). Yet the DEIS has insufficiently studied the importance of Sochacki Park/Mary Hills for both the character and cohesiveness of populations of Golden Valley, Crystal and others that use and love these beautiful and peaceful watershed areas. Mitigation offered by the DEIS are paltry, patronizing and downright offensive

4. Letter from the Army Corps of Engineer, March 22, 2012: to US dept. of transportation: "Time and money spent on the proposal prior to applying for a section 404 permit cannot factored into the corps' decision whether there is a less damaging practicable alternative to the proposal." ." I ask that the same rationale be made clear in the final EIS: that money and efforts invested in this project must not constitute not the basis for its final acceptance by lead agency, the Met Council or municipalities that can withhold their consent if mitigations to their citizenry is not deemed sufficient.

5. Frequency and alarm system are two key areas. The Bottineau is supposed to have a frequency into the 3-4 min. at peak times when the green line with 50% more ridership has only a 10 min. maximum with noise mitigation such as floating-slab platforms. I ask that the Bottineau be not given carte blanche when it comes to frequency—and aggregate noise impact on quality of life has not been properly studied in the DEIS--and instead that municipalities reserve consent until a frequency lower than that of the green line is offered, that is, proportionally to the respective planned ridership of both lines. Horn should only be used for emergency or special operation as in the green line, and bell should be the default.

6. The DEIS should include a section regarding mitigations offered on the Southwest Corridor line since residents and municipalities have a right to know and project leaders have a duty to inform. Frequency and noise levels should also be compared across the green line, the Southern corridor line and the Bottineau: again, there are no grounds to keep this very useful information out of the final EIS.

7. Construction hours. The project's leaders need to commit to respectful and

reasonable construction hours, regardless of local ordnances: all residents impacted should have their noise comfort equally protected so that no environmental justice when it comes to noise is equal throughout the project area. The maximum construction allowed should be 8am to 6pm, no work on weekends and holidays.

8. I note in closing an aggressive and dismissive tone among project leaders that is reflected by the DEIS when it comes to describing more candidly the pros and cons of the project and its impact. This tone is reflected by the use of the phrase "it is anticipated that" which conceals both the author(s) of the anticipated item and the rationale for it. I would like every important decision—frequency, mitigation, aggregate noise impact—to be clearly and transparently explained to the residents involved. The DEIS is a federally mandated way of entering into a fair discussion with the people which a large project will impact. That conversation thus far is a bureaucratic monologue: most residents have no idea what is in store, the DEIS is an opaque and daunting document, and outreach by project proponent has been dismal. Municipalities also must do a much better job a getting the word out to their citizenry, and elected officials have a duty to be answerable to their communities whether on the Met Council or in smaller entities. Do a better job at giving a clear picture of what the future holds for all residents impacted by the Bottineau! In fact, it should be mandated that a documents with pros and cons be circulated to all residents directly impacted per the DEIS.

Christophe Wall-Romana
Associate Professor
Director of Graduate Studies

University of Minnesota
Department of French and Italian
[redacted]

Communication #134

From: billyb
To: planning@goldenvalleymn.gov; Bottineau Transitway/Hennepin
Subject: Comments on the Bottineau Light Rail Transt Draft Environmental Impact Statement
Date: Thursday, May 29, 2014 5:39:59 PM

May 29, 2014

We found the Bottineau Light Rail Transit (LRT) Draft Environmental Impact Statement (DEIS) to be adequate in every way.

We believe that the Bottineau LRT line is an important part of our regional transit way system, and that the project effectively addresses regional transportation and accessibility needs of a growing population in Minneapolis and the northwest suburbs in the future.

The Bottineau line proactively addresses increasing traffic congestion with an environmentally sustainable solution and serves a uniquely transit dependent population--in all of Minneapolis and and inner ring suburbs--with reverse commute access to jobs in the northwest suburbs.

We believe that we need to provide both the Golden Valley Road and the Plymouth Avenue North stations to provide LRT access to two very different communities, Golden Valley and North Minneapolis, respectively.

We think that we need to listen carefully to our neighbors in Golden Valley who are rightly concerned about all of the environmental consequences that will be a part of the LRT project and we think that the DEIS is very sensitive to these concerns.

We believe that we should establish "Quiet Zones" proscribed in the DEIS in the areas north of Highway 55 and South of 36th Avenue North. Since there will be no on grade crossings in this section every effort should be made to completely eliminate all train bells entering and exiting the Golden Valley Road and Plymouth Avenue stations, eliminate all wayside bells on the stations and eliminate all train horns except in cases of emergencies, and eliminate or minimize all public address announcements on the train or in the station to a very, very low volume.

We appreciate the DEIS discussion of noise barriers in the project and expect that a productive discussion can be made with specific nearby neighborhoods about what is most effective, and of eliminate all tight radius curves at stations or along the line.

Many of our Golden Valley neighbors spoke about the need for security on the LRT trains, stations and in the Golden Valley Road corridor itself and all lighting and additional security accommodations must be made because the location of this particular station is isolated.

Adequate bus, vehicle, bike, wheelchair, and pedestrian access should be an integral part of LRT station area design, it should be safe and convenient to drop off and pick up passengers.

Thank you for allowing us to comment on the DEIS, we think that it is very well done and we are looking forward to the construction of this necessary and important project.

Beyond the narrower scope of the DEIS, we would like to add that the LRT station on Golden Valley Road and the project itself with its regional reach will open up many exciting possibilities for the City of Golden Valley to work with Hennepin County to modernize County Highway 66 to truly connect all of Golden Valley to a new world class transit system.

Golden Valley can get its own upgraded bus service along Golden Valley Road (it is a patchwork system today) that connects to the City Center by the way of Honeywell, Byerly's, Courage Kenney Center, and the LRT station. Our city can have off street bike lanes that are family friendly along Golden Valley Road to make all of the same connections and pedestrians and people with

disabilities will have their own safer sidewalk spaces if bike riders are accommodated on defined bike lanes.

We can all enter the 21st Century with the positive changes that the Bottineau LRT line will bring if we all work together to use the most modern engineering and design practices both on the LRT line and on all of our connecting roadways!

Billy Binder and Julie Bartell
[redacted]
Golden Valley MN 55422
[redacted]

Communication #157

From:	Ben Stein
To:	Bottineau Transitway/Hennepin
Subject:	Bottineau Transitway Draft Environmental Impact Statement Comment Form
Date:	Thursday, May 29, 2014 11:32:08 PM
Attachments:	04082014DEIS_CommentForm.pdf

Please find my submission for EIS comment attached.

Thank you,

Ben Stein
[redacted]
Brooklyn Park, MN 55445
[redacted]

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

Federal and state environmental rules require that an Environmental Impact Statement (EIS) be prepared for the proposed Bottineau Transitway project. The EIS process includes the preparation of a Draft EIS, which must be made available for public review and comment.

The Draft EIS discusses the purpose and need for the project, the alternatives considered, the impacts of these alternatives, and the agencies and persons consulted.

Comments on the Draft EIS will be accepted through May 29, 2014. All comments must be received by that date. Please include a return mailing address with all comments.

Public hearings on the Draft EIS will be held on May 7, May 8, May 13, and May 14, 2014. To learn more about the hearings and for more project information, visit the project website at http://www.bottineautransitway.org/.

Name: Ben Stein Organization: _____

Address: _____

Email: _____

Thank you for taking time to consider my comments. Three years ago, almost to the day, my family and I moved to Brooklyn Park from a north eastern suburb. Had we been aware of a plan to bring light rail down West Broadway, we would not have purchased the house we did. We have been blessed enough to be able to find and afford a good home in a cul-de-sac in a good neighborhood. At least two of our neighbors have lived here since the neighborhood was developed. Our house is now a home. Our neighbors are now are friends. Our children play together, we help each other with snow removal, yard and house projects and have grown stronger as a community. I understand the need for improving West Broadway. What I do not understand is need for light rail to run down the middle of West Broadway. I choose to live in the suburbs to avoid overly dense neighborhoods and the infrastructure that accompany it, such as trains. Light rail would bring disruption to our community, including sight, sound, vibration, safety concerns for our children and motorists on West Broadway, not to mention the impact to housing values for those of us who would be very close to the trains. Please consider alternate routs for the train such as 83rd Ave N to Wyoming Ave N / Winnetka. Such a rout would line the train for future expansion into Champlin. Please consider not only all the homes which would be razed to make room for light rail, but the adjacent properties that will be impacted. If the road is to be improved, please skip the median and the train, do not send our community down the tracks.

Communication #187

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

MAY 30 2014

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

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Name: Dan Steinberg Organization:

Address: [redacted]

Email: [redacted]

Hewanne way on page 7-12 Not mentioned on table 5.1-3 should be mentioned.

Figure 5.7-3 Missing results ~~from~~ Should have Bonnie Ln

Table 5.7-6 Missing results Should have Bonnie Ln.

Table 8.3-2 Historic Properties No mention of St. Margret.

~~Table~~ Figure 5.5-1 No mention of Hazardous Material 5.5-1

More mention of the possible bus changes

Table 5.6-3 Summary - Stub of noise on Bonnie LN and Hewannee Way.

Communication #187

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

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Name: Dan Steinberg Organization:

Address: [redacted]

Email: [redacted]

A study of a tunnel along D1 alignment from Golden Valley ~~Rd~~ Rd to Abbot Rd (on the other side of North Memorial Hospital) then cross the link up ~~to~~ ~~the~~ to back on C alignment.

Regarding LRT

I am concerned about losing the animals & park of Theodore Wirth.

I am concerned that other people from Golden Valley will not use the trains like N. Mpls. would.

I am concerned that the flood plain by the tracks will pose problems

I am concerned that the dumped debris from old Hwy 100 will be a hazardous

Dale Runke & Pat Jordan
[redacted]
Golden Valley, MN 55422

mess when they have to dig it out.

I am concerned about the way it will change the park along the tracks.

I am concerned about the noise and pollution from the trains.

This is just off the top.

Pat Jordan

Dale Bunke & Pat Jordan
[redacted]
Golden Valley, MN 55422

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

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Name: ERWIN J. HEIM Organization:

Address: [redacted]

Email: [redacted]

UPON REVIEW AND PENDING PROCESS THE D1 LINE THRU C.V. IS NOT WELL SERVED. IT DOES NOT SERVE THE RESIDENTS THRU WALKING - LIMITED PARKING PRESENTLY THE LOCAL RESIDENTS THAT USE THE BUS SERVICE FIND MIMINAL RIDERS, EVEN AT PEAK HOURS, THIS MAY BE DUE TO THE FACT THAT ALL C.V. RESIDENCES HAVE AT LEAST ONE CAR, WE WOULD BE BETTER SERVED WITH REVIEW OF THE BUS SERVICE. IT CAN MOVE THRU MORE NEIGHBORHOODS. RECENT BLOCKS ABOUT THE GREEN LINE TALK ABOUT HAVING TO TRAVEL FURTHER TO GET TO THE LRT SINCE BUS ROUTES WILL BE DELETED.

BUT THE MAJOR FACT IS THE EAST EDGE OF C.V. IS A RURAL SETTING NEAR A MAJOR DOWNTOWN CITY WITH WILD LIFE NOT SEEN OR EQUAL IN ANY OTHER PART OF THE COUNTRY, WITH THE LRT THIS WILL BE LOST.

WE DO NOT NEED THE LRT - AS NORTH MALS RESIDENCES STATED - ADD MORE BUSES OR THAT TYPE OF TRANSPORTATION.

Communication #183

Bottineau Transitway

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

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Name: Carmen Heim Organization:

Address: [redacted]

Email: Carmen D Heim.

I've commented, writen and put postits at the Park Board and LRT since 2012

I Dontogree with DI, we live in Flora/Fauna of The National Scenic Ground rounds where we've lived 28 yrs. I support LRT that is in area of redevelopment, or existing roadways. Look how ugly Univ. ave is now. Mirror That in a concrete, redev area that needs life. UnBelievable our GV council let this be explored for years and dollars. Its "A curse on Grace" To Do This To our parks in This City. No more noise disruption frequency and vibration disruptions in a live florishing parks and wet lands. We live On Bassett Creek. we play out doors so maybe you are responsible for decreasing our God Given Soulful seeren quality of life.. NO D1 Low ridership for cheapest fastest route in The Grand Rounds National Scenic are. SCANDE/IS: what the EI of yrs of Const.

We use This area for: walk, XCski, Do birding.

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

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Name: GWYN Dalrymple Organization: Maplebrook Estates

Address: [redacted]

Email: [redacted]

I have lived in Maplebrook Estates for 13 years. I am a single mom, my son is 15 years old. I have always worked full time with no outside financial help, except from family when needed. I have put alot of money into this house just for upkeep and expected to get some money out of it. My house is very close to West Broadway. As far as I can tell - the four or five units in Front of me will be gone, which seems to me that I will be way too close to the Lightrail - NOT HAPPY about it at all!! Alot of residents will be affected in many ways, NOT just the people that will be displaced. What about my property value? What about the noise? This is a RESIDENTIAL AREA - what are you thinking?!?!? I have no problem with fixing up West Broadway but the Lightrail is taking it too far. Please remember we all have a story - we are families - times are tough already and this will NOT help some of our lives get better - just worse!

From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 8
Date: Thursday, May 29, 2014 11:04:34 AM

Margaret Wall-Ramano, 2912 Kyle Avenue North, said she is concerned about the noise that will come with this project and how it will impact the D1 neighborhood. She said a deeply felt imperative and core pleasure of every Minnesotan is to be outdoors as much as possible once winter is gone. A lot of recreational activities take place not necessarily at parks, but at home in front and back yards and on porches, stoops and balconies. Soaking up the warmth of family and friends, drinking, grilling, throwing a ball, watching the kids run through the sprinkler, chasing the dog, gardening, and taking a nap in the sun are the kinds of things we live to do in the warm weather months after suffering through our long winters, everybody knows this. The DEIS includes a noise reading for her neighborhood that characterizes the ambient noise as rural ambient, that's how quiet their neighborhood is, it's unbelievable, and it's into this peaceful environment that the LRT will charge, effectively destroying people's ability to enjoy the use of their outdoor spaces in the way that they expect to be able to do. This will radically change people's lives not only temporarily with the construction activities, for how many years she hasn't been able to find out, but permanently with constant noise interruptions day in and day out. Some of her worst impacted neighbors will basically only be able to enjoy their homes when they are asleep, if they can stay asleep, which is a very wrong thing. She said she was flabbergasted to learn that in Golden Valley construction noise will be allowed 365 days a year between the hours of 7 am and 10 pm. This is an outrage and it must be corrected. Right now she asks that the City Council or the powers that be swiftly amend the City's noise ordinance to bring it in line with that of Minneapolis. It's ironic that Minneapolis, the big noisy, bustling city recognizes that its citizens need, and have the right to have, quiet after 6 pm while Golden Valley, whose quiet is one of its main treasures does not, and in fact has given it away and for what? It's admirable to be a cooperative regional neighbor, but not when the well-being and property rights of your own citizens are thrown under the train.

Jason Zimmerman | City Planner | City of Golden Valley
7800 Golden Valley Road | Golden Valley, MN 55427
763.593.8099 | 763.593.8109 (Fax) |763.593.3968 (TTY)
jzimmerman@goldenvalleymn.gov

From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 2
Date: Thursday, May 29, 2014 11:04:54 AM

Communication #191

Christophe Wall-Romana, 2912 Kyle Avenue North, said he is a daily bus user and is strongly against the Bottineau LRT proposed alignment. He said the DEIS asks Golden Valley to sacrifice its environmental and recreational assets for an LRT project that will benefit the City very little and will serve mostly other communities further north. He said only 2.5% of the population will use the LRT and will meanwhile damage forever the peace and quality of life of all. It will also affect the beauty of two parks as well as Theodore Wirth which thousands of people from Golden Valley use. He said the project is expedient rather than respectful of people's lives. He said the LRT alignment completely bypasses North Minneapolis which is a big problem because they are the densest users of mass transit, with the lowest income and lowest car ownership in all of the Twin Cities area. He said the D2 option along Penn Avenue is the only other given option which the DEIS invalidates in the name of environmental justice, rightly so and D2 is a bad alignment, but other alignments should be considered. Time and money should not pressure the City into accepting a flawed alignment. He asked the Commissioners to preserve the natural environment in the City's recreational facilities and more importantly preserve the right of all present and future Golden Valley residents to enjoy these fragile resources by keeping the precious wetlands and beautiful landscape intact.

Jason Zimmerman | City Planner | City of Golden Valley
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763.593.8099 | 763.593.8109 (Fax) |763.593.3968 (TTY)
jzimmerman@goldenvalleymn.gov

From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 6
Date: Thursday, May 29, 2014 11:04:39 AM

Communication #178

Brad Thorson, 2811 June Avenue North said he needs to see some renderings of what this is going to look like. If you look at the environmental impacts in the DEIS they are moving the rail line, they are adding two other lines, they are putting up a sound barrier or possible fence, he has no idea what this will look like. He said some renderings have been done for the station in the Wirth area but there is nothing at all for the public to see as to what sort of impact that will have and how it will change the way the park can be used.

Jason Zimmerman | City Planner | City of Golden Valley
7800 Golden Valley Road | Golden Valley, MN 55427
763.593.8099 | 763.593.8109 (Fax) |763.593.3968 (TTY)
jzimmerman@goldenvalleymn.gov

From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 4
Date: Thursday, May 29, 2014 11:04:42 AM

Madge Thorsen, 2811 June Avenue North, said the draft EIS is legally inadequate in a number of ways. It doesn't analyze whether Mary Hills and Sochacki are being constructively used by the project within the meaning of Section 4F of the Federal Transportation Act when noise and vibration and defoliation and deforestation impacts essentially rob parks of their essence, that is a use, and a whole lot of things follow from that in terms of what needs to occur next if the parks are being used. Yet, the draft EIS is silent as to these two parks and that part of the required analysis. The same is true with respect to temporary occupancy. She said the DEIS recites in chapter four that the project is consistent with Comprehensive Plan of Golden Valley and Robbinsdale, but it doesn't mention the park sections of those plans. Chapter six in Golden Valley's plan says Mary Hills is a natural preserve for visual aesthetics and buffering, for walking and for passive recreational uses. Those appear to be inconsistent with shooting 82 decibels of linear noise down the tracks every 7 minutes, but you wouldn't even know that because that analysis is not provided, the facts are not there on which to base a decision. She said she also thinks the DEIS also underestimates the cost of the D1 alignment because it does not analyze inverse condemnation damages. A government can take property, not just by grabbing it, but by creating effects that diminish market values. She suggested the Commissioners talk to the Metropolitan Airport Commission who has been in noise litigation for 20, 30, 40 years. If the costs are understated they can't be compared to the D2 or any other alignment and the comparison of options are deprived which is a core flaw in the analysis of the EIS document. So Golden Valley as stewards of public land really needs to make some serious comments about this draft EIS.

Jason Zimmerman | City Planner | City of Golden Valley
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jzimmerman@goldenvalleymn.gov

Communication #176

From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 9
Date: Thursday, May 29, 2014 11:04:31 AM

Father Paul Moudry, Pastor, St. Margaret Mary Church, said their concerns are noise and pollution. If a station is built across the street from their church and the tracks go along their western border the noise will be really incredible with 200 trains per day going by with bells ringing as the train comes and goes from the station. The lights that would go on at the station and potential parking areas would be detrimental to some of things that they do at their campus with the neighborhood as well. Another concern is the pollution. He knows the buses are scheduled to stop on Golden Valley Road which might be environmentally friendly, but all the automobiles coming to and from the station and park and ride with all their noise and exhaust would not. He said their campus looks quiet and melancholy but it's very active 12 months of the year and they have an elementary school on the property so there are a lot of safety concerns. He said strangers cannot go across the school property. There are currently a few who go to the bus stop, but this would really increase if there is any kind of a light rail station. There have been offerings in some of the printed materials that their campus is one site being considered for a park and ride, they strongly oppose that. He wants to make it clear to everybody that their campus isn't for sale, their parish isn't dying, it is growing and that the parish owns the property, not the arch diocese. So noise, light and air pollution are some of their greatest concerns. And the traffic going to and from their parish with lots of senior citizens is confusing for them now, it will be even worse with added traffic.

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From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 11
Date: Thursday, May 29, 2014 11:04:20 AM

Communication #175

Mary Leach, 301 Meadow Lane South, said she absolutely cannot understand why usage isn't being maximized. She finds it very difficult to understand why the Bottineau line is not running through North Minneapolis for people who need the transportation the most. There is the most vacant land for parking lots all along Broadway which is one demolished building after another. She just fails to understand why we aren't taking all this federal money and maximizing the usage for the greatest benefit for the greater good and people who really need this. She said she is also concerned about going through parkland which is such a precious and rare commodity. She said it is very hard to understand how plans have evolved to this point considering what the needs and objectives are.

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From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 10
Date: Thursday, May 29, 2014 11:04:25 AM

Communication #174

Edward Johnson, 2718 Dupont Avenue South, said he is concerned about the comments that have been made so far. He hopes that this has not devolved into another situation currently being faced with the Southwest Corridor where the NIMBYs are definitely on the way to destroying that line. He would hate to see the same thing happen to this line. This nation, whether we want to realize it or not, is running out of energy, cheap oil, gas and coal and we need to do all we can to develop electrified rail in this country and especially here in the Twin Cities where we are so far behind compared to other cities. He said he wants to make sure that this project is realized as a benefit both to the environment and to future generations. He said there will be some construction noise and he lived along the Hiawatha line while it was being built and he had no problem with living with the construction noise and he has found that the line itself have very little noise compared to the traffic on Hiawatha Avenue. He said he hopes the line and stations will be retrofitted with restrooms for the aging population because that seems like something that has been missed in the plans. He also hopes there will be some connecting street car lines eventually to mitigate some of the bus and traffic noise. He said we've got to get serious about electrified rail in this country and if we don't progress with the federal money that will help, we won't get any and Minnesota doesn't get much federal money compared to what we put into Washington. This is one way of getting some of our money back.

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From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 1
Date: Thursday, May 29, 2014 11:04:52 AM

Sean Fahey, 3941 Bassett Creek Drive, said that the DEIS shows that Golden Valley is not going to get any open space or environmental benefit. If anything, there is going to be increased traffic and reduced air quality. He said there may be development opportunities but from an environmental standpoint that just means there will be environmental degradation and wetland filling according to chapters five and six in the DEIS. He said the City should try to fight for mitigations as much as possible and use municipal consent as a way to get mitigations needed for sound and light. He said the City shouldn't be afraid to use municipal consent as a tool to make this project as beneficial as possible to Golden Valley.

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From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 5
Date: Thursday, May 29, 2014 11:04:45 AM

Communication #172

Joanie Clausen, 2516 Lee Avenue North, said she received an email from a resident that she would like put on record. She has been told that there will fencing around the Bottineau line and she is concerned that would make it hard for animals and residents to go back and forth. The residents in the area near St. Margaret Mary would not be able to use the nature area in the same manner. She is also concerned about noise and said a sound wall with natural trees and bushes would be best or a temporary sound wall should be installed until trees mature.

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From: Zimmerman, Jason
To: Bottineau Transitway/Hennepin
Subject: comments from Golden Valley public hearing 7
Date: Thursday, May 29, 2014 11:04:36 AM

Communication #171

Nils Berg, 2440 Dresden Lane, said it seems like the materials are month too late or this meeting is a month too early to be productive and it feels as though this whole venture has a quick shuffle. He said he finds it interesting that the Bottineau preferred alternative was selected because the planners didn't want to displace either 72 or 175 families in North Minneapolis both of which the LRT representatives have said. He said that's a noble thought even if it is more than a tad disingenuous. In reality, the LRT is all about social engineering. It goes beyond social planning it is about telling people where they have to live. Retrofitting trains through valued neighborhoods is all about community disruption and displacement and to think of it as anything else is an exercise in deception and illusion. He said the DEIS document has an extensive section on water management and that's a good thing. Water flow going in and out of Rice Lake is a major concern for those who live in the area. He said Robbinsdale plugged up the flow under the BNSF tracks a number of years ago and as a result they experienced significant flooding in both Mary Hills Park and in their back yards. The water flow was so strong that they could literally white water raft in their yards. When Robbinsdale put in the new drainage culverts the matter was resolved and to this day those who live south of that area remain interested in any water tampering that's occurring upstream. He asked what is in it for freight. Reports about train delays, accidents and oil movement seem to appear on a frequent basis in the Star Tribune. He said it makes him think that if he was Burlington Northern Rail and he had trains backed up he would be interested in gaining shipping capacity. If you won't or can't give that to them, why would they be interested in sitting across the table from them and if he was the Golden Valley City Council, he wouldn't want to have to go back to his constituents and tell them that he had been successful in getting the railroad to bring longer, heavier and possibly oil laden trains through their neighborhood. He said his real concern is that he sees nothing in the DEIS addressing the fact that Mary Hills Nature Center and Sochacki Park are both sitting on a landfill. The landfill area is the final resting place for old Highway 100. The various paths in the parks have concrete slabs that can readily be seen are the remnants of the old roadway. The thing of interest about that is much of Highway 100 was built as a post-depression Department of Public Works project in the 1930s. Back then, before people knew any better, asbestos was commonly used in many forms of construction including highways. Asbestos fibers bonded to and strengthened the cement. It was not affected by temperature changes and helped provide protection from salt damage to the roadways. He said he doesn't know if there is actually any asbestos present in the concrete and from what he can tell neither does the DEIS document because it doesn't mention it. He said he does know that a variety of respiratory ailments can be directly traced to asbestos. According to the Mesothelioma website exposure over time can have dire consequences. An article he read states that an unbroken block of cement presents no danger, but any time it is cracked or broken, microscopic bits of asbestos are released. Once airborne they can be breathed in by an unsuspecting victim who discovers years later that the material has lodged in their respiratory system. The article states that people can still be exposed to asbestos if they come across broken chunks of cement that contain the hazardous material. He said he doesn't bring this up to instill fear but to encourage caution. He said light rail does not exist in its own little vacuum you need to look at the whole picture. The City Council does not live in a vacuum either and needs to be acutely aware of how moving heavy freight more deeply into Mary Hills could negatively impact the health and

welfare of City residents. Anything that causes ground vibration could disturb materials that need to be kept dormant.

Communication #171

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Communication #170

MAY 2 9 2014

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

Federal and state environmental rules require that an Environmental Impact Statement (EIS) be prepared for the proposed Bottineau Transitway project. The EIS process includes the preparation of a Draft EIS, which must be made available for public review and comment.

The Draft EIS discusses the purpose and need for the project, the alternatives considered, the impacts of these alternatives, and the agencies and persons consulted.

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Public hearings on the Draft EIS will be held on May 7, May 8, May 13, and May 14, 2014. To learn more about the hearings and for more project information, visit the project website at http://www.bottineautransitway.org/.

Name: Marta Spencer Organization:

Address: [redacted]

Email: [redacted]

Random thoughts: I speak as someone who will never use the Transitway to go to work, due to motion sickness. Also - I can drive to work faster than the Transitway will get me there.

I resent the fact that the word Transitway was used instead of some form of Railway ~~stg~~ system. Transitway is a vague word. I thought it dealt with roads - not rail.

Maplebrook Estates will be greatly impacted by all of the construction, along with noise, detours, our east entrance will not allow us to travel north along Broadway. The new Library will add traffic, and possible accidents. There will be longer wait time for us at 85th as we try to leave our complex.

I don't look forward to hearing the chime of the bells ringing at intersections as trains cross, nor the sound of the train horn honking, no feel the possible vibration as the train passes.

Communication #169

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

MAY 2 9 2014

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

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Name: Linda A. Paulson Organization: home owner.

Address: [redacted]

Email: [redacted]

My back yard butts up against West Broadway. I've been told I'll probably loose about 10 feet from that side of my yard due to this project. That will probably mean my fence will have to be removed as well as my Lilac bushes & Lilac tree will be removed. If that is the case then what I would like to see happen is the following:

1) Move my Lilac tree to another location in my back yard.
2) Remove the hill completely leaving my yard all one level
3) Install an 8 foot sound ~~fencing~~ proof fence
4) Remove the boulevard completely of grass eliminating my having to mow grass on the other side of the fence.

Thank you for listening to my opinion & desire.

Sincerely,

Linda A Paulson

Communication #168

MAY 2 9 2014

Bottineau Transitway
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Name: HARRIET LERDAL SUZANNE LUNDGREN Organization: RESIDENT

Address: [redacted]

Email: ELIMINATE LRT B-C-D1 AND CONSIDER D2

1. WE HAVE LIVED @ THIS ADDRESS FOR 38 YEARS AND BOUGHT HERE BECAUSE OF GREEN SPACE, WILDLIFE (DEER, WILD TURKEYS, QUIET, EAGLES, HAWKS, AND A VARIETY OF MIGRATORY BIRDS), THEODORE WIRTH PARK, THE DRIVE, ST MARGARETS CHURCH W/ OPEN GREEN SPACE, PARKS AND ADJOINING TRAILS. ALL WERE REASONS TO LIVE IN THIS AREA.
   - ALL OF THE ABOVE WILL BE AFFECTED IF THE LRT-D1 ROUTE FOLLOWS THE PRESENT RR RIGHT OF WAY THROUGH GOLDEN VALLEY AND UNDER G.V. ROAD
2. THE GV/WIRTH INTERSECTION IS ALREADY BUSY DURING CERTAIN TIMES OF THE DAY. ADDING PARKING, TAKING AWAY GREEN SPACE TO ACCOMODATE LRT AND PLACING A STATION HERE WOULD ONLY CAUSE MORE PROBLEMS (TRAFFIC, NOISE, CRIME,)
3. THERE HAS BEEN A DISCUSSION TO TAKE OUT THE FIRESTATION PLACING ALL OF THE AREA E. OF 100 IN JEOPARDY.
4. THE D1 ROUTE RIDERSHIP IS LESS THAN POSSIBILITIES ON D2, WITH D2 OFFERING GREATER ACCESS TO EMPLOYMENT & HOUSING.

-OVER-

5. IF I READ CORRECTLY 10.5 ACRES OF WETLANDS WOULD BE AFFECTED WITH ROUTE D1. FILLING IN THESE AREAS WILL AFFECT OTHER AREAS THAT HAVE NOT BEEN ADDRESSED, NOT TO MENTION THE HORTICULTURAL AND WILDLIFE IMPACT.

6. IF LIGHT RAIL IS APPROPRIATE FOR WASHINGTON AVE. THROUGH THE U of M - WHY CAN'T IT RUN DOWN PENN. INSTEAD OF THROUGH PARKS, WETLAND, AND GREEN SPACE?

7. YOU WILL NEVER BE ABLE TO REPLACE WHAT YOU DESTROY - ONLY TO CREATE OTHER PROBLEMS. THEREFORE: ELIMINATE ROUTE D1 AND CONSIDER D2 WHERE THERE WILL BE POTENTALLY MORE RIDERSHIP WITH FEWER IMPACTS TO THE ENVIRONMENT.

HARRIET LERDAL
SUZANNE LUNDGREN
[redacted]
GOLDEN VALLEY, MN.
55422

Communication #168



Hennepin County Housing, Community Works, and Transit
Attn: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

MAY 2 9 2014

Bottineau Transitway

DRAFT ENVIRONMENTAL IMPACT STATEMENT

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Name: Dean Lankin Organization: Line behind the Track

Address: [redacted]

Email: [redacted]

We really need to do something for the environment and the future of our parks and wet-lands. Lets not just talk and have votes and money be a priority, but show that the environment is important by stopping the expansion of light rail. This would show that we are serious about the future and put some real meaning in our words.

Communication #166

#1

MAY 2 9 2014

Bottineau Transitway

DRAFT ENVIRONMENTAL IMPACT STATEMENT

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Name: Darlene Lanker Organization: none - neighbor behind

Address: [redacted]

Email: [redacted]

#1 I believe in mass transit ex - Hiawatha Line from Vets administration to the mall of america - works & helps alot of people - very loud - bells & Train.

#2 I live behind the preferred alternative less than one black away - I've walked the valley for over 19 years - 4/5 days of the week - 6:00 A.M. The only noise you hear are animals - & wildlife - ex - owls & birds & deer.

#3 Wetlands - you will ruin - the 9.4 - 10.2 - acres of wetland - mitigation with moderate & severe impacts will take the only nature center in Golden Valley.

#4 people in north Imps want and need transit - D2 would satisfy the reason for this Train.

#5 Our area is quiet with NO people who depend on transit. Only Target wants our area for their employees

Communication #166

Bottineau Transitway

DRAFT ENVIRONMENTAL IMPACT STATEMENT

#2

Bottineau Transitway Draft Environmental Impact Statement

Comment Form

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Name: _____ Organization: _____

Address: _____

Email: _____

#6 In Sec 5.3 - all wetlands areas within the potential area of disturbance were considered an impact.

#7 The only reason the B-CD is preferred is because A) the one small track was in existence & B) it's the cheapest.

#8 The Environmental Impact forgot to mention all the wild life within the area - a few are - Deer, woodchuck, wood ducks, geese - Loons (sometimes) Owls - Canadian Geese - Fox, Coyotes - Raccoons

#9 Hazardous Risks for material contamination should be NO-WHERE!

#10 - There is no noise at all except from animals - the train that goes thru twice a day is very quiet with no BELLS -

#11 This study is very limited and BIASED - I expected more from the Environmental experts.

Communication #166

Attach First
Class Postage
Here

#3

Hennepin County Housing, Community Works, and Transit
Attn: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

Please have the Federal government use the money elsewhere - this is a nature center Please don't ruin it. We have very few people even using the trails in this area.

The district uses the area for environmental classes.

MAY 2 9 2014

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

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Name: Pam DALRYMPLE Organization:

Address: [redacted]

Email: [redacted]

I feel that all alternatives for the Light Rail was not looked at. There was an A option and B Option (West Broadway) what about a C Option not down the middle of a neighborhood. There will be houses within 50 feet of the Light Rail. As far as I know the current and proposed Light Rails dont go through a neighborhood where houses 50 feet from the train. West Broadway does not need to be redone to 3 lanes on the other side of 85th Avenue - since 610 exits have opened there is NOT the 13,000 cars indicated in the 2011 Study. Please look into an Option C. I dont want to replace my peace and quite at my home with a train noise. I work downtown and know what noise the trains make. Why not take the Train farther down on Bottineau Boulevard and put in a transit station with buses running regularly to the Target Campus. Please dont put the Train on West Broadway - pick another location for it instead of through a working peoples neighborhood.

Pam Dalrymple

Communication 164

Bottineau Transitway

DRAFT ENVIRONMENTAL IMPACT STATEMENT

MAY 29 2014

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Name: LOIS BINDER Organization:

Address: [redacted]

Email:

The Bottineau Transitway will be a great boon to our area and city & state. Every effort should be made to lessen the noise factor for the neighborhood. I know it will alleviate the pollution factor from the thousands of cars that would otherwise drive through our area. Build it fast & build it safe.

Lois Binder

I want it in my neighborhood.

From: Crikket 4evr
To: Bottineau Transitway/Hennepin
Subject: Comments EIS
Date: Thursday, May 29, 2014 11:52:43 PM

Dear Sir/Madam,

I have read with interest the results of the EIS with regards to the proposed routes of the Bottineau Transitway Project. In theory, I am personally very much in favor for mass transit in urban areas which I believe alleviates congested roads and drives down pollution.

However, one area of the report particularly stands out as being contradictory and that is the decision that route D1 should take preference over route D2.

To build from Robbinsdale over the Walter Sochacki Park, through the Mary Hills Nature Area up to Golden Valley Road is a mistake based on these observations:

1. This is a floodplain. Building on floodplains is both notoriously difficult and expensive. In this area there are deep lakes, bogs and marshland which would require deep and costly drilling to find secure foundations for the track.

2. Route D1 does not serve anybody. Route D1 runs through uninhabited wetlands. D2 runs through an urban area. Mass transit is built to serve and transport people. I agree that the uninhabited route D1 is a quicker option if you are trying to transport people from one end to the other, but if this is the case why not use busses? I note it would be easy to have 'fast trains' during peak periods along route D2 if speed from one end to the other is a major concern, but this has not been mentioned in the report. Route D1 appears to be a private line avoiding the urban areas, which contradicts the reason for mass transit in the first place.

3. Neighborhood needs. Route D2 runs through a working class neighborhood. In other working class areas of Minneapolis where mass transit has been introduced, regeneration has been quick and has given a much needed boost to the economy of that area from property prices to flourishing local businesses. Building D1 through an uninhabited floodplain would offer none of these advantages and deprive a community of much needed growth. This appears to be an opportunity to do some good for a Minneapolis community and it is being squandered.

4. This area is a park and full of wildlife. Walter Sochacki Park links into Theodore Worth Parkway and is a thoroughfare for deer and much other wildlife. When I walked the route I saw deer, coyote, turtles and raccoons including a doe giving birth to a fawn directly next to the current track. To have to build tunnels/bridges through the wetlands to accommodate these creatures' natural roaming patterns would be expensive.

5. Minneapolis is famous for its parks. The reason many people choose Minneapolis over other urban areas is due to its metro-area parks. These should be protected at all costs and not destroyed.

6. Cost. Revenue is generated by the paying customer. Although the initial build costs of D1 may perhaps be less expensive, building a line through an uninhabited area will not generate any future income. D2 will immediately generate revenue from

the onset.

I look forward to your response and please feel free to let me know if you would like clarification or have any questions.

Best regards,

Freddy Crawford

From:	Margaret Wall-Romana	Communication #161
To:	Bottineau Transitway/Hennepin	
Subject:	DEIS Public Comment	
Date:	Thursday, May 29, 2014 9:33:12 AM	

Hennepin County Housing, Community Works, and Transit
Attn: Bottineau Transitway
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415

PUBLIC COMMENT Re: Bottineau DEIS, May 28, 2014, 9:30am

This letter is to voice my strong objection to the Preferred Alignment of the proposed Bottineau LRT through Golden Valley, as described in the Draft Environmental Impact Study.

Hennepin County Commissioner Mike Opat has described the area through which the line would run as "an active freight rail corridor, not a pristine wildlife corridor", which he described as strewn with litter and poorly maintained. This is a disingenuous characterization. He is referring to a lovely, peaceful, wildlife-filled wetland area upon whose trails people stroll, run, bike, birdwatch and dose their souls with the balm of natural beauty – through which a freight train track currently happens to run. Is it "pristine"? No it is not. Is anything in our urban area "pristine"? Is it wonderfully quiet except for birdsong? A great deal of the time it is, in fact. Is it of value, and a special, irreplaceable natural resource for its neighbors, its city and the Twin Cities area? Yes! Should we who value it accept that it will be ravaged? No!

I object to this disingenuous denigration of Sochacki Park & Mary Hills Nature Area in pursuit of the Bottineau Line. The Preferred Alternative will not serve the transit interests of Golden Valley – it is very badly placed for that. What it will do is destroy a cherished nature area and the peace of neighbors along its path in order to allow several hundred trains a day to speed through the city, bypassing areas of greatest transit need, while serving the desires of other entities and communities. This route will be strenuously opposed.

Sincerely,

Margaret Wall-Romana
[redacted]
Golden Valley, MN 55422
[redacted]

Appendix G
Response to Draft EIS Comments

10 Transcript – Brooklyn Park Hearing

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Bottineau Transitway Draft Environment

Impact Statement Public Hearing

Before Hennepin County Commissioner Mike Opat

Thursday, May 13, 2014

Brooklyn Park, Minnesota

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Reported By: Lori Morrow, RPR, CRR, CLR, CCP

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PANEL MEMBERS PRESENT:

Mike Opat, Hennepin County Commissioner, District 1

John Jordan, Brooklyn Park City Council

Bob Mata, Brooklyn Park City Council

George Selman, Robbinsdale City Council

Rich Gates, Brooklyn Park City Council

Lona Schreiber, Metropolitan Council

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(Reporter's Note: The first two speakers, Ms. Lokken and Mr. Althouse, spoke directly to the comment reporter and did not speak publicly to the commission.)

MS. BARBARA LOKKEN: Barbara Lokken, L-o-k-k-e-n, and my address is 7924 Oregon Avenue North, Brooklyn Park.

I've got a couple of concerns certainly from where I live on what's happening. And one of them is what kind of -- what will it do to the crime in the area. Brooklyn Park has so many problems with crime as it is now. And as a homeowner, I'm really concerned about what kind of crime it might bring to the area. And I know we don't have a crystal ball, and we can't predict that, but has there been any kind of a study done on that on other areas that have had light rail and how it's affected the crime in the area? So that's my first point.

My next point is that of noise. I'm just -- there's a row of houses on the other side of us, and their backyards face West Broadway. And those people are going to have a lot of their backyards taken away. And I'm just really worried about the noise level that we're going to hear in the neighborhood and what's being done to help that noise level.

And the third issue I have is that of property

value. I'd like to see any kind of a study that's been done on property value and how it affects homes that are close to light rail. And how does the city respond to that? Or is it just tough luck for people who live close? You know?

And then I also have another question. Is there anything we can do to reverse it, maybe have that line go down not West Broadway but Highway 81? And I know they have done all kinds of studies and this and that, I'm sure. But as the people that live in Brooklyn Park, do we have any chance of reversing the current decisions on this? And if we do, how do we go about working through that process?

MS. KIMBERLY ZLIMEN: I want to make one more quick announcement for anybody who came in after the last time. The public hearing will be starting at 5:30, but you can sign up at this table right over here to give verbal testimony. And you can also submit written comments from now and through May 29 on the Draft EIS, the Bottineau Project. But sign up over here if you want to give verbal testimony at tonight's public hearing.

MR. RANDY ALTHOUSE: Randy Althouse, that's R-a-n-d-y, A-l-t-h-o-u-s-e, 7117 - 88th Avenue North, Brooklyn Park, 55445.

I just wanted to say I read this literature,

and I support the changes they're proposing. I think it's a great idea. And I like the new library idea and the light rail. I think it would be great, and I think it would help boost the property values of the homeowners in the area. That's really all I have to say.

(Reporter's Note: The public hearing begins at this point.)

COMMISSIONER OPAT: Good evening. This is a new system for me, so I'm trying to get oriented here. I appreciate the help. My name is Mike Opat. I'm a Hennepin County Commissioner, and I will be conducting the public hearing tonight.

We're going to go over some logistics. But before we do that, we have some Brooklyn Park City Council members here. I'm going to make the apologies for the mayor. He had something come up at work. He's not going to be able to be here tonight. I know he intended to be.

We have council members here. So maybe we could start at the end, and, Council Member Gates, you could give an introduction.

COUNCIL MEMBER GATES: Council Member Rich Gates from the Central District.

COUNCIL MEMBER SCHREIBER: Lona Schreiber, Metropolitan Council, District 2, which includes the

Cities of Brooklyn Park and Brooklyn Center.

COUNCIL MEMBER JORDAN: John Jordan, West District City Council.

COUNCIL MEMBER SELMAN: George Selman, Robbinsdale City Council. I also chair the Community Advisory Committee for the corridor.

COUNCIL MEMBER MATA: Bob Mata, West District.

COMMISSIONER OPAT: Bob has a meeting down the hall. He's going to be coming back.

Appreciate everybody coming out tonight, and I appreciate all of you coming out tonight. I'm sure folks got a chance to meet back in the open house area to look at some of the information there.

Tonight we're having the public hearing for the Draft Environmental Impact Statement. Some of the logistics -- well, first off, so what that is is a public hearing, and it means just that. We're here to listen to you. We're not going to be involved in a give and take here. We want to give everybody their three minutes at the podium if they choose to use three minutes. If you want to be a speaker, you can sign up in the back. Maybe folks could wave their hands back there. I can't see the screens, but when your name is -- when you're on deck, if you'd come up here and sit at one of the first three chairs here -- there's paper on them for the upcoming

speakers -- and then you can -- there we go. All right. Then we'll be able to move through in an orderly fashion.

Some of the folks up here have other commitments that they will be on. I'm going to be here for the duration of the public hearing, so just -- it's a busy night, and people will be coming and going.

What else did I want to mention here?

I just ask you to, in respect for all the speakers and all the different opinions, just refrain from any cheering or clapping or applause. We'll let everybody have their three minutes hopefully uninterrupted, and we'll move through it, and we'll get through this and hopefully gather a lot of opinions and information tonight.

So with that, I'm going to let Joe Gladke from the county give a little bit of an intro to the project, and then we'll begin with the public hearing.

JOE GLADKE: Thank you, Commissioner Opat.

I'm Joe Gladke with the Hennepin County Engineering and Transit Planning.

I'm just going to provide a brief overview tonight. We've had a series of meetings over numerous years. But some people, this might be your first meeting, so I just want to provide a brief overview of kind of where we're at right now, where we've been, and

kind of where the project is going from here.

The Bottineau Project involves several different agencies. At the federal agency level, we have the Federal Transit Administration. Hennepin County is currently the lead agency regarding the selection of the locally preferred alternative as well as a Draft Environmental Impact Statement. Later on this summer, we'll be transitioning the project from Hennepin County on to the Metropolitan Council. They will really be the lead entity regarding the FEIS, moving it forward with preliminary engineering and ultimately with construction and operations should the project continue to progress.

We also have a partnership with all the cities along the line. They are very valuable to the entire process. They control land use around the station locations, and they are involved with getting input on the project and making sure that it fits within the community.

As far as the Bottineau LRT Project, you might also hear it referred to as the Metro Blue Line Extension. The Hiawatha Project was renamed Metro Blue Line. And this would be an extension of that. If you were in the other room, you probably got a chance to see the video that kind of shows where it would start in downtown near Target Field, head west on 55, up the BNSF

Railroad corridor, then head north on West Broadway up to the final station. It is part of a larger system that we envision for the entire Metropolitan area.

As far as where we're at right now, we have spent several years looking at a variety of different alternatives. We have a variety of alternatives on the north end, a variety of alternatives on the south end. We kind of got through that process. We're kind of at the final end of the Draft Environmental Impact Statement. That's kind of shown in the green blocks going across.

The next step in that process will be the Final Environmental Impact Statement, which will likely begin toward the end of this year. We'll probably still take another one to two years beyond that. Also on the top line going across as far as kind of the project development aspect of it, there's currently a request for proposals out where Met Council is looking to hire a firm to begin the preliminary engineering for the project. That will be at least two years probably with that. There's also a city approval process as part of the approval of the plans moving forward.

Then on the bottom of the process there, we kind of have land use planning. That's another kind of process that's happening continuously with some of these

other processes as well.

We currently are working on the stations on the southern end, two in Minneapolis, two in Golden Valley. We'll likely be hiring a consultant toward the end of this summer that will again work on the station area planning. This is really kind of a half-mile radius around each one of the potential station locations where they look at pedestrian connections, bike connections, land use around that, what should be considered for potential changes as this type of investment moves forward.

Very early on in the process, there were kind of five goals that were looked at regarding this project. Those five goals were to enhance regional access to activity centers, enhance the effectiveness of transit service within the corridor, provide a cost effective and financially feasible transit system, promote sustainable development patterns to support healthy communities and sound environmental practices. These are really kind of the five goals that were really looked at, looking to carry forth in looking at the various alternatives as well as the results.

We have looked at a variety of alternatives. Back in early -- actually early 2012, we had some meetings regarding scoping where we came out with a

variety of communities along the line, got input regarding some of the key issues that folks thought that were needing additional analysis as part of the DEIS. We got input on the scoping decision. The scoping decision document came out as a result of that in May of 2012. That was a process that was looked at regarding the selection of the locally preferred alternative moving forward. In addition to that, shortly after that scoping decision document was the preparation of the DEIS. That's currently finished. We're in the kind of the comment period right now associated with that. And the comment period will be open until May 29.

Exactly what is the DEIS? Well, the DEIS assists decision makers with the assessment of the impact associated with the project documents, the protests and the need, as well as the alternatives that are considered. It addresses transportation, social and environmental impacts, as well as historical impacts and other types of impacts. You'll see in the other room we have kind of a detailed listing of the different sections within the DEIS where you can find specific information if you have more detailed questions. It also defines potential mitigation measures that could be considered as part of the project, facilitates review by federal, state, and local agencies, facilitates review by the

general public, satisfies both national and state environmental laws, and also provides a comparison of alternatives and identifies an environmentally preferred alternative.

You'll notice in the DEIS there are four different options that are studied. Up on the north end of the corridor, you'll see a study of a Maple Grove section as well as a Brooklyn Park. Maple Grove is known as A. Brooklyn Park is B. The blue section there is C, which is kind of all the alternatives on the southern end. There's an option known as D1, which stays within the railroad corridor. There's another option known as D2, which went out onto West Broadway and south on Penn. And then they all come in and tie in at Target Field. So these are the options that you'll see are studied in the DEIS.

Going back to those five goals that I mentioned earlier, and looking at those five alternatives in addition to a no-build alternative and enhanced bus alternative as well, this is kind of a high level assessment to where that turns out. There are 22 different evaluation criteria surrounding those five goals. And that's how they come up with kind of how these range. And they range -- such as alternative BCD1 is both a locally preferred alternative and the

environmental preferred alternative. And that is a map right here from those two options. Again, it is the Brooklyn Park segment BCD1.

We have a series of open houses that we're having right now. We're here tonight in Brooklyn Park. We're going to be tomorrow night in Crystal. I also want to mention that there's going to be another meeting on May 21 that's going to talk about the Roadway Project along West Broadway. The Roadway Project is a vision that happened prior to the LRT Project happening along West Broadway. So there is going to be more detailed information about that meeting on the 21st if you're interested in attending that as well.

Treatment of the DEIS comments. Hopefully, you saw some of the comments forms that are here. You're certainly welcome tonight to provide verbal comments. You can also provide written comments. Those comments will all be gathered. And we've asked for your email address as part of the comments as well so we can acknowledge that, yes, we did receive your comments. Those comments will then be taken and gathered and kind of put into different classification categories. Those will be shared with the consultants that will be working on both the preliminary engineering as well as the final environmental impact statement.

So we do plan on trying to give back to those comments, but it will be quite some time before people kind of hear a response based upon their comments relative to the process. But that's going to be -- as we get into the FEIS, we can address those comments that come up with more work on the project. There's very kind of a high level of engineering work that is done currently. There's much more detail of work that needs to happen during our preliminary engineering and during the last stage as well.

With that, I'm going to turn it over to Commissioner Opat to begin the public hearing. I think he's going to go over again kind of some of the ground rules, and then we'll begin the hearing.

COMMISSIONER OPAT: Thank you, Joe. And again, if anybody wants to sign up to speak, the table is in the back. I'll ask that you raise your hands again, and then those speakers who are on deck, please come up here.

I'll just mention, this is again the third of four public hearings. Tomorrow night in Crystal will be the fourth. And we're at the end of -- this has been a long process, since 2008 I see on one of the slides. It's hard to believe we've been at this -- well, it's been longer than that. But even this last period for six years now.

And then the other -- for timing purposes, Mr. Gillette over here will give you a little 30-second wrap-up sign there to kind of help you out. And I'll just ask people to relax. And we're here to listen.

And then the last thing I'll say is I know there's concern about both the road project, and some of you may be here about that. That is going to be a separate public hearing. And for some, the obvious question might be, well, why wouldn't you do all of these together. And the answer is, there's no guarantee we'll get all the funding for this project. The light rail projects are -- all of them are in the neighborhood of a billion dollars. If you're following the Southwest Corridor, even more than that. And half of that is to be -- we seek federal funding for that. And we're in competition with regions around the country. So in order to -- meanwhile, the road needs improvement much sooner than that. So that's why they travel on separate paths, so to speak.

So with that, we'll begin. The first speaker is -- and please state your name and address for the public record. And I'm going to apologize in advance for any mispronunciation. I'm going to do the best I can here.

So Lana Ensrud is first, and on deck you can

see John McCarthy, Mary Ostroum, and Chuck Sutphen.

JOE GLADKE: Commissioner Opat, if I can interrupt you one second. I'm going to talk to several people in the room next door. If people have questions this afternoon, I'll be available in the other room to address those questions and help people make sure they try and get answers to their questions. We had quite a crowd earlier, and I didn't necessarily get a chance to talk to everyone. So we will be in the other room to answer more questions.

COMMISSIONER OPAT: All right. Thank you.

MS. LANA ENSRUD: Good evening. Thank you for this opportunity. My name is Lana Ensrud. I'm a 26-year resident at Brooklyn Park, and I live at 10531 Welcome Drive North.

I've spoken once before before the council and to some of the city staff who originally told us don't worry about it, this is not going to happen on West Broadway. Every week, most days actually, in the Star Tribune there are articles about light rail. And I would like to quote just from a couple of those and ask you to consider -- particularly our city leaders, ask you to consider these issues that I'm about to mention running down the middle of our city.

One article addresses the safety issue. This

article is about the Green Line, which is launching soon. And it states that St. Paul Police are launching a safety campaign for drivers and pedestrians because trains will run as often as every 10 minutes. And the city council member in St. Paul said, quote, we got people crossing the barriers in some cases, we got motorists making left turns at times that they shouldn't or getting stuck in the middle of the intersection on the tracks in some cases, and we know that there have been accidents involving light rail.

There's been an issue with vibrations and noise. One article talks about, for example, Minnesota Public Radio, where they say, quote, the floor is vibrating, the ceiling is shaking, the structure is making noise, and the Met Council has been forced to spend a million dollars' worth of concrete and rubber pads outside the MPR, a couple of churches in the area, and a U of M research lab.

There is an issue of how it will look, how hectic the area becomes. You know, to the southwest, residents are up in arms saying that the tranquility of those neighborhoods will be lost. The paper says they are worried about the aesthetics of 220 trains a day coming through their neighborhoods.

There's an issue with our own Brooklyn Park

citizens, not just those who will lose their homes but anyone who currently drives on West Broadway or lives near it. You know, it is troubling to me that the decision on this light rail is being made by people who do not live in the neighborhoods. Our two city council members who oppose it are the only two of our city leaders who actually live in that district.

There is article after article about light rail that raises red flags about the wisdom of putting a line right through the middle of our city, tearing up streets while it's being built, access to neighborhoods, businesses, churches after its built.

And, you know, having said that, light rail is coming to Brooklyn Park. The only question is where should that route go. Common sense tells me it is not a wise decision for our city. You know, we've talked about this before.

I have three questions for our city leaders I would like to hear the answers to. What is more desirable about the West Broadway route than any other option? Who will benefit specifically from this route? And why is Brooklyn Park unique from all these other suburbs who want light rail routed out of site and through unpopulated areas?

Thank you.

COMMISSIONER OPAT: Next is John McCarthy.

MR. JOHN MCCARTHY: John McCarthy, 8001 College Park Drive.

I happen to live in a pocket neighborhood. If you do anything on West Broadway, you are going to severely hamper coming in and out of my neighborhood for all the residents in that neighborhood. I also work for the City of Minneapolis. And to this day, whenever I'm out on 26th and Hiawatha, all day long that light rail screws things up. You didn't put the money in there to sync the lights with the light rail. You still haven't fixed it. Things like that seem to be overlooked. You just want to cram the rail in and get the thing going, and it screws up the traffic wherever it goes. So syncing the lights.

Also, you want to widen West Broadway. Are you going to cut into the college's land as well as the residents, or are you going to do it all on one side until they get past the college and then widen it on both sides? Are you going to have a dogleg? That's going to affect you laying sewer, water, all of that.

Are you going to completely close down West Broadway as you're working on that project? And if you do so, when you do set up for the light rail for later, if you're planning on splitting it right down

the middle of West Broadway, that doesn't work so good downtown. In the winter, I work nights. In the summer, I work during the day. Wherever the light rail runs downtown, even where the infrastructure is set up for it, when you can only be on this side of the tracks or this side, all you have are headaches. You have people that cannot figure it out. You're always having congestion and light issues and people trying to turn.

Also, I don't know how the sewer system runs. When you start tearing all that up, are you going to have temporaries up for months and months and months while you refit?

And will there be any additional assessments or levies put on us? Because you say, well, we're going to get the funding for this, and then this is going to pay for that. And then you go to do it, and, oh, gee, we're short of money, so guess who is going to take another short to pay for it.

Thank you.

COMMISSIONER OPAT: Thank you. Mary Ostroum.

MS. MARY OSTROUM: My name is Mary Ostroum. I live at 8560 South Maplebrook Circle. I'm a part of Maplebrook Estates Townhomes. I didn't make it to the previous meeting in April, but my neighbors who did say that some of the council members asked where have we

been. Why couldn't we have known about this project.

The answer to that question is simple. We've been at work. Maplebrook Estates consists largely of working-class people, residents who basically pour every dime into improving their homes. Our homes are getting a little older. We're at the point now where we're replacing windows, putting in new furnaces, putting in new central air-conditioners. We are a group of residents who care deeply about making improvements to our townhomes and making them the best they can be, improvements, I think, that would never be compensated by the county in their purchase price of our properties. And I think, if anything, planners should be looking at decreasing speed limits on West Broadway, adding more stoplights, and respecting the fact that this is a residential neighborhood. I don't know whose advice the planners and politicians who work for this project have been taking, but I think, clearly, that it is the wrong advice for Maplebrook Estates.

Thank you.

COMMISSIONER OPAT: Thank you. Chuck Sutphen.

MR. CHUCK SUTPHEN: That's a good way to pronounce it.

COMMISSIONER OPAT: Good?

MR. CHUCK SUTPHEN: Yeah. That's the Dutch

way.

COMMISSIONER OPAT: What's the other way?

MR. CHUCK SUTPHEN: With a short U.

My name is Chuck Sutphen, and I live at 8309 Rhode Island Drive North in Brooklyn Park. And I'm one of those people who will be cut off. I won't be able to come here to meetings at the City Hall because the street will be torn up, and there's no way out of our neighborhood east -- I mean west. There's no way out. So if you got West Broadway broken up, torn up, well, I won't be able to make any of the meetings. I'm sorry.

But I spent seven years on the CLIC, the Citizen Long-Range Improvement Committee. And for six of those seven years, I tried to get people to fix this street, West Broadway, before some college kid gets run over, because there's no sidewalk on the west side of the street. And they keep saying, oh, we're going to have the light rail, we're going to get the light rail, we're going to get it all fixed.

There's a big mud puddle there at 83rd Avenue where the water won't run anywhere. In the wintertime, it's a sheet of ice. They won't fix it. They are waiting for the light rail. Well, I'm waiting for the light rail, too, to go somewhere else.

I lived in New York where they have the L

trains and the subways. I lived in Philadelphia where they had the L trains and subways. In the city proper, the trains were up, or they were underground. They weren't in the middle of the street. They took the trolleys out in Philadelphia and put in electric buses called trackless trams, tremendously more efficient than a train. And what about the geese who try to cross the street? They get run over by cars now. What's going to happen when the trains are coming through there, and the geese don't know to stop for the train?

If I go to the V.A., when I go to make my left turn into the compound, the red light is on. You know how that works. That red light stays on forever. And then when it finally does turn green, the things are down, and the train comes. Then the light turns green again, and the trains come from the other way. So then the light turns red again, and you're sitting there for 10 minutes waiting to get into the V.A. Now, is that ridiculous or what?

So I would appreciate it -- I mean, people need rapid transit. But the poor people who it's supposed to serve are not going to be able to get on the train because they have to take a taxi to the train station. I mean, my goodness, let's be practical. It's going to cost billions of dollars, and those dollars are not free,

just like freedom isn't free. Is that right, sir?

MALE SPEAKER: That's right.

MR. CHUCK SUTPHEN: Freedom is not free. Your tax money, whether it's state, county, federal, it's all coming out of your pocket. And they are taking it to do some, what they call here a boondoggle. There's nobody that can ride that train for what it costs to operate it. Nobody.

Thank you.

COMMISSIONER OPAT: Thank you. Chris Berne.

MR. CHRIS BERNE: It's Chris Berne, and I live at 8743 North Maplebrook Circle.

I'm a light rail supporter, but I think the current plan up West Broadway is flawed. The roadway -- I'll beg to differ what the Commissioner said earlier about that the road and the light rail are separate. They are integrated because the county wants to build the road now with light rail in mind, even though light rail hasn't been approved yet. So it is part and parcel of the same issue that we'll be talking about here next week.

The current plan for Broadway will dislodge 30 to 50 families out of a one-mile corridor of this road. And it will also negatively impact dozens of other families who don't necessarily butt up against the rail

line but will be in very close proximity.

Many of these homes that will be taken are under water. Everybody that lives there is middle income or low income. Many of these are immigrant families who have come to this country to find a better way. This is their home. This is their dream. And it will be taken away from them.

In the Middlebrook Townhouse Association where I live, it's a development of 436 people -- families, not people. Excuse me. Families. It is slated to lose dozens of homes. The cost to purchase these homes is multiplied because most of these units are either quads or six-plexes. So if you take one, you need to take four. Now, when you buy the home, you have not bought the land. The land is owned by the common interest community of Maplebrook Townhouse Association. That land will need to be purchased. Furthermore, with the loss of eight to ten percent of our homes in that community, there will be an ongoing, permanent loss of revenue for our community that will need to be part of this discussion.

I have an alternative plan that I would like the engineers to take a look at. I've discussed it now with some of the city council members of Brooklyn Park and have gotten positive response. I'm a business owner,

so I know what I'm going to be saying here may not sit well with business people. But I think what we need -- what it needs to do is come in south of Fleet Farm along 83rd, go north up Wyoming, doglegging into Winnetka, across 610 where Winnetka used to go across. It is all public right-of-way. It is all roadway. There is not a single home that will be taken. There is not a single business that will need to be disrupted. There will be access issues, as there are access issues along Broadway. I get that. I understand that. But I think it deserves this consideration, and I think it needs to be looked at.

If the light rail were to go there, one of the issues is the community college will not be directly served. They will be within three blocks. If you've ever lived in Minneapolis, taken public transport, walking three blocks to your bus stop is nothing. Once you get downtown, you might have to walk three, four, five, six blocks to get to where you're going. Three blocks to serve the community college is not an issue as far as I'm concerned.

We don't want another Southwest Light Rail debate here. Let's get this done right on the front side rather than spending tens of millions of dollars afterwards to fix a problem that wasn't done right initially.

Thank you.

COMMISSIONER OPAT: Thank you.

Dan Couture.

MR. DAN COUTURE: Good afternoon. My name is Dan Couture. I live at 8521 South Maplebrook Circle.

And my issue with the Draft Environmental Impact Study is the fact that it's incomplete and inaccurate. I'm going to just ask everyone in the room. If you own a home between -- along West Broadway between 78th Avenue North and 93rd Avenue North, please raise your hand. Hold them up, please. I want everybody to see.

The folks who are raising their hands right now are not reflected in this Draft Environmental Impact Statement, because the properties between 78th Avenue and 93rd Avenue aren't included in any of the statistics that were considered when you were evaluating Option A to go through Maple Grove or Option B to go through Brooklyn Park.

Thank you. You can put your hands down.

Is anyone here to talk about wetlands, saving wetlands, or are we basically here to save our homes, maintain our property values, to enjoy the peace and quiet that we presently enjoy along West Broadway? We don't want light rail trains coming 500 times a day every

10 minutes, 21 hours a day, from 4:00 a.m. to 1:00 a.m. clanging their bells all along West Broadway.

The issue that I have -- a cynical person would say that the reason why the West Broadway reconstruction project was broken out from the light rail Bottineau Transitway was to separate and to hide the impact of these people's homes on the project, because, currently, you're only showing that you have to take eight homes along segment B, when, in fact, the true number is closer to 60. And the number of homes impacted is closer to 100, not the 30 that are listed. That's what we're here about. We're not here to save wetlands or trails. We're not asking you to dig tunnels. We want you to put this somewhere else. Keep it along 81. Take it up through the granite quarry and head it towards Maple Grove. These folks want to hang onto their homes. They want to maintain their property values. People want to live near transit. They don't want to live on transit.

FEMALE SPEAKER: Thank you.

MR. DAN COUTURE: I think everyone who has seen this is familiar with this document. It's a scorecard that they use to evaluate all the options. On here it says, if any area, any one area of an alternative is considered poor, the entire alternative is graded poor. I think the fact that we're going to be losing 60 homes

along West Broadway and impacting another 100 homes that we're taking property from is going to grade the adverse impacts for the BCD1 option poor, which then makes the Maple Grove option the only non-poor option remaining.

COMMISSIONER OPAT: Thank you.

Thomas Hanson.

MR. THOMAS HANSON: Thomas Alfred Hanson, 6741 - 83rd Place.

I've lived in Brooklyn Park all my life. And I'm glad to see light rail coming up. My folks sold their house on 94 and Lyndale right where the fire station is, where an on-ramp -- I bet everybody has drove up 94 and got on the on-ramp there from the farmer's market there at one time. And the freeway didn't actually end until 1979. My dad died before he ever had an opportunity to use it.

And you can't stop progress. Yeah, you can change it. You can alter it. But I do believe it's one of the best things that can possibly happen for Brooklyn Park. We have a lot of industry up there. We have the college. We have a new library coming. People who complain now are probably not good for anybody in 20 or 30 years when it becomes a valuable asset, and there will be more traffic than there is today on 94, 81, 252. I know everybody loves sitting in traffic. Where you can

sit on a train and fly down to downtown, and it's just like the trunk, the tree, little limbs coming into the main trunk and they zip you downtown. Three dollars to go from here to the airport, Mall of America, St. Paul or Southwest is a phenomenal idea.

Yeah, it's going to impact people. Impacted my folks. We moved to Brooklyn Park. I live close to it. I'm for it 100 percent. Yeah, there's maybe an alternative going up the railroad tracks all the way to Monticello, but that's not what we're here for. So I like the ES55 alternative, BCD1 myself. And I think over a period of time, when we're all gone and we look back, it will be just like Chicago's L that's like riding a boxcar compared to light rail that goes down to the mall right now. And I'm glad to see the county and the city look ahead and say let's check Broadway before we decide to not build West Broadway and then turn around and tear it up a couple of months later or a couple of years later because all of a sudden it's going to go through no matter what. So I'm glad they're thinking ahead and working together as a team instead of everybody always saying they're spending my tax money, they should have done this before, they should have done this.

Well, everybody is commenting, and that's my comment. We've lost a lot of wetlands. We lose them all

the time. And just take a drive out pheasant hunting in Montevideo, Minnesota. You can see drain tiling everywhere. I mean, you're worried about wetlands on West Broadway? Give me a break. There's drain tiling that just does not quit. And then they wonder why the rivers flood after the ground thaws and the drain tiles rip up.

Thank you very much for the opportunity.

COMMISSIONER OPAT: Thank you.

Jean Kidd.

MS. JEAN KIDD: Jean Kidd. I live at 1717 Xerxes Avenue North in Golden Valley.

I'm sorry I'm at your meeting. I couldn't make our meeting in our community.

My issue with -- and I was at the 2008 meeting, so I've been along in this project a long time.

My issue is with the Met Council, that this is going to switch over to their control so that your elected officials are no longer in the loop of decision making. And this body that will govern over this project is not elected. And that's my issue with this entire project is that a group of individuals that are hand-picked, hand-selected, and not involved in the election process where we as members of a democracy get to participate are going to be making decisions about all

of us.

When it comes to the wetlands, I don't know how they're going to navigate or where they're proposing multiple stations right outside my door. And it's interesting that two bridges, one on Golden Valley Road and then one on Plymouth, were just recently redone. Their tracks would not fit underneath that. So you're talking about draining the wetlands down there. And I find it interesting that they want to propose a station on Plymouth Avenue when in fact I was part of a process when the bus company wanted to stop having bus service on Plymouth Avenue because they said we don't have the ridership to support it anymore. Then, lo and behold, we're going to put a station there.

I am for light rail. What I'm looking for, though, is transparency in the process. And that, to me, does not exist. I don't know what's gone on from what I saw originally in 2008 what was proposed and what's looking -- what I'm looking at now. It wasn't even remotely similar. And where did that happen? Because I've been involved. And it was like all of a sudden we've got a completely different project. And no one will -- everybody always says, oh, well, I wasn't involved in the project back then. I don't know what happened. I'm not there. It's where is the

accountability? Who does know? Linda Higgins probably knows. I know. The members of my community know. But like everybody here, they tend to take that path of least resistance where they think they can put things through and no one will show up. I'm so happy everybody showed up here. So I'm looking for transparency, and I want the Met Council to be a voted-on body, not people that just get to be put on there to make decisions and the elected officials are no longer in that process and then we say, oh, the Met Council did it. That's not fair. That's not why we live in America.

So that's all I have to say. Thank you for your time.

COMMISSIONER OPAT: Scott Greenman.

MR. SCOTT GREENMAN: My name is Scott Greenman. I've lived in Brooklyn Park for 13 years. I grew up in San Francisco and in and around San Francisco, one of the only cities to keep their rail system. I've lived in Chicago. I spent a summer in New York. I know what rail does, and I'm for this project.

My questions are -- well, I live at 7575 Louisiana Avenue North, which is an impacted property, right across from Cub and Target. Those homes -- those twin homes are impacted. And it looks like they're going to go from what it says -- what the map says.

I think this project, and especially the alignment going up Broadway, is basically going to connect Target to Target, Minneapolis to Brooklyn Park North. And I think there are better ways to do it. We have a rail line that goes to Monticello, goes right into Maple Grove. Why not use that? Maple Grove probably doesn't want it. What do you think? I think they don't.

I'm going to be impacted, like I said. I'm for the project. It's -- I don't see any of my neighbors here. Does anyone live in that area? Anyone? Anyone? No? It's a big thing. Literally, my view is Cub and Target. And I'm -- I don't know. I'm nervous. I'm concerned. And I'm trying to lend my voice to what's going on. And I'll be at all the other meetings, and I will keep an eye on what's going on.

Thank you very much.

COMMISSIONER OPAT: Steven Jones.

MR. STEVEN JONES: Hi. My name is Steve Jones, and I live at 7956 Orchard right over here, but I own a property over there that's involved. That's 8208 Quebec Court.

I just found out about this shortly before the last meeting. And the lack of transparency around this is really concerning to me, as several other people have said. And now I'm just getting involved in it. I think

we just need to look at it a little more. What's coming out in spades here is that what we're building here is a conduit to Target for low cost labor for them, and we're ruining my neighborhood for them, and I don't like it.

So thank you.

COMMISSIONER OPAT: Harry Kuehn.

MR. HARRY KUEHN: Hi. My name is Harry Kuehn. I live at 8770 North Maplebrook Circle.

I just have a few comments. One of the council members at the last meeting said where have you been. He goes, where have you been? It's been in the papers. Yes, we all know that. Don't treat us like an idiot. We know it's coming. But the impact is not known. For example, if you want a new house, you have to be 50 feet at least minimum from the roadway. Now they are going to put that thing 20 feet from my deck. That's okay. We're going to grandfather you in. Thank you. You know? It's nuts. And I guess the city council members, were you going to put your face on the side of this train going down the road? Because that will be your legacy. And would any of you want this thing to run 20 feet from your house? I don't think anybody would.

That's all I've got to say. Thank you for your time.

COMMISSIONER OPAT: George Kroll.

MR. GEORGE KROLL: Hi. George Kroll. I live at 8700 Maryland, and so I'm right off of West Broadway but in far enough that my property won't be impacted directly.

I think we've heard a lot of good comments so far. And it seems like the people here realize that light rail is probably going to come. The question is what's it around. I think there's a lot of people in the community who aren't represented here tonight. And I just want to urge everyone to take one of these Bottineau Transitway forms and take them home. It says, "Draft Environmental Impact Statement." They were in that room out there. Get a copy. Circulate them to your neighbors. Make sure that your neighbors and that you yourselves send in your comments to the Hennepin County Housing, Community Works, and Transit so that your voices can be heard. We all need to rally our community members who aren't here so that their opinions can be heard.

And I'm thinking the majority opinion here is that we don't want light rail coming down West Broadway. I think people realize that light rail will come, but there are better alternatives. And we need to make sure the people who aren't represented here in our community have their voices heard and these forms get into our decision makers. So I'm just urging everyone to do that.

Thank you.

COMMISSIONER OPAT: Thank you. All right. Is anyone else signed up? Okay. In that case, I want to again let you know that the open house part will go on for a little while. And with that, thank you all again for coming and for sharing your remarks.

And let us adjourn.

(Concluded at 6:17 p.m.)

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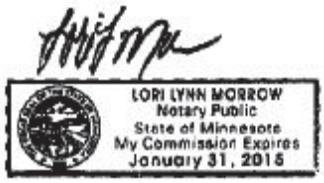
REPORTER'S CERTIFICATE

STATE OF MINNESOTA)
) ss.
COUNTY OF HENNEPIN)

I hereby certify that I reported the Draft Environmental Impact Statement Public Hearing on the 13th day of May, 2014, in Brooklyn Park, Minnesota;

That the proceedings transcribed by me are a true record of the proceedings held;

WITNESS MY HAND AND SEAL, this 19th day of May, 2014.



Lori L. Morrow, RPR, CRR, CLR
Notary Public, Hennepin County, Minnesota
My commission expires: January 31, 2015

Appendix G
Response to Draft EIS Comments

11 Transcript – Crystal Hearing

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Bottineau Transitway Draft Environment

Impact Statement Public Hearing Before

Hennepin County Commissioner Linda Higgins

Friday, May 14, 2014

Crystal, Minnesota

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Reported By: Lori Morrow, RPR, CRR, CLR, CCP

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PANEL MEMBERS PRESENT:

Linda Higgins, Hennepin County Commissioner, District 2

Pat Backen, Robbinsdale City Council

Mike Freiberg, Minnesota House of Representatives, District 45B

Mark Hoffman, Crystal City Council, Ward 1

Andy Snope, Golden Valley City Council

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(Reporter's Note: The first speaker, Ms. Bonniwell, spoke directly to the comment reporter prior to the public hearing and then also spoke a second time publicly to the commission.)

MS. CONSTANCE BONNIWELL: My name is Constance Bonniwell, B-o-n-n-i-w-e-l-l. I live at 2812 - 30th Avenue South, Minneapolis, 55406.

These are the comments that I am making to the transcriber because I don't think I'll have time to finish my remarks within three minutes.

Eliminating BRT as an option is unacceptable. If you do, you will only increase opposition to LRT. You have planned a good BRT grid on the north side. If you ran BRT down 81, you would have enough money to add an east-west route that connects 81 with Lowry.

A lot of the public speakers at the May 7 public hearing spoke in support of Bus Rapid Transit. I would have, too, but my comments were cut off at three minutes. So this is the kind of Draft EIS you get when it's written to achieve one thing. LRT down the BN line is manipulative. 560 million for BRT. It's full of vague, rambling statements such as, Other elements of the project are established formally during subsequent engineering based on additional information, including openly near travel demand forecasts. Indeed, elements of

the project are established, but they are not divulged. No map of the wetlands you intend to fill in, though you say you plan to fill in six acres with D1. No boring test results, which are of interest to property owners. No map of staging areas, though Robbinsdale is already prepping your way into one in Sochacki Park. You could have more accurately designated traction power stations. You came up with so many maps that did not include Turtle Pond and other wetlands. People wonder if you are so reticent with information because you're trying to minimize the window of opportunity we have to repel your plans. We wonder if you were even at the step to do a Draft EIS, it lacks so much information.

And then back to the quote. Other elements of the project are established formally during subsequent engineering. Does this include the social engineering you do to get this LRT built? All those it's happening in articles in newspapers when Bot No! has never gotten state matching funds? The social engineering with these public hearings is unimpressive also.

This Draft EIS gives us no reason to trust you with our woods.

Thank you for your consideration.

(Reporter's Note: The public hearing begins at this point.)

COMMISSIONER HIGGINS: Good evening, everyone. Thank you for coming to the meeting about the Draft Environmental Impact Statement for the Bottineau Transitway.

My name is Linda Higgins. I'm County Commissioner in District 2. The Bottineau Transitway line runs through two districts, the district that I get to represent, District 2, and District 1, the part of the line that goes through Commissioner Mike Opat's district. Mike was here earlier tonight. He's actually just outside coaching his son's baseball games. So he'll probably come popping his head in at some point.

We would invite you, if you have not had a chance to sign up and you would like to speak, we have a table over to your left at the front of the room. Go ahead and just sign up. And then we will have up on the screen the list of people so you'll know who is speaking, who is next. And so it will work out very well for that. So feel free to just get up and sign up.

We also have water and cookies from the Cookie Cart in the back of the room. They are really good. Be sure you have at least one.

At this point, I'm going to turn the microphone over to Joe Gladke, and he's going to tell you how we're going to proceed tonight and give you some other

information about the line.

MR. GLADKE: Great. Thank you, Commissioner Higgins.

I'm Joe Gladke, manager of Engineering and Transit Planning with Hennepin County. I'm just going to provide a brief overview tonight. I know I've seen some of you at some of the previous meetings, and some of you this may be your first meeting, so I'm just going to try and get through a brief overview of kind of where we've been with the project, where we're at right now, where the project is going.

COMMISSIONER HIGGINS: Hey, Joe, we can't hear you back here. I don't know if people can hear you out there.

MR. GLADKE: There. Sounds even better. So I'm just going to go through a few brief slides, and then we'll get on to the public testimony.

The Bottineau Project has a variety of agencies that are involved with this. At the Federal Government level, our lead agency is the Federal Transit Administration. And right now, Hennepin County is currently the lead agency locally on the project, and we work in partnership with the Metropolitan Council. And as the project advances, the project will be transitioning from Hennepin County on to Metropolitan

Council later on this summer. They will be responsible for preliminary engineering as well as the Final Environmental Impact Statement. They will be also in charge of construction should the project progress to that.

We also have all of our city partners along the line. We have five different cities that are involved with the project as well. They're in charge of the land use planning and some of the local impacts for these projects and making sure that this project will fit within the communities and looking at the station area planning, which I'll talk about momentarily.

You might also hear about the Metro Blue Line Extension. That's another name for the Bottineau LRT Project. The Metro Transit has recently kind of gone through a rebranding of some of their major transit routes. What was known as the Hiawatha Line is now known as the Metro Blue Line. This will be an extension from Target Field Station where the Hiawatha, or Metro Blue Line, ends today. It will go out west on Highway 55 and then up the railroad corridor up to West Broadway and then head up to just north of 610 near the Target North campus.

This slide right here kind of shows three independent processes that are happening that are

somewhat all interrelated. The first line across the top, kind of the blue bars. That really gets into kind of the process that the Federal Transit Administration requires these projects to go through.

And then the middle line is kind of the environmental, both the state and federal, requirement that need to be met for projects like this.

And then across the bottom we have land use planning. That looks at the half-mile radius around each one of these stations. They look at pedestrian connections, land use, how things may or may not want to change in the future around some of these transit stations.

Where we're at today right now, we're at kind of the tail end of the Draft Environmental Impact Statement phase.

So moving forward, there's still another year to two years that will be part of the Final Environmental Impact Statement. That won't begin until likely toward the end of this year. Metropolitan Council currently has a request for proposals out for the preliminary engineering aspect. That consultant will be hired probably towards the end of the summer or the fall. Will be at least two years of engineering beyond that -- excuse me -- preliminary engineering and then an

additional year or two of engineering beyond that.

So I heard a couple questions tonight about when will this be opened up. This project still has a very long way to go, and there's quite a bit of process that has to happen as well as the funding has to all come together to make this project happen. So it will be quite some time before we worry about buying a ticket quite yet.

Early on in the process, we had kind of five goals that we looked at as far as what are we trying to accomplish with the project. Those five goals were to enhance regional access to activity centers, enhance the effectiveness of transit service within the corridor, provide a cost effective and financially feasible transit system, promote sustainable development patterns, support healthy communities and sound environmental practices. Those kind of led the overall efforts.

This slide here talks about kind of similar time periods about where we've been. Back in 2008, we started what was an alternatives analysis study. It looked at a variety of different options of trying to get kind of from the northwest area, kind of connecting into downtown. So there are a variety of different options on the north end and on the south end. We looked at a variety of options of what might be the best options

moving forward. Through that process, there was kind of a short list of projects that moved forward. I'll show you a map momentarily on that.

In early 2012, we had a series of public meetings that we went out and talked to people about issues and concerns that -- in fact, we studied them as part of the DEIS. So with the DEIS, we now have a lot of those issues and concerns that were brought up during the scoping process that have been identified. So hopefully, you'll see some of those things.

Everything is not fully known at this point in time. There's more engineering work that has to happen on this project that define this project as it is. And there's more environmental analysis that's needed for the project as well.

But kind of where we're at right now, we're kind of at the tail end of the DEIS. We have a public comment period right now. And I'll have a few more specifics on that momentarily.

Some people may know -- may want to know what is this DEIS that I've been referring to. And it really assists decision makers in the assessment of the impact associated with the projects. It documents the purpose and the need for the project as well as alternatives that are studied. It addresses transportation, social,

environmental, historical impacts as well as a whole host of others. We've got some handouts in the back if people want to see all of the different areas within the DEIS that are studied. And there's kind of a reference guide that can kind of steer you toward a specific period within the DEIS if you have a specific area of interest. It also defines potential mitigation measures. Mitigation measures are more further defined in the Final Environmental Impact Statement.

It does facilitate review by federal, state, and local agencies, as well as the general public. It satisfies both the federal and the state environmental laws that are necessary for a project like this. It also provides a comparison of alternatives and identifies the environmentally preferred alternative.

As far as the options that were studied in the DEIS, this map here shows those options. On the north end, we have two different options that were studied, one that connected over toward Maple Grove, which is Option A, and the other option was Option B, which goes up to Brooklyn Park. Option C was common to all of the options. And then on the southern end, we had Option D1, which stays within the railroad corridor, and Option D2, which exits the rail corridor just south of 36, heads down West Broadway, south on Penn, and then they all end

up at the Target Field Station downtown.

I just mentioned the five goals that we had early on in the process. If we look at those five goals, there were 22 different evaluation criteria that came out of those five goals. If we go through kind of a ranking of those 22 criteria, we kind of come up with somewhat of a score associated with each one of those. So we have a no-build option as well as an enhanced bus option and then the four LRT build options that I talked about earlier.

And if you look at the overall summary ranking of those, the LRT Option BCD1 is the alternative that is known as the locally preferred alternative as well as the environmentally preferred alternative. And this here is the map of the locally preferred alternative and the environmentally preferred alternative. This is the option that will then move forward as part of preliminary engineering as well as the FEIS.

This is the last of the four public hearings and open houses that we've had. We've had good turnout at all the events thus far. And in addition to providing verbal testimony here tonight, we have comment forms in the back as well so people can provide written comments, or you can provide verbal testimony here tonight. We also have comment forms available on the website if you

would like to take some more time to submit them via mail or email. We ask for your email so we can keep in touch with you and acknowledge that we actually have received your comments. We would also want to let people know that these projects take quite some time to move forward. So you're not going to see your comments get addressed until we get into that Final Environmental Impact Statement. So it might be a year or two before we have more detailed answers to some of the questions that still remain that you ask right now. We're going take those comments. We're going to post them all on the project website so people can see a variety of comments that were received on the project. We're also going to take those comments and try and classify them into different categories so that they can then be passed on to the firms that will be working on the FEIS and engineering and the staff so that they see that these are issues that still need further analysis before further advances.

So with that, I'm going to turn it over to Commissioner Higgins to begin the public hearing. I've had a chance to talk with some of you already. But if you still have more questions, please feel free to see the staff that's in the back room there. We'll be there to address any questions. The public testimony will begin as part of the -- if you have more questions, and

you want to have some dialogue, come see the staff in the back. We also have the on deck seats up here in the front. So if you see your name, you can come on up front and be prepared to provide your testimony.

COMMISSIONER HIGGINS: Thank you, Joe.

The way we have it set up is that each person will get three minutes to speak. And we have a timer, who will give you a little yellow flag at 30 seconds, and then the red card will come up at the end of the three-minute period, and we'll ask you to wrap up your thoughts at that point.

Joe's turning the microphone around so that you can speak to us here at the table. I'm going to let you know that this is a way for you to comment. This isn't a question-and-answer period. If you have questions about the line, Joe and others will be in the back of the room or back where we have the open house for you to personally ask your questions and take as much time as you want to with that. But that's not the purpose of the hearing here tonight.

Let me introduce the people who are sitting here at the table before we get started. To my far left is Council Member Andy Snope, one of the Golden Valley City Council members. Next to him is Representative Mike Freiberg, also from Golden Valley, but also represents

Crystal and Robbinsdale and New Hope. Okay. Got that almost right. Council Member Mark Hoffman is from the City of Crystal. And to my right, Council Member Pat Backen is from Robbinsdale, and Council Member George Selman is from Robbinsdale as well.

We want you to know that we'll be listening intently.

And we also have a court reporter here so that we can accurately capture your comments so that we can reflect those as we go forward with the environmental impact work that we will be doing.

So as you see up in front on the screen, we will have a list of people who have signed up to speak. You'll see who is speaking and then who will be up next. If you are one of the upcoming speakers, if you would like to move to one of the seats in the front row, that would be great. That will make it just a little easier to pass from one person to another.

Any questions?

If not, the first speaker is Constance Bonniwell. Welcome.

MS. CONSTANCE BONNIWELL: I live at 2812 - 30th Avenue South in Minneapolis, but I grew up in Robbinsdale. My father bought the property at 2923 France in 1960.

The BCD1 plan would go through St. Mary Hills Park on its eastern border, Sochacki on its eastern border, Wirth on its eastern and sometimes western borders, South Halifax Park on its western border, and St. Mary Hills Nature Area is very close to that. That's five parks.

There's reasons why the FDA discourages LRT through parks, one being to avoid projects getting stalled by widespread opposition. Here I would like to give you a copy of 96 owners around this woods who don't want LRT going down the BN line. I've got more. I'm still working on it, but that can go to you.

The number one reason people give for their opposition is protecting the woods. I can say with assurance that the true and localized you can get preference is no build. I have listened to many owners of wildlife habitat that abuts the BN line or park wildlife habitat. This Draft EIS gives us no reason to trust you with our woods.

We do not understand your aversion to Bus Rapid Transit down Bottineau Boulevard, also known as Highway 81, the originally planned route. Your $56 million estimated cost for Bus Rapid Transit would probably make it the most expensive BRT per mile project in the country. You achieve this poor economic showing

for Bus Rapid Transit by calculating the cost of it going down a railroad track. Your environmental report never mentions that zero emission natural gas buses are available. So you certainly don't calculate how many of them you could have bought with all the money you've already spent on studies to give yourself permission to put LRT down the BN line. More people prefer that you buy zero emission gas buses as soon as possible.

BRT down 81 is very popular. It keeps LRT out of our woods, it's closer to more densely populated areas, and it's cheaper. It's the mass transit of the 21st Century. A state-of-the-art BRT system in the Northwest Metro would be a fine legacy for Met Council and Hennepin County planners to provide transit users.

Eliminating BRT as an option, as you're trying to do with this Draft EIS, is unacceptable. If you do, you will only increase opposition.

More than half of the speakers at the May 7 public hearing spoke in favor of Bus Rapid Transit. And I would have, too, but my comments were cut off at three minutes.

COMMISSIONER HIGGINS: Thank you very much.

MS. CONSTANCE BONNIWELL: Am I done?

COMMISSIONER HIGGINS: Yes.

MS. CONSTANCE BONNIWELL: I was going to talk

about how your cutting us off denies us the right to hear our fellow citizens. Not only does it discount the amount of time you have to --

COMMISSIONER HIGGINS: Thank you.

MS. CONSTANCE BONNIWELL: -- listen to us, it prevents us from hearing our fellow citizens.

COMMISSIONER HIGGINS: You're also welcome always to give us your comments in writing. I see you have notes there. We would be happy to take those in writing as well.

Thank you very much, Constance.

MS. CONSTANCE BONNIWELL: Bot No! Bot No!

COMMISSIONER HIGGINS: Thank you. The next speaker is Barb Thoman.

MS. BARB THOMAN: Good evening. My name is Barb Thoman. I work for an organization called Transit for Livable Communities. We're located in St. Paul, Minnesota. And we have members all across the metro area and a few in Greater Minnesota. All of our members are people who want expanded public transit and more options for walking and biking. We have a number of members with disabilities who cannot drive and people who cannot afford a motor vehicle.

So this project, the Bottineau Project, is a really important link in an expanded transit system that

our region sorely needs. The project, along with arterial rapid bus, more express bus service, more local service, and additional rail lines are greatly needed in this region. They are long overdue. We are a very -- a region with a very large regional highway system. We've spent a tremendous amount of money widening local roads and widening highways. And now it's time that we really invest in public transit and sidewalks and trails and building out these other systems that we have neglected.

This line is really important. It's going to connect people to schools, to jobs, to entertainment, and to parks. One of the things you'll note about many of our parks is they have a parking problem. And there are a lot of people who can't get to parks because there isn't a transit option. LRT is a clean travel option. It reduces emissions. It's very cost efficient. When you look at the numbers from the Federal Transit Administration and you look at the subsidy per passenger, they are always the lowest on light rail because they carry a lot of people in both directions all day long, and they serve our high capacity corridors.

Sadly, our region doesn't have the money it needs to build out our full public transit system, including the Bottineau Line. We don't have the funding they have in Dallas and Denver and Houston and Seattle

especially, Vancouver, Calgary, all of these other places. And so we hope that all of you and people who support this line will support the Move Minnesota effort to increase funding for public transit, walking, biking and for road repair. And if anyone wants to know more about that, they can talk to me in the back of the room. Thank you very much.

COMMISSIONER HIGGINS: Thank you.

The next speaker is Scott Nieman followed by Jolene Nelson.

MR. SCOTT NIEMAN: Hi. I'm Scott Nieman. I have a property -- I live at 4548 Zenith Avenue North and have had a property in North Minneapolis at 3306 Thomas Avenue North, and I've been on the north side for over 30 years.

And one of the observations that I have, there's no one here from the City of Minneapolis, the city council. And I do want to make a statement that, first of all, I'm very much in favor of the Bottineau Transitway, but I do think it's under serving North Minneapolis in its current preferred option.

One of the things I want to highlight is that Section 2.6, there's a statement on the least damage to the environment. It contradicts the statements in the

summary of Table 5.21, which shows that there was 18 -- over 18,000 cubic yards of flood plain impact. That is not the least damage. I think most people know that the Theodore Wirth Parkway, the D1-7 wetland floods every single year. It flooded last week. We had to shut down the Theodore Wirth Parkway road. That concerns me significantly because of what would be planned for mitigation of that would probably be drudging or some other means to divert water which is in the floodplain. We would have some serious ripple effect as far as the ecological -- the ecosystem that lives down there. So I don't think we can make nature better by drudging that area.

I really think that the D2 alternative was not adequately looked at. I do not see any evidence of a subway option being investigated to go underneath West Broadway and have a substation at where the old Burger King resided. An escalator going down and having a subway under Penn Avenue, which would have reduced impact to land acquisitions, would have lower, long-term maintenance cost. It would have really no impact to vehicle traffic except during construction. And it would have improved safety risks for pedestrians and vehicles. Similar -- you know, we've had lots of accidents on Hiawatha. We don't want anymore, especially in this

area.

I do think that placing a substation at Penn and Broadway provides incredible economic development opportunities in an area that's been long trying to have an arts district serving the Capri Theater and other venues in the 5 Corners [sic] development effort. That has just basically failed. So -- done?

So I will have a four-page summary that I'll be emailing.

COMMISSIONER HIGGINS: Thank you.

Jolene Nelson followed by Bob Fischer.

MS. JOLENE NELSON: Hi. I'm Jolene Nelson, 6008 Hampshire Avenue North, Crystal, Minnesota.

The line runs right behind my house, so the railroad is right behind my house. And my main concern with this is with the track moving, it's going to move closer to my home causing -- the railroad track itself, causing more noise and vibration. And currently, there's trees that have grown up around there and in my backyard where my son plays. So my concern would be those trees are going to be removed, and I'm not going to see the train right away, and the highway noise from County Road 81, in addition to the light rail running, it's going to cause more noise there and vibration as well. And so my concern is how fast the speeds are going to be.

Is there going to be any kind of noise mitigation, whether that be trees planted in place of what's taken down? Is there going to be a new wall to minimize the amount of noise and vibration that would happen? I think it's going to affect a lot of people in that same way. And so I am a proponent of the light rail as long as those concerns are taken care of. And that's it.

COMMISSIONER HIGGINS: Thank you very much.

Bob Fischer, followed by Daniel Couture.

MR. BOB FISCHER: Good evening. Thank you first of all. I've had the -- I live on Hampshire Avenue, so I'm actually Jolene's neighbor.

A couple of points. I certainly won't take my three minutes. I've lived in a city, in D.C., that had the Metro. So I know the advantages of that. So I'm 100 percent supportive of this. And I'm also supportive that it's going in my backyard. To Jolene's point, there needs to be some type of a barrier established. Whether it's natural or if it's a wall or if it's a wall with sound board, there certainly needs to be something, because it's disappointing to see the goals and not -- there could be as easy a sixth goal of protecting the people that will be involved in this. I know it's built into that and it's threaded in that, but I think there's a better opportunity to involve more people, because I

work with developmentally disabled adults and senior populations. This just opens up a whole new world for them. So I applaud that.

And my last comment. Extremely disappointed with the gentleman from Crystal. I've lived in my house for three years. I've not gotten one piece of mail telling me that this was going to happen in my backyard. So I don't think that's asking for too much, because I know our neighbors up and down Hampshire Avenue would all take the same position as I have. I accidentally found out about this. And I know you've met your obligations by posting this how you need to, and it's on the public forum. But I think a piece of snail mail in three years would have been appropriate. So I'm very disappointed in that lack of communication.

So thank you.

COMMISSIONER HIGGINS: Thank you very much.

Daniel Couture followed by Christopher Reiter.

MR. DANIEL COUTURE: Good evening. My name is Dan Couture. I'm here representing Brooklyn Park, specifically segment B along West Broadway.

I'm not against light rail. I understand the need for transit basically to support, you know, the growing population needs and disperse populations. However, I am coming here tonight to basically speak out

against the locally preferred options known as BCD1 in favor of ACD1 primarily because -- and it's unfortunate that the Draft Environmental Impact Statement doesn't accurately reflect the impact to the properties along West Broadway between 78th Avenue and 93rd Avenue to the north.

Because of a concurrent county project, which is barely referenced in the 800 pages -- it's one paragraph out of the 800 pages where it talks about this project. Because of it, there's 100 homes that are going to be impacted, property that's going to be taken. About half those homes, at least 50 of them, the families are going to be displaced. And they're probably the lucky ones, because it's probably going to be financially devastating to the ones that are left behind. The ones that are going to be stuck with homes that could be as little as 50 feet away from the transit line, that are going to be virtually unsellable, would not be the kind of place, I think, anybody would want to live because these trains run 21 hours a day every 10 minutes, and they have very loud bells that clang anywhere near a station. And 85th Avenue would be a station.

These are modest homes. This is a working-class neighborhood. Folks who live there are -- there's a large number of seniors, a large minority

population. A lot of the folks can't make it to meetings like here tonight because they're still at work or they are having dinner with -- sitting down to dinner with their families.

I think, unfortunately, if the folks who are evaluating those various alternatives knew about these additional 100 homes that are going to be impacted, if they knew about the additional 50 families that would need to be displaced, I think it would definitely have affected the community cohesion score that the B segment would have received. I think that would have made it easier for folks to vote in favor of the Option A for the locally preferred option.

The benefits -- the price tags for the A versus B are the same. Both a billion dollars. Both have similar ridership of about 27,000 average riders a day. They both have a college as a destination. They both have major employers as well as residents at the tail end of the property. But the one thing that Maple Grove has that Brooklyn Park doesn't offer is a major regional retail center. So for that reason, I hope that it's not too late that the commissioners involved with making a final decision on what route is chosen could reconsider their option to go down West Broadway and vote in favor of ACD1.

Thank you.

COMMISSIONER HIGGINS: Thank you.

Christopher Reiter followed by Chris Berne. It's the Chris section of the lineup.

MR. CHRISTOPHER REITER: Hi. Christopher Reiter, 3612 June Avenue North in Robbinsdale.

First off, which by the way, we've had hearings -- public hearings in Minneapolis, Brooklyn Park, Crystal, and one more.

COMMISSIONER HIGGINS: Golden Valley.

MR. CHRISTOPHER REITER: Golden Valley. But there hasn't been one for Robbinsdale, which I don't think is very fair. I think there should be one set up. There's a lot of homeowners that are going to be impacted, many severely, according to the noise portion of this analysis, including myself. And I'm also listed as an impacted property. There's a line through my tool and lawn shed in the back. And so it looks like my fence and my shed and the power line pole and probably a few trees and numerous shrubberies that block that whole sight line towards the railroad tracks would have to be removed. I do see -- I'm reviewing the impact statement here that they plan on putting up -- there's a plan to put up some barriers, but it doesn't say how high they are. And with these scheduled to go by every 10 minutes,

I can envision the value of my property plummeting to about probably maybe 70 percent of what it's worth right now if this goes through. And that's pretty optimistic, in my opinion.

I honestly think that either the line should run on Highway 81 and then Bottineau Boulevard. I don't think it should not only [sic] be going through all those houses that are impacted in Crystal and many in Robbinsdale, but if it's going to go to the -- if it has to go in as opposed to buses -- I know Connie mentioned the natural gas buses, which I think would be a great alternative. We could use existing infrastructure for that. It wouldn't have not only the impact of all the light rails going by every 10 minutes, but the construction. So I think that it should -- the whole line should run along there. And as opposed to the 42nd Avenue Station by the police department there, they should just have a station down at the corner of 42nd and Bottineau Boulevard. And right now, there's quite a good section of Bottineau that already has a major median running down the middle of it, which could be expanded out a little bit to accommodate the light rail.

But I just -- I don't see the benefit of this program to anybody that happens to be severely impacted or even marginally impacted by this line. And I know

we've had some other hearings, and I've been to one or two other hearings previously. And I just don't understand why with all this major impact to homeowners who -- like in my case, this is my first house. I bought it in 2008. And I don't really have the means to relocate right now, although I would like to because I know, like I said, just as soon as the work starts, the value of my property -- the ability to sell it is going to -- it's going to be hard to even sell at that point. And I don't know -- I don't know how I'm possibly going to sleep at night with trains going by every 10 minutes and get up for work at Hennepin County. I really wish you would take a close look at reexamining the whole line that runs off of already existing thoroughfares.

And I appreciate the opportunity to get my comments.

I also would like to reiterate that I do think there should be a Robbinsdale public hearing. With the massive number of people that are impacted in Robbinsdale, they should have their say as well.

That's all I have to say.

Thank you.

COMMISSIONER HIGGINS: Thank you very much.

And just a reminder, if anybody has come in who would like to testify and hasn't signed up, please go to

the table at the front of the room and at the far left, and we'll get you on the list. Also, for people who don't feel like talking, there are paper forms in the back where you can write to your heart's content and either give them back or email them or even put them on the website.

So Chris Berne, you're next.

MR. CHRIS BERNE: Thank you. It's Chris Berne.

COMMISSIONER HIGGINS: I've gotten everyone's name wrong tonight. I'm sorry.

MR. CHRIS BERNE: It's okay. Everybody does it, even last night from your cohort, Mr. Opat.

So Chris Berne, and I live at 8743 North Maplebrook Circle in Brooklyn Park.

As I intimated, I was at the hearing last night. And the reason I am here tonight is to make sure -- because I knew there was going to be new -- different officials here tonight and a different group of residents, I thought it was important for them to hear what was said last night.

The issue for us up in Brooklyn Park, as Dan Couture talked about a little bit earlier, is the final terminus route of this project up through the West Broadway corridor in Brooklyn Park. We are on an extremely fast track up there because the county in its

wisdom is going to be rebuilding West Broadway. And what they want to do is make assumptions at this point in time that the rail line is going to go through, and they want to build the road with that in mind. The problem is it's going to take 30 to 50 homes with the idea that this might come through, and they want to do it starting this fall. So we're very concerned about that.

Most of these homes are modest income, low income. There's a lot of minorities. The other thing that we have in Brooklyn Park is a lot of immigrants. And a lot of immigrant families who have come to this country with the great old American dream of home ownership are now going to be told you have to leave your home. That's not the message that we as Americans want to send to those that come to our country.

But we have also offered an alternative pathway just three blocks adjacent to West Broadway that does not require taking any homes. It does not require any industrial buildings to be taken or any businesses in any way to be taken. The Brooklyn Park City Council is now going to be taking a look at that. And so there may be some delays on this project because they want to take a look at what's happening up there. So I just wanted to make sure that everybody is aware of that. What's going on on the north end hasn't been talked about too much

here tonight, but that is part and parcel of this project.

None of us want to have a repeat of the Southwest Light Rail Project nightmare. There's already too much rancor. There's already too much delay, too many tens of millions of dollars that are being wasted. And we would like to see this done in a better manner on this one. And hopefully, some cooler heads will prevail.

Thank you very much.

COMMISSIONER HIGGINS: Thank you. Is there anybody else who hasn't signed up or would like to talk as long as we're here?

Okay. Then if you came in during the presentations, if you would like to stop back and look at some of the maps and the documents, they are on the other side of this wall. Enjoy the cookies, talk to your neighbors, say good night, and go enjoy this beautiful evening.

Thank you all for coming.

(Concluded at 6:40 p.m.)

****

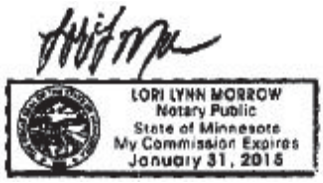
REPORTER'S CERTIFICATE

STATE OF MINNESOTA)
) ss.
COUNTY OF HENNEPIN)

I hereby certify that I reported the Draft Environmental Impact Statement Public Hearing on the 14th day of May, 2014, in Crystal, Minnesota;

That the proceedings transcribed by me are a true record of the proceedings held;

WITNESS MY HAND AND SEAL, this 19th day of May, 2014.



Lori L. Morrow, RPR, CRR, CLR
Notary Public, Hennepin County, Minnesota
My commission expires: January 31, 2015

Appendix G
Response to Draft EIS Comments

12 Transcript – Golden Valley Hearing

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PUBLIC HEARING REGARDING:

BOTTINEAU TRANSITWAY DRAFT
ENVIRONMENTAL IMPACT STATEMENT

- -

Taken May 7, 2014 By Paula Richter, RPR, CRR

APPEARANCES:

HENNEPIN COUNTY COMMISSIONER: Ms. Linda Higgins

Mr. Joe Gladke - Hennepin County

Mr. Mike Freiberg - State Representative

Councilmembers:

Mr. Andy Snope - Golden Valley
Ms. Joanie Clausen - Golden Valley
Mr. Larry Fonnest - Golden Valley
Mr. Pat Backen - Robbinsdale
Mr. George Selman - Robbinsdale
Mr. Blong Yang - Minneapolis, Ward 5

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THE BOTTINEAU TRANSITWAY DRAFT ENVIRONMENTAL IMPACT STATEMENT PUBLIC HEARING, is taken on this 7th day of May, 2014, at the Golden Valley City Hall, 7800 Golden Valley Road, Golden Valley, MN 55427, commencing at approximately 7:00 p.m.

MS. CLAUSEN: We want to welcome you tonight. I'm here to welcome you. Our mayor, Shep Harris, his mother has been diagnosed with a blood cancer and he had to leave to go to North Carolina and unable to be with us tonight, so I'm taking his place.

But we're so -- we really need the input from our residents and people interested in this, and we so much appreciate that you take your time and be part of this process.

And before we get started, we're going to have all the elected officials introduce themselves, and then I'm going to turn the meeting over to Joe Gladke and he'll take it from here.

So we'll start with Councilmember Andy Snope from Golden Valley.

MR. SNOPE: All right. Andy Snope

from Golden Valley.

MS. CLAUSEN: Joanie Clausen, Councilmember from Golden Valley.

MS. HIGGINS: Linda Higgins, Hennepin County Commissioner.

MR. FONNEST: Larry Fonnest, City of Golden Valley.

MR. BACKEN: Pat Backen, City Council, Robbinsdale.

MR. SELMAN: George Selman, City Council, Robbinsdale, Third Ward.

MR. YANG: Blong Yang, City Councilmember in Ward 5, Minneapolis.

MR. FREIBERG: Mike Freiberg, state representative for all or parts of Crystal, Golden Valley, New Hope and Robbinsdale.

MS. CLAUSEN: And now I'd like to introduce you to Joe Gladke from Hennepin County.

MR. GLADKE: Thank you very much. I am Joe Gladke with Hennepin County.

I just want to provide a brief update this evening. This update is really just to give some people communication

because I know, for many of you, I've seen at other meetings several times and some of you it might just be your first meeting, so I want to give a brief overview kind of where we've been, where we're at right now, where the project is going, and then we're going to open it up to you to hear what you have to say.

And I'm going to be located in the other room here right after I provide the presentation. I know I got a chance to talk with some of the folks. I don't know if some folks still had more questions, but there will be staff in the room across on the other side if you want to talk with staff, trying to get more questions answered. So with that, I'm just going to proceed briefly with the presentation.

The Bottineau Project has a variety of agencies that are involved with this project. The Federal Transit Administration is really the lead federal agency that has been overseeing our work regarding the DEIS and all the analysis that has gone into that.

And Hennepin County as being the lead agency regarding looking at the specifics of what's known as the locally preferred alternative and the Draft EIS. But as the project advances into the FEIS and into preliminary engineering, the Metropolitan Council is going to be taking the lead role with the project with that. So we anticipate that the project will be transitioning from Hennepin County to the Metropolitan Council later on this summer.

And all of the cities along the corridor, they've certainly been partners as well. They are the Land Use Authorities. They control the zoning and the land uses around the stations. And as part of the municipal approval process, they do provide input on the plans and the DEIS and the impacts associated on the project as it advances.

You'll probably hear a lot about the Bottineau LRT. As this project advances, you're probably going to hear it referred to as the Metro Blue Line Extension. On the map here, this kind of shows the regional system

that's envisioned here. We already have the Hiawatha Line, which has been renamed the Metro Blue Line. And, again, this would be an extension of the Hiawatha Line.

So at Target Field in downtown Minneapolis, this would go from Target Field to the west along 55, head over towards the rail corridor and then up the rail corridor up through Brooklyn Park, and the last station would be up near 610 near the Target North campus.

As far as where we're at, we are currently here at the end of the Draft Environmental Impact Statement. And we put this slide up here to show that there are three kind of independent processes that are going on. Yet, all three of these processes are interrelated.

And so we're going to be moving into the project development phase we hope later on this summer and beginning the preliminary engineering work on this project.

We're wrapping up the DEIS right now. We'll be gathering the comments as part of the DEIS.

The FEIS will begin likely late in this year, and then that work will continue on again under the leadership of the Metropolitan Council. Hennepin County will still be a partner with the Metropolitan Council, along with the cities.

You'll also see some meetings that are happening regarding the station area planning. Those have begun for the first four stations, the two in Minneapolis and the two stations that are being studied in Golden Valley. And later on this summer there will be another consultant that will be hired to look at the station area plan for the other stations along the line.

Early on in this process, there were really kind of five goals that were looked at regarding the Bottineau Project and what -- what are we trying to achieve with that project. Those five goals are to enhance the regional access to activity centers, enhance the effectiveness of transit service within the corridor, provide a cost effective and financially feasible transit system, promote sustainable development

patterns, and to support healthy communities and sound environmental practices. So those are really the goals that we started off with as the efforts had begun to look at a variety of these options.

Kind of where we've been, we've looked at a variety of options to the alternatives analysis study that happened. We've looked at numerous options on the north end, numerous options on the south end.

When we first began the DEIS work, we went through a scoping process where we had meetings in January of 2012. We got input as to what are some of the key issues that the citizens and the agencies thought needed to be studied as part of the DEIS. As you look through the DEIS, hopefully you will see those areas that you provided input on covered as part of the DEIS.

Later on after we began the scoping process, we got the scoping decision about what options are going to be studied in the DEIS. I'll get to that map momentarily.

We've also advanced efforts regarding the locally preferred alternative,

and the locally preferred alternative has been adopted by the Metropolitan Council as one of the necessary steps related to advance this project in the federal process as well.

So we have the DEIS, which has been released after 15 months of review by the federal government. They're very strict on review of these documents, so they want to make sure all the analysis is done appropriately before they allow that document to be released.

As far as what is the DEIS, it really assists decisionmakers in the assessment of the impacts associated with the project, it documents the purpose and the need, the alternatives that have been considered. It assesses transportation, social, environmental, historical, and numerous other impacts of the project. It defines potential mitigation measures, and it just defines those. It doesn't really prescribe what the mitigation may be.

I talked with several folks tonight that talked about noise impacts, and I'll be over there to talk about that some

more. Some of the areas, there are recommendations for this area should be considered potentially for a sound wall. And some people said, I don't want to look at an ugly sound wall. While that may be the potential mitigation, there are other things that could be considered as well and that will get studied in greater detail during the FEIS. They're still working with what dialogue happens far as what are the specific mitigation measures that are looked at.

As far as the DEIS, it does facilitate review by a variety of federal, state and local agencies as well, and review by the general public. It satisfies both federal and state requirements as far as environmental studies that need to be completed, and it provides a comparison of the alternatives and identifies the environmentally preferred alternative as part of that process.

In the DEIS, you will see four different build options that are studied. Two options on the north end. One going toward Maple Grove and one going toward

Brooklyn Park. And on the southern end you'll see the D1 and the D2. Those are studied as part of the DEIS -- those options.

I'll go back to the five goals that I talked about earlier. All of the build alternatives, plus both a no-build and a TSM alternative, which is basically what else could you do other than a substantial investment, we look at those 5 goals and how -- we had 22 different evaluation criteria as part of those 5 goals, and how do the various build alternatives reflect the goals that were initially identified.

And the preferred alternative is the alignment option BCD1. That's shown in the following map here. It begins on the north end in Brooklyn Park, proceeds south to the rail corridor, south along the rail corridor and stays within the rail corridor along D1 through Golden Valley and then heads east on 55 in toward Target Field Station. So that is both the locally preferred alternative as well as the environmentally preferred alternative.

As part of the input, we have a

series of open houses that we're going to be having. We're here tonight. We've got another meeting tomorrow night at UROC in Minneapolis. Next week will be in Brooklyn Park and Crystal as well.

And the City of Golden Valley is hosting another meeting on the 15th of May. It's going to be here at the City to get additional input. Again, that's going to be a city-led meeting.

As far as the comments that will be received, we're asking people when they have written comments, to try to provide e-mail addresses as well so we can acknowledge that we received your comments.

Your comments will be recorded here tonight by the comment recorder. There's a variety of ways that you can provide that. But we just want to let people know that we will be compiling the comments. We will be posting the comments that we receive on the project website. And we hope that during the FEIS, that those comments will be identified, but that's going to be a lengthy process.

Later on this fall is when the Met Council will likely secure a consultant, but it's going to be another year-plus worth of work before the FEIS is completed. So while you provide comments, it's going to be a while before those comments get addressed, so we just want to try to lay out the expectations of these projects. Like America, they don't get done quickly. They take a long amount of time. But those comments will then get incorporated into work that happens in the FEIS, as well as input into the preliminary engineering.

And with that, I'm going to turn it over to Commissioner Higgins, who's going to lead the hearing. Again, I'll be across the room on the other side. If folks have specific comments, they want to talk about things, come see the staff on the other side, and this area here is going to be reserved for verbal testimony.

MS. HIGGINS: Thank you, Joe.

First I want to thank everybody for coming tonight. As Joe said, this is one step in a very long process of determining

whether -- if, where, when, to build the Bottineau Line.

Tonight this is not a question-and-answer period. This is for you to give your comments, your opinions. And then if you do have questions, Joe and some other staff people with a lot of knowledge about the work that's been done and the work that will still be done in the future will be across the hallway and you can ask away. Ask whatever you'd like.

So tonight for taking the comments, your name will appear up in the screen. And when you see your name, please go ahead and sit in one of the three chairs marked here in the front row. Your time will be limited to three minutes. Start, please, by saying your name and address for the record, and then our comment recorder will record your comments.

If you signed up when you came in this evening, you're already on the list. But if you haven't signed up yet, please just go on over and sign up so we can get your name on the list and get your comments as

we're proceeding tonight.

If you don't want to get up and talk to us, we can take your comments in writing. There are comment forms out at the table. Perhaps you picked one up on your way in. And then you can either give that back to us tonight or you can send it back by letter or by e-mail. The e-mail address is Bottineau@Hennepin.us. And there are comment forms also on the project website at www.BottineauTransitway.org, and the comments are being accepted through May 29th, so almost three more weeks.

So the first people who will speak, their names have appeared on the board. Constance Bonniwall, Sean Fahey, Cathy Wildung and Darlene Lamter are the first four speakers. So if Constance would come up and say hello and start with your name and address. And Sean, Cathy and Darlene, if you'd make your way to the chairs here so we can move expeditiously.

MR. ANDY GILLETT: I'm the official timekeeper. So each person has three minutes to speak. I'll hold up the

green card when you can start. When you have 30 seconds remaining, I'll have the yellow card. And then red is when your time is up.

MS. HIGGINS: Welcome. Thank you for coming.

MS. BONNIWALL: My name is Constance Bonniwall, and I live at 2812 - 30th Avenue South in Minneapolis, but I grew up on 29th and France where my father bought a carpet property in 1960 and I grew up in that woods.

This is my statement. This is not the kind of environmental is that tells us how many trees this plan would have cut dead. It makes no mention of your intent to put LRT through 100-plus acres expanse of wildlife habitat, nor that this expanse is part of the wildlife corridor that starts on the south side of Bryn Mawr by the baseball field. This rare, quiet, inter-metro woods is only referred to as existing low-quality habitat.

Tell that to the turtles living in Turtle Pond, which you're trying to rename Grimes Pond. You say it's in a trench. We always thought it was a valley.

Here's a quote about South Halifax Park: Noise effects confined to limited areas.

Like it's entire four acres.

Another: The recreational experience in this park resource may be lessened due to the effects of transitway operations.

"Would be lessened" is more honest.

I could tell from reading this that the writers had not a clue about the social factors in South Halifax Park. We in Robbinsdale are very pleased that there's so many neighborhood kids availing themselves of such a pretty little park. It is a crucial resource for them.

On a Saturday when I have walked past it, I counted over 30 kids of all ages, and it wasn't that warm out. Every one of those kids were black. It's an area with exploitive rentals to black people. What would happen if those kids lost their healthy place to be outside and play basketball?

What wildlife habitat is left in

Wirth would take a big hit under your plan, that's right along the parkway there by the bridge.

Here's a quote about Sochacki Park: The natural setting of Sochacki Park may be somewhat diminished due to the proximity of park trails to the line at D1.

The honest version: The quiet refuge that is Sochacki Park would be destroyed. Over 220 trains a day.

The only mention that is made of all the concerned owners of wildlife habitat to the east of the BN line is this, and I quote: There are several informal illegal crossings of the BNSF railroad corridor with parkland between 36th Avenue and Golden Valley Road. Pedestrians who cross at these unmarked locations are illegally trespassing on BNSF property. During the scoping process it was learned that residents of this area east of the park cross the BNSF railroad corridor at these illegal crossings to access the trail and Sochacki Park.

There's a real trust builder.

And you, the representatives of

that area --

MS. HIGGINS: Constance --

MS. BONNIWALL: -- who represents the representatives in your area?

MS. HIGGINS: Thank you.

Sean Fahey?

MR. FAHEY: I'm Sean Fahey, 3941 Bassett Creek Drive.

Basically, I am disappointed in the DEIS. Joe laid out his five goals, and the ecological environment is really only addressed in the last half of four and five, so I feel like there's a lot of space in the DEIS that has nothing to do with the ecological environment. A lot of it has to do with the human-built environment.

My biggest concern is the effects on wetlands. So this training will go through three different ponds -- four ponds possibly, yeah. At least in Golden Valley it will go through three different ponds. We're going to have to create two new tracks to go next to the existing track, and it may even be needed that we will have to take out a track and just rebuild three new tracks going

through these wetlands. So the DEIS says we will lose about ten acres of wetland. We'll have ten acres of wetland. And to me, that's unacceptable.

The only other thing I want to say is that we haven't had very much time to even read through the DEIS. We didn't get very much time to like look into it. It just came out April 1st. And for people that have jobs and they don't have a technical background, it's hard to read it, get organized, talk to their neighbors in this short amount of time.

Thanks.

MS. HIGGINS: Thank you.

Cathy Wildung.

MS. WILDUNG: Hi. I'm Cathy Wildung, 2801 Kyle Avenue North.

And I'm only a block away from the park. I guess it's Sochacki, and then the other side is -- the Golden Valley side is a different name. But anyway, I'm concerned about the environmental impacts, of course, and the -- I enjoy the trails and walking my dog back there.

But to me, my number one concern

is the sound, if it's going to affect me in my house because I'm so close. It's really only a block or so away. I'd really like to see some kind of a sound barrier if they decide to do this, but I'm wondering if it's still going to affect me. I'm a very light sleeper.

And, you know, the fact that these trains are going to be running early morning from 4:00 to 6:00 a.m., 20 -- every 20 to 30 minutes. Rush hour probably isn't going to bother me too much. But peak periods, 6:00 to 9:00 a.m., that's pretty early, every seven and a half minutes.

Midday, evening, I'm okay with that.

Late evening, 10:00 p.m. to 2:00 a.m., I'm sleeping. Every 30 minutes? What if I hear those trains running? I'm going to have to move. I'm sorry. And I'm wondering how many other people feel the same way.

I hope it doesn't bother me, but I'm afraid it's going to. I'm worried about the bells and the whistles on the places

where the train stations are going to be because they sound like they're going to be sounded every 20 -- oh, I see, the train horns will sound 20 seconds before they arrive. The crossings, wayside bells will sound a total duration of 30 seconds. I don't know. That's my main concern.

Another concern I had, of course, was the wetlands also. And I'm just wondering, that area floods. We get a lot of flooding. Especially like with the heavy rains we've had, we've had problems with that. Is that going to affect our existing water situations when they are messing with those wetlands?

And the statement -- the Environmental Impact Statement was talking about how this area is over private wells and water that's used for the residents in the city. And how is all that going to be affected? I guess I'm concerned about that.

And the other thing is that there's 790 recorded way sites in this preferred alternative area, BCD1, and are they going to be uncovering hazardous wastes

material and what's going to happen when they uncover that material?

So I guess I have a number of concerns, and I just hope they're all, you know, addressed if they go with this.

Thank you.

MS. HIGGINS: Thank you.

Darlene Lamter and followed by Kasia McMahon and Vicki Coifman.

MS. LAMTER: Hi. I just decided to speak when I came here tonight, and I truly --

MS. HIGGINS: May I interrupt you? If you'd give your address, please.

MS. LAMTER: Oh, I'm sorry. 2650 Kyle Avenue North. And I'm one of the homes that right now I can already hear the train when it goes through when our doors and windows are closed, so our house is right there.

And I guess I'd like to start out by just saying real quick that I'm very disappointed that one vote has changed our lives so, as well as the track already there and it's the cheapest way to build this.

It's just really -- it's shocking that because of those three reasons we have to go through all this.

And I'd like to share the fact that I walk -- I have for 20 years walked there four out of five mornings, and I still do. I was there this morning with many, many other people. And the environment in the wetland -- I mean, I just can't imagine how you can mitigate anything like that and have it anywhere near what's necessary.

Now, I believe in transit and I have to share with you why. I work in the Minneapolis schools and so even today I was over by the Hiawatha Line. And I've seen that Hiawatha Line go from the Vets to the Mall of America, with people who come in everywhere, who come to the Vets, for people who are working, or back and forth. And it's wonderful when it's used like that with that many people.

Now, today, just today alone, as I'm waiting at the stoplight, the bells and whistles are -- my windows are closed -- as loud as can be. I rolled down the window and

the train left, and I can't tell you the noise it makes. It's just unbelievable.

So I can't imagine taking that beautiful, wonderful place that Golden Valley has that's so special and changing it like you are.

My alternative would be anything else. And my greatest alternative would be hopefully we can put this off for two years and the Feds won't give us the money.

I'd like to see the -- yeah. I'd like to see an alternative route. And the students and families in north Minneapolis are the ones that could really benefit if we did this the right way. But why can't we do something other than take out all those houses if we took the other route?

I just -- I know the environment -- I think the environmental -- I haven't even read it all so -- I have to say that, but I think environmentally, I can't imagine something like this would pass. I just can't imagine.

But thank you.

MS. HIGGINS: Thank you.

Kasia McMahon.

MS. McMAHON: Hi. My name is Kasia McMahon. I live at 3941 Bassett Creek Drive.

I just wanted to discuss that -- or I just wanted to talk about how this project shares a lot of similarities with the Southwest LRT project, which if anybody has been following that disaster, it's very similar. It's using a quiet, urban neighborhood as a, you know, commuter pass-through for, you know, excerpts and that the design of that was made using Bush-era criteria for, you know, these New Star projects and under the new criteria, this type of project I don't think would ever be designed in this way.

And unfortunately, you know, our city didn't really stand up for the -- didn't really represent Golden Valley in the way that it should have because clearly Golden Valley doesn't get anything from this project. I mean, we have two optional stations that may or may not be built. One of them may be built, and it -- it serves so

few people.

I mean, I live extremely close to the Golden Valley Road Station -- the potential station there, and it's still a half a mile walk from my house. And I can tell you that -- as a, you know, a transit user, that's -- that's an extreme distance to use every day. It's not very practical.

And it's -- to say that that route is comparable to D2, which would serve Broadway in Minneapolis, is completely ludicrous because I know for a fact that the 14 bus which serves Golden Valley now is -- I'm like the only person that rides it in the morning and in the evening. I actually can't imagine that that station would be used by more than a handful of people during rush hour. It's not likely. I mean, the DEIS claims that the ridership numbers between D1 and D2 are comparable, but I just honestly can't see how that is possible.

So I -- I just would really hope that Golden Valley -- representatives in Golden Valley would stand up for what makes sense for us because I don't think that

necessarily is selfish at all. I think when you stand up for the people in your small local area, you're standing up for common sense on a larger scale.

MS. HIGGINS: Thank you.

MS. COIFMAN: My name is Vicki Coifman. I am from -- I live at 1217 Washburn Avenue North on the Minneapolis side of this, just south of Plymouth Avenue.

And I had no intention of speaking. I came to listen tonight to see what people on this side of the LR -- proposed LRT are saying. But three things have happened within the last week, which is why I signed up to be on this -- to say the three minutes' worth of things.

First of all, three things happened in the last week. We had the rainfall. I want to say this. I've lived at my home at 1217 since 1969. Forever. And I'm on the parkway a lot, and right now almost daily. In the last -- three things in the last week have come to my attention, and I wasn't even thinking LRT, particularly.

First was the weather -- the

rainfall. I had not seen the golf course, the land between Golden Valley Road and Highway 55, as wet as it has been in the last week.

I personally anticipate that that's going to get worse, given the report on global warming for -- for people that came out a couple of days ago, and there was discussion of local Minnesota impacts of these changes. I am assuming the rainfall incidents are not going to get better. They're going to get worse. I live in one of those houses that was hit by the tornado, et cetera.

And thirdly, when I looked at part of the drawings tonight, I saw the -- I looked at the -- the electrical transmitter tower is proposed to remain in place on concrete, followed by more concrete, followed by two railroad tracks or three, which leads me to ask this simple question: Has the impact of the LRT on the floodplain been considered from the perspective of this very new situation of the last five years maybe -- visible in the last five years, and which is

getting worse? Have those -- has that impact of wilder, wetter changes in the local climate -- how is that going to impact what looks to me like a floodplain. The bottom of a former lake. I don't know. But my house is way up high from way down there, and something was way down there in the past. I'm very much concerned.

Also, not to bead a dead horse, when we were talking about the preferred options for this line, we had two pretty crummy options in north Minneapolis: Penn Avenue and the one that is the preferred one. So I -- again, the major population who needs the LRT is where the line is not going.

And I'm not against LRT. I'm for it, actually.

MS. HIGGINS: Thank you very much.

Richard Adair, followed by Ms. Lehman and Bernie Milstein.

MR. ADAIR: Hi. My name is Dick Adair. I live at 200 Upton Avenue South in Minneapolis in the Bryn Mawr neighborhood. And I came here tonight because I also lived in Golden Valley for 23 years before that, so

I've lived on each side of Wirth Park for -- I don't want to say how many years, but a long time.

I golf in it. I swim in it. I cross-country ski in it. I look at birds in it. I do all the things that my fellow testifiers here have talked about. But you're going to hear a slightly different slant on this from me.

I'm asking you to look at a 30- to 50-year time frame, rather than what happens to me today. There are 3 million people in the Twin Cities. It's projected that very soon there will be 4 million people in the Twin Cities. Our freeways are clogged.

Our economy has been pretty darn good, but I am not looking forward to a situation where we can't move around. And I'm not looking for a situation -- looking forward to a situation where we have isolated pockets of poverty where people don't have access to transit, and this includes areas like the Frogtown area of St. Paul and north Minneapolis.

I lived in Cleveland, Ohio when it

was a thriving, wonderful city the size of Minneapolis, roughly. And they made the mistake of not giving everybody a fair crack at getting to where they needed to go: To school, to work, to whatever. And the whole thing blew up in 1967 with race riots, and it was really miserable.

So I'm asking you to look at the long run and to recognize that light rail transit is the key to knitting together our metropolitan area and making sure that it thrives in the future.

I also hope that you listen to every single one of the concerns that have been voiced by the speakers before me. These are very legitimate concerns. And I would say that if I were sitting in these chairs, that my job would not be to decide whether to do this or not, but how to do it in such a way as to pay the most attention to everybody who's impacted by it.

And regarding putting it down Penn Avenue, we have to listen to the people who live nearby. If there's one thing we've learned from the Southwest discussions is,

for heaven's sake, let's listen to the people who live nearby. And as I understand it, they do not want to remove houses on Penn in order to make room for it.

Thank you for listening.

MS. HIGGINS: Thank you.

Again, if you haven't signed up yet and as you were listening, you decided you had something you wanted to say, please make your way over to Denise and she'll get you on the list. It looks like we're coming to the end of the list here fairly quickly, so if you want to add anything, now would be the time to wander on over there.

Our next speaker is Karen Lehman.

MS. LEHMAN: I'm Karen Lehman. I live at -- well, I split my time at 1806 Zephyr Place. I split my time. I live in Chicago most of the time. And in Chicago I don't own a car, and I am a transit -- public transit proponent.

But the reason it works is that I have an express bus to Duluth outside my door. I have a train three blocks away. I have an hour car I can rent from my building.

I have a rental car office four blocks away. I have a bike path next to me, and I can walk. And I can take cabs by putting a cab light on the building and the cab comes.

There I use the hour car in a particular way. I use the hour car when I have to take public transit to a station that is isolated, where there aren't very many eyes on the street. And what I fear about the transit, the stops that we have in Golden Valley, is that we will have the worst of all possible worlds, where we will have isolated stops.

You know, I -- like I say, I don't own a car in Chicago because I don't have to. I wish I had better bus transit here. I wish I had an hour car I could rent. I wish I could have these multiple options. What I don't want is an isolated station that's not -- that doesn't have security staff so that I don't feel like I can use it.

I also have one of those houses that is hanging out over the rail line, right there at the end of Zephyr Place. I'm concerned about the noise. I'm concerned

about the light. It is dark, which is wonderful. It is quiet, which is wonderful. And I like the fact that the animals can go wherever they want to go.

So when the mitigation members, you know, measure sound like sound walls, fencing, you know, lighting for security, I just say, well, okay, I live in Chicago. I'm moving back to Chicago. I mean, I have my house here because I want to live here. My work is in Chicago. I wanted to spend the rest of my life here, but the quality of life will be greatly changed.

So I think there are things you can do. You can really look at that wildlife corridor and take it seriously as a wildlife corridor and figure out, how are you going to protect Golden Valley? Because what I'm afraid of is the uniqueness of Golden Valley gets eroded.

The reason that people are going to have those stops there, then we're going to bring people in to use those transit stops. The parking is going to become an issue.

Other people have been much more on point than I can be about the special quality of Golden Valley and the natural resources that it represents, but I think that those voices are hard to hear sometimes because they can't speak, so we have to speak for them.

Thank you.

MS. HIGGINS: Thank you.

Bernie Milstein, followed by Gillian Rosenquist.

MR. MILSTEIN: Hi. I'm Bernie Milstein. I live at 1835 Noble Drive in Golden Valley in the area called Heathbrooke. It's not far from that station that's going to ostensibly be made for the light rail.

I have not been in favor of light rail in that area and for a couple reasons. Number one, it's going to impact the environment. It's going to be dirty, dusty. You're going to cause more traffic on Golden Valley Road than is necessary.

That remote area over by Margaret Mary Church and the fire station is a remote area for Golden Valley. If we use Golden

Valley for a square, that's over in the corner. The greater population of Golden Valley over on this side, Wesley Park and some of those other parks, is a vaster -- Golden Valley is a pretty -- it's a nice community, but it's -- it's not as tight over there as it is in other areas.

If you were to put in a light rail and divert it from where it is and bring it into downtown where we have train tracks -- just reroute this thing and put it into downtown where there is the light rail -- where there is train tracks, you'll have a greater population that will be for the greater good of Golden Valley than that isolated station over there.

So they're not thinking straight. I mean, they're trying to railroad our community from the north and for that area and railroad it through us. And when I say "railroad," I'm not talking about the railroad. I'm talking about they're trying to boondoggle us and ride over us. I'm trying to protect Golden Valley.

Now, the population that's around

here is concerned about the environment by Theodore Wirth Golf Course, about the wetlands and all the animals that we have running around.

But also it's a very quiet area. Very quiet. Very peaceful. That's what I love about Golden Valley. Golden Valley. It's a golden area to live. So you're going to cause more disruption.

I was just talking to one of the gentlemen outside who's been involved in this whole consternation, and the -- the light rail is going to bring in -- every seven minutes you're going to have, during peak times, you're going to have traffic coming in. During unpeak times, if that's a good word, they're going to come by every ten minutes.

Now, for those of us that live in the area, if we go out and grill, we go out into our yards, and we're going to hear that stuff. Things that we never heard before. It's going to cause disruption.

Property values are going to be dramatically affected. You have some of the

best property values in Golden Valley over in Hidden Lakes and Heathbrooke. You think that people are going to want to stay in those properties when they hear noise every seven minutes and every ten minutes? What this community needs is rapid bus service, not rapid train service.

MS. HIGGINS: Thank you.

Gillian Rosenquist.

MS. ROSENQUIST: Gillian Rosenquist, 2321 Kyle Avenue North, which is pretty close.

When I was reading the draft DEIS, one of the things I was really thinking about is this process seems to be a little disjointed. Having gone to the Three Rivers meeting recently and thinking about the plans that Three Rivers has for Sochacki and Mary Hills. Also being involved in the bike trails. I'm not reading about -- it seems to be like this is a very focused plan and they're not thinking about how the whole metro area is envisioning using these natural areas.

So I would ask that there be

better coordination, looking at not just environmental impacts right now, but environmental impacts in terms of -- in terms of planning uses and in terms of future. And -- because I know Three Rivers has ideas and plans, and so do the neighbors, for changes to this area. So we need to think about what goes in as far as floodplain mitigation and things like that in terms of what they want to do and what we want to do with those areas too. Not just how they are right now.

I mean, some of the things that I saw were that the areas they were looking for floodplain mitigation are significantly south of the stations. And as one of the other people noted, we've had a lot of rain. It's a very wet area. And our trails and usage are impacted. And if we don't have kind of that addressed on the northern end, we are going to have reduced use in those areas for recreation, for programming, things like that.

Let's see. I mean, one of the quotes from page 20 of the floodplain

replacement was the size of the floodplain mitigation is anticipated to be small, ranging from an eighth to a quarter acre, and that does seem insufficient, especially in light of the water we've had.

There also seems to be a little bit of confusion about who runs those areas. I mean, I saw Park Board. I saw Golden Valley. And they were talking about the same areas, so I think that needs to be cleared up in this plan so we know kind of who we're dealing with, and the Met Council and the county and the federal government also know who we're dealing with.

Thank you very much. I would just ask you look at it in a future way and very wholistically.

MS. HIGGINS: Thank you.

Bill Linder.

MR. LINDER: Yes. Bill Linder, 2640 Kyle Avenue North.

I don't want to re-go over many of the statements that have been made. I'm in agreement with many of them.

I also have to apologize because I

haven't fully read the 800 pages that have been given to us and so --

MS. HIGGINS: I'd say shame on you, but --

MR. LINDER: A couple of the issues that I'd like to at least get on the list here is property values. All along that corridor people live here, you've listened to it, because of its uniqueness. And people buy their homes there and they pay the prices for those homes because of its unique nature. That will ultimately change, even though we are not a noise dot on your noise map. Noise in Golden Valley is not the same thing as noise next to other facilities. This is a pristine, well-liked area.

Taxes. Oh, I'm sure this is going to benefit the heck out of Golden Valley, so obviously our tax rates will be increased too because of this wonderful opportunity we have to ride light rail, which in practice, won't be very helpful to our community.

I haven't heard anything about compensation for any of these issues, okay? Who wants to pay for this? These are costs

that everybody along this corridor will be paying for.

And just ownership of the park. I have a lot of personal ownership in that park. I've lived there nearly 30 years and have picked up and cleaned up. And you go out there, show me the litter. I challenge any of you to. That's because myself and many others in the community take care of that park.

Thank you.

MS. HIGGINS: Thank you.

Margaret Wall-Romana.

MS. WALL-ROMANA: Hi. My name is Margaret Wall-Romana, and I am one of the newest residents of Golden Valley. My husband and I just moved here from south Minneapolis and we closed on our house six weeks ago.

MS. HIGGINS: And the address?

MS. WALL-ROMANA: Oh, I'm sorry. 2912 Kyle Avenue.

I just met my neighbor, Bill, the previous speaker, who lives down the way, and I noted that there are many other speakers

who live on Kyle Avenue.

My husband and I did not do our due diligence on this issue, and I do not know if I would be standing here tonight if we had done so. When we -- I'll give you a little bit of background.

When we bought our house that we're now selling in south Minneapolis, our neighbor next door, between the time we bought our house and took possession of our house, built an addition to his house ten feet away from our house. Blocked all of our light; made a big, ugly expansion; completely changed the house that we had purchased, so we were never able to live in the house we purchased. It was a completely different house when we took possession.

I feel like the same thing is happening to us again. It's our fault that we didn't do this due diligence. But we absolutely fell in love with this house on Kyle Avenue, which is magnificent. It's so not Minneapolis. It is so special. I go out in the morning and all I hear is birdsong. And I love the birds and I love the animals.

And we have half an acre that looks out to, is it Sochacki Park?

MS. CLAUSEN: Sochacki.

MS. WALL-ROMANA: Sochacki. Thank you.

It's magnificent. It's special. It should be preserved. Not just for me because I want it but because, honestly, it's not Minneapolis. It's not any of the other places around here. It is a very special, particular place that is lovely and is unique to Golden Valley.

And I do not understand why the city council of Golden Valley did not do what should have been done to protect the unique qualities of Golden Valley. I mean, there -- there are other places that the line could run. Better yet, there should be better bus service, which would do much more for the entire area with far fewer impacts.

And also I'd like to say one more thing, which is that one of the -- one of the things that really struck me in the EIR is that at some point somebody discussed a waterway as though it was a trash-strewn, you

know, nothing. And I have not found that to be the case.

And I already want to adopt things like I'm seeing everyone else do here. And anyway, it's a shame.

Thank you.

MS. HIGGINS: Thank you.

Dan Steinberg.

MR. STEINBERG: Hi. Good evening. Dan Steinberg, 1033 Sumter Avenue South in Golden Valley. My in-laws live over on that side, so that's why I'm a little bit concerned about this project that's happening.

I have read the Draft EIS, and I'll just retain my questions to that document since that's our purpose of being here tonight.

I know many of my neighbors and friends have addressed the issue of jurisdiction over that area concerning the Minneapolis Park Board property, to the City of Minneapolis property, to the Golden Valley property, obviously, that's involved, where the stations are being planned and where the

route is going through. So I do thank them for addressing those issues.

Concerning -- concerning Chapter 6-3, Table 5 of the noise mention -- of noise area with the dots, there's no mention of Kewanee Way. There is no mention of Kewanee Way on the noise -- on noise on Table 5. And I'm a little bit in shock -- in shock by that from the document that I read, considering that that street is right next to the rail line, if you've traveled down there and been down there.

Around page 105 of the document it talks about the change of bus routing on there, considering a new bus route, the possibility of changes and especially to the City of Golden Valley bus system, along with rerouting of Route 14 which runs through the north Minneapolis area.

So I'd like to see -- I'd like to see from Met Council representatives that are here tonight, and staff -- I see many of them in the room -- to address new bus routes -- or tentative plans for bus routing going through or what their idea of a plan would be

like for that draft, because it did talk it may have changes to the bus system going through, so obviously that area is going to have a lot of changes. So I do thank you for mentioning those past bus sites in there. And so those are pretty much what are my questions to that.

All right. Then I think I'm around page 400. There was no mention of St. Margaret Mary as being a historic or looked at from a cultural standpoint. Yet, the Floyd -- yet, Governor Floyd Olson's statue at the corner of Penn and Olsen Highway is mentioned in there before St. Margaret Mary. I'm a little bit dismayed by whoever -- whoever decided that the statue and St. Margaret Mary do not fall into same category with that historic preservation.

I thank you for your time, once again, to all of you.

MS. HIGGINS: Thank you.

Well, that completes the people who have wanted an opportunity to comment tonight.

Once again, if you want to use the

comment form, you can do so either by mail or e-mail. The comment forms are out in the hallway. Pick one up or get one from the project website at BottineauTransitway.org.

On the table next to the cookies out in the hallway you will find some various documents that you might find interesting. Feel free to take those if you'd like.

I also brought a whole collection of Hennepin County bicycle maps and feel free to take those. It is finally bicycling season, except for people who bicycle all winter.

So thank you all for coming tonight. And with that, we are adjourned. Good night.

(Whereupon, the foregoing deposition was adjourned at 7:51 p.m.)

STATE OF MINNESOTA
CERTIFICATE
COUNTY OF RAMSEY

I, PAULA K. RICHTER, Registered Professional Reporter, hereby certify that I reported the BOTTINEAU TRANSITWAY DRAFT ENVIRONMENTAL IMPACT STATEMENT PUBLIC HEARING, on the 7th day of May, 2014, in Golden Valley, Minnesota;

That I was then and there a Notary Public in and for the County of Ramsey, State of Minnesota;

That the foregoing transcript is a true and correct transcript of my stenographic notes in said matter, transcribed under my direction and control;

That the cost of the original has been charged to the party who noticed the hearing, and that all parties who ordered copies have been charged at the same rate for such copies;

That I am not related to nor an employee of any of the attorneys or parties hereto, nor a relative or employee of any attorney or counsel employed by the parties hereto, nor financially interested in the outcome of the action and have no contract with the parties, attorneys or persons with an interest in the action that affect or has a substantial tendency to affect my impartiality;

WITNESS MY HAND AND SEAL this 12th day of May, 2014.

_____

Paula K. Richter
Registered Professional Reporter
Notary Public
Ramsey County, Minnesota

Appendix G
Response to Draft EIS Comments

13 Transcript – Minneapolis Hearing

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Bottineau Transitway Draft Environment

Impact Statement Public Hearing

Before Hennepin County Commissioner Linda Higgins

Thursday, May 8, 2014

Minneapolis, Minnesota

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Reported By: Lori Morrow, RPR, CRR, CLR

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Linda Higgins, Hennepin County Commissioner

Adam Duininck, Metropolitan Council Member, Dist. 8

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George Selman, Robbinsdale City Council Member

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COMMISSIONER HIGGINS: Welcome, everybody, to our meeting tonight about the Bottineau Transitway. I'm County Commissioner Linda Higgins, one of the two county commissioners who represents the Cities in this line along with Commissioner Mike Opat.

We have a fair number of other elected officials and appointed officials who are here tonight. I would like them to introduce themselves as well. And then we'll get going with the program and hear what you have to say.

COUNCIL MEMBER DUINICK: Thanks, Linda. I'm Adam Duininck. I'm in the Metropolitan Council, District 8, which is Northeast Minneapolis and portions of South Minneapolis.

COUNCIL MEMBER CUNNINGHAM: I think you can hear me. Can you hear me back there? All right. My name is Gary Cunningham, and I represent District 7 on the Metropolitan Council, which is South Central Minneapolis, Downtown Minneapolis, North Minneapolis, and Robbinsdale.

COUNCIL MEMBER SELMAN: George Selman. I'm on the Robbinsdale City Council, and I chair the Community Advisory Committee for the Bottineau Corridor.

COUNCIL MEMBER YANG: Good evening.

Blong Yang, City Council Member for Minneapolis for Ward 5, which is here.

COMMISSIONER HIGGINS: Has anybody else come in? Go ahead.

MR. JOE GLADKE: Great. Thank you, Commissioner Higgins. I'm Joe Gladke with Hennepin County Engineering Transit Planning. I'm just going to provide a few slides as an overview for this. This meeting is really about hearing your input, but we just want to provide a brief update of kind of where the project has been, where it's at right now, and where it's likely to go in the future. I know some people -- I see many familiar faces here who have been to lots of meetings, and there might be some other new faces that this may be your first meeting. So I want to just try and give you a bit of background, get through these quickly, and then get on to hearing what your thoughts are.

The Bottineau Project is involving numerous entities. We have the Federal Transit Administration. They're really our lead federal agency involved. Hennepin County has been leading the efforts regarding looking at various alternatives, looking at the Draft Environmental Impact Statement. The Metropolitan Council has been

a partner with us as well. They are going to be a signatory of the DEIS as well. As the project moves forward later on this summer, the project will be transitioning from Hennepin County to the Metropolitan Council. They will be leading the efforts on the preliminary engineering, the Final Environmental Impact Statement, as well as construction should the project advance to that.

We've also had great participation from the cities along the corridor. The cities have a big stake in this. They are the local land use authorities. They are involved with the zoning and potential land use changes along the alignment. And they are active participants in the process as well.

You might hear about the Bottineau LRT Project, and you're probably going to be hearing more and more about the Metro Blue Line Extension. That is the same thing. There's been a rename of the system. They're going more to a color scheme on this. And what was known as the Hiawatha Light Rail Line is now known as the Metro Blue Line. And this would be an extension of the Metro Blue Line. So as it exists right now, the Metro Blue Line ends at Target Field Station. And in the future, it would proceed west on Highway 55 and then up the rail

corridor up towards, I guess, West Broadway up near Brooklyn Park and then would continue up West Broadway up to just north of Highway 610 up near the Target North there.

As far as where the project is at right now, this kind of shows three parallel processes that are happening on the project. And these are happening somewhat at the same time. Tonight we'll hear kind of about the middle one here, the Green, talking about the environmental study. This is the Draft Environmental Impact Statement. And after that, the next step will be the Final Environmental Impact Statement. We anticipate the Metropolitan Council will secure a consultant to proceed with that work probably toward the end of 2014. They have requests for proposals out right now for the engineering services. And that really kind of gets into the project development phase. That's been kind of one of the formal phases that's part of the federal process that they have to go through. So we anticipate that consultant will be hired toward the end of summer or early fall, and work will continue.

A lot of people have asked how quickly could this happen. And I guess we kind of put this timeline together, but we'll certainly note down

below that this is a very optimistic schedule assuming everything comes together. There certainly is funding that would be needed at the state level, the county level, the Counties Transit Improvement Board, the federal level. So there's lots of pieces of the puzzle that all have to come together to make a major project like this happen.

I also want to note along the bottom that one of the other key aspects of the work on the corridor is the land use planning that goes along with these types of corridors. They do look at the areas not just where the tracks would be laid but the areas around the stations and what types of other improvements may be needed in that area to try and provide better access to the stations to get people in and out. That might be better sidewalks. It might be pedestrian scale lighting and other types of improvements around the stations.

There's currently a consultant that has been hired to look at the first four stations, meaning the two in Minneapolis and the two stations that are being studied in Golden Valley as well. And that consultant is on right now. They are going to be having more meetings coming up later on this summer, and they anticipate the station area planning

beginning later on this year for the rest of the stations, meaning Robbinsdale, Crystal, and Brooklyn Park. So that's kind of a snapshot of kind of where we're at and what might be happening in the future.

Early on in this process, there were five goals that were looked at. And we looked at a variety of options for this corridor. The five goals were to enhance regional access to activity centers, to enhance the effectiveness of the transit service within the corridor, to provide a cost effective and financially feasible transit system, to promote sustainable development patterns in the corridor, to support healthy communities and sound environmental practices.

So after those five goals were kind of looked at, kind of previously we had looked at a whole range of alternatives up on the north end and on the south end. And so there was a wide range of alternatives that were considered before we actually got to the [inaudible]. Back in January of 2012, we had a series of scoping meetings where we went out into the community and asked what do you think are critical issues as the project advances. We got a lot of input on that. You'll probably see most of the items

that were brought forth as far as input from the citizens are the items that are addressed in the DEIS. As part of that, the scoping decision kind of looked at what specific options will be studied in the DEIS. I'll show you a map of that momentarily. And work has also happened regarding that alternatives analysis that looked at what is really the best project that should move forward. And then there's also the environmental aspect of that. So I'll touch on that momentarily.

And the DEIS now has been released in April of 2014, and the comment period extends through May 29. And some people might ask what is the DEIS. If you've been in the other room, we've got some copies of it in there. It's a very thick document. It looks at a whole host of issues. It assists decision makers in the assessment of different impacts of the project. It documents the protests and the need. And it looks at a variety of alternatives as part of that. It addresses transportation, social, environmental, and historical, a variety of potential impacts. It also defines potential litigation measures, but it doesn't specifically define what those measures may be. For example, last night I talked to quite a few people

that had questions and concerns about noise. And in some of those areas -- on the maps, it kind of shows some of those areas where maybe a sound wall would be considered. And some folks said, well, even though a sound wall might be required here, I don't want to look at a sound wall. Would you consider planting a row of trees or something else that would blend in. And so those are types of discussions that happen more as we transition into FEIS and get into some of the more specifics about how some of those potential mitigation measures might be addressed.

The DEIS also facilitates review by a variety of federal, state, and local agencies, as well as the public, it satisfies both federal and state environmental law requirements, and it provides comparison of alternatives. It also identifies the environmentally preferred alternative.

As far as the options that were studied in the DEIS, up on the north end of the corridor, there was Option A, which goes to Maple Grove. Option B was studied as well. That goes toward Brooklyn Park. Option C is common to all of the options that were studied. There on the south end, Option D1 was looked at, which stays in the railroad corridor down to Highway 55. And then Option D2 was also looked

at, which comes out of the rail corridor, heads down West Broadway and then down Penn, east on 55. Then all the options again tie in at Target Field Station and become part of the existing Blue Line.

I talked earlier about the five goals that were looked at at the beginning. As part of those five goals, there are 22 different evaluation criteria that were measured as part of that. And this is kind of a summation of all of those evaluation criteria along with the different option -- the build options shown to the right. In addition to the build options, there was a no-build option as well as a TSM option that was considered. And when you look at how those various options compared, the Option B, C, D1 is the environmentally preferred alternative. And here's a map of that there. This option has been adopted by the Metropolitan Council into the Transportation Policy Plan. So this is really the option that's moving forward. But you'll see there's a variety of options that were studied.

As part of the input, we've got a series of public open houses. We were in Golden Valley last night. And we must have put on a fairly good show because I think I saw about four or five people that

were actually there last night that came back for more. So we'll have to see if they come next week as well. Or maybe two is enough. But we're going to be here tonight. And next week we're going to be in Brooklyn Park and Crystal after that. And again, people can provide verbal comments here tonight. We also have comment sheets in the other room.

If you have more questions that you would like to get answered, the staff will be in the other room to address those questions. In this room here, we're primarily going to have testimony from folks. So you'll have a chance to do that. But if you have questions, please see us in the other room.

As far as your comments, if you provide written comments, you'll be requested to provide email addresses as well. We like to acknowledge that we have received your comments. Those comments will be addressed as the project moves forward, but it won't happen in a very timely fashion.

As I mentioned a little bit earlier, the next consultant likely will not be hired until toward the end of 2014. It will likely be a year or two beyond that before, you know, the FEIS is finally ready. And those comments will get input as far as preliminary engineering work moving forward and the

work that will happen as part of the FEIS. So we'll gather the comments. We'll post those comments on the project website. And we'll try to put them into a variety of categories so that both the engineers and the planners and environmental specialists that are looking at the future work, they take that input as the work advances forward.

So with that, I'm going to turn it over to Commissioner Higgins to begin the public hearing.

COMMISSIONER HIGGINS: Thank you, Joe.

We have chairs up in the front row for people -- so that we can get people speaking one after another in a fairly rapid order. And --

Are we going to have the names up on the screen again?

So as people have come in and wanted to testify, they signed up at the table over at the front, left corner. If you also would like to testify and haven't signed up yet, please make your way over there. So you can see we have names in the order of speaking.

So if John would make his way to the microphone, and then Vicki and Arlene and Elaine will be just ready to go.

Just a reminder, this is not a question and

answer period. As Joe said, there will be experts and our staff people in the other room who will be able to answer your questions. But tonight we want to hear your comments about the environmental aspects of the Bottineau Line. And we ask you to speak for no more than three minutes. And we've got, you know, the standard coloring system. At 30 seconds to go, you'll get a sign that says you have 30 seconds left, and then, thus, the red card comes up. And we would ask you to then, you know, wrap up your sentence and then yield to the next person.

So thank you all for coming. I want to make sure I say that before we start and as we end. But we're here tonight to listen to you. So thank you.

And take it away, John.

What did I forget to say? Oh, yeah. That's right. We would ask that people don't cheer and applaud and boo and all of that to the speakers. It is just something that we think isn't necessary for the comment period.

We also have a note taker here in the front row so that your comments will be recorded so that when we go to work further through the comments that people give us, we've got an accurate record of them, just so you know.

Okay. Take it away, John.

MR. JOHN MUNGER: All right. My name is John Munger, 1211 Washburn Avenue North. I am the executive director of the Loppet Foundation. I'm really here with that hat on. We are a North Minneapolis and really Theodore Wirth Park oriented organization and work very closely with the Minneapolis Park and Recreation Board to provide outdoor, active kind of opportunities in the Minneapolis area. So, obviously, Theodore Wirth Park is really important, which is why we're advocating for several tunnels through the park. Just kidding. So that was funny, you guys. No one broke a smile even. People are very sensitive now.

We actually do have some concerns about the route through the park. We've been working with staff on those. We're not overly concerned, but, obviously, the impacts on the trails through the park and the ski trails and the mountain biking and so forth are something that we're interested in making sure continues. So that's kind of one aspect of what, you know, we want to see happen there.

We don't have a real strong opinion on the different routes, whether it goes the Penn Avenue route or the Wirth Park route. But we do have a

strong opinion that if it does go the Wirth Park route that we think there's a real opportunity to have a stop at Plymouth. And really, I like the way -- as you said in the other room, the way the Theodore Wirth stop is probably better than the Plymouth Avenue stop. And it looks like that's on the plans. And so that's wonderful. But just to kind of talk about what that means, you know, when one of the primary things that you're trying to accomplish is to support healthy communities. And having a stop for Theodore Wirth Park is one of the ways to do that. Obviously, North Minneapolis is kind of an area that has some health disparities. Making Theodore Wirth more accessible for people to get to via light rail, I think, is really important. It's about the same size as Central Park in New York City. And people don't really kind of realize that. But it's this great opportunity and this great park right on the edge of North Minneapolis. And over the past dozen, twenty years, the park has really grown in use. You can go there pretty much any winter afternoon, and there's tons and tons of kids out there. Having a stop there, I think, will just make that all the more easy for folks.

And I see my red card is coming, so I'm going

to leave you folks. Thanks so much.

COMMISSIONER HIGGINS: Thank you.

COUNCIL MEMBER CUNNINGHAM: Madam Chair, I need to disclose that I am on the board of the Loppet Foundation. So just for the record.

COMMISSIONER HIGGINS: Okay. Good to know. And before Vicki starts, let me put on my hostess hat for a minute. We have cookies and water in the back. Please enjoy them. They are pretty tasty.

Vicki.

MS. VICKI MOORE: Thank you so much for coming out to our community. When you guys mention the Blue Line, I think of it as being an international line because it passes through the communities of so many new Americans, and it passes through the communities of so many environmental justice communities. A lot of the discussion in the community has been around alignments and stops and change. I see this as the potential for transit development. In my neighborhood, when we talk about trying to bring people and developers in, they'll say you don't have enough people to support the business. You don't have enough amenities for our workers.

So going forward, I would like to see more conversation about economic development. I really

support the Penn Avenue Station and making the park a destination. I know that -- I believe that if the park is a destination, there will be economic development going up Plymouth to Penn, small businesses, and that we should be growing small businesses that are community-owned businesses, and this is our opportunity to do that. I know that my neighborhood will be supporting businesses along Olson Highway.

If we're going to do this, I think it's really important that -- as we move forward that we consider equitable development standards and community benefits agreements. I think by doing so, you're engaging the community in a way that they can start to see the benefit and the potential of what's coming to us as this line moves through our neighborhood rather than just looking at change and perhaps wanting to keep things the way they are rather than looking at how things could be.

So that's all I had to say. Thank you very much for coming out.

COMMISSIONER HIGGINS: Thank you. And I forgot to have you give your address as well, if everybody would do that.

MS. VICKI MOORE: I live in the Harrison

neighborhood at Second and Oliver.

COMMISSIONER HIGGINS: Good. Thanks.

Arlene followed by Elaine followed by Russ.

MS. ARLENE EL-AMIN: I'm Arlene El-Amin. I live at 1708 Eighth Avenue North.

I have a concern. When I looked at the map tonight, it looked like Eighth Avenue would be a real alternative route for persons who were traveling down Penn -- or excuse me -- Olson and might get stopped by a train that's approaching and that they might divert over to Eighth Avenue, which would be from Penn Avenue all the way down to probably Van White. I live on a corner where there's a triangle there, and there's like three streets converging. I have about 12 -- 14 grandchildren under the age of 12 that play a lot when they come to my house. I would be very much concerned about the increase in traffic that might be impacting that area and hope that perhaps you thought about maybe a -- I think they call it a roundabout or something, something that would slow the traffic down, because, inevitably, there is going to be a traffic increase in that area.

I have another concern about the ability to cross Olson Highway. Right now people can go to Olson Highway, catch a bus maybe at every other

street. I'm not sure the distance between the stops for the rail, but I'm pretty sure there won't be this type of access to go across Olson Highway. Is there any thought being given to maybe walking bridges that people can cross over? I think this is going to impact some people very much, especially neighbors and friends who have -- who live on both sides of Olson Highway. And if they've got to walk four to six blocks just to get across the street, that could be some difficulty for some people.

I'm also concerned about how would -- the people who normally would go across Olson Highway and catch a bus now, how would they get across the street with the rail actually -- you know, having the bar go there; you can't go there. So how would they transverse the area to get there? You know? How far will I have to walk from Penn to get to Irving to cross over to the other side? You know? I think that that's going to be a real problem for especially our senior citizens and for the children, because, you know, children are going to have a tendency -- they're going to try to jump those tracks. I remember as a child myself, we took shortcuts. When I was living in Chicago, and we went across the tracks.

So I hope those are things that you're considering in this development.

COMMISSIONER HIGGINS: Okay. Thank you. Elaine.

MS. ELAINE WYNNE: Thank you. I'm Elaine Wynne, and I live near the arts high school on Georgia Avenue. I grew up on a farm, lived almost 30 years in Minneapolis, and been out in Golden Valley for 20 years. My husband and I love light rail. We would like it in our backyard. When I adjust the environmental impacts, I'm concerned about what will happen to three parks, but particularly Wirth Park, and also the ridership. I feel like Golden Valley is a drive-through. It's -- you know, there's going to be one stop really not very close to anybody where anybody lives. And Golden Valley actually uses public transportation a lot and I think would increase it. I like the one that came down Highway 100 and went on Penn Avenue. That was always my favorite. I've always said that.

I think that I couldn't -- I didn't read the 800 pages, but I didn't see anywhere where there was a real serious assessment of what is the cost of destroying wetlands and that they would be. There would be a lot more destruction of the wetlands than

is often put out at these meetings.

And then one curiosity I have is how much will the owners and stockholders of BNSF Railroad be receiving for the purchase of this land needed for the light rail? And why have no agreements been negotiated -- any tentative agreements at least? I know there are estimates, but do we actually know that those estimates are going to be anywhere close to what we're going to need to pay the railroad for this? And does it really in terms of cost balance out when you take that into consideration?

Thank you.

COMMISSIONER HIGGINS: Thank you. Russ followed by Linda and then Roger.

And I would like to tell you that Council Member Jennifer Munt has joined us to my right.

MR. RUSS ADAMS: Thank you, Madam Chair.

I'm Russ Adams with the Alliance for Metropolitan Stability. We're in the Stuart neighborhood at 525 East Franklin Avenue. I did not read the entire DEIS, but fortunately for me, I have a colleague who likes nothing better than to read very thick documents. And our comments are based on our review.

The first thing I want to say is compliment the staff on the Bottineau Project for their improved community engagement strategies. That's something that has been noticed by many of the community groups we work with. We're a coalition of 33 organizations, but we've worked very closely with 17 community-based environmental justice groups operating along the Bottineau Corridor through community engagement team work that we do.

I also want to point out that the Bottineau Corridor is an environmental justice corridor. 52 percent of the residents within that mile radius along the corridor are people of color. And according to the Met Council, 14 percent of the people living in the corridor do not own a single car, are transit dependent. We want to encourage you to think about how the transit investment, corresponding land use, and economic development generate community benefits and equitable outcomes for the low income communities of color in the corridor.

And also, remember that the corridor connects two significant, large EJ populations between Minneapolis and Brooklyn Park.

I am going to jump around on this because I

don't have enough time to go through this point by point.

I want to start with jobs. I want to start with actual economic outcomes, which is really point number four under "Anchor Institution Strategy." There was a very compelling commentary in the Star Tribune this week that talked about let's stop talking about equity and start delivering real results. So we are part of a group that is pressing the Southwest Corridor to think about a community compact that would actually have very specific equitable commitments by all governmental parties. We think that would be a good strategy for Bottineau. I'm going to leave a copy of that with the staff. And I want to remind you that some of those components would be connecting people to real job opportunities along the corridor, utilizing the synergy that we could get through Hennepin County and DEED Workforce Training Centers and employment assistance firms as has been done with the Central Corridor and Vikings Stadium.

Let's raise the goal on hiring for the construction force. Let's bring it to 40 percent. That will better reflect the population of both North Minneapolis and populations of color along the

line. Let's make it easier for disadvantaged business enterprises to contract. And let's do ZIP code employment goals for these groups.

You can see a number of other examples specific and some general in this. And we're always available to chat.

Thank you.

COMMISSIONER HIGGINS: Thank you. As Linda is coming up, I would like to remind you, if you would like to speak, please make your way to the table, and Denise will get you on the list.

MS. LINDA GALLANT: Can I pretend we're in Congress and accede some of my time to him so he has a couple more minutes? Thank you.

COMMISSIONER HIGGINS: He talks to us regularly.

MS. LINDA GALLANT: My name is Linda Gallant. I live at 1707 Xerxes Avenue North in Golden Valley. I feel like I live in North Minneapolis. Some people might say that's the wrong side of the tracks. I think it's the right side of the tracks. I want to say that I think, first of all, I would guesstimate that the majority of people in this room today believe that this is a done deal, do not believe that there is any further consideration for being honestly

and seriously given to the other routes. I think we should all focus on that. That's what people believe.

I know what federal regulations say about the options. I want to say two things. I think the DEIS report -- I didn't read the whole thing, but I read the entire noise section. I'm not a scientist, but I could figure it out. First of all, I think the report gives short shrift to the economic justice realities. Does not have any specifics, but how does this group that carefully avoids the population centers of North Minneapolis, carefully goes around them, how is it going to provide greater opportunities for people in my neighborhood, North Minneapolis, to get to better jobs? It says we're going to -- I talked to the Metropolitan Transit person yesterday. We're going to look into that. We're going think about it. I think the time is now to be far more specific, far more focused, and far more willing to say this is what we're going to do in terms of if we're going to say this is a transit system to get people to those good jobs out in the burbs. We've got to say how we're going to do it, because right now we're not -- you know, these stations aren't near too many people. Let's

get real.

Number two, I think the report gives short shrift to the massive impact -- 220 trains a day -- on Theodore Wirth Park. I want more attention paid to what is going to be done to try to reduce, mitigate the impact of this 220 trains a day on the most wonderful park in the Twin Cities. I didn't know it was as big as Central Park. Somebody else just said that. That's fantastic. I used to live in New York City. But Central Park would not allow 220 trains a day to go through it. And we have to be very careful of that.

And I want more attention given to precise proposals about noise mitigation. I want to tell the woman who spoke earlier. She said it's not in her backyard. It is in my backyard literally. And I can't find anything in the report that talks about what's the precise proposal for noise mitigation.

And I guess I couldn't give him more time because I used up too much of mine.

Thanks.

COMMISSIONER HIGGINS: Thank you, Linda.

Roger.

MR. ROGER SMITHRUD: Roger Smithrud. I live at 2357 James Avenue North, about approximately two

blocks from Penn, two blocks from West Broadway.

I have been watching this a little bit on the side grounds and not paying enough attention as I should. But after finding out that I'm having to take the bus a lot more than I used to, I'm finding out that catching the bus is a lot harder to do on time schedules. And having a light rail that has set time schedules that they are posting and saying how long they will be there would make a dramatic difference for me if I had to get downtown, if I had to go out to the hospital, which I've been making more trips there than usual. And to me, it would have a tremendous impact being on the D2 route rather than the D1 route, even though I think it's a lot less controversy to go the D1 route, and it's a lot more work and a lot more politics, a lot more negotiations and understanding and a lot more hard work to get the D2 route to go. But I think it would benefit North Minneapolis not just with transportation but with business opportunities and potential growth, making North Minneapolis more known as a good place to go than even South Minneapolis. It would be almost like wanting to go downtown without being downtown.

Thank you.

COMMISSIONER HIGGINS: Thank you. Is there anybody else who has not signed up who would like to have this chance to speak? If not, once again, we have staff in the other room who would be willing to answer some questions if they can for you if you have questions. And then I guess thank you for coming and -- oh, that's right. There are paper forms in the other room as well if you want to write rather than talk, and those are available. You can turn those in by email, or you can get the forms off of the Bottineau Transitway website and turn them in by the 29th of May. We're still accepting for two, three more weeks.

One more person to speak? Okay. All right. We have another person to speak. Thank you for coming.

MR. AASIM SHABAZZ: Aasim Shabazz. And I live near North at 1041 James Avenue, about a half -- maybe three blocks from the Van White Station.

First, I want to start off with saying thanks for this forum. But based on looking at the -- not all 800 pages, but I have some comments based on my role.

The outreach and engagement piece for this part as we move forward, I know it's a critical part

of it for community members. And if there's more time, like for this event, the rain, mitigating [inaudible] may have stopped people from coming out if they don't live within walking distance, but we can create that. That's my first thing.

The environmental impact as far as on business and disruption in the near North communities between Olson Highway, as was mentioned by Arlene earlier about the stops and the pedestrian traffic, I think that needs to be given more thought about what that looks like in a design. I know that that's pushed down to the land use and the city. But is there something within this that we can look at the safety factors? Because students are at risk. There are schools over in that district, and it is a high residential district. So more thought should be considered to that.

When we look at the impact of the station between the Plymouth -- I guess we're calling it Theodore Wirth Station -- I'm not sure -- and the Golden Valley Station, what is being done to look at or set correct expectations around the myths about the spacing and the lanes for the track and alternatives that are being presented right now? Because there are several arguments to say there's

not enough space, and that way they're destroying wetlands. Are there opportunities to set that right in the near term, so in the final document, we know what the actual numbers are and what the potential damage is.

And the last part is the zoning around the three stops that are near North. That would be Van White, Plymouth, and then the one downtown at the interchange. When we look at that for the density, the residential, can we look at the development of the economic -- the lack of economic business development opportunities that exist right now? It's heavily residential. It doesn't really speak to the routing of traffic and directing, I want to say, the roles in a design that will allow us to grow, allow us to have access to amenities. Right now, it's just going to create another throughway on Olson Highway but not enough for amenities of the businesses and the communities involved. So if there's --

I've got 30 seconds, so the rest I'll waive. Thank you.

COMMISSIONER HIGGINS: Thank you very much. Last call. It looks like Natalie Yaeger. Thank you for coming.

MS. NATALIE YAEGER: Hi. I apologize. I'm just getting here, so I'm not quite as prepared as I wanted to be.

COMMISSIONER HIGGINS: Sure. We have you speak for no more than three minutes. We'll give you a 30-second warning. If you'll start with your name and your address, that would be great.

MS. NATALIE YAEGER: Sounds great. My name is Natalie Yaeger. I'm at 2736 Vincent Avenue North. I've been very involved in the Northside Transportation Network and dedicated quite a few years already researching and trying to figure out the ins and outs of this project. I have to say that right now, you know, I'm really disappointed in where things have gone. It really breaks my heart to see that the north side really hasn't been represented in the current plan for where the railway is going. I've seen many, many other options that would be a better fit for us. I actually lived in Vancouver, Canada, where we had a wonderful transportation system. And really, what transportation means to me is that it actually services the people. And where I'm seeing the current route, I don't really feel that it services the people or the needs of Minneapolis or the North Minneapolis residents, me

being one of them.

I personally would have been impacted by the route that would go -- the D1 route, I believe. D1, D2, I'm getting a little confused right now, but the one that goes down Broadway and then Penn. I would be right -- like less than a half a block off of that. I have no concerns right now. We currently are a one-car family. My husband relies on bus transport for his work, and he does not get adequate service. The buses run every 45 minutes. We're right off Broadway. And nor does the bus sometimes even show up. So we are not really being serviced right now. I'm very concerned about the bus rapid transit option for those reasons, and I would like to see a lot of investment provided for an equitable transportation system for our area. And I really feel that the light rail was that option.

I spoke at the County Commissioner's Office. There were 15 people that spoke -- or the County Commissioner's meeting when they were trying to decide on this. 15 people spoke. Only one was against having light rail come down the D1 route where that was. It was very disheartening to see the county commissioners not taking the people's voices into account, so. And then also, it also breaks my

heart to see it going through Theodore Wirth Park, which is where my kids ski and everything and we do a lot of activities.

So thank you.

And can I add one more thing? We definitely need a stop in the Golden Valley area for North Minneapolis.

Thank you.

COMMISSIONER HIGGINS: Thank you. All right. Are we done? Okay.

FEMALE SPEAKER: Got one more.

COMMISSIONER HIGGINS: One more person? Okay.

MR. DAVID GREEN: Hi. I'm David Green. Normally, I'm at these meetings representing ISAIAH, but I'm just going to speak for myself tonight. I got here late, and I got here late because I have this little guy to take care of. A 5:30 meeting weekdays for something as important as this is outrageous. People ought to be able to come to this meeting, ought to be able to testify. I'm shocked that 40 minutes into this we're done with this testimony. That's not right. We either need to have another meeting on the north side or something because I couldn't get here on time. A lot of

people -- the last speaker said she just got here.

So that's all I have to say. Thanks.

COMMISSIONER HIGGINS: All right. Is there anybody else? Anybody else who would like to speak?

Well, thank you all for coming. And I know people will be around to talk. And have a great evening. Thank you.

(Reporter's Note: At this point, the meeting adjourned. The following are individuals who spoke directly to the comment reporter and did not speak publicly to the commission.)

MS. LENORA WARE: Lenora Ware, 1031 Knox Avenue North, Minneapolis, Minnesota, 55411.

In regards to what happened in the meeting tonight, I just want to say I honestly don't want a train in our neighborhood because I don't want the people to have to lose their homes. And that's basically what's going to happen. And if they did have a train, I just don't like the fact that they keep using our tax money. And the cost of living is not going down. It's going up in our neighborhood. And they use the money to get people from the suburbs in, but they are not charging them what they are us. It's like our tax dollars are being used to support the suburbanites. And I just would like that money

to be used for our kids and our elders and ourselves in our neighborhood and people in our community.

They had the North Star train. And the North Star train has more -- what is it -- amenities. And we don't have that on the trains in the Cities for us. Again, it's our tax money. So why don't we get the same thing in the city they are getting in the suburbs and we're paying for it?

And that's all. Thank you.

If they do have the train, please have more safety and security for all of us and more compassionate police force.

MR. CURTIS ADAMS: Curtis Adams, 1031 Knox Avenue North, Minneapolis, Minnesota, 55411. I don't think they should bring the train over here because people would lose a lot of their homes, and I think a lot more people would be getting arrested or fined because people don't like to pay on the trains because they just think they could get away with it.

MS. ALYSSA LIPKE-PIER: My name is Alyssa Lipke-Pier, and I'm an architect, and I live at 1045 Washburn Avenue North. I'm also on the planning commission for the City of Minneapolis, but I'm not here in that capacity today. I'm just here as a citizen who has lived in north for over a decade.

And I'm here because I'm assuming the Bottineau Line is going to run along Theodore Wirth Park anyway. So I just wanted to talk about station locations. I have concerns that it's going to come down to either Plymouth Avenue or Golden Valley Road. And I feel as though a lot of the benefits of Golden Valley are the fact that they want to do a park-and-ride that could attract people to drive and park there and take light rail into downtown or elsewhere. But I think that there are different benefits that need to be looked at for putting it at Plymouth, and specifically at the northeast corner of that intersection, so north of Plymouth Avenue on the east side rather than on the south side of Plymouth Avenue, specifically because North Minneapolis is already cut off from most of the amenities. We have 55 to the south. We have 94 that blocks us from the river. Now we're going to have a train blocking us from our only other major amenity, which is Theodore Wirth Park. So at the very least, if we're going to end up being blocked off from everything, we should at least have the amenity of having a stop in our neighborhood that also would bring people to the park. And the major park buildings are right there at Plymouth Avenue. If you put it at Golden Valley Road, there's nothing.

So I think that having a station at Plymouth Avenue on the northern side of the street could actually set up Theodore Wirth as more of a destination park to draw from around the metro along the light rail lines so we would have more families and people experiencing North in a way that they haven't experienced it before as well as giving people from North a way to get to the airport or to downtown or to other things so the light rail wouldn't just be serving surrounding suburbs and people who don't live in North but would actually be an amenity for North to enhance our park and enhance our connection to the city. So I don't know in terms of development if it's very much. It's in a park. So either way, the only development I think Golden Valley would spur would be a parking lot, or a parking ramp, which -- you know, whatever. I would rather see both personally because I can see where they serve very different needs, but I think if it came down to one or the other, the moral and ethical choice is Plymouth Avenue, because it actually -- instead of just taking away, it actually adds a little bit of value back. And North has waited long enough for that.

And so in addition, I think that it actually

in terms of siting and planning, it would fit better with establishing more of a destination point for that park anyway just from a -- you know, if I was looking at it as an architect and as an urban planner, that's where I would think the best station would be in terms of enhancing the city and the Grand Rounds.

So there's my two cents.

Fund both. And if you can't, just fund Plymouth.

P.S., I also think we need to have connections that get people from North across the tracks, whether it's land bridges or some sort of connection, because right now, given that's our only access to a major amenity, and it's going to get cut off with a train that has a fence -- we were already told there would be a fence. The fence needs to look nice, and there needs to be pedestrian bridges over it to get into the park, because right now there are paths that have been there for a hundred years that families have used generationally, and they're still used today, even though they're not formal entrances to the park. So some of those need to be preserved or rebuilt or reestablished just so it's not a total cutting off of an amenity.

MS. CANDY BAKION: Candy Bakion, 701 Olson Memorial Highway, Apartment 201, Minneapolis, Minnesota, 55405.

Dear Commissioners, I would like to make sure that you hold fast to keep a focus on keeping the light rail stations planning in the community and community focused with a lens on equity and affordable for all. And my hope is to provide economic advantages for the surrounding communities along the light rail and beautification along with that, also access in ways of for the youth, for the elders, for the middle class to be able to access the lines, providing alternative methods and support at station area planning, and to make it pretty, and to provide more resources to the powers that be to engage the community and provide some really cool swag.

(Concluded at 7:20 p.m.)

****

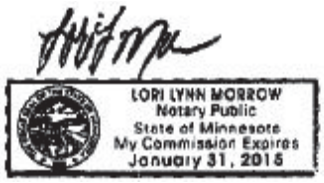
REPORTER'S CERTIFICATE

STATE OF MINNESOTA)
) ss.
COUNTY OF HENNEPIN)

I hereby certify that I reported the Draft Environmental Impact Statement public hearing on the 8th day of May, 2014, in Minneapolis, Minnesota;

That the proceedings transcribed by me are a true record of the proceedings held;

WITNESS MY HAND AND SEAL, this 14th day of May, 2014.



Lori L. Morrow, RPR, CRR, CLR
Notary Public, Hennepin County, Minnesota
My commission expires: January 31, 2015

Appendix H
Section 106 Supporting Materials

The following is a list of supporting materials used in the Section 106 of the National Historic Preservation Act process.

H.1 Memorandum of Agreement

1. Federal Transit Administration (FTA) and Minnesota State Historic Preservation Office (MnHPO), *Section 106 Memorandum of Agreement between the Federal Transit Administration and the Minnesota State Historic Preservation Office*. Execution ready version, June 2016

H.2 Section 106 Agency Correspondence

1. Minnesota Department of Transportation (MnDOT) Cultural Resources Unit letter regarding additional inventory information in the Grand Rounds Historic District, March 11, 2014
2. MnHPO letter responding to Grand Rounds Historic District additional inventory information received, April 11, 2014
3. US Army Corps of Engineers letter delegating authority for FTA to act as the Federal Lead Agency for Section 106 responsibilities, March 30, 2015
4. MnDOT Cultural Resources Unit letter transmitting a Section 106 Consultation Package, July 10, 2015
5. City of Robbinsdale comment letter on Section 106 Consultation Package, August 7, 2015
6. MnHPO letter regarding Section 106 Consultation Package, August 10, 2015
7. City of Golden Valley comment letter on Section 106 Consultation Package, August 10, 2015
8. City of Minneapolis comment letter on Section 106 Consultation Package, August 10, 2015
9. FTA letter transmitting Final Determination of Effect Report to MnHPO, January 20, 2016
10. City of Robbinsdale comment letter on Final Determination of Effect Report, February 17, 2016
11. City of Brooklyn Park comment letter on Final Determination of Effect Report, February 18, 2016
12. Hennepin County comment letter on Final Determination of Effect Report, February 19, 2016
13. City of Minneapolis comment letter on Final Determination of Effect Report, February 19, 2016
14. City of Golden Valley comment letter on Final Determination of Effect Report, February 19, 2016
15. MnHPO letter regarding Final Determination of Effect Report, February 22, 2016
16. FTA letter inviting the Advisory Council on Historic Preservation to participate in the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project Section 106 process, February 29, 2016

17. Advisory Council on Historic Preservation letter declining participation in the proposed BLRT Extension project Section 106 process, March 15, 2016
18. MnDOT Cultural Resources Unit letter re-evaluating the boundaries for the Floyd B. Olson Memorial Statue to MnHPO, March 10, 2016
19. MnHPO letter concurring on re-evaluation of boundaries for the Floyd B. Olson Memorial Statue, March 28, 2016

H.3 Section 106 Consultation Meeting Notes

1. Proposed BLRT Extension project Section 106 Consultation meeting notes, June 5, 2015
2. Proposed BLRT Extension project Section 106 Consultation meeting notes, July 10, 2015
3. Proposed BLRT Extension project Section 106 Consultation meeting notes, July 16, 2015
4. Proposed BLRT Extension project Section 106 Consultation meeting notes, February 4, 2016
5. Proposed BLRT Extension project Section 106 Consultation meeting notes, March 10, 2016
6. Proposed BLRT Extension project Section 106 Consultation meeting notes, March 24, 2016

H.4 Other Supporting Documents

1. FTA, *METRO Blue Line Extension Light Rail Transit Project Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties* (*DOE Report*), January 20, 2016.
2. The 106 Group Ltd, *Theodore Wirth Regional Park Cultural Landscape Study for the Blue Line Extension LRT Project*, September 2015.
3. The 106 Group Ltd, *Phase I and II Architectural History Survey for the Bottineau Transitway Project, Crystal, Brooklyn Park, Golden Valley, Maple Grove, Minneapolis, New Hope, and Robbinsdale, Hennepin County, Minnesota (Volume 1 and 2)*, 2012. Available at http://metrocouncil.org/Transportation/Projects/Current-Projects/METRO-Blue-Line-Extension/Environmental/Technical-Reports.aspx.
4. The 106 Group Ltd, *Phase IA Archaeological Assessment for the Bottineau Transitway Project, Hennepin County, Minnesota*, 2012. This report is available by request.
5. The 106 Group Ltd, *Bottineau Transitway Phase I and II Architectural Survey, Hennepin County, Minnesota: Supplemental Report 1*, 2013. Available at http://metrocouncil.org/Transportation/Projects/Current-Projects/METRO-Blue-Line-Extension/Environmental/Technical-Reports.aspx.
6. FTA and MnHPO, *Section 106 Programmatic Agreement Between the Federal Transit Administration and the Minnesota State Historic Preservation Office Regarding the Construction of the Interchange Project Minneapolis, Minnesota*, 2012.

Appendix H
Section 106 Supporting Materials

H.1 Memorandum of Agreement

1. Federal Transit Administration and Minnesota State Historic Preservation Office, *Section 106 Memorandum of Agreement between the Federal Transit Administration and the Minnesota State Historic Preservation Office*. Execution ready version, June 2016

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MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

WHEREAS, the Metropolitan Council (COUNCIL) is proposing to construct the Blue Line Extension Light Rail Transit Project (PROJECT), an approximately 13-mile long double-track light rail transit line (LRT) located in dedicated right-of-way, with eleven (11) new stations, five (5) park-and-ride facilities, and one Operations and Maintenance Facility (OMF), beginning at a connection with the METRO Green Line and METRO Blue Line LRT lines at the existing Target Field Station in Minneapolis, and extending along a northwesterly alignment to connect the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park, Minnesota; and

WHEREAS, the United States Department of Transportation, Federal Transit Administration (FTA) may fund the PROJECT and has determined it is an undertaking subject to the requirements of Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), and its implementing regulations, 36 CFR § 800; and

WHEREAS, the United States Army Corps of Engineers (USACE) may issue permits to construct the PROJECT pursuant to 33 U.S.C. §§ 11 and 404 of the Clean Water Act (Section 404), 33 U.S.C. § 1251-1376, as amended, and has determined this is an undertaking subject to the requirements of Section 106 and 36 CFR § 800; and

WHEREAS, pursuant to 36 CFR § 800.2(a)(2) USACE has recognized FTA as the lead Federal agency for the PROJECT to fulfill their collective responsibilities under Section 106 and, therefore, does not need to be a signatory to this Memorandum of Agreement (AGREEMENT); and

WHEREAS, pursuant to 36 CFR § 800.1(a)(3) FTA has designated the professionally qualified staff of the Minnesota Department of Transportation (MnDOT) Cultural Resources Unit (CRU) to assist with some aspects of the Section 106 review process, including initiating the consultation process, defining the area of potential effect (APE), identifying historic properties, assessing effects, and coordinating consultation with concurring parties; and

WHEREAS, the COUNCIL is the local sponsor for the PROJECT and is responsible for obtaining the necessary approvals and permits to undertake the PROJECT; and

WHEREAS, FTA, MnDOT CRU, and the COUNCIL have consulted with the Minnesota Historic Preservation Office (MnHPO), interested and affected Indian Tribes, and other parties with a

demonstrated interest in the effects of the PROJECT on historic properties in accordance with Section 106 and 36 CFR § 800; and

WHEREAS, pursuant to 36 CFR § 800.16(d) FTA and MnDOT CRU, in consultation with MnHPO, have defined the APE for the PROJECT as shown in **Attachment A** to this AGREEMENT; and

WHEREAS, FTA, MnDOT CRU, and the COUNCIL, in consultation with MnHPO, have undertaken surveys of the PROJECT APE to identify historic properties that are listed in or eligible for listing in the National Register of Historic Places (NRHP), the results of which are shown in **Attachment B** to this AGREEMENT, and MnHPO has concurred with these determinations; and

WHEREAS, FTA has found, based on the PROJECT's approximately 15 percent design plans (15% Plans), and MnHPO has concurred, that the construction of the PROJECT will have no adverse effect on the following six (6) historic properties: Bridge No. L9327; Jones-Osterhus Barn; Minneapolis & Pacific Railway / Soo Line Railway Historic District; Minneapolis Warehouse Historic District; St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District; and Northwestern Knitting Company; and

WHEREAS, FTA has found, based on the PROJECT's 15% Plans, and MnHPO has concurred, that the construction of the PROJECT will have no adverse effect on the following five (5) historic properties, provided measures identified in the stipulations of this AGREEMENT are implemented: Hennepin County Library; Robbinsdale Branch; Labor Lyceum; Robbinsdale Waterworks; Sacred Heart Catholic Church; and Sumner Branch Library; and

WHEREAS, FTA has found, based on the PROJECT's 15% Plans, and MnHPO has concurred, that the construction of the PROJECT will have an adverse effect on the following six (6) historic properties: Floyd B. Olson Memorial Statue; Grand Rounds Historic District (GRHD): Theodore Wirth Segment; Homewood Historic District; Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District; Wayman African Methodist Episcopal Church; and West Broadway Avenue Residential Historic District; and

WHEREAS, subsequent to FTA issuing its findings of effect and final determination of effect of the PROJECT on historic properties based on the PROJECT's 15% Plans, and MnHPO's concurrence, MnDOT revised the NRHP eligible boundaries of the Floyd B. Olson Memorial Statue based on new information found regarding its original location, and MnHPO and FTA have concurred with the revised boundary as shown in **Attachment C** to this AGREEMENT; and, as a result, FTA has found, based on the revised boundaries, that the PROJECT will no longer have a direct effect on the property, though indirect adverse effects remain; and

WHEREAS, FTA, upon initiation of the 54 U.S.C. § 306108 consultation for the PROJECT, and in accordance with 36 CFR § 800.2(c)(2)(ii), notified the Lower Sioux Indian Community, Upper Sioux Indian Community, Bois Forte Band (Nett Lake) of Minnesota Chippewa, Fond du Lac Band of Minnesota Chippewa, Grand Portage Band of Minnesota Chippewa, Leech Lake Band of Ojibwe, Mille Lacs Band of Ojibwe, Red Lake Tribal Council, White Earth Band of Minnesota Chippewa, Prairie Island

Indian Community, Shakopee Mdewakanton Sioux Community, Bad River Band of Lake Superior Chippewa, Lac Vieux Desert Band of Lake Superior Chippewa, Red Cliff Band of Lake Superior Chippewa, Lac Courte Oreilles Band of Lake Superior Chippewa, Lac du Flambeau Band of Lake Superior Chippewa, St. Croix Chippewa Indians of Wisconsin, Sokaogon (Mole Lake) Chippewa, Turtle Mountain Band of Chippewa, Sisseton-Wahpeton Oyate, Santee Sioux Nation, Flandreau Santee, Fort Peck Tribes, Spirit Lake Tribe, Three Affiliated Tribes, Keweenaw Bay Indian Community, Northern Cheyenne Tribe and the Standing Rock Sioux, all federally recognized tribes, and invited their participation in the consultation and none requested to participate; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), FTA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

WHEREAS, the COUNCIL is responsible for designing and constructing the PROJECT, as well as carrying out many of the terms of this AGREEMENT, as required, to receive FTA funding and USACE permits, and, therefore, is an invited signatory to this AGREEMENT; and

WHEREAS, MnDOT has responsibilities as owner of the Floyd B. Olson Memorial and MnDOT CRU is responsible for assisting FTA in completing the Section 106 process, and will be providing technical assistance to the PROJECT to complete certain terms and conditions of this AGREEMENT, and, therefore, MnDOT is an invited signatory to this AGREEMENT; and

WHEREAS, the PROJECT will utilize Quiet Zones to minimize and mitigate auditory effects on the West Broadway Avenue Residential Historic District, which is located in Robbinsdale, Minnesota, and, per 49 CFR § 222.37, the City of Robbinsdale is the responsible public authority for requesting Quiet Zone status from the Federal Railroad Administration (FRA) for grade crossings within its city limits and, therefore, is an invited signatory to this AGREEMENT; and

WHEREAS, FTA, MnDOT CRU, and the COUNCIL have consulted with Hennepin County, the Cities of Brooklyn Park, Crystal, Golden Valley, and Minneapolis, the Minneapolis Heritage Preservation Commission, and the Minneapolis Park and Recreation Board (MPRB) regarding the effects of the PROJECT on historic properties in their respective jurisdictions, and has invited them to sign this AGREEMENT as concurring parties; and

WHEREAS, this AGREEMENT was developed with appropriate public involvement pursuant to 36 CFR § 800.2(d) and § 800.6(a), and coordinated with the scoping, public review and comment, and public hearings conducted by FTA and the COUNCIL to comply with the National Environmental Policy Act, as amended, and its implementing regulations; and

WHEREAS, FTA and MnDOT CRU, in consultation with MnHPO and other consulting parties, have assessed potential PROJECT effects on historic properties and have considered ways to avoid, minimize and/or mitigate adverse effects, have agreed upon measures for minimizing and mitigating the identified adverse effects, as outlined in this AGREEMENT, and this AGREEMENT provides for

additional consultation to assess effects and resolve adverse effects in accordance with 36 CFR § 800.14(b)(1)(ii); and

WHEREAS, the COUNCIL shall administer the implementation of the PROJECT and, with the assistance of MnDOT CRU, shall complete the stipulations of this AGREEMENT, and FTA shall be responsible for ensuring that the COUNCIL's implementation of the PROJECT meets the terms of this AGREEMENT.

NOW, THEREFORE, FTA and MnHPO agree that the PROJECT shall be implemented in accordance with the following stipulations in order to take into account the effects of the PROJECT on historic properties.

STIPULATIONS

FTA shall ensure that the COUNCIL, with the assistance of MnDOT CRU, carries out the terms of this AGREEMENT and shall require, as a condition of any approval of FTA funding or USACE permit for the PROJECT, adherence to the stipulations of this AGREEMENT.

I. IDENTIFICATION OF ADDITIONAL HISTORIC PROPERTIES

A. The identification of additional historic properties shall be completed in two ways: through a survey of properties constructed in 1965 or after; and through a survey because of contemplated potential changes in PROJECT scope. Inventories of the PROJECT's archaeological and architecture/history APEs (as depicted in **Attachment A**) have been completed to identify properties constructed in 1965 or earlier, and to evaluate their eligibility for inclusion in the NRHP. The date range selected included properties 50 years in age or older from the estimated start of construction date, which is the typical age range for a property to be considered for historic status without the application of additional criteria. However, because construction of the PROJECT did not start in 2015, additional survey is required of properties constructed after 1965 that will be 50 years of age at the revised time of PROJECT construction to determine their eligibility for inclusion in the NRHP. Therefore, prior to the completion of the 90% design plans (90% Plans); the COUNCIL shall complete the survey of such properties within the PROJECT's architecture/history APE. In addition, if there are changes to the PROJECT's archaeological and/or architecture/history APEs as a result of advancing design, or a change in PROJECT scope, additional inventory and evaluation shall be performed to identify historic properties and evaluate their eligibility for the NRHP as per the requirements of 36 CFR § 800.4(a), including appropriate level of public participation. The following process shall be used to identify and evaluate additional historic properties:

B. Survey and Evaluation

i. The COUNCIL, with the assistance of MnDOT CRU, shall contract with qualified professionals who meet the *Secretary of the Interior's (SOI's) Professional Qualifications*

Standards (36 CFR § 61) for their respective fields to identify additional historic properties and evaluate their eligibility for the NRHP.

ii. All survey work shall be conducted in accordance with applicable federal and state laws regarding historic property identification and evaluation, and the standards described in Stipulation XV of this AGREEMENT.

iii. FTA, with the assistance of MnDOT CRU, shall oversee the completion of all inventory and evaluation activities to identify additional historic properties and evaluate their eligibility for the NRHP as per the requirements of 36 CFR § 800.4(a), including determining an appropriate level of public participation. If additional potentially eligible properties are identified, MnDOT CRU shall evaluate the property's eligibility under 36 CFR § 800.4(c)(1) and (2) and make a recommendation to FTA.

a. If FTA determines no additional historic properties are eligible for the NRHP, FTA shall issue a finding of No Historic Properties Affected and consult with MnHPO and others as per 36 CFR § 800.4(d)(1). If MnHPO concurs, FTA shall have no further obligations in regards to the property.

b. If FTA identifies additional historic properties eligible for the NRHP, FTA shall issue a determination of eligibility and submit the determination to MnHPO for concurrence. MnHPO shall have thirty (30) calendar days to review and concur with all determinations of eligibility. If MnHPO does not concur, it shall provide comments to FTA on the grounds for its disagreement. FTA shall consult with MnHPO to resolve the disagreement in accordance with Stipulation XVIII of this AGREEMENT.

C. Assessment of Effects

FTA shall make a finding of effect for all additional historic properties determined eligible for the NRHP identified in accordance with Subparagraphs A and B of this Stipulation. FTA, with the assistance of MnDOT CRU, shall complete an assessment of effects for these properties as per 36 CFR § 800.4(d)(2) and 36 CFR § 800.5, and per Stipulation XIV of this AGREEMENT to determine if the PROJECT will have an adverse effect on the historic property.

i. MnDOT CRU shall assess effects of the PROJECT on each historic property and forward a recommendation to FTA. FTA shall make a finding of effect for each historic property and submit the finding to MnHPO and the concurring parties for review.

a. If FTA makes a No Adverse Effect finding, MnHPO and the concurring parties shall have thirty (30) calendar days to provide comments on FTA's findings of effect. If MnHPO concurs, no further consultation is required, pending implementation of any conditions on which the finding is based, if any.

b. If FTA makes an Adverse Effect finding, FTA shall consult with MnHPO and the concurring parties in accordance with Stipulation XIV of this AGREEMENT.

II. PROJECT DESIGN DEVELOPMENT

The PROJECT design will effectively meet the PROJECT purpose and need, while avoiding, minimizing, and/or mitigating adverse impacts to the environment, including adverse effects to historic properties. Avoidance of adverse effects to historic properties is the preferred option, to the extent feasible. The review and findings of effects for the 15% Plans have been completed prior to the signing of this AGREEMENT and an Adverse Effect finding was made for the PROJECT (see WHEREAS clauses for findings of effects for individual historic properties).

A. PROJECT Design to the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68)

All PROJECT elements (including, but not limited to, the guideway, bridges, stations, platforms, shelters, ramps, walkways, overhead power system, traction power substations [TPSSs], signal bungalows, street and streetscape improvements, landscaping, and public art) within the PROJECT segments listed below, and as shown in **Attachment D** to this AGREEMENT, will be designed in accordance with the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68) when feasible. The geographic limits of this requirement are:

- Minneapolis-Golden Valley Segment: From a point beginning where the PROJECT alignment crosses Bryant Avenue North in Minneapolis, and extending west and northwesterly along the PROJECT alignment to a point 500 feet northwest along the PROJECT alignment from the northwestern corner of the GRHD: Valley View Park/Glenview Terrace Park.

- Robbinsdale Segment: From a point beginning at approximately 40½ Avenue North, or 350 feet southeast along the PROJECT alignment from the southern right-of-way limit of the 41st Avenue North/Noble Avenue North crossing, and extending northwesterly along the PROJECT alignment to include the entirety of the PROJECT's bridge over Trunk Highway (TH) 100 and its northern approach.

The purpose of this requirement is to: 1) avoid adverse effects to the Sumner Branch Library, Labor Lyceum, Sacred Heart Catholic Church, Robbinsdale Waterworks, and the Hennepin County Library, Robbinsdale Branch; and 2) minimize effects, including adverse effects, to the Floyd B. Olson Memorial Statue, GRHD: Theodore Wirth Segment, Homewood Historic District, and West Broadway Avenue Residential Historic District.

As design continues, if the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68) cannot be fully met, FTA, the COUNCIL, MnDOT CRU, and the concurring parties to this AGREEMENT will proceed in accordance with Stipulation XIV of this AGREEMENT.

B. Consultation on PROJECT Design

During PROJECT design development FTA, the COUNCIL, and MnDOT CRU shall continue to consult with MnHPO, concurring parties, and the public, as appropriate, on the design of PROJECT elements within the segments identified in Subparagraph A of this Stipulation to consider ways to minimize effects on historic properties and address design concerns. If, in accordance with Stipulation I of this AGREEMENT, any additional historic properties are identified, the consultation shall also include the consideration of design of PROJECT elements within, and in the vicinity of, the newly identified historic properties.

i. Consultation meetings shall be held with MnHPO and the concurring parties at the following points in PROJECT design development to gain input and consider design concerns.

a. Prior to the completion of the 30% percent design plans (30% Plans), the COUNCIL shall consult to gain input to inform the design of the 30% Plans. As feasible, the COUNCIL shall incorporate comments received from MnHPO and the concurring parties through this consultation into the design of the final 30% Plans. FTA shall submit the final 30% Plans to MnHPO and to the concurring parties for review in accordance with Stipulation III.C of this AGREEMENT.

b. After the completion of the 30% Plans, but prior to the completion of the 60% percent design plans (60% Plans), the COUNCIL shall consult to gain input to inform the design of the 60% Plans. As feasible, the COUNCIL shall incorporate comments received from MnHPO and the concurring parties through this consultation into the design of the final 60% Plans. FTA shall submit the final 60% Plans to MnHPO and to the concurring parties for review in accordance with Stipulation III.C of this AGREEMENT.

c. After the completion of the 60% Plans, but prior to the completion of the 90% percent design plans (90% Plans), the COUNCIL shall consult to gain input to inform the design of the 90% Plans. As feasible, the COUNCIL shall incorporate comments received from MnHPO and the concurring parties through this consultation into the design of the final 90% Plans.

ii. FTA, with the assistance of MnDOT CRU, shall ensure that any commitments reached during the consultation process outlined in Stipulations II and III of this AGREEMENT are incorporated into the 100% design plans (100% Plans).

III. PRE-CONSTRUCTION DESIGN REVIEW PROCESS

MnDOT CRU shall review and compare the PROJECT's 30% Plans, 60% Plans, 90% Plans, and 100% Plans, as well as any modifications to the approved 100% Plans, prior to initiating PROJECT construction with the PROJECT's approved 15% Plans. The purpose of this review shall be to determine if there are any substantive changes to the PROJECT design; that the portions of the PROJECT identified in Stipulation II.A of this AGREEMENT meet the *SOI's Standards for the Treatment of Historic*

Properties (36 CFR § 68); and that any other design related requirements of this AGREEMENT have been satisfied.

A. If MnDOT CRU determines that there are no substantive changes, defined as design variations that would necessitate a revision of the PROJECT's APE and/or result in an additional adverse effect; and that all design-related requirements of the AGREEMENT have been met, they shall inform FTA. If FTA agrees, it shall issue a notice to MnHPO that the reviews were completed, no substantive changes were identified and that all design requirements of this AGREEMENT have been meet, and, therefore, no further Section 106 review is needed and that the findings made based on the PROJECT's 15% Plans remain valid.

B. If MnDOT CRU identifies substantive changes, as defined in Subparagraph A of this Stipulation, or that the design requirements of this AGREEMENT have not been met, MnDOT CRU shall make a recommendation on the effects of the design changes on any historic properties, or effects resulting from the inability of the PROJECT to meet the design requirements stipulated in this AGREEMENT to FTA. If FTA agrees that there is a change of effect to a historic property, or that the design requirements stipulated in this AGREEMENT have not been met, FTA shall consult with MnHPO and the concurring parties on the changes to the PROJECT, or the inability of the PROJECT to meet the design requirements of this AGREEMENT, and, if necessary, will issue new findings of effect.

i. If FTA makes a No Adverse Effect finding, MnHPO and the concurring parties shall have thirty (30) calendar days to provide comments on FTA's findings of effect. The COUNCIL and FTA shall carefully consider any comments provided by MnHPO and concurring parties to this AGREEMENT and incorporate suggested modifications, as appropriate. If there are any comments from MnHPO or the concurring parties that are not feasible to incorporate into PROJECT plans, the COUNCIL shall provide an explanation to FTA. If FTA agrees, it shall issue a notice to MnHPO and the concurring parties.

ii. If FTA makes an Adverse Effect finding, FTA shall follow the measures outlined in Stipulation XIV of this AGREEMENT.

C. FTA, with assistance from MnDOT CRU, shall submit the final 30% Plans and 60% Plans to MnHPO for concurrence and to the concurring parties to this AGREEMENT for review. MnHPO shall have thirty (30) days to concur with the 30% Plans and the 60% Plans and the concurring parties shall have thirty (30) calendar days to provide comments on each of these plan sets.

IV. CONSTRUCTION PROTECTION PLAN

Prior to initiating PROJECT construction (defined as demolition activities and earthwork, and construction of PROJECT infrastructure and related improvements), the COUNCIL, with the assistance of MnDOT CRU, shall develop a Construction Protection Plan (CPP) in consultation with FTA and MnHPO detailing the measures to be implemented during PROJECT construction to avoid and minimize adverse effects to historic properties. The COUNCIL shall include the CPP within specific contract

packages to inform contractors of their responsibilities relative to historic properties. This plan may be a separate document or combined with other PROJECT construction monitoring plans, as appropriate. The CPP shall include the following:

A. Construction Protection Measures (CPMs). The CPP shall detail the measures to be implemented during PROJECT construction to protect the following historic properties from physical damage or indirect adverse effects during the construction of the PROJECT: Sumner Branch Library; Floyd B. Olson Memorial Statue; GRHD: Theodore Wirth Segment; Homewood Residential Historic District; Robbinsdale Waterworks; Hennepin County Library, Robbinsdale Branch; and West Broadway Avenue Residential Historic District.

i. The CPMs shall include:

a. Inspection and documentation of existing conditions of each historic property (e.g., limits of the site, dimensions of the structure, photographs of the property, aerial photographs as required, assessment of geological conditions, identification of ancillary structures in the vicinity of the property), and

b. Establishment of protection measures and procedures for each historic property to be implemented during PROJECT construction.

B. Vibration Management and Remediation Measures (VMRMs). The CPP shall address issues related to ground-borne vibrations caused by PROJECT construction on the following historic properties: Robbinsdale Waterworks; Hennepin County Library, Robbinsdale Branch; and West Broadway Avenue Residential Historic District.

i. VMRMs shall include:

a. Pre- and post-construction survey. The CPP shall include a schedule and methodology for a pre-construction survey of each historic property subject to VMRMs. This survey shall provide a baseline of existing structural and physical conditions to facilitate later identification of any structural and/or cosmetic damage caused by PROJECT construction. A post-construction survey of these properties shall identify any changes from pre-construction condition and assess possible cause of these changes, and

b. Construction vibration thresholds and monitoring. The CPP shall include a methodology for monitoring vibration during PROJECT construction at the historic properties subject to VMRMs. It shall specify thresholds for vibration during construction for each historic property and shall include details about the monitoring process, monitoring equipment (e.g., crack-monitoring gauges), documentation standards, and frequency of monitoring. Thresholds shall be set using guidance from FTA's *Transit Noise and Vibration Impact Assessment Manual*. If the COUNCIL determines as a result of the pre-construction survey that a lower threshold is required for a historic property due to its structural

condition, the COUNCIL shall submit to FTA documentation to support a different threshold for FTA's review and approval.

ii. Reporting. The CPP shall include provisions for timely reporting of the results of the pre- and post-construction surveys and construction monitoring efforts to MnHPO and owners of historic properties subject to VMRMs.

iii. All owners of historic properties subject to VMRMs shall be consulted regarding the VMRMs provisions of the CPP. As part of this consultation, the COUNCIL shall provide information to the owners of historic properties on the purpose of, and process for completing, the pre- and post-construction surveys, other work under the plan, and the process for substantiating damages and for seeking remediation for substantiated damage claims, should damage result from construction of the PROJECT. Any agreements with owners of historic properties that contain provisions related to vibration issues shall be consistent with the provisions of the VMRMs. Copies of such agreements shall be included as part of the VMRMs included in the CPP and provided to MnHPO.

iv. The team preparing the VMRMs for the CPP shall include: a structural engineer with at least five (5) years of experience working with historic properties, an architect who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for historic architecture, and a historian and/or architectural historian who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for architectural history.

C. Unexpected discoveries. The CPP shall include a plan for the unexpected discovery of archaeological resources. The plan for unexpected discoveries shall be developed in accordance with Stipulation XIII of this AGREEMENT.

D. The draft CPP, including all measures identified in Subparagraphs A through C of this Stipulation, shall be submitted to FTA for review and approval. Once FTA's comments are incorporated, the draft CPP shall be submitted to MnHPO, the concurring parties, and owners of the historic properties identified under this Stipulation. MnHPO the concurring parties, and owners of the historic properties shall have thirty (30) calendar days to provide comments on the CPP. The COUNCIL shall consider all comments received and use them to prepare the final CPP. If there are any comments from MnHPO or the concurring parties that are not viable to incorporate into the CPP, the COUNCIL shall provide an explanation to FTA. If FTA agrees with the COUNCIL's assessment that suggestions cannot be incorporated, FTA shall notify MnHPO and the concurring parties. If agreement cannot be reached on whether their suggestions are viable to incorporate, FTA shall consult with the COUNCIL, MnHPO, and the concurring parties as per the terms of Stipulation XVIII of this AGREEMENT. The COUNCIL shall submit the final CPP to FTA for approval. Upon FTA approval, the final CPP shall be submitted to MnHPO for review. MnHPO shall have thirty (30) calendar days to review and concur with the final CPP. This review shall be completed prior to initiating PROJECT construction.

E. Before PROJECT construction activities begin in the vicinity of the historic properties subject to this Stipulation, the COUNCIL and MnDOT CRU shall meet with the construction contractor(s) to review the CPP, and confirm that construction plans are consistent with the PROJECT design as reviewed by FTA and MnHPO.

F. The COUNCIL and MnDOT CRU shall monitor PROJECT construction to ensure that all measures identified in the CPP are implemented and shall provide a record of monitoring activities in the quarterly reports prepared pursuant to Stipulation XVI of this AGREEMENT.

V. NOISE MITIGATION

A. Quiet Zones. The COUNCIL shall incorporate Quiet Zone infrastructure into the PROJECT design for the following grade crossings to minimize and mitigate moderate and severe auditory impacts on the Sacred Heart Catholic Church; Hennepin County Library, Robbinsdale Branch; and West Broadway Avenue Residential Historic District. Quiet Zone infrastructure will be installed for the following grade crossings:

- 39½ Avenue North/40th Avenue North
- 41st Avenue North/Noble Avenue North
- 42nd Avenue North

i. Quiet Zone infrastructure that is located within the PROJECT segments identified in Stipulation II.A of this AGREEMENT shall be designed in accordance with the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68).

ii. The City of Robbinsdale shall be responsible for requesting Quiet Zone status from the Federal Railroad Administration (FRA) for those PROJECT areas within the City of Robbinsdale. Quiet Zones are locations, at least 0.5 mile in length, where the sounding of horns has been eliminated because of safety improvements at at-grade crossings. The COUNCIL shall be responsible for coordinating diagnostic and other meetings, as required, with FRA, the City of Robbinsdale and PROJECT stakeholders and shall provide assistance, as requested, to the City of Robbinsdale in preparing the Quiet Zone application. If the FRA does not grant Quiet Zone status for those PROJECT areas within the City of Robbinsdale, FTA and the COUNCIL, with the assistance of MnDOT CRU, shall consult with MnHPO to develop alternative mitigation and means of resolving auditory effects on historic properties.

B. Property Specific Noise Mitigation. With Quiet Zone implementation, three (3) properties within the Homewood Residential Historic District, Minneapolis, and two (2) properties within the West Broadway Avenue Residential Historic District, Robbinsdale, may still be adversely affected by moderate auditory impacts from PROJECT operation (Table 1).

Table 1. Historic Properties to Receive Interior Sound Testing

Inventory No.	Property Name	Address	City
HE-MPC-12101	**Homewood Residential Historic District**		
HE-MPC-10807	House	2916 Oak Park Ave.	Minneapolis
HE-MPC-10808	House	2924 Oak Park Ave.	Minneapolis
HE-MPC-7624	Henry Greenstein House	1015 Xerxes Ave. N.	Minneapolis
HE-RBC-158	**West Broadway Avenue Residential Historic District**		
HE-RBC-092	House	4345 West Broadway Ave.	Robbinsdale
HE-RBC-147	House	4351 West Broadway Ave.	Robbinsdale

i. Interior Testing. The COUNCIL shall conduct on-site interior testing in the five (5) properties identified in Table 1 to determine whether they meet the interior noise level criteria (45 dBA Ldn). The interior testing shall be completed prior to the initiation of PROJECT construction and the results shall be provided to FTA and MnDOT CRU.

ii. No Adverse Effect. If the interior testing required by Subparagraph B.i of this Stipulation determines that interior noise levels will not exceed the interior noise level criteria (45 dBA Ldn), FTA, with the assistance of MnDOT CRU, shall issue a finding of No Adverse Effect and notify MnHPO and the concurring parties to this AGREEMENT that the testing was completed, that a finding of No Adverse Effect has been made, and, therefore, no further Section 106 review is needed. MnHPO and the concurring parties shall have thirty (30) calendar days to provide comments on FTA's findings of effect.

iii. Adverse Effect. If the interior testing required by Subparagraph B.i of this Stipulation determines an exceedance of interior noise level criteria (45 dBA Ldn), FTA shall issue a notice to MnHPO, the owners of the properties, and the concurring parties to this AGREEMENT that the testing was completed and that the finding of Adverse Effect remains valid. FTA and the COUNCIL, with the assistance of MnDOT CRU, shall then consult with MnHPO and the owners of the properties to develop a Noise Mitigation Plan in accordance with the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68) that is appropriate to the properties and the nature and scale of the effect.

a. MnDOT CRU shall review the draft Noise Mitigation Plan for sufficiency and forward it with a recommendation to FTA for review. If FTA determines the draft plan is sufficient, it shall submit the plan to MnHPO and the owners of the historic properties. MnHPO and the owners of the historic properties shall have thirty (30) calendar days to provide comments on the draft plan.

b. A final Noise Mitigation Plan shall be prepared that incorporates feasible recommendations made by MnHPO and the owners of the historic properties on the draft plan. MnDOT CRU shall review the final plan for sufficiency and forward it with a recommendation to FTA for review. If FTA determines the plan is sufficient, FTA shall submit the plan to MnHPO for concurrence and to the owners of the historic properties

for their acceptance. MnHPO and the owners of the properties shall have thirty (30) calendar days to review and comment on the plan. If MnHPO does not concur, or if the owners of the properties do not accept the plan, FTA shall consult with MnHPO and the owners of the properties to resolve the disagreement in accordance with Stipulation XVIII of this AGREEMENT.

VI. NATIONAL REGISTER OF HISTORIC PLACES NOMINATIONS

A. The COUNCIL, with the assistance of MnDOT CRU, and in consultation with MnHPO, shall prepare NRHP nomination forms, in conformance with the guidelines of the National Park Service (NPS), for the following historic properties:

- Floyd B. Olson Memorial, and
- Wayman African Methodist Episcopal Church.

The nominations shall be prepared by a historian and/or architectural historian who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for history and architectural history, and who has successfully completed previous NRHP nominations for similar historic properties.

i. The COUNCIL, with the assistance of MnDOT CRU, shall prepare draft NRHP nomination forms and submit them to MnHPO for review. MnHPO shall have sixty (60) calendar days to provide comments on the initial draft of each nomination. All subsequent drafts of the NRHP nomination forms shall incorporate recommendations made by MnHPO. As needed, multiple drafts may be required and MnHPO shall have sixty (60) calendar days to provide comments on any subsequent drafts. This Stipulation shall be met upon issuance of a written determination by MnHPO that the draft NRHP nomination forms for each historic property meet the requirements for scheduling the nominations on a State Historic Preservation Review Board agenda. The COUNCIL shall receive written determination from MnHPO that both nomination forms meet the requirements for scheduling the nomination on a State Historic Preservation Review Board agenda no later than one (1) year from the date the PROJECT commences revenue service operations.

ii. Actual nomination of the Memorial and the Church to the NRHP will be at the discretion of MnHPO and shall follow the established procedures of the NPS (36 CFR § 60). In accordance with 36 CFR § 60.6(g), the property owners shall be given the opportunity to object to listing their property in the NRHP.

VII. INTERPRETATION OF HISTORIC PROPERTIES

A. Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway. The COUNCIL shall incorporate interpretation (per the NPS, "interpretation is a form of education that seeks to make connections between historic places and history, between the lives we lead today and the lives that once filled these spaces" with the ultimate goal being "to

encourage an appreciation of the importance of historic places and a commitment to preserving them for future generations")[1] of the Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway into the design of the PROJECT segment that will utilize the Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District. The interpretation shall be based on the results of the Phase II evaluation completed for the historic property during the identification stage of the PROJECT and additional research that shall be completed to inform the content of the interpretation. Interpretation shall be incorporated into the design all five (5) of the PROJECT stations that will be located within the historic district corridor: Plymouth Avenue, Golden Valley Road, Robbinsdale, Bass Lake Road, and 63rd Avenue; and into the PROJECT related trail improvements along the historic district corridor.

B. Grand Rounds Historic District: Theodore Wirth Segment. The COUNCIL shall incorporate interpretation of the GRHD: Theodore Wirth Segment into the design of the PROJECT's Plymouth Avenue and Golden Valley Road stations (station platforms and vertical circulation towers), and at the trailhead for the Golden Valley Road Station that is required by Stipulation X.A.ii of this AGREEMENT. The interpretation shall be based on the results of the draft NRHP nomination for the GRHD, the cultural landscape study completed by the PROJECT for Theodore Wirth Park (see Stipulation X.B), the MPRB's 2015 master plan for Theodore Wirth Park, and additional research that shall be completed to inform the content of the interpretation.

C. Interpretative Plan. The COUNCIL, with the assistance of MnDOT CRU, shall develop a plan for the interpretation stipulated in this section in conformance with the *Standards and Practices for Interpretive Planning from the National Association for Interpretation (NAI)* and *Creating Outdoor Trail Signage* technical leaflets.[2] The team preparing the interpretative plan shall include a qualified historian who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for history, and an interpretative planner certified by the National Association for Interpretation (NAI) as a Certified Interpretive Planner.

i. A draft interpretative plan shall be prepared that includes themes and locations for the interpretation, schematic plans, and draft text and graphics for the interpretation. MnDOT CRU shall review the draft interpretive plan for sufficiency and forward it with a recommendation to FTA for review. If FTA determines the draft plan is sufficient, it shall submit the plan to MnHPO and the concurring parties. MnHPO and the concurring parties shall have thirty (30) calendar days to provide comments on the draft plan.

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[1] Thomson, Ronald Bruce, and Marilyn Harper
2000. *Telling the Stories: Planning Effective Interpretive Programs for Properties Listed in the National Register of Historic Places.* [Washington, D.C.]: U.S. Dept. of the Interior, National Park Service, National Register, History and Education.

[2] Miller, Ellen, and Aaron Novodorsky
2008 Creating Outdoor Trail Signage, Part 1: Planning and Design *Minnesota History Interpreter*, 2008 (May-June), 3-6.
2008 Tech Talk: Creating Outdoor Trail Signage, Part 2: Fabrication and Installation *Minnesota History Interpreter*, 2008 (Summer), 3-6.

a. During the development of the draft interpretative plan, the COUNCIL, with the assistance of MnDOT CRU, shall consult with MnHPO and the concurring parties to gain input and the type, amount, and exact locations of the interpretation required by Subparagraphs A and B of this Stipulation.

ii. A final interpretative plan shall be prepared that includes the final content and design of interpretation. As feasible, the final plan shall incorporate any recommendations made by MnHPO and the concurring parties on the draft plan. MnDOT CRU shall review the final interpretive plan for sufficiency and forward it with a recommendation to FTA for review. If FTA determines the final plan is sufficient, FTA shall submit the plan to MnHPO for concurrence. MnHPO shall have thirty (30) calendar days to review and concur with the final plan. If MnHPO does not concur, it shall provide comments to FTA on the grounds for its disagreement with the plan. Upon receiving such comments, FTA shall consult with MnHPO to resolve the disagreement in accordance with Stipulation XVIII of this AGREEMENT.

iii. The final interpretive plan shall be incorporated into the PROJECT's 100% Plans.

iv. Before the PROJECT commences revenue service operations, the content of the interpretation shall be developed into a webpage and placed on the MnDOT CRU website, and also provided to MnHPO to place on the MnHPO or Minnesota Historical Society (MNHS) website in order to make it accessible to the general public.

VIII. FLOYD B. OLSON MEMORIAL

A. Historic Property Treatment Plan. The COUNCIL, with the assistance of MnDOT CRU, and in consultation with MnHPO, MnDOT Office of Land Management (OLM), and MnDOT Metro District, shall prepare a Historic Property Treatment Plan for the Floyd B. Olson Memorial. The plan shall be prepared in accordance with the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68); the *SOI's Standards for Preservation Planning*; the NPS's *Guidelines for the Treatment of Cultural Landscapes*, Preservation Briefs and Tech Notes; and NRHP guidance for moved properties. The plan shall be prepared by a historian and/or architectural historian who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for history and architectural history; a landscape architect who has a combination of education and experience in landscape architecture equivalent to the *SOI's Professional Qualifications Standards* (36 CFR § 61) for historic architect; and a conservator with experience in conserving bronze sculpture who has a combination of education and experience to meet the requirements for a Professional Associate or Fellow of the American Institute for Conservation of Historic & Artistic Works. All persons working on the plan shall have successfully completed previous treatment plans for similar historic properties.

i. The Historic Property Treatment Plan shall include recommendations on the following items:

a. Location. Since the Memorial has been moved once and is located in an area identified for redevelopment, the plan shall present recommendations on the most appropriate

locations for the Memorial, including consideration of remaining in its current location (see **Attachment A**). While the Memorial must remain proximate to Olson Memorial Highway (TH 55) and Floyd B. Olson's boyhood home in order to maintain its integrity of setting, feeling and association, the plan shall explore if it could be relocated to allow for partial or full redevelopment of the current site while improving the Memorial's setting and association with TH 55. Research shall be completed as part of the development of the plan to determine either the artist's and/or the community's intent in the Memorial's original location, as well as its present location. All recommendations regarding the potential location of the Memorial shall be limited to those that maintain its eligibility for the NRHP. The Memorial is designated as a State Monument under Minnesota Statue 138.585, but this title does not afford any protections or limitations to the property. It was already designated a State Monument when it was first moved.

b. Orientation. When the Memorial was moved in 1984, its orientation was switched from facing east to facing north. Research shall be completed as part of the development of the plan to determine either the artist's and/or the community's intent having the Memorial originally facing east. The plan shall present a recommendation on its future orientation based on this research and any proposed location as per Subparagraph A.i.a of this Stipulation.

c. Appropriate Setting. The plan shall present recommendations on the appropriate setting (i.e., proximity to TH 55, site size, site design, landscaping, etc.) for the Memorial based on the design of the original site located in the median of TH 55, the current design, and opportunities or restrictions based on location options.

d. Design Parameters. The plan shall improve and enhance the setting of the existing site. Items that shall be considered include: 1) designing an appropriate site plan to improve and enhance the setting of the Memorial in its present location and 2) designing an appropriate site plan(s) that includes relocating and/or reorienting the Memorial on its present site to improve and enhance the setting of the Memorial and strengthen its association with TH 55.

All design parameters shall comply with the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68) and the NPS's *Guidelines for the Treatment of Cultural Landscapes*, and shall include recommendations on the size of site, site dimensions, design of the site, including landscaping and site features and furnishing, materials, and plantings. All recommendations shall include retaining the base, pedestal, and benches historically associated with the Memorial.

ii. During the development of the draft and final plan, the COUNCIL, with the assistance of MnDOT CRU, shall consult with MnHPO, MnDOT OLM, and MnDOT Metro District, as appropriate, to gain input to inform the development of the plan.

iii. Review of Historic Property Treatment Plan

a. MnDOT CRU shall review the draft Historic Property Treatment Plan for sufficiency and forward it to FTA for review, with a recommendation on the approach that best meets the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68), the NPS's *Guidelines for the Treatment of Cultural Landscapes*, and NRHP guidance for moved properties. If FTA determines the draft plan is sufficient, it shall submit the plan to MnHPO, MnDOT OLM, MnDOT Metro District, and the concurring parties. MnHPO, MnDOT OLM, MnDOT Metro District, and concurring parties shall have thirty (30) calendar days to provide comments on the draft plan.

b. As feasible, the final Historic Property Treatment Plan shall incorporate any recommendations made by MnHPO, MnDOT OLM, and MnDOT Metro District on the draft plan. MnDOT CRU shall review the final plan for sufficiency and forward it to FTA for review, with a recommendation on the approach that best meets the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68), the NPS's *Guidelines for the Treatment of Cultural Landscapes*, and NRHP guidance for moved properties. If FTA determines the plan is sufficient, FTA shall submit the plan to MnHPO for concurrence and to MnDOT OLM and MnDOT Metro District for acceptance. MnHPO, MnDOT OLM, and MnDOT Metro District shall have thirty (30) calendar days to review and comment on the plan. During this period, FTA, with the assistance of MnDOT CRU, shall consult with MnHPO, MnDOT OLM, and MnDOT Metro District to select an alternative to be implemented in accordance with Subparagraph B of this Stipulation. If MnHPO does not concur with the final plan, or if MnHPO, MnDOT OLM and MnDOT Metro District do not agree on the alternative to be implemented in accordance with Subparagraph B of this Stipulation, FTA shall consult with MnHPO, MnDOT OLM, and MnDOT Metro District to resolve the disagreement in accordance with Stipulation XVIII of this AGREEMENT.

B. Site Improvements. Based on the conclusions in the treatment plan required by Subparagraph A of this Stipulation, the COUNCIL, with the assistance of MnDOT CRU, shall design and construct the selected alternative as per Subparagraph A.iii.b of this Stipulation. The site improvements shall be designed in accordance with the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68) and the NPS's *Guidelines for the Treatment of Cultural Landscapes*, Preservation Briefs and Tech Notes. The design for the improvements shall be reviewed in accordance with Stipulation III of this AGREEMENT. Construction of the site improvements shall be completed no later than one (1) year from the date the PROJECT commences revenue service operations.

IX. OSSEO BRANCH OF THE ST. PAUL, MINNEAPOLIS & MANITOBA RAILROAD / GREAT NORTHERN RAILWAY HISTORIC DISTRICT

A. Phase II Intensive Level Inventory and Evaluation of Historic Railroad Line(s) in Minnesota. The COUNCIL, with the assistance of MnDOT CRU, and in consultation with MnHPO, shall conduct

a Phase II, intensive level architecture/history survey of historic railroad line(s) in Minnesota. Either one (1) mainline across the entire State of Minnesota, or up to a total of five (5) shorter mainlines and/or branch lines shall be evaluated. Associated properties types, as identified in the NRHP Multiple Property Documentation Form *Railroads in Minnesota, 1862-1956*, shall also be documented.

i. FTA, with the assistance of MnDOT CRU, shall consult with MnHPO to identify the railroad line(s) to be inventoried and evaluated, and to develop a scope for the survey. As feasible, preference shall be given to railroad lines owned and/or operated by the Great Northern Railway and its predecessor lines.

ii. The survey shall be completed in accordance with Stipulations I.B and XV of this AGREEMENT and shall be conducted by a historian who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for history and architectural history, and who has successfully completed previous intensive level surveys of railroads.

a. MnDOT CRU shall review the inventory form(s) for sufficiency. Once MnDOT CRU determines the inventory form(s) is sufficient, MnDOT CRU shall submit the inventory form(s) to FTA with a recommendation on the property's eligibility for the NRHP. If FTA determines the inventory form(s) is sufficient, FTA shall issue its determination of eligibility and submit the form to MnHPO for concurrence. MnHPO shall have thirty (30) calendar days to review and concur with the evaluation(s). If MnHPO does not concur, it shall provide comments to FTA on the grounds for its disagreement with the inventory forms. Upon receiving such comments, FTA shall consult with MnHPO to resolve the disagreement in accordance with Stipulation XVIII of this AGREEMENT. The final inventory forms shall be completed and receive MnHPO concurrence no later than one (1) year from the date the PROJECT commences revenue service operations.

X. GRAND ROUNDS HISTORIC DISTRICT

A. Design Development of PROJECT Elements Within, and in the vicinity of, the GRHD. As described in Stipulation II.A of this AGREEMENT the COUNCIL shall design all PROJECT elements within, and in the vicinity of, the GRHD: Theodore Wirth Segment in accordance with the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68). In addition, PROJECT elements within, and in the vicinity of, the GRHD: Theodore Wirth Segment shall also be designed in accordance with the NPS's *Guidelines for the Treatment of Cultural Landscapes*. As part of the PROJECT design development careful consideration shall be given to designing PROJECT infrastructure, as well as alterations to the landscape, to screen and minimize views of PROJECT infrastructure, including visual prominence, from views within, and of, the historic district during all seasons as well as during daytime and nighttime conditions.

i. Vegetation. As part of PROJECT design development, careful consideration shall be given to designing PROEJCT infrastructure, as well as alterations to the landscape, to 1) minimize the net loss of existing vegetation and 2) design new landscaping to screen and minimize the

visibility and visual prominence of PROJECT infrastructure from view sheds and vantage points within the GRHD: Theodore Wirth Segment, as well as from views towards the historic district.

a. Golden Valley Road Station Park-and-Ride Facility. The construction of the proposed park-and-ride facility at the Golden Valley Road Station may require the removal of at least some trees that are part of a historic grouping of trees located along the west side of Theodore Wirth Parkway, between Golden Valley Road and where the parkway crosses over the Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District. If any trees within this historic grouping are removed to construct the park-and-ride facility, PROJECT elements in this area shall be designed to include a sufficient amount of boulevard space and vegetation along Theodore Wirth Parkway to screen and minimize, to the extent feasible, views of PROJECT infrastructure from the parkway.

ii. Golden Valley Road Station Trailhead. The proposed park-and-ride facility at the Golden Valley Road Station shall include a trailhead at the southwest corner of the intersection of Theodore Wirth Parkway and Golden Valley Road to support the MPRB trail that parallels Theodore Wirth Parkway. The trailhead shall include interpretation as required by Stipulation VII.B of this AGREEMENT.

B. Plans for the GRHD: Theodore Wirth Segment. The COUNCIL, with the assistance of MnDOT CRU, shall collaborate with MnHPO and MPRB to prepare guidance for future preservation activities within the GRHD: Theodore Wirth Segment (**Attachment D**). The plans shall be prepared in accordance with the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68); the *SOI's Standards for Preservation Planning*; the NPS's *Guidelines for the Treatment of Cultural Landscapes*, Preservation Briefs and Tech Notes.

i. Preservation Plan. The preservation plan shall include an overall vision for historic preservation of this portion of the historic district, strategies to guide historic preservation efforts to achieve the overall vision, and objectives for implementing each strategy. The team preparing the plan shall include a planner with a master's degree in planning and at least five years of experience planning for historic properties, preferably a member of the American Institute of Certified Planners; a historian and/or architectural historian who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for history and architectural history, an architect who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for historic architect; and a landscape architect who has a combination of education and experience in landscape architecture equivalent to the *SOI's Professional Qualifications Standards* (36 CFR § 61) for historic architect.

a. A scope shall be prepared that defines the goals of the plan, the extent of community engagement that will be completed during its preparation, and the process for its approval. The public participation process shall meet the requirements of 36 CFR § 800 and MPRB's community engagement ordinance (PB § 11 [**Attachment F**]). The

COUNCIL shall obtain MnHPO concurrence on the final scope prior to preparing the plan.

ii. Treatment Plans/Standards/Guidelines (Treatments Plan). Treatments shall be prepared to guide preservation activities for up to twelve (12) different historic features, or feature types within the planning area. Features may include, but are not limited to, retaining walls, shorelines (land-water interfaces), lighting, signage, circulation dividers, circulation systems (e.g. parkway paving), bridges, monuments, and site furnishings. The team preparing the plan shall include an architect who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for historic architect, a landscape architect who has education and experience in landscape architecture comparable to the requirements the *SOI's Professional Qualifications Standards* (36 CFR § 61) require for a historic architect, and a civil engineer with at least five years of experience working with historic structures.

a. A scope shall be prepared that identifies the features/feature types for which treatments will be prepared, the type and level of documentation to be prepared for each feature, and a process for implementing and approving the plan. The COUNCIL shall obtain MnHPO concurrence on the final scope prior to preparing the plan.

iii. Review of Plans. The COUNCIL shall submit the plans to MnHPO and MPRB for review in accordance with the processes defined in the final scope for each plan. The COUNCIL shall obtain MnHPO concurrence on the final plans no later than one (1) year from the date the PROJECT commences revenue service operations. The COUNCIL shall also seek MPRB Board of Commissioners approval of the final plans; however, MPRB Board of Commissioners approval of the plans shall not be required for fulfillment of this Stipulation. If the COUNCIL, MnHPO, and MPRB cannot agree on scopes for the plans, or if MnHPO does not concur with the final plans, the COUNCIL shall notify FTA and FTA shall consult with MnHPO and MPRB as per the terms of Stipulation XVIII of this AGREEMENT.

XI. HOMEWOOD RESIDENTIAL HISTORIC DISTRICT

A. Additional Design Consultation. FTA, the COUNCIL, and MnDOT CRU, understanding the need for PROJECT design in this area to be in accordance with the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68)(see Stipulation II.B of this AGREEMENT), shall hold a public meeting with property owners and residents of the Homewood Residential Historic District prior to the completion of the 60% Plans. The purpose of this meeting shall be to gain input to inform the design of PROJECT elements within and in the immediate vicinity (within 500 feet) of the historic district. FTA, the COUNCIL, and MnDOT CRU shall consider the public input from this meeting and will incorporate design changes as a result of this input where feasible.

XII. WEST BROADWAY AVENUE RESIDENTIAL HISTORIC DISTRICT

A. Additional Design Consultation. FTA, the COUNCIL, and MnDOT CRU, understanding the need for PROJECT design in this area to be in accordance with the *SOI's Standards for the Treatment*

of Historic Properties (36 CFR § 68)(see Stipulation II.B of this AGREEMENT), shall hold a public meeting with property owners and residents of the West Broadway Avenue Residential Historic District prior to the completion of the 60% Plans. The purpose of this meeting shall be to gain input to inform the design of PROJECT elements within and in the immediate vicinity (within 500 feet) of the historic district. FTA, the COUNCIL, and MnDOT CRU shall consider the public input from this meeting and will incorporate design changes as a result of this input where feasible.

XIII. REVIEW PROCESS DURING CONSTRUCTION

This Stipulation covers the discoveries of additional historic properties, PROJECT modifications, and changes of effect to known historic properties identified during PROJECT construction and not specifically addressed by other stipulations of this AGREEMENT.

A. Prior to initiating PROJECT construction, the COUNCIL shall prepare as part of the CPP required by Stipulations IV of this AGREEMENT a plan for the unexpected discovery of archaeological resources.

B. PROJECT Modifications. If, after the completion of 100% Plans, the COUNCIL makes modifications to the PROJECT design during construction, MnDOT CRU shall review the modifications to determine if there are any substantive changes in the PROJECT's design that that would result in new and/or additional adverse effects on historic properties, or a revision in the PROJECT's APE, and make a recommendation to FTA. If FTA determines there are substantive changes that would result in a new, and/or additional adverse effect, and/or require a revision to the PROJECT's APE, FTA shall consult with MnHPO and the concurring parties in accordance with Stipulations I, XIV, and XVIII of this AGREEMENT, as appropriate.

C. Historic Properties Discovered or Unexpectedly Affected as a Result of PROJECT Construction. If previously unidentified historic properties, including human remains, are discovered unexpectedly during construction of the PROJECT, or previously known historic properties are affected in an unanticipated adverse manner, all ground-disturbing activities shall cease in the area of the property, as well as within one hundred (100) feet of it, to avoid and/or minimize harm to the property. The contractor shall immediately notify the COUNCIL of the discovery and implement interim measures in accordance with the unexpected discoveries plan required by Subparagraph A of this Stipulation and Stipulation IV.C of this AGREEMENT to protect the discovery from damage, looting, and vandalism. Measures shall include, but not be limited to, protective fencing and covering of the discovery with appropriate materials. The COUNCIL shall inform MnDOT CRU and concurring parties with jurisdiction over, or a demonstrated interest in, the property. If reasonably convenient and appropriate, the contractor, the COUNCIL, MnDOT CRU, and any concurring parties with jurisdiction over, or a demonstrated interest in the property, will confer at the site in a timely manner to assess the property, determine the likely PROJECT impacts to the property, and to determine the most appropriate avoidance measures for the property. Any artifacts found as part of an unexpected discovery during construction that are part of sites determined not eligible for the NRHP in accordance with Stipulation I of this

AGREEMENT, and for which the property owner has released ownership of the artifacts, will be offered to local historical societies for their collections if desired.

i. Non-Human Remains

a. The COUNCIL, with the assistance of MnDOT CRU, shall contract with a qualified archaeologist, historian and/or architectural historian, as appropriate, who meets the *SOI's Professional Qualifications Standards* (36 CFR § 61) for their respective field to record, document, and provide a recommendation on the NRHP eligibility of the discovery to FTA within seventy-two (72) hours of receipt of notification. FTA shall inform MnHPO, any Indian tribes that may attach religious and cultural significance to the property, and concurring parties with jurisdiction over, or a demonstrated interest in the property, of the discovery.

ii. Human Remains

a. Since there are no federal lands within the construction limits for the PROJECT, if any human remains are encountered, the PROJECT shall follow the treatment of human remains as per Minnesota Statute 307.08. The COUNCIL shall immediately notify local law enforcement and the Office of the State Archaeologist (OSA). The COUNCIL shall also immediately notify FTA, MnHPO, MnDOT CRU, concurring parties and appropriate Tribes within twenty-four (24) hours via email, fax, or telephone. The OSA shall coordinate with the Minnesota Indian Affairs Council (MIAC) if the remains are thought to be Native American, in accordance with Minnesota Statute (M.S.) 307.08. OSA shall have the final authority in determining if the remains are human. The COUNCIL, with the assistance of MnDOT CRU, shall also contract with a qualified archaeologist to provide a recommendation on the NRHP eligibility of the discovery, including the human remains, to FTA within seventy-two (72) hours of receipt of notification. FTA shall inform MnHPO and any Indian tribes that may attach religious and cultural significance to the property, of the discovery.

b. If it is determined that the identified bones are human remains covered under M.S. 307.08, the OSA shall have jurisdiction to ensure that the appropriate procedures in accordance with Minnesota statutes are fulfilled. OSA is the lead state agency for authentication of burial sites on non-federal lands as per M.S. 307.08. The COUNCIL, with the assistance of MnDOT CRU, shall work with OSA, MnHPO, the Tribes, MIAC, and other parties to develop and implement a reburial plan, if that is the preferred approach by the parties. Avoidance and preservation in place is the preferred option for the treatment of human remains. If FTA also determines that the burial site is eligible for the NRHP, FTA and MnHPO shall work with OSA and MIAC on determining appropriate treatment and mitigation.

D. If a historic property is identified during PROJECT construction, FTA shall issue a determination of eligibility for the property within ten (10) calendar days following notification from the

COUNCIL and submittal of recommendations from the COUNCIL's consultant provided in accordance with Subparagraphs A and C of this Stipulation. MnHPO shall have ten (10) calendar days to provide concurrence or comments on the eligibility determination. Alternately, FTA may assume the newly discovered property is eligible for the NRHP for the purposes of 54 U.S.C. § 306108 pursuant to 36 CFR § 800.13(c).

i. If FTA determines that the site does not meet NRHP criteria and is not a historic property, and the MnHPO concurs, FTA shall have no further obligations in regards to the property, and construction activities can resume upon receipt of MnHPO written concurrence.

ii. For all properties determined eligible for the NRHP, FTA shall make a finding of effect.

a. If the finding is no adverse effect and MnHPO concurs, construction activities can resume, pending implementation of any conditions on which the finding is based, if any.

b. If FTA finds that the historic property will be adversely affected and MnHPO concurs, FTA, with the assistance of MnDOT CRU, shall issue new findings of effect for the new adverse effect. MnHPO and the consulting parties shall have ten (10) calendar days to provide comments on FTA's finding. FTA shall consult with MnHPO and other concurring parties to this AGREEMENT to develop a mitigation plan appropriate to the historic property and the nature and scale of the effect. If the mitigation is data recovery, construction activities may not resume until after the completion of the fieldwork for the data recovery.

E. The COUNCIL shall include provisions in its construction contracts to ensure that Subparagraphs A through D of this Stipulation, are carried out by the construction contractor(s).

XIV. RESOLUTION OF ADDITIONAL ADVERSE EFFECTS

A. In any instance where the final design of PROJECT components within or in the vicinity of historic properties identified in **Attachment B** of this AGREEMENT or newly identified historic properties as identified under Stipulation I do not meet the *SOI's Standards for the Treatment of Historic Properties* (36 CFR § 68), or if, in consultation with MnHPO, FTA determines that it is not practical to avoid an adverse effect(s) on a historic property, FTA and the COUNCIL, with the assistance of MnDOT CRU, shall issue a findings of effect for the new adverse effect as per CFR § 800.5, and shall consult with MnHPO and the concurring parties to this AGREEMENT to develop a mitigation plan appropriate to the historic property and the nature and scale of the effect. The mitigation plan shall include a section describing public notification/participation to be completed under the plan as per 36 CFR § 800.6(a)(4) that is appropriate to the nature and scale of the adverse effect. In addition, this AGREEMENT shall be amended to document the agreed-upon mitigation.

B. The COUNCIL shall notify concurring parties to this AGREEMENT when a mitigation plan will be prepared pursuant to this Stipulation. The mitigation plan shall be developed within sixty (60)

calendar days of such notification. If more time is required to develop the mitigation plan, the COUNCIL shall notify MnHPO and the concurring parties to this AGREEMENT regarding the reason for the delay and the anticipated timeframe for mitigation plan distribution. FTA shall provide a copy of the draft mitigation plan to MnHPO and the concurring parties. MnHPO and the concurring parties shall have thirty (30) calendar days to provide comments on the draft mitigation plan.

C. FTA and the COUNCIL shall take into account any timely comments of the MnHPO and concurring parties in the development of final mitigation plans. A mitigation plan shall be final upon acceptance by FTA and MnHPO. Concurring parties shall receive copies of all final mitigation plans and may also be invited to concur in mitigation plans.

XV. STANDARDS

A. All work carried out pursuant to this AGREEMENT shall meet the *SOI's Standards for Archaeology and Historic Preservation* (48 FR 44716). In instances where it is not feasible to reach a PROJECT design that meets these standards, mitigation measures shall be developed and implemented pursuant to Stipulation XIV of this AGREEMENT.

B. FTA shall ensure that all activities carried out pursuant to this AGREEMENT shall be done by, or under the direct supervision of, historic preservation professionals who meet the *SOI's Professional Qualifications Standards* (36 CFR § 61) in the appropriate field. The professionally qualified staff in MnDOT CRU shall help FTA and the COUNCIL with oversight of the work. FTA and the COUNCIL shall ensure that consultants it retains for services pursuant to implementation of this AGREEMENT meet these standards.

XVI. MONITORING AND REPORTING

A. Every three (3) months following the execution of this AGREEMENT until it expires or is terminated, the COUNCIL, with the assistance of MnDOT CRU, shall provide all signatories and concurring parties to this AGREEMENT a summary report detailing work undertaken pursuant to its terms. Each report shall include an itemized listing of all actions required to be taken to implement the terms of the AGREEMENT, identify what actions the COUNCIL has taken during the reporting period to implement those actions, identify any problems or unexpected issues encountered during that time, any scheduling changes proposed, any disputes and objections submitted or resolved in FTA's efforts to carry out the terms of this AGREEMENT, and any changes recommended in implementation of the AGREEMENT. Each report shall also include a timetable of activities proposed for implementation within the following reporting period.

B. Signatories and concurring parties to this AGREEMENT shall review the quarterly reports and provide any comments to FTA and the COUNCIL within thirty (30) calendar days of receipt of the report.

C. The COUNCIL shall notify the public via the PROJECT website about the publication of the quarterly reports and that the reports are available for inspection and review upon request.

D. The COUNCIL shall share any comments received from concurring parties and the public with the signatories and concurring parties to this AGREEMENT.

E. At its own discretion, or at the request of any signatory to this AGREEMENT, FTA shall convene a meeting to facilitate review and comment on the reports, and to resolve any questions about its content and/or to resolve objections or concerns.

XVII. COORDINATION WITH OTHER FEDERAL REVIEWS

A. In the event any other federal agency provides funding, permits, licenses, or other assistance to the COUNCIL for the PROJECT as it was planned at the time of the execution of this AGREEMENT, such funding or approving agency may comply with Section 106 by agreeing in writing to the terms of this AGREEMENT and so notifying and concurring with FTA. FTA shall provide copies of all requests of this type to MnHPO.

XVIII. DISPUTE RESOLUTION

A. Should any party to this AGREEMENT object at any time to any actions proposed or the manner in which the terms of the AGREEMENT are implemented, FTA shall consult with the objecting party (or parties) to resolve the objection and will request ACHP involvement. If ACHP is not able to resolve the objection(s), FTA shall follow 36 CFR § 800.7. All other actions subject to the terms of this AGREEMENT that are not subjects of the dispute remain unchanged pending resolution.

B. If FTA determines that such objection cannot be resolved, FTA will forward all documentation relevant to the dispute, including FTA's proposed resolution, to the ACHP in accordance with 36 CFR § 800.7(a). The ACHP will provide FTA with its advice on the resolution of the objection within forty-five (45) calendar days of receiving adequate documentation per 36 CFR § 800.7(c)(2). Prior to reaching a final decision on the dispute, FTA will prepare a written response that takes into account any timely advice or comment regarding the dispute from the ACHP, signatories, invited signatories and concurring parties, and provide the parties with a copy of the written response per 36 CFR § 800.7(c)(4). FTA will then proceed according to its final decision.

XIX. DURATION, AMENDMENTS, AND TERMINATION

A. This AGREEMENT will remain in effect from the date of execution for a period not to exceed ten (10) years. If FTA anticipates that the terms of the AGREEMENT will not be completed within this timeframe, it shall notify the signatories, invited signatories, and concurring parties in writing at least thirty (30) calendar days prior to the AGREEMENT'S expiration date. The AGREEMENT may be extended by the written concurrence of the signatories and invited

signatories. If the AGREEMENT expires and FTA elects to continue with the undertaking, FTA will reinitiate review of the undertaking in accordance with 36 CFR § 800.

B. If any signatory or invited signatory to the AGREEMENT determines that the terms of the AGREEMENT cannot be fulfilled, or that an amendment to the terms of the AGREEMENT must be made, the signatories or invited signatories will consult to seek an amendment to its terms using the same consultation process as that exercised in creating the original AGREEMENT. FTA shall file any amendments with the ACHP upon execution as per 36 CFR § 800.6(c)(7).

C. Any signatory or invited signatory to this AGREEMENT may terminate the AGREEMENT by providing thirty (30) calendar days written notice to the other signatories and invited signatories, provided the signatories or invited signatories consult during the period prior to termination in an attempt to agree on amendments or other actions that would avoid termination. If the AGREEMENT is terminated and FTA elects to continue with the undertaking, FTA will reinitiate review of the undertaking in accordance with 36 CFR § 800.

XX. IMPLEMENTATION

A. This AGREEMENT may be implemented in counterparts, with a separate page for each signatory or party. This AGREEMENT shall become effective on the date of the final signature by the signatories and invited signatories. The refusal of any party invited to concur in the AGREEMENT does not invalidate the AGREEMENT. FTA shall ensure each party is provided with a complete copy and that the final AGREEMENT, updates to appendices, and any amendments filed with the ACHP.

B. Execution of this AGREEMENT by FTA and MnHPO and implementation of its terms is evidence that FTA has taken into account the effects of its undertaking on historic properties and has afforded the ACHP opportunity to comment pursuant to Section 106 of the National Historic Preservation Act.

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

SIGNATORY

FEDERAL TRANSIT ADMINISTRATION

By: _____ Date: _____
Marisol Simón, Region V Administrator

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

SIGNATORY

MINNESOTA HISTORIC PRESERVATION OFFICE

By: _____ Date: _____
Andrea Kajer, Deputy State Historic Preservation Officer

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

INVITED SIGNATORY

METROPOLITAN COUNCIL

By: _____ Date: _____
Wes Kooistra, Regional Administrator

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

INVITED SIGNATORY

MINNESOTA DEPARTMENT OF TRANSPORTATION

By: _____ Date: _____
Charles A. Zelle, Commissioner

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

INVITED SIGNATORY

CITY OF ROBBINSDALE

By: _____ Date: _____
Marcia Glick, City Manager

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

CONCURRING PARTY

HENNEPIN COUNTY

By: _____ Date: _____
Kevin Dockry, Director, Community Works and HCRRA, Hennepin County Public Works

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

CONCURRING PARTY

CITY OF BROOKLYN PARK

By: _____ Date: _____
Jay Strobel, City Manager

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

CONCURRING PARTY

CITY OF CRYSTAL

By: _____ Date: _____
Anne Norris, City Manager

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

CONCURRING PARTY

CITY OF GOLDEN VALLEY

By: _____ Date: _____
Tim Cruikshank, City Manager

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

CONCURRING PARTY

CITY OF MINNEAPOLIS

By: _____ Date: _____
Kjersti Monson, Director, Long Range Planning

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

CONCURRING PARTY

MINNEAPOLIS HERITAGE PRESERVATION COMMISSION

By: _____ Date: _____
Laura Faucher, Chair

SIGNATURE PAGE

MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA HISTORIC PRESERVATION OFFICE
REGARDING
THE METRO BLUE LINE EXTENSION LIGHT RAIL TRANSIT PROJECT
HENNEPIN COUNTY, MINNESOTA

CONCURRING PARTY

MINNEAPOLIS PARK AND RECREATION BOARD

By: _____ Date: _____
Liz Wielinski, President

And

By: _____ Date: _____
Jennifer Ringold, Secretary to the Board of Commissioners

ATTACHMENT A

Area of Potential Effect

Area of Potential Effect

FTA and MnDOT CRU, in consultation with MnHPO, have defined two Areas of Potential Effect (APEs) for the PROJECT, one for archaeological resources and one for architecture/history properties, that account for potential effects on historic properties from the construction and operation of the PROJECT (Figures 1-10), and MnHPO has concurred.[1]

A. The APE for architecture/history resources includes:

- Alignment: all areas within 500 feet on either side of the alignment;
- Stations and the Operations and Maintenance Facility (OMF): all areas within a 0.25 mile radius from the center point of proposed stations and the OMF;
- New structures (new or replacement bridges, pedestrian bridges, etc.): all areas within a 0.25 mile radius from the structure (assumes the potential for pile driving);
- Modifications to existing structures (widening/reconstruction of existing structures): all areas within a 0.25 mile radius from the structure (assumes the potential for pile driving); and
- Pier modifications on existing structures (moving piers to allow the LRT to go under): all areas within a 500 feet radius from the structure (assumes using drilling and no pile driving).

B. The APE for archaeological resources includes all areas of proposed construction activities or other potential ground disturbing activities associated with construction.[2] Based on the current understanding of the proposed project, the archaeological APE generally includes:

- Alignment: the existing railroad right-of-way for portions of the PROJECT in an existing railroad corridor and the potential area of disturbance for other areas;

---

[1] Letter from MnHPO to MnDOT CRU dated October 26, 2011. The APE that MnHPO concurred with included the entirety of the Locally Preferred Alternative (LPA), as well as various alternative alignments that were under consideration at the time the APE was established. These alternative alignments were considered during the development of the Draft EIS, but were not selected as part of the LPA and have been dropped from further consideration. Therefore, they are not depicted in Figures 1-10.

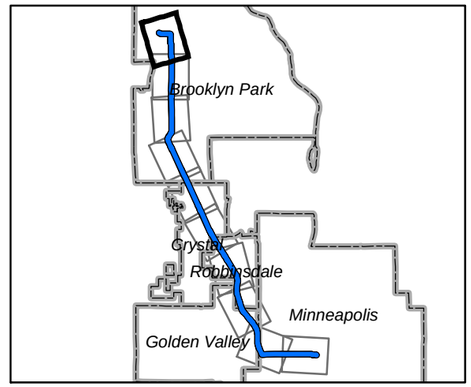
[2] Figures 1-10 depict the location of the LPA and the corresponding archaeological APE. As the Project design has advanced since the archaeological APE was established, there have been several slight revisions to the Project design, but not to the Project scope. As a result, as is depicted in Figures 1-10, there are several small portions of the LPA that are now located outside the existing archaeological APE. However, the Phase IA archaeological investigation conducted for the Project studied an area extending 0.25 miles beyond the archaeological APE, so the portions of the current LPA that are located outside the archaeological APE have been studied. No historic properties were identified and these areas were found to have low potential for archaeological resources to exist. The portion of the LPA outside the APE, from and including the 93rd Avenue station and its park-and-ride facility to the OMF site (see Figure 1), also were previously surveyed at a Phase I level for another project and no historic properties were identified (see Woodward-Clyde, 1994). MnDOT CRU also examined the portions of the LPA outside the present APE again on January 12, 2016 through the use of its Minnesota Model (MnModel) and confirmed these areas have low archaeological site potential. Based on the previous archaeological assessments completed for the Project, the 1994 survey by Woodward-Clyde, and MnModel data, FTA has determined there is low potential for archaeological resources to exist, but will incorporate measures covering unanticipated discoveries during construction in its Section 106 MOA for the Project.

- Stations: all areas within a 500 feet radius from the center point of the currently proposed station platforms to account for potential direct impacts from construction or development activities; and
- Park-and-ride facilities and the OMF: all areas within 500 feet from the potential area of disturbance.

Blue Line Extension LRT FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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106GROUP

APE: Archaeology & Architecture/History

Figure 1

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

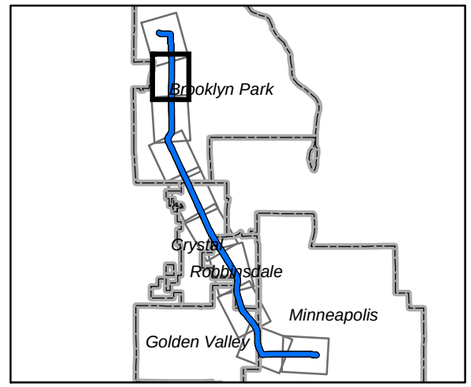
Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

Blue Line Extension LRT
FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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APE: Archaeology & Architecture/History

Figure 2

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

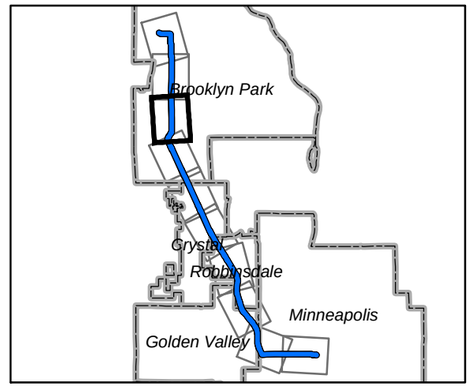
Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

Blue Line Extension LRT FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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APE: Archaeology & Architecture/History

Figure 3

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

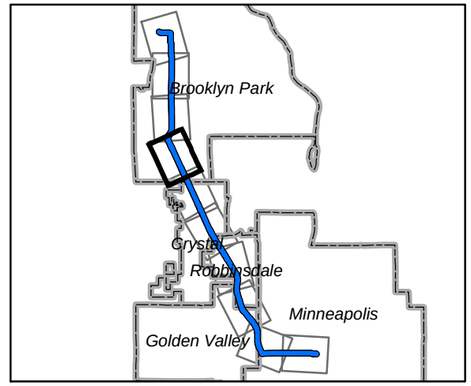
Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

Blue Line Extension LRT FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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APE: Archaeology & Architecture/History

Figure 4

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

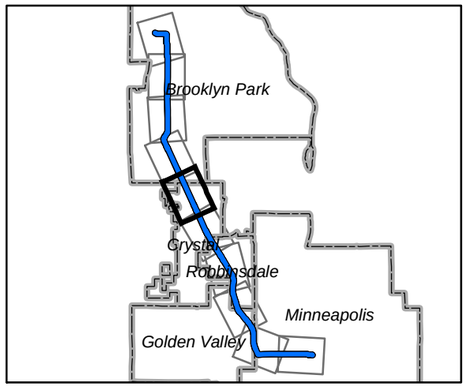
Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

Blue Line Extension LRT
FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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APE: Archaeology & Architecture/History

Figure 5

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

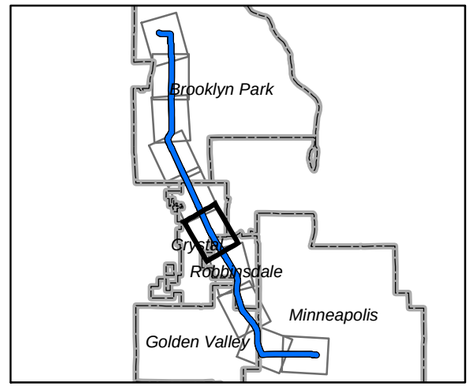
Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

Blue Line Extension LRT
FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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APE: Archaeology & Architecture/History

Figure 6

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

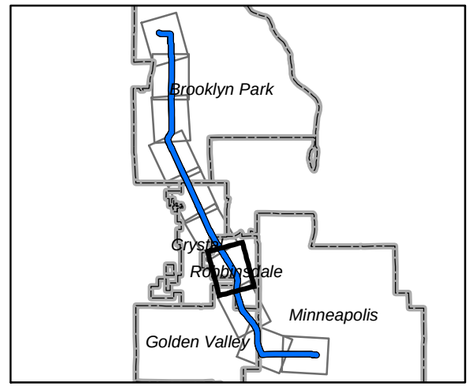
Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

Blue Line Extension LRT FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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APE: Archaeology & Architecture/History

Figure 7

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

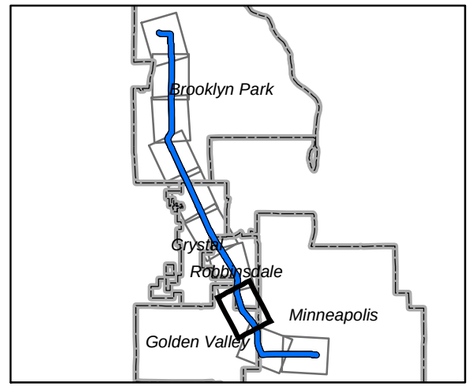
Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

Blue Line Extension LRT FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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APE: Archaeology & Architecture/History

Figure 8

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

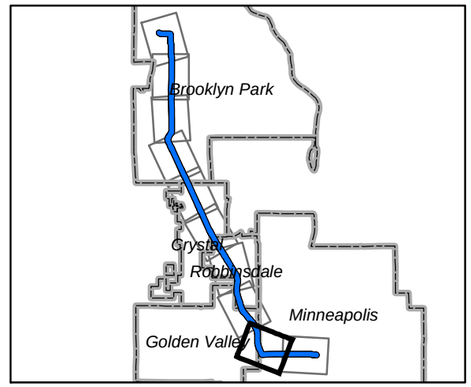
Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

Blue Line Extension LRT FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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106GROUP

APE: Archaeology & Architecture/History

Figure 9

Service Layer Credits: Source: Esri, DigitalGeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, Swisstopo, and the GIS User Community

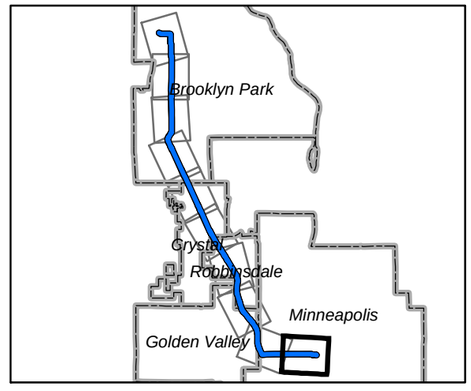
Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

Blue Line Extension LRT
FEIS

Hennepin County, Minnesota

- Archaeology Area of Potential Effect
- Architecture/History Area of Potential Effect
- BLRT Alignment



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APE: Archaeology & Architecture/History

Figure 10

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Source: HDR; Kimley Horn; MnDOT; 106 Group

Map Produced by 106 Group 3/31/2016

ATTACHMENT B

Properties Listed in and Determined Eligible for Listing in the National Register of Historic Places

Properties Listed in and Determined Eligible for Listing in the National Register of Historic Places

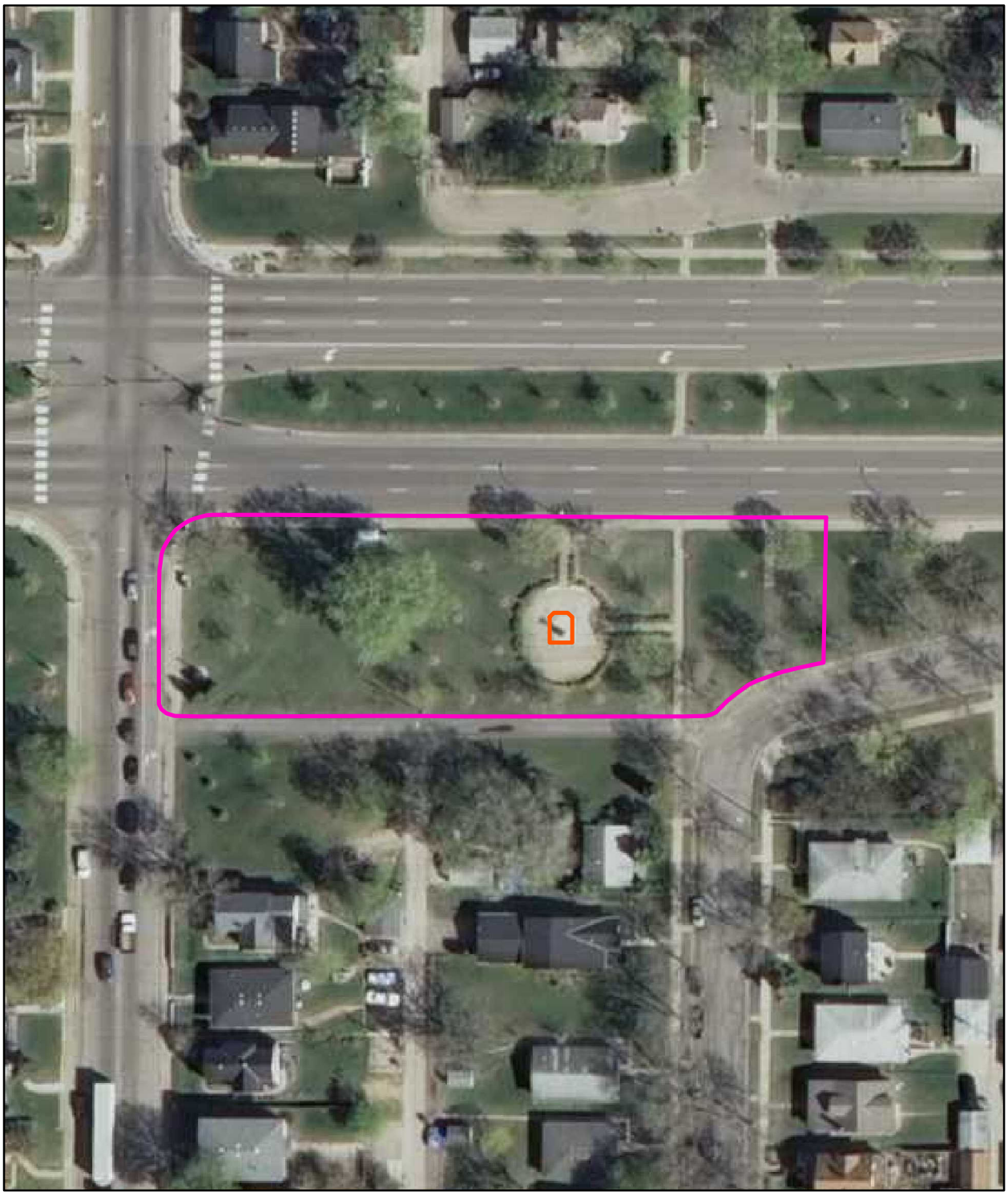
Inventory No.	Property Name	Address	City	NRHP Status	
				Indiv.	Hist. Dist.
	Historic Districts				
XX-RRD-002, includes: HE-MPC-16389 HE-RBC-304 HE-CRC-0238 HE-BPC-0084	Osseo Branch of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District	—	Minneapolis, Golden Valley, Robbinsdale, Crystal, Brooklyn Park	—	Eligible
XX-RRD-010	St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District	—	Minneapolis	—	Eligible
HE-MPC-0441	Minneapolis Warehouse Historic District	Vicinity of 1st Ave. N., N. 1st. St., 10th Ave. N., & N. 6th St.	Minneapolis	—	Listed
HE-MPC-12101	Homewood Residential Historic District	Bounded by Penn Ave. N., Oak Park Ave., Xerxes Ave. N., & Plymouth Ave.	Minneapolis	—	Eligible
HE-CRC-199	Minneapolis & Pacific Rwy. / Soo Line Rwy. Historic District	—	Crystal	—	Eligible
HE-RBC-158	West Broadway Avenue Residential Historic District	W. Broadway Ave. between 42nd Ave. N. and TH 100 &Lakeland Ave. between 42½ Ave. N. & 43rd Ave. N.	Robbinsdale	—	Eligible
XX-PRK-001	Grand Rounds Historic District (GRHD)	—	Minneapolis, Golden Valley[5]	—	Eligible
	Individual Resources				
HE-GVC-0050	Bridge No. L9327	Theodore Wirth Pkwy. over Bassett's Creek	Golden Valley	Eligible	Eligible (GRHD)
HE-MPC-7553	Labor Lyceum	1800 Olson Memorial Hwy. (TH 55)	Minneapolis	Eligible	—
HE-MPC-8081	Sumner Branch Library	611 Emerson Ave. N.	Minneapolis	Listed	—
HE-MPC-8125	Northwestern Knitting Company Factory	718 Glenwood Ave.	Minneapolis	Listed	—
HE-MPC-8290	Wayman A.M.E. Church	1221 7th Ave. N.	Minneapolis	Eligible	—
HE-MPC-9013	Floyd B. Olson Memorial Statue	Olson Memorial Highway (TH 55) at Penn Ave. N.	Minneapolis	Eligible	—
HE-RBC-024	Hennepin County Library, Robbinsdale Branch	4915 42nd Ave. N.	Robbinsdale	Listed	—
HE-RBC-264	Jones-Osterhus Barn	4510 Scott Ave. N.	Robbinsdale	Eligible	—
HE-RBC-286	Robbinsdale Waterworks	4127 Hubbard Ave. N.	Robbinsdale	Eligible	—
HE-RBC-1462	Sacred Heart Catholic Church	4087 W. Broadway Ave.	Robbinsdale	Eligible	—

[5] Cities listed only for portions of GRHD in the APE

ATTACHMENT C

Floyd B. Olson Memorial National Register of Historic Places Boundary and Setting

Floyd B. Olson Memorial NRHP Boundary



DATE: 3/29/2016

MINNESOTA DEPARTMENT OF TRANSPORTATION

CULTURAL RESOURCES UNIT

Legend

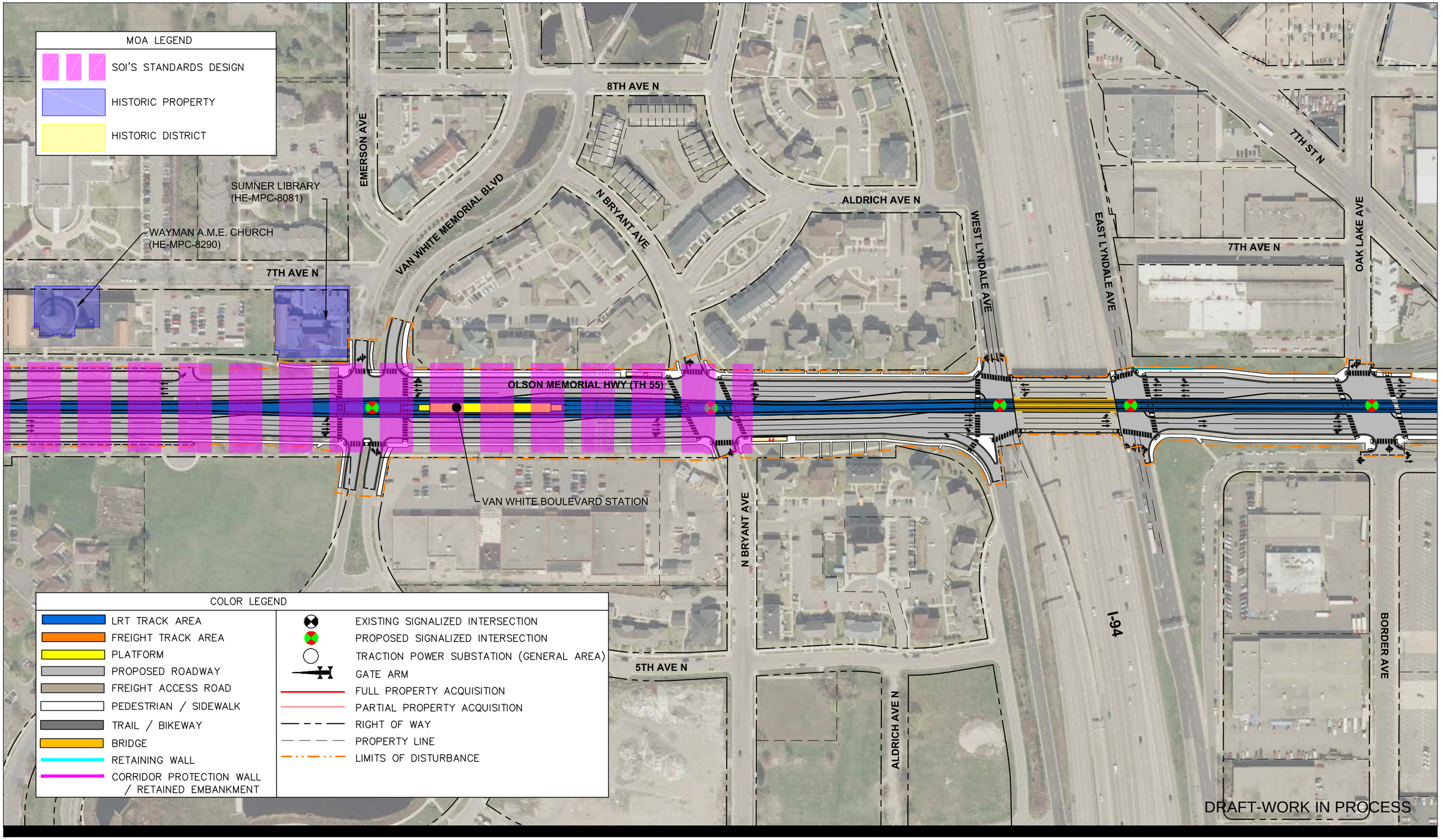
- NRHP Boundary (2016)
- NRHP Boundary (old)

0 25 50 100 150 200 Feet

N

ATTACHMENT D

Project Segments to be Designed in Accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties



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BLUE LINE LRT EXTENSION

CITY OF MINNEAPOLIS
PROJECT ELEMENTS TO BE DESIGNED TO SOI'S STANDARDS
ATTACHMENT D

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MOA LEGEND

- SOI'S STANDARDS DESIGN
- HISTORIC PROPERTY
- HISTORIC DISTRICT

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
- RETAINING WALL
- CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT
- EXISTING SIGNALIZED INTERSECTION
- PROPOSED SIGNALIZED INTERSECTION
- TRACTION POWER SUBSTATION (GENERAL AREA)
- GATE ARM
- FULL PROPERTY ACQUISITION
- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

8TH AVE N
PENN AVE N
OLIVER AVE N
N NEWTON AVE
N MORGAN AVE
LABOR LYCEUM (HE-MPC-7553)
LOGAN AVE N
THOMAS PL N
JAMES AVE N
N HUMBOLDT AVE
7TH AVE N
OLSON MEMORIAL HWY (TH 55)
PENN AVENUE STATION
FLOYD B. OLSON MEMORIAL STATUE (HE-MPC-9013)
TRACTION POWER SUBSTATION (TPSS-BL-401)
HARRISON PARK
KNOX AVE N
IRVING AVE N
5TH AVE N
DRAFT-WORK IN PROCESS

METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL
Kimley»Horn

BLUE LINE LRT EXTENSION

CITY OF MINNEAPOLIS
PROJECT ELEMENTS TO BE DESIGNED TO SOI'S STANDARDS
ATTACHMENT D

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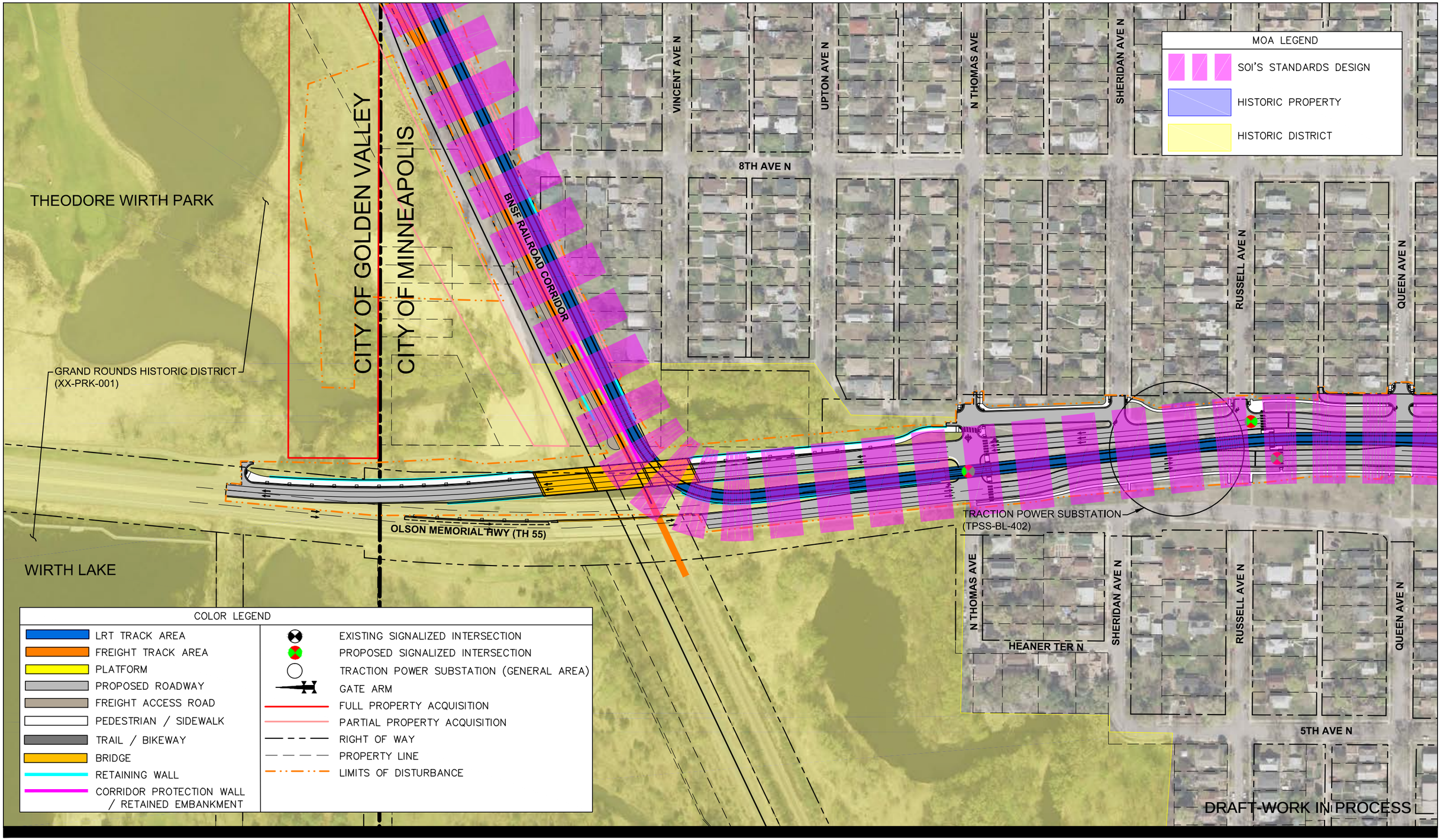
SCALE



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BLUE LINE LRT EXTENSION

CITY OF MINNEAPOLIS
PROJECT ELEMENTS TO BE DESIGNED TO SOI'S STANDARDS
ATTACHMENT D

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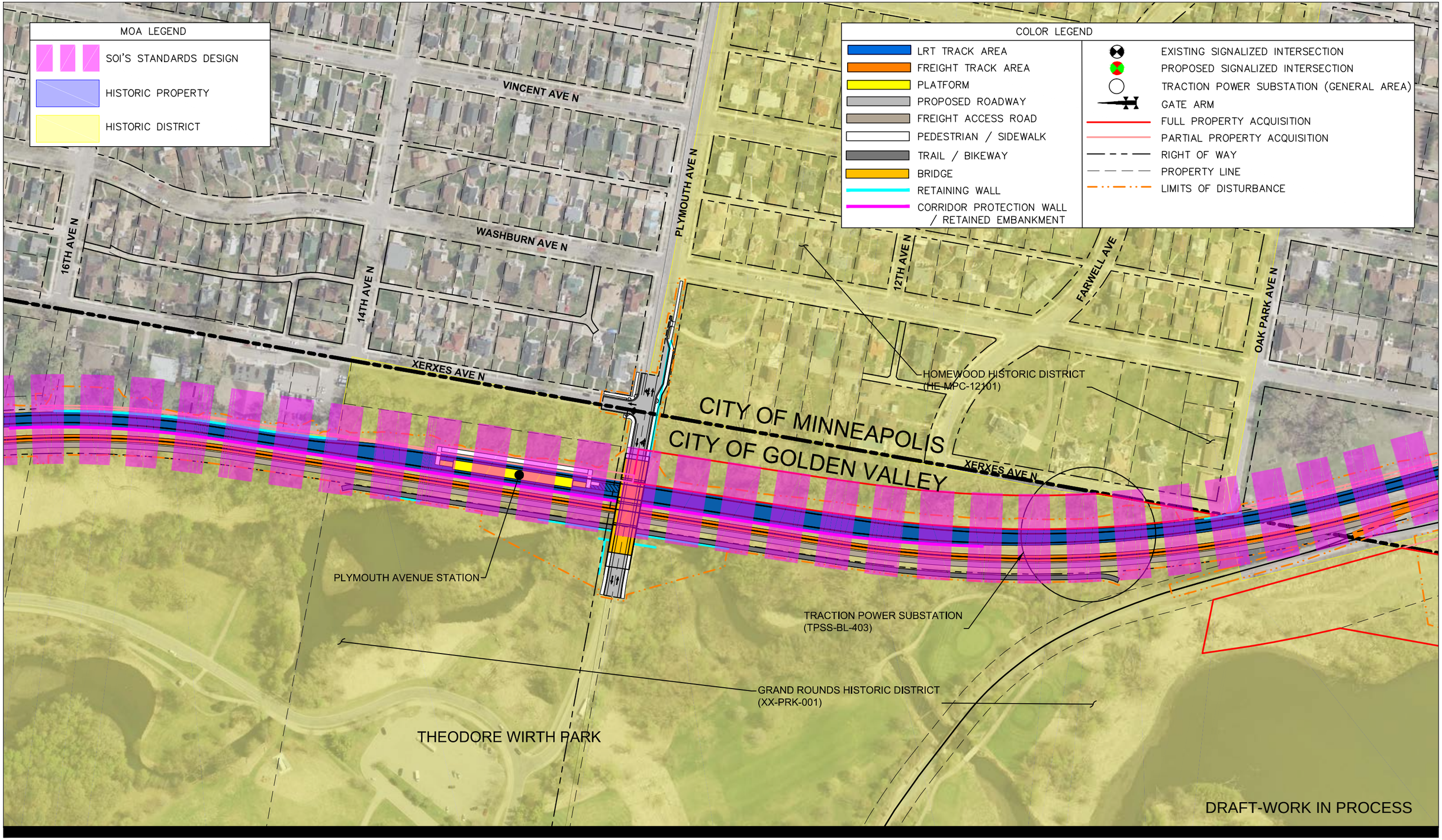
SCALE

3



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BLUE LINE LRT EXTENSION

CITY OF GOLDEN VALLEY
PROJECT ELEMENTS TO BE DESIGNED TO SOI'S STANDARDS
ATTACHMENT D

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SCALE

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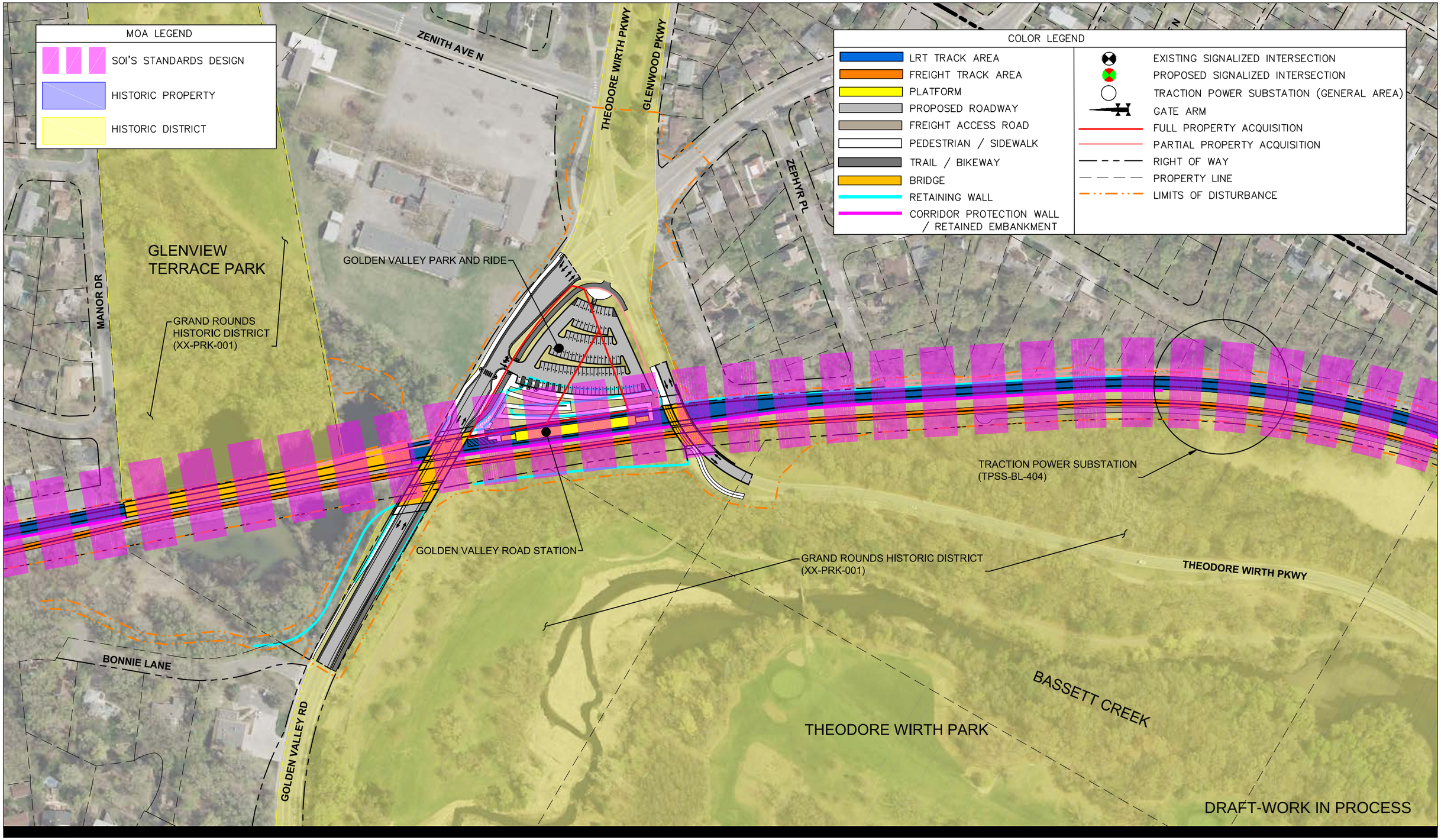

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BLUE LINE LRT EXTENSION

CITY OF GOLDEN VALLEY
PROJECT ELEMENTS TO BE DESIGNED TO SOI'S STANDARDS
ATTACHMENT D

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METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

Kimley»Horn

BLUE LINE LRT EXTENSION

CITY OF GOLDEN VALLEY
PROJECT ELEMENTS TO BE DESIGNED TO SOI'S STANDARDS
ATTACHMENT D

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SCALE

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MOA LEGEND

- SOI'S STANDARDS DESIGN
- HISTORIC PROPERTY
- HISTORIC DISTRICT

COLOR LEGEND

- LRT TRACK AREA
- FREIGHT TRACK AREA
- PLATFORM
- PROPOSED ROADWAY
- FREIGHT ACCESS ROAD
- PEDESTRIAN / SIDEWALK
- TRAIL / BIKEWAY
- BRIDGE
- RETAINING WALL
- CORRIDOR PROTECTION WALL / RETAINED EMBANKMENT
- EXISTING SIGNALIZED INTERSECTION
- PROPOSED SIGNALIZED INTERSECTION
- TRACTION POWER SUBSTATION (GENERAL AREA)
- GATE ARM
- FULL PROPERTY ACQUISITION
- PARTIAL PROPERTY ACQUISITION
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF DISTURBANCE

BOTTINEAU BLVD (CSAH 81)
LAKELAND AVE N
43RD AVE N
42 1/2 AVE N
42ND AVE N (CSAH 9)
41 1/2 AVE N
40 1/2 AVE N
WEST BROADWAY AVE RESIDENTIAL HISTORIC DISTRICT (HE-RBC-158)
W BROADWAY AVE (CSAH 8)
TRACTION POWER SUBSTATION (TPSS-BL-407)
GATE ARM CONTROLLED CROSSING
POTENTIAL FUTURE DEVELOPMENT
ROBBINSDALE WATERWORKS (HE-RBC-286)
SACRED HEART CATHOLIC CHURCH (HE-RBC-1462)
HUBBARD AVE N
41ST AVE N
GATE ARM CONTROLLED CROSSING
RAILROAD AVE N
ROBBINSDALE PARK AND RIDE
ROBBINSDALE STATION
TRIANGLE PARK
NOBLE AVE N
HENNEPIN COUNTY LIBRARY (HE-RBC-286)
REGENT AVE
43RD AVE
42 1/2 AVE
42ND AVE N (CSAH 9)
QUAIL AVE N
41ST AVE N
PERRY AVE N
40TH AVE N
TH 100

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

CITY OF ROBBINSDALE
PROJECT ELEMENTS TO BE DESIGNED TO SOI'S STANDARDS
ATTACHMENT D

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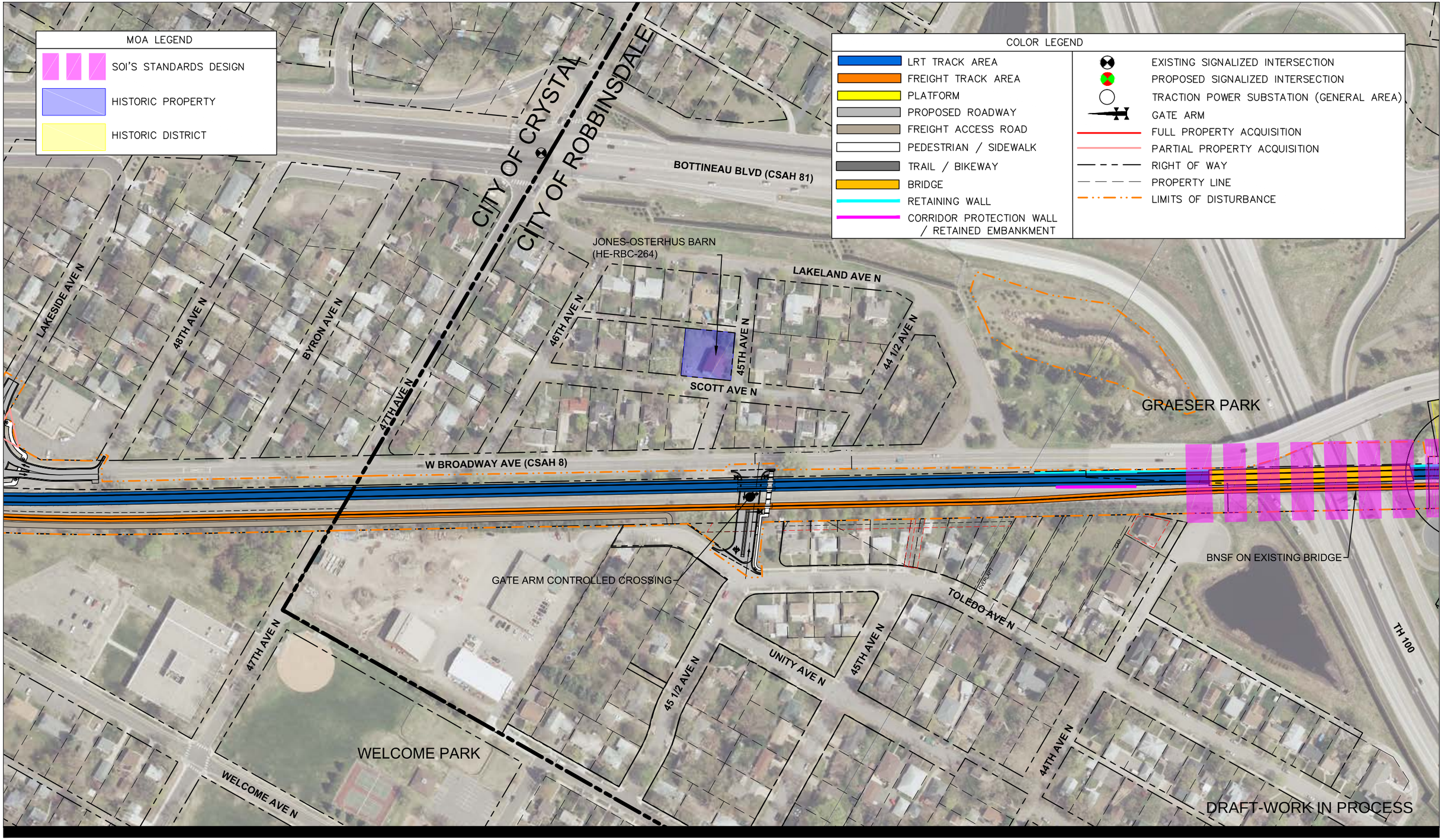

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BLUE LINE LRT EXTENSION

CITY OF ROBBINSDALE
PROJECT ELEMENTS TO BE DESIGNED TO SOI'S STANDARDS
ATTACHMENT D

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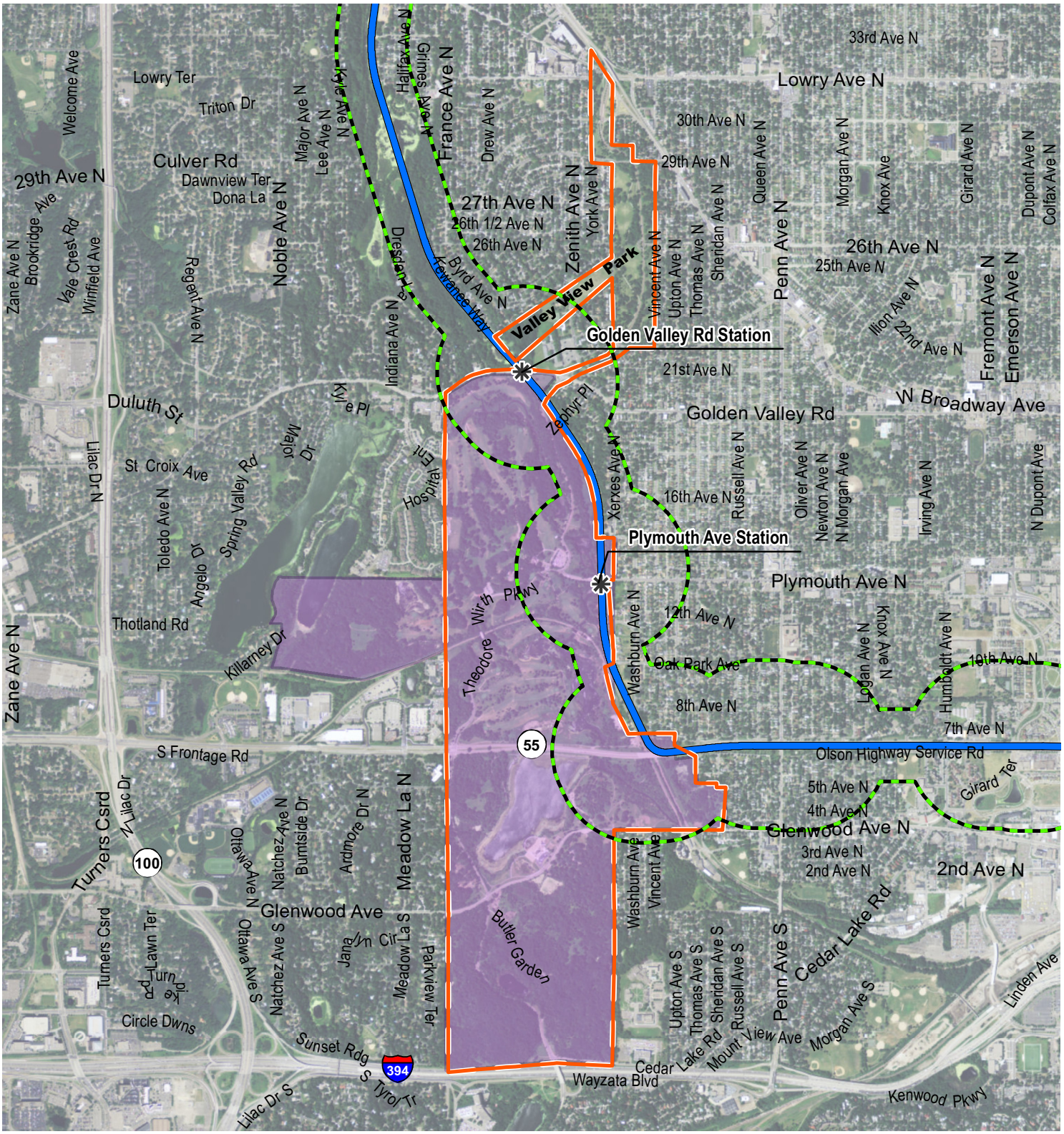
SCALE

8

ATTACHMENT E

Grand Rounds Historic: Theodore Wirth Segment Plans Study Area Limits



Source: MnDOT; Hennepin County; City of Minneapolis; 106 Group

Map Produced by 106 Group 4/4/2016

Blue Line Extension LRT (BLRT)
Section 106
Memorandum of Agreement
Minneapolis and Golden Valley, Minnesota

0 520 Meters

0 1,250 Feet

1:26,000

Grand Rounds Historic District
Theodore Wirth Segment

- Proposed Alignment
- Proposed Station
- Architecture/History Area of Potential Effect
- Grand Rounds Historic District - Theodore Wirth Segment*
- Current Theodore Wirth Park Area

106GROUP

* The Grand Rounds Historic District boundary for the Theodore Wirth Segment reflects the currently documented period of significance to 1942. The boundary for the potential extended period of significance to 1975 may vary.

ATTACHMENT F

Minneapolis Park and Recreation Board Code of Ordinances, Chapter 11

Chapter 11 - PARK FACILITY CONSTRUCTION AND REDEVELOPMENT - COMMUNITY ENGAGEMENT[13]

Footnotes:

--- (**13**) ---

Editor's note—Pk. Bd. Ord. No. 2011-103, § 1, adopted November 9, 2011, amended the title of Ch. 11 to read as herein set out. Prior to inclusion of said ordinance, Ch. 11 was titled, "Park Facility Construction and Redevelopment Public Participation."

PB11-1. - Definitions.

As used in this chapter the following terms shall mean:

Community Engagement: The opportunity for stakeholders to influence decisions that shape the park system, including the intentional effort to create public understanding of MPRB project, programs, and services, and to make certain the MPRB is aware of and responsive to stakeholder needs, concerns and industry trends. Interchangeable terms include: public participation, community involvement, and citizen participation.

Park facility construction and redevelopment: The development of new of redevelopment of existing facilities as approved and budgeted in a Capital Improvement Program for the Minneapolis Park and Recreation Board, including construction and redevelopment of facilities approved and budgeted through third party agreement. (Pk. Bd. Ord. No. 99-1010, § 1, 9-15-99; Pk. Bd. Ord. No. 2011-103, § 1, 11-9-11)

PB11-2. - Community Engagement Policy.

The Minneapolis Park and Recreation Board shall create, maintain, and regularly evaluate a community engagement policy that requires all park facility construction and redevelopment projects to have a community engagement plan. (Pk. Bd. Ord. No. 99-1010, § 1, 9-15-99; Pk. Bd. Ord. No. 2011-103, § 1, 11-9-11)

PB11-3. - Community Engagement Plan.

All park facility construction and redevelopment projects require a community engagement plan. The community engagement plan shall be developed in consultation with established neighborhood organizations. When possible, other representative community groups and under-represented groups shall be involved in the development of the plan. (Pk. Bd. Ord. No. 99-1010, § 1, 9-15-99; Pk. Bd. Ord. No. 2011-103, § 1, 11-9-11)

PB11-4. - Community Advisory Committee—Creation and Authority.

The Minneapolis Park and Recreation Board shall cause a community advisory committee to be created when recommended within a community engagement plan. The community advisory committee shall be balanced and representative of the interests impacted by the proposed park facility construction or redevelopment project. The community advisory committee shall have the authority to make recommendations to the designated Committee of the Board on the proposed park facility construction and redevelopment project. The Board of Commissioners shall have the authority to cause the creation

and approve the charge and composition of a community advisory committee for topics of its choosing. (Pk. Bd. Ord. No. 99-1010, § 1, 9-15-99; Pk. Bd. Ord. No. 2011-103, § 1, 11-9-11)

PB11-5. - Community Advisory Committee—Meetings and Recommendation.

All meetings shall be open to the public. Any person may appear and speak at a meeting either in person or by a duly appointed representative. Upon conclusion of public input, the community advisory committee shall announce its recommendation or shall lay the proposal over to a subsequent meeting. Records shall be kept on file at the Park Board office of attendance, meetings, agendas, handouts and committee actions. All recommendations of the community advisory committee shall be presented at the public hearing of the designated Committee of the Board. (Pk. Bd. Ord. No. 99-1010, § 1, 9-15-99; Pk. Bd. Ord. No. 2011-103, § 1, 11-9-11)

PB11-6. - Committee of the Board Public Hearing.

A Committee of the Board shall hold a public hearing on all project that include recommendations of a community advisory committee. The chair or acting chair may set the parameters of testimony to be received from interested parties. Any person may appear and testify at a hearing either in person or by a duly appointed representative. After reviewing the community advisory committee's recommendations and after the conclusion of public testimony, the Committee of the Board shall announce its decision or shall lay the matter over to a subsequent meeting. The Committee of the Board shall keep records of its public hearing and official actions. Decisions of the Committee of the Board shall be dated and forwarded to the full Board. (Pk. Bd. Ord. No. 99-1010, § 1, 9-15-99; Pk. Bd. Ord. No. 2011-103, § 1, 11-9-11)

PB11-7. - Community Advisory Committee Meeting and Public Hearing Notice.

The Minneapolis Park and Recreation Board shall create and maintain a notification process that addresses all community advisory committee meetings and public hearings for a project. This process shall require a ten (10) day notice of the first meeting in a newspaper of general circulation, of park councils and registered neighborhood groups and all owners of records of property located in whole or in part within three (3) city blocks of the project area. The notice shall comply with all other notice requirements of Minnesota's Open Meeting Law. Failure to give mailed notice to all affected parties, or defects in the notice, shall not invalidate the process or proceedings. (Pk. Bd. Ord. No. 99-1010, § 1, 9-15-99 ; Pk. Bd. Ord. No. 2011-103, § 1, 11-9-11)

PB11-8, PB11-9. - Reserved.

Editor's note— Pk. Bd. Ord. No. 2011-103, § 1, adopted November 9, 2011, repealed §§ PB11-8, PB11-9, which pertained to Full Park Board Hearing Notice and Public Hearing of Appeal. See also the Park Board Comparative Table.

Appendix H
Section 106 Supporting Materials

H.2 Section 106 Agency Correspondence

1. Minnesota Department of Transportation (MnDOT) Cultural Resources Unit letter regarding additional inventory information in the Grand Rounds Historic District, March 11, 2014
2. Minnesota State Historic Preservation Office (MnHPO) letter responding to Grand Rounds Historic District additional inventory information received, April 11, 2014
3. US Army Corps of Engineers letter delegating authority for the Federal Transit Administration (FTA) to act as the Federal Lead Agency for Section 106 responsibilities, March 30, 2015
4. MnDOT Cultural Resources Unit letter transmitting a Section 106 Consultation Package, July 10, 2015
5. City of Robbinsdale comment letter on Section 106 Consultation Package, August 7, 2015
6. MnHPO letter regarding Section 106 Consultation Package, August 10, 2015
7. City of Golden Valley comment letter on Section 106 Consultation Package, August 10, 2015
8. City of Minneapolis comment letter on Section 106 Consultation Package, August 10, 2015
9. FTA letter transmitting Final Determination of Effect Report to MnHPO, January 20, 2016
10. City of Robbinsdale comment letter on Final Determination of Effect Report, February 17, 2016
11. City of Brooklyn Park comment letter on Final Determination of Effect Report, February 18, 2016
12. Hennepin County comment letter on Final Determination of Effect Report, February 19, 2016
13. City of Minneapolis comment letter on Final Determination of Effect Report, February 19, 2016
14. City of Golden Valley comment letter on Final Determination of Effect Report, February 19, 2016
15. MnHPO letter regarding Final Determination of Effect Report, February 22, 2016
16. FTA letter inviting the Advisory Council on Historic Preservation to participate in the proposed METRO Blue Line Light Rail Transit (BLRT) Extension project Section 106 process, February 29, 2016
17. Advisory Council on Historic Preservation letter declining participation in the proposed BLRT Extension project Section 106 process, March 15, 2016
18. MnDOT Cultural Resources Unit letter re-evaluating the boundaries for the Floyd B. Olson Memorial Statue to MnHPO, March 10, 2016
19. MnHPO letter concurring on re-evaluation of boundaries for the Floyd B. Olson Memorial Statue, March 28, 2016

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Minnesota Department of Transportation

Office of Environmental Stewardship
Mail Stop 620
395 John Ireland Boulevard
St. Paul, MN 55155

Office Tel: (651) 366-4292
Fax: (651) 366-3603

11 March 2014

Ms. Sarah Beimers
Minnesota State Historic Preservation Office
345 Kellogg Boulevard West
St. Paul, MN 55102

RE: Bottineau Transitway Project, Hennepin County, MN (SHPO #2011-3773)

Dear Ms. Beimers:

We last wrote your office regarding the above referenced project on 19 September 2013, regarding inventory revisions and the assessment of potential project effects. We appreciate the response of 8 October 2013.

We are writing now to provide some additional inventory information on individual features located within a portion of the NRHP-eligible Grand Rounds Historic District. This information may be helpful during our upcoming consultation on resolution of adverse effects and a Section 106 Agreement.

These features – two railroads and five bridges - are located in Theodore Wirth Park, a contributing element of the Grand Rounds. None of the features were identified in SHPO's recent Grand Rounds NRHP evaluation, which served as the basis for the determination of eligibility for the district. The architecture history survey of the Bottineau project did not address individual features within the previously-evaluated district.

To aid in continuing consultation on the project, we have compiled information and phase I inventory forms for these features.

The phase I forms for two of the features were forwarded to you with our letter of 19 September 2013. These features are:

- Osseo Branch Line, StPM&M/GN Railroad (HE-RRD-002)
- Bridge, StPM&M/GN over Bassett Creek (HE-MPC-5286)

  Neither of these two features was identified as contributing to the Grand Rounds District. You have concurred with determinations that the Osseo Branch Line meets National Register criteria, and that the line's bridge over Bassett Creek is non-contributing to the eligible rail line.

Phase I forms for the other five features are enclosed:

- Electric Short Line Railway "Luce Line" (Minneapolis segment, HE-MPC-9800; Golden Valley segment, HE-GVC-055)
- Electric Short Line Bridge over Bassett Creek (HE-MPC-5285)
- Electric Short Line Trestle over Bassett Creek (HE-GVC- 376)
- TH 55 Bridge/Culvert over East Channel Bassett Creek (HE-MPC-5288)
- Bridge No. 27237 (TH 55) over Bassett Creek (HE-MPC-5287)

None of the above five features were identified as contributing to the Grand Rounds District. Based on the information and recommendations on the phase I forms, we have determined that none of them are individually eligible to the NRHP, and that no additional evaluation is needed.

Please submit any comments on the above within 30 days of this letter. If you have any questions or concerns, please contact me at 651-366-4292.

Sincerely,



Dennis Gimmestad
MnDOT Cultural Resources Unit

cc (via email):
Bill Wheeler, Federal Transit Administration
Maya Sarna, Federal Transit Administration
Joe Gladke, Hennepin County
Brent Rusco, Hennepin County
Kathryn O'Brien, Metropolitan Council
Jack Byers, City of Minneapolis
Jim Voll, City of Minneapolis
Joseph Hogeboom, City of Golden Valley
Marcia Glick, City of Robbinsdale
Patrick Peters, City of Crystal
Todd Larson, City of Brooklyn Park
Peter Vickerman, City of Maple Grove
Jennifer Ringold, Minneapolis Park and Recreation Board
Jeanne Witzig, Kimley-Horn
Jenny Bring, The 106 Group
Beth Bartz, SRF

Minnesota Historical Society
STATE HISTORIC PRESERVATION OFFICE

Using the Power of History to Transform Lives
PRESERVING › SHARING › CONNECTING

April 11, 2014

Mr. Dennis Gimmestad
Cultural Resources Unit
MN Dept. of Transportation
395 John Ireland Boulevard, Mail Stop 620
St. Paul, MN 55155-1899

RE: Bottineau Transitway Project
Hennepin County
SHPO Number: 2011-3773

Dear Mr. Gimmestad:

Thank you for continuing consultation on this project. It has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800.

Thank you for submitting the Phase I inventory forms for the five (5) features located within, but not listed as contributing elements to, the Grand Rounds Historic District:

- Electric Short Line Railway "Luce Line" (Minneapolis Segment: HE-MPC-9800; Golden Valley Segment: HE-GVC-055)
- Electric Short Line Bridge (HE-MPC-5285)
- Electric Short Line Trestle (HE-GVC-376)
- T.H. 55 Bridge/Culvert (HE-MPC-5288)
- Bridge No. 27237 (HE-MPC-5287)

We concur with your determination that none of these five (5) properties are individually eligible for listing in the NRHP.

We look forward to continuing consultation on the Bottineau Transitway Project. Please feel free to contact me if you have any questions or concerns regarding our comments. I can be reached at 651-259-3456 or by e-mail at sarah.beimers@mnhs.org.

Sincerely,

Sarah J. Beimers
Manager, Government Programs & Compliance

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

MAR 3 0 2015

REPLY TO
ATTENTION OF
Operations - Regulatory (2012-01051-MMJ)

Ms. Marisol R. Simon
Regional Administrator
Federal Transit Administration
200 West Adams Street
Chicago, Illinois 60606

Dear Ms. Simon:

The U.S. Army Corps of Engineers, St Paul District, Regulatory Branch has received your letter dated February 05, 2015, concerning the designation of lead Federal agency pursuant to 36 CFR § 800.2. for the Bottineau Transitway Project (SHPO #2011-3773). We agree that it is appropriate for the U.S. Department of Transportation, Federal Transit Administration to act as the lead Federal agency for the purposes of fulfilling our collective responsibilities under section 106 of the National Historic Preservation Act.

We appreciate your efforts to consider potential effects to historic properties and the expertise of the MnDot Cultural Resource Unit in that regard. We would still like to remain a consulting party during the review of this project and would only become more involved in historic property issues if for example measures to avoid effects to a historic property involved regulated impacts to waters of the United States.

If you have any questions concerning our role in the section 106 review please call Brad Johnson at (651) 290-5250. If you have questions about our regulatory program, please call Melissa Jenny at (651) 290-5363.

Sincerely,

for Tamara E. Cameron
Chief, Regulatory Branch

Copy furnished:
Bill Wheeler, FTA
Maya Sarna, FTA
Sarah Beimers, Mn SHPO
Greg Mathis, MnDOT CRU
Kathryn O'Brien, BPO

Minnesota Department of Transportation

Office of Environmental Services
Mail Stop 620
395 John Ireland Boulevard

Office Tel: (651) 366-4292
Fax: (651) 366-3603
greg.mathis@state.mn.us

July 10, 2015

Sarah Beimers
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. W.
St. Paul, MN 55102

RE: Blue Line Extension Project (formerly Bottineau Light Rail Transit), Hennepin County, Minnesota; Consultation Meetings and Potential Effects, SHPO #2011-3773

Dear Ms. Beimers,

We are writing to continue consultation on the Blue Line Extension Project (Project), formerly known as the Bottineau Light Rail Transit Project. This submittal includes updated information on Project effects on historic properties that will serve as the basis for assessing effects and, ultimately, the development of a Section 106 Memorandum of Agreement for the Project. Following standard practice, all Section 106 consulting parties for the Project are copied on this letter.

Thank you for your participation at the Section 106 consultation kick off meeting that was held on June 5, 2015. The next meetings with your office and Section 106 consulting parties are scheduled for July 10, at 12:30 p.m. and July 16, at 2:30 p.m. Both meetings will be held at:

Blue Line Project Office
5514 West Broadway Ave., Suite 200
Crystal, MN

The primary purpose of these meetings is to review potential Project effects on historic properties in the Area of Potential Effect (APE) and to reach agreement on whether different effects have the potential to result an adverse effect. As part of this discussion, we look forward to discussing analysis that may be required to reach a final determination of effect. These discussions will allow us to identify Project effects that have no potential to result in an adverse effect, thereby permitting future consultations to focus on those that need additional analysis to determine effect and those that have the potential to result in an adverse effect.

The July 10 meeting will focus on historic properties located in the cities of Brooklyn Park, Crystal and Robbinsdale, including:

- Osseo Branch of the St. Paul Minneapolis & Manitoba Railway Historic District (HE-RRD-002; HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389)
- Minneapolis & Pacific Railway / Soo Line Railway Historic District (HE-CRC-199)
- Jones-Osterhus Barn (HE-RBC-264)
- West Broadway Avenue Residential Historic District (HE-RBC-158)
- Hennepin County Library, Robbinsdale Branch (HE-RBC-024)
- Village of Robbinsdale Waterworks (HE-RBC-286)
- Sacred Heart Catholic Church (HE-RBC-1462)

The July 16 will cover historic properties located in Minneapolis and Golden Valley, including:

- St. Paul Minneapolis & Manitoba Railway Historic District (XX-RRD-010)

- Minneapolis Warehouse Historic District (HE-MPC-0441)
- Northwestern Knitting Company Factory (HE-MPC-8125)
- Sumner Branch Library (HE-MPC-8081)
- Wayman A.M.E. Church (HE-MPC-8290)
- Labor Lyceum (HE-MPC-7553)
- Floyd B. Olson Memorial Statue (HE-MPC-9013)
- Homewood Historic District (HE-MPC-12101)
- Osseo Branch of the St. Paul Minneapolis & Manitoba Railway Historic District (HE-RRD-002; HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389)
- Grand Rounds Historic District: Theodore Wirth Segment (XX-PRK-0001)
- Bridge No. L9327 (Theodore Wirth Parkway) (HE-GVC-0050)

Please find attached the following materials for your review:

- Overview maps showing project elements, the APE, and the locations of historic properties
- One-page summaries of each historic property within the APE. These summaries describe the NRHP eligibility of the historic property, project elements in the vicinity of the property, and potential effects on the property. Included with the summaries is a one-page key that describes National Criteria, aspects of integrity, and the criteria of adverse effect (36 CFR 800.5).

We request your comment on potential effects identified for each historic property, as well as those effects that have the potential to result in no effect or no adverse effect, and those requiring additional analysis before a determination of effect can be made, including those with the potential to result in an adverse effect. We also welcome all consulting parties to review the attached materials, participate in both upcoming consultation meetings, and submit comments on potential effects. Please submit comments within 30 days of this letter.

If you have any questions or concerns, please contact me at (651) 366-4292.

Sincerely,



Greg Mathis
MnDOT Cultural Resources Unit

cc: Bill Wheeler, Federal Transit Administration
Maya Sarna, Federal Transit Administration
Chris Bertch, Federal Transit Administration
Melissa Jenny, United States Army Corps of Engineers
Brad Johnson, United States Army Corps of Engineers
Kathryn O'Brien, Metropolitan Council
David Jaeger, Hennepin County Public Works
Brent Rusco, Hennepin County Housing, Community Works and Transit
Todd Larson, City of Brooklyn Park
John Sutter, City of Crystal
Emily Goellner, City of Golden Valley
John Byers, City of Minneapolis
Jim Voll, City of Minneapolis
Marcia Glick, City of Robbinsdale
Adam Arvidson, Minneapolis Park and Recreation Board

City of Robbinsdale
4100 Lakeview Avenue North • Robbinsdale • Minnesota • 55422-2280
Phone (763)531-1258 • Fax (763)531-1291
Website www.robbinsdalemn.com

August 7, 2015

Greg Mathis
MnDOT Cultural Resources Unit
Offices of Environmental Services
Mail Stop 620
395 John Ireland Boulevard
St Paul, MN 55102

RE: Blue Line Extension Project, Robbinsdale, MN
SHPO#2011-3773

Dear Mr. Mathis,

I have reviewed the Section 106 documentation presented at the July 10, 2015 meeting for identified historic properties located in Robbinsdale:

- Jones-Osterhus Barn (HE-RBC-264)
- West Broadway Avenue Residential Historic District (HE-RBC-158)
- Hennepin County Library, Robbinsdale Branch (HE-RBC-024)
- Village of Robbinsdale Waterworks (HE-RBC-286)
- Sacred Heart Catholic Church (HE-RBC-1462)
- Osseo Branch Line, … (HE-RRD-002, et.al.)

Our review is as follows:
Jones-Osterhus Barn report for July 2015 - no comments to add.

West Broadway Avenue report for July 2015 – Potential effects should address the full width use of the right-of-way resulting in elevated rail being closer to the homes.

Hennepin County Library report for July 2015 – Potential effects should consider the expected cul-de-sac of Railroad Avenue and impact on access. The building use in the 2nd indirect effects bullet should indicate that the building is currently used as a gallery and museum, not just a museum.

Robbinsdale Waterworks report for July 2015 – First indirect effects bullet point should identify that the BLRT will be located west, not east of the property. Second indirect effects bullet point should either identify the crossing at 41st/Noble instead of 42nd or both of the crossings as the site is located between the two and signals at both would be heard from the site.

Sacred Heart Church report for July 2015 – the building corner stone indicates that the building was constructed in 1958; the report states 1950. First indirect effects bullet point should identify that the BLRT will be located west, not east of the property. Second indirect effects bullet point should identify the crossing at 41st/Noble, not 42nd.

Osseo Branch Line railroad – no comments to add.

You can reach me at 763-531-1258 during business hours or email mglick@ci.robbinsdale.mn.us

Sincerely,

Marcia Glick

Marcia Glick
Robbinsdale City Manager

city of golden valley
7800 Golden Valley Road
Golden Valley, MN 55427

August 10, 2015

Greg Mathis
Office of Environmental Services, Cultural Resources Unit
Minnesota Department of Transportation
395 John Ireland Blvd, Mail Stop 620
St. Paul, MN 55416
(651) 366-4292
greg.mathis@state.mn.us

Mr. Mathis,

City Staff has received and reviewed the information provided with your letter addressed to Ms. Beimers on July 10, 2015. As a consulting party, City of Golden Valley Staff has prepared the following comments regarding the review of potential effects that the Blue Line Extension Project may have on historic properties in the Area of Potential Effect. This feedback is focused on the Theodore Wirth Segment of the Grand Rounds Historic District.

Staff agrees with the assessment of direct and indirect effects identified in the summary documents provided at the consulting parties' meeting on July 16, 2015. In addition to this information, Staff looks forward to evaluating the results of the Cultural Landscape Study. Staff is particularly interested in the effect that the vertical circulation structures may have on the setting and feeling of the Theodore Wirth Segment of the Grand Rounds Historic District. Staff also looks forward to evaluating the results of the additional noise analysis that is being completed for the Final Environmental Impact Statement. Both of these studies should inform the determination of effect. Staff has begun brainstorming ways to mitigate what staff feels to be adverse effects to the property.

While it is still early in the this process, staff is eager to assist with formulating ways to avoid, minimize, and mitigate noise and visual effects that the Blue Line Extension may have in this area. For example, the vertical circulation structures could be constructed with wood-based materials that complement the natural setting rather than the plastic and metal materials more commonly used for construction of such structures in urban settings.

In regards to the design of the park, it is predicted that there will be alterations to Bassett Creek as well as to a number of pedestrian trails within this historic district due to the construction of the Blue Line Extension. Again, staff is eager to assist in brainstorming ways to avoid, minimize, and mitigate these effects caused by the construction of the Blue Line Extension. Many of the informal trails that travel east-west through the Park will be closed due to this project. To mitigate the lack of east-west connections, the project could replace lost trails with new east-west pedestrian and bicycle connections at Golden Valley Road, Theodore Wirth Parkway, Plymouth Avenue, or other areas within the historic district.

In conclusion, City of Golden Valley Staff finds that the integrity of the Theodore Wirth Segment of Grand Rounds Historic District would be diminished with the construction of the Blue Line Extension. Staff predicts that further analysis by your team will conclude that there are adverse effects to the integrity of the Theodore Wirth Segment of the Grand Rounds Historic District, most notably to the design, setting, and feeling of the area. These effects will occur not only during construction of the Blue Line Extension, but will be a permanent change to the integrity of this historic property that is so highly regarded and valued by the community. While freight rail has been present within this historic district for a very long period of time, passenger rail has never been present. The introduction of passenger rail and stations will certainly change the setting and feeling of this historic property.

Please let me know if you have any clarifying questions regarding this feedback. We look forward to continued consultation on this subject.

Sincerely,

Emily Goellner

Emily Goellner
Associate Planner/Grant Writer

cc: Sara Beimers, State Historic Preservation Office, Minnesota Historical Society
Kathryn O'Brien, Metropolitan Council
Caroline Miller, Metropolitan Council
Adam Arvidson, Minneapolis Park and Recreation Board
Jack Byers, City of Minneapolis
Jim Voll, City of Minneapolis
Brent Rusco, Hennepin County

Minneapolis
City of Lakes

Community Planning and Economic Development
105 Fifth Ave. S. - Room 200
Minneapolis, MN 55401
TEL 612.673.5009

www.minneapolismn.gov

August 10, 2015

Greg Mathis
Minnesota Department of Transportation- Cultural Resources Unit
Office of Environmental Services
Mail Stop 620
395 John Ireland Boulevard
St. Paul, MN 55155

RE: Blue Line Extension Project (formerly Bottineau Light Rail Transit), Hennepin County; Minnesota; Consultation Meetings and Potential Effects (SHPO#2011-3773)

Dear Mr. Mathis,

Thank you for providing the materials included in your July 10, 2015 letter, supporting materials, and consultation meeting on July 16, 2015. The City of Minneapolis CPED-Long Range Planning Division submits the following comments on behalf the Minneapolis HPC, a consulting party to the Section 106 review.

Your letter dated July 15, 2015 requested comments on no effect or adverse effects, but in the consultation meetings this was revised to a request to comment if direct or indirect effects were correctly identified, and not to comment on adverse effects. This letter is limited to indirect and direct effects and we will comment on adverse effects, if any, at the appropriate time.

CPED-Long Range Planning comments on the preliminary determinations of effect are organized in a manner consistent with the organization presented in your July 10, 2015 correspondence, the consultation meeting, overview maps, and the one page summaries of each historic property.

CPED-Long Range Planning concurs with the determination that potential effects on the Minneapolis Warehouse Historic District (HE-MPC-0441) have already been accounted for as part of the 106 review of the Target Field Station.

CPED-Long Range Planning agrees with your identification of no direct effect or direct effects for the following properties:

- St. Paul Minneapolis & Manitoba Railway Historic District (XX-RRD-010)
- Northwestern Knitting Company Factory (HE-MPC-8125)
- Sumner Branch Library (HE-MPC-8081)
- Wayman A.M.E. Church (HE-MPC-8290)
- Labor Lyceum (HE-MPC-7553)
- Floyd B. Olson Memorial Statue (HE-MPC-9013)
- Homewood Historic District (HE-MPC-12101)
- Osseo Branch of the St. Paul Minneapolis & Manitoba Railway Historic District (HE-RRD-002; HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389)
- Grand Rounds Historic District: Theodore Wirth Segment (XX-PRK-0001)

CPED-Long Range Planning agrees with the identification of indirect effects for the following properties:

- St. Paul Minneapolis & Manitoba Railway Historic District (XX-RRD-010)
- Northwestern Knitting Company Factory (HE-MPC-8125)
- Sumner Branch Library (HE-MPC-8081)
- Wayman A.M.E. Church (HE-MPC-8290)
- Labor Lyceum (HE-MPC-7553)
- Floyd B. Olson Memorial Statue (HE-MPC-9013)
- Homewood Historic District (HE-MPC-12101)
- Osseo Branch of the St. Paul Minneapolis & Manitoba Railway Historic District (HE-RRD-002; HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389)
- Grand Rounds Historic District: Theodore Wirth Segment (XX-PRK-0001)

However, for Sumner Library, Wayman A.M.E. Church, Labor Lyceum, and the Floyd B, Olson Memorial Statue we request clarification if construction and operation vibration were determined to be an indirect effect and how that determination is made, in order for us to comment on that issue. Additional clarification will help us with our evaluation.

We encourage all parties to continue their efforts to protect the properties form any damage from vibration during construction and/or operation, especially those structures along Olson Memorial Highway in close proximity to the line; Sumner Library, Wayman A.M.E. Church, Labor Lyceum, and the Floyd B, Olson Memorial Statue.

Sincerely,

Jim Voll
Principal City Planner, AICP, LEED AP
City of Minneapolis- CPED-Long Range Planning
105 5th Avenue South, Suite 200
Minneapolis, MN 55415
Phone: (612) 673-3887
james.voll@minneapolismn.gov

cc: Sarah Beimers. MN SHPO (via email)
Jack Byers, CPED-Long Range Planning (via email)

Minnesota Historical Society

STATE HISTORIC PRESERVATION OFFICE

Using the Power of History to Transform Lives
PRESERVING › SHARING › CONNECTING

August 10, 2015

Greg Mathis
Cultural Resources Unit
MN Dept. of Transportation
395 John Ireland Boulevard, Mail Stop 620
St. Paul, MN 55155-1899

RE: Blue Line Extension Project (formerly Bottineau Light Rail Transit)
Hennepin County
SHPO Number: 2011-3773

Dear Mr. Mathis:

Thank you for continuing consultation on this project. Information received in our office on 10 July 2015 has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800.

We have completed our review of your correspondence letter dated July 10, 2015 and the accompanying documents for continuing our Section 106 review of the Blue Line Extension Project (Project) which included:

- Project overview maps; and
- One-page summaries (dated July 2015) for historic properties within the Project's area of potential effect (APE) which included historic property overviews as well as discussion of potential effects.

We appreciated the opportunity to participate in the two (2) Project consultation meetings on July 10th and July 16th during which your agency and the project sponsor provided review of these materials and an opportunity for discussion among consulting parties. Based upon our current understanding of the proposed Project, comments and recommendations regarding your agency's identification of potential effects to historic properties are summarized below, by historic property:

- **St. Paul Minneapolis & Manitoba Railway/Great Northern Railway Historic District (XX-RRD-010), Minneapolis** – Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **Minneapolis Warehouse Historic District (HE-MPC-0441), Minneapolis** – We agree with your agency's determination that any potential effects caused by the addition of the Project at the Target Field Station (formerly Interchange Project) were reviewed and taken into consideration as part of the Section 106 review for the Interchange Project which resulted in a "no adverse effect" determination.
- **Northwestern Knitting Company Factory (HE-MPC-8125), Minneapolis** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **Sumner Branch Library (HE-MPC-8081), Minneapolis** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **Wayman African Methodist Episcopal Church (HE-MPC-8290), Minneapolis** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **Labor Lyceum (HE-MPC-7553), Minneapolis** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate. In addition, due to the fact that this property's primary façade and entrance faces south towards Olson Memorial Highway, we recommend that your agency also consider potential

effects to this historic property which may be caused by redesign of the adjacent sidewalk and the elimination of pedestrian and/or street crossings from the south side of Olson Memorial Highway.

- **Floyd B. Olson Memorial Statue (HE-MPC-9013), Minneapolis** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **Homewood Residential Historic District (HE-MPC-12101), Minneapolis** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **Hennepin County Library, Robbinsdale Branch (HE-RBC-024), Robbinsdale** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate. We also recommend that your agency analyze any potential effects caused by change in access – pedestrian, automobile, or other form of transportation – to this historic property that may be caused by the Project's construction.
- **Jones-Osterhus Barn (HE-RBC-264), Robbinsdale** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate. We also recommend that your agency analyze any potential effects caused by change in access – pedestrian, automobile, or other form of transportation – to this historic property that may be caused by the Project's construction.
- **Robbinsdale Waterworks (HE-RBC-286), Robbinsdale** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **Sacred Heart Catholic Church (HE-RBC-1462), Robbinsdale** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **West Broadway Avenue Residential Historic District (HE-MPC-158), Robbinsdale** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate. We also recommend that your agency analyze any potential effects caused by change in access – pedestrian, automobile, or other form of transportation – to this historic property that may be caused by the Project's construction.
- **Minneapolis & Pacific Railway/Minneapolis, St. Paul & Sault Ste. Marie Railway/Canadian Pacific Railway Historic District (HE-CRC-199), Crystal** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **Osseo Branch Line, Minneapolis & Northwestern/St. Pau, Minneapolis & Manitoba/Great Northern Railway Historic District (HE-RRD-002), Brooklyn Park, Crystal, Golden Valley, Robbinsdale, Minneapolis** – In August 2013, our office provided a "no adverse effect" determination to your agency based upon preliminary Project design plans at that time. Since then, your agency has indicated that additional corridor protection infrastructure will be added to the Project's scope and therefore our earlier determination may not be valid. Your agency's proposal for reconsideration for potential direct and indirect effects to this historic property, based upon revised Project plans, is appropriate.
- **Bridge No. L9327 (HE-GVC-0050), Golden Valley** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate.
- **Grand Rounds Historic District: Theodore Wirth Segment (XX-PRK-0001), Golden Valley, Minneapolis** - Your agency's proposal for considering potential direct and indirect effects to this historic property is appropriate. We also recommend that your agency analyze any potential effects caused by change in access – pedestrian, automobile, or other form of transportation – to this historic property that may be caused by the Project's construction.

We look forward to continuing consultation on this project. Please feel free to contact me if you have any questions or concerns regarding our comments. I can be reached at 651-259-3456 or by e-mail at sarah.beimers@mnhs.org.

Sincerely,

Sarah J. Beimers

Sarah J. Beimers
Manager, Government Programs & Compliance

U.S. Department
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Federal Transit Administration

REGION V
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January 20, 2016

Sarah Beimers
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. W.
St. Paul, MN 55102

RE: Blue Line Extension Project (formerly Bottineau Transitway), Hennepin County, Minnesota; Final Determination of Effect, SHPO #2011-3773

Dear Ms. Beimers:

The Federal Transit Administration (FTA) is writing to continue the consultation process for the proposed METRO Blue Line Extension Light Rail Transit Project (proposed Project), formerly known as Bottineau Transitway. FTA would also like to thank the Minnesota State Historic Preservation Office (MnSHPO) for participating in the consultation meetings held on July 10th and 16th, and for the comments provided in response to the consultation materials provided on August 10, 2015 and October 29, 2015. All Section 106 consulting parties for the proposed Project are copied on this letter.

This letter transmits our final determination of effect for the proposed Project. We want to thank MnSHPO and all consulting parties for their participation in the consultation process that helped us reach this milestone for the proposed Project.

Consultation Overview
The Metropolitan Council (Council) is seeking federal funding under the Capital Investment Grant program from the FTA; therefore, the proposed Project must comply with Section 306108 of the National Historic Preservation Act of 1966 (NHPA), as amended (54 United States Code [U.S.C.] § 306108) (hereinafter referred to as Section 106) and its implementing regulations, 36 Code of Federal Regulations (CFR) 800 et. seq. In accordance with 36 CFR 800.2(a)(2), the United States Army Corps of Engineers (USACE) has recognized FTA as the lead Federal agency responsible for fulfilling their collective obligations under Section 106. The Minnesota Department of Transportation Cultural Resources Unit (MnDOT CRU) has aided FTA in the Section 106 process for the proposed Project, per 36 CFR 800.2(a)(3).

In February 2011, pursuant to 36 CFR 800.3, MnDOT CRU, on behalf of FTA, initiated consultation with MnSHPO, local governments and other parties with a demonstrated interest in historic properties that may be affected by the proposed Project. In January 2012, FTA initiated consultation with the affected Indian tribes in the region. No Indian tribes or Tribal Historic Preservation Offices requested to participate in the consultation.

RE: Blue Line Extension Project (formerly Bottineau Transitway), Hennepin County, Minnesota; Final Determination of Effect, SHPO #2011-3773

As part of its efforts to meet the requirements of Section 106, MnDOT CRU held three (3) consultation meetings with MnSHPO and other consulting parties. The consulting parties for this proposed Project include: MnSHPO; the USACE; Hennepin County; the cities of Brooklyn Park, Crystal, Golden Valley, Minneapolis and Robbinsdale; the Minneapolis Heritage Preservation Commission; and the Minneapolis Park and Recreation Board.

In accordance with 36 CFR 800.4, and through the Section 106 consultation process, FTA has identified historic properties that could be potentially affected by the proposed Project. An APE was defined in September 2011, with MnSHPO concurrence. Between 2011 and 2012, archaeological and architecture/history surveys were conducted for the properties within the proposed Project's APE to identify and evaluate historic properties and determine their eligibility for the National Register of Historic Places (NRHP). As a result of these surveys, a total of 17 NRHP-listed and -eligible properties were identified; MnSHPO has concurred with these determinations.

Effects Findings

Utilizing conceptual engineering (approximately 15 percent design) plans, and in accordance with 36 CFR 800.5(a), FTA has made a finding of effect for each property within the proposed Project's APE. These effects assessments and the finding for each historic property are fully described in the attached report entitled *METRO Blue Line Extension Light Rail Transit Project Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties*. This report summarizes the identification process for historic properties that could be potentially affected by the proposed Project within the APE, details the Section 106 consultation process completed to date to consider effects on these properties, discusses the direct and indirect effects on the properties, assesses the impacts of the effects, and provides a final finding for each property. Table 1 provides a summary of the final effect determination for each property. FTA has found that the proposed Project will have:

- No Adverse Effect on six (6) historic properties;
- No Adverse Effect on five (5) historic properties with the implementation of measures that FTA will stipulate in an MOA; and
- An Adverse Effect on six (6) historic properties.

Table 1: Finding of Effects on Historic Properties Summary

SHPO Inv. No.	Property Name	Effect Finding
HE-MPC-0441	Minneapolis Warehouse Historic District	No Adverse Effect
XX-RRD-010	St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District	No Adverse Effect
HE-MPC-8125	Northwestern Knitting Company Factory	No Adverse Effect
HE-MPC-8081	Sumner Branch Library	No Adverse Effect
HE-MPC-8290	Wayman A.M.E. Church	Adverse Effect
HE-MPC-7553	Labor Lyceum	No Adverse Effect
HE-MPC-9013	Floyd B. Olson Memorial Statue	Adverse Effect

SHPO Inv. No.	Property Name	Effect Finding
HE-RRD-002, HE-MPC-16389, HE-RBC-0304, HE-CRC-0238, HE-BPC-0084	Osseo Branch of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District	Adverse Effect
XX-PRK-0001	Grand Rounds Historic District, Theodore Wirth Segment	Adverse Effect
HE-MPC-12101	Homewood Residential Historic District	Adverse Effect
HE-GVC-0050	Bridge No. L9327	No Adverse Effect
HE-RBC-1462	Sacred Heart Catholic Church	No Adverse Effect
HE-RBC-286	Robbinsdale Waterworks	No Adverse Effect
HE-RBC-024	Hennepin County Library, Robbinsdale Branch	No Adverse Effect
HE-RBC-158	West Broadway Avenue Residential Historic District	Adverse Effect
HE-RBC-264	Jones-Osterhus Barn	No Adverse Effect
HE-CRC-199	Minneapolis & Pacific Railway / Soo Line Railway Historic District	No Adverse Effect

Based on effects findings documented in the attached assessment of effects report and summarized in Table 1 above, **FTA has determined that the proposed Project will have an *Adverse Effect* on historic properties.**

The following is a brief summary of the adverse effects on six (6) historic properties identified above and our action to resolve the adverse effects:

- **Wayman African Methodist Episcopal Church:** Station area planning studies indicate that the proposed Project will likely catalyze redevelopment on the property itself and/or within its vicinity. More specifically, the station area planning study for the Van White Boulevard Station identifies the church as part of a group of properties proposed to be rezoned to allow for increased density (five or more stories), mixed-use development in order to create a planned neighborhood commercial node around the station. As a result, development pressure created in part by the construction and operation of the proposed Project may lead to changes in the setting of the church and potential alteration or demolition of this property. While new development in the general area would not alter characteristics qualifying the property for inclusion in the NRHP, redevelopment of the property itself could result in alterations that would likely diminish its historic integrity, or demolition which would destroy the historic property. As redevelopment of this historic property is a reasonably foreseeable cumulative effect of the proposed Project, a finding has been made that there will be an Adverse Effect on the Wayman A.M.E. Church.
- **Floyd B. Olson Memorial Statue:** The proposed Project will take over and utilize a portion of the historic property along its northern boundary. More specifically, as a result of the proposed Project's infringement onto the NRHP-eligible property, a portion of the statue's formal plaza will be destroyed and incorporated into a street and sidewalk. This will result in the destruction of portions of the designed landscape in which the statue is

situated, and of which the statue is the focal point. Elements that will be partially destroyed include the formal yard in front of the statue, which is an important landscape divider within the site and the statue's setting, as well as the formal walk leading to the statue, which is the primary circulation network within the historic property. These direct physical changes to the designed landscape will also alter important spatial relationships and result in changes to the way the statue is experienced and perceived within both its immediate and larger settings. As a result of these changes, the proposed Project will directly diminish the Floyd B. Olson Memorial Statue property's integrity of design, setting, and feeling. The introduction of Penn Station directly in front of the historic property will also disrupt views and the visual connection between the statue and TH 55, which is an important historic characteristic, and will further diminish the historic property's integrity of setting, feeling, and association. In addition, station area planning studies indicate that the proposed Project will likely catalyze redevelopment on and in the vicinity of this historic property due to its proximity to Penn Station. Specifically, the station area planning study for Penn Station identifies the NRHP-eligible historic property for redevelopment to increase density around the station and proposes to incorporate the statue itself into the renovations. The plan also identifies the redevelopment of adjacent properties. Redevelopment of the historic property and its setting, and incorporation of the statue into the redevelopment would destroy the immediate setting of the statue and severely alter, or sever its critical visual connection with TH 55, thereby further diminishing the historic property's integrity of location, setting, feeling, and association. As the proposed Project will cause both direct and indirect adverse effects on the Floyd B. Olson Memorial Statue, a finding has been made that there will be an Adverse Effect on this historic property.

- **Grand Rounds Historic District, Theodore Wirth Segment:** The proposed Project will permanently acquire about two acres and temporarily use during construction a few additional acres of Theodore Wirth Regional Park while making numerous physical alterations within this element of the Grand Rounds Historic District, Theodore Wirth Segment. Direct effects will physically alter much of the eastern edge of Theodore Wirth Regional Park, as well as a portion of its northern edge where Wirth Parkway, another contributing element, enters the park. In addition, two historic entry points to the Theodore Wirth Segment are being demolished and reconstructed, or substantially altered from natural to developed spaces. This work will not only alter the cultural landscape of the Theodore Wirth Segment of the Grand Rounds Historic District, it will also introduce new, contemporary elements to these portions of the historic district. New visual elements will be in the form of formal, engineered structures such as retaining walls, the LRT guideway and overhead power system, stations, vertical circulation buildings, a parking lot, and other elements to the otherwise naturalistic setting of the park's landscape. Illumination of the stations and vertical circulation towers will also change the visual character of the otherwise dark natural areas within the district at night. In addition, the introduction of Project elements will alter key viewsheds within Theodore Wirth Regional Park, including the most prominent viewshed within the park, which is that from one of the character defining features, the Theodore Wirth Chalet. Collectively the direct physical effects to the Theodore Wirth Segment of the Grand Rounds Historic District, and related/resultant indirect visual effects, will alter historic characteristics that qualify

the district for the NRHP. The alterations to the district will diminish the integrity, design, setting, materials, workmanship, feeling, and association of the Theodore Wirth Segment of the Grand Rounds Historic District. As the proposed Project will cause both direct and indirect adverse effects on the Theodore Wirth Segment of the Grand Rounds Historic District, a finding has been made that there will be an Adverse Effect on this historic district.

- **Osseo Branch of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District:** The existing, historic track and roadbed will be removed as part of the proposed Project, with the freight rail alignment being subsequently relocated and two new LRT tracks constructed within the historic district. Substantial amounts of additional Project infrastructure will also be constructed in the district; examples of these elements include the overhead power system, bridges, retaining walls, vertical circulation buildings, stations and fencing, and a variety of corridor protection treatments. In addition, an existing high-voltage transmission line extending along a portion of the district will be relocated within the district and constructed with a new design. The collective relocation of the freight tracks, loss of historic fabric, and introduction of Project infrastructure within the district will alter the perception of the corridor as a historic, isolated freight rail branch into that of a dense, multi-purpose combined freight and transit corridor and will add passenger rail stations to a stretch of rail corridor that has never before had them. Given this, the proposed Project will alter characteristics qualifying the Osseo Branch for inclusion in the NRHP in a manner that will diminish its integrity of design, materials, setting, workmanship, feeling, and association. As the Project will cause direct adverse effects on the Osseo Branch of the St. Paul, Minneapolis & Manitoba Railway / Great Northern Railway Historic District, a finding has been made that there will be an Adverse Effect on this historic district.
- **Homewood Residential Historic District:** Noise analysis completed for the proposed Project indicates that without mitigation, LRT operations would cause a moderate noise impact on three residences at the southwestern corner of the historic district. Given its status as a residential historic district, these auditory effects will diminish the district's integrity of setting and feeling. As the proposed Project will cause adverse auditory effects on the Homewood Residential Historic District, a finding has been made that there will be an Adverse Effect on this historic district.
- **West Broadway Avenue Residential Historic District:** The proposed Project alignment will be located directly adjacent to the western boundary of the district on an elevated roadbed and approach structure that leads to the Project's bridge over Trunk Highway 100. The visual presence of the proposed Project and its associated infrastructure will sever the district's visual connection across the existing BNSF Railway freight track with areas to the west. Additionally, proposed Project infrastructure, including tall retaining walls to support the elevated guideway and the overhead power system will introduce new, incompatible, out-of-scale elements to the setting of the district. Collectively, this will diminish the integrity of setting and feeling of the historic district. In addition, a noise analysis indicates that without mitigation, the proposed Project would cause moderate and severe auditory impacts on some residences in the historic district, specifically from LRV horns at nearby grade crossings. Given its status as a residential district, these auditory

effects will further diminish the district's integrity of setting, feeling and association. As the proposed Project will cause adverse visual and auditory effects on the West Broadway Avenue Residential Historic District, a finding has been made that there will be an Adverse Effect on this historic district.

Next Steps: Resolution of Adverse Effects

In accordance with 36 CFR 800.6, FTA will notify the ACHP of the proposed Project's adverse effect on historic properties and invite the ACHP to participate in the Section 106 process. In addition, FTA looks forward to consulting with MnSHPO and other consulting parties to seek ways to resolve the adverse effects on the six (6) historic properties described above, and to develop a MOA to document the measures FTA will implement to avoid, minimize and mitigate adverse effects on historic properties. As part of this effort, FTA and MnDOT CRU will hold a consultation meeting on February 4, 2016 at 1:30 p.m. to 4:30 p.m. at:

Blue Line Extension Project Office
5514 West Broadway, Suite 200
Crystal, MN

The purpose of this meeting is to review the final findings of effect with MnSHPO and consulting parties and to continue consultation to consider avoidance, minimization and mitigation measures for adversely effected properties.

Enclosed for your review are:

- Section 106 assessment of effects report noted above;
- Plan sheets from the approximately 15 percent design engineering plans that were used to assess effects on historic properties;
- Photos of specific viewsheds in their existing condition with corresponding renderings generated by the Project office depicting the viewshed after Project completion
- Existing Plymouth Avenue bridge plans
- Details on Traction Power Substations (TPSS) and the location of TPSS along the Project alignment
- Technical memorandum on noise and vibration impacts caused by the Project
- Technical memorandum on traffic and access impacts caused by the Project
- Station area planning studies concerning Project stations in Minneapolis, Golden Valley, and Robbinsdale
- Meeting notes from the consultation meetings held on July 10 and July 16, 2015.

In closing, ***we request that MnSHPO provide its concurrence with FTA's final findings of effect and final determination of effect for the proposed Project in writing within 30 days of receiving this correspondence.***

RE: Blue Line Extension Project (formerly Bottineau Transitway), Hennepin County, Minnesota; Final Determination of Effect, SHPO #2011-3773

If you have any questions, please contact Reggie Arkell at (312) 886-3704, reginald.arkell@dot.gov or Maya Sarna at (202) 366-5811, maya.sarna@dot.gov.

Sincerely,

Marisol R. Simón
Regional Administrator

Enclosures:
Section 106 Assessment of Effects for Historic Properties (FTA and MnDOT CRU, January 2016)
Blue Line LRT Extension, Section 106 Process Design Documents, Volumes 1-10 (Council and Kimley Horn Associates, November, 2015)
Technical Memorandum: BLRT Section 106 Historic Properties – Traffic/Access Impacts (Blue Line Extension Project Office, November 2015)
Technical Memorandum: BLRT Noise and Vibration Effects on Historic and Cultural Resources (Cross-Spectrum Acoustics, November 2015)
METRO Blue Line Extension Phase I: Station Area Planning, Plymouth Avenue and Golden Valley Road Stations (Hennepin County, June 2015)
METRO Blue Line Extension Phase I: Station Area Planning, Van White Boulevard and Penn Avenue Stations (Hennepin County, June 2015)
Robbinsdale Station Area Planning, Public Meeting Presentation (Hennepin County, October 21, 2015)
METRO Blue Line Extension Section 106 Consultation Meeting 2A (7/10/2015) meeting notes
METRO Blue Line Extension Section 106 Consultation Meeting 2B (7/16/2015) meeting notes

cc:
Bill Wheeler, FTA
Maya Sarna, FTA
Melissa Jenny, USACE
Brad Johnson, USACE
Greg Mathis, MnDOT CRU
Kathryn O'Brien, Metropolitan Council
David Jaeger, Hennepin County Public Works
Brent Rusco, Hennepin County Housing, Community Works and Transit
Todd Larson, City of Brooklyn Park
John Sutter, City of Crystal
Emily Goellner, City of Golden Valley
John Byers, City of Minneapolis
Jim Voll, City of Minneapolis
Marcia Glick, City of Robbinsdale
Adam Arvidson, Minneapolis Park and Recreation Board

From: Marcia Glick
To: Mathis, Gregory (DOT)
Subject: RE: Sec 106 notes
Date: Wednesday, February 17, 2016 4:40:08 PM

The City of Robbinsdale concurs with designations.

We would like to see consideration of the aesthetic impact of the elevated rails on the West Broadway homes. My understanding from the noise study is that no noise walls were proposed in this stretch and that noise would be addressed by quiet zones and wayside devices. Two northerly homes (probably the two furthest north) are shown as having moderate noise impacts with quiet zones. Installing a noise wall on the eastern side of the track could help to block the aesthetic/privacy concerns heard from some of the neighbors. I am surprised that the view to the west isn't already blocked by the height of the freight rails. Will be looking forward to further discussion on how to best mitigate the impacts on these homes.

City of Brooklyn Park
City Hall
5200 85th Ave. N.
Brooklyn Park, MN 55443
763-424-8000
www.brooklynpark.org

Caroline Miller,
Environmental Specialist
Blue Line Extension Project Office - Metro Transit
5514 West Broadway Avenue, Suite 200
Crystal, MN 55428

Re: Section 106 Comments – Osseo Branch of the StPM&M Roalroad

February 18, 2016

Dear Ms. Miller,

Thank you for the opportunity to consult on historic properties in the Blue Line Extension corridor. Brooklyn Park has one identified district within our project area – the Osseo Branch, St. Paul, Minneapolis, and Manitoba Railway Historic District. The significance of the district pertains to the agricultural production of the area and transportation of goods, mainly potatoes, to markets in Minneapolis and beyond. This district has been identified as being adversely affected by the proposed Blue Line Extension project. Here are three comments we have related to that finding:

1. To our knowledge, none of the original tracks, ties, structures, or other railroad equipment remain.
2. The historic use of the corridor was related to the growth and development of northern Hennepin County and the proposed modifications to include light rail will also aide in the growth and development of this area.
3. Only a portion of the corridor will be impacted. The portion of the corridor north of 73rd Avenue will remain untouched.

It is our position that the impacts are noted, but not of concern. We recommend a mitigation strategy that includes historical interpretive signage be included in the station at 63rd Avenue. This signage could include a written description of the significance of the rail corridor on the area, maps, and historical photographs, if any exist.

I can be reached at (763) 493-8069 or todd.larson@brooklynpark.org if you have any questions.

Sincerely,

Todd A. Larson,
Senior Planner

Hennepin County
Public Works

300 South Sixth Street
Minneapolis, MN 55415-1842

www.hennepin.us

Greg Mathis
Cultural Resources Unit
Office of Environmental Stewardship
Minnesota Department of Transportation
395 John Ireland Boulevard, Mail Stop 620
St. Paul, MN 55155

RE: Hennepin County Comments to Section 106 Assessment of Effects for BLRT

Dear Greg:

The purpose of this letter is to provide input on the *METRO Blue Line Extension Light Rail Transit Project Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties (January 2016)* document prepared by the MnDOT Cultural Resources Unit (CRU) on behalf of the Federal Transit Administration.

As a BLRT project partner and Section 106 consulting party, Hennepin County appreciates the leadership of the Federal Transit Administration (FTA) throughout the environmental study process on the METRO Blue Line Extension Light Rail Transit (LRT) project including ongoing efforts associated with the development of the Final Environmental Impact Statement (FEIS) and the ongoing Section 106 assessment process. Hennepin County also appreciates the efforts of MnDOT CRU and MnHPO for the engagement of consulting partners in compiling this important above referenced Section 106 assessment documentation.
In reviewing the assessment and determination materials, Hennepin County offers the following comments focused on one of the identified historic properties in the corridor determined to have an adverse effect, the Floyd B. Olson Memorial Statue.

It is in the spirit of open dialogue and understanding of this important historic resource that we offer the comments contained in this letter in the hope that it will help inform the best possible project design while respecting the integrity of the resource and accommodating the needs of people living and traveling in the area.

Hennepin County Section 106 Consulting Party Input
Hennepin County concurs with the assessment that the Floyd B. Olson Memorial Statue property will experience changes, but has the opinion that a deeper assessment is needed during the upcoming "resolution of adverse effects stage" to determine what, if any, measures are needed to avoid, minimize, or mitigate any adverse effects.

We offer the following input relative to assessment and determination of effects to further explore the assessment included in the January 2016 Section 106 assessment documentation.

1. Page 18 of the documentation refers to seven aspects or qualities that must be considered to determine whether a property retains integrity. The first of the seven states the following; "Location: the place where the historic property was constructed or the place where the historic event occurred." The Floyd B. Olson Statue occupied the median of Olson Memorial Highway and was relocated to its current location along the south side of Olson Memorial Highway in 1984. This fact seems an important- relevant aspect not mentioned in the report.

2. The assessment of physical of impacts to the resource property needs better context and description in order to further understand the determination of effects. A more comprehensive description of existing conditions and conditions after the LRT project is built is needed to inform the assessment as illustrated by the following:

The assessment document (page 38 of the document, rationale section) states that *"Portions of the formal yard in front of the statue, which is an important landscape divider within the site and the statues setting, as well as the formal walk leading to the statue, which is the primary circulation network within the historic property, will be destroyed as a result of the Project's infringement onto the historic property.. These direct physical changes to the designed landscape will also alter important spatial relationships and result in changes to the way the statue is experienced and perceived within both its immediate and larger settings. As a result of these changes, the proposed project will directly diminish the Floyd B. Olson Memorial Statue properties integrity of design, setting, and feeling."*

Under existing conditions an east-west sidewalk runs adjacent to the south side of Olson Highway directly adjacent to the back of curb in the resource property. This sidewalk connects with a formal walk leading to the statue. A "formal yard" between the statue and the sidewalk exists including trees and low shrubs adjacent to the formal walk leading to the statue.
With the LRT project, the sidewalk adjacent to the south side of Olson highway would be relocated further south to allow a 10 foot tree lined boulevard between the roadway and the sidewalk. This would remove an approximate 10 foot segment of the formal walk leading to the statue due to the sidewalk relocation.

The 10 foot tree lined boulevard and relocated sidewalk provides several benefits to the overall Olson Memorial Highway environment which also benefits the Floyd B. Olson Statue resource. The 10 foot boulevard provides an opportunity to replace the resource property landscaping impacted by the sidewalk relocation. The 10 foot boulevard also provides an opportunity for snow storage and separation of pedestrians from Olson Highway traffic and associated road spray in rainy conditions. The relocated sidewalk enhances the safety and comfort of pedestrians on the south side of Olson Highway including visitors accessing the statue.

Based on the above, it is Hennepin County's perspective that the above changes will result in positive effects not captured in the documentation. Specifically, we do not agree with the statement *"…the proposed project will directly diminish the Floyd B. Olson Statue properties integrity of design, setting, and feeling."*

3. The assessment document (Page 38 of the document in the rationale section) states, "*The introduction of Penn Station directly in front of the historic property will also disrupt views and the visual connection between the statue and TH 55, which is an important historic characteristic of the historic property. This will further diminish the historic properties integrity of setting, feeling and association."*

Hennepin County's perspective is that views will be altered in a number of ways and that a more thorough assessment is needed to determine how the various views would be both disrupted and enhanced by the LRT project.

The main view sheds to the Floyd B. Olson are from Olson Memorial Highway including pedestrians from adjacent sidewalks and from vehicles (bicyclists, motorists, transit patrons on buses) traveling along Olson Memorial Highway. People living in residences surrounding the property along Olson Memorial Highway also have views of the statue. Present views from Olson Highway motorists and transit patrons are currently partially obstructed by landscaping (trees). Eastbound Olson Highway travelers have the clearest views of the statue directly adjacent to the roadway. Westbound Olson Highway travelers have a more limited view of the statue looking through existing median trees and across eastbound traffic lanes toward the statue. As westbound motorists approach Penn Avenue their attention is drawn to the Penn Avenue traffic signal which is a practical limitation on the opportunity to view the statue. Pedestrians on the northside of Olson Highway are looking across 6 traffic lanes and a tree lined median toward the statue.

The main view sheds/opportunities with the BLRT project expand to include transit patrons traveling to/from the Penn Avenue station platform along sidewalks, proposed bicycle facilities and while waiting on the station platform for the next light rail train. The station platform will disrupt the view of the statue for westbound motorists and for pedestrians on the north side of Olson Memorial Highway within 300 feet of the Penn Avenue intersection. Many transit riders will be newly exposed to Floyd B. Olson resource viewing opportunities as they pass through the area on LRT. The redesign of Olson Memorial Highway as part of the LRT project is intended to reduce traffic speeds adjacent to the resource, which will increase viewing exposure time for the resource for motorists.

Finally, the existing trees in the median of Olson Highway will be removed to accommodate the LRT guideway, and the design will accommodate trees in the boulevards along the north and south sides of Olson Highway. It is uncertain, at the current level of design, what effects the rearrangement of trees in this area would have on views to the resource. One mitigation strategy might be to maintain and/or enhance the view sheds to the statue through the placement of vertical streetscape elements including trees.

Based on the above, Hennepin County questions whether enough assessment has been done to determine whether, in aggregate, views of the statue will be disrupted or enhanced by the LRT project.

4. The assessment references (page 38 under rationale) station area planning studies and states, *"The redevelopment of the historic property would destroy the immediate setting of the historic property and severely alter, or sever its critical visual connection with TH 55, which is an important aspect of its integrity of association. The redevelopment of the adjacent property would further diminish the visual connection and, as a result, its association with TH 55."*

Hennepin County's perspective is that the relevance of the station area plans presented in the assessment is overstated. While it is agreed that redevelopment ideas from the station area plans in and around the historic property could cause impacts to the historic resource, the purpose of the station area plans are to develop a vision for future station area redevelopment based on stakeholder input, and to create illustrative forms and concept sketches for how this redevelopment could come to fruition. There is process ahead which will determine which of the station area plan recommendations move forward at the discretion of each city, accounting for market forces, funding feasibility, and design development efforts.
We do not believe the redevelopment visions identified in the station area plans need to be assessed in better context relative to the BLRT project. While station area plans provide aspirational visions of future redevelopment with inherent speculation, the BLRT project includes detailed concept layouts and environmental study advancing through project development.

Thank you for the opportunity to provide input on the Section 106 Assessment and determination of effects for the BLRT project. While Hennepin County acknowledges that the adverse assessment findings are final as part of the Section 106 process, we request that a deeper discussion of effects and a thorough consideration of design features be included in the next step of the process (resolution of adverse effects).

Sincerely,

Brent Rusco

Brent Rusco, PE
Senior Project Manager
Hennepin County Community Works
METRO Blue Line Extension Project Office

Minneapolis
City of Lakes

Community Planning and Economic Development
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TEL 612.673.5009
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February 19, 2016

Greg Mathis
Minnesota Department of Transportation - Cultural Resources Unit
Office of Environmental Services
Mail Stop 620
395 John Ireland Boulevard
St. Paul, MN 55155

RE: Blue Line Extension Project (formerly Bottineau Light Rail Transit), Hennepin County; Minnesota; Final Determination of Effects (SHPO#2011-3773)

Dear Mr. Mathis,

Thank you for providing the FTA letter dated January 20, 2016, supporting materials, and the consultation meeting on February 4, 2016. The City of Minneapolis CPED-Long Range Planning Division submits the following comments on behalf the Minneapolis HPC, a consulting party to the Section 106 review.

CPED-Long Range Planning comments on the final determinations of effect are organized in a manner consistent with the organization presented in the January 20, 2016 FTA correspondence, the consultation meeting, and the *Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties (January 2016)* report.

CPED-Long Range Planning agrees with the identification of no adverse effect for the following properties:

- Minneapolis Warehouse Historic District (HE-MPC-0441)
- St. Paul Minneapolis & Manitoba Railway Historic District (XX-RRD-010)
- Northwestern Knitting Company Factory (HE-MPC-8125)

CPED-Long Range Planning agrees with the identification of no adverse effect, with implementation of the proposed measures in the MOA, for the following properties:

- Sumner Branch Library (HE-MPC-8081)
- Labor Lyceum (HE-MPC-7553)

CPED-Long Range Planning agrees with the identification of potential adverse effect for the following properties:

- Osseo Branch of the St. Paul Minneapolis & Manitoba Railway Historic District (HE-RRD-002; HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389)
- Grand Rounds Historic District: Theodore Wirth Segment (XX-PRK-0001)
- Homewood Historic District (HE-MPC-12101)

Wayman A.M.E. Church: CPED-Long Range Planning agrees with the identification of potential adverse effects for the Wayman A.M.E. Church (HE-MPC-8290), but does not agree entirely with the reasons provided for the cause of the adverse effect. While we agree that close proximity to an LRT station can cause development pressure on adjacent properties, we do not agree that the draft station area planning calls for an upzoning of the area. The current site has R4 Multi-family Residential and R5 Multi-family

Residential zoning that currently allows four-story buildings and higher with a Conditional Use Permit. The draft small area plan does envision that mixed-use commercial could be allowed, and that buildings taller than five stories could be allowed, but it does not show the Wayman A.M.E. Church as a site to be redeveloped on the Redevelopment Opportunity Map. Further, the plan lists the site as a historic property and calls for development near historic resources "to avoid or sensitively incorporate the existing historic resources." Finally, it should be noted that the Wayman A.M.E Church is listed as a Potential Historic Resource in the *Historic Resources in the Central Core Historic Resources Inventory* done for the City of Minneapolis in 2011. As such, any proposed demolition would trigger a demolition of historic resource applications and review by the Commission. With those things in mind, we will incorporate clarifications to the language in the draft small area plan. Likewise, we will consider a possible listing or designation of the property.

CPED-Long Range Planning does not agree with the identification of adverse effects for the Floyd B. Olson Memorial Statue (HE-MPC-9013):

While we concur that the statue might be eligible for the NRHP because it is a work of the master sculptor Carlo Brioschi, we do not concur that its eligibility is based on its current location. As you are aware, the statue is not now in its original location. Therefore, the current setting is not a defining characteristic of its eligibility as is presumed in in the *Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties* (final effects report). The *Phase I and II Architectural History Survey for the Bottineau Transitway Project, Vol. 1* list the following information:

- The statue was moved from the median of Olson Memorial Highway to its current location in 1984
- It was moved not only south of its current site, but also further east
- The statue, benches, and sidewalks were turned 90 degrees from their original orientation
- The original rectilinear plaza that surrounded the statue has been replaced by a larger circular plaza in the new location.
- The new setting along the side of the road, backed by houses of the adjoining neighborhood, is quite different than the original setting in the highway median

A location along Olson Memorial Highway can be considered an environment compatible with the historic location of the statue, under Criteria Consideration B: Moved Properties, but this criteria does not require that the current site is the *only* location along the highway that would be appropriate. The final effects report and architectural survey do not provide any information, drawing, establishment, or action creating a park, park boundaries, or a specific design for the area around the statue during or since the time when the statue was moved from the median.

With regards to the relationship of the statue to the adjacent sidewalk, the final effects report states that there will be an adverse effect from the incorporation of a portion of the property's formal front yard. First and foremost, we believe that there can be no adverse effect about the relationship of the statue to the sidewalk because the statue is *not* in its original location. More specifically, there will be no adverse effect from this incorporation due to the minimal reduction in the yard in front of the statue. After construction there will still be yard in front of the statue that will only be reduced by approximately two feet. Currently, the public sidewalk along the south side of Olson Memorial Highway increases to double its width along its length in front of the statue. The proposed sidewalk with a tree boulevard, as shown in the Municipal Consent Plans, is in almost exactly the same location as the wide portion of the public sidewalk that is present today. Therefore, there will be no difference in the way one experiences or perceives the statue or the landscape setting from the public sidewalk or any other location.

The final effects report states that there will be an adverse effect from the incorporation of the walk leading to the statue. We believe that there can be no adverse effect about the relationship of the statue to the sidewalk leading to the statue because the statue is *not* in its original location. Currently, the public sidewalk along the south side of Olson Memorial Highway increases to double its width along its length in front of the statue. The proposed public sidewalk with a tree boulevard, as shown in the Municipal Consent Plans, is in almost exactly the same location as the wide portion of the public sidewalk that is present

today. The walkway from the proposed public sidewalk to the statue will have the same orientation toward the statue, but will connect to the public sidewalk two feet closer than it does now. Therefore, there will be no difference in the way one experiences or perceives the statue or change to the circulation pattern from the public sidewalk or within the site.

Keeping a wider perspective here is important. The purpose and need statement of the BLRT project includes the goal "to effectively address long-term regional transit mobility and local accessibility needs." North Minneapolis has a large transit dependent population and many zero-car households that require safe pedestrian-friendly access to LRT stations and the associated connecting bus routes and ABRT stations, which are also located at the intersection of Penn Avenue North and Olson Memorial Highway. The station area planning process undertaken by Hennepin County and the City of Minneapolis identified pedestrian access as one of the resident's most important priorities. Locating the public sidewalk in the area shown on the Municipal Consent plans furthers the above noted project goals, does not have any adverse effect on the area surrounding the statue, and cannot reasonably be considered to have any noticeable difference from the current configuration.

Sincerely,

James Voll

Jim Voll
Principal City Planner, AICP, LEED AP
City of Minneapolis- CPED-Long Range Planning
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Phone: (612) 673-3887
james.voll@minneapolismn.gov

cc: Sarah Beimers, MN SHPO (via email)
Jack Byers, CPED-Long Range Planning (via email)
Jenifer Hager, City of Minneapolis Public Works (via email)

city of golden valley
7800 Golden Valley Road
Golden Valley, MN 55427

February 19, 2016

Greg Mathis
Office of Environmental Services, Cultural Resources Unit
Minnesota Department of Transportation
395 John Ireland Blvd, Mail Stop 620
St. Paul, MN 55416
greg.mathis@state.mn.us

Mr. Mathis,

City Staff has received and reviewed the information provided with your letter addressed to Ms. Beimers on January 20, 2016. As a consulting party, City of Golden Valley Staff has prepared the following comments regarding the FTA's finding of effect that the Blue Line Extension Project will have on historic properties in the Area of Potential Effect.

Staff agrees with the determination of effect on all properties identified in the documents provided to the consulting parties on January 20, 2016. Staff has begun brainstorming ways to resolve the adverse effects to the Theodore Wirth Segment of the Grand Rounds Historic District. In preparation for future consultation, staff suggests that the following measures be considered as ways to avoid, minimize, and mitigate noise and visual effects that the Blue Line Extension Project may have in this area:

- Alternative Building Materials used on Vertical Circulation structures at Golden Valley Road and Plymouth Stations (stone or other materials that were often used during the period of historical significance and that complement the natural setting are desired)
- Interpretive Signage and Wayfinding Signage (to acknowledge and share the importance of this historical and cultural resource)
- Rename Plymouth Station to a name that better acknowledges the history of this area (Theodore Wirth Park Station or Wirth Regional Park Station are suggested options)
- Addition of Recreational Facilities and Accommodations to Golden Valley Road and Plymouth Stations (runnels for bicycles and taller elevators that accommodate the height of downhill skis are examples of ways that station design can acknowledge and promote the unique recreational opportunities provided in the area)
- Increased Vegetation near areas where vegetation must be removed for the Blue Line Extension Project

Please let me know if you have any clarifying questions regarding this feedback. We look forward to continued consultation on this subject.

Sincerely,

Emily Goellner

Emily Goellner
Associate Planner/Grant Writer

cc: Sara Beimers, State Historic Preservation Office, Minnesota Historical Society
Kathryn O'Brien, Metropolitan Council
Caroline Miller, Metropolitan Council
Adam Arvidson, Minneapolis Park and Recreation Board
Jim Voll, City of Minneapolis
Brent Rusco, Hennepin County

Minnesota
Historical Society

Using the Power of History to Transform Lives
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STATE HISTORIC PRESERVATION OFFICE

February 22, 2016

Marisol Simon
Federal Transit Administration
200 West Adams Street, Suite 320
Chicago IL 60606-5253

RE: Blue Line LRT Extension Project
Hennepin County, Minnesota
SHPO Number: 2011-3773

Dear Ms. Simon:

Thank you for continuing consultation on the above project. Your agency's final determination of effect for the proposed Federal undertaking has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800, and to the responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

We have completed our review of the following documentation for the undertaking which was prepared pursuant to 36 CFR 800.11(e) and received in our office on 21 January 2016:

- Federal Transit Administration (FTA) letter to Minnesota State Historic Preservation Office (SHPO) dated January 20, 2016;
- Report entitled *Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties* (January 2016);
- Blue Line LRT Extension, Section 106 Process Design Documents;
- Technical Memoranda in regards to traffic/access and noise/vibration impacts to historic properties;
- Station Area Planning Documents for Plymouth Avenue, Golden Valley Road, Van White Boulevard, Penn Avenue, and Robbinsdale stations;
- Meeting notes from 7/10/15 and 7/16/15 Section 106 Consultation Meetings.

We also participated in the Section 106 Consultation meeting which was held at the Blue Line Project Office on 2/4/2016.

We concur with your agency's determination that the undertaking, as currently proposed and presented at the approximately 15% design stage, will have **no adverse effect** on the following historic properties:

- **Minneapolis Warehouse Historic District** (HE-MPC-0441), Minneapolis
- **St. Paul Minneapolis & Manitoba Railroad/Great Northern Railway Historic District** (XX-RRD-010), Minneapolis
- **Northwestern Knitting Company Factory** (HE-MPC-8125), Minneapolis
- **Bridge No. L9327** (HE-GVC-0050), Golden Valley

- **Jones-Osterhus Barn** (HE-RBC-264), Robbinsdale
- **Minneapolis & Pacific Railway/Soo Line Railway Historic District** (HE-CRC-199), Crystal

We concur with your agency's determination that the undertaking, as currently proposed and presented at the approximately 15% design stage, will have **no adverse effect** on the following historic properties ***provided that appropriate project design and implementation measures, as outlined in the effects assessment report, are developed through additional consultation with our office and consulting parties, and included as conditions in an executed Section 106 agreement document for this undertaking***:

- **Sumner Branch Library** (HE-MPC-8081), Minneapolis
- **Labor Lyceum** (HE-MPC-7553), Minneapolis
- **Sacred Heart Catholic Church** (HE-RBC-1462), Robbinsdale
- **Robbinsdale Waterworks** (HE-RBC-286), Robbinsdale
- **Hennepin County Library, Robbinsdale Branch** (HE-RBC-024), Robbinsdale

In regards to the "no adverse effect" findings above for which we have provided concurrence, if your agency determines that the project will not be carried out as proposed, then your agency will need to reopen Section 106 consultation pursuant to 36 CFR 800.5(a).

We concur with your agency's determination that the undertaking, as currently proposed and presented at the approximately 15% design stage, will have an **adverse effect** on the following historic properties:

- **Wayman A.M.E. Church** (HE-MPC-8290), Minneapolis
- **Floyd B. Olson Memorial Statue** (HE-MPC-9013), Minneapolis
- **Osseo Branch of the St. Paul, Minneapolis & Manitoba Railroad/Great Northern Railway Historic District** (HE-RRD-002, HE-MPC-16389, HE-RBC-0304, HE-CRC-0238, HE-BPC-0084), Minneapolis, Golden Valley, Robbinsdale, Crystal, Brooklyn Park, and Osseo
- **Grand Rounds Historic District (XX-PRK-0001), Theodore Wirth Segment**, Minneapolis, Golden Valley, and Robbinsdale
- **Homewood Residential Historic District** (HE-MPC-12101), Minneapolis
- **West Broadway Avenue Residential Historic District** (HE-RBC-159), Robbinsdale

We look forward to continuing consultation as we work with the FTA and consulting parties to develop a Section 106 Memorandum of Agreement for this undertaking. This agreement document will need to outline measures to resolve adverse effects through effective and publicly beneficial mitigation, as well as integrate measures for avoidance and minimization of adverse effects. In the meantime, if you have any questions or concerns regarding this comment letter, please feel free to contact me at 651-259-3456 or sarah.beimers@mnhs.org.

Sincerely,

Sarah J. Beimers

Sarah Beimers, Manager
Government Programs & Compliance

U.S. Department
of Transportation
Federal Transit Administration

REGION V
Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

200 West Adams Street
Suite 320
Chicago, IL 60606-5253
312-353-2789
312-886-0351 (fax)

February 29, 2016

Reid Nelson, Director
Office of Agency Programs
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue NW, Suite 803
Washington, D.C. 20004

RE: Notice of Adverse Effect for the METRO Blue Line Extension Light Rail Transit Project, Hennepin County, Minnesota and Invitation to Participate in Section 106 Consultation

Dear Mr. Nelson:

We are writing to invite the Advisory Council on Historic Preservation to participate in Section 106 consultation related to the proposed METRO Blue Line Extension Light Rail Transit Project (Project), located in Hennepin County, Minnesota. The project will provide transit connections between downtown Minneapolis and activity centers in Hennepin County, including the cities of Maple Grove, Brooklyn Park, Crystal, Robbinsdale, and Golden Valley. FTA is the lead Federal agency and the Metropolitan Council is the local lead agency and Project sponsor.

Subsequent to Section 106 initiation in 2011, FTA conducted consultation for the proposed Project with the various consulting parties, including the Minnesota Historic Preservation Office (MnHPO). FTA made determinations as to the Area of Potential Effect (APE) and associated properties on or eligible for the National Register of Historic Places (NRHP). FTA has also determined that the undertaking will have adverse effects on historic properties pursuant to 36 C.F.R. § 800.5. FTA and the MnHPO will prepare a Memorandum of Agreement (MOA) to address these adverse effects pursuant to 36 C.F.R. § 800.6. Background information on the proposed Project, historic properties, and potential effects is included in the attached ACHP e106 Form and other supporting documentation provided for your review.

With this letter, FTA would like to extend the ACHP an opportunity to participate in the Section 106 process for the proposed Project, including development of the MOA pursuant to 36 C.F.R. § 800.6(a)(1). Your input will help us ensure associated effects on historic resources are given due consideration as the Project progresses. Please contact Reggie Arkell, Community Planner, at (312) 886-3704 or reginald.arkell@dot.gov if you have any questions. Thank you.

Sincerely,

Marisol R. Simón
Regional Administrator

RE: Notice of Adverse Effect for the Bottineau Light Rail Transit Project, Hennepin County, Minnesota and Invitation to Participate in Section 106 Consultation

Enclosures

ec: Kathryn O'Brien, Metropolitan Council
Kristen Zschomler, Minnesota Department of Transportation Cultural Resources Unit
Craig Lamothe, Metropolitan Council
Reggie Arkell, Federal Transit Administration

Minnesota Department of Transportation

Office of Environmental Services
Mail Stop 620
395 John Ireland Boulevard

Office Tel: (651) 366-4291
Fax: (651) 366-3603
renee.barnes@state.mn.us

March 10, 2016

Ms. Sarah Beimers, Manager Government, Programs & Compliance
Historic Preservation Office, Minnesota Historical Society
345 Kellogg Blvd. W., St. Paul, MN 55102

RE: Reevaluation of the Boundaries for the Floyd B. Olson Memorial Statue, TH 55, Minneapolis, Hennepin County

Dear Ms. Beimers,

As per our delegation of authority to determine eligibility of properties on behalf of FHWA under the terms of the 2015 Programmatic Agreement, we are conducting this review as per 36 CFR 800.4(c)(1) – (reevaluation of properties previously determined eligible).

The Floyd B. Olson Memorial Statue (HE-MPC-9013) was previously determined eligible by our office in 1998 under Criterion C for Design Significance within the Roadside Development on Minnesota Trunk Highways, 1920-1960, and your office concurred. The original site plans for the property were recently found providing new information on the design intent of the original setting for the statue, so a reevaluation is warranted.

The Floyd B. Olson Memorial Statue was erected in 1940, three years after Trunk Highway (T.H.) 55 was designated as Floyd B. Olson Memorial Highway, after Minnesota's 22nd governor. The statue was designed and executed by Carl Brioschi (senior designer), A. (Amerigo) J. Brioschi, and L. R. Kirchner. The statue was originally located within an elaborately designed site within the TH 55 median between opposing traffic lanes (see attached plan). The site consisted of a long sidewalk edged with low shrubs (Alpine currants) beginning at Oliver Avenue North and extending east to roughly the middle of the block. A semi- rectangular plaza area was located in the middle of the block, and was also lined with shrubs. The statue was located on the plaza atop a plinth facing east. There are no benches indicated on the site plan; however, a (very small) photograph from presumably the 1940s shows a bench on the south side of the plaza. It is further presumed that there was a matching bench to the north, but the shrubs in the photograph block that area. The bench in the photograph matches the extant benches, so it is assumed that these were on the original site and were moved along with the statue. Behind the statue were 10 plantings of Red Cedar, and American Elms were spaced along the edges of the roadway along both sides of the full block (see enclosed aerial showing original plans, original plan details, and photograph). In all, the original site design consisted of a long, formal walkway oriented east-west, edged by vegetation, creating a passageway to the statue, which is somewhat buffered from the highway through the stand of trees to the west.

Due of widening of TH 55 from four to six lanes in 1984, the statue was moved to the south side of TH 55 to the southeast corner of the intersection of Penn Avenue North and Olson Memorial Highway (see map). The orientation of the statue was switched to face north, and the walkways were severely truncated into small narrow connections on the east and north. The statue was placed on a circular plaza, and was lined with low shrubs. There is no formal landscaping on the remainder of the property.

Gemini Research surveyed the site as part of their 1998 "Historic Roadside Development Structures on Minnesota Trunk Highways." During this survey the statue was recommended eligible for listing in the National Register of Historic Places (NRHP) under Criterion C. The statue was recommended as significant as one Twin City sculptor's earliest and most important works. The property was evaluated under the historic context "Roadside Development on Minnesota Trunk Highways, 1920-1960."

Based on the 1998 survey, in 2004, the site boundaries were recommended as: "The northern boundary of the National Register-eligible property follows the southern curbline of TH 55 (Olson Memorial Highway). The western boundary follows the eastern curbline of Penn Avenue. The southern boundary follows the northern edge of the alley immediately south of the statue. The eastern

boundary is aligned with the western edge of the north sidewalk that is located about 110' east of the statute (near the eastern side of Oliver Avenue), as shown." (see enclosed Site Boundary document.) The justification for this boundary is that it "generally includes the parcel of land historically associated with the memorial park." This is inaccurate, since the form also acknowledges that the property was moved in 1984; therefore, the boundaries cannot represent the land historically associated with the memorial park. It may have been believed that the relocated site matched the original design, and that perhaps it could be considered part of the historic boundary if it was an exact or very close replica. However, based on the recently identified site plans from the 1940s and supporting photographs, it is clear that the new setting for the statue does not match the original. The site therefore does not retain integrity of location, design, setting, materials, workmanship, feeling and association.

Therefore it is the determination of our office that the boundaries as presented in 2004 are not appropriate. The statue is significant under Criterion C and Criteria Consideration B for its association with Carl Brioschi, the sculptor; however, the statue should no longer be associated with the historic context "Roadside Development on Minnesota Trunk Highways, 1920-1960,"since the original roadside development site is no longer extant in the median of TH 55. In addition, there was no effort in 1984 to recreate the original site plan and the 1984 site is far different in size, shape and materials than the original plan. The revised boundaries should therefore be limited to the extant historic materials – the statue and the base on which it sits (please see the enclosed revised boundaries). The benches appear to have been original historic fabric to the original site; however, they do not meet Criteria Consideration B for a moved property since they have been placed in an inappropriate site that does not convey the original design intent.

We are respectively requesting a two week turn-around for your concurrence and/or comments. Please reply by March 24, please let me know if you have any questions prior to this date. If you have questions or concern, I would welcome the opportunity to discuss directly with you, so please call me at 651.366.4291.

Sincerely,

Renée Hutter Barnes

Renée Barnes, Historian
Cultural Resources Unit

Enclosures

cc: Kristen Zschomler, MnDOT CRU
Greg Mathis, MnDOT CRU
Kathryn McFadden, MnDOT Site Development Unit

Floyd B. Olson Memorial Statue National Register Boundaries



DATE: 3/10/2016

MINNESOTA DEPARTMENT OF TRANSPORTATION

CULTURAL RESOURCES UNIT

Legend

- BLRT Track Alignment
- BLRT Civil Site
- 2004 Recommended Boundary
- BLRT Survey Topography
- Original Monument Site
- Revised NRHP Boundaries

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Feet

Preserving America's Heritage

March 15, 2016

Mr. Reggie Arkell, AICP
Community Planner
Federal Transit Administration-Region V
200 West Adams Street, Suite 320
Chicago, IL 60606

Ref: *Proposed METRO Blue Line Extension Light Rail Transit Project*
Hennepin County, Minnesota

Dear Mr. Arkell:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Minnesota State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Christopher Wilson at 202-517-0229 or via e-mail at cwilson@achp.gov.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

Minnesota
Historical Society

MINNESOTA HISTORIC PRESERVATION OFFICE

Using the Power of History to Transform Lives
PRESERVING > SHARING > CONNECTING

March 28, 2016

Ms. Renee Hutter Barnes
MnDOT Cultural Resources Unit
Office of Environmental Services
Transportation Building, MS 620
395 John Ireland Blvd
St. Paul, MN 55155

RE: Reevaluation of the Boundaries for the Floyd B. Olson Memorial Statue
Minneapolis, Hennepin County
SHPO Number: 2016-1861

Dear Ms. Barnes:

Thank you for the opportunity comment on the above project. Information received on 10 March 2016 has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800, and per the terms of the 2005 Programmatic Agreement between the Federal Highway Administration, the Minnesota Department of Transportation and the Minnesota State Historic Preservation Office.

By your letter dated 10 March 2016, you have requested that our office review your agency's reevaluation and determination of the historic property boundary for the **Floyd B. Olson Memorial Statue** (HE-MPC-9013) a property previously determined eligible for listing in the National Register of Historic Places (NRHP). Since the Minnesota Department of Transportation (MnDOT) does not currently have a proposed Federal undertaking which has the potential to affect this historic property at this time, we do not believe reference to 36 CFR 800.4(c)(1) is applicable as these regulations apply to identification of historic properties during the Section 106 review process for a specific undertaking.

Your agency is aware of the fact that this historic property is located within the area of potential effect (APE) for the Bottineau/Blue Line Extension Light Rail Project, a Federal undertaking of the Federal Transit Administration currently under Section 106 review.

We have completed our review of your reevaluation as well as our records for the historic property, records which include two (2) previous evaluations for the historic property:

- The initial identification and evaluation completed by Gemini Research in 1997 as part of the statewide survey which resulted in the report entitled *Historic Roadside Development Structures on Minnesota Trunk Highways* (1998) which resulted in a *Minnesota Historic Roadside Development Structures Inventory Form* (December 1998) with supplemental property boundary maps dated from 2003; and

- An updated architecture-history inventory form completed by the 106 Group in 2012 as part of the cultural resources survey completed for the "Bottineau Transitway" (Blue Line Extension) project.

For clarification, the historic property was recommended as eligible for listing in the NRHP as part of the 1998 statewide survey, and although Gemini Research determined that the statue had been turned to face north, from its original east facing position, they did not realize that the statue had been moved from its original location in the Trunk Highway 55 median. We believe that this is likely why Gemini Research included the entire surrounding park area and plaza in their property boundary delineation.

In 2012, the 106 Group's updated inventory form confirms this initial oversight by Gemini as well as provides clarification regarding the move and a full NRHP evaluation taking into account the statue's significance and move to the south side of the highway in 1984 by MnDOT. From our office's perspective, we feel that the evaluation completed in 2012 is the most comprehensive in terms of the determining the historic property's significance, except for the fact that this evaluation did not specifically address or reconfirm the property's boundaries.

We agree with your agency's determination that the Floyd B. Olson Memorial Statue remains eligible for listing in the National Register of Historic Places under Criterion C in the area of Art, as the work of master sculptor Carlo Brioschi and satisfies Criteria Consideration B: Moved Properties as the current setting and environment are compatible with the statue's monumental significance and the historic location of the statue adjacent to the Olson Memorial Highway/Trunk Highway 55 near Penn Avenue North in Minneapolis. The Period of Significance for the historic property is 1940.

It is important to clarify that the statue is categorized as an *object* per the NRHP guidelines which state that "although it may be, by nature or design, moveable, an object is associated with a specific setting or environment." This is an especially important consideration for the Floyd B. Olson Memorial Statue.

Finally, we agree with your agency's determination of the revised NRHP-eligible property boundaries to include the statue, granite pedestal, and granite terraced base as illustrated on the *Floyd B. Olson Memorial Statue National Register Boundaries* site plan dated 3/10/2016.This smaller boundary is consistent with National Register guidelines for selecting boundaries for this type of property.

Please contact me at 651-259-3456 or sarah.beimers@mnhs.org if you have any questions regarding this comment letter.

Sincerely,

Sarah J. Beimers

Sarah J. Beimers, Manager
Government Programs & Compliance

Appendix H
Section 106 Supporting Materials

H.3 Section 106 Consultation Meeting Notes

1. Proposed BLRT Extension project Section 106 Consultation meeting notes, June 5, 2015
2. Proposed BLRT Extension project Section 106 Consultation meeting notes, July 10, 2015
3. Proposed BLRT Extension project Section 106 Consultation meeting notes, July 16, 2015
4. Proposed BLRT Extension project Section 106 Consultation meeting notes, February 4, 2016
5. Proposed BLRT Extension project Section 106 Consultation meeting notes, March 10, 2016
6. Proposed BLRT Extension project Section 106 Consultation meeting notes, March 24, 2016

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Meeting Notes

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Section 106 Consultation – Meeting No. # 1

Date: June 5, 2015 **Time:** 9:00am **Duration:** 1.5 hours

Location: Blue Line Project Office (BPO) - 5514 West Broadway Avenue, Suite 200, Crystal, MN 55428

Conference Room 2

Meeting called by:

Greg Mathis – MnDOT CRU

Attendees:

SHPO: Sarah Beimers
USACE: Melissa Jenny
Hennepin County: Dave Jaeger
City of Brooklyn Park Todd Larson
City of Golden Valley: Emily Goellner
Minneapolis Park & Recreation Board: Adam Arvidson
City of Robbinsdale: Marcia Glick
Metro Transit, BPO: Kathryn O'Brien, Caroline Miller, Scott Reed, Janet Kennison, Jenny Bring, Tom Harrington, Sophia Ginis, David Davies, Miranda Adams

Discussion Notes

1) Welcome and Introductions

Kathryn O'Brien, BPO Assistant Director, welcomed consulting parties and explained that the Blue Line LRT Extension Project (BLRT) has transitioned to a point in the planning process where discussion is needed around impacts to historic properties from design of the Project.

2) Section 106 Process

Greg Mathis, Minnesota Department of Transportation Cultural Resources Unit (MnDOT CRU explained that this is the first of several meetings related to the Section 106 process for the Project. The emphasis of the meeting today is on the Section 106 process, the findings published in the March 2014 Draft Environmental Impact Statement (Draft EIS) on what impacts the Project could potentially have to historic properties, and the process moving forward. Greg then led participants through the basics of the Section 106 process:

- Section 106 of the National Historic Preservation Act of 1966 requires Federal agencies to take into account the effects of their "undertakings" on historic properties. An undertaking can be something the agency is funding, permitting, or constructing on its own.
- The process is independent from, but completed in coordination with, the National Environmental Policy Act (NEPA) and Section 4(f) of the Department of Transportation Act. Discussions at these consultation meetings will inform what goes into the NEPA and Section 4(f) documentation.

Greg explained some of the terminology used in the Section 106 process, including and clarified certain points associated with each:

- Area of Potential Effect (APE) – The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.
- Historic property – Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP).
    - Properties that are eligible for listing on the National Register of Historic Places (but not yet listed on it) are given equal consideration to already-listed properties during the Section 106 process and review.
- National Register of Historic Places – The Nation's official list of properties worthy of preservation
- Integrity – The ability of a property to convey its significance
- Effect – Alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP.
    - Effects are assessed differently depending on which type of historic property is being impacted – impacts to archaeological resources are generally considered adverse only if direct, while direct and indirect impacts to historic structures can be considered adverse.
    - It is important to note that not all effects are adverse. Whether an effect rises to the level of being adverse depends on why a property is significant. For example, noise may not be as big of an impact to a structure eligible for its architecture while it could have a larger effect to a building used for meditation.

Greg and Kathryn then briefly explained the Section 106 process and the status of each step for the project:

- Initiate the 106 Process – Completed in 2011.
- Identify Historic Properties – Completed in 2014.
- Assess Adverse Effects – The assessment of adverse effects will be ongoing through 2015.
- Resolve Adverse Effects – If any adverse effects are identified, consultation would continue into early 2016 and avoidance, minimization, and/or mitigation measures, would be documented in the Section 106 agreement, a legally binding agreement. Kathryn noted that Federal Transit Administration (FTA) takes those obligations seriously and asks for regular updates on meeting mitigation stipulations in agreement documents.

a) Consulting party roles and responsibilities

Greg then explained the roles and responsibilities of the various parties in the Section 106 process including:

- FTA is the lead Federal agency responsible for meeting the requirements of Section 106. The U.S. Army Corps of Engineers (USACE) – from whom the Project requires a permit – has deferred to FTA as the lead federal agency pursuant to Section 106. If there is a Section 106 agreement, USACE will be a signatory.
- MnDOT CRU has been delegated authority by FTA to act on its behalf for portions of the Section 106 process, including defining the APE and assessing whether historic properties are subject to potential adverse effects.

- The Advisory Council on Historic Preservation (ACHP) oversees the work of Federal agencies in carrying out their responsibilities under Section 106.
- The Minnesota State Historic Preservation Office (SHPO) is a key partner, representing the state's interests in consulting with Federal agencies about the effect of their undertakings on historic properties.
- Indian Tribes and Tribal Historic Preservation Offices (THPOs) are another key partner, and consultation has been initiated with the appropriate Tribes.
- The Metropolitan Council is the local project sponsor and Federal grantee, responsible for certain parts of the Section 106 process including implementation of mitigation measures.
- Other consulting parties provide input to FTA and MnDOT CRU during consultation regarding effects. They have the option to sign a Section 106 agreement but no responsibility for its implementation. They include:
- Local governments
- Minneapolis Park and Recreation Board (MPRB)
- Heritage preservation commissions (HPCs)
- Other parties with a demonstrated interest in the Project's effects on historic properties.

In addition, the public has opportunities to comment during the Section 106 process. Open houses took place on May 28, 2015 in Crystal and June 4, 2015 in Minneapolis, and two more are upcoming on June 11, 2015 in Robbinsdale and June 17, 2015 in Brooklyn Park. There will be additional opportunities to comment prior to the publication of the Final EIS in April/May 2016. Kathryn and BPO Environmental Consultant Project Manager Scott Reed clarified that under Federal Highway Administration MAP-21 guidance, the Final EIS is released together with the Record of Decision (ROD), so the Section 106 effects determinations and agreement measures would be concluded and released for comment earlier to inform finalizing the documentation prior to issuing the joint Final EIS/ROD. A similar process is required for the Section 4(f) evaluation and USACE Section 404 permitting.

b) NRHP Criteria for eligibility and assessing effects

Greg explained the process and criteria used to evaluate properties for the NRHP. A property must meet at least one of four criteria:

- Criterion A – association with significant events, activities, or broad patterns of history.
- Criterion B – association with a significant person.
  - Criterion C – characteristic of a type, period, or method of construction; represent the work of a master; or have high artistic value.
- There are several Criterion C properties in the Project's APE.
- Criterion D – have the potential to yield important information about the past.
  - These are typically archaeological sites, and there are none identified within the APE.

Greg explained that a property must be at least 50 years, unless it possesses exceptional significance. In addition to possessing significance, a property must also retain sufficient integrity to convey its significance. Seven aspects of integrity that must be considered:

- Location: The place where the historic property was constructed or the place where the historic event occurred.
  - Relevant to this process because two properties within the APE have been moved from their original location – Labor Lyceum and the Floyd Olson Statue.

- Design: The combination of elements that create the form, plan, space, structure, and style of a property.
    - This aspect is particularly important for properties of architecture significance.
- Setting: The physical environment of a historic property.
- Materials: The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- Workmanship: The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- Feeling: A property's expression of the aesthetic or historic sense of a particular period of time.
    - This is more intrinsic and builds upon all the other aspects of integrity to determine if the property conveys what it was historically.
- Association: The direct link between an important historic event or person and a historic property.
    - This is also based on all other aspects, which combine to contribute to this aspect.

c) Section 106 and Overall Project Schedule

Greg oriented participants to where Section 106 fits within the overall project schedule. The process of assessing adverse effects will involve consultation meetings likely once or twice a month until December, and final determinations of effect will probably be made later this year. If any adverse effects are identified, these meetings would be used to move to resolve those effects. If analysis indicates there may be the potential for adverse effects, then the process for resolving the adverse effects would likely start later this summer/early fall.

Kathryn added that many of the consulting parties are already very informed through their involvement in the Issues Resolution Team (IRT) process and through following the evolution of the design. She highlighted that this process offers an opportunity to start focusing on historic properties and the Project's effects on those properties.

Greg explained that the next meeting will get into more detail on Project effects on individual properties. Kathryn presented the overall project timeline, noting that the environmental process is scheduled to conclude in August 2016, and Kathryn pointed out that while the seven-year overall timeline between project development and passenger operations is tight, it was done for the Green Line (Central Corridor) LRT.

3) Draft EIS Findings

Greg shared that the Draft EIS identified 14 historic properties within the APE; no archaeological resources were identified. He then provided further detail about how determinations of effects are made. The type of significance and integrity of a historic property are considered, as are both indirect (e.g., noise, vibration, visual) and direct (e.g., property alterations/acquisitions) effects, and both temporary and permanent effects. FTA makes the final determination of effect on historic properties. Greg clarified that just because there may be an effect, it may not be adverse.

4) BLRT Section 106 Consultation Meetings

The BLRT Section 106 Consultation meetings discussion was covered in items 2c and 6a.

5) Final EIS Project and Historic Properties Overview

Greg gave an overview of historic properties within the APE, presenting them roughly east to west along the project corridor:

- Minneapolis – Historic Properties
  - Minneapolis Warehouse Historic District (HD)
  - St. Paul Minneapolis & Manitoba Railway (Rwy.) HD
  - Northwestern Knitting Company (International Market Square building)
  - Sumner Branch Library
  - Wayman A.M.E. Church
  - Labor Lyceum
  - Floyd B. Olson Memorial Statue
  - Homewood HD
  - Osseo Branch of the St. Paul Minneapolis & Manitoba Rwy. HD
  - Grand Rounds HD – Theodore Wirth Segment
    - Adam Arvidson, Minneapolis Park and Recreation Board (MPRB) asked if the Chalet is part of the historic district or considered on its own. Greg responded that the entire Grand Rounds have been surveyed independently from this Project and found to be eligible, so it was accepted that the district is eligible and the Project did not look into individual eligibility of the resources within the district. He clarified that the Bridge L9327 is called out separately because it was previously determined to be individually eligible. Sarah Beimers from SHPO clarified that because they are in the district, they are eligible as part of the district, so it is not necessary to go to that extra level of analysis at the individual resource level.
    - Emily Goellner, City of Golden Valley, asked if all of Theodore Wirth Park is part of the GRHD, and Greg confirmed it is. Kathryn mentioned that a study is being conducted to respond to some comments received related to Theodore Wirth Park, specifically looking at critical viewsheds and identifying park resources within them. It will be shared later this summer.
- Golden Valley – Historic Properties
  - Grand Rounds HD – Theodore Wirth Segment
  - Osseo Branch of the St. Paul Minneapolis & Manitoba Rwy. HD
- Robbinsdale – Historic Properties
  - Sacred Heart Catholic Church
  - Robbinsdale Waterworks
  - Hennepin County Library, Robbinsdale Branch
  - Marcia Glick, City of Robbinsdale, noted that the library is currently an art gallery/museum and is NRHP listed.
  - West Broadway Residential HD
  - Marcia asked what this is and where it is located. Greg responded that it is a group of residences, generally extending along West Broadway, from just north of downtown Robbinsdale to Highway 100. He noted that the location is illustrated in the second to last page of the handout.
  - Jones-Osterhus Barn

  - Marcia added that this is now a printing company. She also indicated that the Osterhus family still owns it.
  - Osseo Branch, St. Paul Minneapolis & Manitoba Rwy. HD
- Crystal – Historic Properties
  - Osseo Branch of the St. Paul Minneapolis & Manitoba Rwy. HD
- Brooklyn Park – Historic Properties
  - Osseo Branch of the St. Paul Minneapolis & Manitoba Rwy. HD
    - Kathryn/Scott clarified that a small portion of the Osseo Branch in Brooklyn Park is within the project APE.

A flyover video of the project corridor from east to west was shown. Greg identified historic properties along the line and their significance and Tom Harrington, BPO, provided a summary of project elements at key locations including those that may impact historic properties are located.

- Minneapolis Warehouse HD – Greg explained that effects of the project on this district are not being evaluated as part of this project because effects from combined LRT projects were examined under the Interchange Project. Tom indicated that at the Target Station the other currently active light rail project, Southwest Light Rail Transit, will stay up high over 7th Street and then land at grade at the Royalston Station. The BLRT project drops down from Target Field Station and crosses Olson Memorial Highway/7th Street intersection at grade. Kathryn shared that there have been many discussions with MnDOT regarding the daunting pedestrian at-grade crossings. Tom added that along Olson Memorial the LRT will be center running.

- Northwestern Knitting Company – Located (275 Market St) a couple of blocks near 7th Street. No effects are expected to this property.

- Sumner Branch Library – Eligible under Criterion A (611 Emerson Ave N) and is located in the northwest corner of the intersection at Emerson. Van White Station center platform will be on the east side of intersection with a train running down the center of Olson Memorial Highway – the goal is to not significantly change the existing look. The Limits of Disturbance (LOD) do not go much beyond the existing footprint of the present highway and definitely not outside the Right of Way (ROW), which includes the sidewalks and frontage roads in front of the library.

- Wayman A.M.E Church – Eligible under Criterion C (1221 7th Ave N), the mid-century modern church has a “witches hat” spire, and the property includes only the circular church in the center, not the surrounding structures. There are modified five and six lane concepts for this area, possibly involving two lanes westbound and three lanes eastbound (as today). In the six-lane concept would be converted to LRT use, but generally remain in the same location. With the six lane concept, there would be some level of impact to the frontage road in front of the church that is currently used for church parking. With the modified five lane concept, it may be possible to avoid impacting the parking. Improvements would still be within existing ROW and the Project will work to preserve as much as possible and limit impacts to within existing ROW throughout Olson Memorial Highway.

Labor Lyceum –Eligible under Criterion A (1800 Olson Memorial Highway) for its association with the Jewish community in Minneapolis. The existing ROW includes the two frontage roads, and the LOD would stay relatively the same as the ROW limit, though some sidewalks may be rebuilt.

- Floyd B. Olson Statue – Eligible under Criteria C and B (TH 55 at Penn Avenue North), and was originally in the median of the highway but was moved and the setting of the statue was reconstructed in relatively the same way, just turned 90 degrees. The IRT process has focused on a safer road for neighborhood development, what the speeds will be, etc. Through the station area planning process, project stakeholders (primarily the City of Minneapolis and Hennepin County) have evaluated the potential for developing excess property that MnDOT owns around the statue (excess ROW). The City has requested that the area be looked at for potential future redevelopment, though not as part of this project. She also shared that MnDOT ownership of the property has been confirmed. LRT is a catalyst to think about what this station area can become. Sarah Beimers from SHPO asked if the boundaries of the statute were known (e.g. the statute itself, or the plaza surrounding the statute). Greg responded that he did not know off the top of his head but would look into it and follow up.

- The Penn Station, which will be near the statue. It has a center platform, Located on the east side of the intersection, similar to the Van White Station.

- The transition from center running LRT on Olson to running in the BNSF rail corridor will begin set of Penn. To enable this transition to occur, some work will take place on the TH 55 bridges – the westbound bridge will be reconstructed further north to allow the LRT to descend to the rail corridor, although the eastbound bridge will remain.

- Grand Rounds Historic District: Theodore Wirth (segment of Grand Rounds Historic District)
- Bridge L9327 (Theodore Wirth Parkway over Bassett Creek)
- Homewood Historic District (bounded by Penn, Oak Park, Xerxes, and Plymouth Avenues).
- LRT will be constructed along east edge of Theodore Wirth Park in the railroad ROW, with stations at Plymouth and Golden Valley Road. Tom explained the reconstructed rail corridor and the need to move freight. Tom also noted issues related to poor soils and floodplain and wetland impacts BNSF has requested that the BLRT project provide a future access road adjacent to their relocated freight rail track. Kathryn added that the Draft EIS included analysis of an aggregate access road, reconstructed freight, and two lines of LRT. At that time, SHPO found no adverse effects on the rail line (Osseo Branch, St. Paul Minneapolis and Manitoba Railway Historic District), but the Project will continue discussions moving forward to confirm any impacts to the railway historic district.
    - Adam asked if BNSF is truly planning for an access road or another line. Scott explained that the Project will not preclude BNSF from future improvements. Emily Goellner, City of Golden Valley, asked about the turn at Olson and whether it may be a noisier area in the future (e.g. due to wheel squeal on the turn). Kathryn indicated that this is a possibility, and the Draft EIS analyzed that noise issue. The Final EIS will update that analysis and disclose expected noise impacts and mitigation options. Emily also asked about the possibility of increased BNSF traffic, and associated noise impacts. Kathryn responded that the freight line has talked about more trains but that Lance Meister, the noise expert for the Project and author of FTA noise guidance, has

advised that it is better to assume what the conditions are today (quieter) to focus the analysis on what the actual noise increase is from the LRT. If you assume more trains in the future, then the baseline noise is already higher.

- Some of the Xcel Energy overhead transmission lines will need to be relocated.
- At the Plymouth Avenue Station, the Plymouth Avenue Bridge needs to be reconstructed to have fewer columns and wider spans to fit LRT underneath and accommodate trail connectivity, so the project is looking at potentially shifting the creek to the east. The area contains Soo Line and MPRB property, and the station would have an elevator/stairs to get down to station at the tracks. Emily asked about impacts of the vertical circulation to the park, and Greg explained that it is still being looked at and will be part of future discussions. Tom confirmed that visual impacts will be considered as design is moved forward.
- On Theodore Wirth Parkway, the bridge can likely stay, along with the Golden Valley Road bridge. The station on the south side of Golden Valley Road is the only split platform-a configuration proposed to preserve the two existing bridges. The vertical circulation is on the south side of bridge.
- North of the Golden Valley Road station is where BNSF put in fill pre-Clean Water Act. This was a major wetland, and retaining walls would be needed to retain the fill (floodplain impacts). The project is looking at structural options to minimize the floodplain impacts, including whether they could use the bridge to remove embankments as mitigation for floodplain and wetland impacts.
- Adam noted that Theodore Wirth Park ends at Golden Valley Road, but that part of the Grand Rounds Historic District extends to the east. Tom indicated that LRT stays in the east side of the corridor.

- Robbinsdale Waterworks – Eligible under Criterion A (4127 Hubbard Ave N) includes the portion of the property on the north side of the black fence, the period of significance for the property is from 1930, and includes the water tower (part of the WPA work) and storage tanks.
- Sacred Heart Catholic Church – Eligible under Criterion C (4087 West Broadway).
- Hennepin County Library, Robbinsdale Branch Eligible under Criterion A.
- The main effect on these properties is from the Robbinsdale Station. The Draft EIS examined the potential parking ramp, and the project continues to work with the city on park and ride design opportunities.
- Will also need to consider noise for the church and library.
- Marcia asked about the resources to the east of the West Broadway Residential Historic District, and Greg indicated that they were examined and found to be not eligible. Adam clarified that the Hennepin County Library, Robbinsdale Branch (4915 42nd Ave N) is listed, and Kathryn confirmed but reiterated that eligible and listed are considered the same in the Section 106 and effects process. Tom and Kathryn then explained that crossing improvements are happening at every roadway crossing, incorporating better pedestrian crossings, gates, etc. Other options for at-grade crossings are being considered through the design process undertaken by the IRT, but the solution is still being determined for the library location.

- West Broadway Residential District – Abuts the rail corridor up to Highway 100, with the boundary roughly paralleling the alley on the west. There will be noise and visual effects from a retaining wall and other project elements in this area.

- Jones-Osterhus Barn – Eligible under Criterion C since it (4510 Scott Avenue N) is one of first and last of its type. There may be minor visual effects from project elements. Marcia noted that the Osterhus family still owns the barn.
- Minneapolis and Pacific Railway (Soo Line) HD – Crosses the project in Crystal, just north of Corvallis Avenue. Per the DEIS, the Project would be elevated in this location, while the BNSF continues at grade. Emily asked if that meant the LRT would go overhead, and Kathryn said yes, that freight lines will not allow at-grade crossings with LRT for safety reasons. Tom noted that LRT can accommodate steeper grades and lower clearances than freight.
- Osseo Branch Line, St. Paul Minneapolis & Manitoba/ Great Northern Railway HD – Eligible under Criterion A, the historic district is a 13-mile segment from Minneapolis to Osseo. The LRT alignment will extend from TH 55 northwest to Brooklyn Park, where the LRT alignment diverts from the railroad at 73rd Avenue North. The project will be constructing new stations, overhead catenary wires, support poles, lighting, TPSS and light rail vehicles within the historic district.
- 63rd Avenue Station Park and Ride– This is where there is an existing underutilized ramp. It currently accommodates 565 cars and express bus service. The Project team is looking at moving bus operations to 63rd Avenue and building a surface lot to the north, and possibly adding a third level at this ramp depending on the final outcomes of the park and ride projections. This was included in Draft EIS. Janet relayed a request by the City to keep the third level option. The project is considering adding a pedestrian crossing and access to the north end of the platform, similar to the Northstar freight crossings at Ramsey, Coon Rapids and Anoka stations, which are very tall to meet required freight clearances. This was not part of the Draft EIS scope and budget and effects on the NRHP eligible railroad would need to be considered.
- The alignment then leaves the BNSF corridor, crosses over 73rd Avenue and Highway 81 at-grade and becomes center-running on West Broadway. Kathryn concluded by saying that from here to end of the line, there are no historic properties. The remaining stations are on the south side of Brooklyn Boulevard, the south side of 85th Avenue, the south side of 93rd Avenue, and just west of the West Broadway/Oak Grove Parkway intersection. Kathryn noted that the reconstruction of West Broadway Avenue between Candlewood Parkway and 93rd Avenue is a separate project from the BLRT; this roadway reconstruction project has been in Hennepin County's plans since the early 2000s. North of Highway 610, they are looking at options for the Oak Grove Station and an operations and maintenance facility (OMF) on the north end of the line.

6) Schedule Upcoming Meetings

a) Regularly scheduled meetings through Q3 2015

Greg explained that that they are finalizing the schedule for the next meeting, but it will likely be the first week of July (a notice will be sent in the next week or so). Kathryn explained that they will want to set up recurring meetings on everyone's schedule and can cancel if one is not needed. Caroline added that the Project may also be able to focus these meetings by city, and that they will lay out the agenda in advance. Adam weighed in that this would be very helpful.

Kathryn closed the meeting by expressing that she is looking forward to getting good work done together and that meeting notes will be provided to the group.

Meeting Notes

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Section 106 Consultation – Meeting No. 2A

Date: July 10, 2015 **Time:** 12:30pm **Duration:** 2 hours

Location: Blue Line Project Office (BPO) - 5514 West Broadway Avenue, Suite 200, Crystal, MN 55428

Conference Room 2

Meeting called by: Greg Mathis – MnDOT CRU

Invitees:
SHPO: Sarah Beimers
Hennepin County: Dave Jaeger
City of Robbinsdale: Marcia Glick
City of Crystal: John Sutter
Metro Transit, BPO: Kathryn O'Brien, Caroline Miller, Scott Reed, Janet Kennison, Lisa Rasmussen, Jenny Bring, David Davies, Miranda Adams, Parisa Ford, Kelly Wilder
MnDOT CRU: Greg Mathis, Jon Vimr

Discussion Notes

Greg Mathis, MnDOT Cultural Resources Unit (CRU), opened the meeting and led introductions.

- He explained that the first consulting parties meeting on June 5, 2015 introduced the Project and identified historic properties.
- The next steps are to consult on potential Project effects on historic properties in the Area of Potential Effect (APE) and reach agreement on whether different effects have the potential to result in an adverse effect. There are two meetings scheduled for this round of consultation – this meeting and one on July 16, 2015. This meeting covers properties in Crystal and Robbinsdale, while the second meeting will cover properties in Minneapolis, Minneapolis Park and Recreation Board owned property, Golden Valley, and Brooklyn Park including the Grand Rounds Historic District (GRHD). Both meetings include discussions of the Osseo Branch Line and the Theodore Wirth Park Cultural Landscape Study, and consulting parties are welcome to attend both meetings.
- Greg explained that U.S. Department of Transportation MAP-21 legislation calls for an expedited process. The goal of these meetings is to focus on properties where there is the potential for adverse effects, and consult on other properties as needed.

Greg described the meeting packet, which was sent to consulting parties via an emailed link to e-Builder (an on-line document management site being used for communications and transmittal of documents with consulting parties) and printed out for the meeting.

- The cover letter and packet constitute a formal submittal from MnDOT CRU to the State Historic Preservation Office (SHPO) and open a 30-day comment period. Comments can be sent to Greg at the address on the letter.

- Following the cover letter are figures illustrating the Project APE and locations of all historic properties within the APE. The green and black dashed line is the Architecture/History APE, and the red and black dashed line is the Archaeology APE. The Archaeology APE is smaller because it encompasses only the potential for direct effects, while the Architecture/History APE must account for potential indirect effects such as noise and vibration.
- Also included in the packet is a handout explaining National Register of Historic Places criteria for evaluation and aspects of integrity, as well as summary handouts describing potential effects, if any, to each historic property. These summary handouts describe preliminary effects from the Project identified in the Draft Environmental Impact Statement (EIS) and updates based on the Project moving into design during development of the Final EIS. Each historic property is highlighted yellow on the plan sheet map accompanying its respective summary handout.

Kathryn O'Brien, Metro Transit Blue Line Project Office (BPO), introduced Lisa Rasmussen, also with BPO, who attended from the engineering team to assist in describing the current design of the Project. To orient attendees to the location of each historic property and show each property in greater detail, Lisa displayed detailed engineering roll plot maps throughout the discussions.

1) City of Crystal

Greg indicated that the discussion would now shift to a discussion of properties in Crystal.

Soo Line/Canadian Pacific (CP) Railway Historic District (HE-CRC-199)

- Eligible under NRHP Criterion A for its association with the statewide development of railroads and agriculture, it was the primary main line into the western portion of the state.
- The CP rail line currently runs through BNSF freight corridor, and the freight line crosses at grade. As part of the Project, freight will shift to the west side of the existing freight corridor. The freight crossing will shift west but will remain at grade, and LRT will be elevated on a bridge or retaining wall structure as it passes through the crossing.
- Greg explained that the historic district includes the entire right-of-way (ROW), not just the tracks. Since the LRT will clear span over the line, it will not have direct effects to the historic railroad corridor. The at-grade crossing will be shifted 10-15 feet, but it is not anticipated that will have adverse effects to the line's historic character.
- Elements of the LRT, such as the catenary wires, will be visible but only along a small portion of this linear resource and, therefore, the visual character of the corridor will not be adversely impacted.
- The line is not a noise sensitive receptor per FTA's criteria, and the existing freight rail is louder than LRT.
- Greg indicated that they do not anticipate an adverse effect and asked for any feedback. No additional comments were made.

2) Osseo Branch

Osseo Branch Line/Great Northern Railway Historic District (HE-RRD-002)

- Greg explained that the LRT corridor follows approximately eight miles of the Osseo Branch Line, passing through Brooklyn Park, Crystal, Golden Valley, Robbinsdale, and Minneapolis. The entire eligible line is

approximately 13 miles long. It is eligible under NRHP Criterion A for its role in expanding potato farming in northern Hennepin County and for creating a new connection from the region to Minneapolis.

- Greg said that based on preliminary plans in the Draft EIS, the previous SHPO had expressed support for adaptive reuse of the corridor by LRT, rather than using the corridor for a rails-to-trails project, for example.
    - Sarah asked if project plans have changed since SHPO previously reviewed them. Kathryn explained that current project plans are essentially the same as when SHPO previously reviewed them in the Draft EIS, except that the freight rail line is now located next to the LRT line, and the access road is located to the west of the freight rail line (other revisions/updates are discussed in the next section).
- Greg explained that while design has yet to be finalized, various project elements such as overhead lines, new bridges, and corridor protection treatments, which are discussed further in the freight rail update, will be present within the historic district. Noise and vibration will also be present within the district, but the Osseo Line has historically experienced both of these and is not a noise sensitive receptor. In addition, operation of the LRT may spur development in nearby parcels, which could impact the integrity of the rail line.
- Based on the above potential effects, some additional analysis and consultation will be needed on this property.

3) Freight Rail Update

Kathryn began an update on freight rail related to the Project by explaining that as Project development has progressed, BPO has stepped up its coordination with BNSF, which operates in the historic Osseo Branch Line Railway Historic District.

- Lisa explained that BPO has been meeting with BNSF regularly and has received feedback that the railroad intends to own and operate freight trains on the approximate western 50 feet, and that they need to retain the ability to make future freight track or capacity improvements within that western 50 feet. They recommend shifting freight tracks closer to LRT tracks and designing and building an appropriate physical barrier to ensure safe operations.
- Engineering has incorporated changes based on this feedback including moving the access road from between freight and LRT (as proposed in the Draft EIS) to outside the BNSF tracks, so that freight maintenance needs do not conflict with LRT operations. Freight and LRT will each occupy 50 feet of the corridor in all concepts.
- Three “corridor protection treatments” for physically separating freight and LRT in case of derailment or a crash have been proposed, based on the physical character of the corridor.
    - Derailment ditch
    - Crash wall – Likely about six feet tall, although the height is not confirmed.
    - Retained embankment
- Various treatments could be implemented in different parts of the corridor. BPO is currently evaluating where each option will work best and is hoping to get feedback soon from BNSF representatives.
- Electronic intrusion detection devices may also be implemented, similar to those used where the METRO Blue Line (Hiawatha) LRT enters tunnels into Minneapolis/St. Paul International Airport.

Kathryn and Lisa then discussed additional items that have been a part of BPO and BNSF discussions.

- Safety and logistics related to shared freight and LRT crossing have been points of discussion.
- "Pinch points" exist where there is less than 100 feet of ROW available, where the railroad previously sold land. All corridor protection treatments assume having 100 feet available, so unique solutions will have to be developed or land will have to be purchased back.

Kathryn concluded by discussing next steps in the discussions with BNSF.

- BPO and BSNF will continue to coordinate and seek consensus on LRT Project development, and the goal will be to ensure that any proposals are incorporated into the Final EIS.
- Kathryn pointed out that in reality there is little design flexibility, given that railroads generally have strict design and safety requirements.
    - Sarah asked if this means that, if one or more options have an adverse effect, there is no recourse for FTA. Kathryn replied that if the railroad has a safety concern, the opportunity to influence design will be very limited. This is similar to MnDOT finding safety issues with a historic bridge – the safety concerns would likely take precedence over an adverse effect finding.

4) City of Robbinsdale

Greg led a discussion of each historic property within the APE in Robbinsdale.

Jones-Osterhaus Barn (HE-RBC-264)

- The barn is eligible under NRHP Criterion C, in the area of agriculture and architecture, as a rare example of a barn from first period of agricultural development in Minnesota.
- Greg explained that the property line is a half block from the Project limits and that no acquisition or physical alternations have been proposed. In addition, the property is not anticipated to experience vibration from operations. No potential direct effects have been identified.
- BPO is in the process of designing the signalized crossing, which along with the catenary wires may have the potential to cause minor visual effects.
- Greg displayed photos of the property, including a view looking back toward the current railroad tracks, to illustrate that elements visible from the property might include passing trains, catenary poles, and wires. These elements would have only minor visual effects and would be unlikely to adversely affect the property.
- The barn is located in an area of moderate noise impacts but is not noise sensitive, so there is no adverse effect from noise.
    - Kathryn clarified that the Federal Transit Administration (FTA) noise analysis assesses the type of receptor, not just the surrounding geography. So while there may be residences nearby that are noise sensitive, the barn is not.
    - Sarah Beimers, State Historic Preservation Office (SHPO), asked about the barn's current use, and Kathryn and Greg said their understanding is that it is used as storage for the printing business in an adjacent building. Sarah asked if access to the barn would change, and Kathryn explained that there would be no change in the access.
- Marcia Glick, City of Robbinsdale, asked if BPO has spoken with the Osterhaus family. Kathryn said she did not know but would check with others in her office.

- Greg provided a brief recap of the discussion from earlier in the meeting. He indicated that the property is in a noise sensitive zone but is not classified as a noise sensitive receptor, and that MnDOT CRU anticipates no direct effects, minor visual effects, and no adverse effect overall. Therefore, MnDOT CRU and BPO are hoping not to consult further on this property unless there is a change in the project.
    - Marcia asked about any changes to access, and Greg clarified again that access will not change. Marcia also noted that the printing company on the site is now providing garbage stickers to residents free of charge, which the city appreciates.
- Greg asked if anyone else would like to bring up any additional potential effects or if there was general agreement with the assessment that there is no potential for adverse effects. He also welcomed any additional questions. No other comments were received.

West Broadway Avenue Residential Historic District (HE-RBC-158)

- Greg explained that the district is eligible under NRHP Criterion C, in the area of architecture. Project elements will not be built within the boundaries of the district, so they will not physically impact or alter the property. Therefore, it is anticipated that there will be no direct effects.
- Some project elements will be visible, however. The tracks passing nearby will be elevated, so some residences will have views of retaining walls, which Lisa clarified will be an average of 10 feet tall and closer to 17 feet tall closer to the Highway 100 bridge. At Highway 100, freight will stay on the existing bridge structure, and LRT will be built between the freight bridge and the existing West Broadway Avenue bridge.
    - Kathryn asked if Marcia has heard from residents, and Marcia said their biggest concern is that LRT passengers will be looking at them from above, bringing up privacy concerns. Noise and vibration are concerns as well. Marcia asked if LRT will be elevated with a privacy fence along the top of the wall, and Lisa said that level of detail has not yet been discussed in the issues resolution team meetings but that it could be feasible.
    - Sarah asked if a graphic of the elevation is available, and Lisa said there is not yet. Marcia pointed out that it becomes narrower as you approach Highway 100, so there is more of an opportunity for the train to be passing nearly on top of houses, raising greater concerns among residents.
- Greg said that because this resource is a Category 2 noise receptor, additional analysis will be required, as will vibration analysis.
    - Marcia pointed out that some residents use the alleys for access, and the train will be right above the alleys.
- Greg also indicated that potential effects from redevelopment will be assessed.
- Kathryn asked if there are any additional concerns, and Greg explained that this is a property on which MnDOT CRU plans to continue to consult.

Hennepin County Library, Robbinsdale Branch (HE-RBC-024)

- Greg explained that the property is eligible under NRHP Criterion A, in the area of education. Project elements will not physically impact or alter the property since it is across the street from the project, therefore it is anticipated that there will be no direct effects.

- There may be indirect visual effects from overhead wires, support poles, and substations, and the proposed Robbinsdale Station may be visible from the property.
- The property is located within an area that will experience moderate noise impacts and is categorized as a Category 3 noise receptor, so effects will need to be fully analyzed before a final determination can be made.
- Because operation of the BLRT may spur development in nearby parcels, the potential effects of this will need to be examined once economic analysis is available.
    - Marcia indicated that it is helpful that the freight train will now be located farther away from the property (since the freight rail will be located adjacent to the LRT and the access road will be on the west closer to the property), because existing vibration already makes things teeter on the walls in the museum (current use of the library). Lisa said the LRT tracks will move some from their original location but not as much as originally planned, and Marcia said the concern is more with freight moving closer to the outside edge (closer to the property) than LRT moving.

Robbinsdale Waterworks (HE-RBC-286)

- Greg explained that the property is eligible under NRHP Criterion A, for its association with federal relief projects resulting from the Great Depression. More specifically, it is one of the remaining WPA public utility projects in Minnesota.
- While yet to be finalized, Project elements such as overhead wires, support poles, substations, and the proposed Robbinsdale Station may be visible from the property. Consultation will continue on these elements when more information is available, specifically on the park and ride lot.
    - Marcia said it is likely the park and ride lot will be located well away from the property, on the extreme opposite northern edge of the parcel.
- Kathryn asked for any additional concerns, and none were raised.

Sacred Heart Catholic Church (HE-RBC-1462)

- Greg explained that the church building, not including the rest of the property, is eligible under NRHP Criterion C, in the area of architecture. Project elements will not physically impact or alter the property since the project is at least a quarter to half block away; therefore, it is anticipated that there will be no direct effects.
- Project elements such as overhead wires, support poles, substations, and the proposed Robbinsdale Station may be visible from the property, but because it is eligible under Criterion C, these visual effects are not anticipated to be adverse. Proximity to the Robbinsdale Station may spur development in nearby parcels, which could lead to additional effects.
- The property is located within an area that will experience moderate noise impacts and is categorized as a Category 3 noise receptor, so additional analysis will be required before a final determination of effect.
    - Greg emphasized that noise would be primary concern to this historic property, and Kathryn said the noise analysis would likely be done later this summer.
- Marcia pointed out that the Robbinsdale City Council is discussing a potential pedestrian overpass or underpass at 41st Avenue.
    - Kathryn pointed out that there is the potential for a pedestrian overpass/underpass to affect Triangle Park. If so, it would need to undergo a 4(f) evaluation, separate from this process.

- Marcia brought up grade separation, pointing out that if freight stays at grade and LRT goes under or over, it could have impacts to the West Broadway Residential historic district. Greg said that all current assessment is based on the current design, and Marcia pointed out that these are questions to keep in mind in case design changes.
- Lisa indicated that the engineering team had only looked so far at the underpass idea, and Marcia agreed that is likelier because an overpass requires more distance.
- Sarah asked if there is an existing crossing at 42nd Avenue, and Marcia said yes but that they are concerned additional capacity will be needed since the area is already so congested with school buses and other uses. Adding trains could bring circulation to a standstill, so they are looking into grade separation now before it becomes a problem and they are stuck with a configuration.
- Kathryn shared that visioning efforts are underway to discuss incorporating the station into the community, so they are proceeding under the assumption that grade separation is a realistic option. Marcia indicated that certain city council members would give up an at-grade station and put it underground if it means they could get grade separation. Kathryn emphasized that they will need to get to a politically and technically feasible option that will hopefully minimize environmental effects.
- Marcia pointed out that the city has been required to get approval every time it proposes to make improvements because of considerations about the church's design. Sarah explained various funding considerations that could drive why that is.

Greg concluded the agenda item by pointing out that all historic properties are included in the meeting packets but that only the properties in Crystal and Robbinsdale are being discussed today.

5) Overview/Discussion of Theodore Wirth Park Cultural Landscape Study

Kathryn segued into the final agenda item, a cultural landscape study of Theodore Wirth Regional Park (TWRP) undertaken in response to comments from the Minneapolis Park and Recreation Board (MPRB) on the Draft EIS. She explained that the goal of the study is to provide additional information pertaining to the elements of the cultural landscape within the park to inform analysis of effects.

Greg introduced Parisa Ford, Metro Transit BPO consultant team, principal investigator of the study.

- Parisa explained that the purpose of the study is to provide a historic context for the park and document its developmental history, as well as identify viewsheds and vantage points within TWRP where the BLRT project may be visible. The study identifies the physical characteristics to TWRP and, thereby, to the Grand Rounds Historic District (GRHD), and contributing elements within the area of potential effect (APE) and areas where the project may be visible.
- Landscape features were identified through a high-level reconnaissance review across the park, and contributing features were identified through historical research and more intensive field survey within the Architecture/History APE and viewsheds
- TWRP is a contributing element within the Theodore Wirth Segment of the GRHD, which is eligible for the National Register under:
    - Criterion A for Community Planning and Development and Entertainment/Recreation, as a nationally-significant example of late-19th and early-20th century park development.
    - Criterion C for Landscape Architecture, significant for its design and as the work of nationally-significant landscape architect H.W.S. Cleveland and park superintendent Theodore Wirth.

- The GRHD's Period of Significance is 1884 to 1942, but it is currently under review to determine if it should be extended to c. 1975.
    - Kathryn clarified that the possible extension of Period of Significance is a larger effort not related to the BLRT Project.
    - Sarah explained that federal law provides that if such an effort is underway, the extended period should be considered in determining any effects.
- Parisa continued with an overview of the park's developmental history. Land was acquired incrementally from 1889 through 1952, and the original design follows the Country Park model established by Fredrick Law Olmsted and Calvert Vaux.
- Key plans that informed the design and development of TWRP:
    - Wirth's General Plan for the Improvement of Glenwood [Theodore Wirth] Park (1914) laid the overall framework of the park.
    - Eckbo, Dean, Austin and Williams' Minneapolis Parkway System Concepts for the Future (1971) is the next significant planning development, focusing on transportation and circulation and retaining the recreational value of the entire parkway system but making specific recommendations for TWRP. Recommendations by Eckbo, Dean, Austin and Williams were implemented in the early-1970s, related to transportation, signage, lighting, the park's functioning for recreational values, and the bicycle grand rounds concept linking the lakes.
        - Kathryn asked if bike and pedestrian improvements were made, and Parisa indicated that a focus was indeed to maintain both recreational and commuting access.
- Parisa discussed other important points in the park's development history: streetcar service was extended by 1916; by 1922 the Chalet, Theodore Wirth Parkway, and Theodore Wirth Golf Course were present; and by 1942, the WPA and CCC federal relief programs completed Bassett Creek Lagoons and other improvements. A streetcar structure remains on Glenwood Ave, which was historically an important access route to the park.
- Parisa continued into a discussion of the major landscape features in the park, emphasizing that it is a historic designed landscape. The primary components of the landscape include the grounds (topography, land use, and landscaping features) and bodies of water/water features (lakes, lagoons, and creeks).
- Other landscape features include circulation networks (roads, railroads, paths and trails); view and vistas; vegetation (oak woodlands, wet prairies); buildings and structures (Theodore Wirth Chalet, bridges); and small scale elements (fences and bollards, benches, picnic tables and other furnishings, memorials). The PowerPoint presentation contains images of many of these features, which Parisa described to consulting parties.
- Lisa asked about the bridges pictured, and Parisa clarified that only Bridge L9327 is historic. Kathryn indicated that Bridge 6247 was recently reconstructed so could not be historic, and Lisa agreed, saying that it will be reconstructed again as part of the Project.
- Greg asked if there were any questions on the report and explained that it would be presented again at next week's meeting because the park is located in Minneapolis and Golden Valley. He said that once the report is released, it will have its own 30 day comment period.

6) Next Steps

Kathryn informed consulting parties that after the meeting next week, which is a continuation of this meeting; meetings will continue in late August once all comments have been received and the project has a better sense for what properties will have adverse effects.

- Information on noise and vibration analyses will be presented later in the summer or early in the fall.
- A final determination of effect will be made near the end of 2015, which will inform mitigation commitments that need to be documented in the Final EIS in early 2016.

Caroline Miller, Metro Transit BPO, explained that meeting materials will be posted to e-Builder along with previous meeting materials.

Sarah asked about the status of design, and Kathryn replied that engineering will be at about 15% design for the FEIS, which will include retaining wall heights, station locations, at grade versus elevated, and similar determinations.

- Items like the final placements of catenary poles, station finishing, and architectural elements will not be known at that point.
- Kathryn pointed out that, because the design will not be as far along, if there are Section 106 related concerns, they will need to be included in the Section 106 Memorandum of Agreement.
- Greg pointed out that they have asked engineering to advance certain elements of the design faster near historic properties.

Kathryn thanked participants and adjourned the meeting.

Meeting Notes

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Section 106 Consultation – Meeting No. 2B

Date: July 16, 2015 **Time:** 12:30pm **Duration:** 2 hours

Location: Blue Line Project Office (BPO) – 5514 West Broadway Avenue, Suite 200, Crystal, MN 55428

Conference Room 2

Meeting called by: Greg Mathis – MnDOT CRU

Invitees:
SHPO: Sarah Beimers
Hennepin County: Dave Jaeger
City of Brooklyn Park: Todd Larson
City of Golden Valley: Emily Goellner
City of Minneapolis: Jim Voll
Minneapolis Park & Recreation Board: Adam Arvidson
Metro Transit, BPO: Kathryn O'Brien, Caroline Miller, Scott Reed, Jenny Bring, Tom Harrington, Miranda Adams, Parisa Ford, Kelly Wilder
MnDOT CRU: Greg Mathis, Jon Vimr

Discussion Notes

Greg Mathis, MnDOT Cultural Resources Unit (CRU), opened the meeting and led introductions.

- He explained that this is the second of two meetings to begin to discuss effects and find agreement on which properties could potentially be affected by the METRO Blue Line LRT Extension (BLRT) Project. The meeting on July 10 covered properties in Crystal and Robbinsdale, while this meeting will cover properties in Minneapolis, in Golden Valley, and in Brooklyn Park, including the Grand Rounds Historic District (GRHD). Both meetings include discussions of the Osseo Branch Line and the Theodore Wirth Park Cultural Landscape Study.
- Greg described the meeting packet, which was sent to consulting parties via an emailed link to e-Builder (on-line document management site being used for communications and transmittal of documents with consulting parties) and printed out for the meeting. Primarily, the packets contain one-page summaries of each historic property within the Area of Potential Effect (APE), describing the NRHP eligibility of the historic property, project elements in the vicinity of the property, and potential effects on the property. Included with the summaries is a one-page key that describes aspects of integrity and the criteria of adverse effect (36 CFR 800.5). Additional drawings of the corridor are included as well.

Kathryn O'Brien, Metro Transit Blue Line Project Office (BPO), explained that the packet is meant to facilitate consulting parties offering feedback to MnDOT CRU today at the meeting and during the 30-day comment period.

- By providing a preliminary determination of effect, it should help expedite deciding which properties do not have the potential to be affected by the Project and focus ongoing discussions on those properties that may have the potential to be affected.
- A formal determination of effects report will be released at the end of 2015 that summarizes the consultation process and FTA/MnDOT CRU's findings of effect.
- If it is determined that the Project could have adverse effects to any properties, there would be meetings with the consulting parties to review the Section 106 Memorandum of Agreement and discuss mitigation.

Greg asked that comments be returned within 30 days of his July 10, 2015 letter to the State Historic Preservation Office (SHPO), on which all consulting parties were copied.

1) City of Minneapolis

Greg introduced a discussion of properties in Minneapolis

St. Paul Minneapolis & Manitoba Railway Historic District (StPM&M) (XX-RRD-010)

- Greg explained that the district is eligible under NRHP Criterion A for its significance in the development of Minneapolis and St. Paul and importance as a component in the Great Northern railway's route west. The BLRT will connect to an existing LRT bridge at Target Field Station, which is where this rail line is located.
- The district is not noise sensitive under FTA criteria, and the railroad historic district itself will not be physically impacted or altered by BLRT project elements. Therefore, it is anticipated there will be no direct effects to this property. Indirect effects could result from visible Project elements along a small portion of the resource and potential redevelopment; however none of the direct or indirect effects are anticipated to have an adverse effect on the historic district.
- Kathryn noted that the Northstar Commuter Rail Line currently operates on the segment of the StPM&M line in this location.
- Greg explained that most effects were assessed during the Interchange Project, so they do not anticipate the need to consult further unless there are additional issues or questions.
    - Jim Voll, City of Minneapolis, asked for clarification. Greg clarified that the Interchange Project had a large APE to account for the effects of all future LRT projects in the vicinity. Therefore, it is not anticipated that there will be any effects identified in addition to those already identified and consulted on during the Interchange Project.

Minneapolis Warehouse Historic District (HE-MPC-0441)

- The district is eligible under NRHP Criterion A, in the area of commerce, and Criterion C, in the area of architecture.
- Similar to the StPM&M Historic District, indirect effects could result from visible Project elements, but effects were assessed during the Interchange Project, so they do not anticipate the need to consult further unless there are additional issues or questions.

Northwestern Knitting Company Factory (HE-MPC-8125)

- Eligible under NRHP Criterion A, in the areas of commerce, engineering, industry, and invention, the factory housed the nation's leading producer and distributor of underwear ("Munsingwear").
- The building is at the far edge of the quarter-mile APE, almost three blocks away, so no direct physical effects are anticipated. Indirect effects could result from the potential development of parking lots and other vacant parcels surrounding the property; that development could occur before or after the BLRT is operational.
- The building is too far from the Project for assessment for noise and vibration impacts to be necessary. Currently, it houses International Market Square.
- Sarah Beimers, State Historic Preservation Office (SHPO), asked if redevelopment discussions had begun, pointing out that FTA regulations require that redevelopment is considered throughout a reasonable timeline into the future. Greg indicated that these conversations had not begun, and Kathryn added that the City of Minneapolis and Hennepin County have begun station area planning. Jim said that the City is looking at redevelopment opportunities in the area around the building but that they want to preserve a historic structure.
- Kathryn said that any effects in this location will have to be considered in the context of all improvements currently being proposed for Highway 55.

Sumner Branch Library (HE-MPC-8081)

- The library is listed under Criterion A in the areas of education and social history and Criterion B for association with a significant person.
- The property itself will not be physically impacted or altered by BLRT Project elements – the line and catenary wires will run down the median of Olson Memorial Highway, and the station will be located across the street. Therefore, it is anticipated there will be no direct effects to this property.
- Greg and Tom Harrington, BPO, explained that on the figures the proposed sidewalk locations are depicted by white lines, and the property lines are depicted in black, illustrating that the Project will not intrude upon the property and is 15-20 feet from the edge of the sidewalk.
- Other Project elements such as minor curb line reconstruction, new paths, lighting, and overhead catenary wires, as well as potentially signal bungalows and substations, the locations of which are yet to be finalized, may also be visible from the property.
- The property is categorized by the FTA as a Category 3 noise receptor, and additional analysis is being completed to determine potential auditory impacts.
- Jim indicated that he will initiate further discussions but does not currently think there are any impacts.

Wayman A.M.E. Church (HE-MPC-8290)

- The property is eligible under Criterion C in the area of architecture. BLRT Project elements will not physically impact or alter the property, which includes only the building and yard, therefore it is anticipated that there will be no direct effects.
- Non-related buildings including a school physically surrounding the property to the south, east, and west greatly hinder visibility of the BLRT Project, located along Highway 55, from this property and it is, therefore, anticipated that there will be no visual effects on the property.

- The property is categorized by the FTA as a Category 3 noise receptor, so additional analysis is being completed to determine potential auditory impacts. The building separating the property from the Project will likely screen noise. Kathryn shared that the noise and vibration analysis will likely be completed and ready to share in late summer/early fall.
- Sarah asked if Highway 55 will remain six lanes, and Kathryn said that is very likely but that speed will likely be reduced. Jim added that the issues resolution teams have discussed reducing speeds and slowing traffic.
- Greg and Tom explained that they are still determining potential impacts to the on-street parking (located on a frontage road), but that is within MnDOT right-of-way, so it will not intrude on the property.

Labor Lyceum (HE-MPC-7553)

- The building is eligible under NRHP Criterion A, in the areas of social history and politics/government, for its association with early Jewish settlers in this part of Minneapolis.
- Project elements will not physically impact or alter the property; therefore, it is anticipated that there will be no direct effects. However, there is the potential for indirect effects from Project elements on Highway 55 that will be visible from the property, including catenary wires, signage, and potentially signal bungalows. No stations are in the vicinity; the Penn Avenue Station is three blocks away.
- The property is located in an area that will experience moderate auditory impacts, but is not categorized by the FTA as a noise sensitive receptor, given its current use.
- Greg explained that there will be a slight reconstruction of the curb lines along Highway 55 as well as the addition of a multi-use path running parallel to the curb, referencing the roll plot maps.
    - Sarah asked if the north-south running sidewalk would be obliterated. Kathryn explained that residents have requested the ability to cross the highway and that BPO has more detailed plans visualizing the pedestrian crossing experience.
    - Tom added that at Logan Avenue and Highway 55, the sidewalk will be removed. There are currently sidewalks running through the landscaped median, but they will all be moved to signalized crossings or a few better-defined midblock crossings. There will not be the continuation of local streets for crossing as before, for safety reasons.
    - Sarah noted that this would impact circulation.
    - Jim referenced the roll plot to point out that there is no sidewalk currently under the white dashed line in front of this historic property.

Floyd B. Olson Memorial Statue (HE-MPC-9013)

- The statute is eligible under Criterion C as the work of a master sculptor, Carlo Brioschi. It was moved to its current location from the center median of Highway 55.
- Although the statue itself will not be physically altered or impacted, the plaza in which it is located may undergo sidewalk and landscaping changes depending on whether the road is reconstructed as four or six lanes. Efforts are currently underway to clarify the memorial's boundaries to determine whether they include the plaza or only the statue, which will inform the determination of effect.

- Kathryn said that as part of these efforts, she will be following up to get more information from Katie Roth, Metropolitan Council Project Manager, and from Summit Envirosolutions, the firm that is supporting the Section 106 review for the C Line (Penn Avenue Bus Rapid Transit [BRT]).
    - Sarah explained that the C Line APE will be submitted soon.
- Greg continued in stating that the BLRT station will occupy the center median, while the BRT stations will be located on the outside of the roadway. Once design and boundaries of the property are clarified, they will have a better idea of how much consultation will be required.
- Tom indicated that there are not true sidewalks currently but that changes from the projects will include constructing new sidewalks and incorporating some current pavement into the boulevard. Greg pointed out that the area around the statue that will potentially be impacted is not a park, rather it is MnDOT right-of-way.
- Greg concluded by noting that the property is not categorized by the FTA as a noise sensitive receptor.

Homewood Historic District (HE-MPC-12101)

- The district is eligible under Criterion A in the areas of community planning and social history. On the plans provided, Greg explained that the blue line is the BLRT alignment and the orange line is the freight line, and pointed out the Plymouth Avenue Station.
- He explained that the district is located on a bluff, 10-15 feet above the rail corridor, separated by heavy vegetation. Given the distance between the district and the Project, Project elements will not physically impact or alter the district; therefore, it is anticipated that there will be no direct effects.
- As currently proposed, the BLRT will run along existing BNSF right-of-way immediately west of the district, with the Plymouth Avenue Station and associated elements, including vertical circulation, being constructed directly northwest of the district. Additional elements including substations, signal bungalows, and corridor protection treatments yet to be finalized may extend vertically and be visible from the district, but overall effects will be minimal. In addition, some vegetation will be cleared.
- The district (comprised of residential properties) is categorized by the FTA as a Category 2 noise receptor, and several sites within the district are located in an area that will experience moderate noise impacts. Additional analysis and further consultation will be required to determine how to minimize and mitigate effects.
- Sarah asked whether the Plymouth Avenue Bridge will be reconstructed as explained on the overview sheet. Kathryn said it will be replaced to accommodate more elements underneath it, but that it will look very similar.
- Kathryn noted that various station locations were considered within Minneapolis, all of which would have had impacts to Theodore Wirth Regional Park, so there was not a clear answer whether to locate the station on the north or south side of Plymouth Avenue.
- Adam Arvidson, Minneapolis Park & Recreation Board (MPRB), said the decision was based largely on impacts to adjacent residences. There is a steeper slope on the north, and it is more vegetated, but the south location would have felt more like it was in people's yards. He explained that it was a hard decision but that the northern location was ultimately chosen.
- Tom explained various elements on the roll plot map – the white lines are secondary access for safety reasons, the blue lines represent retaining walls or abutments as indicated by preliminary engineering, and approaching the bridge, the map shows vertical circulation, new sidewalks, and a bus pull off.

2) Osseo Branch of the St. Paul Minneapolis & Manitoba Railway Historic District (HE-RRD-002; HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389)

Greg introduced a discussion of the Osseo Branch Line/Great Northern Railway Historic District.

- The district is eligible under Criterion A for its role in expanding potato farming in northern Hennepin County and for creating a new connection from the region to Minneapolis. It begins in Minneapolis south of Target Field, continues into Osseo, and extends 1.5 miles past downtown Osseo. The Project will use approximately eight of the 13 miles of corridor constituting the historic district.
- Greg continued that the corridor is 100 feet wide, BLRT will occupy the eastern 50 feet of the corridor, the freight tracks now in the center of the corridor will shift to the west, and an access road will be built outside the freight rail tracks.
- Project elements within or visible from the district will include tracks, catenary wires, substations, signal bungalows, and corridor protection treatments yet to be finalized. In addition, near the 63rd Street Station at the north end of the corridor, an overhead crossing would connect the station to the park-and-ride lot.
- Noise and vibrations will be present within the district, but the Osseo Line has historically experienced both of these and is not a noise sensitive receptor. In addition, operation of the BLRT may spur development in nearby parcels, which could impact the integrity of the rail line.
- Jim asked if the effects discussed would be direct effects, and Greg said they would, but that SHPO has indicated that introduction of LRT into the corridor would not necessarily result in an adverse effect. However, there have been some design changes since SHPO provided feedback on the plans in the Draft EIS. Jim clarified that a direct effect does not necessarily mean an adverse effect, and Kathryn and Greg confirmed this.

Freight Rail Update

Kathryn continued that although SHPO indicated there would not be adverse effects based on the Draft EIS plans, the potential changes are based on discussions with BNSF, which operates in the historic Osseo Branch Line Railway Historic District, and their decision to implement corridor protection measures for safety reasons.

- Based on discussions with BNSF, three types of physical barriers have been proposed for corridor protection, and the decision about which measures to implement where along the corridor will depend on soil assessment, locations of certain Project elements such as at-grade crossings, and ongoing discussions with the railroad.
- Tom presented a typical section portrayed in the Draft EIS to illustrate how freight will now be built in the western portion of the corridor. He then displayed illustrations of the potential corridor protection measures:
    - Derailment ditch
    - Crash wall – Likely about 6-8 feet tall, although the height is not confirmed, with 2-2.5 foot thick walls.
    - Retained embankment
        - Emily Goellner, Golden Valley, asked if the crash walls would be cement, Tom clarified they would likely be concrete.
        - Jim asked how long the treatment would run, and Kathryn answered that the exact length still needs to be decided. Tom clarified also that the treatment will change along

the corridor. Kathryn said BNSF has indicated it might be possible to decide by the end of the year which treatments will be implemented where.

- Greg closed the update on freight rail by explaining that a final understanding of how freight and BLRT will operate will not be finalized until later in engineering. Tom emphasized it is safe to say that there will be some kind of crash deterrent device in the corridor. Greg then displayed some photos of the corridor.

3) Grand Rounds Historic District – Overview of Theodore Wirth Park Cultural Landscape Study and Discussion

Greg introduced a discussion on the GRHD and Theodore Wirth Regional Park (TWRP).

Grand Rounds Historic District: Theodore Wirth Segment (XX-PRK-0001)

- The Grand Rounds Historic District (GRHD) is eligible under Criterion A in the areas of community planning and entertainment/recreation, and under Criterion C in the area of landscape architecture.
- Assorted project elements, including overhead wires, lighting, support poles, stations, corridor protection treatments, the reconstructed Plymouth Avenue Bridge, and a new bridge at TH 55, which may be visible from the district.
- In addition, the Theodore Wirth Segment is in proximity to several parcels of land that may be developed as a result of the BLRT, and additional analysis is being completed for the Final EIS to determine potential auditory impacts.

Bridge No. L9327 (Theodore Wirth Parkway) (HE-GVC-0050)

- This bridge is individually eligible under Criterion C as a concrete highway bridge displaying notable aesthetics and as a contributing resource within the GRHD. It is located east of the Chalet on Theodore Wirth Parkway, and its significance stems from its walls and railings.
- Greg explained that the bridge is a few hundred feet from any Project elements, so the BLRT Project will not physically impact or alter the district, so it is anticipated that there will be no direct effects.
- The bridge itself is not noise sensitive, but additional analysis is being completed to determine potential auditory impacts on the GRHD.

Theodore Wirth Park Cultural Landscape Study

Greg introduced Parisa Ford, BPO consultant team, principal investigator of a cultural landscape study of TWRP.

- Kathryn explained that the study was undertaken in response to comments from the MPRB on the Draft EIS, with the goal of providing additional information pertaining to the elements of the cultural landscape within the park to inform analysis of effects.
- Parisa explained that the purpose of the study is to provide a historic context for the park and document its developmental history, as well as identify viewsheds and vantage points within TWRP where the BLRT Project may be visible. The study identifies the physical characteristics contributing to TWRP and, thereby, to the GRHD, and contributing elements within the APE and areas where the Project may be visible.

- Landscape features were identified through a high-level reconnaissance review across the park, and contributing features were identified through historical research and more intensive field survey within the Architecture/History APE and viewsheds
- TWRP is a contributing element within the Theodore Wirth Segment of the GRHD, which is eligible for the National Register under:
    - Criterion A for Community Planning and Development and Entertainment/Recreation, as a nationally-significant example of late-19th and early-20th century park development.
    - Criterion C for Landscape Architecture, significant for its design and as the work of nationally-significant landscape architect H.W.S. Cleveland and park superintendant Theodore Wirth.
- The GRHD's Period of Significance is 1884 to 1942, but it is currently under review to determine if it should be extended to c. 1975.
- Parisa continued by providing an overview of the park's developmental history. Land was acquired incrementally from 1889 through 1952, and the original design follows the Country Park model established by Fredrick Law Olmsted and Calvert Vaux.
- Two key plans informed the design and development of TWRP:
    - Wirth's General Plan for the Improvement of Glenwood [Theodore Wirth] Park (1914) laid the overall framework of the park.
    - Eckbo, Dean, Austin and Williams' Minneapolis Parkway System Concepts for the Future (1971) is the next significant planning development, focusing on transportation and circulation and retaining the recreational value of the entire parkway system but making specific recommendations for TWRP. Recommendations by Eckbo, Dean, Austin and Williams were implemented in the early-1970s, related to transportation, signage, lighting, the park's functioning for recreational values, and the bicycle grand rounds concept linking the lakes.
- Parisa discussed other important points in the park's development history: streetcar service was extended by 1916; by 1922 the Chalet, Theodore Wirth Parkway, and Theodore Wirth Golf Course were present; and by 1942, federal relief programs completed Bassett Creek Lagoons and other improvements.
- Parisa continued into a discussion of the major landscape features in the park, emphasizing that it is a historic designed landscape. Categories of landscape features are defined by the National Park Service. The primary components of the landscape include the grounds – topography, land use, and landscaping features – and bodies of water/water features – lakes, lagoons, and creeks.
- Other landscape features include circulation networks (roads, railroads, paths and trails); historic and design-intended views and vistas; vegetation (oak woodlands, wet prairies); buildings and structures (Theodore Wirth Chalet, bridges); and small scale elements (fences and bollards, benches, picnic tables and other furnishings, memorials). The PowerPoint presentation contains images of many of these features, which Parisa described to consulting parties.
    - Jim noted he was impressed that the WPA picnic tables have lasted as long as they have. Adam said yes, they are made out of metal and cement, and that there are actually quite a few of them in the park system.
- Greg concluded the presentation by emphasizing that the report will help inform the assessment of effects for the TWRP cultural landscape.

- Scott Reed, BPO, asked if paper copies would be printed for all parties. Kathryn indicated that it is a large file, so while they will send a hard copy to SHPO, all other consulting parties will be provided a link via e-Builder unless they request a hard copy.
- Jim asked if meeting materials are posted, and Kathryn said yes, they are on e-Builder as well. Caroline Miller, BPO, can be contacted with any technical difficulties.
- Adam asked if, during the discussion about potential impacts to the GRHD, floodplain and wetland mitigation will be discussed. Greg replied that it will be.

4) Next Steps

Greg welcomed any questions and reminded consulting parties that written comments will be accounted for as the process moves forward.

- The next consultation meeting will be held in late August so that all comments can be received and inform the discussion at that meeting, and further meetings will follow throughout the fall.
- Greg explained that U.S. Department of Transportation MAP-21 legislation calls for an expedited process, so the goal of these meetings is to focus on properties where there is the potential for adverse effects, and consult on other properties, as needed.
- Sarah asked if resources associated with the GRHD can continue to be commented on in the 30 days following release of the landscape report. Greg clarified that the purpose of eliciting comments on the material presented in this meeting is to ensure all issues regarding potential effects have been identified. Sarah and Greg discussed that consulting parties are not being asked at this point to concur with a final determination of effect on any resources. Greg also clarified that the landscape report will have its own 30-day review period.
- Greg pointed out that they have asked engineering to advance certain elements of the design faster near historic properties to inform future discussions and the effect analysis.

Meeting Notes

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Section 106 Consultation – Meeting No. 3

Date: Feb 4, 2016 **Time:** 1:30pm **Duration:** 3 hours

Location: Blue Line Project Office (BPO) - 5514 West Broadway Avenue, Suite 200, Crystal, MN 55428

Conference Room 2

Meeting called by: Greg Mathis – MnDOT CRU

Invitees:
FTA: Reggie Arkell, Maya Sarna
SHPO: Sarah Beimers
Hennepin County: Dave Jaeger, Brent Rusco
City of Brooklyn Park: Todd Larson
City of Golden Valley: Emily Goellner
City of Minneapolis: Jim Voll
Minneapolis Park & Recreation Board: Adam Arvidson
City of Robbinsdale: Marcia Glick
Metro Transit, BPO: Kathryn O'Brien, Caroline Miller, Scott Reed, Jenny Bring, Paul Danielson, Sophia Ginis, David Davies, Shelley Miller, Kelly Wilder
MnDOT CRU: Greg Mathis, Jon Vimr

Discussion Notes

1) Welcome and Introductions

Greg Mathis, Minnesota Department of Transportation (MnDOT) Cultural Resources Unit (CRU), opened the meeting, described the agenda, and led introductions.

- The primary goal of the meeting is to review the Federal Transit Administration's (FTA's) findings of effect on historic properties and the overall determination of effect for the METRO Blue Line Light Rail Transit (LRT) Extension Project (Project). This will help to identify which properties have effects that may be easily resolved during the meeting so that future meetings can focus on the remaining properties requiring further discussion with consulting parties.
- Greg reminded consulting parties that MnDOT CRU is overseeing many aspects of the Section 106 process for the Project on behalf of the FTA.

2) Project Updates

Kathryn O'Brien, Metro Transit Blue Line Project Office (BPO), explained that the Project anticipates completing the Project Development phase of the FTA New Starts program in August of 2016.

- The Project is in the midst of the Municipal Consent process and anticipates its completion in March or April of 2016.
- The Project then anticipates issuance of the National Environmental Policy Act Record of Decision (ROD) in August of 2016.

3) Section 106 Process

FTA issued its Final Determination of Effect (DOE) on historic properties and submitted it to the Minnesota Historic Preservation Office (MnHPO) on January 20, 2016. The Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties (Assessment of Effects) report assesses effects on historic properties in the Area of Potential Effect (APE), provides a finding of effect for each property, and an overall determination of effects on historic properties for the Project.

- Since the last consulting parties meeting in July 2015, MnDOT CRU identified and assessed effects, which are accounted for in the Assessment of Effects report. The findings are based on 15 percent to 30 percent design plans. It is a challenge to consult on effects while design is continuing to advance; however, certain aspects of the design were advanced so that MnDOT CRU could assess effects.
- FTA found the Project will have an adverse effect on six properties, no adverse effect on six properties, and no adverse effect on five properties with implementation of measures in the Memorandum of Agreement (MOA).
- Since the Project will have an adverse effect on six properties, it will have an overall adverse effect on historic properties.
- Jim Voll, City of Minneapolis, asked Greg to clarify the effect of consulting parties' comments on the findings in the Assessment of Effects report, since the report is entitled "Final."
    - Greg explained that they are eliciting feedback from consulting parties and hoping for agreement.
    - Further, the MOA will include provisions for continuing consultation as the Project design advances. Sarah Beimers, MnHPO, added that this will include developing minimization and mitigation strategies.
    - Kathryn pointed out that since the Project is at 15 percent to 30 percent design, FTA conservatively made calls of adverse effect for properties that were in question.
    - Jim pointed out that there are properties for which the City of Minneapolis may agree with the adverse effect finding but disagree with the proposed mitigation, in addition to properties for which they disagree there is an adverse effect.

Greg segued into a review of the Project's progress through the Section 106 process.

- Initiation of the Section 106 process was completed in 2011.
- Identification of historic properties was completed in 2014.
- With publication of the Assessment of Effects report, the assessment of adverse effects was completed in January 2016, which included applying the criteria of adverse effect.
- Resolving adverse effects will continue through the first and second quarters of 2016.
- Section 106 does not require projects to avoid adverse effects; some are unavoidable.
- If there is an adverse effect, consultation must consider measures to avoid, minimize, and/or mitigate the adverse effect(s), and consulting parties and the public remain involved to inform the development of these measures for inclusion in an MOA.
- An MOA is a legally binding agreement that includes stipulations recording agreed-upon avoidance, minimization, and mitigation measures. An execution-ready version of the MOA is included in the final environmental impact statement (EIS).
    - Three types of parties can be involved in executing an MOA:
        - A signatory has obligations under Section 106 and authority to execute, amend, or terminate the MOA. Signatories for the Project will include FTA, MnHPO, and the Advisory Council on Historic Preservation (ACHP), if it chooses to participate.

        - An invited signatory has obligations for implementing stipulations of the MOA and authority to execute, amend, or terminate the MOA. Invited signatories include Metropolitan Council and MnDOT.
        - A concurring party has no authority to execute, amend, or terminate the MOA, and their signature is not required to execute the MOA. This includes cities, heritage preservation commissions (HPCs), the Minneapolis Park and Recreation Board (MPRB), etc.
    - The Project should know if the ACHP has elected to participate by late February or early March.
    - Greg described that concurring party status allows for a level of involvement by parties that may need to participate in continued consultation.
        - Sarah clarified that concurring parties can continue to be involved if mitigation or interpretation is being discussed for a property they have an interest in, but they do not have the authority to amend or terminate the MOA, and they do not have to sign it for the MOA to be valid.

4) <u>Effects Findings</u>

Historic Properties: No Adverse Effect

- Minneapolis Warehouse Historic District (Minneapolis)
    - Given its proximity to the Target Field Station, effects to this property were previously accounted for during development of a programmatic agreement (PA) for the Intermodal Station (the previous name for the Target Field Station) during the Interchange Project.
    - No further consultation on this property is needed unless consulting parties have additional concerns.
    - Jim indicated that the city does not disagree with this; however, he has not consulted all appropriate management so cannot say that is the final word.
    - Sarah noted that MnHPO has not completed its review either.
- St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District (Minneapolis)
    - The LRT alignment will pass over this property on an elevated structure so it will only have minimal visual effects.
    - Effects to this property were also previously accounted for during the Interchange Project; therefore, no further consultation on this property is needed on this property.
- Northwestern Knitting Company (Minneapolis)
    - This property is just under a quarter mile from the Project alignment, so it is possible that some Project elements could be visible from the upper levels of the building. There is also the potential for redevelopment around the station that could change the property's setting. However, since the property was developed in an urban setting, these potential effects will not interfere with the property's ability to convey its significance.
    - Jim repeated that as with the prior two properties, he does not disagree with this assessment but needs to discuss it with others at the city.
- Bridge No. L9327 (Golden Valley)
    - Theodore Wirth Parkway crosses Basset Creek over Bridge No. L9327, a few hundred feet north of Wirth Chalet.
    - The bridge is a contributing element to the Grand Rounds Historic District (GRHD), but effects on it were assessed separately since it is also individually eligible under Criterion C for Engineering.
    - The introduction of Project elements into the view from the bridge to the Project will have a minimal impact, but since the bridge derives its significance from its design, it will not interfere with the ability of the property to convey its significance.

    - Adam Arvidson, Minneapolis Park and Recreation Board (MPRB), indicated that he likely concurs with this finding.
- Jones-Osterhus Barn (Robbinsdale)
    - There will be no direct effects to the property, but some Project elements may be visible from the property. However, the Project is approximately 190 feet away and visibility of the Project is limited. Therefore, a finding of no adverse effect has been made.
- Minneapolis & Pacific Railway / Minneapolis, St. Paul & Sault Ste. Marie Railway Historic District (Crystal)
    - The Burlington Northern Santa Fe (BNSF) Railway alignment will be shifted and reconstructed at-grade, and the LRT bridge will clear span this historic railroad district. Since there are no physical effects and limited visual effects (to less than 1 percent of this long linear rail corridor), there will be no adverse effect from the Project.

Historic Properties: No Adverse Effect with Implementation of Measures in the MOA

- Sumner Branch Library (Minneapolis)
    - The Project will be constructed within the adjacent Olson Memorial Highway roadway. The construction limits border but do not impinge on the historic property, and as long as a historic bench near the property's limits is protected, the Project will not have direct effects on the property.
    - The Van White Station is located kitty-corner to the library, approximately 320 feet away, so the property will experience visual effects. To avoid a potential adverse effect, the Project proposes to design all Project elements within the vicinity (potentially one block on either side) consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (SOI's Standards).
    - A construction protection plan will also be developed prior to construction to ensure there is no damage to the property, including installing fencing to protect the property and assessing the need for vibration monitoring.
    - With implementation of a construction protection plan and designing Project elements to the SOI's Standards, a finding of No Adverse Effect has been made for the Sumner Branch Library.
    - Sarah pointed out that the MOA will need to be clear about what is meant by "in the vicinity" – whether it is some distance around each station or between certain mileposts.
    - Jim asked how these stipulations will apply for properties on which the Project will have an adverse effect.
        - Kathryn reiterated the goal that if consulting parties can agree that a certain number of properties have no adverse effect and another number have no adverse effect with implementation of MOA measures, they can then focus on discussing properties with adverse effects that will need more specific mitigation measures.
    - Jim pointed out that the city had commented on construction concerns, and design to the SOI's Standards seems reasonable. However, he said that designing to the SOI's Standards needs to be balanced with other concerns. For example, the city is concerned about pedestrian access and safety, and Jim asked how those concerns will be balanced in order to work toward the overall best interest.
        - Greg agreed that the Project has to balance a lot of goals. This is similar to how the Southwest LRT project is handling effects to the historic Minikahda Club in Minneapolis. The Southwest LRT project originally proposed substantial changes to the property's entry and addition of retaining walls; however, they worked with Minneapolis Public Works on a revised design that met public safety standards while avoiding an adverse effect to the property.

        - An administrative stipulation in the BLRT MOA will outline dispute resolution options in case effects are not ultimately resolved through consultation.
- Labor Lyceum (Minneapolis)
    - Visual effects on the historic property (eligible under Criterion A) are possible from construction taking place across the access road, and from Project elements including the alignment and the overhead power systems. Proposed MOA measures include designing Project elements in accordance with the SOI's Standards so as not to introduce incompatible visual elements.
    - Per FTA criteria, the Labor Lyceum is a Category 3 noise receptor; however, LRT operation will not result in a noise impact so no noise mitigation is required.
    - With Project infrastructure in the vicinity of the Labor Lyceum designed in accordance with the SOI's Standards, a finding of no adverse effect has been made for the Labor Lyceum.
- Sacred Heart Catholic Church (Robbinsdale)
    - The property includes the church only, which is eligible under Criterion C for Architecture. The church is located 300 feet from the alignment, and the closest Project elements (road improvements) are 130 feet from the property, so there are no direct effects anticipated.
    - The Project alignment, a park and ride structure, and other Project elements will be visible from the property but will not affect its ability to convey its significance.
    - The church is a Category 3 noise receptor that would experience severe auditory effects without mitigation, but the Project is implementing a quiet zone that will avoid the adverse effect.
- Robbinsdale Waterworks (Robbinsdale)
    - Various Project elements, including the Robbinsdale Station and a park and ride, will be highly visible in the vicinity of the iconic waterworks, so all Project elements will be designed in accordance with the SOI's Standards so as not to have adverse visual effects on the property.
    - Although the Project wraps around two sides of the property, it will not physically infringe upon it. However, a construction protection plan will be implemented to ensure that there are no direct effects to the property and to identify any other measures necessary to protect the property during construction.
    - With implementation of a construction protection plan and design in accordance with the SOI's Standards, a finding of no adverse effect has been made for the waterworks.
- Hennepin County Library, Robbinsdale Branch (Robbinsdale)
    - Similar to the Sacred Heart Catholic Church and Robbinsdale Waterworks, Project elements extend along the boundary of the property but will not physically infringe upon it. A construction protection plan will be implemented to ensure that there is no physical harm to the property.
    - The view of the park and ride located directly across the Project alignment from the property will be fairly prominent, so Project elements in the vicinity will be designed in accordance with the SOI's Standards.
    - There will be a change in access to the property from westbound on 42nd Avenue, but westbound traffic can still access the alley to get to the property so there are no traffic-related adverse effects.
    - The library is a Category 3 noise receptor that would experience severe auditory effects without mitigation, but the Project is implementing a quiet zone that will avoid the adverse effect.
    - Sarah asked for clarification on what constitutes a "quiet zone." Kathryn explained that in a quiet zone, neither freight nor LRT will sound horns; however, LRT trains could potentially use their bells. Alternatively, the Project is looking at potentially using fixed wayside devices at quiet zone intersections so that the sound would remain at the crossing rather than on the trains affecting a larger area as the train moves through the crossing.

Historic Properties: Adverse Effect

- Wayman A.M.E. Church (Minneapolis)
    - The property is eligible under Criterion C for Architecture and is buffered from any potential direct visual or noise effects from the Project by other buildings that wrap around it.
    - Planning studies call for up-zoning property around Van White Station to redevelop the area as a commercial center with higher density, mixed use buildings. An adverse effect has been found since this is a specific parcel targeted in plans for redevelopment related to the Project, rather than general market forces.
    - Jim countered that the city does not view this property as a redevelopment opportunity. Their planning maps call for mixed use, and if it were not a church at some point, they would encourage another use. However, it is already zoned R5 for high density with or without the BLRT Project, so he disagrees that their planning efforts target this parcel for redevelopment. In addition, city plans account for preserving historic properties. Jim stated that they will have to agree to disagree on this finding.
        - Kathryn asked about the Project potentially developing a National Register of Historic Places (NRHP) nomination as mitigation, and Jim responded that the property is already noted as being historic in city planning efforts. The city previously stated that they would support nomination efforts but do not want to be responsible for funding or completing it themselves.
        - Greg clarified that the Project can commit to funding the preparation of a nomination but cannot guarantee it will be successful, that is up to the Keeper of the National Register to decide.
        - Sarah added that NRHP-listed churches can utilize state Legacy Grant funding for repairs.
    - Jim concluded by calling for further discussion between the Project and the city.
- Floyd B. Olson Memorial Statue (Minneapolis)
    - The Project will use a portion of the memorial's sodded yard and sidewalk adjacent to Olson Memorial Highway located within the NRHP-eligible property for a new sidewalk needed due to reconstruction of Olson Memorial Highway.
    - The property's visual connection to the highway is an important historic characteristic. Introduction of the Penn Avenue Station will interrupt this visual connection, as will redevelopment in the vicinity called for in station area plans.
    - Therefore, the Project will cause both direct and indirect effects on the property.
    - Kathryn pointed out that unlike the adverse effect finding for Wayman A.M.E. Church, which does not result from any physical incorporation of the historic property, a portion of the land included in the boundaries identified for the memorial will be used by the Project. This, coupled with the indirect effects, results in an adverse effect finding. This direct impact also triggers Section 4(f) of the Department of Transportation Act of 1966, under which DOT agencies cannot approve the use of land from historical sites (among other locations) unless there is no feasible and prudent alternative to the use of the land. The Project is currently exploring all alternatives to the use, and if an avoidance alternative is identified, that may become the preferred alternative, which would change this conversation significantly.
        - Jim asked if this could include eliminating a travel lane from Olson Memorial Highway, and Kathryn said it could not.
        - Jim shared concerns from the city that any change in design that would narrow the sidewalk to avoid use of this property will cause snow to pile up on the sidewalk and impede pedestrian access in this highly car-free, transit-reliant neighborhood. The city

will put in writing that it disagrees with any proposed alternatives that would impede pedestrian access to the LRT and bus rapid transit (BRT) stations.
        - Jim also noted that the argument that redevelopment could contribute to the adverse effect is interesting and nuanced. The city's plans call for development on this MnDOT-owned parcel anyway, so it seems like a stretch to say that LRT would cause the redevelopment.
- Marcia Glick, City of Robbinsdale, asked if the statue could be moved as it was only moved to its current location in 1984.
    - Greg explained that the statue was originally located in the median. The statue is the historic feature, but the plaza space is an important aspect of its setting and, thus, is part of the historic property.
- Kathryn referred back to the Section 4(f) discussion, noting that if an avoidance alternative is developed that avoids the adverse effect to the historic property and is practicable, the Project must adopt it.
    - Sarah explained further that while Section 106 stipulates the Project should try to avoid adverse effects, Section 4(f) requires avoidance.
    - Todd Larson, City of Brooklyn Park, asked if the City of Minneapolis or another entity wanted to install a sidewalk there would they encounter the same issue, and Kathryn answered that if they proposed to use federal funds, they would run up against the same requirements.
- Paul Danielson, BPO, pointed out that the challenge is that the historic property's boundary extends to the curb. If it only extended to the back of the sidewalk, there would be no use of the historic property. Effectively, the Project is reconstructing the sidewalk in place, and since they have already narrowed lanes and pushed the road out, placing the sidewalk near the curb is the only way to avoid the historic property.
    - Jim said that the whole site is considered a historic property due to a subjective, professional decision, which now necessitates the Project avoid it. His view is that this original decision was an error; he does not see in the historical record that someone designed this plaza as a park. This is an important corner for pedestrians, and the city worked with the Project so that they would not have snow piled up on the corner.
    - Paul asked if there is flexibility to say that snow and pedestrian access is a greater impact than effects to the historic property. Sarah replied that FTA could bring the question to the ACHP, but MnHPO has already concurred on the boundaries identified by FTA as part of the Project. Greg added that after the boundaries were established in a previous wayside study, the property was examined as part of this Project to confirm it retains sufficient integrity.
    - Jim said that he does not recall there being a map with exact boundaries in the determination that the statue is eligible. The city would have raised an issue, knowing that redevelopment is being encouraged and that tree-lined boulevards and snow-free sidewalks are good for pedestrians and for North Minneapolis.
- Marcia described that access to the statue on Victory Memorial Parkway is much easier and wondered if similar improvements could be made here.
- Sarah said access is also better to the Leif Erikson statue along the METRO Green Line LRT. However, she again noted that Section 4(f) issues are more difficult to work through than Section 106 issues.
- Scott Reed, BPO, suggested it might be worth having an offline conversation with FTA to confirm if 4(f) applies. This is a unique situation where the Project is using a portion of a historic property by slightly reconstructing the existing sidewalk, but the property is already within MnDOT right-

of-way (ROW) so it is not clear whether this would be considered converting the property to a transportation use per Section 4(f).
        - Greg explained that since Section 4(f) is more stringent, the Project has to complete the analysis before effects can be resolved under Section 106.
        - Sarah noted that the right design could avoid an adverse effect under Section 106.
        - Greg explained that decisions are being made based on early designs to account for all possible effects. Jon Vimr, MnDOT CRU, noted that although the sidewalk is the Section 4(f) issue, the adverse effect finding is also based on additional visual effects.
        - Jim reiterated that compliance with these requirements should not mean you get to a worse outcome.
    - Greg indicated that the Project would resolve the Section 4(f) issues/questions and they could then return to the Section 106 discussion at the next consulting parties meeting.
    - Scott said the Project has all the required information and will be having the conversation with FTA likely in the next week.
- Osseo Branch of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District (Minneapolis, Golden Valley, Crystal, Robbinsdale, Brooklyn Park, Osseo)
    - The Project will be constructed within the BNSF-owned ROW along an approximately eight mile-long segment of the district, from TH 55 northwest to 73rd Avenue North in Brooklyn Park. The Draft EIS found no adverse effect, but design has since advanced, and BNSF has notified the Project that it will require physical separation between LRT and freight along the entirety of the segment. Project infrastructure and actions within the historic ROW will now include removal of historic track, a new alignment, two new LRT tracks, bridges, vertical circulation, fencing, the new corridor protection measures required by BNSF, and changes to the high voltage transmission lines (HVTLs). Therefore, an adverse effect determination has been made.
    - Todd said that when he tells people that this is the only historic property in Brooklyn Park affected by the Project, they are surprised since only the alignment is intact and no historic rail materials remain.
    - Greg briefly reviewed that in order to qualify for inclusion in the NRHP a property must possess significance under at least one of four criteria. The Osseo Branch is part of a historic district that is significant under Criterion A for Transportation for its association with the development of the potato farming industry in Osseo and surrounding areas. It established a connection that did not previously exist that allowed potato growers to access the national rail network, resulting in a significant expansion of the potato-growing industry.
        - Todd said this was a weak argument for historic significance.
        - Sarah and Jon countered that rail lines and associated agricultural industries were the primary reason for the development of communities like Brooklyn Park. Although the materials within the corridor have changed, historic railroads retain their integrity if their alignment and termini are intact.
        - Marcia mentioned the potential for mitigation measures such as interpretative train rides, and Sarah agreed, explaining that historic designation does not mean it has to be kept pristine but rather that effects must be minimized and mitigated.
        - Emily Goellner, City of Golden Valley, emphasized that the experience of approaching the track in Golden Valley will be totally different once the Project is in place (vegetation will be gone, etc.), but Todd pointed out that in Brooklyn Park, the highway dominates views and there is little vegetation.
        - Sarah said that in some states, railroads cannot be historic, while in other states all railroads are considered historic. MnHPO deals with this question all the time in their work on U.S. Army Corps of Engineers (USACE) projects related to wetlands.

- Jim asked how adding a train to a railroad corridor harms the historic property. Sarah said that previously MnHPO did not think it would since it follows relatively the same alignment; however, the more elaborate corridor protection measures with walls and ditches, and overhead elements, completely changes the setting.
    - Jim said that he could understand the historic designation if there were historic trestles or Works Progress Administration retaining walls. Since the track is modern, he asked if the adverse effect stems just from the scale of the intrusions.
    - Todd asked if BNSF would have the same constraints if they wanted to build a new track. Sarah replied that the railroad would not have to comply with the federal review process unless they sought federal money or a federal permit (like a USACE permit).
    - Greg emphasized that introduction of walls and grade separation will impact the naturalized setting, and Jon encouraged consulting parties to refer to the rendered cross sections to understand these impacts.
    - Referring to an image in the meeting presentation, Emily again explained that this view does not exist within three miles of any other major metropolitan area in the nation. Jim acknowledged that but pointed out that there is no historic infrastructure involved; it is just the introduction of new elements.
- Paul clarified that the Project has more definition since the Draft EIS. More advanced engineering shows the alignment moving 15 feet not 10 feet, larger retaining walls than previously assumed, more infrastructure in addition to the tree removal that would have had to happen regardless from property line to property line, and the introduction of corridor protection measures.
    - Greg pointed out that the rendered sections show this greater detail – larger scale structures, additional infrastructure in addition to the three parallel lines and vegetation clearing previously identified, physical separation of LRT and freight, and in particular more infrastructure south of N. 36th Ave. Paul pointed out that in the Brooklyn Park area, there will be a more significant bend in the line than previously thought.
- Todd asked if the adverse effect finding would stop the Project, and Sarah and Greg clarified that Section 106 does not stop projects, it simply requires consideration of minimization and mitigation measures.
- Sarah asked if Section 4(f) applies to this property too.
    - Scott said the Project looked at various alternatives as a part of a Section 4(f) analysis; while alternatives were found that were technically feasible, none were prudent options as they required the taking of numerous homes and were far more environmentally damaging.

- Grand Rounds Historic District, Theodore Wirth Segment (Minneapolis, Golden Valley)
    - An adverse effect finding has been made for this property due to alterations to two park entrances, numerous alterations to viewsheds and vistas, replacement of a bridge, and incorporation of two acres of the park into the Project.
    - Emily said that the City of Golden Valley agrees with the adverse effect finding and supporting rationale but has additional comments about mitigation. The city proposes interpretative signage in the park and at stations; vertical circulation using building materials common during the period of significance to reduce their impact; increasing vegetation at a more than one-to-one ratio; renaming Golden Valley Station to Theodore Wirth Station; and incorporating recreational considerations into the station design, for example through elevators that would accommodate bikes and skis.
    - Adam said he supports these proposals and in particular encourages station design that supports recreational access. The Grand Rounds has always been meant to be a recreational

corridor, so augmenting that recreational availability strengthens the historical link. Since the Grand Rounds is a complete bikeway, Adam emphasized that everything should be bike accessible, including access to the park and ride facilities. He echoes the mitigation ideas that focus on recreation, and said MPRB would have been surprised if this had not been an adverse effect call.
    - Sarah cited two examples of related projects: MnHPO participated in developing a plan as part of the Southwest LRT project for managing the Kenilworth Lagoon, and with MPRB planners on the USACE permit for Basset Creek. It was difficult to come up with a plan for implementing quasi-natural elements like a creek or lagoon, and she assumes erosion control and ecological issues will come up during the BLRT Project as well.
        - Adam said that he has already discussed these issues with Michael Schroeder from MPRB.
    - Paul said that since the elevators are designed with the capability to fit gurneys, he would assume skis would already fit.
    - Adam emphasized that in addition to ensuring, for example, that skis physically fit, Project elements should be used to interpret the historical significance of recreational opportunities in the park.
- Homewood Residential Historic District (Minneapolis)
    - The Project will have minor direct physical effects on the district where an existing railroad crossing will be reconstructed and a retaining wall installed.
    - In addition, the visibility of Project elements and noise from Project operations will impact the district's setting.
    - Direct effects should be able to be addressed through design in accordance with the SOI's Standards, and noise mitigation could include interior testing and, if needed, retrofitting homes as has been done in order to mitigate airport noise.
    - Jim confirmed that this overview is consistent with the city's comments on the Draft EIS related to noise.
- West Broadway Ave. Residential Historic District (Robbinsdale)
    - The Project will run directly adjacent to the district on an elevated roadbed and approach structure for the bridge over Highway 100. Trains and associated infrastructure will be highly visible from the district, and viewsheds across the existing freight track will be blocked.
    - Operation of the Project and potential changes in traffic patterns in the district will also introduce noise. Implementation of quiet zones will eliminate severe auditory impacts on the district, but two residences would still have moderate impacts, so Project noise will adversely affect the historic district.
    - Marcia said that she is surprised views across the freight tracks are part of the assessment since the dense vegetation makes it difficult to see across the tracks currently. Greg explained that freight becomes more visible due to grade changes as you progress south. Marcia noted, however, that it seems likely the freight and LRT lines would merge together in the view.
    - Marcia also said that she thought the noise studies concluded that with noise barriers and wayside bells, no properties had remaining noise impacts except those impacted by the noise from Highway 100 near the north end of the district. Greg explained that the quiet zone elements address the severe auditory effects but that the Project still needs to minimize and mitigate moderate effects to two properties.
    - Greg added that the analysis of the views also takes into account the barriers that will add a vertical element, in addition to the tracks. Marcia pointed out that a lot of these elements are blocked by garages, and that the treatment along the alleys portrayed in renderings looks nice.

She asked whether BPO has done outreach on this topic, noting that the city has only heard from a few residents with large backyards.

- David Davies, BPO, responded that the Project has flyered for open houses but has not done outreach based on these specific details, which they plan to do after the municipal consent process is complete.

5) <u>Next Steps</u>

- Marcia asked when MnDOT CRU will finalize the placeholder appointments on consulting parties' calendars.
  - Greg said that once they receive comments following this meeting, they will finalize the schedule for the next consulting parties meeting, likely in late February or early March. Meetings will likely occur every two to four weeks after that point, and MnDOT CRU will inform consulting parties once those dates are finalized.
- Marcia asked for clarification on whether MnDOT CRU is requesting just broad comments or more detailed feedback.
  - Greg said that a phone call might work best for very minor comments on small details. In written comments, he is seeking feedback on FTA's findings of effect and on proposed mitigation measures.
- Jim asked whether the City of Minneapolis should comment on the GRHD, noting that they will have comments on the Plymouth Avenue Station but may defer to MPRB's comments on the GRHD.
  - Greg said that the city can comment on a topic they have an interest in.
  - Sarah said the city could note that since most impacts are in Golden Valley and within Theodore Wirth Regional Park, they are deferring to the City of Golden Valley and the MPRB.
  - Jim said he does not have strong opinions and would generally defer to the MPRB, but he will check with other staff.
- Greg asked for feedback on the proposal that for the residential historic districts with auditory impacts, the Project will install noise walls or implement quiet zones, and if auditory impacts remain, it will conduct testing and implement needed mitigation measures consistent with the SOI's Standards.
  - Consulting parties expressed general agreement that this is an acceptable approach.
  - Marcia asked if air conditioning can be installed in historic properties, and Sarah confirmed that this is done to mitigate airport noise around Lake Nokomis, in addition to retrofitting historic window frames.
- Greg also asked for feedback on stipulating design in accordance with the SOI's Standards and design review as minimization measures for Homewood Residential Historic District and GRHD.
- Marcia pointed out that for a few blocks along West Broadway Ave., the makeup of houses is quite variable. There are instances where LRT will pass five feet from a garage, and the home is across the alley from the district but identical to a historic home within the district.
  - Greg clarified that the district is the eligible property and that it contains both contributing and non-contributing properties. The ACHP encourages that a historic district be a cohesive unit with a tight boundary and no gerrymandering intrusions.
  - Sarah said there are volumes of surveys that detail each property, and in some cases there are small pieces of information that differentiate properties so that mitigation is required on one but not the other.
- Greg requested that consulting parties return comments on the Assessment of Effects report by February 19, 2016, preferably by email.
- Moving forward, he asked attendees to look forward to more regular consultation meetings as the draft MOA is developed over the coming months, noting that their input will allow for development of stipulations for avoidance, minimization, and mitigation.

Meeting Notes

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Section 106 Consultation – Meeting No. 4

Date: Mar 10, 2016 **Time:** 1:30pm **Duration:** 2 hours

Location: Blue Line Project Office (BPO) – 5514 West Broadway Avenue, Suite 200, Crystal, MN 55428

Conference Room 2

Meeting called by: Greg Mathis – MnDOT CRU

Invitees: FTA: Reggie Arkell, Maya Sarna
MnHPO: Sarah Beimers
MnDOT CRU: Jon Vimr
Hennepin County: Dave Jaeger, Brent Rusco
City of Brooklyn Park: Emily Carr
City of Golden Valley: Emily Goellner
City of Minneapolis: Jim Voll
City of Robbinsdale: Marcia Glick
Metro Transit, BPO: Kathryn O'Brien, Caroline Miller, Jenny Bring, Paul Danielson, Sophia Ginis, David Davies, Alicia Vap, Kelly Wilder

Discussion Notes

1) Welcome and Introductions

Jon Vimr, Minnesota Department of Transportation (MnDOT) Cultural Resources Unit (CRU), opened the meeting, led introductions, and described the agenda.

2) Project Updates

Jon provided a summary of comments received on the final determination of effect and related Project updates:

- The Minnesota Historic Preservation Office (MnHPO) concurred with all of FTA's findings presented at the February 4, 2016 consultation meeting.
- Comments received from other consulting parties since that meeting contained helpful minimization and mitigation recommendations that are assisting FTA and MnDOT CRU with their ongoing analyses concerning resolution of effects.
- MnDOT CRU and the Metro Transit Blue Line Project Office (BPO) also met with a neighborhood group in the Homewood neighborhood as part of public participation efforts under Section 106. The City is currently leading an effort to prepare a local landmark designation for the Homewood Residential Historic District.
    - Jim Voll, City of Minneapolis, shared that the meeting went well and that people generally agreed with the anticipated effects to the Homewood Residential Historic District.

Jon then reviewed the steps in the Section 106 process, explaining that initiating the Section 106 process, identifying historic properties, and assessing adverse effects have been completed. FTA/MnDOT CRU are now in the process of resolving adverse effects, and they will soon move into development of a Section 106 Memorandum of Agreement (MOA).

- The regulations for implementing Section 106 require continued consultation to resolve adverse effects on historic properties, through consideration of measures to avoid, minimize, and mitigate adverse effects. These measures will be fulfilled under the MOA.
- Jon and Kathryn O'Brien, BPO, explained that the MOA is a legally binding agreement. An execution-ready version will be included in the Final Environmental Impact Statement (EIS), and the executed version will be included in the Record of Decision (ROD), anticipated to be published in August.
- Jon described the goals of the meeting as reviewing previously committed-to measures to minimize effects – and when possible avoid adverse effects – as well as considering alternatives for resolving unresolved adverse effects.

3) Resolved Properties

a) No adverse effect properties requiring implementation of MOA measures

Jon explained that the Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties report (determination of effect report) committed to avoidance measures for five properties: Sumner Branch Library, Labor Lyceum, Sacred Heart Catholic Church, Robbinsdale Water Works, and Hennepin County Library, Robbinsdale Branch.

b) Avoidance measures included in MOA to avoid adverse effects

Jon described measures to be included in the MOA to avoid adverse effects to the five properties above and to avoid and/or minimize effects to the remaining properties. These include designing project elements to the Secretary of the Interior's (SOI's) Standards, construction protection measures, and noise mitigation (under the National Environmental Policy Act [NEPA]) and noise minimization/avoidance (under Section 106).

Project Design

- Portions of the Project within and near historic properties will be designed in accordance with the SOI's Standards to minimize effects and help to avoid adverse effects.
- Design review will occur as Project design advances through 30%, 60%, 90%, and 100% plans. This review will ensure design is complying with the SOI's Standards and will identify substantive changes that could result in a chance of effect.
- Jon pointed out that at the last meeting, Sarah Beimers, MnHPO, asked for clarification on what it means to say that measures will be implemented "within the vicinity of a historic property," i.e., within what distance of historic properties will Project elements be subject to designing to the SOI's Standards.
    - Jon explained that one option would be to define a distance, and any Project elements within that distance to a historic property would be reviewed. However, FTA/MnDOT CRU instead proposes that this vicinity covers larger portions of the corridor encompassing relevant historic properties.
    - For example, in Minneapolis and Golden Valley, Project elements that would be designed to the SOI's Standards include those roughly from Bryant Avenue North just west of I-94 to just north of Theodore Wirth Regional Park (TWRP).

  - In Robbinsdale, Project elements would be designed to the SOI's Standards within the portion of the corridor from south of the Sacred Heart Catholic Church to just north of the bridge over Highway 100.
  - Kathryn and Caroline Miller, BPO, asked for clarification regarding the extent of the corridor within these areas where designing to the SOI's Standards would be required, and Greg Mathis, MnDOT CRU, clarified that they would include the extent of the construction limits.
- Jon explained that the SOI's Standards when applied for something like this generally do not require major changes and that Project needs will still be able to be met.
- Caroline asked for clarification about which properties these requirements would apply to, and Greg responded that the SOI's Standards would be required to avoid and minimize visual effects to Sumner Branch Library, Labor Lyceum, Floyd B. Olson Memorial, and the Theodore Wirth Segment of the Grand Rounds Historic District.
- Jim asked if all Project elements would be reviewed to the SOI's Standards.
  - Greg described that the SOI's Standards require compatibility with historic properties but are very broad in order to encompass all property types. They require considerations of scale, patterns, and use of compatible materials to avoid diminishing the character of historic properties. For example, the Sumner Branch Library is a Tudor Revival style building, so flashing neon lights and 80-foot tall Project elements would not be allowed. For TWRP, Project elements should be compatible with its character but different enough so that it is clear they are not mimicking the characteristics of the historic property.
- Kathryn asked how the SOI's Standards accommodate Americans with Disabilities Act (ADA) compliance, safety, and security.
  - Greg responded that the SOI's Standards call for holistic design that can accommodate these Project needs, and Sarah further clarified that they allow for modifications to account for ADA accessibility, safety, and security, for example those that were necessary near churches and in downtown St. Paul during development of the METRO Green Line LRT project.
- Jim pointed out that it makes sense to adopt the SOI's Standards comprehensively along the Project alignment in Minneapolis and near TWRP. Although the Golden Valley Road Station is not in Minneapolis, their neighborhoods still have concerns. Jim continued that trees and landscaping are important to residents, and the city does not want trees removed and not replaced because they are not historically accurate (as happened in the Minneapolis Warehouse District).
  - Greg indicated that more conversation would occur about how the SOI's Standards are implemented specific to each property.
- Paul Danielson, BPO, asked what the SOI's Standards mean for the bridges north of Golden Valley Road, for example over Golden Valley Pond, or the Highway 100 crossing where the Project is planning to match the current bridges.
  - Jon replied that since those bridges are not historic, they do not need to meet the SOI's Standards. Paul asked whether what MnDOT CRU has seen so far of Project design in this area would meet the SOI's Standards, and Greg and Jon clarified it would.

Construction Protection Plan

- Jon described that construction protection measures are needed for properties in close proximity to the Project, or for properties that share a border with or are infringed upon by the Project.

- Vibration monitoring and remediation measures (VMRMs) may be applicable to some properties. These measures will likely dictate monitoring thresholds, property owner notification, and damage remediation. However, vibration damage is unlikely, as evidenced by results of the Noise and Vibration Effects on Historic and Cultural Resources technical memorandum prepared by the Project.
- Caroline pointed out that the Project did not identify any vibration-sensitive properties per FTA noise and vibration guidelines.
    - Greg clarified that these measures address vibration from construction rather than Project operations as analyzed during the studies for the Project. He referred attendees to a handout listing avoidance/minimization/mitigation measures for inclusion in the MOA to determine for which properties VMRMs are applicable.
    - Jon said that utilization of these measures is similar to that of the Southwest LRT project.
- Greg continued that as Project design advances, development of construction protection plans will allow the Project to determine vibration thresholds, plan fencing locations, and consider other protections for historic properties.
- Jon concluded by pointing out that ground-disturbing activities always hold the risk for unexpected archaeological discoveries. Depending on the find, construction would halt, and consultation would resume among relevant parties as defined in the MOA.

4) Proposals for Addressing Unresolved Effects

Jon explained that adverse effects to six properties remain unresolved. The discussion today will focus on resolving effects to Wayman A.M.E. Church, Homewood Residential Historic District, West Broadway Avenue Residential Historic District, and Osseo Branch. The two remaining properties – Floyd B. Olson Memorial and Grand Rounds Historic District – will be discussed at upcoming meetings.

a) Wayman A.M.E. Church

- Jon described that the church is located in an area that Station Area Planning (SAP) identifies for a mixed-use commercial node with medium- to high-density development.
- Jon acknowledged comments by the City of Minneapolis that they already recognize the property as historic and identify the area for redevelopment even without the Project; however, based on the fact that the Project is early in the design process and that SAP completed for the project indicates a land use incompatible with the historic structure, FTA/MnDOT CRU made a conservative determination that the Project will have an adverse effect on the property.
- The Project is proposing to prepare nominations for this property for listing in the National Register of Historic Places (NRHP) and as a local landmark. Jon clarified that the Project cannot guarantee successful listing on the NRHP, but can commit to preparing the nominations to appropriate standards.
    - Kathryn asked if the City must be a signatory for the Project to prepare a local designation. Greg responded that they do not and that the two forms the Project would prepare are very similar.
    - Jim confirmed that the City supports preparation of an NRHP nomination form and he will confirm if local designation is desired as well. He said the City could fund or complete any additional work it would take to prepare the local form, if needed.
    - Kathryn responded that since it is not much extra work, the Project can prepare both forms. If the City is not certain whether they want both forms prepared, the MOA could state that the Project will prepare the NRHP form and work with the City to determine how to handle the local designation.

- Jon pointed out that NRHP designation requires property owner consent. Sophia Ginis, BPO, said she would have to confirm the property owner's stance since she did not specifically ask during previous communications, but it is likely they would be agreeable to NRHP designation. Jim clarified that local designation does not require property owner consent, although he would certainly prefer to have it.

- Sarah said that she is hopeful that these strategies will successfully avoid or minimize the Project's effects on this property, since that is the ultimate goal of the Section 106 process.

b) Homewood Residential Historic District

- Jon explained that a small portion of the district will be directly impacted by the Project reconstructing less than 500 feet of street at Xerxes Avenue and Oak Park Avenue. Indirect effects considered include the following.
  - Visual effects from Project infrastructure:
    - Tracks, catenary, TPSS, etc. from LRT and freight bridge alignment.
    - New Plymouth Avenue bridge and associated station and vertical circulation tower.
    - High voltage transmission line replacement.
    - Vegetation removal.
  - Auditory effects from operations of light rail vehicles and Plymouth Station.
  - Effects from potential future redevelopment were considered but found to be negligible.
- The adverse effect finding for the district is due to a moderate noise impact on three residences at the southwest corner of the district.
- Jon clarified that the vertical circulation elements are only visible from a few properties, and Kathryn reiterated that the noise impacts are moderate rather than severe.
- Jon described the measures proposed to minimize effects and avoid non-auditory adverse effects, including designing Project elements in accordance with the SOI's Standards and implementing a construction protection plan.
- To mitigate the auditory adverse effect, the Project proposes interior testing for the three affected properties and installation of sound insulation if there are impacts. Any insulation efforts would meet the SOI's Standards and be reviewed by MnHPO.
- Kathryn said that these commitments are consistent with Metropolitan Council noise policies and similar to commitments the Project is making to other properties that will experience moderate noise effects.
- Jon said that a noise wall would have visual effects, so these measures are preferable from a Section 106 perspective.
- Sophia said that during a meeting with neighborhood residents on March 7, 2016, residents informed the Project that illegal track crossings take place currently. Jim said the City is aware of this, which is why they worked with the Project to include a sidewalk on the Highway 55 bridge to encourage people to cross safely.
  - Jon added that at the meeting residents indicated an interest in being involved in developing the design of the Project elements, particularly a fence at the intersection of Xerxes and Oak Park Avenues.
  - Kathryn pointed out that residents will continue to be involved as the design moves forward, particularly as details for the fence, which will be located within Project right of way to keep people off the tracks, are further developed in the 30% and 60% design plans.

- Paul said that there are some Construction Code standards that dictate specific design features of the fence, such as height, etc.

- Greg asked Jim if the City would prefer consultation meetings be scheduled in order to conduct benchmark reviews.
  - Jim said the City is comfortable with noise testing, although residents around the Plymouth Avenue Station are concerned about being left behind if Golden Valley residents and the Minneapolis Park and Recreation Board have more say.
  - Greg asked if the design review benchmarks would present an opportunity to re-engage the neighborhoods. Sophia clarified that similarly to past meetings, the Project will include Section 106 information on meeting agendas and invite Greg to attend as a resource.
    - Alicia Vap, BPO, said the Project will need to engage residents as part of the Golden Valley permitting process, but they generally have not been as concerned as Minneapolis residents, since the majority of residents in the vicinity are located in Minneapolis.
  - Greg and Jon clarified that this outreach would take place in addition to implementation of the SOI's Standards. Jim described that the residents interested in the historic district are distinct from the main neighborhood organization, so the City will need to do additional outreach outside of Section 106.
    - Sophia explained that residents also become involved through their block clubs, but are not all within one neighborhood group.

c) <u>West Broadway Avenue Residential Historic District</u>

- Jon explained that no direct effects were considered for this property; however, indirect effects considered include the following.
  - Visual effects from Project infrastructure:
    - Elevated guideway, tracks, catenary, new bridge over Highway 100, etc. from LRT and freight rail alignment.
    - Vegetation removal.
  - Auditory effects from operations of light rail vehicles and crossings.
  - Potential future redevelopment catalyzed by the Project.
- With implementation of a quiet zone, the adverse effect finding for the district is due to a moderate noise impact on two residences.
- Jon described the measures proposed to minimize effects and avoid non-auditory adverse effects, including designing Project elements in accordance with the SOI's Standards and implementing a construction protection plan.
- To mitigate the auditory adverse effect, the Project proposes implementation of a quiet zone at the 42nd Avenue North crossing as well as interior testing for the two properties with potential moderate impacts and installation of sound insulation if there are impacts. As with Homewood, any insulation efforts would meet the SOI's Standards and be reviewed by MnHPO.
- Marcia Glick, City of Robbinsdale, asked whether there will be a noise wall. Kathryn explained that based on preliminary plans, a noise wall would not meet the cost effective criteria, so the decision was made to do interior testing instead.

- Marcia noted that it is questionable to have a noise wall along the rest of the alignment through Robbinsdale but not at historic properties. In addition, residents are concerned that riders will be passing by on the elevated LRT line and looking into their homes from above.
- Kathryn said that the design consultant will continue to consider the noise wall but that currently, the Project does not think it is the best choice. If that changes, the noise wall would be subject to design review to the SOI's Standards, like other Project elements in the vicinity.
- Marcia said that other types of visual screens should be considered to address the need to block views from the passing trains, although residents should be consulted on their perspectives.
- Greg asked if the City of Robbinsdale would conduct that outreach or whether the Project should.
  - Marcia said the City would have to do its own outreach at some point.
  - Alicia noted that this area is not unique in Robbinsdale. There are many areas where the Project is very close to homes, and outreach will continue with these residents as Project development moves forward.

d) Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District

- The Project uses an approximately eight-mile segment of the 13-mile corridor.
- Jon explained that although there are differing opinions, FTA/MnDOT CRU contends – and the Project agrees – that this property will no longer retain its historic integrity so will no longer be an historic property with implementation of the Project. There is little that could be done to avoid or minimize the adverse effect, so instead, the Project is proposing mitigation through documenting other historic railroads.
  - Phase II documentation will be conducted of other railroads that are either not yet documented or documented in insufficient detail. This will include making an eligibility recommendation as well as defining boundaries for the historic property. The goal will be to provide a greater level of detail than simply indicating an entire railroad line, which may be hundreds of miles long, is eligible.
  - Kathryn explained that this is analogous to what was done for the METRO Green Line LRT project when a demolition was necessary. Greg agreed, confirming that detailed recordation would not contribute to a greater understanding of the resource since its story, rather than its engineering or other physical aspects, is what is significant and already well documented.
  - Sarah pointed out that this type of documentation may be useful for the St. Paul, Minneapolis & Manitoba main line, which often overlaps with other projects.
  - Sarah added, however, that interpretation may also be beneficial to creatively tell the story of the Osseo Branch Line's role in the potato industry, noting that at a previous meeting, Todd Larson at City of Brooklyn Park remarked that even his city's residents do not understand the significance of the resource.
  - Kathryn asked consulting parties whether the MOA stipulation regarding interpretation can remain broad or whether it needs to be more specifically defined. Sarah recommended including parameters in the MOA for development of an interpretive plan that will be prepared later, but include enough specifics that everyone generally understands the scope or type of interpretation.

        - Alicia recommended including that community involvement will be incorporated into the interpretive planning.
        - Kathryn similarly noted that involvement from internal Metropolitan Council stakeholders will be important to ensure any built structures align with the Project.
        - Marcia said that for the City of Robbinsdale, the story is more about the founders of the city using the rail line and deciding to build the city based on the area's lakes. The historical depot was located where the Robbinsdale Station will be located, which first served the railroad and later the streetcar.
    - Greg asked attendees whether they favor physical interpretation, development of information for publication, or other interpretation options.
        - Alicia noted that the plaza planned for between the station and the park and ride in Robbinsdale would provide an opportunity for some form of interpretation.
        - Paul cautioned that on-train interpretation would likely not be feasible since Metro Transit uses light rail vehicles across the entire system, not specific to each line.
        - Paul suggested that some of the five stations located along the Osseo Branch Line may be more conducive than others to hosting interpretation, and Alicia suggested that the 63rd Avenue and Robbinsdale Avenue stations may be good options.
- Greg and Jon noted that consulting parties seem to be in general agreement with this mitigation strategy and invited further comments to inform parameters in the MOA.

5) Next Steps

Jon described that the two remaining properties – Floyd B. Olson Memorial and Grand Rounds Historic District – will be discussed at upcoming meetings.

- The Cities of Minneapolis and Golden Valley should participate in those discussions, but all interested parties are welcome, and MnDOT CRU can then decide whether additional meetings are necessary.
- Greg confirmed that consulting parties are generally in agreement with the proposals for resolving effects for properties presented to date, so MnDOT CRU will begin drafting the MOA based on the discussion.
- Marcia requested that placeholders and invitations for future meetings contain a general agenda so that participants can assess whether they need to attend.
- Jim said that Jack Byers from the City of Minneapolis would like to attend the meeting when Floyd B. Olson Memorial is discussed, so he requested that MnDOT CRU call ahead to check his schedule.

Meeting Notes

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Section 106 Consultation – Meeting No. 5

Date: Mar 24, 2016 **Time:** 1:30pm **Duration:** 2 hours

Location: Blue Line Project Office (BPO) – 5514 West Broadway Avenue, Suite 200, Crystal, MN 55428

Conference Room 2

Meeting called by: Greg Mathis – MnDOT CRU

Invitees: FTA: Reggie Arkell, Maya Sarna
MnHPO: Sarah Beimers
MnDOT CRU: Jon Vimr
Hennepin County: Brent Rusco
City of Golden Valley: Emily Goellner
City of Minneapolis: Jim Voll, Jack Byers
Minneapolis Park & Recreation Board: Adam Arvidson
Metro Transit, BPO: Kathryn O'Brien, Caroline Miller, Shelley Miller, Tom Harrington, Paul Danielson, Sophia Ginis, David Davies, Alicia Vap, Lee Williams, Kelly Wilder

Discussion Notes

1) Welcome and Introductions

Greg Mathis (Minnesota Department of Transportation [MnDOT] Cultural Resources Unit [CRU]), opened the meeting and led introductions.

2) Project Updates

Greg reminded consulting parties that FTA issued its Final Determination of Effect (DOE) on historic properties and submitted it to the Minnesota Historic Preservation Office (MnHPO) in January 2016.

- FTA found the METRO Blue Line LRT Extension (Project) will have an adverse effect on six properties, no adverse effect on six properties, and no adverse effect on five properties with implementation of measures in the Section 106 Memorandum of Agreement (MOA).
- At the March 10, 2016 consultation meeting, parties reviewed various MOA stipulations and developed mitigation ideas to resolve adverse effects on all but two historic properties affected by the Project. Finer details and language on these ideas is currently being developed.
- Adverse effects to the two remaining properties – Floyd B. Olson Memorial and Grand Rounds Historic District – are the focus of this meeting.
- Greg reviewed the Section 106 process, explaining that initiating the Section 106 process, identifying historic properties, and assessing adverse effects have been completed. FTA/MnDOT CRU are now in the process of resolving adverse effects and developing the MOA.

3) Grand Rounds Historic District, Theodore Wirth Segment

a) Measures to resolve adverse effects

Greg reminded attendees of the Project's location within Theodore Wirth Regional Park and its direct and visual effects as described in the Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties report.

Greg noted that consulting parties have previously discussed designing Project elements in accordance with the Secretary of the Interior's (SOI's) Standards as well as developing construction protection plans for work in the vicinity of historic properties. He asked for feedback from consulting parties on what measures should be implemented for the portion of the Project within the park. Emily Goellner (City of Golden Valley) reiterated the requests contained in her letter dated February 19, 2016. Emily, Greg, Adam Arvidson (Minneapolis Park and Recreation Board [MPRB]), Jim Voll (City of Minneapolis), and BPO staff discussed various options summarized below:

Preservation/Treatment Plans

- Adam also suggests a preservation plan and treatment plan/standards/guidelines similar to what is stipulated in the Southwest LRT project MOA for the Kenilworth Segment of the Grand Rounds Historic District (GRHD).
    - Greg, Sarah Beimers (MnHPO), and Kathryn O'Brien (BPO) discussed details of these planning efforts. A preservation plan would guide policy and master planning decisions, while a treatment plan would identify historic features and outline day-to-day maintenance and treatment activities. It is logical to prepare these plans for separate segments of the GRHD since their National Register nomination forms focus on each segment's individual themes. The plans will be developed collaboratively so will benefit MPRB, Metropolitan Council, and MnHPO, and they will serve as a model for future federal projects that impact MPRB resources.

Project Design and Consultation

- Adam emphasized the importance of a trailhead facility at the Golden Valley Station park-and-ride. The vegetated buffer between the park-and-ride and the parkway and trail facilitates is important mitigation.
    - Emily asked if this vegetation can be replaced at a greater than one-to-one ratio, to maintain viewsheds as defined in the landscape study. Kathryn and Alicia Vap (SPO) said that vegetation must be cleared along the 100-foot BNSF corridor for safety but that the Final Environmental Impact Statement (EIS) reflects the Project's commitment to replacing impacted vegetation, and that plantings may be able to be focused to screen key views toward the Project.
    - Alicia noted that if the park-and-ride does not advance through Project design, the trailhead will not advance, and Kathryn asked that the MOA make this clear.
- Emily asked that the material and finish of the retaining and crash walls reflect the surrounding historical features, and Adam emphasized the importance of the design of walls that face the park. Kathryn and Paul Danielson (BPO) discussed the safety requirements necessitating the use of concrete walls and glass vertical circulation facilities. Sarah explained that the SOI's Standards accommodate merging Project needs with historical considerations, and Tom Harrington (BPO) explained the Project is looking into these options.

- Kathryn, Alicia, and Sarah noted that the MOA will simply stipulate design in accordance with the SOI's Standards. However, ongoing design resolution team (DRT) meetings can offer a venue for continuing these conversations, including involvement by MnHPO's historical architect.

- Emily and Adam discussed the importance of recreational amenities connecting to the Project, and Sarah agreed that recreation is a historically significant facet of the park. Project staff explained that station design should accommodate recreational needs (e.g., elevators tall enough to fit skis, ski racks, bike runnels, etc.).

Interpretation

- Jim is not opposed to renaming Plymouth Avenue Station but would like to remain involved in the decision-making.
- Emily and Adam described that wayfinding and signage should highlight the history of the park and Theodore Wirth himself. It should sufficiently highlight these important stories while not interfering with the park's resources and the visitor experience. The MOA should leave flexibility for further development of these plans.
- Adam encouraged interpretation of the 45th Parallel Boulder, since the 45th parallel bisects the station. This is something that has been discussed at DRT meetings.

Greg summarized that the MOA will contain language to enable the above topics to be addressed through the DRT process, rather than including any specifics that could force the Project to implement a solution that turns out not to be advisable. In addition, the MOA will mirror the Southwest LRT project MOA for consistency among segments of the GRHD. Adam and Emily confirmed this is an acceptable approach and requested a DRT schedule to plan for who should attend relevant meetings.

4) Floyd B. Olson Memorial Statue

a) Boundaries

Greg explained that as the property owner, MnDOT reviewed its documentation of the statue's original site before it was moved in 1984 and found that the current site is much larger and does not reflect the original site design. Therefore, they have recommended the National Register boundaries be revised to include only the statue and its pedestal.

- Greg explained that Project elements no longer infringe on the historic property so there is no direct adverse effect. However, FTA's adverse effect finding remains in effect due to the potential for indirect effects from visually prominent Project elements and redevelopment anticipated by Station Area Planning (SAP).
- Sarah received MnDOT's request to reevaluate the resource's boundaries and confirmed she concurs with the revised boundaries and that there are no direct effects. Written concurrence is forthcoming.
- Greg, Sarah, and Kathryn will discuss what documentation among FTA/MnDOT CRU and MnHPO will be necessary to account for the revised boundaries in Project planning. Kathryn noted that FTA is planning to issue an amended Section 4(f) evaluation in the coming weeks based on the revised boundary.

b) Measures to resolve adverse effects

Greg asked City of Minneapolis and Hennepin County staff if the revised boundaries resolve their previous concerns. Jim and Brent Rusco (Hennepin County) confirmed it resolves concerns related to pedestrian access;

however, Jim said it does not resolve the fact that the city disagrees with the assessment that redevelopment could adversely affect the statue.

- Greg and Jon Vimr (MnDOT CRU) reiterated that FTA/MnDOT CRU based the adverse effects finding on the reasonably foreseeable cumulative effects from redevelopment anticipated by SAP efforts.
- Jack Byers (City of Minneapolis) and Jim reiterated their perspective that there can be no adverse effect finding since the statue has been moved so does not retain its intended location, feeling, or setting. In addition, SAP incorporates open space that could accommodate the statue.
- City staff discussed with Sarah that National Register Criteria Consideration B: Moved Properties could allow for development of a plan to move the statue to a more historically appropriate site. The plan could delineate appropriate boundaries and inform orientation, landscaping, and site design to preserve the statue's remaining integrity.
- Greg agreed that a treatment plan for the property is a promising idea for mitigation; however, he and Sarah discussed the need to confirm an approach with FTA to ensure the Project will not inadvertently exacerbate the current adverse effect through moving the property again. In addition, they discussed the benefits of preparing a National Register nomination for the property.
- Paul confirmed that there is adequate time to determine a plan for the site before landscaping is finalized in the 60% designs in 2017.
- Greg will follow up internally at MnDOT, the current property owner, on whether the agency would support preparation of a National Register nomination.

5) Next Steps

Greg summarized that FTA/MnDOT CRU will draft the MOA in the coming weeks and circulate it for review by consulting parties. There will then be another meeting to review the draft, and it will be finalized in time for inclusion in the Final EIS, anticipated to be published in June. Kathryn explained that consulting parties wishing to sign the MOA will do so between its publication in the Final EIS and release of the Record of Decision in August.

Appendix H
Section 106 Supporting Materials

H.4 Other Supporting Documents

1. Federal Transit Administration, *METRO Blue Line Extension Light Rail Transit Project Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties* (*DOE Report*), January 20, 2016.
2. The 106 Group Ltd, *Theodore Wirth Regional Park Cultural Landscape Study for the Blue Line Extension LRT Project*, September 2015.
3. The 106 Group Ltd, *Phase I and II Architectural History Survey for the Bottineau Transitway Project, Crystal, Brooklyn Park, Golden Valley, Maple Grove, Minneapolis, New Hope, and Robbinsdale, Hennepin County, Minnesota (Volume 1 and 2)*, 2012. Available at http://metrocouncil.org/Transportation/Projects/Current-Projects/METRO-Blue-Line-Extension/Environmental/Technical-Reports.aspx.
4. The 106 Group Ltd, *Phase IA Archaeological Assessment for the Bottineau Transitway Project, Hennepin County, Minnesota*, 2012. This report is available by request.
5. The 106 Group Ltd, *Bottineau Transitway Phase I and II Architectural Survey, Hennepin County, Minnesota: Supplemental Report 1*, 2013. Available at Available at http://metrocouncil.org/Transportation/Projects/Current-Projects/METRO-Blue-Line-Extension/Environmental/Technical-Reports.aspx.
6. Federal Transit Administration and Minnesota State Historic Preservation Office, *Section 106 Programmatic Agreement Between the Federal Transit Administration and the Minnesota State Historic Preservation Office Regarding the Construction of the Interchange Project Minneapolis, Minnesota*, 2012.

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METRO Blue Line Extension Light Rail Transit Project

Section 106 Assessment of Effects and Final Determination of Effect for Historic Properties

January 2016

U.S. Department of Transportation
Federal Transit Administration

METROPOLITAN COUNCIL

Prepared by

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Summary

The METRO Blue Line Extension Light Rail Transit (LRT) Project (Project), previously known as the Bottineau Transitway, is an approximately 13-mile long LRT line with 12 stations (one [1] existing, 11 new), five (5) park-and-ride facilities, and one (1) operations and maintenance facility, located in Hennepin County, Minnesota. The line will begin at the existing Target Field Station in Minneapolis, where it will connect with the existing METRO Blue and Green LRT lines, and the Northstar Commuter Rail line. From the Target Field Station, the Project will extend along a northwesterly alignment, connecting the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park.

The Metropolitan Council (Council) is intending to apply for Federal Transit Administration (FTA) funding for the Project and is intending to seek permits for construction from the United States Army Corps of Engineers; therefore, the Project is a federal undertaking and must comply with Section 306108 of the National Historic Preservation Act of 1966, as amended (54 United States Code [U.S.C.] § 306108) and its implementing regulations, 36 Code of Federal Regulations § 800 et. seq.; Section 101(b)(4) of the National Environmental Policy Act of 1969, as amended, (42 U.S.C. § 4331); and other applicable federal mandates. The Project is also using funding from the State of Minnesota and political subdivisions of the State and is seeking permits for construction from several state agencies, including Minnesota Department of Transportation, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and Minnesota Department of Health. It must also, therefore, comply with Minnesota laws, including the Minnesota Environmental Policy Act of 1973, the Minnesota Field Archaeology Act (Minnesota Statute [MS] § 138.31-138.42), the Minnesota Historic Sites Act (MS § 138.661-138.669), and the Minnesota Private Cemeteries Act (MS § 307.08), as applicable. This assessment of effects study was prepared to comply with these legislative requirements.

This report describes the proposed Project; its Area of Potential Effect (APE); efforts to identify and evaluate historic properties within the Project's APE to determine their eligibility for listing on the National Register of Historic Places; and evaluates the Project's effects on those properties. Based on findings of the effects assessments, the Project will have an adverse effect on six (6) historic properties: the Wayman African Episcopal Methodist Church; Floyd B. Olson Memorial Statue; Grand Rounds Historic District; Homewood Residential Historic District; the Osseo Branch of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District; and the West Broadway Avenue Residential Historic District. Due to the adverse effect the Project will have on these properties, FTA has determined that the undertaking will have an Adverse Effect on historic properties.

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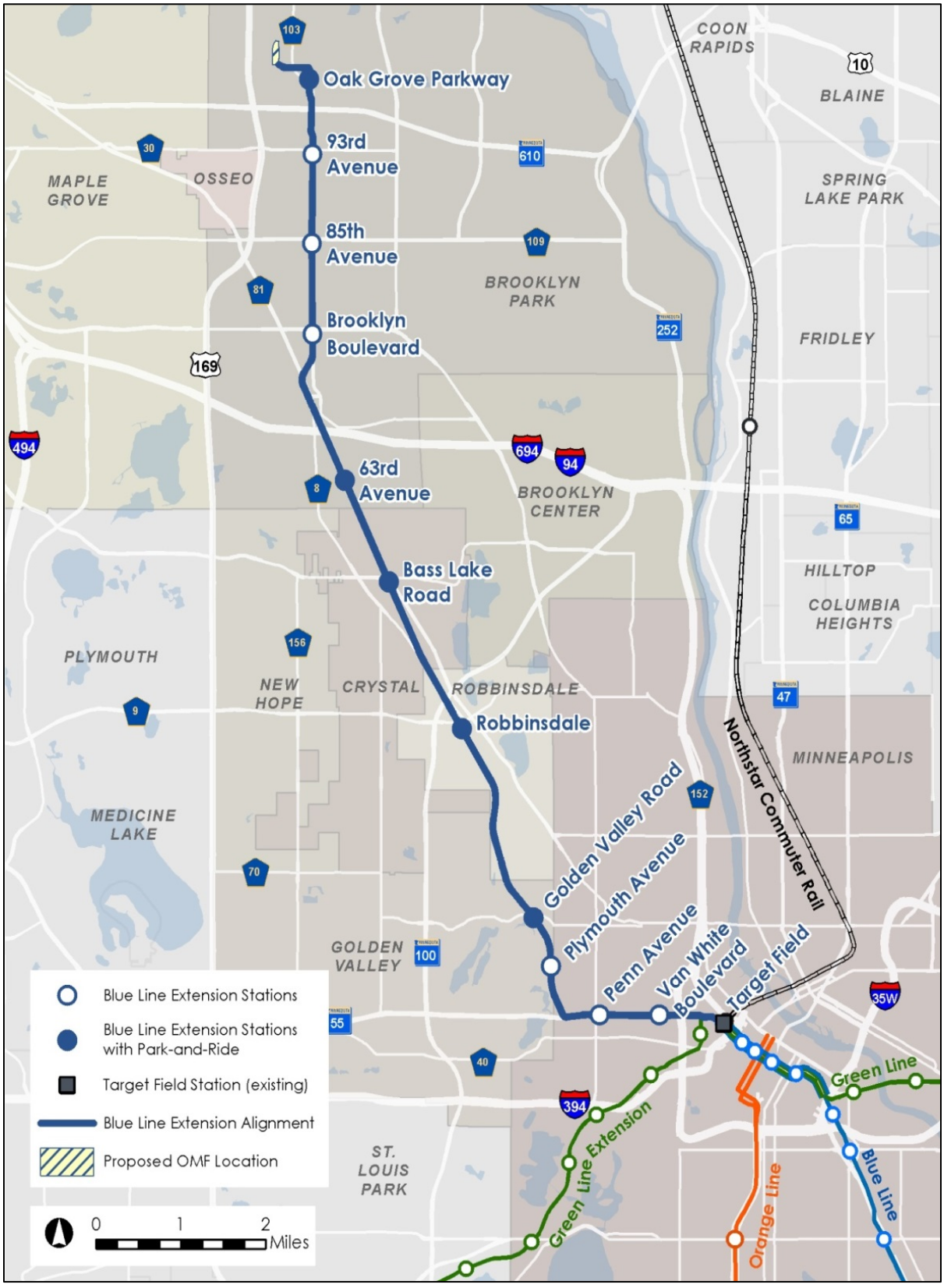
Section 1: Introduction

The proposed METRO Blue Line Extension Light Rail Transit (LRT) Project (Project), previously known as the Bottineau Transitway, is an approximately 13-mile long, double track LRT located in Hennepin County, Minnesota. The line will begin at the existing Target Field Station (previously known as the Interchange Station) in Minneapolis, where it will connect with the existing METRO Blue and Green LRT lines, and the Northstar Commuter Rail line, and extend along a northwesterly alignment, to connect the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The Project includes 11 new stations, five (5) park-and-ride facilities (four to be constructed as part of the Project and one that currently exists and will be used to serve the Project), and one (1) operations and maintenance facility (OMF) (Figure 1).

The Project was initiated by the Hennepin County Regional Railroad Authority (HCRRA), which completed an Alternatives Analysis for the Project in March 2010. In June 2012, the HCRRA identified a Locally Preferred Alternative (LPA) that included a preferred alignment, with LRT as the preferred mode of transit. The Metropolitan Council (Council) adopted the LPA as part of its *2030 Transportation Policy Plan* in March 2013. The HCRRA, in joint local partnership with the Council, and with the Federal Transit Administration (FTA) as the federal sponsor, subsequently completed and published a Draft Environmental Impact Statement (DEIS) for the Project in March 2014. Upon receipt of the FTA's approval to enter the New Starts Program, Governor Dayton identified the Council as the agency with responsibility to advance and, potentially, to construct and operate the Project. The Council will be the sole local Project sponsor preparing the Final Environmental Impact Statement (FEIS), with the FTA as the federal Project sponsor. The Council anticipates that completion of preliminary design and engineering in addition to publishing of the FEIS will occur in 2016.

The Council intends to apply for FTA funding for the Project and intends to seek permits for construction from the United States Army Corps of Engineers (USACE); therefore, the Project is a federal undertaking and must comply with Section 306108 of the National Historic Preservation Act of 1966 (NHPA), as amended (54 United States Code [U.S.C.] § 306108) (hereinafter referred to as Section 106) and its implementing regulations, 36 Code of Federal Regulations (CFR) § 800 et. seq.; Section 101(b)(4) of the National Environmental Policy Act of 1969 (NEPA), as amended, (42 U.S.C. § 4331); and other applicable federal mandates. The Project will also use funding from the State of Minnesota and political subdivisions of the State, and is seeking permits for construction from several state agencies. Therefore, it must also comply with Minnesota laws, including the Minnesota Environmental Policy Act of 1973, the Minnesota Field Archaeology Act (Minnesota Statute [MS] § 138.31-138.42), the Minnesota Historic Sites Act (MS § 138.661-138.669), and the Minnesota Private Cemeteries Act (MS 307.08), as applicable. This assessment of effects study was prepared to comply with the aforementioned legislative requirements.

Figure 1. Project Location



Pursuant to 36 CFR § 800.2(a)(2), the USACE has recognized FTA as the lead Federal agency responsible for fulfilling their collective Section 106 obligations for the Project.[1] FTA has delegated authority to the MnDOT Cultural Resources Unit (CRU) to aid FTA in many aspects of the Section 106 process for the Project per 36 CFR § 800.2(a)(3).[2] Authority delegated includes: initiating the Section 106 process; identifying an Area of Potential Effect (APE); conducting appropriate inventories to identify historic properties within the APE; making determinations of eligibility for the National Register of Historic Places (NRHP); making assessments of potential effect; and conducting consultation with the Minnesota State Historic Preservation Office (MnSHPO), interested parties, and the public. MnDOT CRU is also assisting FTA with identifying consulting parties, making determinations of effect and negotiating the terms and conditions of the Memorandum of Agreement (MOA) for the Project, although FTA retains final authority in these areas.

This report provides a summary description of the LPA, an overview of the legal and regulatory requirements for Section 106, a summary of the results of efforts completed to date to identify and evaluate historic properties for the NRHP that could be potentially affected by the Project, and describes consultation completed with interested parties and the public to consider Project effects on historic properties. It also assesses effects of the Project on NRHP listed and eligible properties located within the APE, provides findings of effect for each property, and describes FTA's final determination of effect on historic properties for this undertaking.

[1] In a letter dated March 30, 2015, the USACE recognized FTA as the Lead Federal Agency pursuant to 36 CFR § 800.2(a)(2), to act on its behalf for meeting the requirements of Section 106.

[2] FTA delegated authority to MnDOT CRU in a letter dated February 16, 2011.

Section 2: Project Description

The proposed Project is an approximately 13-mile long, double track LRT line with 11 new stations; four (4) new park-and-ride facilities with approximately 1,670 spaces (an existing park-and-ride with 565 spaces will also be used to serve the Project); one (1) OMF; accommodations for passenger drop-off; pedestrian and bicycle access; roadway, streetscape, and landscape improvements; and restructured local bus route connections located in Hennepin County, Minnesota. The line will begin at the existing Target Field Station in Minneapolis, where it will connect with the existing METRO Blue and Green LRT lines, and the Northstar Commuter Rail line. From the Target Field Station, the line will extend along a northwesterly alignment to connect the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The Project also includes alterations to a freight railroad line corridor that the LRT alignment will utilize for a portion of its length. A more detailed description of Project elements is included below.

Geographic Area and Light Rail Alignment

The Project begins at Target Field Station in downtown Minneapolis and follows Olson Memorial Highway (Trunk Highway [TH] 55) west to the Burlington Northern Santa Fe (BNSF) Railway (Rwy.) corridor (historically known as the Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad [StPM&M RR] / Great Northern [GN] Rwy.) just west of Thomas Avenue where it enters the BNSF Rwy. right-of-way (ROW). Adjacent to the freight rail tracks, it continues in the railroad corridor through the cities of Golden Valley, Robbinsdale, Crystal, and into Brooklyn Park. It then crosses Bottineau Boulevard (CR 81) at 73rd Avenue to West Broadway Avenue and terminates just north of TH 610 near the Target North Campus (see Figure 1).

Track Structure

The Project will operate on standard-gauge rail. The proposed system will be double-tracked throughout to provide separate tracks for northbound and southbound trains. Crossovers to allow trains to cross from the northbound to the southbound tracks will be provided at regular intervals for special operations or emergencies. Typically, the guideway in the BNSF Rwy. corridor will be ballasted track, separate from the freight rail track. Track at station areas will consist of direct fixation track. When running on alignments in streets the majority of the Project will be ballasted track, with embedded or direct fixation track provided depending on the location and the context of the street.

Overhead Power System

Overhead Power Systems will transmit electrical power from a Traction Power Substation (TPSS) to the light rail vehicle via a pantograph system that will be constructed along the entire Project ROW.

The Overhead Power System consists of metal support poles with cross arms from which powered contact wires supported by messenger wires (catenary) are suspended above the light rail tracks to power the light rail vehicles (LRVs). The support poles are generally located between the two light rail tracks and support the wires for both alignments, although in some locations they may be positioned outside the light rail alignment. The poles may be painted or self-weathering steel.

Traction Power Substations, Signal Bungalows, and Signaling Systems

The Project will include a total of seventeen (17) TPSS's.[3] TPSS sites will occupy about 4,000-square-feet and will accommodate a single-story prefabricated building with dimensions of roughly 40-by-20-feet. The sites will be completely enclosed with perimeter fencing. Access to the TPSS building by Metro Transit maintenance personnel must also be accommodated at the site. It is anticipated that most TPSS sites will be located within existing transportation ROW.

The Project will include a total of five (5) to six (6) signal bungalows located near special trackwork (such as crossovers). Additionally, there will be 11 to 12 combined station signal/communication bungalows located near each of the Project's stations. Signal bungalows are small prefabricated sheds, typically 10-by-30-feet in size, that house equipment to operate and monitor the signals that regulate train movement on the alignment. All bungalows will be installed at grade with access for maintenance.

Stations and Park-and-Ride Lots

Beginning at the existing Target Field Station in Minneapolis, there will be 12 stations along the Project alignment (11 new and one [1] existing): three (3) in Minneapolis, two (2) in Golden Valley, one (1) in Robbinsdale, one (1) in Crystal, and five (5) in Brooklyn Park (Table 1). All 11 of the new stations will be center-platform stations, three of which will include vertical circulation for passengers to access LRT station platforms (these three are Plymouth Avenue Station, Golden Valley Road Station, and a skyway/elevator from the existing parking structure at the 63rd Avenue Station). Park-and-ride facilities will be located at five (5) stations (Oak Grove Parkway Station, 63rd Avenue Station, Bass Lake Road Station, Robbinsdale Station, and Golden Valley Road Station). The 63rd Avenue park-and-ride is an existing Metro Transit parking structure which will be used to serve the Project.

The station platforms will be approximately 270-by-22-feet in size and raised 14 inches above the guideway railhead. All stations will have Americans with Disabilities Act (ADA) accessible facilities and include ticketing, lighting, shelters, and signage. While the specific designs for the station shelters will not be determined until a later date, depending on the requirements for individual

[3] At the time this was prepared, the exact location of some TPSSs was not finalized so 300-foot diameter areas were delimited to identify the area in which they could be located. These 300-foot diameter areas will be refined during the engineering phase of project development to identify a more precise siting for the TPSS within the area. This refinement process will seek to minimize impacts to all surrounding properties and resources, not just historic properties, and balance safety, reliability, cost, and operational efficiencies.

stations, a typical station platform will have four three-sided shelters. These shelters may be set under individual canopies, or under longer, continuous canopies spanning multiple shelters. A typical free-standing shelter would have a 12-to-16-foot tall canopy that is approximately 36-by-19-feet in size and located above the platform. Signage will range from 18-to-24-feet in height.

Table 1. LRT Stations and Park-and-Ride Facilities

Station	New or Existing	Park-and-Ride Spaces
Minneapolis		
Target Field Station	Existing	None
Van White Memorial Boulevard Station	New	None
Penn Avenue Station	New	None
Golden Valley		
Plymouth Avenue Station	New	None
Golden Valley Road Station	New	100 (new)
Robbinsdale		
Robbinsdale Station	New	550 (new)
Crystal		
Bass Lake Road Station	New	170 (new)
Brooklyn Park		
63rd Avenue Station	New	565 (existing)
Brooklyn Boulevard Station	New	None
85th Avenue Station	New	None
93rd Avenue Station	New	None
Oak Grove Parkway Station	New	850

Operations and Maintenance Facility

The OMF site will be located at the north end of the Project in Brooklyn Park. This location was selected based on its proximity to the end of the line, and adequate space for the facility (about 10.4 acres, or approximately 450,000-square-feet). The OMF site would be occupied by a LRT storage and maintenance building that is about 140,000-square-feet, surface parking for employees and visitors, trackwork, and open space. The facility will include areas to store, service, and maintain up to 30 light rail vehicles (LRVs), vehicle washing and cleaning equipment, and office space to accommodate staff who would report for work at this facility. The facility would be equipped to perform daily cleaning and repair activities on the LRVs as they enter and leave revenue service. Scheduled service and maintenance inspections also would be performed in this facility.

Bridges

The Project includes the construction of seven (7) new LRT bridges: a 350-foot-long crossing of the Hennepin Energy Recovery Center (HERC) driveway, a 700-foot-long crossing of the ponds immediately north of Golden Valley Road, a 1,200-foot-long crossing of Grimes Pond in

Robbinsdale, a 375-foot-long bridge over TH 100, a 1,260-foot-long bridge (260-foot span with 500-foot approaches on either side) over the CP rail tracks, a 925-foot-long bridge over the 73rd Avenue/Bottineau Boulevard intersection, and a 250-foot-long bridge over TH 610.

In addition, five reconstructed roadway bridges are part of the LPA: a 375-foot-long TH 55 bridge over the BNSF Rwy. line, a 375-foot-long Plymouth Avenue bridge, a 120-foot-long Theodore Wirth Parkway bridge, a 215-foot-long Golden Valley Road bridge, and a 110-foot-long 36th Street bridge. The bridges carrying TH 55 over I-94 in Minneapolis and I-94/I-694 over the BNSF Rwy. line in Brooklyn Park will require modifications to accommodate LRT.

Freight Rail Modifications

Freight rail service will continue to operate in its existing location within the BNSF Rwy. for the approximately 8.4 miles of shared ROW with the following general areas of freight rail modifications in Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. Beginning at TH 55 and extending to north of 73rd Avenue North, the alignment of the existing freight rail track owned by the BNSF Rwy. will be shifted and reconstructed approximately 15-feet west of its existing alignment in order to allow the light rail alignment to be constructed in the eastern half of BNSF Rwy. ROW. The two exceptions are that the BNSF Rwy. freight rail track will run on its existing alignment within the Grimes Pond and Golden Valley ponds to eliminate the need to build a freight rail bridge structure across existing wetland areas. The BNSF Rwy. freight rail track will also run on its existing alignment over TH-100.

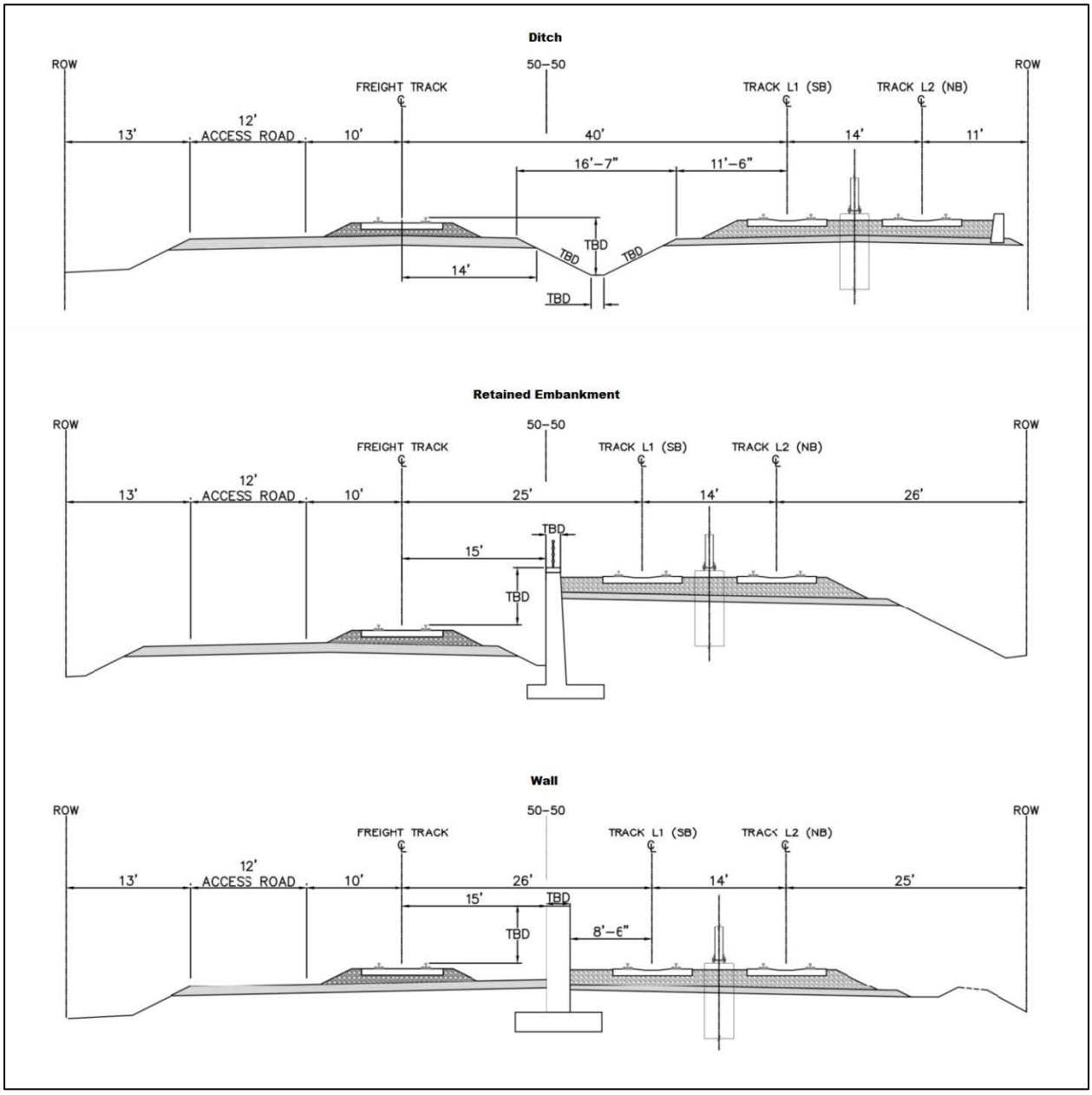
Corridor Protection Barrier

Along the portion of the Project alignment located within the BNSF Rwy. ROW, a corridor protection barrier will be constructed to physically separate the LRT guideway from the BNSF Rwy. freight rail tracks. The barrier will include a combination of horizontal separation, vertical separation, and physical means to provide safe operations. Three specific corridor protection treatments are proposed (Figure 2):

- A ditch will be used where ROW width permits. The width of the ditch will range from 12-to-17 feet, with a track spacing range of 35-to-40-feet on-center between the LRT and freight rail tracks;
- A retained fill option where LRT would be at a higher grade than freight rail, with the raised LRT roadbed supported by a retaining wall(s); and
- A wall with an approximate height of 6-feet and an approximate width of up to 2-feet thick, the design and materials would be determined as Project design advances.

Figure 2 includes a typical section of each corridor protection treatment.

Figure 2. Corridor Protection Treatments



Source: Metropolitan Council

Roadway Improvements

The Project will result in long-term physical modifications to existing roadways and intersections that will affect local circulation patterns. These changes to roadways will accommodate the introduction of the LRT alignment and related facilities and increase roadway capacity to respond to

anticipated demands on roadways (e.g., in response to demand at a new park-and-ride lot).[4] Roadway improvements range from turn lane additions and reconfiguration of lane widths to new roadways, modifications to existing roadway alignments, and reconstruction of bridges.

Trunk Highway 55 Reconstruction

TH 55 will be reconstructed between the Target Field Station and the BNSF Rwy. corridor. This will include the full reconstruction of a six-lane roadway with the LRT guideway located in the center median, and includes the construction of new sidewalks on the north and south sides of the roadway. The existing bridge carrying TH 55 over I-94 will be modified to accommodate the LRT guideway in the middle of the bridge.

West Broadway Avenue

Hennepin County is planning to do a full reconstruction of West Broadway Avenue as part of a separate project between Candlewood Avenue and 93rd Avenue. This reconstruction may occur before or concurrent with the Project; however, it is being designed to allow for the introduction of LRT into its center median should the Project be implemented. The Project includes full reconstruction of West Broadway Avenue between 75th Avenue, where the LRT guideway would enter the median of West Broadway Avenue, and Candlewood Avenue, and then north of 94th Avenue, where the LRT guideway would exit the median of West Broadway Avenue to cross TH 610. The Hennepin County project includes construction of a 10-foot trail and 8-foot boulevard on the west and east sides of the roadway.

Bicycle and Pedestrian Improvements

The Project includes a variety of bicycle and pedestrian improvements to provide safe bicycle and pedestrian crossings of the proposed LRT alignment, to accommodate the proposed LRT and roadway improvements, and/or to provide bicycle and pedestrian connections to the proposed LRT stations. These improvements will affect several trails and sidewalks within the vicinity of the Project and include, but are not limited to, construction of ADA compliant curb ramps and detectable warnings, and relocations of regional and local trails.

Light Rail Vehicles

The LRVs will be similar to those in use on the existing METRO Green Line and Blue Line (Figure 3). The LRVs will be designed to operate independently or as a multiple-unit train of up to three vehicles. A pantograph located on the roof of the LRV will collect power from the overhead power

[4] The Project includes intersection modifications, new traffic signals, changes to existing traffic signals, and other traffic management techniques at intersections and at-grade light rail crossings of roadways within the roadways and traffic study area, so that the Project will not cause an unacceptable level of congestion, or worsen traffic operations at intersection that already experience an unacceptable level congestion compared to the 2040 No Build Alternative. Congestion is defined in terms of level of service (LOS). The Project will: 1) generally provide intersection operations of Level of Service D or better; or, 2) when the 2040 No Build Alternative LOS would be E or F, provides intersection operations that will be the same as or better than the No Build Alternative.

system. Each car will be equipped with level boarding for ADA accessibility and will be able to accommodate bicycles. LRV speeds will vary depending on operational conditions and will be set prior to the start of revenue operations based on a safety certification review. In Downtown Minneapolis they will operate at speeds of approximately 20 miles per hour, but along some segments of the alignment they may operate at top speeds ranging from 55 to 60 miles per hour.

Figure 3. Typical LRV



Source: Metropolitan Council

Transit Operations

The Project entails a number of changes to transit operations in the Corridor including existing and planned bus systems of Metro Transit. The service plans will be revised prior to opening in 2021, and will be a result of a service planning process that complies with the Council's service planning policies, with federal requirements (e.g., Title VI), and a variety of external factors (e.g., transit demand, funding availability, public and agency comment).

LRT Operations

The Project will have the effect of increasing both the average weekday light rail vehicle miles traveled (VMT) and revenue hours in the region, relative to the present (average weekday, 2040). Since the Project will have an interline connection with the existing METRO Blue Line (originally known as Hiawatha LRT), the Project's operating hours and frequency of service will be similar to the existing METRO Blue Line. As such the Project is expected to operate on 10-minute peak-period headways from approximately 6:30 a.m. to approximately 9:00 p.m., with less frequent service during early morning and late evening hours, and no service between approximately 2:00 a.m. and 4:30 a.m.[5]

[5] Headways are the average time between transit vehicles operating in the same direction by a common point over a given period of time (e.g., four inbound light rail trains passing by a station within one hour would result in a 15-minute headway.

Section 3: Section 106 Legal and Regulatory Context

Prior to implementing an undertaking, Section 106 of the NHPA requires Federal agencies to consider the effects of the undertaking on historic properties that are included in, or are eligible for inclusion in, the NRHP. Undertakings include projects a federal agency carries out, approves or licenses, or funds. Federal agencies must also afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the project prior to the agency making a decision.

As described in 36 CFR § 800 et. seq., which implements Section 106, the Section 106 process includes the following steps:

1. Initiation of the Section 106 process:
    - Establish the undertaking;
    - Notify the State Historic Preservation Officer (SHPO) and any Tribal Historic Preservation Officers (THPOs);
    - Plan to involve the public; and
    - Identify other consulting parties.
2. Identification of historic properties:
    - Determine the APE; and
    - Complete a survey of the APE to identify historic properties that are listed in or eligible for inclusion in the NRHP.
3. Assessment of adverse effects:
    - Apply criteria of adverse effect.
4. Resolution of adverse effects:
    - Continue consultation to consider measures to avoid, minimize, or mitigate adverse effects;
    - Reach agreement with the SHPO, any THPOs, and the ACHP if it chooses to participate in the consultation; and
    - Prepare a Section 106 agreement to document measures that will be implemented by the Federal agency to avoid, minimize, and/or mitigate adverse effects.

Section 4: Identification of Historic Properties

Area of Potential Effect

An APE is "the geographical area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking" (36 CFR § 800.16[d]). An APE must account for both direct and indirect effects, including permanent and temporary effects.

MnDOT CRU, under delegation from FTA and in consultation with MnSHPO, determined an APE for the Project in 2011. Two APEs were established, one for architecture/history properties and one for archaeological resources. MnSHPO has concurred with both APEs.[6]

Architecture/History APE

The APE for architecture/history properties (Figures 4 and 5) includes all areas within 500-feet on either side of the proposed alignment and within a 0.25 mile radius from the center point of proposed stations and the OMF. In addition, the architecture/history APE includes the following areas that are based on the type of Project improvement:

- New structures (new or replacement bridges, pedestrian bridges, etc.) – 0.25 mile radius from the structure (assumes the potential for pile driving);
- Existing structures – modification (widening/reconstruction of existing structures) – 0.25 mile radius from the structure (assumes the potential for pile driving); and
- Existing structures – pier modification only (moving piers to allow the LRT to go under) – 500-feet radius from the structure (assumes using drilling and no pile driving).

Archaeological APE

The APE for archaeological resources (Figures 6 and 7) includes all areas of proposed construction activities or other potential ground disturbing activities associated with construction.[7] Based on the

[6] Letter from MnSHPO to MnDOT CRU dated October 26, 2011. The APE that MnSHPO concurred with included the entirety of the LPA, as well as various alternative alignments that were under consideration at the time the APE was established. These alternative alignments were considered during the development of the DEIS, but were not selected as part of the LPA and have been dropped from further consideration. Therefore, they are not depicted in Figures 4-7.

[7] Figures 6-7 depict the location of the LPA and the corresponding archaeological APE. As the Project design has advanced since the archaeological APE was established, there have been several slight revisions to the Project design, but not to the Project scope. As a result, as is depicted in Figure 7, there are several small portions of the LPA that are now located outside the existing archaeological APE. However, the Phase IA archaeological investigation conducted for the Project (see later in this section) studied an area extending 0.25 miles beyond the archaeological APE, so the portions of the current LPA that are located outside the archaeological APE have been

current understanding of the proposed project, the Archaeological APE generally includes the existing railroad ROW for portions of the project within an existing railroad corridor, and the potential area of disturbance for other areas. The Archaeological APE for the stations includes all areas within 500-feet from the center point of the currently proposed station platforms to account for potential direct impacts from construction or development activities. Similarly, the Archaeological APE for the proposed park-and-rides and the OMF includes all areas within 500-feet from the potential area of disturbance.

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studied. No historic properties were identified and these areas were found to have low potential for archaeological resources to exist. The portion of the LPA outside the APE, from and including the 93rd Avenue station and its park-and-ride facility to the OMF site, also were previously surveyed at a Phase I level for another project and no historic properties were identified (see Woodward-Clyde, 1994). MnDOT CRU also examined the portions of the LPA outside the present APE again on January 12, 2016 through the use of its Minnesota Model (MnModel) and confirmed these areas have low archaeological site potential. Based on the previous archaeological assessments completed for the Project, the 1994 survey by Woodward-Clyde, and MnModel data, FTA has determined there is low potential for archaeological resources to exist, but will incorporate measures covering unanticipated discoveries during construction in its Section 106 MOA for the Project.

Figure 4. Architecture/History APE: South of Bass Lake Road



Figure 5. Architecture/History APE: North of Bass Lake Road

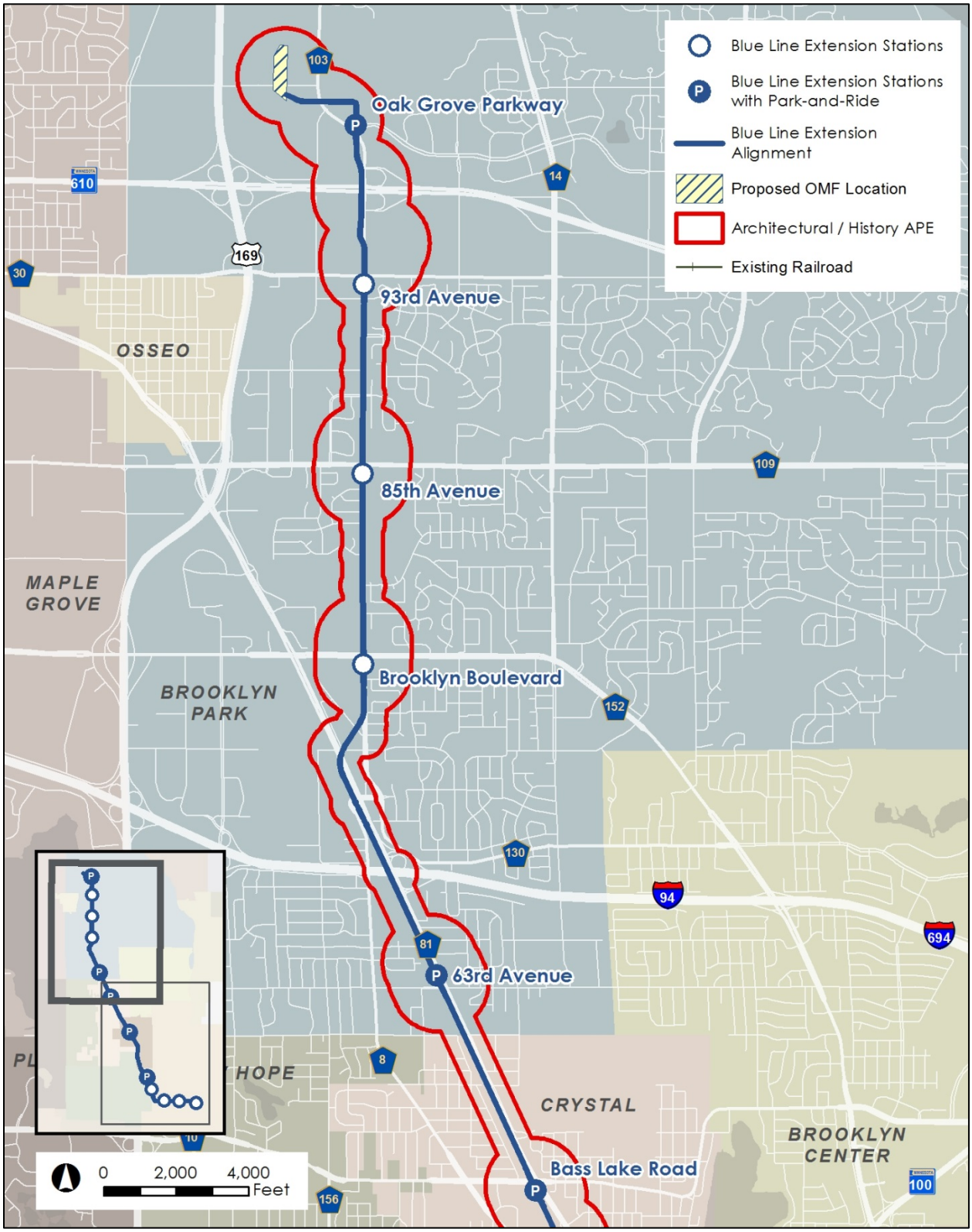


Figure 6. Archaeological APE: South of Bass Lake Road

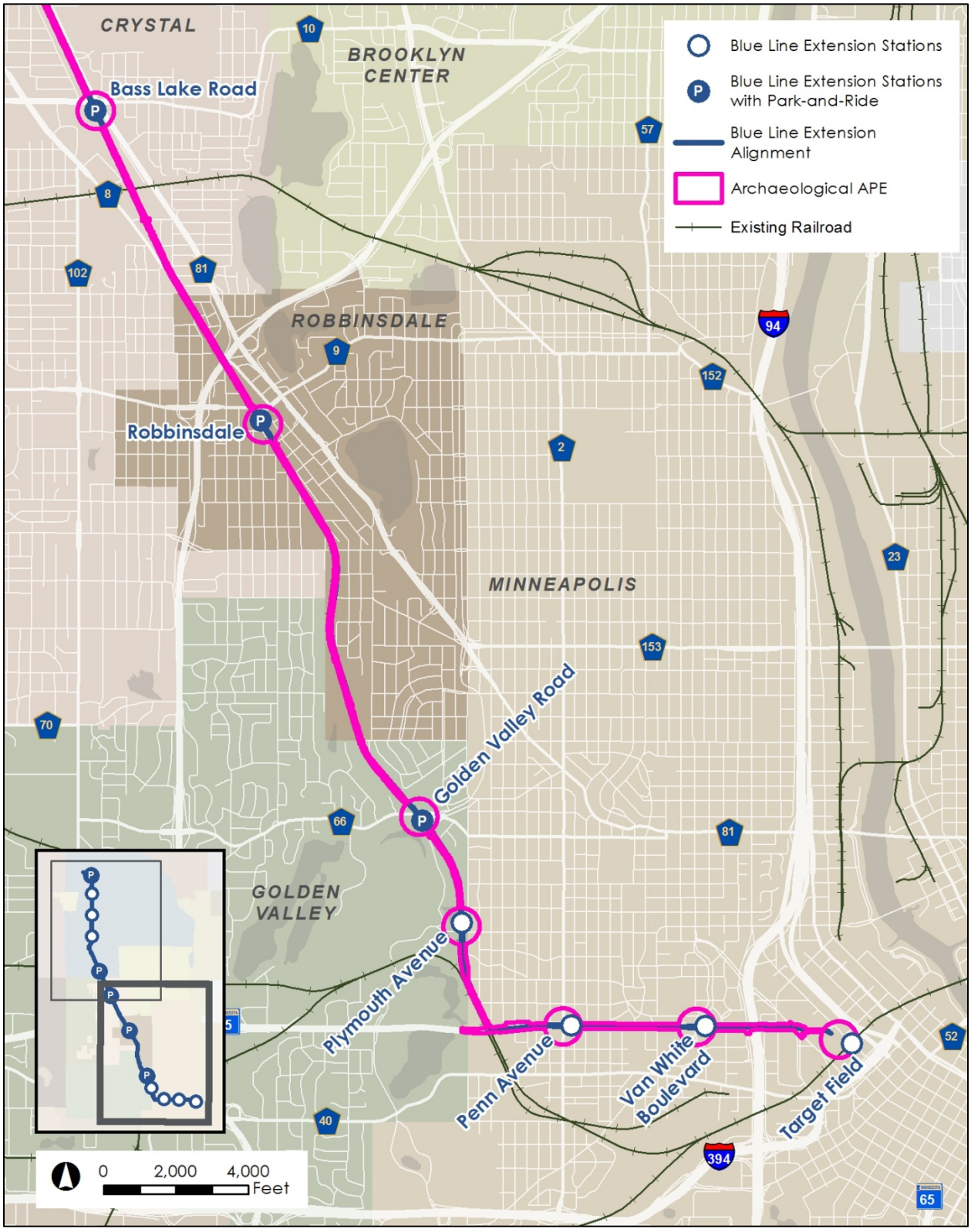


Figure 7. Archaeological APE: North of Bass Lake Road



Identification and Evaluation of Historic Properties

Section 106 requires Federal agencies to consider the effects of their undertakings on historic properties that are listed in or are eligible for inclusion in the NRHP, which is the nation's official list of historic places worthy of preservation. Therefore, historic property surveys were undertaken to identify and evaluate historic properties listed in or eligible for inclusion in the NRHP located within the Project's architecture/history and archaeological APEs.

National Register Criteria

In order to qualify for inclusion in the NRHP a property must possess significance under at least one of four criteria:

A. Association with events that have made significant contributions to broad patterns of history.
B. Association with the lives of persons significant in our past.
C. Embodiment of distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values; or represent a significant and distinguishable entity whose components may lack individual distinction.
D. Has yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4; NPS 1997).

In general, a historic property must be at least 50 years of age or older to be considered for the NRHP, however, properties less than 50 years of age may be considered for listing if they possess exceptional significance. In addition to possessing significance, to be eligible for the NRHP a property must also retain sufficient historic integrity: "Integrity is the ability of a property to convey its significance" (NPS 1997:44). There are seven aspects or qualities that must be considered to determine whether a property retains integrity:

- Location: the place where the historic property was constructed or the place where the historic event occurred;
- Design: the combination of elements that create the form, plan, space, structure, and style of a property
- Setting: the physical environment of a historic property;
- Materials: the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property;
- Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- Feeling: a property's expression of the aesthetic or historic sense of a particular period of time; and
- Association: the direct link between an important historic event or person and a historic property.

Historic Properties Surveys

To identify historic properties within the Project's architecture/history and archaeological APEs, two architecture/history surveys, one archaeological survey, and one cultural landscape study have

been completed since 2011 (Table 2). This effort included documenting previously identified or evaluated properties, as well as conducting field surveys to document any previously unidentified properties more than 50 years of age within the Project's APEs. To encompass the environmental review period and construction process, all properties that were constructed in 1965 or earlier within the Project's APEs were surveyed and evaluated. The cultural landscape study was completed for one NRHP eligible property to inform the assessment of effects analysis for this historic property.

Table 2. Reports Documenting Results of Surveys to Identify Historic Properties in the Project's APEs

Title	Date
Architecture/History Survey Reports	
Phase I & II Architectural History Survey for the Bottineau Transitway Project, Crystal, Brooklyn Park, Golden Valley, Maple grove, Minneapolis, New Hope, and Robbinsdale, Hennepin County, Minnesota, Volume I	Nov 2012
Phase I & II Architectural History Survey for the Bottineau Transitway Project, Crystal, Brooklyn Park, Golden Valley, Maple grove, Minneapolis, New Hope, and Robbinsdale, Hennepin County, Minnesota, Volume 2	Nov 2012
Bottineau Transitway Phase I & II Architectural History Survey, Hennepin County, Minnesota: Supplemental Report 1	June 2013
Archaeological Survey Reports	
Phase IA Archaeological Assessment for the Bottineau Transitway Project, Hennepin County, Minnesota.	Nov 2012
Cultural Landscape Study Reports	
Theodore Wirth Regional Park Cultural Landscape Study for the Blue Line Extension LRT Project, Golden Valley and Minneapolis, Hennepin County, Minnesota.	Sept 2015

Results of Investigations

Based on the results of the investigations identified above, MnDOT CRU, under delegation from FTA, made eligibility determinations and provided them to the MnSHPO for concurrence. MnSHPO has concurred with all of the eligibility determinations.[8] In total, 17 NRHP listed and eligible properties have been identified in the Project's architecture/history and archaeological APEs (Table 3; Figures 8 and 9). All properties identified are architecture/history properties resources. No archaeological resources listed, or eligible for listing, on the NRHP were identified.

Table 3. Number of NRHP Listed and Eligible Properties in the Project's APEs

Resource Type	NRHP Status	
	Listed	Eligible
Historic Districts	1	6
Individual Resources	3	7

[8] In a letter dated January 29, 2013, MnSHPO concurred with the eligibility determinations of all historic properties other than Sacred Heart Catholic Church; MnDOT CRU had recommended the Church as not eligible for the NRHP, but MnSHPO disagreed. In a letter dated July 8, 2013, MnDOT CRU revised its determination for the Church from ineligible to eligible for inclusion in the NRHP. MnSHPO concurred with this determination in a letter dated August 7, 2013.

Figure 8. Historic Properties: South of Bass Lake Road

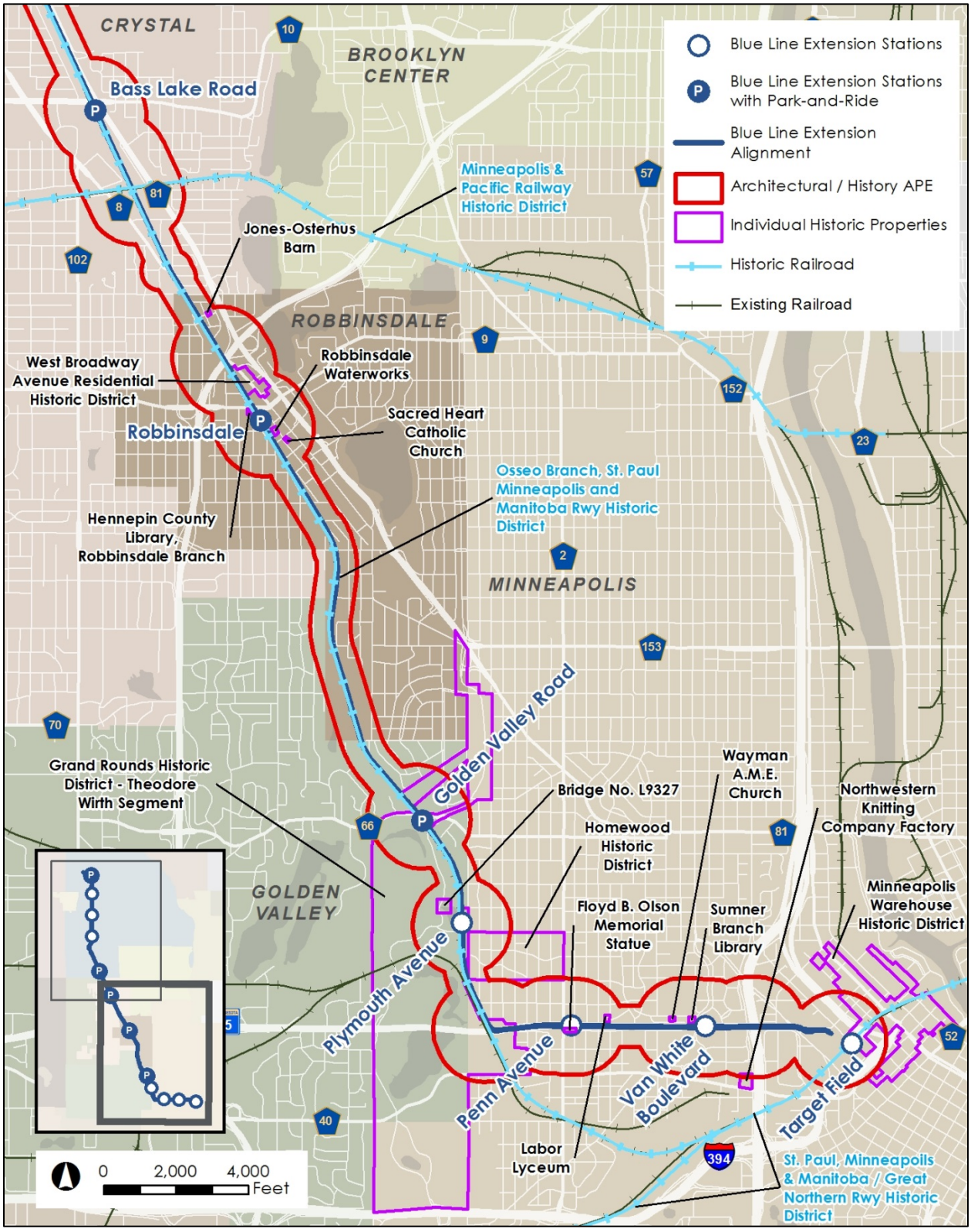
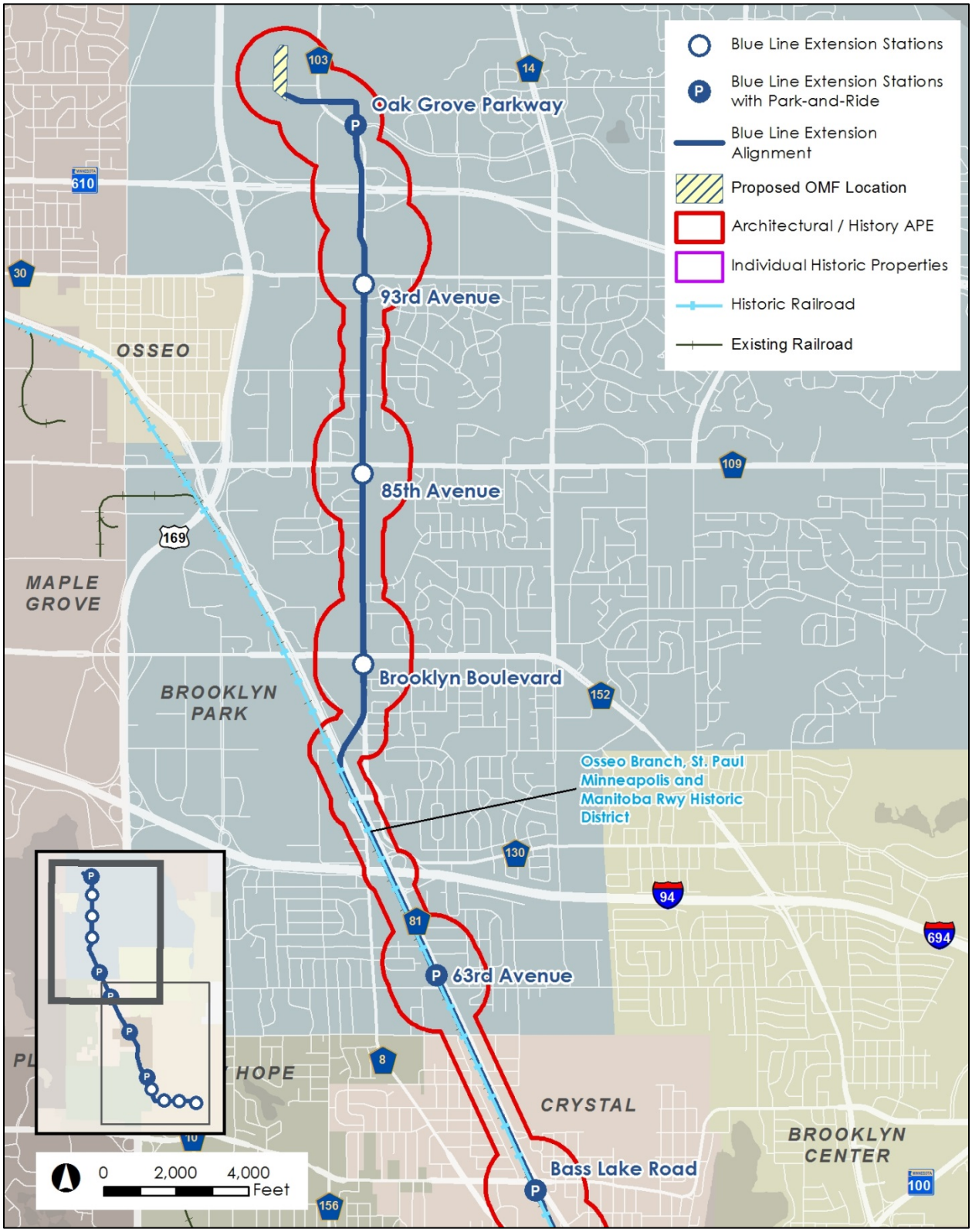


Figure 9. Historic Properties: North of Bass Lake Road



The remainder of this section describes the NRHP listed and eligible properties in the Project's APEs. Properties are described generally in order in which they are located from southeast to northwest along the Project corridor. The approximate distance from each historic property to the Project's limit of disturbance (LOD) is also included; this distance measurement accounts for both permanent and temporary easements.

Minneapolis Warehouse Historic District (HE-MPC-0441)

Address: Bounded by 1st Avenue North, 1st Street North, 10th Avenue, and 6th Street, Downtown Minneapolis
Distance to LOD: 430 feet
NRHP Status: Listed
NRHP Criteria: A, C
Areas of Significance: Architecture, Commerce
Period of Significance: 1865-1930

- The 30-block warehouse and wholesaling district that represents early commercial growth in downtown Minneapolis and the city's importance as the major distribution center for the upper Midwest
- Architecturally distinct for its intact concentration of commercial buildings designed by the city's leading architects
- Includes nineteenth and early twentieth century commercial buildings, and include examples of Italianate, Queen Anne, Richardsonian Romanesque, Classical Revival, and Commercial style architecture

St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District (XX-RRD-010)

Address: Minneapolis
Distance to LOD: 590 feet
NRHP Status: Eligible
NRHP Criterion: A
Area of Significance: Transportation
Period of Significance: 1880-1956

- Connected the Red River Valley wheat farms with the Minneapolis milling district, which was a significant factor in the development of the Minneapolis flour milling industry
- Helped solidify Minneapolis and St. Paul as the commercial, financial, and manufacturing center of the area from eastern Wisconsin to central Montana
- Was an important component in the GN's transcontinental route to Puget Sound

Northwestern Knitting Company Factory (HE-MPC-8125)

Address: 718 Glenwood Avenue, Minneapolis
Distance to LOD: 1,150 feet
NRHP Status: Listed
NRHP Criterion: A
Areas of Significance: Commerce, Engineering, Industry, Invention
Period of Significance: 1904-1915

- Company was the nation's leading producer and distributor of underwear ("Munsingwear") from its founding in 1887 by George Munsing, to 1981, when company went out of business
- Between 1904 and 1915, complex was expanded to include five buildings designed by Minneapolis architects Bertrand and Chamberlain

Sumner Branch Library (HE-MPC-8081)

Address: 611 Emerson Avenue North, Minneapolis
Distance to LOD: 0 feet
NRHP Status: Listed
NRHP Criteria: A, B
Areas of Significance: Education, Social History
Period of Significance: 1915-1949

- One of four Carnegie-funded public libraries in Minneapolis
- Extensive outreach program that affected educational and cultural development of Minneapolis
- Property best associated with Gratia Alta Countryman, longtime head of the Minneapolis Public Library and leader in the movement to develop a public library system nationwide

Wayman African Methodist Episcopal (A.M.E.) Church (HE-MPC-8290)

Address: 1221 7th Avenue North, Minneapolis
Distance to LOD: 40 feet
NRHP Status: Eligible
NRHP Criterion: C
Area of Significance: Architecture
Period of Significance: 1966

- Designed by architect Harry E. Gerrish
- Outstanding and distinctive example of Mid-Century Modern ecclesiastical architecture in Minneapolis
- Important and distinctive example of nationwide changes in ecclesiastical architectural design that rejected historicism and embraced new abstract, asymmetrical, and futuristic designs

Labor Lyceum (HE-MPC-7553)

Address: 1800 TH 55, Minneapolis
Distance to LOD: 40 feet
NRHP Status: Eligible
NRHP Criterion: A
Areas of Significance: Social History, Politics/Government
Period of Significance: 1915-1948

- Center of immigrant Jewish labor movements in the early twentieth century. In Minneapolis, the building was home to the Workmen's Circle, which was part of the anti-Zionist Communists and Socialists labor movement within Minneapolis' Jewish community.
- Illustrates perpetuation of Jewish culture and traditions

Floyd B. Olson Memorial Statue (HE-MPC-9013)

Address: TH 55 at Penn Avenue North, Minneapolis
Distance to LOD: 0 feet
NRHP Status: Eligible
NRHP Criterion: C
Area of Significance: Art
Period of Significance: 1940

- Significant example of an expression of the work of master sculptor Carlo Brioschi during the last state of his career (1931-1940)
- Represents Brioschi's turn in focus from primarily architectural ornamentation to outdoor freestanding sculpture
- Erected in 1940 to commemorate Minnesota's popular 22nd Governor, Floyd B. Olson (1891-1936)

Osseo Branch Line of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District (HE-RRD-002; segments: HE-MPC-16389; HE-RBC-0304; HE-CRC-0238; HE-BPC-0084)

Address: Minneapolis, Golden Valley, Crystal, Robbinsdale, Brooklyn Park, Osseo
Distance to LOD: 0 feet (Project alignment is located within a portion of this property)
NRHP Status: Eligible
NRHP Criterion: A
Area of Significance: Transportation
Period of Significance: 1881-1931

- The 13-mile segment of this line from Minneapolis to Osseo supported the potato farming development of Osseo and surrounding areas. It established a connection that did not previously exist that resulted in a significant expansion of potato-growing region in northern Hennepin County for the construction of line to the decline of the potato industry.

Grand Rounds Historic District, Theodore Wirth Segment (XX-PRK-0001)

Address: Minneapolis, Golden Valley, Robbinsdale
Distance to LOD: 0 feet (Project alignment is located within a portion of this property)
NRHP Status: Eligible
NRHP Criteria: A, C
Areas of Significance: Community Planning and Development, Entertainment / Recreation, Landscape Architecture
Period of Significance: 1884-1942

- Represents conscious effort to link all areas of the city into a comprehensive and unified system; christened the "Grand Rounds" in the early 1890s
- Nationally significant example of urban park development in the nineteenth and twentieth centuries
- One of the most unique and iconic features of Minneapolis, which draws national attention for its role as a recreational resource that enhances the vitality of a major American city
- Most comprehensive design by, and crowning achievement of, nationally prominent landscape architect Horace William Shaler Cleveland

- Most important work by nationally prominent landscape architect and park professional Theodore Wirth

Homewood Residential Historic District (HE-MPC-12101)

Address: Bounded by Penn Avenue, Oak Park Avenue, Xerxes Avenue, and Plymouth Avenue, Minneapolis
Distance to LOD: 0 feet
NRHP Status: Eligible
NRHP Criterion: A
Areas of Significance: Community Planning and Development, Social History
Period of Significance: 1909-1962

- Early, planned, distinctive subdivision in North Minneapolis
- Focal point of the Jewish community in western North Minneapolis from 1911 until late 1960s

Bridge No. L9327 (HE-GVC-0050)

Address: Theodore Wirth Parkway over Bassett's Creek (in Theodore Wirth Park), Golden Valley
Distance to LOD: 480 feet
NRHP Status: Eligible (individually and as a contributing element to the Grand Round Historic District)
NRHP Criteria: C (individually), A and C (Grand Round Historic District)
Areas of Significance: Engineering (individually); Community Planning and Development, Entertainment/Recreation, Landscape Architecture (Grand Rounds Historic District)
Periods of Significance: 1940 (individually), 1940-1942 (Grand Rounds Historic District)

- The bridge is individually significant for its notable aesthetics
    - Single-span, reinforced-concrete arch bridge faced in St. Cloud granite with pentagonal voussoirs (stones around the arch), a stringcourse, and an open balustrade reflective of the patio railing on the Chateau
    - Excellent example of an ornamental park bridge
    - Designed in a notable restrained Classical Revival Style
- The bridge is also a contributing element of the Grand Rounds Historic District (the significance of this historic district is described above)

Sacred Heart Catholic Church (HE-RBC-1462)

Address: 4087 West Broadway Avenue, Robbinsdale
Distance to LOD: 130 feet
NRHP Status: Eligible
NRHP Criterion: C
Area of Significance: Architecture
Period of Significance: 1950

- Embodies efforts to apply Modernist design principles while working within the design constraints of the pre-Vatican II Catholic Church

- Signals transition of religious architecture from the Gothic Revival style, which was the prevalent architectural style for religious buildings prior to World War II, to Modernism after the war

Robbinsdale Waterworks (HE-RBC-286)

Address: 4127 Hubbard Avenue North, Robbinsdale
Distance to LOD: 0 feet

NRHP Status: Eligible
NRHP Criterion: A
Areas of Significance: Community Planning and Development, Politics / Government
Period of Significance: 1937-1963

- Association with Great Depression and subsequent development of federal relief projects, under which a portion of this property was constructed
- Original portion of the plant, including original pump house (Well No. 1) and water tower, are examples of WPA public utility project in Minnesota
- Embodies community's efforts to address water quality issues and fire protection needs of the community after a major fire in 1925

Hennepin County Library, Robbinsdale Branch (HE-RBC-024)

Address: 4915 42nd Avenue North, Robbinsdale
Distance to LOD: 0 feet
NRHP Status: Listed
NRHP Criterion: A
Area of Significance: Education
Period of Significance: 1925-1978

- Association with the Robbinsdale Library Club, which raised funds for the building and the library collection without aid of government funding
- Symbol of community's dedication to learning and its efforts to implement that dedication
- Focal point of community identity

West Broadway Avenue Residential Historic District (HE-RBC-158)

Address: West Broadway Avenue, between North 42nd Avenue and TH 100, Lakeland Avenue North to the BNSF Rwy. ROW, Robbinsdale
Distance to LOD: 0 feet
NRHP Status: Eligible
NRHP Criterion: C
Area of Significance: Architecture
Period of Significance: 1920-1940

- Best remaining example of pre-World War II suburban housing in the Robbinsdale area
- Architecturally diverse collection of Colonial Revival, Tudor Revival, Craftsman, and Prairie style houses
- Was home to many locally prominent residents

Jones-Osterhus Barn (HE-RBC-264)

Address: 4510 Scott Avenue North, Robbinsdale
Distance to LOD: 190 feet
NRHP Status: Eligible
NRHP Criterion: C
Areas of Significance: Agriculture, Architecture
Period of Significance: 1860-1888

- Rare example of a barn from first period of agricultural development in Minnesota
- Transition from grain production to diversified farming
- Shows settler's adaptability in using available building materials

Minneapolis & Pacific Railway / Minneapolis, St. Paul & Sault Ste. Marie Railway Historic District (HE-CRC-199)

Address: Crystal
Distance to LOD: 0 feet (the reconstructed BNSF Rwy. will continue to cross this property at grade, while the LRT alignment will cross directly over it on a new bridge)
NRHP Status: Eligible
NRHP Criterion: A
Area of significance: Transportation
Period of Significance: 1884-1930

- Minneapolis & Pacific (M&P) Rwy. was incorporated by Minneapolis mill owners in 1884 to construct a mainline from Minneapolis to the Red River Valley in order to secure a connection to wheat growers in western Minnesota and eastern North Dakota
- Was the first successful effort by Minneapolis mill owners to reach large, profitable markets in the East and Europe directly
- In 1888, M&P consolidated with three other lines to become the Minneapolis, St. Paul & Sault Ste. Marie Railway Company (Soo Line Rwy.), which is now part of the Canadian Pacific (CP) Rwy.

Section 5: Section 106 Consultation

FTA, with assistance from MnDOT CRU, initiated Section 106 consultation for the Project in February 2011 and, in accordance with 36 CFR § 800.3, has regularly consulted since that time with MnSHPO, Indian tribes, local governments, and other parties with a demonstrated interest to consider effects of the project on historic properties included on, or eligible for listing on, the NRHP. As described below, FTA consulted directly with Indian tribes, while MnDOT CRU, under delegation from FTA, completed most of the consultation with MnSHPO and other consulting parties.

Agency Coordination and Public Involvement

FTA initiated consultation with MnSHPO in February 2011. Section 106 consulting parties include MnSHPO; USACE; Hennepin County; the Cities of Brooklyn Park, Crystal, Golden Valley, Minneapolis, and Robbinsdale; and the Minneapolis Park and Recreation Board.

In accordance with 36 CFR § 800.8, Section 106 consultation efforts were coordinated with the NEPA process and related outreach activities and events. In particular, opportunities for the public to review information and provide comments related to steps in the Section 106 process were incorporated, as appropriate, into public meetings related to the NEPA and design and engineering processes. The opportunities included open houses held on station design options near historic properties. At these meetings, information was shared summarizing the steps in the Section 106 process, historic properties identified, and effects to historic properties. A list of meetings related to agency coordination and public involvement efforts is included in Table 4.

Table 4. Meetings Related to Section 106

Date	Meeting Type	Purpose
June 6, 2015	Section 106 Consulting Parties Meeting	Section 106 process overview, BLRT project overview, Section 106 findings through DEIS
July 10, 2015	Section 106 Consulting Parties Meeting	Discuss potential effects on historic properties, present Theodore Wirth Cultural Landscape Study
July 16, 2015	Section 106 Consulting Parties Meeting	Discuss potential effects on historic properties, present Theodore Wirth Cultural Landscape Study
Oct 19, 2015	Public Open House in Crystal	Environmental review process. Included boards with information on historic properties in the APE in Crystal and potential Project effects on these properties.
Oct 20, 2015	Public Open House in Brooklyn Park	Environmental review process. Included boards with information on historic properties in the APE in Brooklyn Park and potential Project effects on these properties.
Oct 21, 2015	Public Open House in Robbinsdale	Environmental review process. Included boards with information on historic properties in the APE in Robbinsdale and potential Project effects on these properties.

Date	Meeting Type	Purpose
Oct 28, 2015	Public Open House in Golden Valley	Environmental review process. Included boards with information on historic properties in the APE in Golden Valley and potential Project effects on these properties.
Oct 29, 2015	Public Open House in Minneapolis	Environmental review process. Included boards with information on historic properties in the APE in Minneapolis and potential Project effects on these properties.

To comply with Section 106 requirements, MnDOT CRU submitted the architecture/history and archaeological APEs, the results of the surveys/investigations completed for the Project, including NRHP eligibility determinations, and preliminary assessments of effects to the MnSHPO for concurrence, copying other Section 106 consulting parties for their review and comment. Additional consultation with MnSHPO and Section 106 consulting parties has continued to consider effects on historic properties.

Tribal Consultation

In January 2012, the FTA sent letters to potentially affected Indian tribes, requesting that they identify any concerns about potential Project effects and inviting them to participate in public scoping meetings and/or schedule a separate meeting to discuss any specific tribal issues and concerns. Letters were sent to the Lower Sioux Indian Community, Upper Sioux Indian Community, Bois Forte Band (Nett Lake) of Minnesota Chippewa, Fond du Lac Band of Minnesota Chippewa, Grand Portage Band of Minnesota Chippewa, Leech Lake Band of Ojibwe, Mille Lacs Band of Ojibwe, Red Lake Tribal Council, White Earth Band of Minnesota Chippewa, Prairie Island Indian Community, Shakopee Mdewakanton Sioux Community, Bad River Band of Lake Superior Chippewa, Lac Vieux Desert Band of Lake Superior Chippewa, Red Cliff Band of Lake Superior Chippewa, Lac Courte Oreilles Band of Lake Superior Chippewa, Lac du Flambeau Band of Lake Superior Chippewa, St. Croix Chippewa Indians of Wisconsin, Sokaogon (Mole Lake) Chippewa, Turtle Mountain Band of Chippewa, Sisseton-Wahpeton Oyate, Santee Sioux Nation, Flandreau Santee, Fort Peck Tribes, Spirit Lake Tribe, Three Affiliated Tribes, Keweenaw Bay Indian Community, Northern Cheyenne Tribe and the Standing Rock Sioux. No responses were received. The tribes also received copies of the DEIS and were invited to comment on the documents; no comments were received.

Section 6: Assessment of Effects

Assessing Effects on Historic Properties

The criteria that must be used to assess effects of Federal undertakings on historic properties that are listed in or are eligible for listing in the NRHP is set forth 36 CFR § 800.5(a)(1):

> An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

An adverse effect can occur if any aspect of a historic property's integrity is diminished. Examples of adverse effects are identified in 36 CFR § 800.5(a)(2) and include, but are not limited to:

> Physical destruction of or damage to all or part of the property;
>
> Alteration of a property that is not consistent with the Secretary of the Interior's (SOI's) Standards for the Treatment of Historic Properties (36 CFR § 68) and applicable guidelines;
>
> Removal of the property from its historic location;
>
> Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
>
> Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
>
> Neglect of a property that causes its deterioration; and
>
> Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

It is important to note that just because an undertaking may have an effect on a historic property it does not necessarily constitute an adverse effect. For example, project elements may be visible from a historic property without the effect rising to the level of an adverse effect. In this example, factors to consider when assessing whether the visual effect is adverse would include proximity of project components to the historic property, the nature of the element being introduced to the setting, the significance of the views to and from the historic property, and the overall importance of integrity of setting to the historic property's ability to convey its significance and maintain its eligibility for the NRHP. Direct effects, however, are often more likely to result in an adverse effect due to the actual physical changes they often cause to a historic property, although one notable exception is

rehabilitation projects completed in accordance with the SOI's Standards for the Treatment of Historic Properties (36 CFR § 68).

Effects Assessment and Effects Findings

In accordance with 36 CFR § 800.5(a), the criteria of adverse effect was applied to the 17 NRHP listed and eligible historic properties located within the Project's architecture/history and archaeological APEs properties. Reference materials utilized in assessing effects on historic properties, but not included in the body of this report, are summarized in Table 5. The effects assessments and resultant finding of effect for each of these properties is presented in Table 6.

Table 5. References Key – Assessment of Effects

Title	Description	Abbreviation Key[9]
Project Plans		
Blue Line LRT Extension: Volume 1	Plans and sections	**Vol. I**
Blue Line LRT Extension: Volume 2	Rendered views	**Vol. II**
Blue Line LRT Extension: Volume 3	Index sheets for sections along BNSF Rwy. corridor	**Vol. III**
Blue Line LRT Extension: Volume 4	Raw sections along BNSF Rwy. corridor	**Vol. IV**
Blue Line LRT Extension: Volume 5	Rendered sections along BNSF Rwy. corridor	**Vol. V**
Blue Line LRT Extension: Volume 6	Rendered elevations	**Vol. VI**
Blue Line LRT Extension: Volume 7	Typical station platform	**Vol. VII**
Blue Line LRT Extension: Volume 8	Existing Plymouth Avenue bridge plans	**Vol. VIII**
Blue Line LRT Extension: Volume 9	TPSS locations and technical information	**Vol. IX**
Blue Line LRT Extension: Volume 10	Supplemental renderings, plans, and sections	**Vol. X**
Technical Studies		
Noise and Vibration Effects on Historic and Cultural Resources	Technical memo on Project noise and vibration impacts on historic properties adjacent to the Project alignment	**N&V Memo**
BLRT Section 106 Historic Properties – Traffic/Access Impacts	Technical memo on Project traffic and access impacts on historic properties in the APEs for the Penn, Plymouth, Golden Valley Road, and Robbinsdale stations	**T&A Memo**
METRO Blue Line Extension (Bottineau LRT) Phase 1: Station Area Planning, Van White Boulevard and Penn Avenue Stations	Station area plans for the Van White Boulevard and Penn Avenue Stations, which are located along TH 55	**SAPVWP**
METRO Blue Line Extension (Bottineau LRT) Phase 1: Station Area Planning, Plymouth Avenue and Golden Valley Road Stations	Station area plans for the Plymouth Avenue and Golden Valley Road Stations, which are located along the BNSF Rwy. corridor, within / adjacent to Theodore Wirth Park	**SAPPGV**

[9] When listed, numbers following an abbreviation refer to the sheet numbers of the corresponding document. For example, "**Vol. II**, 4-8" refers to Volume 2, Sheets 4-8.

Title	Description	Abbreviation Key[9]
Robbinsdale Station Area Planning	PowerPoint Presentation on station area concepts for the Robbinsdale Station, presented at the public open house held in Robbinsdale on Oct 21, 2015	SAPR
Theodore Wirth Regional Park Cultural Landscape Study for the Blue Line Extension LRT Project	Cultural Landscape Study of the Theodore Wirth Park element of the Grand Rounds Historic District	TWCLS

Project Determination of Effect

Based on the results of the assessment of effect analysis conducted by MnDOT CRU under delegation from FTA, and in consultation with the MnSHPO and other consulting parties, which are documented above, FTA has found that the Project will result in:

- No Adverse Effect on eleven (11) historic properties; and
- An Adverse Effect on six (6) historic properties:
    - Wayman A.M.E. Church;
    - Floyd B. Olson Memorial Statue;
    - Grand Rounds Historic District;
    - Homewood Residential Historic District;
    - Osseo Branch of the StPM&M RR / GN Rwy. Historic District; and
    - West Broadway Avenue Residential Historic District.

Therefore, FTA has determined that the undertaking will have an Adverse Effect on historic properties that are listed, or are eligible for inclusion, in the NRHP. Appropriate measures to avoid, minimize, mitigate and resolve these adverse effects will be included in the Section 106 MOA based on FTA's continuing consultation with consulting parties. If additional historic properties should be identified, the process for FTA to consult with the MnSHPO and consulting parties concerning effects and resolving any adverse effects will be included in the Section 106 MOA.

Table 6. Effects Assessments and Effects Findings

Effects	Finding
Minneapolis Warehouse Historic District (HE-MPC-0441)	
Direct Effects: All Project elements are completely outside the boundaries of the district, so it is anticipated that the Project will have no direct effects on the Warehouse Historic District and will therefore have no effect to the property's location, design, material, or workmanship. All direct effects from the Target Field Station were considered and accounted for in the Section 106 review for the construction of that station (SHPO R&C No. 2011-1404). **Indirect Effects:** The Project guideway and associated infrastructure, such as the LRT bridge over the HERC driveway, will be visible from various points along the western/southwestern portions of the district. However, Project infrastructure will be at least a block away from the district. Therefore, any visual changes to the already densely developed setting will be minimal, and will have no effect on the property's setting, feeling, or association. The Project will have an interline connection with the existing METRO Blue Line at the existing Target Field Station whereby the LRT trains already in operation on the Blue Line, instead of terminating at the Target Field Station, will continue on along the Project and vice versa, so introduction of Project operation will not substantially change the number of trains serving this station or noise levels. Any potential direct or indirect effects of development that would be potentially catalyzed by the Project around the Target Field station was accounted for by the Section 106 review for the construction of this already built station (SHPO R&C No. 2011-1404).	**Finding:** No Adverse Effect **Rationale:** The Project will not result in any direct effects to the historic district and any potential indirect effects to the district as a result of this undertaking related to its use of the Target Field Station were previously considered and resolved through the Section 106 process for the construction of that already built station (SHPO R&C No. 2011-1404).
References: Vol. X: 1	
StPM&M RR / GN Rwy. Historic District (XX-RRD-010)	
Direct Effects: The Project will connect to an existing LRT bridge over the historic district at the western side of Target Field Station to access the station. As the connection is approximately 750-feet west of where the bridge crosses over the historic district and no changes are proposed to the bridge, the Project will not directly affect the historic district and will therefore have no effect to the property's location, design, material, or workmanship. **Indirect Effects:** The Project will cross over the historic district on an existing LRT bridge located between the bridge carrying 5th Street North over the district and Target Field, which screens views of the LRT from the grade separation in which the historic district is located. Therefore, the Project will not alter views to and from the district. Moreover, any other potential effects from the Project's use of the Target Field Station were accounted for by the Section 106 review for the construction of that already built station (SHPO R&C No. 2011-1404).	**Finding:** No Adverse Effect **Rationale:** The Project will not result in any direct effects to the historic district and any potential indirect effects to the district as a result of this undertaking related to its use of the Target Field Station were previously considered and resolved through the Section 106 process for the construction of that already built station (SHPO R&C No. 2011-1404).
References: n/a	

Effects	Finding
Northwestern Knitting Company Factory HE-MPC-8125)	
Direct Effects: The Northwestern Knitting Company Factory is located roughly a quarter mile from the closest Project infrastructure, so it is anticipated that the Project will have no direct effects on this property. Therefore, the project will have no direct effect to the property's location, design, material, or workmanship. **Indirect Effects:** The Northwestern Knitting Company Factory property is located at the southern edge of the architecture/history APE, roughly a quarter mile south of the alignment, so Project elements may be visible at a distance in some views from the property. The Project could potentially catalyze redevelopment around the Van White Boulevard Station that would be visible from this property.	**Finding:** No Adverse Effect **Rationale:** The Northwestern Knitting Company Factory and the proposed Project elements in its vicinity are located in an already densely developed setting. Given the distance between the property and Project elements (well over 1,000 feet), and the scale of intervening development, any visual effect of Project infrastructure on this property will be negligible. Since the Project will only be minimally visible from the property, the characteristics qualifying the Northwestern Knitting Company Factory for inclusion in the NRHP will not be altered in a manner that would diminish its integrity of setting, feeling, or association. A number of parking lots and open parcels of land are located near the Northwestern Knitting Company Factory. Based on station area planning studies, introduction of the Project could potentially catalyze the redevelopment of these properties, which would cause changes to the setting of the Northwestern Knitting Company Factory. However, transit development is an indirect catalyst for redevelopment, redevelopment opportunities are primarily based on global market conditions and local economic stability as well as established land use policies and zoning ordinances. If these areas are redeveloped, the factory historically had other buildings—as opposed to parking lots—surrounding it, so the redevelopment would not change views from the historic property in a manner that would diminish its setting in a way that would affect its ability to convey its historic significance.
References: *Figure 8*; **SAPVWP:** Section 2	

Effects	Finding
Sumner Branch Library (HE-MPC-8081)	
Direct Effects: The Project's LOD extends along the southern boundary of the library, so the Project will not infringe on this property. Therefore, the project will have no direct effects on this property. **Indirect Effects:** The Project alignment will be located in the center median of TH 55 in front of the library and the Van White Boulevard Station will be located in the center median, across Van White Memorial Boulevard from the library, so Project infrastructure and trains will be highly visible from the library. Operation of the Project will also introduce noise from LRVs and station operations, as well as potential changes in access to the library. The Project may also catalyze potential redevelopment of nearby properties or the library itself.	**Finding:** No Adverse Effect **Rationale:** While Project infrastructure, including the Van White Boulevard Station, will be added to the immediate setting of the library, the nature and scale of this infrastructure, combined with its distance from the library (the station will be located approximately 320 feet away), will allow views of the library to remain intact. To ensure that the visual prominence of the library will not be diminished by the Project, and that it will maintain its stature as a visual anchor of the intersection of TH 55 and Van White Memorial Boulevard, the Project will design its infrastructure in the vicinity of the library in accordance with the SOI's Standards, and will therefore have no adverse effect to the property's setting, feeling or association. In addition, the Project will prepare and implement a construction protection plan to document measures to be taken to avoid any direct effects to Sumner Library during Project construction. Given the proximity of the library to the Van White Boulevard Station, station area planning studies have indicated a strong potential for redevelopment to be catalyzed by this station in the vicinity of the historic property. While new development could cause changes to the setting of the library, it would not alter characteristics of the library that qualify it for the NRHP. The library itself is also included in the group of properties identified in a station area planning study completed in coordination with the Project as part of a planned neighborhood commercial node around the Van White Station. Properties included in this node are proposed to be up zoned to allow for increased density (five or more stories), mixed-use development. However, the Sumner Branch Library is unlikely to be subjected to any redevelopment pressure as it is in public ownership and use. Moreover, it is also designated by the City of Minneapolis as a local landmark, which affords it additional protection both by requiring all alterations to the exterior of the building, the site, and some portions of the interior to be reviewed by the Minneapolis Heritage Preservation Commission for compatibility with the historic character of the property. This designation further sets a high threshold for demolition. Per the City of Minneapolis' Heritage Preservation ordinance, the City can only approve the demolition of a historic property if "the demolition is necessary to correct an unsafe or dangerous condition on the property, or that there are no reasonable alternatives to the demolition. In determining whether reasonable alternatives exist, the commission shall consider, but not be limited to, the significance of the property, the integrity of the property and the economic value or usefulness of the existing structure, including its current use, costs of renovation and feasible alternative uses" (Minneapolis Code of Ordinances 23, §599.480[b]). The existing traffic signals (semaphores) and crosswalks that currently exist at the intersection of TH 55 and Van White Memorial Boulevard will be reconstructed as part of the Project, thereby maintaining access to the library. Per FTA criteria, the library is a Category 3 noise receptor. A noise analysis completed for the Project has determined that LRT operation will not result in a noise impact to the library. With the implementation of the measures identified above to minimize potential effects on the library, and avoid an adverse effect, all of which will be documented in the Section 106 MOA for the Project, a finding of No Adverse Effect has been made for the Sumner Branch Library. **Avoidance and Minimization Measures to be included in the Project MOA:** • Design Project infrastructure in the vicinity of the library in accordance with the SOI's Standards • Prepare and implement a construction protection plan for the library
References: Vol. I: 1-2; **Vol. VI:** 2; **Vol. X:** 2-3; **N&V Memo**; **SAPVWP:** Section 2	

Effects	Finding
Wayman A.M.E. Church (HE-MPC-8290)	
Direct Effects: In the vicinity of the church, the Project's LOD is limited to the TH 55 ROW limits, so it will have no direct effects on this property. **Indirect Effects:** There is an intervening two-story addition to the church between the NRHP-eligible church building and the Project alignment that will block views of the Project from the church. Operation of the Project will introduce noise from LRVs and station operations. There is the potential that the Project will catalyze the redevelopment of nearby properties or the church itself.	**Finding:** Adverse Effect **Rationale:** Per FTA criteria, the church is a Category 3 noise receptor. A noise analysis completed for the Project has determined that LRT operation will not result in a noise impact to the church. This combined with the fact that the church is not within the viewshed of the Project means that Project noise will not affect the setting, feeling or association of the property. Station area planning studies completed in coordination with the Project have indicated a strong potential for redevelopment to be catalyzed by the Project in the vicinity of this historic property. In general, transit development is an indirect catalyst for redevelopment, redevelopment opportunities are primarily based on global market conditions and local economic stability as well as established land use policies and zoning ordinances. However, a planning study completed in coordination with the Project identifies the church as part of a group of properties proposed to be up zoned to allow for increased density (five or more stories), mixed-use development in order to create a planned neighborhood commercial node around the Van White Station. As a result, development pressure created in part by the construction and operation of the Project may lead to changes to the setting of the church and potential alteration or demolition of this property. While new development in the setting would not alter characteristics that qualify the church for the NRHP, alteration would likely diminish the property's historic integrity and demolition would destroy the historic property. As redevelopment of this historic property is a reasonably foreseeable cumulative effect of the Project, a finding has been made that the Project will have an Adverse Effect on the Wayman A.M.E. Church. The adverse effect of the Project on this historic property will require resolution through consultation with MnSHPO and other consulting parties.
References: Vol. I: 3-4; **Vol. VI:** 2; **Vol. X:** 2-3; **N&V Memo; SAPVWP:** Section 2	

Effects	Finding
Labor Lyceum (HE-MPC-7553)	
Direct Effects: In the vicinity of the Labor Lyceum, the Project's LOD is limited to the TH 55 ROW limits, so it will have no direct effects on this property. **Indirect Effects:** The Project alignment will be located in the center median of TH 55 in front of the Labor Lyceum, so Project infrastructure and trains will be highly visible from the library. Operation of the Project will also introduce noise from LRVs and station operations, and potential changes in access. The Project may also catalyze potential redevelopment of nearby properties.	**Finding:** No Adverse Effect **Rationale:** While Project infrastructure will be added to the immediate setting of the Labor Lyceum, the nature and scale of this infrastructure, combined with its distance from the historic property, will allow views of the Labor Lyceum to remain intact. To ensure that the visual prominence of the Labor Lyceum is maintained and its integrity of setting, feeling, and association is not diminished by the Project, the Project will design its infrastructure in the vicinity of this historic property in accordance with the SOI's Standards. Station area planning studies have indicated a strong potential for redevelopment to be catalyzed by the Project around the Penn Avenue Station (which is located 930 feet away) and in the vicinity of this historic property; however, the Labor Lyceum itself is not among the properties identified in the station area plan for redevelopment. Transit development is an indirect catalyst for redevelopment, redevelopment opportunities are primarily based on global market conditions and local economic stability as well as established land use policies and zoning ordinances, so it may or may not occur. If redevelopment does occur around the Penn Station, it may lead to changes in the setting of the Labor Lyceum, but not in a manner that would alter characteristics of the historic property that qualify it for the NRHP. Per FTA criteria, the Labor Lyceum is a Category 3 noise receptor. A noise analysis completed for the Project has determined that LRT operation will not result in a noise impact to this historic property. There will be no change in vehicular access to this property as a result of Project construction. However, there will be a minor change in pedestrian access. An existing crosswalk on TH55 at Logan Avenue will be removed. This will require pedestrians to utilize a crosswalk one block to the west at Morgan Avenue to access the Labor Lyceum from south of TH 55. However, access will be maintained and this change will not alter characteristics of the property that qualify it for the NRHP. With implementation of the measure identified above to minimize potential effects on Labor Lyceum, and avoid an adverse effect, all of which will be documented in the Section 106 MOA for the Project, a finding of No Adverse Effect has been made for the Labor Lyceum. **Avoidance and Minimization Measures to be included in the Project MOA:** • Design Project infrastructure in the vicinity of the Labor Lyceum in accordance with the SOI's Standards
References: Vol. I: 5-6; **Vol. VI:** 3-4; **Vol. X:** 2-3; **T&A Memo**; **SAPVWP**	

Effects	Finding
Floyd B. Olson Memorial Statue (HE-MPC-9013)	
Direct Effects: A portion of the NRHP-eligible property along its northern boundary will be acquired to construct the Project. The portion of the plaza that will be acquired, which is largely green space, will be destroyed and incorporated into a widened TH 55 and sidewalk for the Project. The statue itself will not be directly affected, only the northern edge of its plaza. **Indirect Effects:** The BLRT and associated infrastructure, including a new station, will be highly visible from the Memorial and may catalyze the redevelopment of nearby properties. There is not expected to be any difference in vehicular traffic along TH 55 as a result of the BLRT. The Project alignment and Penn Avenue Station will be located in the center median of TH 55 in front of the statue. Consequently, Project infrastructure and trains will be highly visible from the statue and views of the statue from TH 55 will be obscured. The Project may also catalyze potential redevelopment of nearby properties and within the NRHP-eligible boundaries for this historic property.	**Finding:** Adverse Effect **Rationale:** The incorporation of a portion of the property's formal plaza into a street and sidewalk will result in the destruction of portions of the designed landscape in which the statue is situated, and of which the statue is the focal point. Portions of the formal yard in front of the statue, which is an important landscape divider within the site and statue's setting, as well as the formal walk leading to the statue, which is the primary circulation network within the historic property, will be destroyed as a result of the Project's infringement onto the historic property. Both of these features are important characteristics of the historic property's designed landscape and the statue's setting. These direct physical changes to the designed landscape will also alter important spatial relationships and result in changes to the way the statue is experienced and perceived within both its immediate and larger settings. As a result of these changes, the Project will directly diminish the Floyd B. Olson Memorial Statue property's integrity of design, setting, and feeling. The introduction of the Penn Station directly in front of the historic property will also disrupt views and the visual connection between the statue and TH 55, which is an important historic characteristic of the historic property. This will further diminish the historic property's integrity of setting, feeling, and association. Station area planning studies completed in coordination with the Project indicated a strong potential for redevelopment to be catalyzed by the Project on, and in the vicinity of, this historic property due to its proximity to the Penn Avenue Station. In general, transit development is an indirect catalyst for redevelopment, redevelopment opportunities are primarily based on global market conditions and local economic stability as well as established land use policies and zoning ordinances. However, the planning study completed in coordination with the Project identifies the historic property as a property to be redeveloped in order to increase density around the Penn Station and it proposes to incorporate the Floyd B. Olson Memorial Statue itself into a small plaza within the future redevelopment on the property. The plan also identifies the redevelopment of adjacent properties. This redevelopment of the historic property would destroy the immediate setting of the historic property and severely alter, or sever its critical visual connection with TH 55, which is an important aspect of its integrity of association. The redevelopment of adjacent property would further diminish the visual connection and, as a result, its association with TH 55. In summary, per 36 CFR § 800.5(a), the Project will cause both direct and indirect adverse effects on the Floyd B. Olson Memorial Statue, including the destruction of a portion of the eligible site, thereby altering characteristics qualifying a property for inclusion in the NRHP in a manner that diminishes its integrity. Therefore, a finding of Adverse Effect has been made for the Floyd B. Olson Memorial Statue. The adverse effects of the Project on this historic property will require resolution through consultation with MnSHPO and other consulting parties.
References: Vol. I: 7-8; **Vol. VI:** 4; **Vol. X:** 2-3; **T&A Memo**; **SAPVWP:** Section 3	

Effects	Finding
Osseo Branch of the StPM&M RR / GN Rwy. Historic District (HE-RRD-002; segments: HE-BPC-0084, HE-CRC-0238, HE-RBC-0304, HE-MPC-16389)	
Direct Effects: The historic property is an approximately 13-mile long linear corridor that is generally 100-feet in width, with a track on a slightly raised roadbed running down the center of the 100-foot wide ROW. The Project will be constructed within the BNSF Rwy.-owned ROW along an approximately eight (8) mile long segment of the district, from TH 55 northwest to 73rd Avenue North in Brooklyn Park, where the LRT alignment diverts from the railroad ROW. Along this segment, the Project will acquire the eastern half of the ROW for the project alignment. The existing BNSF Rwy. track will be removed and reconstructed along an alignment approximately 25-feet to the west of its present alignment, roughly in the center of the western half of the BNSF Rwy. ROW. One exception is where it will remain on its existing alignment for a short stretch in Golden Valley, just north of the Golden Valley Road Station. The Project will construct its infrastructure, including two (2) light rail tracks, overhead power system, five (5) stations, three (3) vertical circulation towers, multiple TPSS and signal bungalows, various safety treatments, bridges, lighting, etc. in the eastern half of the ROW. New stations will be present within the corridor while reconstructed bridges will cross directly over it. The bluffs that define the edges of portions of the corridor will be partially altered to accommodate new retaining walls and sufficient space for the BLRT. Some vegetation within the corridor will be removed. In addition, along the entire length of the historic district that it will co-share with BNSF Rwy. freight track, the Project will construct a corridor protection barrier between the freight rail track and light rail track. Three types of corridor protection barriers will be utilized along various portions of the co-shared segment of the historic district. Types of corridor barriers include a wall that would be six-feet tall and two-feet thick, a wide ditch (35-to-40-feet between the centerlines of the freight rail and southbound light rail track), or a retained embankment whereby the freight rail and light rail tracks would be grade separated with LRT on an elevated roadbed held by a retaining wall that is at least six-feet tall. The existing high-voltage transmission line (HVTL) located along the eastern side of the existing tracks will be removed from the eastern edge of the corridor and replaced on the western side of the ROW. The steel-truss towers supporting the wires will be replaced by monopoles. **Indirect Effects:** The Project may catalyze the redevelopment of properties near light rail stations along the historic district, which could result in potential changes to the setting of the district.	**Finding:** Adverse Effect **Rationale:** The exiting jointed rail track with wood ties, which is in its historic alignment and includes contributing track structure (rail), is being removed. The freight rail alignment will be relocated and two new LRT tracks comprised of heavily ballasted welded ribbon rail and concrete tie construction will be placed in the historic district, along with a substantial amount of new infrastructure, such as the overhead power system, stations and fencing, that is not in keeping with the branch-line character of the district. Corridor protection barriers will further alter the district. Collectively, relocation of the freight tracks, loss of historic fabric, and the introduction of Project infrastructure into the district will alter the perception of the corridor as an historic, isolated freight line into that of a dense, multi-purpose combined freight and transit rail corridor and will introduce passenger rail stations to a stretch of rail corridor that has never before had passenger rail facilities. The undertaking will alter characteristics of the Osseo Branch qualifying it for inclusion in the NRHP in a manner that will diminish the property's integrity of design, materials, setting, workmanship, feeling, and association. Based on station area planning studies, introduction of the Project could potentially catalyze the redevelopment of properties near light rail stations around the historic district, which would cause changes to the setting of the district. While transit development is an indirect catalyst for redevelopment, redevelopment opportunities are primarily based on global market conditions and local economic stability as well as established land use policies and zoning ordinances. Moreover, even if development does occur, it would not diminish the district setting in a way that would affect its ability to convey its significance. In summary, per 36 CFR § 800.5(a), the Project will cause direct adverse effects on the Osseo Branch of the StPM&M Rwy. / GN Rwy. Historic District, including the substantial alteration and destruction of a significant portion of the eligible historic district (over 60 percent of the length of this linear historic district), thereby altering characteristics qualifying the property for inclusion in the NRHP in a manner that diminishes its integrity. Therefore a finding of Adverse Effect has been made for the Osseo Branch of the StPM&M Rwy. / GN Rwy. Historic District. The adverse effects of the Project on this historic district will require resolution through consultation with MnSHPO and other consulting parties.
References: Vol. I: 9-39; **Vol. II**; **Vol. III**; **Vol. IV**; **Vol. V**; **Vol. VI:** 5-16; **Vol. VII**; **Vol. IX**; **Vol. X:** 4-10	

Effects	Finding
Grand Rounds Historic District (XX-PRK-0001), Theodore Wirth Segment	
Direct Effects: The Project will acquire a portion of Theodore Wirth Regional Park, including up to one-half (0.5) acre at both the Plymouth Avenue and Golden Valley Road stations for the stations, approximately one-and-a-half (1.5) acres for a park-and-ride facility at the Golden Valley Road Station, as well as some smaller areas along the alignment. In addition, the Project will make a wide number of physical alterations to this large contributing element to the Theodore Wirth Segment of the Grand Rounds Historic District, as well as other more minor indirect effects to other contributing elements of the Theodore Wirth Segment of the historic district. The Grand Rounds Historic District is approximately 4,662 acres; the Theodore Wirth Segment of the district is approximately 755.4 acres; and the portion of Theodore Wirth Regional Park that is within the Grand Rounds Historic District, is approximately 677.1 acres. The portion of the Theodore Wirth Segment that is affected by this Project is approximately 246.2 acres, of which 233.5 acres are within the portion of Theodore Wirth Regional Park that is included in the historic district; totaling approximately 5.3% of the larger Grand Rounds Historic District that will be affected by the Project.[10] Many, but not all of these alterations will be within the BNSF Rwy. ROW through the park. Alterations include the removal of vegetation from the BNSF Rwy. ROW and adjacent areas in the park, alteration of the topography, as well as the construction of the LRT guideway and the realigned freight track, corridor protection barriers between the freight rail and light rail lines (combination of walls, grade separations, and wide ditches). Two stations (Plymouth Avenue and Golden Valley Road), both with vertical circulation towers, will be constructed within the boundaries of Theodore Wirth Park. A 100 space park-and-ride lot will be constructed adjacent to the Golden Valley Road Station, within the park at its northern entrance from Wirth Parkway. Two bridges extending into and running through the park will be demolished and reconstructed. The existing HVTL in the BNSF Rwy. ROW through the park will be removed from the eastern edge of the corridor and replaced on the western side. A segment of Bassett Creek in the park, near Plymouth Avenue, will also be altered, relocating it from its existing channel to a new channel in order to accommodate the relocation of an existing park trail from the BNSF Rwy. ROW into the park land. Along the reconstructed segment of the channel, the channel will be slightly narrowed and the natural, earthen bank of the extant channel will be replaced on one side by a retaining wall. **Indirect Effects:** Project infrastructure, as well as other associated improvements and alterations to the landscape within, adjacent to, and in the vicinity of the Grand Rounds Historic District will alter the visual character of the district, and viewsheds and views within the district, including designed viewsheds. The vertical circulation structure at the Plymouth Avenue Station will be particularly noticeable and will be present within the Theodore Wirth Regional Park's most important viewshed, especially so when the structure is lit at dusk. There is also potential for development to be catalyzed outside of the district around the Plymouth Avenue and Golden Valley Road stations. Operation of the Project will also introduce noise from LRVs and station operations. There will be a slight increase in vehicular traffic along the various roads that access the property.	**Finding:** Adverse Effect **Rationale:** Direct effects will physically alter the entire eastern edge of Theodore Wirth Regional Park, as well as its northern edge where Wirth Parkway, another contributing element, enters the park. In addition, two historic entry points to the Theodore Wirth Segment are also being demolished and reconstructed, or substantially altered from natural to developed spaces. All of this work will not only alter the cultural landscape of the Theodore Wirth Segment of the Grand Rounds Historic District, it will also introduce new, contemporary elements to these portions of the historic district. New visual elements will be in the form of formal, engineered structures such as retaining walls, the LRT guideway and overhead power system, stations, vertical circulation towers, a parking lot, and other elements to the otherwise naturalistic setting of the park's landscape. Illumination of the stations and vertical circulation towers will also change the visual character of the otherwise dark nature of natural areas within the district at night. In addition, the introduction of Project elements will alter key viewsheds and views within Theodore Wirth Regional Park, including the most prominent viewshed within it, which is that from one of the character defining features, the Theodore Wirth Chalet. Collectively the direct physical effects to the Theodore Wirth Segment of the Grand Rounds Historic District, and related resultant indirect visual effects, will alter historic characteristics that qualify this segment of the district for the NRHP by diminishing its integrity design, setting, materials, workmanship, feeling, and association. Station area planning studies have shown low potential for the Golden Valley Road Station to catalyze development that could change the setting of the district. A traffic analysis has also shown a slight increase in vehicular traffic along the various roads that access the historic district, none of which would diminish any aspect of integrity of the district property. In addition, while noise from LRVs and stations will be perceptible in portions of the district, per FTA criteria, the noise will not be of sufficient levels to alter characteristics that qualify the historic district, or its contributing elements, for the NRHP. In summary, per 36 CFR § 800.5(a), the Project will cause both direct and indirect adverse effects on the Theodore Wirth Segment of the Grand Rounds Historic District, thereby altering characteristics qualifying this segment of the historic district for inclusion in the NRHP in a manner that diminishes its integrity. Therefore a finding of Adverse Effect has been made for the Grand Rounds Historic District. The adverse effects of the Project on this historic district will require resolution through consultation with MnSHPO and other consulting parties.

[10] The Theodore Wirth Segment of the Grand Rounds Historic District encompasses 755.4 acres, of which 246.2 acres (approximately one-third of this segment, or approximately 5.3 percent of the land area in the historic district) will be affected, directly and/or indirectly, by the Project. The majority of this area is located with Theodore Wirth Regional Park. Approximately 677.1 acres of the approximately 760-acre Theodore Wirth Regional Park are included in the Grand Rounds Historic District. Of the portion of the park that is included in the Grand Rounds Historic District, 233.5 acres (approximately 34.5 percent of the eligible portion of the park) will be effected by the Project (228.6 acres are within the architecture/history APE and an additional 4.9 acres are part of defined historic viewsheds that are included in the APE, but continue beyond the APE limits).

Effects	Finding
References: Vol. I: 9-19; **Vol. II:** 1-2; **Vol. III:** 1-4; **Vol. IV:** 1-12; **Vol. V:** 1-21; **Vol. VI:** 5-8; **Vol. VIII**; **Vol. X:** 5-6; **T&A Memo**; **N&V Memo**; **TWCLS**	
Homewood Residential Historic District (HE-MPC-12101)	
Direct Effects: The Project's LOD is mostly located just west of the western boundary of the historic district, within the BNSF Rwy. ROW that is inside the boundaries of Theodore Wirth Park, which is adjacent to the Homewood Residential Historic District. However, the LOD does include a very small portion of a street within the Homewood Residential Historic District at its extreme southwest corner. In this area a retaining wall will be constructed downslope from the street, and a small portion of the street (with an area less than 500-square-feet) will be reconstructed. **Indirect Effects:** Project elements, such as the reconstructed Plymouth Avenue Bridge and the Plymouth Avenue Station will be visible from the district as the Project guideway and other associated infrastructure will run within the BNSF Rwy. corridor directly west of the district. Operation of the Project will also introduce noise from LRVs and station operations. The Project may catalyze the redevelopment of properties adjacent to or within the district with potentially three blocks of medium-density residential recommended from station area planning efforts.	**Finding:** Adverse Effect **Rationale:** Per FTA criteria, the district is a Category 2 noise receptor. A noise analysis completed for the Project indicates that without mitigation, LRT operations would cause a moderate noise impact on three residences at the southwestern corner of the historic district. As a residential district with properties experiencing moderate noise effects, the Project will diminish the district's integrity of setting and feeling. The noise analysis indicates that the three residences meet the threshold for mitigation, so appropriate measures to mitigate this adverse effect will need to be considered for implementation. While Project infrastructure will be added to the immediate setting of the historic district, as well as to a very small portion of its southwest corner, much of this infrastructure is located in a trench below the bluff on which the western edge of the historic district is situated. Given that much of this infrastructure will be below direct views and also somewhat screened by existing vegetation, these Project elements will not diminish the setting of the district. The small portion of roadway within the historic district that is being removed and reconstructed will be rebuilt in kind, so that Project elements will similarly avoid diminishing the setting of the district. Station area planning studies indicate low potential for the Plymouth Avenue Station to catalyze development that could change the setting of the district or cause potential changes to properties within the district. The only potential development site identified was a site that had been previously identified for redevelopment by the City of Minneapolis in its comprehensive plan (prior to station planning efforts), thus it is unrelated to LRT. In summary, operation of the Project will result in adverse auditory effects on the Homewood Residential Historic District. Therefore a finding of Adverse Effect has been made for the Homewood Residential Historic District. The adverse effect of the Project on this historic district will require resolution through consultation with MnSHPO and other consulting parties.
References: Vol. I: 9-12; **Vol. II:** 2, 10-15; **Vol. III:** 1; **Vol. IV:** 3-5; **Vol. V:** 5-6; **Vol. VI**: 5, 7; **Vol. VIII**; **N&V Memo**	
Bridge No. L9327 (HE-GVC-0050)	
Direct Effects: Bridge No. L9327 is located approximately 570-feet from the Project alignment, so it is anticipated that the Project will have no direct effects on this property. **Indirect Effects:** The Project will cause visual effects on the Bridge from the removal of vegetation and the introduction of new visual elements in the form of formal, engineered structures such as retaining walls, the LRT guideway and overhead power system, and potential illumination at night from the Plymouth Avenue Station to the otherwise naturalistic, park setting of the bridge. Operations will also introduce noise from LRVs and station operation.	**Finding:** No Adverse Effect **Rationale:** Bridge No. L9327 is individually eligible for the NRHP under Criterion C in the area of Engineering for its aesthetics. While Project infrastructure will be visible from the bridge, the introduction of Project elements to its setting will not alter characteristics of the bridge that qualify it individually for the NRHP. Moreover, given their distance from the bridge, Project elements will not diminish the setting, feeling and association of the bridge in a way that would preclude it from being able to convey its individual significance under NRHP Criterion C. In addition, per FTA criteria, the bridge is not a noise sensitive resource, so noise from Project operation will not have an effect on the bridge. The bridge is also located within, and is a contributing element to, the Grand Rounds Historic District, which will be adversely affected by the undertaking (see section on the Grand Rounds Historic District). However, the effects of the Project on the bridge as a contributing element to the historic district are limited to those described under its individual significance. In summary, the Project will cause minor indirect visual effects on Bridge No. L9327, however, they will not alter any of the characteristics of the bridge that qualify it for the NRHP in a manner that would diminish its historic integrity. Therefore, a finding of No Adverse Effect has been made for Bridge No. L9327 as an individual historic property.
References: n/a	

Effects	Finding
Sacred Heart Catholic Church (HE-RBC-1462)	
Direct Effects: The church is located approximately 300-feet from the Project alignment's centerline and approximately 130-feet from its LOD, so the Project will have no direct effects on this property. **Indirect Effects:** The Project alignment will be located in the BNSF Rwy. ROW, approximately 300-feet west of the historic property. The Project guideway and associated infrastructure, including a large, multi-level park-and-ride structure located a block away along the Hubbard Avenue viewshed, will be visible from the property. Operation of the Project will also introduce noise from LRVs and station operations. There is the potential that the Robbinsdale Station could catalyze the redevelopment of nearby properties.	**Finding:** No Adverse Effect **Rationale:** The introduction of Project infrastructure to the church's setting will not visually or physically separate the property from its downtown Robbinsdale setting. Given the distance of Project elements from the historic property, when also considered with their nature and scale, the Project will cause a negligible change to the property's setting and will not diminish its integrity of feeling or associations. Per FTA criteria, the church is a Category 3 noise receptor. A noise analysis completed for the Project indicates that without mitigation, the Project would cause a severe auditory impact in this historic property from LRT horns at nearby grade crossings. The noise analysis indicates that the implementation of quiet zones will eliminate all auditory impacts on the church. Therefore, the Project will implement quiet zones for the 41st Avenue North and 42nd Avenue North grade crossings to avoid an adverse auditory effect on the church. With implementation of this measure to minimize potential effects on the church, and avoid an adverse effect, which will be documented in the Section 106 MOA for the Project, a finding of No Adverse Effect has been made for Sacred Heart Church. **Avoidance and Minimization Measures to be included in the Project MOA:** • Implement quiet zones for the Project's 41st Avenue North and 42nd Avenue North grade crossings
References: Vol. I: 23; **Vol. II:** 3, 28-31; **Vol. III:** 6; **Vol. IV:** 13; **Vol. V:** 26; **Vol. X:** 7; **T&A Memo**; **N&V Memo**	

Effects	Finding
Robbinsdale Waterworks (HE-RBC-286)	
Direct Effects: The Project's LOD extends along the northwest and southwest boundaries of the waterworks, but will not infringe on the historic property, so the Project will have no direct effects on this property. **Indirect Effects:** Project infrastructure will be located adjacent, and in close proximity, to the waterworks. The Project alignment will be located in the BNSF Rwy. ROW, approximately 100-feet away across a surface parking lot from the waterworks. The Robbinsdale Station and a large, multi-level park-and-ride structure that includes street level transit oriented development and a parking ramp on the upper levels will be constructed approximately 200-feet northwest of the waterworks property. The existing parking lot adjacent to the southwest boundary of the historic property will also be reconstructed. Operation of the Project will introduce noise from LRVs and station operations. There is the potential that the Robbinsdale Station could catalyze the redevelopment of nearby properties.	**Finding:** No Adverse Effect **Rationale:** Vibration analysis indicates that construction and operation of the Project will not affect the property; however, the Project will prepare and implement a construction protection plan to document measures to be taken to avoid any direct effects to the waterworks during Project construction. Per FTA criteria, the waterworks is not a noise sensitive resource, so noise from Project operation will not affect characteristics that qualify the waterworks for the NRHP. While the Project will introduce a variety of new elements adjacent to the historic property and also within its setting, the Project elements will not diminish the ability of the water tower to serve as the visual focal point of downtown Robbinsdale. To ensure that the Project elements do not diminish the setting, association or feeling of the waterworks, that the visual prominence of the water tower is not diminished, and that the property will maintain its stature as the visual anchor of downtown Robbinsdale, the Project will design its infrastructure in the vicinity of the waterworks in accordance with the SOI's Standards. Given the proximity of the waterworks to the Robbinsdale Station, planning studies have indicated a strong potential for redevelopment to be catalyzed by this station in the vicinity of the historic property. However, transit development is an indirect catalyst for redevelopment, redevelopment opportunities are primarily based on global market conditions and local economic stability as well as established land use policies and zoning ordinances. If new development does occur, it could cause changes to the setting of the waterworks; however, it would not alter characteristics of the waterworks that qualify it for the NRHP. It should be noted that the waterworks itself would not be subjected to any redevelopment pressure as it is in public ownership and use, and as it serves an infrastructure use, it would be cost prohibitive to relocate its function elsewhere. With the implementation of the measures identified above to minimize potential effects on the waterworks, and to avoid an adverse effect, all of which will be documented in the Section 106 MOA for the Project, a finding of No Adverse Effect has been made for the Robbinsdale Waterworks. **Avoidance and Minimization Measures to be included in the Project MOA:** • Design Project infrastructure in the vicinity of the waterworks in accordance with the SOI's Standards • Prepare and implement a construction protection plan for the library
References: Vol. I: 23-24; **Vol. II:** 3, 28-31; **Vol. III:** 6; **Vol. IV:** 13-14; **Vol. V:** 27; **Vol. VI:** 9-12; **Vol. X:** 7; **N&V Memo**	

Effects	Finding
Hennepin County Library, Robbinsdale Branch (HE-RBC-024)	
Direct Effects: The Project's LOD extends along the north and northeast boundaries of the library, so the Project will not infringe on the historic property. The Project will have no direct effects on this property. **Indirect Effects:** Project infrastructure, including the guideway, Robbinsdale Station, and a large, multi-story park-and-ride structure, will be highly visible from the property as they will be located immediately across Railroad Avenue from the library, within and extending beyond the BNSF Rwy. ROW to the east. In addition, 42nd Avenue North, including sidewalks and the boulevard, will also be reconstructed in front of the library. Operation of the Project will also introduce noise from LRVs and station operations, and changes in access to the library.	**Finding:** No Adverse Effect **Rationale:** Vibration analysis indicates that construction and operation of the Project will not affect the property; however, the Project will prepare and implement a construction protection plan to document measures to be taken to avoid any direct effects to the library during Project construction. The amount of Project elements, when their size, scale, and massing is considered, will alter the property's setting. This infrastructure will also significantly change the property's viewshed towards downtown Robbinsdale as the park-and-ride structure will introduce a large visual barrier that is of a different scale (much larger) than existing development within the library's setting. As a result, this will diminish the setting of the library and its feeling and association. To minimize the visual effects of Project elements on the library, and avoid an adverse visual effect, the Project will design its infrastructure in the vicinity of the library in accordance with the SOI's Standards. Given the proximity of the library to the Robbinsdale Station, station area planning studies have indicated a strong potential for redevelopment to be catalyzed by this station in the vicinity of the historic property. However, transit development is an indirect catalyst for redevelopment, redevelopment opportunities are primarily based on global market conditions and local economic stability as well as established land use policies and zoning ordinances. If new development does occur, it could cause changes to the setting of the library; however, most views of any potential development would be screened by the Project's park-and-ride structure. The Project will also cause minor changes in access to the library from the downtown. While the existing BNSF Rwy. freight rail line already separates the property from downtown Robbinsdale, introduction of the Project will result in two new, additional rail tracks with much more frequent operations. The Project will also cause a minor change in vehicular access to the library. In order to reconstruct the 42nd Avenue North grade crossing to accommodate LRT, the intersection of 42nd Avenue North and Railroad Avenue must be reconstructed with a center median in 42nd Avenue through the intersection. This will prevent westbound vehicles from turning on Railroad Avenue to access the library, but access will be maintained by driving around the block and via the alley adjacent to the library. Access from the west and south will not change. Per FTA criteria, the library is a Category 3 noise receptor. A noise analysis completed for the Project indicates that without mitigation, the Project would cause a severe auditory impact in this historic property from LRT horns at nearby grade crossings. The noise analysis indicates that the implementation of a quiet zone will eliminate all auditory impacts on the library. Therefore, the Project will implement quiet zones for the 41st Avenue North and 42nd Avenue North grade crossings to avoid an adverse auditory effect on the library. With implementation of the measures identified above to minimize potential effects on the library, and avoid an adverse effect, all of which will be documented in the Section 106 MOA for the Project, a finding of No Adverse Effect has been made for the Hennepin County Library, Robbinsdale Branch. **Avoidance and Minimization Measures to be included in the Project MOA:** • Design Project infrastructure in the vicinity of the waterworks in accordance with the SOI's Standards • Prepare and implement a construction protection plan for the library • Implement quiet zones for the Project's 41st Avenue North and 42nd Avenue North grade crossings
References: Vol. I: 24-25; **Vol. II:** 3, 32-33; **Vol. III:** 6; **Vol. IV:** 15; **Vol. V:** 29; **Vol. VI:** 9-13; **Vol. X:** 7; **T&A Memo**; **N&V Memo**	

Effects	Finding
West Broadway Avenue Residential Historic District (HE-RBC-158)	
Direct Effects: The Project's LOD extends along the western boundary of the historic district, so the Project will have no direct effects on this historic district. **Indirect Effects:** The Project alignment will run directly adjacent to the western boundary of the district on an elevated roadbed and approach structure for the Project's bridge over TH 100. The trains and associated infrastructure will be highly visible from the rear of properties within the district that face the existing BNSF Rwy. ROW and a retaining wall will front the alley forming the district's western edge. The viewshed from the district across the existing BNSF Rwy. freight track will be blocked as a result of the higher elevation of the Project guideway. Operation of the Project will also introduce noise from LRVs and station operations, and potential changes in traffic patterns in the district.	**Finding:** Adverse Effect **Rationale:** The introduction of Project infrastructure and all its associated elements immediately adjacent to the entire western boundary of the West Broadway Avenue Residential Historic District will sever the district's visual connection across the existing BNSF Rwy. freight rail track to areas to the west. Additionally, Project infrastructure, including tall retaining walls to support the elevated guideway and the overhead power system, will introduce new, incompatible, and out-of-scale elements to the setting of the district. Due to the geometric requirements related to the Project's crossing over TH 100, the blocking of historic views from the district and the introduction of out-of-scale elements to the immediate setting of the historic district cannot be avoided. Collectively, these changes will diminish the historic district's integrity of setting and feeling. Per FTA criteria, the district is a Category 2 noise receptor. A noise analysis completed for the Project indicates that without mitigation, the Project would cause a severe auditory impact on some residences in the historic district, specifically from LRV horns at nearby grade crossings. As a residential district with properties experiencing moderate and severe noise effects, the Project will diminish the district's integrity of setting, feeling and association. The noise analysis indicates that implementation of quiet zones would eliminate severe auditory impacts on the district, but two residences would still have moderate impacts even with the implementation of quiet zones. Therefore, since the implementation of a quiet zone will not resolve the auditory impacts on all properties, Project noise will adversely affect the historic district. In summary, per 36 CRF § 800.5(a), the Project will cause adverse visual and auditory effects on the West Broadway Avenue Residential Historic District. Therefore, a finding of Adverse Effect has been made for the West Broadway Avenue Residential Historic District The adverse effects of the Project on this historic district will require resolution through consultation with MnSHPO and other consulting parties.
References: Vol. I: 26-29; **Vol. II:** 4, 34-35; **Vol. III:** 7; **Vol. IV:** 16-17; **Vol. V:** 30-34; **Vol. VI**: 13-14; **T&A Memo**; **N&V Memo**	
Jones-Osterhus Barn (HE-RBC-264)	
Direct Effects: The closest Project infrastructure to the barn is located a half block (approximately 190-feet) to the west, so it is anticipated that the Project will have no direct effects on this property. **Indirect Effects:** Project elements such as support poles and catenary wires may be minimally visible from the property. There will be a minor increase in vehicular traffic in nearby streets.	**Finding:** No Adverse Effect **Rationale:** Project infrastructure will only be minimally, if at all, visible from the property and would result in a negligible change in one view from the barn. The barn is located more than a half mile from the nearest Project station. There will be no change in pedestrian/bicycle access to the property. Given the street network, there is no potential for cut-through traffic to access stations past the barn. Per 2040 projections, there will only be an additional 50 cars will that would utilize the nearby portion of West Broadway Avenue if the Project is built compared to if it were not constructed. As a result of this, and the absence of direct effects, the undertaking will not alter any of the characteristics qualifying the Jones-Osterhus Barn for inclusion in the NRHP in a manner that would diminish its historic integrity, including its setting, feeling and association. Therefore, a finding of No Adverse Effect has been made for the Jones-Osterhus Barn.
References: Vol. I: 30-31; **T&A Memo**	

Effects	Finding
M&P Rwy. / Soo Line Rwy. Historic District (HE-CRC-199)	
Direct Effects: The existing diamond crossing where the BNSF Rwy. freight rail track crosses the historic Soo Line Rwy. track at-grade will be shifted and reconstructed in-kind approximately 25-feet west of its present location. **Indirect Effects:** The Project guideway will cross over this linear historic district on a new, 1,260-foot long bridge (260-foot span with 500-foot approaches on either side) that will clear span the 100-foot wide historic railroad ROW. The bridge and other associated LRT infrastructure will be visible along a short stretch of the historic district on either side of the crossing point.	**Finding:** No Adverse Effect **Rationale:** The realigned BNSF Rwy. freight rail track will continue to cross the former Soo Line Rwy. mainline track within the historic district, now owned by CP Rwy., at grade, thereby maintaining the historic at-grade crossing. While this will result in minor direct effects to the historic district, since the crossing will be reconstructed in-kind and within the historic ROW limits of both railroad lines, and will affect a relatively minute portion of the line (roughly a 100-to-150-foot long segment of an approximately 386.5-mile long linear historic district) these effects will not diminish the ability of the historic district to convey its significance. The LRT guideway will pass over the historic district on a bridge with a sufficiently large span to avoid directly affecting the historic district. The bridge will result in a visual effect on a segment of the historic district extending along either side of the new structure. However, at the Project crossing the historic district is located in a fully developed urban area that includes other grade separation structures. The visual effect will be limited to a short segment of an approximately 387-mile long linear historic district, so it will not diminish the district's integrity of setting, feeling, or association. In summary, the Project will cause minor direct and indirect effects on the M&P Rwy. / Soo Line Rwy. Historic District; However, they will not alter, directly or indirectly, any of the characteristics of the historic district that qualify it for the NRHP in a manner that would diminish its historic integrity. Therefore, a finding of No Adverse Effect has been made for the M&P Rwy. / Soo Line Rwy. Historic District.
References: Vol. I: 32-33; **Vol. VI:** 15-16	

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106GROUP

THEODORE WIRTH REGIONAL PARK CULTURAL LANDSCAPE STUDY FOR THE BLUE LINE EXTENSION LRT PROJECT

Golden Valley and Minneapolis, Hennepin County, Minnesota

September 2015



THEODORE WIRTH REGIONAL PARK CULTURAL LANDSCAPE STUDY FOR THE BLUE LINE EXTENSION LRT PROJECT

Golden Valley and Minneapolis, Hennepin County, Minnesota

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MANAGEMENT SUMMARY

From March to May of 2015, The 106 Group Ltd. (106 Group) conducted a cultural landscape study for the Theodore Wirth Regional Park (Theodore Wirth Park; HE-GVC-00081). The cultural landscape study was conducted under contract with HDR on behalf of the Metropolitan Council as part of the Blue Line Extension Light Rail Transit (BLRT) (previously known as Bottineau LRT) Final Environmental Impact Statement (FEIS). The proposed BLRT project is receiving funding from the Federal Transit Administration (FTA) and, therefore, must comply with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act of 1966, as amended (Section 106). Metropolitan Council is completing the FEIS under the direction of the FTA for compliance with NEPA. The Minnesota Department of Transportation (MnDOT) Cultural Resources Unit (CRU) is acting on behalf of the FTA for many aspects of the Section 106 process.

The proposed BLRT project is an approximately 13-mile transit corridor connecting downtown Minneapolis with the northwest suburbs in order to improve regional mobility and meet long-range transit needs The proposed alignment is located within the cities of Crystal, Brooklyn Park, Golden Valley, Minneapolis, and Robbinsdale. The proposed alignment runs near the eastern edge of Theodore Wirth Park within the existing right-of-way of the Osseo Branch Line of the St. Paul, Minneapolis & Manitoba (StPM&M)/Great Northern Railway (GN)/Burlington Northern Santa Fe Railway (BNSF) (Osseo Branch Line; HE-RRD-002 [this inventory number replaces inventory number XX-RRD-010 used in previous documentation and includes previously inventoried segments HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389]) between Highway 55 and Golden Valley Road. At Highway 55, the alignment curves east and runs down the center of the highway. Two transit stations are proposed along the portion of the alignment running within Theodore Wirth Park, one at Golden Valley Road and another at Plymouth Avenue. Both are located in the City of Golden Valley, Hennepin County. An Area of Potential Effect (APE) for architecture/history resources for the BLRT project was determined in consultation with MnDOT CRU and the Minnesota State Historic Preservation Office (MnSHPO) in 2011 as part of the *Bottineau Transitway Draft Environmental Impact Statement*, which includes: 500 feet on either side of proposed alignment; a 0.25-mile radius around proposed stations, modifications of existing structures, and new structures with the potential for pile driving; and a 500-feet radius around structures with proposed pier modifications without the potential for pile driving (106 Group 2011).

For compliance with Section 106, consultation is ongoing to assess the effects the BLRT project may have on historic properties within the APE. One historic property within the APE is Theodore Wirth Park, which is identified as a contributing resource to the Grand Rounds Historic District (GRHD). The current boundary of Theodore Wirth Park contains approximately 760 acres (307.6 hectares) of land in the municipalities of Minneapolis and Golden Valley, Hennepin County, Minnesota (Figure 1). The GRHD has been previously determined eligible for listing in the National Register of Historic Places (NRHP) by the MnSHPO. The GRHD is currently determined as eligible under Criterion A in the areas of Community Planning and Development and Entertainment/Recreation, and under Criterion C in the area of Landscape Architecture. Its period of significance is currently documented as 1884 to 1942, although the district is currently being evaluated by the MnSHPO and the Minneapolis Park and Recreation Board

(MPRB), which is unrelated to the BLRT project, to determine if it possesses significance within the period of 1943 to the mid-1970s, reflecting improvements developed in accordance with a 1971 plan by Eckbo, Dean, Austin and Williams. The boundaries of Theodore Wirth Park depicted in the draft NRHP nomination for the GRHD are slightly different than the current boundary for the park (Figure 1). For example, the boundary from the draft NRHP nomination excludes a portion of the Par 3 Golf Course and the area identified as the "Back 40," both located on the far western side of the park. There are also slight differences in the eastern boundary along Olson Memorial Highway. To ensure that all possible contributing features are identified, the focus of this study is the entirety of Theodore Wirth Park that is encompassed by both boundaries, the one from the draft NRHP nomination and the current Theodore Wirth Park boundary ("Study Area," see Figure 1). This study identifies features within the APE that may be affected by the BLRT project, both within the current period of significance from the draft NRHP nomination and the potential extension to 1975, to inform the analysis of effects and Section 106 consultation for the BLRT project. This study does not address other MPRB-owned properties or other historic properties that are located outside of the Study Area.

The specific purpose of this cultural landscape study includes the following:

- Provide a historic context for Theodore Wirth Park and document its developmental history to provide an understanding of the landscape features of the park (see Section 3).
- Identify viewsheds within Theodore Wirth Park where the BLRT project may be visible, including the four viewsheds specifically identified by the MPRB and MnDOT CRU, and identify any other viewsheds that may exist through field survey and comparing those areas to the current APE (see Section 4).
- Identify the physical characteristics of the landscape, including a broad overview across the entire park and specific details within the APE and viewsheds, using existing documents and field survey (see Sections 5.1 and 5.2).
- Identify contributing elements to the GRHD within the APE and viewsheds where properties may be affected by the proposed BLRT project (see Section 5.4).

A total of 41 features have been previously documented within the Study Area and corresponding inventory forms are on file at the MnSHPO. These resources are primarily evaluated within the current period of significance for the GRHD that ends in 1942. Of these 41 total features, 30 are identified in the draft NRHP nomination prepared in 2012 for the district. All 41 features are summarized in Appendix A. Elements such as topography, vegetation, and views and vistas, which are mentioned in the draft NRHP nomination but do not have separate inventory forms, are also part of the cultural landscape in Theodore Wirth Park and are included in this study. The resources identified in the current draft NRHP nomination for the GRHD, which is the basis for MnSHPO's determination of eligibility, are relied upon as a basis for identifying contributing and non-contributing features within the currently documented period of significance (ending in 1942) for the purposes of Section 106 compliance. Features dating between 1943 and 1975 are further documented by this cultural landscape study since these features have not been formally evaluated by previous studies. The current evaluation by MPRB and MnSHPO of contributing and non-contributing features during this extended timeframe may not be finished prior to completion of the Section 106 compliance review process for the BLRT project. Thus, this cultural landscape study also

identifies features dating within the extended timeframe (1943 to 1975) that appear to be contributing, to better inform the Section 106 compliance review process for the BLRT project. Parisa Ford, M.S., AICP, who meets the *Secretary of the Interior's Professional Qualifications Standards* for Architectural History and History, served as the principal investigator for this study.

The current architecture/history APE defined for the project captures all of the viewsheds of the BLRT project within the park except for one area in Theodore Wirth Golf Course, located north of Highway 55, encompassing approximately 5.5 acres. FTA/MnDOT CRU will determine what changes to the APE may be required. As a result of the survey and research completed for this cultural landscape study, a total of 14 features located within the APE and viewsheds of the BLRT project have been previously determined or appear to be contributing features to the GRHD.

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1.0 INTRODUCTION

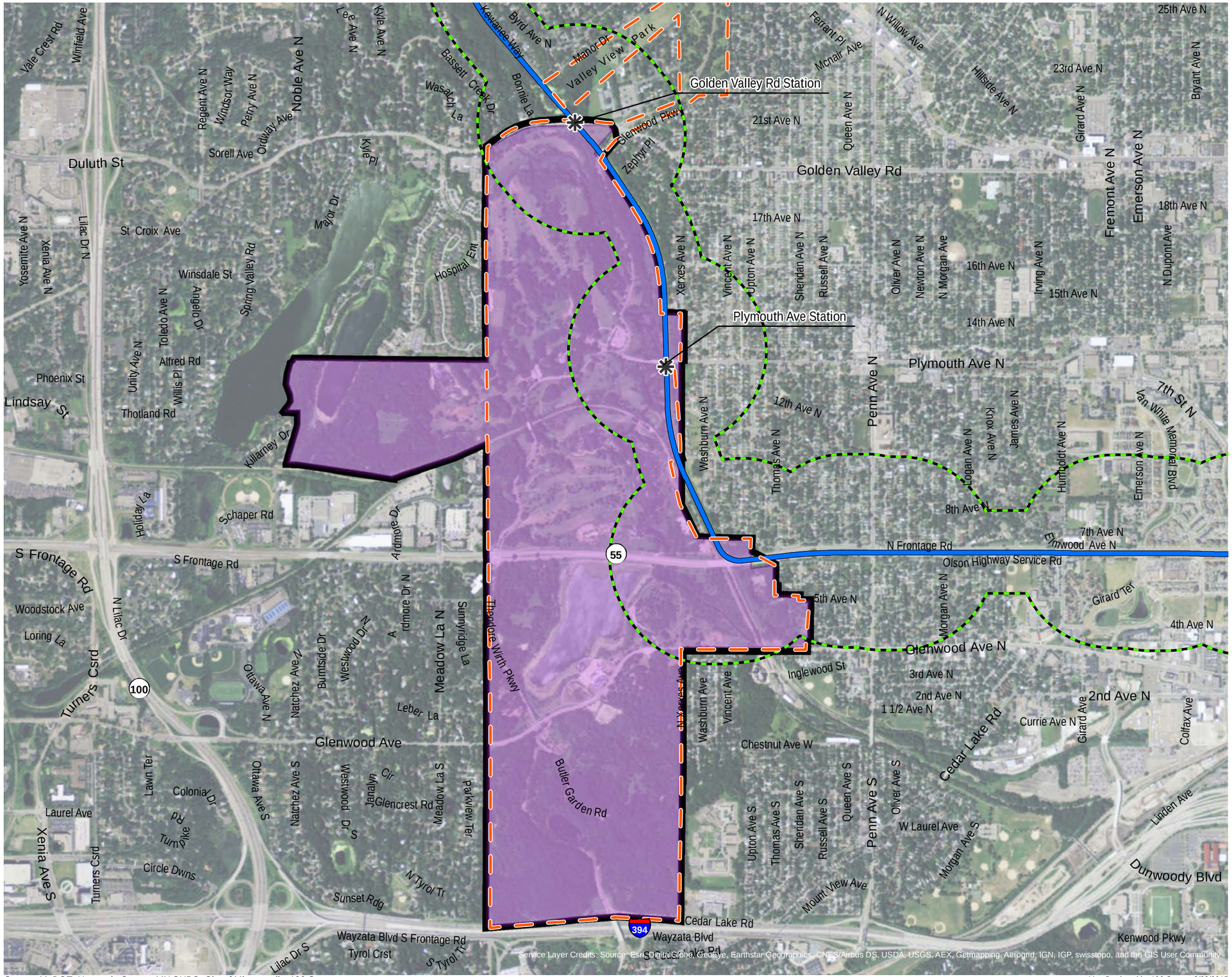
From March to May of 2015, The 106 Group Ltd. (106 Group) conducted a cultural landscape study for the Theodore Wirth Regional Park (Theodore Wirth Park; HE-GVC-00081). The cultural landscape study was conducted under contract with HDR on behalf of the Metropolitan Council as part of the Blue Line Extension Light Rail Transit (BLRT) (previously known as Bottineau LRT) Final Environmental Impact Statement (FEIS). The proposed BLRT project is receiving funding from the Federal Transit Administration (FTA) and, therefore, must comply with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act of 1966, as amended (Section 106). Metropolitan Council is completing the FEIS under the direction of the FTA for compliance with NEPA. The Minnesota Department of Transportation (MnDOT) Cultural Resources Unit (CRU) is acting on behalf of the FTA for many aspects of the Section 106 process.

The proposed BLRT project is an approximately 13-mile transit corridor connecting downtown Minneapolis with the northwest suburbs in order to improve regional mobility and meet long-range transit needs. The proposed alignment is located within the cities of Crystal, Brooklyn Park, Golden Valley, Minneapolis, and Robbinsdale. The proposed alignment runs near the eastern edge of Theodore Wirth Park within the existing right-of-way (ROW) of the Osseo Branch Line of the St. Paul, Minneapolis & Manitoba (StPM&M)/Great Northern Railway (GN)/Burlington Northern Santa Fe Railway (BNSF) (Osseo Branch Line; HE-RRD-002 [this inventory number replaces inventory number XX-RRD-010 used in previous documentation and includes previously inventoried segments HE-BPC-0084; HE-CRC-0238; HE-RBC-0304; HE-MPC-16389]) between Highway 55 and Golden Valley Road. At Highway 55, the alignment curves east and runs down the center of the highway. Two transit stations are proposed along the portion of the alignment running within Theodore Wirth Park, one at Golden Valley Road and another at Plymouth Avenue. Both are located in the City of Golden Valley, Hennepin County. An Area of Potential Effect (APE) for architecture/history resources for the BLRT project was determined in consultation with MnDOT CRU and the Minnesota State Historic Preservation Office (MnSHPO) in 2011 as part of the *Bottineau Transitway Draft Environmental Impact Statement*, which includes: 500 feet on either side of proposed alignment; a 0.25-mile radius around proposed stations, modifications of existing structures, and new structures with the potential for pile driving; and a 500-feet radius around structures with proposed pier modifications without the potential for pile driving (106 Group 2011).

For compliance with Section 106, consultation is ongoing to assess the effects the BLRT project may have on historic properties within the APE. One historic property within the APE is Theodore Wirth Park, which is identified as a contributing resource to the Grand Rounds Historic District (GRHD). The Grand Rounds Historic District (GRHD) has been previously determined eligible for listing in the National Register of Historic Places (NRHP) by the MnSHPO. The district is currently determined as eligible under Criterion A in the areas of Community Planning and Development and Entertainment/Recreation, and under Criterion C in the area of Landscape Architecture.

Blue Line Extension LRT (BLRT)
Theodore Wirth Regional Park
Cultural Landscape Study

Minneapolis and Golden Valley, Minnesota



Source: MnDOT; Hennepin County; MN SHPO; City of Minneapolis; 106 Group

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Map Produced by 106 Group 8/28/2015

- Proposed Alignment
- Proposed Station
- Architecture/History Area of Potential Effect
- Current Park Area
- Grand Rounds Historic District - Theodore Wirth Segment*
- Study Area

* The Grand Rounds Historic District boundary for the Theodore Wirth Segment reflects the currently documented period of significance to 1942. The boundary for the potential extended period of significance to 1975 may vary.

0 300 Meters

0 1,000 Feet

1:16,000

106GROUP

Project Overview

Figure 1

Its period of significance is currently documented as 1884 to 1942, although, the district is currently being evaluated by the MnSHPO and the Minneapolis Park and Recreation Board (MPRB), which is unrelated to the BLRT project, to determine if it possesses significance within the period of 1943 to the mid-1970s, reflecting the significance of improvements developed in accordance with a 1971 plan by Eckbo, Dean, Austin and Williams.

The current boundary of Theodore Wirth Park contains approximately 760 acres (307.6 hectares) of land in the municipalities of Minneapolis and Golden Valley, Hennepin County, Minnesota; however, not all of this area has been determined eligible for the NRHP. The boundaries of Theodore Wirth Park depicted in the draft NRHP nomination for the GRHD are slightly different than the current boundary for the park (Figure 1). The main difference is that the boundary from the draft NRHP nomination excludes a portion of the Par 3 Golf Course and all of the area identified as the "Back 40," both are located on the far western side of the park. There are also slight differences in the eastern boundary along Olson Memorial Highway. To ensure that all possible contributing features are identified, the focus of this study is the entirety of Theodore Wirth Park that is encompassed by both boundaries, the one from the draft NRHP nomination and the current Theodore Wirth Park boundary ("Study Area," see Figure 1).

The presence of LRT infrastructure may alter the characteristics of elements of Theodore Wirth Park by changing the character of the property's use or physical features that contribute to the property and/or its setting, or introducing visual elements that otherwise diminish aspects of its integrity that qualify it for inclusion in the NRHP as a contributing resource to the GRHD. A summary of specific Project elements and potential visual effects is provided in Section 4.0 Viewsheds. Therefore, the focus of this cultural landscape study is to identify features within the APE that may be affected by the BLRT project, both within the current period of significance from the draft NRHP nomination and the potential extension to 1975, to inform the analysis of effects and Section 106 consultation for the BLRT project. This study does not address other MPRB-owned properties or other historic properties that are located outside of the Study Area.

Theodore Wirth Park roughly extends from Interstate-394 on the south to Golden Valley Road on the north; and from France Avenue North and South/Sweeney Lake on the west to Xerxes Avenue North on the east. Theodore Wirth Park and Theodore Wirth Parkway have also been previously recommended as individually eligible for the NRHP under Criteria A, B, and C with a period of significance of 1889 through 1952 (Pearson 2002:7-8, 23). However, MnSHPO has not officially concurred with this finding (Personal Communication, Denis Gardner, National Register Historian, MnSHPO, May 4, 2015). A majority of the resources within Theodore Wirth Park have not been previously evaluated to determine their individual eligibility for listing in the NRHP.

The specific purpose of this cultural landscape study includes the following:

- Provide a historic context for Theodore Wirth Park and document its developmental history to provide an understanding of landscape features of the park (see Section 3).
- Identify viewsheds within Theodore Wirth Park where the BLRT project may be visible, including the four viewsheds specifically identified by the MPRB and MnDOT CRU, and identify

any other viewsheds that may exist through field survey and comparing those areas to the current APE (see Section 4).

- Identify the physical characteristics of the landscape, including a broad overview across the entire park and specific details within the APE and viewsheds, using existing documents and field survey (see Sections 5.1 and 5.2).
- Identify contributing elements to the GRHD within the APE and viewsheds where properties may be affected by the proposed BLRT project (see Section 5.4).

A total of 41 features have been previously documented within the Study Area and the corresponding inventory forms are on file at the MnSHPO. These resources are primarily evaluated within the current period of significance for the GRHD that ends in 1942. Of these 41 total features, 30 are identified in the draft NRHP nomination prepared in 2012 for the district. All 41 features are summarized in Appendix A. Elements such as topography, vegetation, and views and vistas, which are mentioned in the draft NRHP nomination, but do not have separate inventory forms, are also part of the cultural landscape in Theodore Wirth Park and are included in this study. The resources identified in the current draft NRHP nomination for the GRHD, which is the basis for MnSHPO's determination of eligibility, are relied upon as a basis for identifying contributing and non-contributing features within the currently documented period of significance (ending in 1942) for the purposes of Section 106 compliance. Features dating between 1943 and 1975 are further documented by this cultural landscape study since these features have not been formally evaluated by previous studies. The current evaluation of contributing and non-contributing features during this extended timeframe is currently in progress by MPRB and MnSHPO and may not be finished prior to completion of the Section 106 compliance review process for the BLRT project. Thus, this cultural landscape study also identifies features dating within the extended timeframe (1943 to 1975) that appear to be contributing, to better inform the Section 106 compliance review process for the BLRT project. Parisa Ford, M.S., AICP, who meets the *Secretary of the Interior's Professional Qualifications Standards* for Architectural History and History, served as the principal investigator for this study.

2.0 METHODS

The cultural landscape within the Study Area was identified and documented in accordance with guidance published by the National Park Service (NPS) and The Secretary of the Interior. *National Register Bulletin 18: How to Evaluate and Nominate Historic Designed Landscapes*, *National Park Service Cultural Landscapes Inventory Professional Procedures Guide*, and *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Historic Landscapes* were consulted (NPS 1993; NPS 1995; NPS 2000). Landscape features were documented within the historic context of Theodore Wirth Park and the larger GRHD.

The cultural landscape of Theodore Wirth Park within the Study Area was documented through research and fieldwork. Previous studies and inventory forms on file at the MnSHPO were reviewed. Research was conducted using primary and secondary source materials focusing on the original design intent. This research further informed the identification of contributing features to the GRHD. Primary source research was conducted at the Minneapolis Central Library Government Records Collection. Additional plans and studies were obtained from the Minneapolis Park and Recreation Board (MPRB) and Minneapolis Heritage Preservation Commission (HPC).

The following reports provided a framework for developing the historical context of Theodore Wirth Park: *National Register of Historic Places Registration Form: Grand Rounds (draft)* ("draft NRHP nomination") (Roise, et al. 2012); *Theodore Wirth Parkway and Theodore Wirth Park: An Assessment of Significance* (Pearson 2002); and *Kenilworth Lagoon/Channel Context, History, and Physical Description* (Mathis 2014). The *Theodore Wirth Regional Park Master Plan* ("2015 Master Plan") was also referenced (MPRB 2015). "Potentially contributing" features identified in the 2015 Master Plan were further assessed through fieldwork and the historical context developed in this study.

The purpose of fieldwork was to examine specific views identified in consultation with MPRB and MnDOT CRU and define viewsheds where the project is visible, and document landscape features within the Study Area and contributing features within the APE and viewsheds. Character-defining features are prominent or distinctive aspects, qualities, or characteristics of a cultural landscape that contribute significantly to its physical character. Land use patterns, vegetation, furnishings, decorative details, and materials may be such features (NPS 1995). Contributing features date from within the period of significance, retain at least fair integrity, and support the areas of significance for which the GRHD is eligible for listing in the NRHP. Character-defining features may be contributing or non-contributing features.

Visibility of the project may change with the season due to the vegetative cover of deciduous plants. Therefore, fieldwork was conducted in mid-April, when no snow was present and prior to full leaf-out of deciduous plants, in an effort to observe potential viewsheds when the lowest level of natural obstructions would exist during the timeframe of this study. During fieldwork, overview photographs were taken to document landscape features throughout the Study Area, visibility to the proposed BLRT project within the Study Area and from other specified vantage points, and contributing features within the APE and viewsheds of the BLRT project. The viewshed analysis identified areas within the Study Area from where

the project would be visible. Typical sections of the project design contained in the Draft Environmental Impact Statement (DEIS) and current project plans were referenced to determine project elements that would be visible within the Study Area (FTA and Hennepin County Regional Railroad Authority 2014). Adjacent utility structures, fencing, and buildings aided in conceptualizing the visibility of project elements.

3.0 CONTEXT AND HISTORY

Theodore Wirth Park contains both native vegetation communities and designed landscapes. The park is a component of the current Grand Rounds system. The comprehensive park system was first conceptualized by H. W. S. Cleveland in 1883. It was referred to as the "Grand Rounds" in a March 14, 1891 letter titled *Report for the Special Committee on Park Enlargement,* which was submitted to the Minneapolis Board of Park Commissioners (MBPC; known as the Minneapolis Park and Recreation Board [MPRB] after 1968) by the Special Committee on Park Enlargement led by William Folwell. The park system was later implemented and expanded under Theodore Wirth during his tenure as Park Superintendent (1906-1942) (Wirth 2002:63,116). The land comprising Theodore Wirth Park was first identified as the "northwest park" in the "Grand Rounds" system described by the Special Committee on Park Enlargement, and later incorporated into the Grand Rounds under Theodore Wirth.

The park includes recreation areas that were shaped by trends in conservation, landscape design, urban planning, and recreation, as well as the individual visions of Theodore Wirth and Eloise Butler, a retired botany teacher who established the Eloise Butler Wildflower Garden. While the designed landscape areas resulted from a series of plans and consultant recommendations, the "natural" areas evolved more independently under the stewardship of Eloise Butler and the MPRB. The MBPC was largely responsible for early acquisition and development within the broader framework of the Minneapolis park system (Roise et al. 2012:7.1). In 1971, the San Francisco landscape architecture and environmental planning firm of Eckbo, Dean, Austin and Williams prepared a comprehensive parkway system plan for the Grand Rounds that included recommendations for Theodore Wirth Park (Eckbo et al. 1971). The implementation of these plans is discussed in Section 3.2.2. Most recently, when the GRHD was designated as the first urban National Scenic Byway by the Federal Highway Administration in 1998, a new layer of signage and other elements were installed (Roise et al. 2012).

3.1 Minneapolis Parks System

Beginning in the mid-1800s, the City of Minneapolis began acquiring park land in a piecemeal fashion based on either donations or solicitations from individual land owners (Wirth 2002:16-18). When the MBPC was established in April of 1883 and granted legislative authority to develop a system of public parks and parkways separate from the City of Minneapolis, it immediately authorized its president to engage Horace William Schaller (H. W. S.) Cleveland as an advisor. Cleveland was a well-known landscape architect who had previously lectured on park development in Minneapolis and St. Paul in 1872, and was developing several plans for St. Paul (Roise et al. 2012:8.1,8.3).

Cleveland delivered his report, *Suggestion for a System of Parks and Parkways for the City of Minneapolis*, to the MBPC in June of 1883 (Wirth 2006:28). He promoted the development of parks as a sound investment from the perspectives of conservation and desirability to future generations. He argued that, "a judicious expenditure for such objects is always a wise and safe investment" (Cleveland 1883:3). His plan suggested a system of interconnected parks and parkways, highlighting the Mississippi River, Lake Calhoun, Lake Harriet, Loring Park, Hawthorn Park, and two other proposed parks. He gave special emphasis to the striking character of the Mississippi River, while also stressing the potential of Minnehaha Falls and Minnehaha Creek as a link back to the Mississippi River. However, the present-day

Theodore Wirth Segment of the Grand Rounds (inclusive of Theodore Wirth Park, Theodore Wirth Parkway, and Valley View/Glenview Terrace Park) was not included Cleveland's plan (Cleveland 1883). Most of the area for this segment was outside of the Minneapolis municipal boundary at that time. Three years after Cleveland's report, Fredrick Law Olmsted, a nationally prominent landscape architect, wrote a letter to the MBPC urging its leadership and forethought in planning park acquisitions (Wirth 2006:34-38).

Cleveland's plan made a strong impression on the MBPC. In 1891, the Special Committee on Park Enlargement issued a letter titled *Report for the Special Committee on Park Enlargement* that contained recommendations for the Minneapolis park system. They refer to Cleveland's concept as an outline of a general plan or scheme of a park system, which was not intended to be carried out with literal exactness. Its true value as a plan was that it would treat parkland as a comprehensive whole, rather than isolated and unrelated fragments. The Special Committee on Park Enlargement argued that "the new park areas, should not be such, in location and extent as property holders may, in view of their private interests, donate or sell to the city…" (Wirth 2006:113). Furthermore, they argued, "to meet the needs and wants of the city, as a whole, there must then be a general plan, organizing a system" (Wirth 2006:113).

The MBPC sought to extend the Minneapolis park system beyond the specific areas Cleveland highlighted. The 1891 letter prepared by the Special Committee on Park Enlargement stated that the parkways, "…shall not be confined to the southwestern quarters of the city, but that they shall be extended to encircle practically all of its quarters" (Wirth 2006:113). They proposed extending the parkway from Kenwood Boulevard to Cedar Lake and north to Glenwood Park (Theodore Wirth Park), where a park not less than 1,500 feet wide would be developed at the northern boundary of the city. Their report concluded by listing seven suggestions for the park system as a whole. The first suggestion was to name the system of parks and parkways "The Grand Rounds." The second suggestion was to develop a "northwest park." The northwest park is at the present-day location of Theodore Wirth Park (Wirth 2006:113-116). The remaining five suggestions pertained to other areas of the park system. Land was first acquired for Theodore Wirth Park (first known as Saratoga Park, and later as Glenwood Park) in 1889 (Roise et al. 2012:7.50).

In addition to Olmsted's and Cleveland's recommendations to the MBPC, Warren Manning submitted a report in 1900 offering recommendations for expanding the system and giving even more focus to the Mississippi River gorge (Wirth 2006:68). However, like Cleveland, neither Olmsted nor Manning offered any specific recommendations for Theodore Wirth Park, for which the first tract of land had already been acquired in 1889. Continued acquisitions through the 1950s and 1960s would then expand Theodore Wirth Park to its current extent.

Theodore Wirth was hired as Park Superintendent in 1906 and served in that capacity until his retirement in 1935. Originally from Switzerland, his career in the United States (U.S.) began in 1888 as a landscape gardener for Central Park in New York under Superintendent Samuel Parsons. He also worked independently on landscaping plans for private estates and cemeteries across New Jersey, Connecticut, along the Hudson River, and on Long Island. As Superintendent of the newly created Hartford, Connecticut, park commission, he carried out plans by Olmsted and Charles Eliot, and designed and

constructed the first municipal rose garden in the U.S. at Elizabeth Park. Charles Loring identified Wirth as part of a search committee to replace Superintendent William Berry upon his retirement in 1905. Shortly after assuming the role of Minneapolis Park Superintendent, Wirth issued his first report, which included a series of recommendations for developing more playground and recreation space, removing fences and unnecessary signage, systematically improving street trees, undertaking special forestry work in the parks, and enlarging the nursery for cultivation of planting materials. He greatly expanded Theodore Wirth Park over several decades, as well as the Minneapolis park system on whole. He extended the parkway system to link Theodore Wirth Park to the Chain of Lakes on the south, and Victory Memorial Park and Parkway on the north. Over his 30-year tenure, the park system grew from 1,800 acres to approximately 5,200 acres. When Wirth retired in 1935, he was given the title Superintendent Emeritus and awarded several medals, and in honor of his accomplishments, Glenwood Park and its features were renamed Theodore Wirth Park in 1938 (Roise et al. 2012:8.4-8.6).

The Grand Rounds is among the earliest interconnected parkway systems in the nation and one of the largest ever constructed. It also responds to the individual characteristics of each segment in the system while maintaining a recognizable consistency. By 1931, much of the park system was in place. Depression-era federal relief programs further improved the parks and parkways, and expanded West River Parkway (Roise et al. 2012:1.4).

The following decades focused on maintenance, improving recreational facilities, and transportation. The prominent landscape architecture and environmental planning firm of Eckbo, Dean, Austin and Williams prepared the last notable plan for the Grand Rounds system in 1971, titled, *Minneapolis Parkway System Concepts for the Future* (Eckbo et al. 1971). Garrett Eckbo formed an initial partnership with his brother-in-law Edward Williams in 1939 that eventually grew to include Francis Dean and Don Austin by 1964. The firm adopted the name “EDAW” by 1973. Their progressive work in landscape architecture quickly gained national and international prominence in sustainable planning at the regional scale (TCLF 2015). The plan that Eckbo, Dean, Austin and Williams prepared for the Grand Rounds sought to unify the system with consistent naming conventions, signage, lighting, and rose-colored pavement. It also sought to reduce transportation conflicts, decrease commuter traffic, and increase recreational use by narrowing roadway widths and installing parking bays. Additionally, the plan introduced separate paved bicycle and pedestrian paths throughout the parkway system (Eckbo et al. 1971). These paths remain in place today and add to the overall usage and enjoyment of the parkways.

The current GRHD is approximately 50 miles long and encircles most of Minneapolis. Portions also extend into the cities of Golden Valley, Robbinsdale, Saint Anthony, and Saint Louis Park. The GRHD contains the following seven segments: Kenwood, Chain of Lakes, Minnehaha, Mississippi River, Northeast, Victory Memorial, and Theodore Wirth. The Theodore Wirth segment includes Theodore Wirth Parkway (HE-MPC-00082), Valley View Park (HE-GVC-00088), and Theodore Wirth Park (HE-GVC-00081). Theodore Wirth Park was established in 1889 when the first tract of land was acquired. Later expansion to the north and construction of a parkway linking the park to the broader system began after Wirth’s hire in 1906. The last major purchase of land for the “Back 40” area, west of Theodore Wirth Golf Course and the Par 3 Golf Course, occurred in 1957, and the final purchase of land north of Glenwood Avenue occurred in 1966 (MPRB 2010:28). Theodore Wirth Park is the largest park in the

Minneapolis park system and the largest single component of the Grand Rounds (Roise et al. 2012:7.50). While the majority of the 760-acre (307.5-hectare) park is located in Golden Valley (563 acres [227.8 hectares] or 74.1%), 197 acres (79.7 hectares) are located in Minneapolis.

3.2 Theodore Wirth (Glenwood) Park Development

3.2.1 DESIGN INTENT

The 1891 letter published in the MBPC annual report, titled *Report for the Special Committee on Park Enlargement*, referred to Theodore Wirth Park as the "northwest park." The report recommended that the northwest park should be treated as a large park for general purposes and would be accessible to residents of the whole northwestern quarter of the city (Wirth 2002:114). However, at the time of the report, specific plans were not made for the park, nor were improvements made. The present character of the park largely reflects the visions of Theodore Wirth in its designed areas and Eloise Butler in its more natural areas. The 1971 plan by Eckbo, Dean, Austin and Williams reinforced the recreational value of the park, offered solutions to transportation conflicts, and provided guidance for creating a more cohesive parkway system. Theodore Wirth Park (then known as Glenwood Park) (HE-GVC-00081) and Wirth Lake (then known as Glenwood Lake) (HE-GVC-00094) were renamed in honor of Theodore Wirth on September 7, 1938 (Pearson 2008h). The wildflower garden (HE-MPC-05098) was renamed in honor of Eloise Butler on June 19, 1929 (Pearson 2008a).

The original design that Theodore Wirth developed for Theodore Wirth Park in 1914, titled, *General Plan for the Improvement of Glenwood Park*, follows the model of country parks by taking advantage of natural features to create a more pastoral environment within urban areas, an approach that was established by Fredrick Law Olmsted and Calvert Vaux for Central Park in Manhattan and Prospect Park in Brooklyn (Pearson 2002:9). Wirth recognized that the park's primary value was in its natural character, which reminded him of his Swiss homeland, and he sought to artistically enhance the park through landscape design. Wirth's upbringing and early career path had a strong influence on his plans for the park. Growing up, Wirth visited horticultural gardens near his home and traveled through the Swiss valleys and hills, where he studied the flowers, trees, rocks, and flowing rivers in the area (Thorp 2004:8). His career began as a landscape gardener in Switzerland, followed by travels in London and Paris to build on his experience. His early work in the U.S. included gardening and maintenance in Central Park and the implementation of designs by Olmsted and Vaux in Hartford (Roise, et al. 2012:36). While Cleveland advised against large central parks in Minneapolis due to its harsh northern climate and warned that Bassett Creek was a health hazard, Wirth was able to see the value of such a large-scale park and its water features (Cleveland 1883:12-14, Wirth 2006). After first touring the area for Theodore Wirth Park with C. J. Rockwood, Board Attorney, Wirth remarked, "the topographical contour and many natural attractions of those beautiful wooded hills and open country along the western city limits, as well as the possibilities offered for charming water landscape through the Bassett Creek Valley, impressed me as affording splendid opportunity for the development of an extensive natural park" (Wirth 2006:174). In 1914, Wirth developed the first comprehensive plan for the park that included circulation paths, landscaping, recreation, and water features. Over the course of his career, Wirth recognized a growing trend that had begun as early as the 1890s among the public and park authorities to provide more active recreation areas for activities such as boating, bathing, skating, and music, and playgrounds for children (Wirth 2006:67).

Wirth's 1914 plan is described in further detail in Section 3.2.2 Acquisition and Development. Wirth's key design elements for the park included the planting of thousands of evergreen trees and shrubs, the custom-designed Chalet (HE-GVC-00015) based on a model he had seen on his wedding trip to his homeland in 1895,development of the first public golf course, and a series of aesthetic lagoons along Bassett Creek (Pearson 2008h, Pearson 2002:10). Wirth continually advocated for expanding the park acreage, first remarking in 1906 that, "the adjoining land to the east and south is irresistibly attractive with its wooded hills and dells and mall woodland meadows…for all other purposes this land is almost useless, for park purposes it is made to order" (MBPC 1907:43). He also continuously urged the MBPC to acquire sufficient land that would ensure the park would remain an oasis as the city developed. Wirth had also intended for a much larger section of park land to be acquired west of Theodore Wirth Park, as depicted in the map titled, *Location Map Showing Contemplated Acquisitions West of Glenwood Park & Sunset Hill*, and published in the MBPC annual report for 1922. This larger area included Twin and Sweeney lakes and land southwest of Sunset Hill, each comprising approximately 250 acres, that was never fully realized (MBPC 1923:40).

The Eloise Butler Wildflower Garden is a 15-acre nature area located east of Birch Pond and South of Wirth Lake containing a wetlands area, a hardwood forest and an oak savanna (Pearson 2008a). Eloise Butler was a retired botany teacher who served as the wildflower garden's first formal caretaker and advocate. She shared the concerns of other teachers and students about rapidly disappearing natural areas as a result of urban development. Much of her inspiration for the wildflower garden came from Minneapolis area parks, including specifically the quaking bog and prairie areas linking the golf courses in Theodore Wirth Park (FWG 2015). Butler was largely influenced by the Romantic Movement, and the romance of nature studies and botanical education (Neckar 1995:5).

In 1971, the internationally prominent landscape architecture and environmental planning firm Eckbo, Dean, Austin and Williams developed a comprehensive parkway-system plan for the Grand Rounds with recommendations for Theodore Wirth Park. The plan focused on reducing commuter traffic and retaining the recreation use of the parkway system, while also reducing transportation conflicts.

3.2.2 ACQUISITION AND DEVELOPMENT

Theodore Wirth Park was acquired incrementally over 68 years, beginning first with a 64-acre section in 1889 that included Birch Pond, Brownie Lake, and land east of Brownie Lake up to the present-day Xerxes Avenue (MPRB 2015:3.3). The last portion, known as the "Back 40," was located east of Sweeney Lake and acquired in 1957. Since land was acquired in a pattern moving from south to north, and then west, the oldest portions of the park are located south of Highway 55 and were primarily developed by 1940; portions located north of Highway 55 were primarily developed from 1916 through 1962.

The area where Theodore Wirth Park is now located was first surveyed by Jessie Jarrett in 1853, who noted it had numerous streams, marshes, ponds, swamps, and tamarack bogs that he declared "unfit for cultivation" (FWG 2015). It was later purchased by land speculator Samuel Gale in 1883 and sold to Thomas Wilson shortly thereafter (FWG 2015). Adjacent land owners then petitioned the MBPC to acquire the land. While the adjacent land owners offered to help fund the purchase, its price of $100,000 was ultimately funded through a 10-year assessment plan payable by property taxes. The 64-acre area,

which had been platted as the Saratoga Springs Addition and Lyon's Spring Park Addition, was purchased in 1889 and was the first tract of land comprising the park (Pearson 2002:2).

The Oak Park Improvement Association first requested expanding the park from its initial tract in 1905 to include Wirth Lake (first known as Keegan's Lake and later as Glenwood Lake). However, Wirth's later, more ambitious recommendation to the MBPC was to acquire land all the way to Golden Valley Road. The additional land was acquired in 1907 and 1909, totaling 100 acres. It encompassed Wirth Lake, the former Minneapolis Brewing and Malting Company's beer garden located east of Wirth Lake, and the former Schell Farmstead located northwest of Wirth Lake (Pearson 2002:3). Another major addition in 1917 extended the park along France Ave to 19th Avenue North (Glenwood Avenue), bringing the park's total acreage to 681 (Wirth 2006:174). While neighbors and civic organizations largely supported MBPC's acquisitions, the last portion required condemnation proceedings from two property owners in 1916 (Gardner and Hess, Roise and Company 2000:3). In 1922, Wirth proposed more extensive acquisitions that would include all of Twin and Sweeney Lakes west of Theodore Wirth Golf Course, as well as land southwest of Sunset Hill (located at the intersection of Theodore Wirth Parkway and 26th Avenue North, outside of Theodore Wirth Park), encompassing approximately 500 additional acres combined. However, this was never fully realized. By 1950, only 87 of the 250 acres located west of the park that were originally advocated by Theodore Wirth were still undeveloped and available for park land acquisition (MPRB 2010:27). In 1952, the land around Brownie Lake was sold to Prudential Insurance Company for a regional headquarters and proceeds were used to purchase the "Back 40" area in 1957. The remaining portion of the 250 acres was located north of Theodore Wirth Park, part of which was acquired for Valley View/Glenview Terrace Park and the remainder of which was developed.

The area dedicated to what is now the Eloise Butler Wildflower Garden and Bird Sanctuary was well-known to teachers and students studying nature due to its quality timber and undergrowth. These qualities also made it a wonderful bird sanctuary within the urbanizing city. Eloise Butler became its official steward in 1911. She kept detailed records of the plant species, locations and conditions. In addition to preserving native vegetation onsite, she also imported other species from different areas of the park, throughout the city, and from other states that she thought would grow well in that environment. Therefore, the garden was not managed strictly as a conservation space, but more as a natural garden (Neckar 1995; FWG 2015). Butler served as the garden's curator until her death in 1933. In 1929 the garden was renamed in her honor, and a memorial oak and boulder were placed in the garden commemorating her dedication. The Martha E. Crone Visitor's Shelter was constructed in the middle of the wildflower garden in 1969 (Atwood 2009b). It replaced the original, smaller structure that served as Butler's office (Figure 2) (FWG 2015).



Figure 2. Eloise Butler's original office in the Wildflower Garden (MHS 1915)

While Butler found inspiration in the bog's plants, the area comprising the Quaking Bog did not receive much attention historically in planning, recreation, or maintenance by the MBPC. It has been noted as the site of a former Tuberculosis (TB) Camp for children, although no remains have been documented (MPRB 2014:5.5, 5.10). After becoming overgrown with buckthorn and purple loosestrife, the MPRB began efforts to restore the area in the 1980s by clearing out undergrowth, removing invasive species, replanting tamarack trees, and constructing a boardwalk (Pearson 2008o). This type of vegetation management to reduce invasive species and protect natives and cultural plantings continues (Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).

Wirth's early development of Theodore Wirth Park focused on plantings, topography, and parkways to enhance its alpine character. Between 1908 and 1935, Wirth's recorded plantings included 25,488 evergreens, 5,266 shrubs, and 1,016 deciduous trees. The varieties of evergreens included Norway spruce, white pine, bull pine, pitch pine, jack pine, balsam fir, cedar, eastern hemlock, juniper, yew, Black Hills spruce, and arborvitae (Pearson 2002:10). Many were cultivated in the park nursery, which was located South of Highway 55 and west of Wirth Lake at the site of the former Keegan-Schell Farmstead between 1909 and 1980 (MPRB 2015:5.9). Wirth intended these plantings to overcome what he considered a "lack of coniferous growth" and to provide year-round greenery and conceal the edges of the park (Pearson 2002:10). In 1908 he stated, "It is my aim to plant evergreens freely in most of our parks and especially throughout woodlands and along our picturesque driveways. It is to be regretted that so few evergreens have been planted in the past, for while the climate may be limited, those that are hardy produce splendid specimens within reasonable time" (MBPC 1909:47). His growing affinity for evergreen plants was evident throughout annual reports between the early 1900s and early 1940s. At one point Wirth remarked: "The introduction of evergreen foliage amongst the deciduous will greatly enhance the general aspect of our natural woodland scenes, and enliven them in the winter. It is impossible to do too much of such a planting" (MBPC 1921:57).

Historic evergreen plantings along the parkway and around the Chalet are signature features of Wirth's design intent for the park. To a lesser extent, evergreen plantings along the park edges are indicative of Wirth's plans to conceal the edges of Theodore Wirth Park. The nursery, which supplied much of the plant material for the park, was relocated to the former Keegan/Schell Farmstead in 1910 (Pearson 2002:2-3, 14). The nursery also supplied plant material for the larger Minneapolis park system and streets. At times surplus material was also sold to private customers. However, by 1948 Wirth recommended that a new location be identified in the near future since so much of the soil and nutrients had been stripped from its intensive use over time (Wirth 2006:207).

In addition to expanding park acreage, Wirth consistently sought ways to extend access into the park and link it to the larger Grand Rounds system. Wirth first began making his case in 1907 (MBPC 1908:11). In 1909, he began focusing on streetcar line extensions to bring more people into the park. When the streetcar line was finally extended into the park in 1916, Wirth remarked that it "advanced greatly the usefulness and popularity of our largest park." He credited the streetcar line for bringing more visitors to the park and especially to the beach and picnic area (Atwood 2010).

Theodore Wirth Parkway was constructed between 1911 and 1915 to link the park to the Grand Rounds system. It was designed as a curving pleasure drive following the natural contours of the land (Pearson 2002:12). Scenery along the drive was meant to be enjoyed while in transit. The route in its entirety is depicted in Theodore Wirth's 1914 plan titled, *General Plan for the Improvement of Glenwood Park.* The western extension of Plymouth Avenue into the park became another important opportunity to expand access to the park and link it to the Grand Rounds system. Wirth first introduced this opportunity in his 1914 plan for the park (MBPC 1914:94a). In 1916, he states an entrance at Plymouth Avenue must be provided and that its setting will allow for "…a picturesque entrance, which may well be considered a part of the 'Grand Rounds.'" (MBPC 1917:40)

In 1914, Wirth developed his *General Plan for the Improvement of Glenwood Park* as an elaborate plan for the park's design and use (Figure 3). It also provided the first comprehensive program for the park, including roadways, paths, lagoons (HE-GVC-00089), a golf course (HE-GVC-00097), playgrounds, and tree-lined boulevards around the park perimeter (note the extension of Plymouth Avenue shown at the center). While the plan sought to preserve the wildflower garden, it recommended replacing the Quaking Bog with a camp and playground to attract more visitors. The camp grounds were extensive, reaching from the Osseo Branch Line ROW to Birch Pond. However, these improvements were never made (Pearson 2008o).

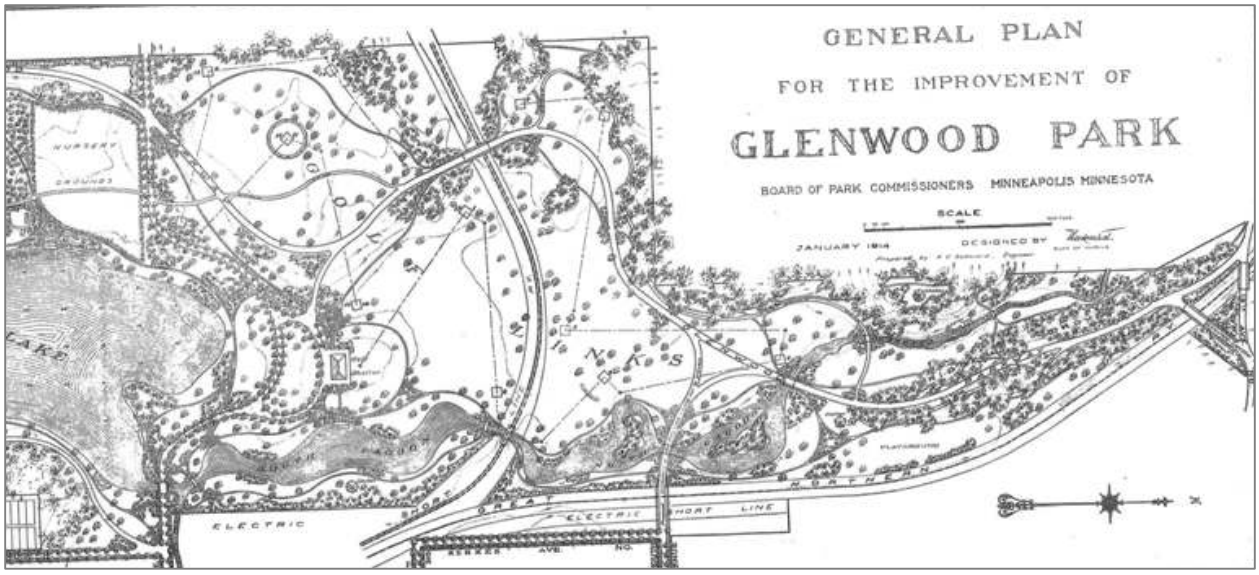


Figure 3. General Plan for the Improvement of Glenwood Park (northern section only shown here) (1914) (MBPC 1914:94a).

After World War I, Minneapolis residents had an increased interest in golf and Wirth developed the first public golf course in the city at Theodore Wirth Park and it quickly gained popularity. Wirth's original plans for the golf course called for 16.7 miles of walks to reach all areas of the park and the development of lagoons as an aesthetic enhancement (Pearson 2008g). The original nine-hole course was constructed in 1916 and later expanded to 18 holes in 1919. Both the original and expanded courses were designed by golf course architect William D. Clark (Pearson 2008h). Wirth's 1918 plan titled, *Proposed Extension of Municipal Golf Course* (Figure 4) shows the course extending fully north to 19th Avenue North (Golden Valley Road) (MBPC 1918:38a). The Chalet is shown its current location, set into a "woodland" area at the foot of the hill, although it would not be constructed until 1922. The lagoons first represented in this plan underwent several iterations until they were finally implemented through federal relief programs in 1933 under the Civil Works Association (CWA), then in the late 1930s under the Works Progress Administration (WPA) (Wirth 2002:105). As early as 1913, Wirth began promoting lagoons for rowboat and canoe use (MBPC 1914:94). Several years later he argued that attractive and navigable lagoons would make the swamp land available for useful purposes and enhance the park's scenic effects without destroying its natural character (MBPC 1916:40).

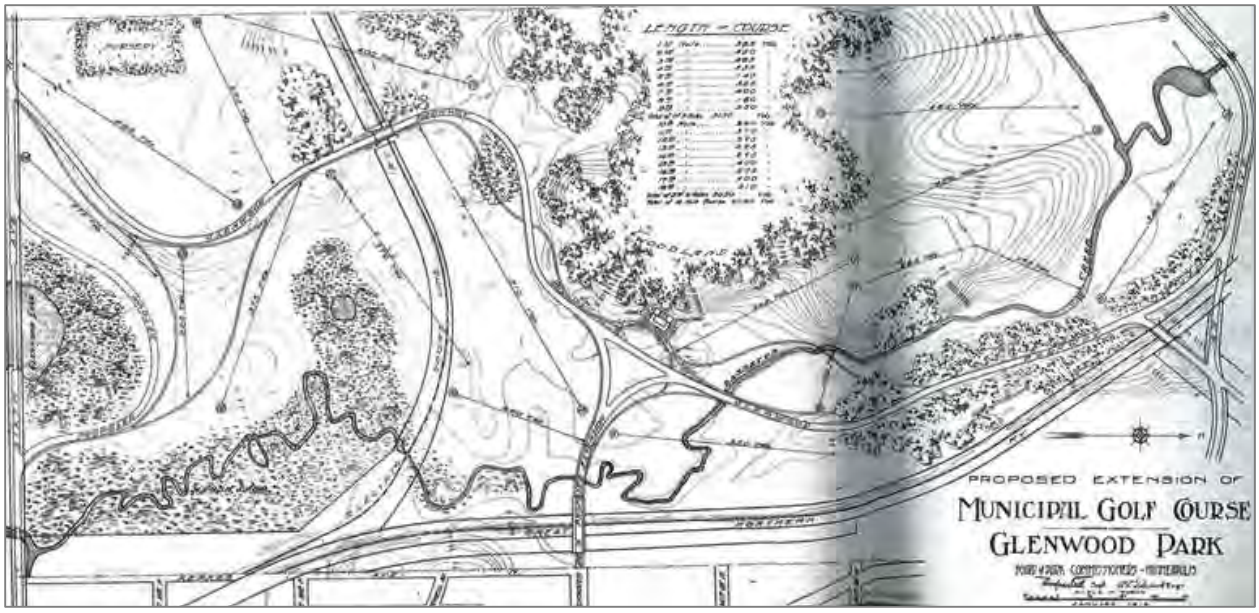


Figure 4. Proposed Extension of Municipal Golf Course (MBPC 1918:38a).

The golf course became increasingly popular, necessitating the introduction of user fees to manage access and maintenance of the course. While only a modest few cents were charged per player, these fees supported the construction of an impressive chalet-style clubhouse (built in two phases in 1922 and in 1923), and fully funded maintenance and staffing needs by 1925 (Pearson 2008h). The Chalet was designed by architects Magney and Tusler and modeled after a building Wirth had seen on his honeymoon in Switzerland (Figures 5 and 6) (MPRB 2010:18). Later, the 1930 Tool Building (HE-GVC-00086) and the 1940 Bridge L9327 (HE-GVC-00050) were designed to reflect the style of the Chalet (Pearson 2008b, Pearson 2008h). After the final western tract of land was acquired in 1957, the Par 3 Golf Course and Par 3 Golf Course Clubhouse (HE-GVC-00087 and HE-GVC-00085, respectively) were constructed in the early 1960s (Pearson 2008i; MPRB 2010:27).



Figure 5. Glenwood Golf House Perspective by Magney & Tusler, showing the second concept design as it exists today. Note the lower vegetation density and absence of evergreen plantings (MBPC 1921:72).



Figure 6. Chalet building and its landscaping. Note the introduction of evergreen plantings (MHS 1936).

Throughout the park's history, the hills on the west and north sides of the golf course were used for winter recreation. Ski jumping reached its height in popularity roughly between 1910 and the 1920s when Olympic ski trials were held in the park (Figure 7). The sport continued into the 1980s, but the jumps were removed around 1986 after they fell into poor condition (MPRB 2010:18). Other popular winter activities included tobogganing and sledding.

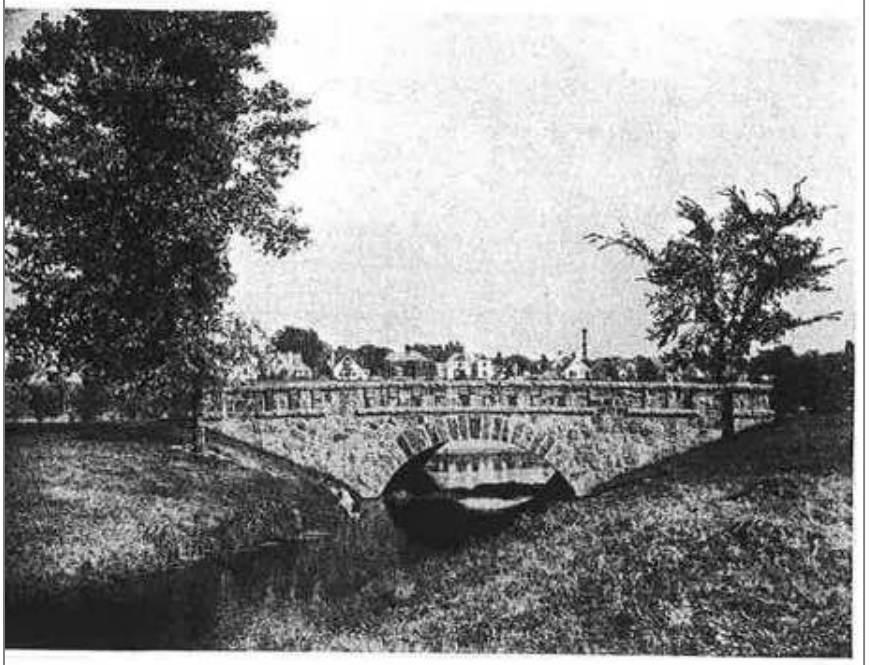


Figure 7. Ski jump on the western slopes of the golf course (MHS 1923).

During the Great Depression, federal relief programs operated in Theodore Wirth Park. Camps were set up for workers at the western edge of the park, northwest of the Chalet and maintenance buildings. They were used year-round by the CWA, and later by the Civilian Conservation Corps (CCC) and WPA. Afterwards, youth camps used the camps until they were dismantled in the 1950s (MPRB 2010:21). These federal relief programs were responsible for the construction of the lagoons, additional lake dredging, benches and picnic areas, and the construction of Bridge No. L9327 over Bassett Creek (Figure 8). The CWA and CCC began work at the lagoons, which the WPA later completed (Figures 9 and 10). Overall, the WPA had the most extensive work orders and longest-term assignment at the park. The WPA resurfaced the Wirth Lake Beach shoreline and rebuilt the golf course. Between 1937 and 1939, the WPA also installed screens on the Picnic Pavilion (HE-GVC-00083), which was originally constructed by the MBPC in 1930, and constructed concrete picnic tables throughout the area. WPA crews also installed cobblestone riprap along Bassett Creek to prevent shoreline erosion (MPRB 2010:22). The WPA's 1941 annual report notes the construction of other small-scale features, including a cobblestone-backed drinking pump and a semi-circular stone wall surrounding the spring at Glenwood Avenue and Theodore Wirth Parkway (also known as Great Medicine Spring) (MPRB 2010:23-25).



Old Bridge.



Pictures by Walter Dahlberg

A New Substantial Bridge of Seam-faced St. Cloud Granite Replaces the Old Bridge Over Bassett's Creek in Theodore Wirth Park.

Figure 8. Before-and-After comparison of Bridge L9327 (MBPC 1940:61).



Figure 9. Federal relief workers placing riprap along Bassett Creek (MBPC 1941:33).

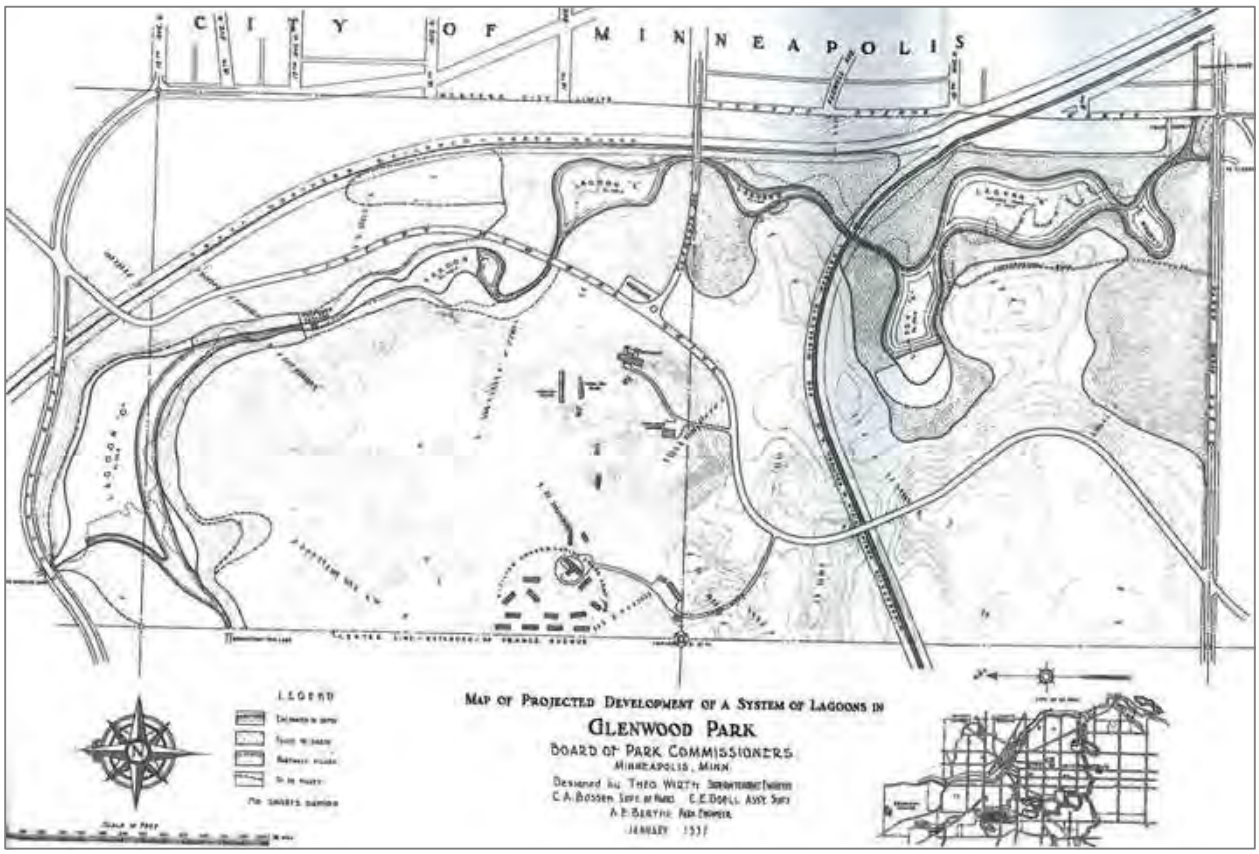


Figure 10. Map of Projected Development of a System of Lagoons in Glenwood Park, as implemented by the CWA, CCC, and WPA (MBPC 1936:110a).

In 1941, a study was conducted identifying Wirth Lake as the most suitable location for Minneapolis' Aquatennial celebration. A 6,000-seat grandstand, diving platforms, and formal, Olympic-sized pool were constructed for these celebrations and remained in place until the late 1960s (MPRB 2010:25-26). However, Wirth considered these structures obtrusive to park scenery. Historical postcards and photographs document a wall of evergreens added as a backdrop to the stage, which likely helped to soften the imposing facility (Figure 11). The MBPC accepted ownership of the facility in 1949. Wirth Lake was the site of the Aqua Follies celebrations from 1941 to 1964. After Aquatennial President Everett Taft declared in 1968 that, "the stadium had long outlived its usefulness as a staging location for summertime entertainment," it was demolished and set on fire as a training exercise by Civil Defense workers (Pearson 2008l).

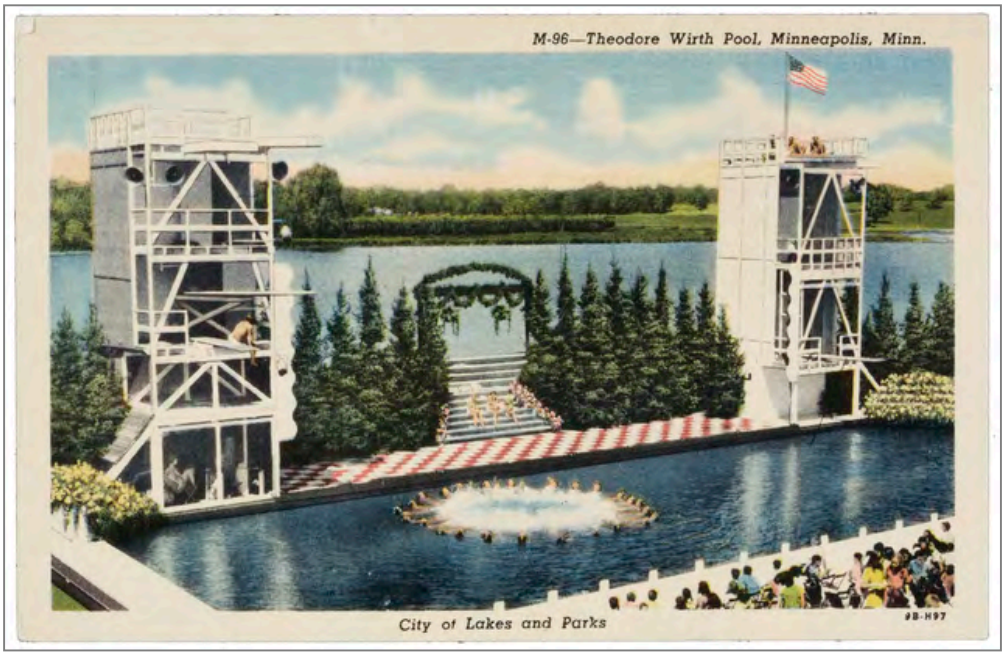


Figure 11. Aqua Follies site at Wirth Lake with evergreen tree enhancements (MHS ca.1940).

When Robert Ruhe became superintendent in 1966 he was very concerned about the parkways being used as commuter routes and commissioned a study by Eckbo, Dean, Austin and Williams (Pearson 2010:188). Their recommendations were laid out in the 1971 plan titled, *Minneapolis Parkway System Concepts for the Future* ("Eckbo Plan"). The plan focused on circulation and signage to reinforce the cohesiveness of the parkway system as a whole, and enhance its recreational value. The plan states its purpose as a guide for responding to future conflicts, rather than advocating for specific design styles or forms (Eckbo et al. 1971:1.02). It includes more specific recommendations for circulation patterns (i.e., roads, paths, and parking), and broader concepts for signage and lighting. One notable recommendation was the creation of a "Bicycle Grand Rounds" providing for a designated bicycle path routed around all of the lakes, including Wirth Lake, and adjacent to roadways connecting the lakes (Eckbo et al. 1971:4.22). Grade-separated crossings were also shown in plans for Theodore Wirth Park, including footbridges over the parkway and underpasses for pedestrian and bicycle paths (Figures 12 and 13).

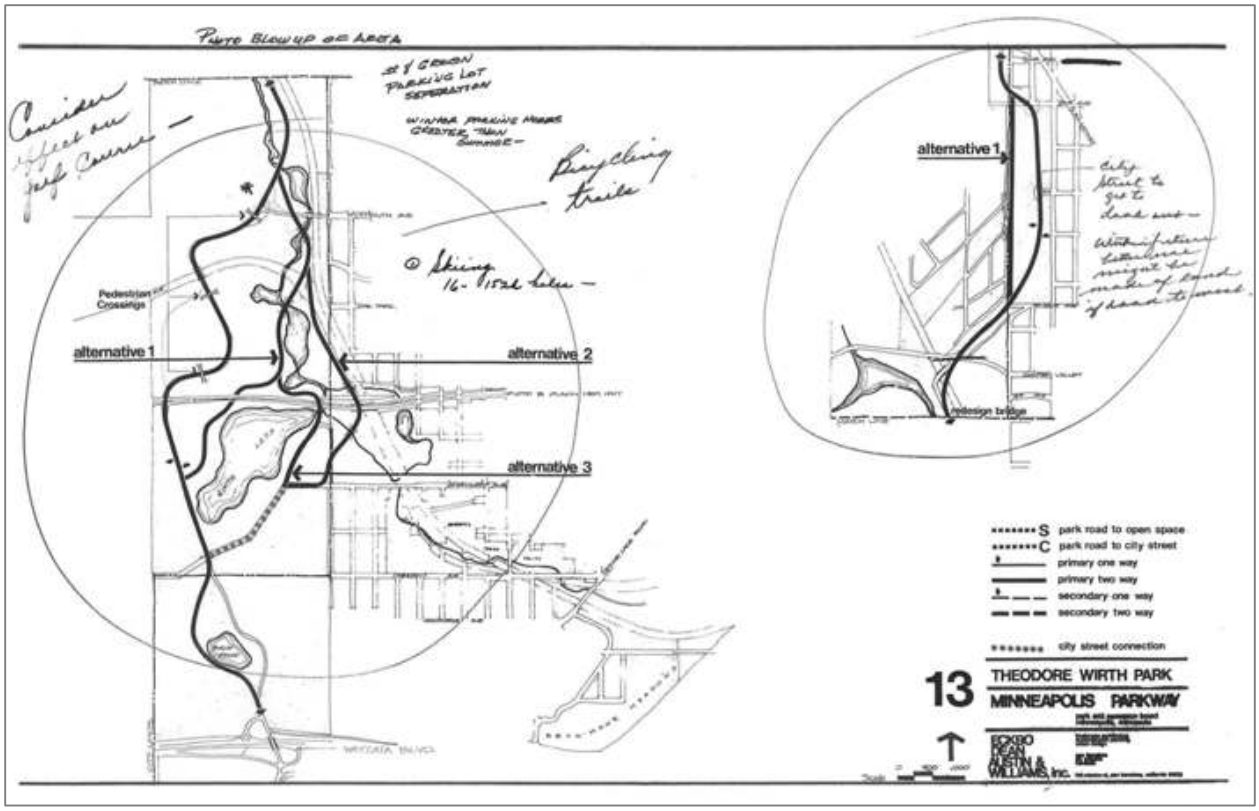


Figure 12. Theodore Wirth Park plan prepared by Eckbo, Dean, Austin and Williams (Eckbo et al. 1971:3.3-3.4).

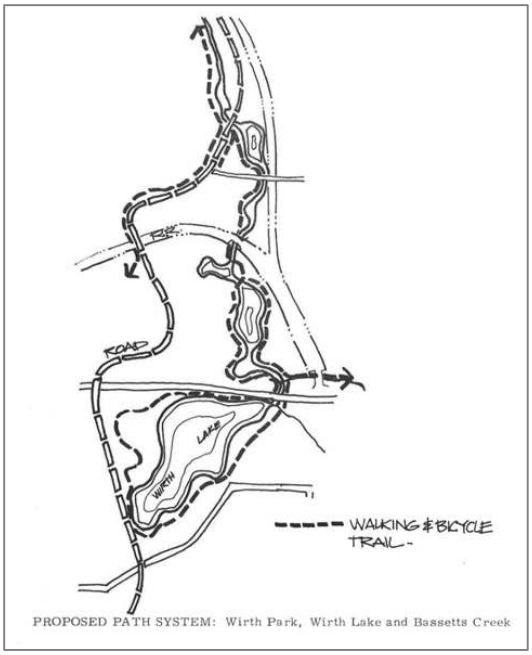


Figure 13. Proposed Path System: Wirth Park, Wirth Lake and Bassett Creek (Eckbo et al. 1971:3.76).

Beginning in 1972, the Citizen's Parkway Committee worked with the local landscape architecture firm InterDesign and engineers at BRW to implement the Eckbo Plan. As a result, Theodore Wirth Parkway

was narrowed from 32 feet to 24 feet, parking bays were installed in 1973, and separated paved bicycle and pedestrian paths were installed along the parkway in the 1970s (Roise, et al. 2012:7.53, Pearson 2002:22). Rose-chip sealed pavement was also introduced throughout the Grand Rounds to bring consistency to the parkway system. Naming conventions helped create unity by replacing all of the existing street suffixes with the term "parkway."

Also as part of the implementation of the Eckbo Plan a series of other small-scale elements were introduced to Theodore Wirth Park and the Grand Rounds including: dark rectangular wood bollards with chains to guide traffic; low rustic wood signage; lighting; and new picnic tables and benches (Pearson 2008d; Pearson 2002; Roise, et al. 2012). While these elements were not specified in the Eckbo Plan as a concept or design typology given the broader nature of the plan, they represent the more detailed level of design that was done to implement the overall intent of the Eckbo Plan. Uniform types of wood railings and bollard-and-chain railings were developed by InterDesign in the 1970s (Roise et al. 2012:7.9). The signage package was designed by prominent graphic designer and founder of InterDesign Peter Seitz, and introduced to the Grand Rounds in the early 1970s (Mathis 2014:68). Cube-style lighting was also introduced throughout the Grand Rounds to bring consistency to the parkway system; cross-armed light standards were installed at intersections. These lights were designed by Alfred French of InterDesign and featured a slender, approximately 10-foot tall standard with a transparent cube. The new light standards were installed along Theodore Wirth Parkway in 1972 (Pearson 2002:17).New picnic tables composed of wood planks and metal support posts were also introduced to Theodore Wirth Park in the 1970s (Pearson 2002:16). However, this picnic table style is not consistent with the aesthetic of other furnishings developed by InterDesign. By 1970, a play area and extensive landscaping were added to Wirth Lake Beach (MPRB 2010:30-31). Exact installation dates for all features were not indicated in the research completed for this cultural landscape study.

Following the 1971 Eckbo Plan, a *Long Range Improvement Plan* was completed for Theodore Wirth Park in 1980 (MPRB 1980). The goal of the plan was stated as follows, "The thrust of long-range planning for Wirth Park is thus to improve environmental conditions, identify and provide access to resources, and develop continuity between a variety of recreational experiences and locations. Use of the park should fan out from the beach/picnic area to the walks and natural observation areas in all directions, continuing across Highway 55 in an undisturbed manner" (MPRB 2010:8). The 1980 *Long Range Improvement Plan* was a basis for developing the most current plan for Theodore Wirth Park, titled *Theodore Wirth Regional Park Master Plan* ("2015 Master Plan").

As indicated by the report prepared by MPRB, titled, *Analysis and Historical Review Wirth Lake Area Plan 2010,* more contemporary development of Theodore Wirth Park from the 1980s forward focused on adding more trails, paths, and active recreation opportunities, and on ecological restoration of prairie and bog communities (MPRB 2010). Sand volleyball courts were added west of the beach house by 1997. The beach house was reconstructed in 2005 and a curved wall near the beach was added (MPRB2010:30). A new play area was constructed north of the Wirth Lake Beach House in 2010 (MPRB 2010:30-31) and other notable site and parking improvements were completed in 2012, including the construction of three pergolas and two boardwalks, completing a full walking trail around Wirth Lake. Also, the Luce Line Regional Trail was constructed through Theodore Wirth Park in the 1990s. In 1976, the State of

Minnesota acquired 63 miles of the Electric Short Line Railway "Luce Line"/Union Pacific Golden Valley (UPGV) Railroad (“Luce Line”) railroad ROW between Plymouth and Cosmos, Minnesota, removed the railroad ties and tracks, and established the Luce Line Regional Trail. This trail today extends nearly to Hutchinson (Wiltberger et al. 2003; Luce Line Trail 2012). The 10 miles of the Luce Line between Plymouth and downtown Minneapolis remains an active rail corridor today (HE-GVC-055 [Golden Valley Segment], HE-MPC-9800 [Minneapolis Segment]; not previously evaluated as a contributing or non-contributing resource to the GRHD; not eligible for NRHP listing); the Luce Line Regional Trail extends from Plymouth into Minneapolis through Theodore Wirth Park on a paved path that somewhat parallels the active rail corridor. The trail through Theodore Wirth Park was constructed in two phases: first, east of and including segments of the parkway in the 1990s; and second, through the Back 40 connecting the parkway to Ottawa Ave North west of Theodore Wirth Parkway (MPRB 2010:29; Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).

Restoration of the Quaking Bog and prairies began in the 1980s and was completed by 1995. After the park was designated as a National Scenic Byway in 1998, additional signage was added in 1999 to unify and call attention to the parkway system. This program introduced a new design vocabulary, including horizontal wood signs that identify parks, parkways, and various park elements; four-sided, pyramidal hip-roofed, wood-frame information kiosks; and painted, metal directional signposts at major intersections (Roise et al. 2012:7.11). The new signage system was installed throughout the Minneapolis park system, in addition to the Grand Rounds, and replaced earlier 1970s-era signage, though some of that remains in the park (Roise et al. 2012:7.11, Mathis 2014:68; Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).

3.3 Historical Significance

Theodore Wirth Park is a contributing element to the previously determined eligible GRHD that is currently being nominated to the NRHP. The documented period of significance for the Grand Rounds is 1884 to 1942 (Roise et al. 2012:1.4-1.5). Improvements made in accordance with plans by Eckbo, Dean, Austin and Williams in the early 1970s are currently being evaluated to determine if they possess exceptional significance under National Register criteria, which would possibly extend the period of significance to the mid-1970s.The draft NRHP nomination identifies the significance of the GRHD under Criterion A, in the areas of Community Planning and Development and Entertainment/Recreation as a nationally significant example of urban park development in the nineteenth- and twentieth-centuries; and under Criterion C, in the area of Landscape Architecture as the most comprehensive design by, and crowning achievement of, nationally prominent landscape architect Horace William Shaler Cleveland (1814-1900) and as the most important work by nationally prominent landscape architect and park professional Theodore Wirth (1863-1949).

Additionally, *Theodore Wirth Parkway and Theodore Wirth Park: An Assessment of Significance,* recommends the park and parkway as individually eligible for the NRHP under Criterion A, for their influence on the development of the city of Minneapolis; Criterion B, as an important product of a locally significant individual, William Berry, and a nationally significant individual, Theodore Wirth; and Criterion C, as an example of early 20th century parkway design and as a reflection of a significant trend in landscape architecture, namely the evolution of the country park in an urban environment and the use

of aggressive park planning to anticipate the needs of the city, the concept for which was first developed by nationally prominent landscape architect H. W. S. Cleveland, and further expanded and extended by Wirth; and as a representation of key periods in the evolution of American landscape architecture (Pearson 2002:7-8). The period of significance for the park and parkway is recommended as 1889 through 1952 (Pearson 2002:8). This previous assessment also found that these resources maintain their historic integrity (Pearson 2002:23). However, the MnSHPO has not officially concurred with these findings (Personal Communication, Denis Gardner, National Register Historian, MnSHPO, May 4, 2015). A majority of the resources within Theodore Wirth Park have not been previously evaluated to determine their individual eligibility for listing in the NRHP.

For the purposes of this study, the Study Area includes Theodore Wirth Park and the resources within it that are contributing elements to the GRHD, which is eligible under Criterion A in the areas of Community Planning and Development and Entertainment/Recreation, and under Criterion C in the area of Landscape Architecture. While the period of significance for the GRHD is 1884 to 1942, this study reflects the current evaluation that considers expanding the period of significance to 1975, to account for improvements made in accordance with the Eckbo Plan. Although the individual eligibility for Theodore Wirth Park has not been concurred with by the MnSHPO, resources examined as part of the individual eligibility evaluation of the park are included in this study to identify if they are contributing to the GRHD.

4.0 VIEWSHED ANALYSIS

A viewshed analysis was conducted to identify areas within the Study Area, focused on Theodore Wirth Park, where the proposed BLRT project is visible and may have the potential to cause visual impacts. The presence of LRT infrastructure may alter the characteristics of a historic property by changing the character of the property's use or physical features that contribute to the property and/or its setting, or by introducing visual elements that otherwise diminish aspects of its integrity that qualify it for inclusion in the NRHP. The BLRT alignment will be located on the east side of Theodore Wirth Park, within the existing ROW of the Osseo Branch Line, and will include project elements such as overhead catenary wires, support poles, lighting, and stations, including vertical circulation structures at Golden Valley Road and Plymouth Avenue. The current Golden Valley Road Bridge would be modified to accommodate the BLRT stations. The Plymouth Avenue Bridge would be replaced. A park and ride lot may also be constructed at Golden Valley Road. Additionally, a bridge would need to be replaced at Highway 55 to accommodate the BLRT's transition from Theodore Wirth Park to Highway 55. Freight tracks will be shifted west and an access road will be added. Vegetation in the corridor will be removed and a segment of the creek will be relocated. Furthermore, potential floodplain mitigation may also be required in the vicinity of the park. These project elements may directly alter or be visible from Theodore Wirth Park. Furthermore, there may be additional project elements yet to be determined that may also affect Theodore Wirth Park and/or its setting.

Current project plans and typical sections of the project from the *Bottineau Transit Line Draft Environmental Impact Statement* were referenced for a basic understanding of the project elements to inform the analysis of potential viewsheds within the Study Area (FTA and Hennepin County Regional Railroad Authority 2014). Adjacent utility structures, fencing, and buildings aided in conceptualizing the visibility of project elements.

Areas of visibility to the proposed BLRT project from within the Study Area were documented as part of this analysis. Visibility of the project may change with the season due to the vegetative cover of deciduous plants and trees. Therefore, field survey was conducted on April 15 and April 20, when no snow was present and prior to full leaf-out of deciduous species, in an effort to observe potential viewsheds when the lowest level of natural obstructions would exist during the timeframe of this study. Viewsheds of the project are described according to the relative presence of any obstructions (natural or built) that may exist within the line of sight to the project and the overall range of visibility that may be available (as defined by the cardinal [north, east, south, west] and intercardinal [northeast, southeast, southwest, and northwest] directions) where a direct line of sight to the project may exist. Table 1 defines the terms used to describe visibility according to the relative levels of obstructions present.

Table 1. Terms Used to Describe Visibility

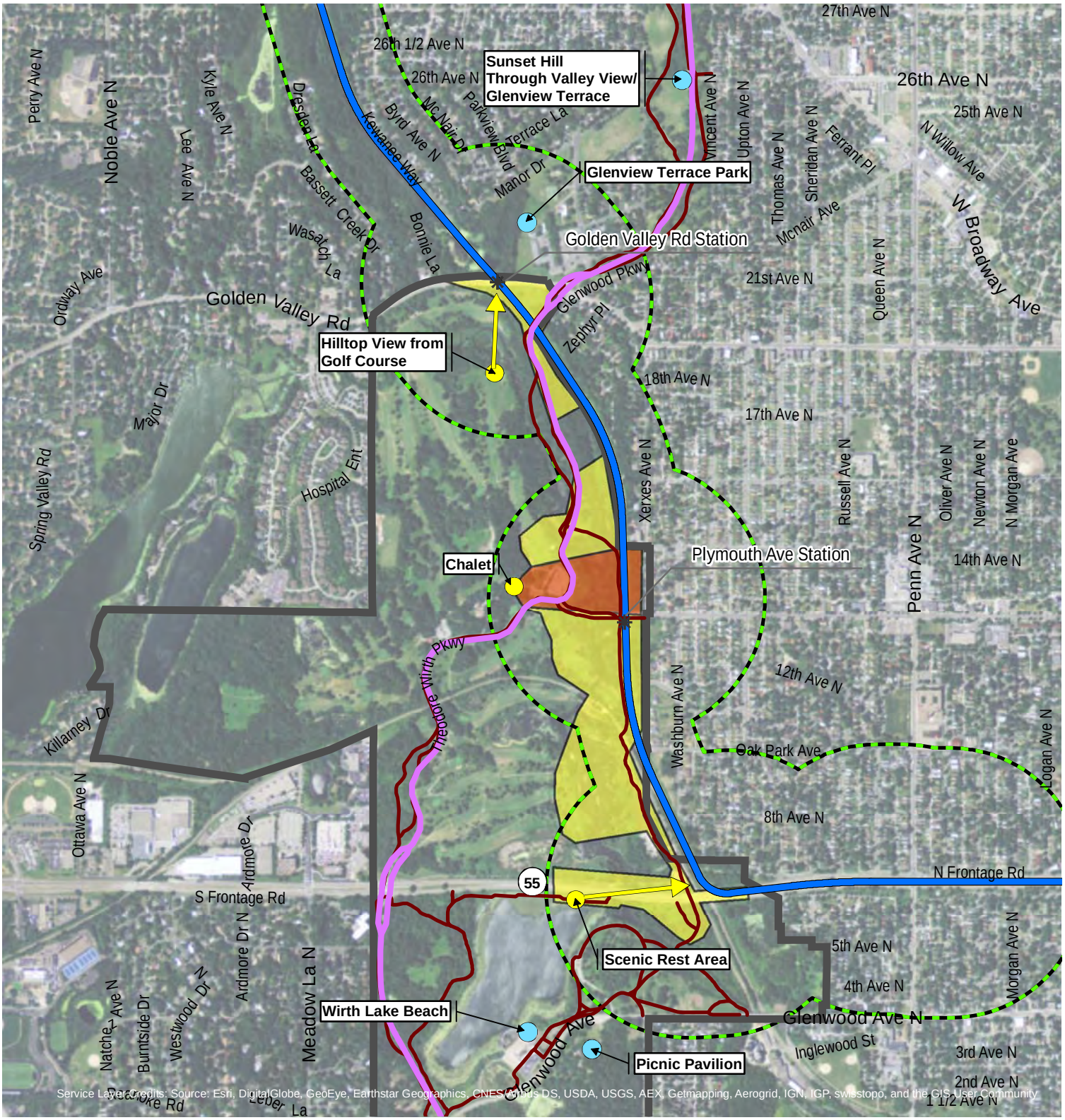
Term	Definition
High / Highly	Little to no obstructions (covering less than 50 percent of the cone of vision) exists while facing any given direction.
Fair / Fairly	Partial obstructions (covering approximately 50 percent of the cone of vision) exist while facing any given direction.
Limited	Obstructions covering more than 50 percent of the cone of vision exist while facing any given direction.

The MPRB and MnDOT CRU identified the following specific vantage points for assessment at the start of the study (Figures 14A and 14B):

- Sunset Hill through Valley View/Glenview Terrace Park
- Valley View/Glenview Terrace Park
- Along Theodore Wirth Parkway
- Theodore Wirth Chalet & Clubhouse

Several additional vantage points outside of the APE were also examined, including Wirth Lake Beach, the Picnic Pavilion, hilltop locations within the golf course, and a scenic rest spot on Wirth Lake (see Figure 14A). These locations include areas of higher elevation and other areas with more expansive, but more distant views that have the potential to include views to the project. However, during fieldwork it was determined that the Wirth Lake Beach and the Picnic Pavilion vantage points had no visibility to the BLRT project due to distance from the project and intervening vegetation. Fair visibility was found to exist from one hilltop location on the golf course, while high visibility of the project was found from the scenic rest spot on Wirth Lake. The regional trail that parallels the Osseo Branch Line, where the proposed BLRT project alignment would be located, was also documented as part of this analysis and found to have high visibility to the project with little to no obstructions along the trail. The location of this trail, which is within the existing APE, is shown on Figure 14A.

Figure 14A identifies the viewsheds and vantage points that were examined, and depicts the viewshed areas – the broad areas within the Study Area from where the project will be visible. Orange shading indicates the full viewshed of the project from the Chalet, and yellow shading indicates all other areas with project visibility. Figure 14B provides a key to the photograph locations and directions included as Figures 15-24, depicting visibility within the Theodore Wirth Parkway viewshed and the Theodore Wirth Chalet & Clubhouse viewshed. A limited portion of the Theodore Wirth Golf Course (approximately 5.5 acres) outside of the current APE was found to have visibility to the project and is included in the yellow shaded area (Figure 14A). FTA/MnDOT CRU will need to determine if the APE should be revised to include this area. Vantage points represent specific locations that were examined to determine if they have views to the project. Light blue dots indicate where a vantage point was examined and no views to the project exist; yellow dots indicate where a vantage point was tested and views to the project do exist.



Source: MnDOT; City of Minneapolis; 106 Group

Map Produced by 106 Group 8/26/2015

Blue Line Extension LRT (BLRT)
Theodore Wirth Regional Park
Cultural Landscape Study

Minneapolis and Golden Valley, Minnesota

0 320 Meters

0 840 Feet

1:16,000

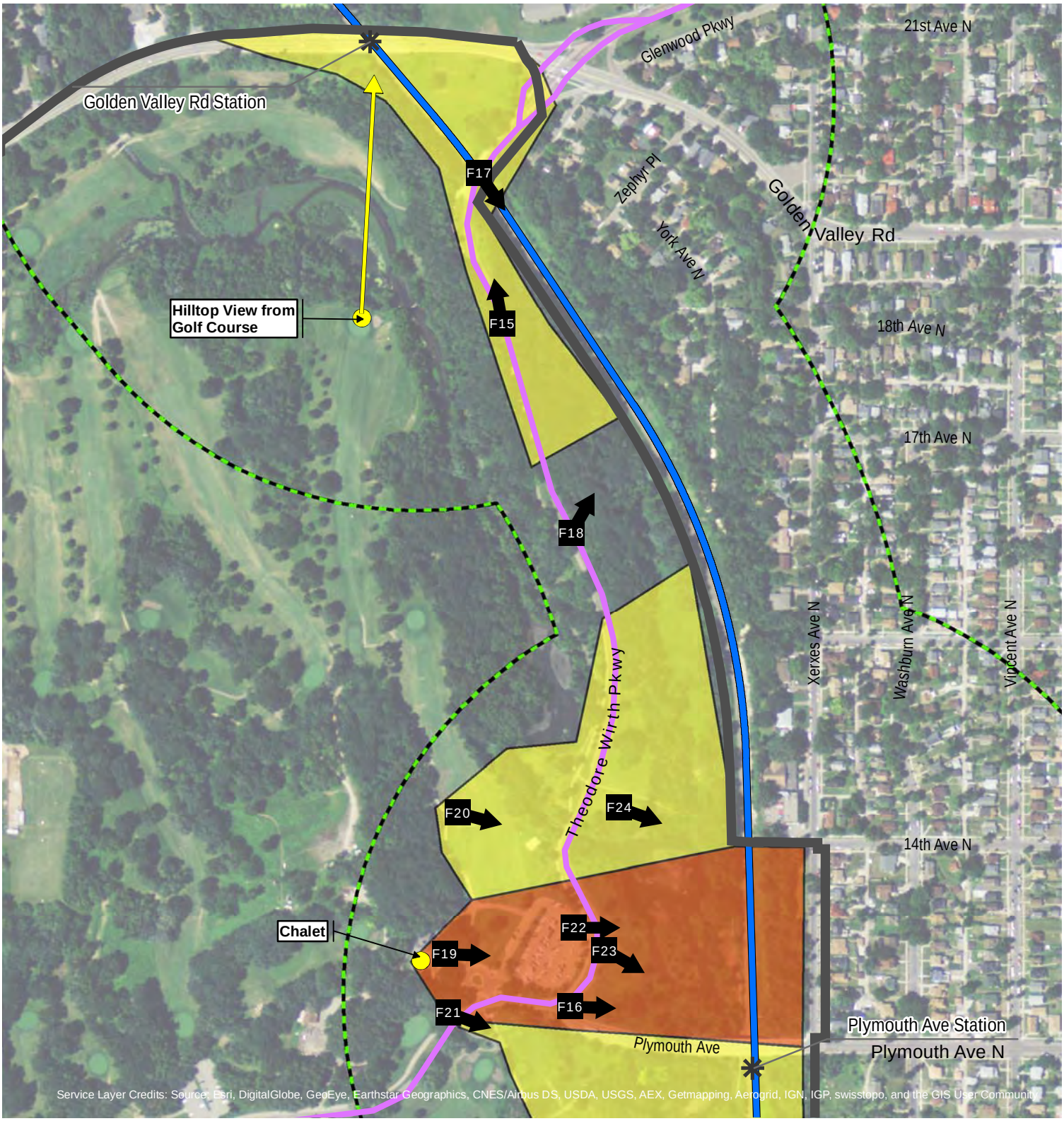
- Proposed Alignment
- Proposed Station
- Architecture/History Area of Potential Effect
- Study Area
- Theodore Wirth Pkwy (HE-GVC-00082)
- Regional and Paved Trail

Viewshed Analysis

- Viewshed of Project
- Chalet Viewshed of Project
- Vantage Point with View of Project
- Other Vantage Point with No View of Project

106GROUP

Figure 14A



Source: MnDOT; 106 Group

Map Produced by 106 Group 8/26/2015

Blue Line Extension LRT (BLRT)
Theodore Wirth Regional Park
Cultural Landscape Study

Minneapolis and Golden Valley, Minnesota

0 100 Meters

0 280 Feet

1:5,318

Theodore Wirth Parkway & Chalet Viewshed Photograph Locations

- Proposed Alignment
- Proposed Station
- Architecture/History Area of Potential Effect
- Study Area
- Theodore Wirth Pkwy (HE-GVC-00082)
- Viewshed of Project
- Chalet Viewshed of Project
- Vantage Point with View of Project
- F# Photograph Location/Direction (Label refers to figure in report)

106GROUP

Figure 14B

Overall, visibility to the project is significantly influenced by topography and vegetation density. Vegetation density varies by season according to the degree of leaf-out on deciduous plants. However, the density of branches, particularly among understory brush in the wooded areas, as well as the density of evergreen vegetation, still has potential to obstruct views to the BLRT project throughout the full calendar year. Each of the vantage points examined and viewsheds of the project identified is discussed further below.

4.1 Viewsheds to Proposed BLRT Project

The project will be visible from most of the segment of Theodore Wirth Parkway between Golden Valley Road and Plymouth Avenue, with the exception of a limited area (roughly between 16th Avenue North and 17th Avenue North) where vegetation is dense and the existing track is located at a lower elevation than the parkway. The project will be highly visible from the Chalet and its northern hillside, from Bridge L9327, and the picnic and archery areas east of the Chalet. For the most part, the project will not be visible from the golf course areas north of 14th Avenue due to topography and vegetation density. Only one hilltop location in the Theodore Wirth Golf Course has a view of the proposed Golden Valley Road station where vegetation is sparse. From Plymouth Avenue south to the Luce Line tracks, the project has fair visibility with only partial obstructions along the east side of the golf course. The adjacent regional trail located east of Bassett Creek has high visibility to the project with little to no obstruction (see Figure 14A illustrating the location of this trail within the yellow shading areas where viewsheds to the proposed BLRT project exist). The vicinity of the project where Highway 55 crosses Bassett Creek is highly visible from a scenic rest area on Wirth Lake; however, it is not visible from Picnic Ground No. 4 due to the dense vegetation and rolling hills in that area.

Two other defined views to the project were identified during survey work that fall outside of the other viewsheds identified: a hilltop location on the golf course (looking north) and a scenic rest area along the boardwalk at Wirth Lake (looking east).

4.1.1 THEODORE WIRTH PARKWAY VIEWSHED

The project will be fairly visible (see Table 1 for definitions; see Figures 14A and 14B), with only partial obstructions, along most of the parkway north of 14th Avenue North and south of Bridge 27678, which carries Theodore Wirth Parkway over the Osseo Branch Line tracks (Figure 15). Historically-significant, design-intended views of the park exist along this portion of the Theodore Wirth Parkway viewshed at the southbound entrance to Theodore Wirth Park after crossing Bridge 27678. The design intent and significance of this historic view is discussed further under Section 5.2.5 Views/Vistas in the APE and Viewsheds. This portion of the Theodore Wirth Parkway Viewshed has direct visibility facing east towards the proposed alignment. The project will be highly visible with little to no obstruction and a 180-degree range at Bridge 27678 (Figure 16). The project will also be highly visible with little to no obstruction in the vicinity of the Chalet and intersection with Plymouth Avenue (Figure 17). This area has direct visibility within a roughly 90-degree range facing northeast, east, and southeast. A limited area of no visibility exists where vegetation is most dense and the track is at a lower elevation than the roadway (Figure 18). This area is located roughly between 16th Avenue North and 17th Avenue North.



Figure 15. Theodore Wirth Parkway, near Zephyr Place, facing north (project visibility highlighted).



Figure 16. Theodore Wirth Parkway south of Golden Valley Road, over the Osseo Branch Line tracks (Bridge 27678), facing southeast. Existing track and utility infrastructure dominant the current view.



Figure 17. Intersection of Theodore Wirth Parkway and Plymouth Avenue, facing east.



Figure 18. Lack of visibility along Theodore Wirth Parkway, between 16th Avenue North and 17th Avenue North, facing northeast.

4.1.2 THEODORE WIRTH CHALET & CLUBHOUSE VIEWSHED

The Chalet (also currently known as the Theodore Wirth Chalet & Clubhouse), as well as adjacent areas around the building including the patio and nearby benches (orange shading in Figure 14A), have high visibility (see Table 1 for definitions; see Figures 14A and 14B) to the project with few obstructions and a roughly 90-degree range facing northeast, east and southeast (Figure 19). The tracks and Bridge 6247 at Plymouth Avenue are also highly visible from the winter recreation hillside north of the building, facing east and southeast (Figure 20), from the footbridge over the parkway facing northeast and southeast (but not east due to vegetation) (Figure 21), and from the parking lot in front of the Chalet and adjacent picnic and archery areas at roughly a 90-degree range facing northeast, east, and southeast (Figures 22-24).



Figure 19. View from Chalet patio, facing east (project visibility highlighted).



Figure 20. View from winter recreation area, facing southeast (project visibility highlighted).



Figure 21. View from footbridge at Chalet, facing southeast (project visibility highlighted).



Figure 22. View from parking lot, facing east (project visibility highlighted).



Figure 23. View from archery range, facing southeast (project visibility highlighted).



Figure 24. View from picnic area located east of Bridge L9327, facing southeast (project visibility highlighted).

4.1.3 VIEWSHED FROM HILLTOP LOCATION ON GOLF COURSE

Bridge 27591 carrying Golden Valley Road over the Osseo Branch Line tracks has limited visibility (see Table 1 for definitions; see Figure 14A) from a hilltop point located southeast of the 11th green (Figure 25). A direct view to the project is only visible looking north through a clearing in the wooded areas.



Figure 25. Hilltop view from golf course at 11th green, facing north (project visibility highlighted).

4.1.4 VIEWSHED FROM SCENIC REST AREA ON WIRTH LAKE

Bridge 27237 at Highway 55 is highly visible (see Table 1 for definitions; see Figure 14A) from benches at a scenic rest area on Wirth Lake, and the bridge is also highly visible from the approach to/from these benches along the boardwalk (Figure 26). Direct views to the project are located east of this vantage point where there are no obstructions.



Figure 26. View near scenic rest area on Wirth Lake, facing east towards Bridge 27237, carrying Highway 55 over Bassett Creek, Osseo Branch Line tracks, and Luce Line tracks (project visibility highlighted).

4.1.5 VIEWSHEDS OF THE BLRT PROJECT COMPARED TO THE APE

The viewshed analysis found that the current APE captures all of the viewsheds in the Study Area except for one area in Theodore Wirth Golf Course. North of Highway 55, there is additional visibility to the project where the land is flat and vegetation is sparser (Figure 27). The area is approximately 400 feet west of the current APE boundary at its furthest point and encompasses roughly 5.5 acres outside of the current 225 acres of the APE located within Theodore Wirth Park (Figure 14A). Direct project visibility is available facing east where the project is highly visible with little to no obstruction along the proposed alignment. FTA/MnDOT CRU will need to determine if the APE should be revised to include this area.



Figure 27. View from the 6th green on Theodore Wirth Golf Course, facing east (project visibility highlighted).

4.2 Vantage Points without Views to the Proposed BLRT Project

4.2.1 SUNSET HILL (NO VISIBILITY)

This view was long advocated by Theodore Wirth but never fully realized due to delays in park land acquisition. The full viewshed from Sunset Hill at 26th Avenue North was intended to encompass more land to the south and west than is currently preserved by Valley View /Glenview Terrace parks. The full viewshed was also intended to encompass the full western expansion contemplated for Theodore Wirth Park, inclusive of Twin and Sweeney lakes (MBPC 1921:78-79, MBPC 1923:40). The current extent of parkland and its orientation, as well as adjacent development and dense vegetation in the southwestern corner of Glenview Park, do not afford any views of Theodore Wirth Park or the BLRT project area from Sunset Hill (Figure 28).



Figure 28. Current view from Sunset Hill, facing southwest. Development is in the line of sight between Sunset Hill and Theodore Wirth Park on the left; forested areas on the right form a buffer between Glenview Terrace Park and Bassett Creek.

4.2.2 VALLEY VIEW/GLENVIEW TERRACE PARK (NO VISIBILITY)

While this park is located adjacent to the alignment and just across Golden Valley Road from Theodore Wirth Park, it has no direct view of the project and only limited views of Theodore Wirth Park due to dense vegetation and topography (Figure 29). The dense forested area to the southwest does not have any paths and is not intended to be used for recreation; it functions more as a buffer. The location of a church and school further limit the line of sight to Theodore Wirth Park from Sunset Hill and through Valley View/Glenview Terrace Park. Nearing the southern boundary of Glenview Terrace Park looking directly south, limited views of the prairie and tree tops on the land sloping down towards the golf course become available. Neither Golden Valley Road nor the bridge is visible due to the rolling topography of the park and dense vegetation to the southwest.



Figure 29. View from Valley View/Glenview Terrace, west of tennis courts, facing south.

5.0 PHYSICAL DESCRIPTION

5.1 Summary and Overview

Cultural landscapes represent human interaction with the environment, including its natural features and the evidence of how humans have occupied, developed, used and shaped the landscape to suit human needs. The NPS identifies four general types of cultural landscapes as follows: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes (NPS 1995). Theodore Wirth Park is a historic designed landscape. The NPS defines historic designed landscapes as follows:

> *A landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, engineer, or horticulturist according to design principles, or an amateur gardener working in a recognized style or tradition. The landscape may be associated with a significant person, trend, or event in landscape architecture; or illustrate an important development in the theory and practice of landscape architecture. Aesthetic values play a significant role in designed landscapes. Examples include parks, campuses, and estates* (NPS 1995).

Landscapes are defined by spatial organization and land patterns, features, and materials. The NPS defines landscape features as physical units that are part of the existing character of a landscape, can be managed as individual elements, and are identified as contributing or non-contributing to the historical significance of the landscape (NPS 2009:26). Specifically, *National Register Bulletin 18, How to Evaluate and Nominate Historic Designed Landscapes*, identifies the following list of features to consider:

- Existing topography and grading
- Natural features
- Bodies of water (natural and man-made)
- Land uses
- Circulation systems
- Spatial relationships and orientations
- Views and vistas into and out of the landscape
- Vegetation
- Buildings
- Structures
- Landscape dividers such as walls, fences, and hedges
- Drainage and engineering structures
- Site furnishings and small scale elements
- Lighting (fixtures, and the use of natural and artificial light)
- Signs
- Sculptures and other works of art (NPS 1993:3-4)

All of these features may not be present, or equally prominent, within all landscapes. Additionally, while individual features may exist as small scale-objects or as broader forms and patterns, each feature contributes to the character and identity of the whole, and in most cases, should not be viewed in isolation. Spatial organization and land patterns should be assessed first, and individual features should be assessed within context of the whole (NPS 1995).

While landscape features can be contributing or non-contributing to a cultural landscape, not all may be counted individually within an NRHP nomination under the guidance of *Bulletin 16, How to Complete the National Register Form* (NPS 1997:17). Elements such as topography, vegetation, and views and vistas, which are mentioned in the draft NRHP nomination but do not have separate inventory forms, are an important part of the cultural landscape of Theodore Wirth Park, within the Study Area, and are included in this study. The draft NRHP nomination for the GRHD states that major resources are included in the count of contributing and noncontributing resources, and that the district also includes numerous minor features and small-scale elements (i.e., signage and lighting) that are not counted as separate resources but mentioned in the nomination (Roise et al. 2012:7.1). Minor features and small-scale elements are discussed in this cultural landscape study as character-defining features. The potential for those features located within the APE and viewsheds to be contributing resources is also identified.

Theodore Wirth Park (HE-GVC00081; portion is contributing to the GRHD; individual NRHP-eligibility undetermined by MnSHPO) is a component of the Theodore Wirth Segment of the GRHD. This segment extends from the intersection of Lowry Avenue North and Theodore Wirth Parkway, south of Victory Memorial Parkway, to Wayzata Boulevard and the bridge over Interstate 394, north of Cedar Lake Parkway. It includes the full extent of Theodore Wirth Parkway (HE-GVC-0082; contributing; individual NRHP-eligibility not previously evaluated) north of Golden Valley Road and within Theodore Wirth Park; Valley View Park, which extends to the southwest from Sunset Hill on Theodore Wirth Parkway; and Theodore Wirth Park (Roise et al. 2012:7.50). Theodore Wirth Parkway links Theodore Wirth Park to the larger GRHD, with the Chain of Lakes Segment to the south and Victory Memorial Segment to the north.

Theodore Wirth Park extends from Interstate 394 on the south, to Golden Valley Road on the north, and from France Avenue North/Sweeney Lake on the west, to Xerxes Avenue North on the east (Figures 30A and 30B). Within Theodore Wirth Park, Highway 55 is a strong east-west divider, bisecting the park into north and south components. The northern half is largely occupied by golf courses, including the original 18-hole Glenview (Theodore Wirth) Golf Course and the Par 3 Golf Course (HE-GVC-00097 and HE-GVC-00087), and nature/recreation areas. The southern half is largely occupied by the Wirth Lake and Wirth Lake Beach (where the Wirth Lake Beach House is located), picnic areas (including the Picnic Pavilion south of Glenwood Avenue), and nature/recreation areas, including the Quaking Bog, Birch Pond, and the Eloise Butler Wildflower Garden.

Blue Line Extension LRT (BLRT)
Theodore Wirth Regional Park
Cultural Landscape Study

Minneapolis and Golden Valley, Minnesota

Golden Valley Road over Bassett Creek (culvert)
Bridge 27591
Golden Valley Rd Station
Stairs: 12th Fairway
Bridge 27678
12th Fairway Footbridges (2)
Bassett Creek Lagoons
11th Green Footbridge
Xcel Energy Transmission Line
Picnic Area
Evergreens
1970s-era Picnic Tables
Theodore Wirth Golf Course
Cube-style Light Standards
Bridge L9327
Stairs: North of Chalet
Osseo Branch Line over Bassett Creek Lagoons (culvert east of Chalet)
Theo Wirth Interpretive Statue Garden
The Chalet
Bassett Creek Lagoons
Evergreens
Archery Course
Tool Building
Osseo Branch Line over Bassett Creek (culvert north of Plymouth Ave)
1970s-era Benches
Bridge 6247
Golden Valley Reservoir
Footbridge at Chalet
MPRB Bench
Twin Lake
Par 3 Golf Course Clubhouse
Stairs: NE of Footbridge
Evergreens
1st Fairway Footbridge
Luce Line Trestle over Bassett Creek
Bridge 27677
2nd Fairway Footbridge
Bassett Creek Lagoons
Evergreens
Luce Line Bridge over Bassett Creek
Bridge 1.7
Hwy 55 Bridge Over East Channel of Bassett Creek
Boardwalk
Bridge 5908
Bridge 27237

Golden Valley Rd
Glenwood Pkwy
Osseo Branch Line
York Ave N
Plymouth Ave
Theodore Wirth Parkway
Luce Line
Plymouth Ave Station
Ordway Ave
Noble Ave N
Kyle Pl
Spring Valley Rd
Major Dr
St Croix Cir
Hospital Ent
18-Hole Golf Course
Par 3 Golf Course
"Back 40"
Killarney Dr
Ottawa Ave N
Dahlberg Dr
Ardmore Dr
Meadow La N
N Frontage Rd
S Frontage Rd
55
Xerxes Ave N
Vincent Ave N
Upton Ave N
Sheridan Ave N
Russell Ave N
Queen Ave N
Washburn Ave N
Thomas Ave N
21st Ave N
18th Ave N
17th Ave N
16th Ave N
14th Ave N
8th Ave N
Farwell Pl
Farwell Ave
12th Ave N
Oak Park Ave
Olson Highway Service Rd

Service Layer Credits: Copyright© 2013 National Geographic Society, i-cubed

Source: City of Minneapolis; 106 Group

Map Produced by 106 Group 9/18/2015

- Proposed Alignment
- Proposed Station
- Architecture/History Area of Potential Effect
- Study Area

Areas Within Park
- Golf Courses
- East Side
- Back 40
- South of Hwy 55

Character-defining Features*
- Water
- Land Use
- Circulation: Roadway
- Circulation: Railroad Corridor
- Circulation: Regional and Paved Trail**
- Vegetation
- Building Feature
- Structure
- Site Furnishing and/or Small Scale Element***
- Transmission Line

* Primary categories for character-defining features are identified. See Section 5.2 for discussion of other categories.

** Trails indicated may not constitute all park trails.

*** Features shown include previously inventoried features within the entire park and features that appear to be contributing within the APE/Viewsheds. Additional small scale features are discussed under Section 5.2.9.

0 150 Meters
0 410 Feet
1:7,800

106GROUP

Character-defining Features Within Study Area - North Half

Figure 30A

Figure 30B. Character-Defining Features within Park - South Half.

Note: Figure 30B Contains senstitive archaeological information and is not available to the public.

The most prominent character-defining features of Theodore Wirth Park include its topography and grading, water features, land uses, circulation systems, and vegetation. Other landscape features that contribute to the design and use of the park include its buildings, structures, and small scale elements (e.g. benches, picnic tables, and memorials). Figures 30A and 30B provide an overview of these character-defining features discussed in the following sections.

Within the southern half of the park, nature/recreation areas are concentrated south of Glenwood Avenue, while more formally-designated recreation spaces and activities are located to the north of Glenwood Avenue; however nature/recreation areas intentionally extend along all edges of the park. Theodore Wirth Parkway runs north-south along a circuitous route. The Osseo Branch Line (HE-RRD-002; not previously evaluated as a contributing or non-contributing resource to the GRHD; individually NRHP-eligible) forms a hard eastern boundary. The Luce Line (HE-GVC-055 [Golden Valley Segment], HE-MPC-9800[Minneapolis Segment]; not previously evaluated as a contributing or non-contributing resource to the GRHD; not eligible for NRHP listing) segments the golf course area by curving in an east-west direction roughly at the westerly extension of Oak Park Avenue North. Paved and natural surface trails traverse all portions of the park (see Figure 30A).

The 2015 Master Plan indicates that remnants of native plant communities exist throughout the park, including bogs, prairie, oak forest and oak savanna. Two bog areas are located south of Glenwood Avenue, including the Quaking Bog west of Theodore Wirth Parkway, and another smaller bog within the Eloise Butler Wildflower Garden (see Figure 30B). Several small prairie restoration areas exist at the far northern and southern edges of the park, as well as within the “Back 40” area (west of the Par 3 Golf Course) and north of Glenwood Avenue (see Figure 30A). Additionally, wet prairie areas are located throughout the Theodore Wirth Golf Course between its fairways. Native oak forest and savanna communities are primarily located north of Plymouth Avenue, and south of Glenwood Avenue (MPRB 2015:6-7). Bassett Creek runs in a north-south direction along the eastern edge of the park, from Glenwood Avenue to Golden Valley Road. A series of lagoons constructed by the CWA, CCC, and WPA were formed along its route as an enhancement to the golf course (see Figure 30A).

For the purposes of this study, and to facilitate discussion of the character-defining features, the Study Area was divided into the following four areas:

- Golf Course;
- East Side;
- Back 40 (west of golf courses and north of Highway 55); and
- South of Highway 55 (see Figures 30A and 30B).

The **Golf Course Area** accounts for approximately 36 percent of the area in Theodore Wirth Park and is characterized by its quiet recreational uses, including golf and winter recreation. Its topography is hillier to the north with wooded areas interspersed between the fairways. Bassett Creek is also a character-defining feature. The nature/recreation areas of Bassett Creek, which act as an important buffer for Theodore Wirth Park, offer recreation features such as trails and fishing opportunities.

The **East Side** comprises a narrow portion of the Study Area east of the golf courses and north of Highway 55. Bassett Creek borders this area as an important nature/recreation area. The East Side also contains several circulation routes, including: Theodore Wirth Parkway, the Osseo Branch Line, and a regional park trail that runs parallel to the Osseo Branch Line roughly between Highway 55 and Oak Park Avenue North. The portion of this area that is located north of 16th Avenue contains steep slopes, ridges, and more dense oak forest areas, while the portion south of 16th Avenue is more level and contains wetlands and sparse, second-growth forest vegetation.

The **Back 40** (west of the golf courses and north of Highway 55) is another small area mainly comprising what is commonly referred to as the "Back 40" area of the park. It is roughly defined by the Luce Line on the south, the isthmus between Sweeney and Twin Lakes on the west, the Regency Hospital and Hidden Oaks residential neighborhood on the north, and the Par 3 Golf Course on the east. This area was part of the last major acquisition of parkland in 1957. It contains a portion of Twin and Sweeney Lakes, more dense oak forest vegetation, and a small area of restored prairie vegetation.

The area **South of Highway 55** is the largest, oldest, and most diverse area, accounting for approximately 45 percent of the area in Theodore Wirth Park. It contains the remainder of the Study Area within Theodore Wirth Park. Its major features include Wirth Lake and Wirth Lake Beach (where the Wirth Lake Beach House is located), the Picnic Pavilion, the Quaking Bog, the Eloise Butler Wildflower Garden, and the southernmost lagoon that is a feature of the Bassett Creek Lagoons.

The following subsections of this report are organized to provide:

- A general description of the character-defining features in each of these four areas of the Study Area (Section 5.1.1 to Section 5.1.4);
- More detailed descriptions of the character-defining landscape features located within the APE and viewsheds (Section 5.2); and
- Identification of contributing features within the APE and viewsheds (Section 5.4).

The following information is noted for features that have been previously inventoried and evaluated, either as part of the current draft NRHP nomination for the GRHD or as part of previous studies: MnSHPO inventory numbers, construction dates, current contributing or non-contributing status from the draft NRHP nomination for the GRHD, and individual eligibility for listing in the NRHP for features with previous determinations by MnSHPO. This information is noted in the text below and summarized for all features in Appendix A.

Since MnSHPO has determined that the GRHD and its associated resources, as identified in the draft NRHP nomination, are eligible for listing in the NRHP, the draft nomination has been relied upon as a basis for identifying contributing and non-contributing features within the currently documented period of significance (ending in 1942) for the purposes of Section 106 compliance. Features post-dating 1942 are further documented through this cultural landscape study. Features outside of the current period of significance (ending in 1942) and identified as non-contributing in the draft NRHP nomination may now be contributing within the potential extended period of significance. These features are noted across the Study Area and are discussed in more detail within the APE and viewshed discussion in Section 5.4

Contributing Features within the APE and Viewsheds. Additionally, features that have been individually determined eligible or not-eligible for the NRHP are identified.

5.1.1 GOLF COURSE AREA

This area encompasses 273.1 acres (110.5 hectares) of the Study Area and is primarily devoted to active golf course uses (Figures 31-32; also see Figure 30A). Its major components include: the original 18-hole Theodore Wirth Golf Course (HE-GVC-00097; contributing; individual NRHP-eligibility not previously determined) constructed 1916-1937; the Par 3 Golf Course (HE-GVC-00087; non-contributing in the draft NRHP nomination, but falls within the potential extension of the period of significance to 1975; individual NRHP-eligibility not previously determined) constructed in 1961; and the winter recreation area (an additional land use within the two golf courses) (see Figure 30A). Its topography features steep slopes and ridges, rolling hills, and flat lowland areas. Grading was completed as part of the golf course construction, siting of the 1919-1922 Chalet (HE-GVC-00015; contributing to the GRHD; individual NRHP-eligibility not previously determined), and routing of Theodore Wirth Parkway (HE-GVC-00082; contributing; individual NRHP-eligibility not previously determined) constructed from 1891-1921. Bassett Creek and its engineered lagoons (HE-GVC-00089; contributing to the GRHD; individual NRHP-eligibility not previously determined) run the entire eastern and northern lengths of this area; the lagoons date from 1922 to 1934. Bassett Creek roughly forms an eastern boundary to this area, except for the portion between Farwell Avenue and Bridge L9327 (HE-GVC-00050; contributing to the GRHD; individually NRHP-eligible) where it curves beyond the area dedicated to Theodore Wirth Golf Course. While the original 18-hole golf course was developed in the late 1910s, the Par 3 Golf Course was not developed until the early 1960s after that land was acquired for park use (MPRB 2010:27).

The winter recreation area is an additional land use within the Theodore Wirth Golf Course and Par 3 Golf Course areas and offers the following recreation activities: cross-country skiing, snowboarding, snow tubing, snowshoeing, and skijoring. A snowboard park is located behind the Chalet. Tubing occurs on the 10th fairway hill with towropes available for assistance. Snowboarding occurs in the vicinity of the 17th Green on the 18-hole course (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 9, 2015). Snowshoeing occurs on the off-road cycling trails west of Theodore Wirth Parkway, at the Par 3 Golf Course and “Back 40” areas. Ski trails are also located throughout the golf course.



Figure 31. Representative photograph of Golf Course Area, facing west.



Figure 32. Representative photograph of Golf Course Area, facing northwest.

Hard boundaries are formed by major roadways north and south of the Golf Course Area, including Golden Valley Road to the north and Highway 55 to the south. Theodore Wirth Parkway runs mostly along the eastern edge of this area; however, it begins at the far western side of the area where it crosses Highway 55, until it hits the Luce Line tracks (HE-GVC-055; not previously determined a contributing or non-contributing feature to the GRHD; not-eligible for NRHP listing), where it turns northeast until it reaches Plymouth Avenue and continues north to Golden Valley Road. The Luce Line tracks also traverse

this area. The segment between Minneapolis and Hutchinson was constructed between 1909 and 1916 (106 Group 2012d). Additionally, Plymouth Avenue provides a scenic eastern approach to the Chalet.

The Chalet (HE-GVC-00015; contributing to the GRHD; individual NRHP-eligibility not previously determined) is the most prominent building within this area, as well as within Theodore Wirth Park as a whole. The Tool Building (HE-GVC-00086; contributing to the GRHD; individual NRHP-eligibility not previously determined), located southwest of the Chalet, was constructed in 1930 and designed to reflect the architectural style of the Chalet (Pearson 2008h). The 1960s Par 3 Golf Course Clubhouse (HE-GVC-00085; historic name "Par 3 Short Course Clubhouse"; non-contributing but subject to review if period of significance is extended to 1975; individual NRHP-eligibility not previously determined) was also constructed southwest of the Tool Building for the Par 3 Golf Course. Other structures located in the Golf Course Area include: Bridge L9327 (HE-GVC-00050; contributing to the GRHD; individually NRHP-eligible) constructed in 1940 and also designed to reflect the Chalet with its stone facing; the Luce Line Trestle over Bassett Creek bridge (HE-GVC-376; not previously determined as a contributing feature to the GRHD; individually not-eligible for NRHP-listing); and the Luce Line over Bassett Creek bridge (HE-MPC-5285; not previously determined as a contributing feature to the GRHD; individually not-eligible for NRHP listing) constructed ca. 1913. Several footbridges (not previously inventoried or evaluated) are also located throughout the golf course, allowing players to pass over Bassett Creek multiple times and once over Theodore Wirth Parkway near the Chalet. The Theodore Wirth Interpretive Statue Garden (HE-GVC-00098; non-contributing; individual NRHP-eligibility not previously determined) was installed in 2004 and is located in front of the Chalet. Three sets of newer wooden and concrete steps are set into hillside areas near the Chalet and in the far northern section of the golf course. A variety of small scale elements, including benches, picnic tables, signage, and lighting, are located throughout the area dating to various eras.

The Golf Course Area is largely covered by managed turf grass; however, portions of wet prairie, oak forest and second growth mixed forest (containing a mix of non-native volunteer and planted species that do not resemble known native plant communities and mostly developed from areas previously cleared for human use) are interspersed throughout the course (MPRB 2015:6.8). The hills to the west of the Chalet and much of the winter recreation area are also wooded. A variety of evergreen tree groupings are located throughout the course. Groupings of evergreen plants near the Chalet, along Plymouth Avenue, and within the winter recreation area are in keeping with Wirth's original design intent for the park.

5.1.2 EAST SIDE AREA

This area is a narrow, linear, north-south strip of land located north of Highway 55 and east of the golf courses (Figures 33-34; also see Figure 30A). Bassett Creek is the approximate boundary between this area and the Golf Course Area. The area north of Highway 55 and east of the Golf Courses encompasses approximately 71.5 acres (28.5 hectares) of the Study Area. The segment of Theodore Wirth Parkway located northeast of the Chalet runs along a ridge between Bassett Creek and the Osseo Branch Line tracks (HE-RRD-002; individually NRHP-eligible). The Osseo Branch Line was constructed in 1881. Remnants of native oak forest communities are present, as well as a small portion of restored prairie near the intersection of Golden Valley Road and Theodore Wirth Parkway. MPRB staff have indicated that the woodland on the western edge of the Osseo Branch Line corridor near the proposed Golden Valley station

contains high-quality, old growth oaks (Personal Communication, Bruce Chamberlain, Assistant Superintendent for Planning, MPRB, September 24, 2013). These native communities are punctuated with various species of evergreen trees, likely intended as additional screening around the park perimeter and in keeping with the historic design intent of Theodore Wirth Park. Chestnut trees have also been identified along the slope adjacent to the Osseo Branch Line (Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).

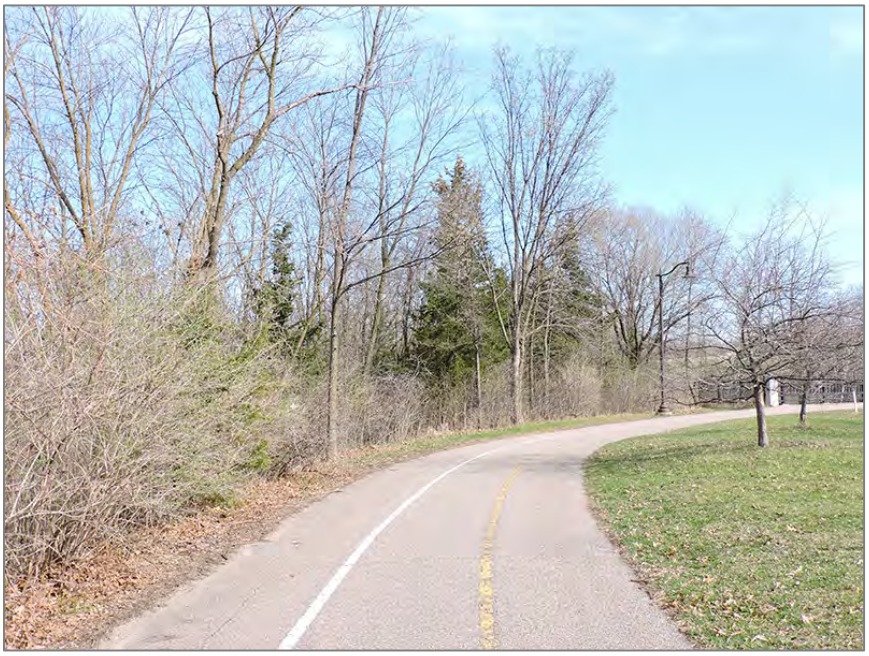


Figure 33. Representative photograph of East Side Area, facing northwest.



Figure 34. Representative photograph of East Side Area, facing west.

Several paved trails for walking and biking, as well as unpaved unauthorized trails, are located in this area. A total of 12 railroad-related and road-related bridges are located in this area. These bridges are summarized in Table 2 below. Among this total, the bridges that are located within the APE and viewsheds are detailed further in Section 5.2.8 Structures in the APE and Viewsheds. The bridges that have been previously inventoried as part of the draft NRHP nomination, or individually as part of the statewide survey of historic properties on file at MnSHPO, are included in Appendix A.

Table 2. Summary of Bridges Located in the East Side Area

Inventory No.	Bridge No.	Contributing/Non-Contributing Status (C/NC)	Individual NRHP-Eligibility
ROAD-RELATED BRIDGES			
HE-GVC-00049	6247	NC	Not Eligible
HE-GVC-00050	L9327	C	Eligible
HE-GVC-00091	27678	NC	Not Previously Determined
Not Available	27591	Not Previously Determined	Not Previously Determined
HE-GVC-00056	5908	NC	Not Previously Determined
HE-MPC-5287	27237	NC	Not Eligible
HE-MPC-5288	Highway 55 Bridge over East Branch of Bassett Creek	Not Previously Determined	Not Eligible
RAILROAD-RELATED BRIDGES			
Not Available	Not Available (culvert carrying Osseo Branch Line over Bassett Creek, north of Plymouth Ave.)	Not Previously Determined	Not Previously Determined
Not Available	Not Available (culvert carrying Osseo Branch Line over Bassett Creek, east of Chalet)	Not Previously Determined	Not Previously Determined
HE-GVC-376	Not Available	Not Previously Determined	Not Eligible
HE-MPC-5285	Not Available	Not Previously Determined	Not Eligible
HE-MPC-5286	1.7	Not Previously Determined	Not Eligible

Small areas of land are reserved for picnicking and for archery north of Plymouth Avenue. Areas south of Plymouth Avenue are largely unmanaged wetlands. A well-used regional trail runs adjacent to the Osseo Branch Line tracks with a small segment crossing railroad ROW. The pavement is deteriorated in multiple segments, including areas with standing water. An unmarked rail crossing is located roughly at

Oak Park Avenue North and does not have any barriers to access or crossing. This part of the park has been used as a natural buffer along the edge of the park, first shown in the 1914 plans, and was indicated as a nature area in the 1980 *Long Range Improvement Plan*. The trail adjacent to the Osseo Branch Line is currently planned as a natural area trail in the 2015 Master Plan (Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).

5.1.3 BACK 40 AREA

This area encompasses approximately 77.7 acres (31.4 hectares) of the Study Area (see Figure 30A). Acquired in 1957, this area is part of the remaining tract of land originally identified by Theodore Wirth in 1922 (along with land for the Par 3 Golf Course in the Golf Course Area) that would have included all of Sweeney and Twin lakes (Figures 35-36). Hard edges are formed by the Luce Line tracks to the south, while a residential development is located to the north. This area currently takes in the southern half of Twin Lake and the isthmus between Sweeney and Twin Lakes, as well as a section of the Sweeney Lake shore. It is generally characterized by rolling topography and remnants of native oak forest and savanna communities, as well as maple-basswood forest, restored prairie, and small forested wetlands (MPRB 2015). Paved trails and designed natural surface trails run through this area. The Golden Valley Reservoir is located in the northeastern corner of this area.



Figure 35. Representative photograph of Back 40 Area (MPRB 2015).



Figure 36. Representative photograph of Back 40 Area (MPRB 2015).

5.1.4 SOUTH OF HIGHWAY 55 AREA

This area comprises the oldest portion of the park and contains the greatest diversity in land uses and vegetation (See Figure 30B). It is also the largest area of the Study Area, encompassing approximately 345.6 acres (139.9 hectares). Its northern and southern boundaries are defined by major roadways, including Highway 55 to the north and Interstate-394 to the South. Glenwood Avenue runs loosely east-west in the middle of this area and Theodore Wirth Parkway runs north-south throughout this entire area. Bridge 27607 (HE-MPC-01907; non-contributing to the GRHD; individual NRHP-eligibility not previously determined) carries Glenwood Avenue over Bassett Creek, the Osseo Branch Line and the Minneapolis Segment of the Luce Line (HE-MPC-9800; not previously determined a contributing or non-contributing resource to the GRHD; individually not eligible for NRHP listing). Just north of Glenwood Avenue, Bridge 1.4 (not previously inventoried or evaluated) carries the Osseo Branch Line over Bassett Creek. North of Glenwood Avenue, this area extends roughly from the extension of France Avenue North on the west to Sheridan Avenue North on the east. South of Glenwood Avenue, this area extends roughly from France Avenue South to Xerxes Avenue South. Land north of Glenwood Avenue has comparatively flatter topography, while land to the south is characterized by rolling hills, steep slopes and ridges, and areas of high-quality native vegetation. Wirth Lake (HE-GVC-00094; contributing; individual NRHP-eligibility not previously determined) is a central feature of this area that is located south of Highway 55 and north of Glenwood Avenue. Land immediately east of Wirth Lake is occupied by formally-designated recreation areas.

Wirth Lake Beach (HE-GVC-00093; contributing; individual NRHP-eligibility not previously determined) features the 2004 Wirth Lake Beach House (HE-GVC-00092; non-contributing; individual NRHP-eligibility not previously determined), volleyball courts, a basketball court, picnic tables and shelters, a seating area beneath a pergola, playground equipment, and a parking lot (Figure 37). Wirth Lake Beach was also historically the site of the Aqua Follies Aquatennial Celebration (non-extant). The

JD Rivers' Children's Garden occupies a small portion of land located north of Glenwood Avenue near Vincent Avenue North.[1] Two picnic areas are located east of Wirth Lake: Picnic Ground No. 4 (not previously inventoried or evaluated as a separate feature within Theodore Wirth Park) north of Glenwood Avenue and the 1930 Picnic Pavilion (HE-GVC-00083; contributing; NRHP eligibility not previously determined) south of Glenwood Avenue (Figure 38). Picnic tables, benches, a sand box, and grills are sited on the hilly area in Picnic Ground No. 4. Immediately south of Wirth Lake and Wirth Lake Beach, additional picnic tables are sited at the northern foot and along the northern slope of a hill leading up to the Picnic Pavilion. The hilltop location of the pavilion affords scenic views of Wirth Lake and Wirth Lake Beach to the west, forested areas to the northeast, and hilly, forested areas to the south. The 1937 Glenwood Line Streetcar Shelter (HE-GVC-00100; contributing; individual NRHP-eligibility not previously determined) and streetcar line corridor are also located at the northern foot of this hill, adjacent to Glenwood Avenue (Figure 39).



Figure 37. Wirth Beach, facing east.

[1] The name, "JD Rivers' Children's Garden," is stated here as indicated by the MPRB on their website, https://www.minneapolisparks.org/parks__destinations/gardens__bird_sanctuaries/jd_rivers_childrens_garden/.



Figure 38. Picnic Pavilion (northeast elevation), facing southwest.



Figure 39. Glenwood Streetcar Shelter, facing east.

Land west of the lake was historically occupied by the Park Board Nursery (and previously the Keegan-Schell Farmstead [21HE0405; not previously determined a contributing or non-contributing feature to the GRHD; individual NRHP-eligibility not previously determined]) that supplied much of the designed vegetation for the park. It still contains a few remnants of cultivated plants and a root cellar, and now is largely restored prairie. Generally, areas south of Glenwood Avenue excluding the Picnic Pavilion and picnic areas are more 'natural.' The Quaking Bog (HE-MPC-01906; contributing; individual NRHP-

eligibility not previously determined) and Eloise Butler Wildflower Garden (HE-GVC-05098; contributing; individual NRHP-eligibility not previously determined), located outside of the APE and viewsheds identified for this project, comprise approximately 20 acres (8.1 hectares) and represent some of the greatest biodiversity in the area (Figures 40 and 41). The 1970 Martha E. Crone Visitor's Shelter (HE-MPC-01899; non-contributing, but subject to review if the period of significance is extended to 1975; individual NRHP-eligibility not previously determined) is located in the Eloise Butler Wildflower Garden. Vegetation in the outlying areas is largely characterized as oak forest and oak savanna communities. Birch Pond (HE-MPC-01898; contributing; individual NRHP-eligibility not previously determined) is another prominent water feature in the area South of Highway 55, located east of the Quaking Bog and southwest of the Eloise Butler Wildflower Garden, and east of Theodore Wirth Parkway. It is the smallest water feature in Theodore Wirth Park, at two acres, whereas the Bassett Creek Lagoons are 38 acres combined.



Figure 40. Entrance to Eloise Butler Wildflower Garden, facing east (modern gateway).



Figure 41. Quaking Bog, facing west (MPRB 2015).

Remnants of the 1917 Loring Cascade (HE-GVC-00099; non-contributing; individual NRHP-eligibility not previously determined) and Great Medicine Spring are located at the southwestern corner of Wirth Lake, near the intersection of Glenwood Avenue and Theodore Wirth Parkway (MPRB 2015:5.7,5.10). The 1958 Finnish-American Monument (HE-GVC-00095; non-contributing but subject to review if the period of significance is extended to 1975; individual NRHP-eligibility not previously determined) stands in the center of Picnic Ground No. 4. The 1921 Victory Memorial Drive Boulder (HE-MPC-01910; contributing; individual NRHP-eligibility not previously determined) is located at the southern entrance to Theodore Wirth Park, where it intersects with Interstate-394. [redacted]. The stretch of Theodore Wirth Parkway south of Glenwood Avenue contains the largest concentration of original evergreen plantings from Wirth's design, located roughly between I-394 and Glenwood Avenue (Pearson 2002:10). Historic (pre-1942) evergreen plantings have also been identified west of Theodore Wirth Parkway and south of the Luce Line in the 2015 Master Plan (MPRB 2015:5.7). Topography in this area is the most varied including rolling hills primarily southeast and northwest of the intersection of Glenwood Avenue and Theodore Wirth Parkway, as well was flatter areas around Wirth Lake.

5.2 Character-Defining Features in the APE and Viewsheds

The current BLRT APE encompasses the eastern side of the park, primarily lying north of Highway 55 (see Figure 1). Since the proposed alignment runs in a north-south direction between Golden Valley Road and Highway 55, and curves eastward at Highway 55, its route does not traverse the southern half of the park; however, a limited portion of the park located south of Highway 55 falls within the current APE. Therefore, the current APE primarily encompasses features described within the East Side in Section 5.1, and also includes features described in a *portion* of the Golf Course Area and the area South of Highway 55; it *does not* include any features described within the Back 40 Area. As a result of field survey, the current APE was also found to capture all of the viewsheds to the project except for a 5.5-acre area in Theodore Wirth Golf Course located north of Highway 55. Since the extent of this area is limited and does not contain any additional features than those that are located within the APE, the discussion of character-defining features within the APE and viewsheds pertains to the same set of landscape features.

Character-defining features define the overall physical quality of the landscape in terms of its current and historic features. More intensive level survey was completed to document character-defining features within the APE and identified viewsheds where the project is visible from within the Study Area. Prominent landscape features in the APE and viewsheds include topography, water features, vegetation, golf course and picnic area land uses, circulation systems, the Chalet, and several bridges. Other landscape features present within the APE and viewsheds include views related to the original design intent of the park, small-scale elements, and lighting. One archaeological resource is also present within the APE representing the Germania Brewery (21HE407; contributing status to the GRHD undetermined; individually NRHP-eligible). Character-defining features within the APE and viewsheds are described below as a baseline for identifying contributing and non-contributing features within the APE and viewsheds for the proposed BLRT project.

5.2.1 TOPOGRAPHY IN THE APE AND VIEWSHEDS

Topography was shaped by natural geographic processes over thousands of years, and altered more recently by grading and design (see Figures 30A and 30B showing contour lines). Wirth recognized the scenic value of the contours, wooded hills and Bassett Creek Valley as a great opportunity to develop an extensive natural park. Theodore Wirth Parkway was designed to follow the natural topography modeling the scenic pleasure drives of country parks (Figure 42). Wirth described how the roadway should feature easy curves following the foot of wooded hills and gradually rising to narrow oak covered ridges (MBPC 1911:103). He also remarked in the Annual Report for the year 1921 that the Chalet "is happily located on the side of a wooded hill" (MBPC 1922:71). Most of the land contours in Theodore Wirth Park, including the steep slopes, ridges and valleys, have been shaped by natural processes, while grading was necessary for construction of the golf course, Chalet, bridges, and route of Theodore Wirth Parkway.



Figure 42. Ascending north on Theodore Wirth Parkway along a ridge (past Bridge L9327), facing north.

5.2.2 BODIES OF WATER / WATER FEATURES IN THE APE AND VIEWSHEDS

Bassett Creek Lagoons and Wirth Lake are the primary water features located within the APE and viewsheds (see Figures 30A and 30B). Approximately 13% of Wirth Lake is located within the APE and viewsheds. Wirth Lake and Bassett Creek are natural features that have been transformed into designed landscape features by dredging and fill activities; the lagoons are an entirely man-made design feature. When the lagoons were created, sediment was dredged from Bassett Creek and used for grading the golf course (MPRB 2015:6.4). The design of the lagoons significantly altered Bassett Creek's natural course to create a scenic amenity and develop more suitable land for the golf course. Excavation work for the lagoons was first begun by CWA crews in the fall of 1933 and continued by the CCC in 1935 (Wirth 2002:105). Wirth's *Map of Projected Development of a System of Lagoons in Glenwood Park* contained seven lagoons along the creek's segment between Golden Valley Road and Highway 55 (MBPC 1936:110a). The completed lagoons reclaimed 65 acres of swampland and 35 acres of wasteland (MBPC 1937:121). Today, the lagoons cover seven acres of the Study Area and include two additional lagoons located south of Highway 55. Bassett Creek runs 2.5 miles through the Study Area. The current layout and form of these features is largely similar to Wirth's 1937 plan, with the exception that two of the lagoons north of Highway 55 exist more in the form of wetlands than water bodies, and the two additional lagoons located south of Highway 55 exist (Figure 43). Wirth Lake is a prominent and central character-defining feature of the park (Figure 44). Wirth Lake and Bassett Creek Lagoons have been previously evaluated and identified as contributing features to the GRHD (Roise et al. 2012; MPRB 2015).



Figure 43. Bassett Creek and "Lagoon N," as indicated in Wirth's 1937 plan, facing northwest.



Figure 44. Wirth Lake from Picnic Ground No. 4, facing west.

5.2.3 LAND USE IN THE APE AND VIEWSHEDS

Theodore Wirth Golf Course is the predominant land use north of Highway 55 (Figure 45; also see Figure 30A). Other land uses present include the winter recreation area located on the hills of the golf course that are both north and west of the Chalet within the APE and viewsheds, and a smaller picnic area and archery area east of the Chalet. Theodore Wirth Golf Course and the winter recreation area have been

previously evaluated and identified as contributing resources to the GRHD (Roise et al. 2012, MPRB 2015).

Winter recreation has been highly popular at Theodore Wirth Park since its original acquisition. While the types of winter sports have evolved over the years, the park's large acreage, alpine character, and rolling topography provide excellent grounds for a variety of activities (Figure 46). Historically, these activities have been concentrated on the slopes of the golf course located to the west and north of the Chalet. A snowboard park is located west of the Chalet while tubing occurs on the 10th fairway north of the Chalet. Cross-country skiing and snowshoeing trails extend across the entire park.



Figure 45. Theodore Wirth Golf Course, view toward the 14th and 15th fairways, facing south.



Figure 46. Winter recreation area along the 10th fairway, facing north.

Picnic Ground No. 4, located east of Wirth Lake, is the predominant land use south of Highway 55 within the APE and viewsheds (see Figure 30B). Picnic Ground No. 4 has a pastoral character created by the rolling hills, picturesque groupings of trees, and expansive views across the lake (Figure 47). The JD Rivers' Children's Garden located to the southeast provides a venue for MPRB youth gardening programs and art projects. While the site is small, it has high visibility from Glenwood Avenue and exhibits an artistic, vernacular appearance. The garden is a more contemporary feature of the park, established in 1982 (Personal Communication, MaryLynn Pulscher, MPRB, July 8, 2015). Wirth Lake offers a fishing dock on the eastern shore of the lake, and west of Picnic Ground No. 4 (see Figure 30B). Swimming areas at Wirth Beach are visible from the picnic grounds, but do not lie within the APE or viewsheds. A floating boardwalk across Wirth Lake offers benches where expansive views of the lake to the south and the golf course to the north can be appreciated.



Figure 47. Picnic Ground No. 4, showing WPA picnic benches and evergreen plantings, facing south.

Major recreational activities throughout the APE and viewsheds include disc golfing, geocaching, orienteering, environmental programming, weddings and special events, fishing, walking, hiking, trail running, bicycling, off-road cycling, non-motorized boating, gardening, picnicking, snowshoeing, cross-country skiing, skijoring, snow tubing and sledding, swimming, sand volleyball (MPRB 2015).

5.2.4 CIRCULATION SYSTEMS IN THE APE AND VIEWSHEDS

5.2.4.1 Roads

Vehicular circulation systems define the northern and southern boundaries of the park, and traverse the park in both north-south and east-west directions. The two major roadways within the APE and viewsheds include Highway 55 and Golden Valley Road. Early plans for Theodore Wirth Park show alternatives for Highway 55 (originally 6th Avenue North) by-pass routes around the natural northern shore of Wirth Lake. The highway runs in an east-west direction, forming a major division in the park, and was widened to four lanes in the 1950s (Figure 48). Highway 55, currently known as Olson Memorial Highway, is classified as a principal arterial roadway with average annual daily traffic counts of 26,000 in 2007, the most recent year for which data is available (Metropolitan Council 2015, MnDOT 2015). Golden Valley Road (originally 19th Avenue North) forms the northern boundary of the park. It is classified as minor augmentor roadway with average annual daily traffic counts of 8,300 in 2007, the most recent year for which data is available (Metropolitan Council 2015, MnDOT 2015). Glenwood Avenue runs east-west through the park providing access to Wirth Lake and Picnic Ground No. 4. Theodore Wirth Parkway has been previously evaluated and identified as a contributing resource to the GRHD (Roise et al. 2012, MPRB 2015).



Figure 48. Highway 55 from boardwalk on Wirth Lake, facing north.

Theodore Wirth Parkway followed the model of parkways across the Grand Rounds, first being graded and covered in gravel, and later paved as auto traffic increased (Figure 49). Originally constructed between 1911 and 1915, it provided a major access point through the park and linked it to the larger park system. Eckbo improvements in the early 1970s narrowed Theodore Wirth Parkway from 34 feet to 24 feet, installed a parking bay and concrete curbs, installed paved bicycle and pedestrian paths, and introduced rose-chip sealed pavement to create unity within the Grand Rounds system. The MPRB has begun re-introducing this pavement to the parkway system in 2014. Its current route follows the alignment from historical plans and aerial photographs, except where it intersects with Plymouth Avenue.

The current location and design of the parking lot at the Chalet has been has been altered in comparison to historical plans and photographs. The parking lot was first shown as a smaller area located east of Plymouth Avenue in the *Map of Projected Development of a System of Lagoons in Glenwood Park*, and appears as a similar size and in a similar location in aerial photographs from 1945 through 1971 (MBPC 1937:110, ASCS 1945, ASCS 1971). The expansion likely required modification of the intersection between Theodore Wirth Parkway and Plymouth Avenue, since historical aerial photographs indicate that Theodore Wirth Parkway was later shifted south (ASCS 1971, ASCS 1979). MPRB staff have indicated that the parking lot expansion and rerouting of Theodore Wirth Parkway occurred roughly between 1969 and 1979 (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). However, the re-alignment of this intersection and parking lot reconfiguration were not indicated in the Eckbo Plan. Therefore, the current parking lot does not appear to be a historic feature. MPRB staff indicated that, during the same timeframe, the approach to the Chalet was altered. The entry walk was changed from a straight approach with stairs and hedges, to the current curved walk as an accessibility improvement, and the patio stairs were closed (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). The extension of Plymouth Avenue by 1922 was an important gateway into the park that Wirth considered an integral component of the Grand Rounds

system. It provides a scenic eastern approach to the Chalet at the midpoint of the Theodore Wirth Golf Course (Figure 50). The roadway follows its historic alignment, except for the intersection with Theodore Wirth Parkway, and is surrounded by a wooded area near Bridge 6247 (HE-GVC-00049; non-contributing to the GRHD; not eligible for individual NRHP listing). The bridge deck, railings, and light fixtures of Bridge 6247 were reconstructed in 2006; the style of the railings and fixtures are modern and are dissimilar in appearance to the historic structure. Plymouth Avenue and Bridge 6247 are discussed further in Section 5.4.1.2.



Figure 49. Theodore Wirth Parkway at Bridge L9327, facing northwest.



Figure 50. Plymouth Avenue approach to the Chalet, facing west.

5.2.4.2 Railroads

Two railroad lines traverse the park and impact its spatial organization. The Osseo Branch Line (HE-RRD-002; not previously identified as a contributing feature to the GRHD; individually NRHP-eligible) forms a hard eastern boundary which likely followed existing topography. This railroad line is comprised of a single track mainline that rests on a raised bed of granite ballast. The tracks are comprised of wood ties with jointed steel rails. The Osseo Branch Line has an approximately 100-foot ROW. North of Glenwood Avenue, the Osseo Branch Line enters Theodore Wirth Park and travels through a wooded area. Just north of Glenwood Avenue, the line is carried over Bassett Creek by the Osseo Branch Line Bridge No. 1.4 (not previously inventoried or evaluated), which is a double concrete culvert/pipe built in 1943 that replaced an earlier wood trestle. Approximately 350 feet to the north, the line crosses Bassett Creek on Osseo Branch Line Bridge No. 1.7 (HE-MPC-5286; not previously determined as a contributing features to the GRHD; not eligible for individual NRHP listing), which is a four-span, reinforced concrete deck bridge built in 1914. Approximately 600 feet up the line, near the intersection of Xerxes and Eighth Avenues North, the Osseo Branch Line runs parallel with the Luce Line at MW Junction (installed 1915). Just north of MW Junction, the Luce Line curves and heads west into Golden Valley (HE-GVC-055). The Osseo Branch Line then passes over a wetland area on a raised roadbed of riprap. After curving north, the line enters a long forested cut through Theodore Wirth Park until it reaches Golden Valley Road (106 Group 2012c).

North of Glenwood Avenue the Minneapolis Segment of the Luce Line (HE-MPC-9800; not previously determined as a contributing feature to the GRHD; not eligible for individual NRHP listing) enters Theodore Wirth Park and travels through a wooded area. Additionally, the tracks cross the east channel of Bassett Creek at Bridge 1.4. Approximately 350 feet to the north, the line crosses Bassett Creek on the Luce Line Bridge over Bassett Creek (HE-MPC-5285; not previously determined as a contributing or non-contributing feature to the GRHD; not eligible for individual NRHP listing) that is now mostly covered by fill. About 1,000 feet up the line at Mile Post 1.7, near the intersection of Xerxes and Eighth Avenues North, the Golden Valley Segment of the Luce Line interchanges with the Osseo Branch Line at MW Junction in Theodore Wirth Park. The junction is comprised of a crossover track between the two lines. At the west end of the junction the Luce Line leaves Minneapolis and enters Golden Valley (HE-GVC-055; not previously determined as a contributing feature to the GRHD; not eligible for individual NRHP listing), where it effectively segments Theodore Wirth Golf Course. The railroad tracks consist of steel rails with wood ties set in ballast on a raised roadbed (106 Group 2012d). The current ROW width ranges from 80 feet to 150 feet along its course through Theodore Wirth Park. The tracks cross Bassett Creek Lagoons at a second point on the Luce Line Trestle over Bassett Creek (HE-GVC-376; not previously determined contributing or non-contributing to the GRHD; not eligible for individual NRHP listing).

5.2.4.3 Paths and Trails

A paved bicycle and pedestrian path (in some areas combined, and in others, separated) runs adjacent to the full length of Theodore Wirth Parkway from Golden Valley Road to I-394. This pathway was recommended in Eckbo's 1971 plan. Another paved trail runs along the creek and the Osseo Branch Line tracks through areas adjacent to lagoons and wetlands. The location and alignment of this route are similar to recommendations contained in the Eckbo's 1971 plan. The trail begins at Highway 55 and ends

at the picnic area located east of Bridge L9327. However, it does not contain a grade-separated crossing at the tracks as recommended in the Eckbo Plan. All-season, earthen off-road pedestrian and bike trails are also available mostly west of the parkway in nature/recreation areas. Portions of groomed ski trails traversing Theodore Wirth Golf Course lie within the APE and viewsheds. These trails accommodate classic and skate-style cross-country skiing and connect up to regional trails extending through Golden Valley and the Chain of Lakes (MPRB 2015:4.7). Figure 51 shows an example of paved pathways. Rogue pedestrian pathways have also been formed through repeated usage, which are unauthorized by MPRB and will be closed in the future (Figure 52). No paths or trails have been previously identified as contributing resources to the GRHD; however, a formal evaluation of the pathways related to the Eckbo Plan has not been completed yet. It appears these pathways would be contributing features, as discussed further in Section 5.4 Contributing Features in the APE and Viewsheds.



Figure 51. Example of paved pathway along Bassett Creek, facing south.

Pedestrian paths existed throughout the park's history and are documented in historical plans and aerial photographs. A series of paths were already present in the park when Wirth developed his 1914 plan. However, the alignment of current paths located in the APE and viewsheds does not follow the alignment of these trails in most locations. A review of historic plans and aerial photographs indicates that select segments near Picnic Ground No. 4 appear to follow the alignment of pathways that were either shown in the 1914 plan, or were installed within the potential extended period of significance through 1975. These segments appear to be contributing features to the GRHD and are discussed further under Section 5.4 Contributing Features Within the APE and Viewsheds.



Figure 52. Example of unpaved paths through restored prairie, at Theodore Wirth Parkway and Golden Valley Road, facing west.

5.2.5 VIEWS AND VISTAS IN THE APE AND VIEWSHEDS

The Theodore Wirth Segment of the GRHD – inclusive of Sunset Hill, Valley View/Glenview Terrace Park, Theodore Wirth Parkway, and Theodore Wirth Park – was intentionally designed to capture scenic views afforded by the rolling topography. Historical photographs depict several vantage points where visitors would gather at the edges of bridle paths and atop high points of the golf course to view the extents of the park and city beyond (Figure 53). Additionally, the Chalet was sited on a hillside at the intersection of Plymouth Avenue and Theodore Wirth Parkway, with the alignment of these roads offering scenic views while approaching the Chalet. The southbound approach to Theodore Wirth Parkway at Golden Valley Road was routed to take advantage of the natural contours and scenic views of Theodore Wirth Park and the countryside beyond to the west. Wirth remarked about the picturesque views that this section of the parkway could offer by winding along the ridge (MBPC 1911:103; MBPC 1913:60). These views are limited by the dense woody vegetation that is currently present.



Figure 53. Observing views from bridle path (location unspecified). Original caption states, "Taking a Look at the City. Glenwood Bridle-path" (MBPC 1913:60).

The vista from Sunset Hill, located northeast of Theodore Wirth Park at the intersection of Theodore Wirth Parkway and 26th Avenue North, was long advocated by Theodore Wirth. However, his vision was never fully realized. Early MBPC annual reports indicate that both the land leading up to Sunset Hill and the western extent of Theodore Wirth Park was intended to be more expansive and allow for a greater linkage between these two resources (Figure 54). Wirth warned in several reports about the pressing need to reserve land in both locations from future development (Figures 55 and 56). However, delays in acquiring this land limited the physical connectivity and extent of views that were later available. While scenic views can still be appreciated from Sunset Hill, Theodore Wirth Park is not within its visual extent.

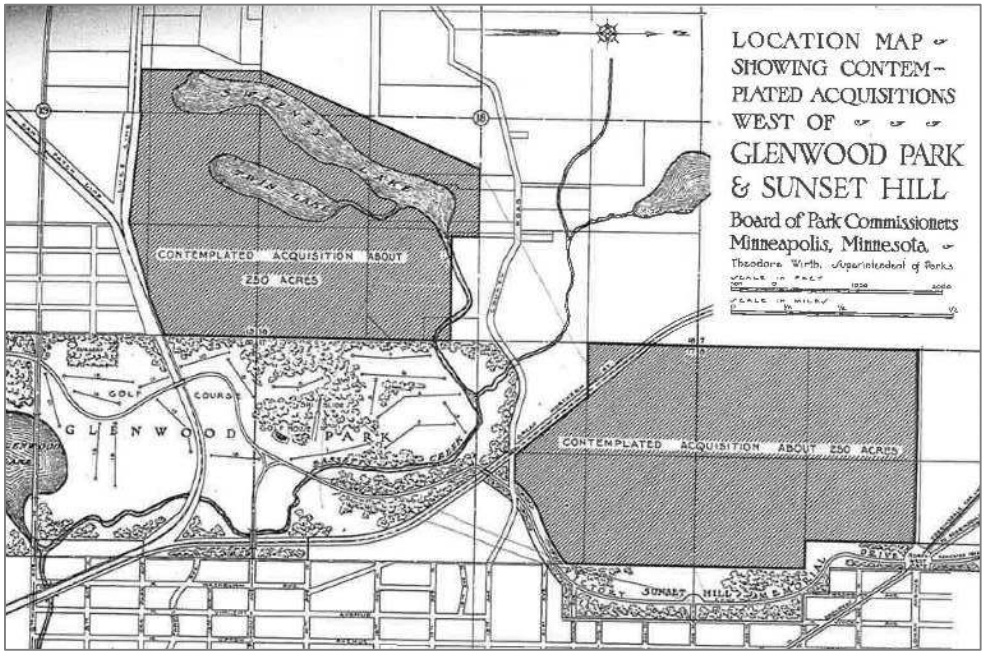


Figure 54. Location Map Showing Platted Acquisitions West of Glenwood Park & Sunset Hill, "contemplated acquisitions" labeled on map include about 250 acres west of the park and about 250 acres west of the parkway at Sunset Hill (MBPC 1923:40).



Figure 55. Historic views from Sunset Hill. Original caption states, "The fine view over the open country obtained from Sunset Hill, Victory Memorial Drive, Glenwood-Camden Parkway and 26th Avenue North" (MBPC 1921:78).



Figure 56. Simulation of development impacts on views from Sunset Hill. Original caption states, "The above fine view will be destroyed, if a suburban residential district is permitted to occupy land adjacent to parkway" (MBPC 1921:79).

Several prominent views are located throughout the APE. Hilltop locations within the golf course and winter recreation area afford views of the surrounding rolling topography, woodlands, and Bassett Creek valley. Views and vistas were incorporated into the historic design intent for Theodore Wirth Park. Similar expansive views can be appreciated from high points in the golf course today (Figures 57 and 58).

Expansive views of Wirth Lake can also be appreciated from Picnic Ground No. 4 and from the boardwalk along Highway 55 along the northern edge of the Lake (Figure 59).



Figure 57. Expansive hilltop view in golf course, near the 11th green, facing northeast.



Figure 58. Expansive hilltop view at winter recreation area, north of the Chalet along 10th fairway, facing south.



Figure 59. View of Wirth Lake from Picnic Ground No. 4, facing west.

5.2.6 VEGETATION IN THE APE AND VIEWSHEDS

Soils created by glacial activity supported the establishment of several native plant communities covering the APE and viewsheds, including oak savanna and wet prairie communities (Figure 60). Oak savannas progressed into oak woodlands following European settlement and fire suppression in the area. Oak woodlands largely occupy the steep slopes east of the golf course and partially extend into the un-manicured grounds of the course. Interspersed wide-spreading oak canopies are remnants from the prior savanna community. Patches of second growth forest exist around the lagoons located north of the Luce Line tracks, and in the areas south of Highway 55 and east of Wirth Lake (MPRB 2015:6.7). Wet prairie areas still exist in lower elevations throughout the golf course. As indicated by interpretive signage installed by the MPRB, prairie restoration areas have recently been established at the far northeastern corner of the park, near the intersection of Golden Valley Road and Theodore Wirth Parkway, and near the JD Rivers' Children's Garden located north of Glenwood Avenue. MPRB staff have indicated that the woodland on the western edge of the Osseo Branch Line corridor near the proposed Golden Valley station contains high-quality, old growth oaks (Personal Communication, Bruce Chamberlain, Assistant Superintendent for Planning, MPRB, September 24, 2013). Chestnut trees have also been identified along the slope adjacent to the Osseo Branch Line (Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).

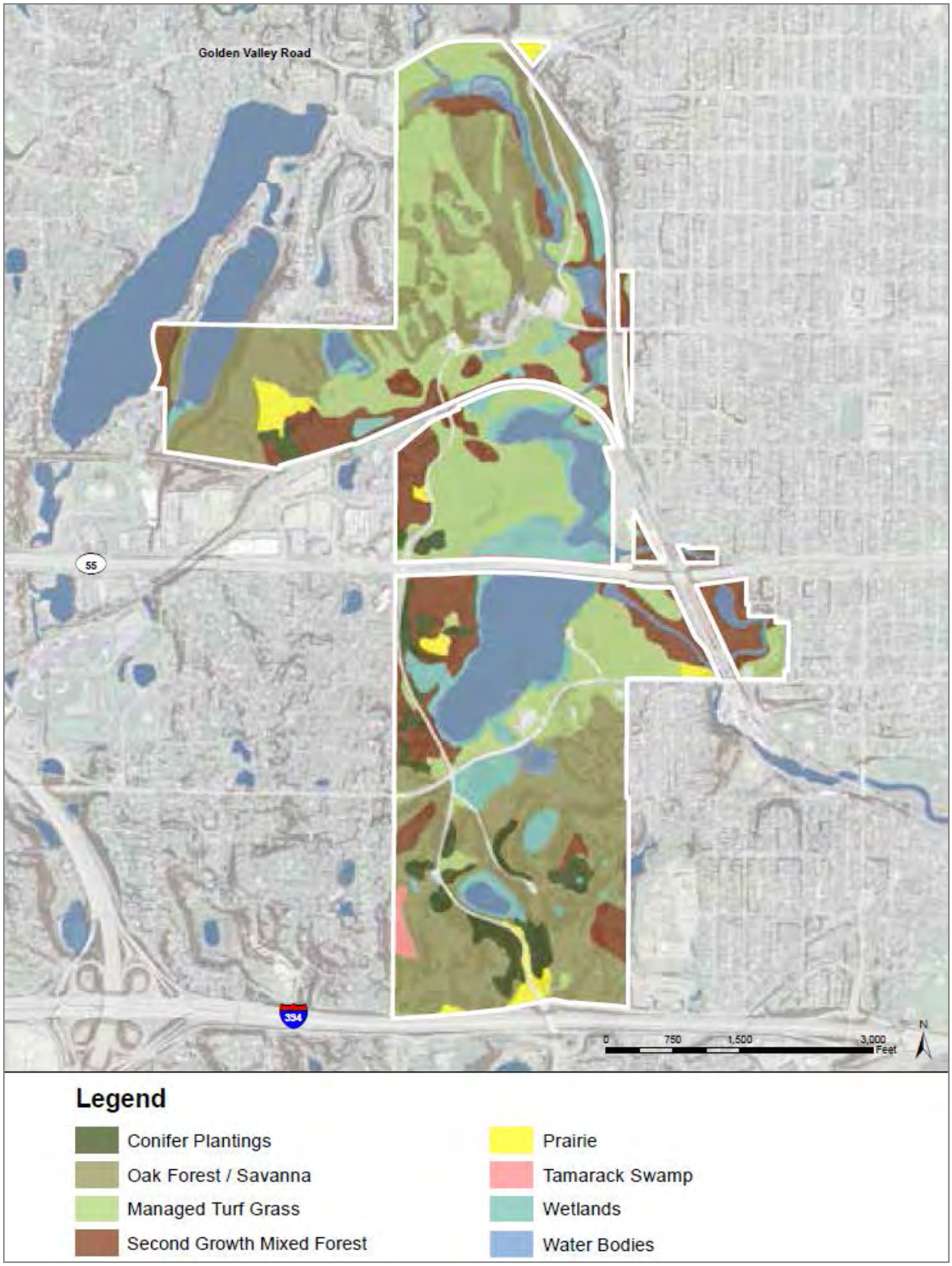


Figure 60. Vegetation Communities in Theodore Wirth Park (MPRB 2015:6.7)

While Wirth remarked positively about the wooded hills of the park, some of his earliest projects consisted of managing density for design and vegetative health reasons. Historical photographs of areas throughout the park generally depict less dense areas of natural vegetation than are present today (Figure 61).



Figure 61. Historic view of golf course showing lower density in trees and sparse undergrowth (MHS 1936).

Evergreen trees and shrubs are a signature design feature of Wirth's original plans. Several groupings exist along the parkway, surrounding the Chalet, throughout the golf course, at Picnic Ground No. 4, and interspersed within the wooded areas near Golden Valley Road. These groupings are composed of many different species and vary in height and density. Overall, the addition of these plantings helped to overcome what Wirth considered a lack of coniferous growth, provide greenery during the winter, create a buffer at park edges (some of these plantings are still evident along the north side of Theodore Wirth Parkway near Golden Valley Road), and create the Alpine design character he envisioned for the park. Over the decades, Wirth gradually transformed the native oak woodlands by adding thousands of evergreens across the entire extent of the park. For the most part, locations and species were not specified. However, the overall transformation is evident in historical plans and photographs (Figures 62-64; also see Figures 6 and 11).



Figure 62. Young evergreen plantings taking root (unknown location in the park) (MHS 1923).



Figure 63. Evergreen plantings on the golf course southeast of the Chalet, facing west.



Figure 64. Evergreen plantings near the winter recreation area (Plymouth Avenue in background), facing southeast.

In addition to evergreen plantings, other vegetative design features include the turf grass for the golf course and picnic areas, and over 5,000 shrubs and 1,000 deciduous tree plantings recorded by Wirth. While the golf course was originally laid out in the late 1910s, it was not sodded until 1935 as part of the Federal Relief work performed by the WPA. Two major losses of vegetation have been documented during the period of significance, including a major windstorm in 1925 impacting 3,200 trees and a prolonged drought in the 1930s impacting many of the oak trees (Pearson 2002). MPRB staff have indicated that WPA reports record large-scale plantings shortly afterwards in 1937, 1940, and 1941 that included trees, evergreens, and shrubs along the parkway and in the Theodore Wirth Golf Course. More recently, MPRB completed substantial replanting following vegetation loss from a tornado that occurred in 2011 (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015).

The JD Rivers' Children's Garden is a recent addition to the park, established in 1982, north of Glenwood Avenue. Prior use of the site commemorating the 100th Anniversary of the Minneapolis Grain Exchange in 1981 set the stage for its development as a youth garden. Wheat and sunflowers were planted as part of the commemoration, which allowed a traditional harvesting demonstration and plant materials for youth programs. J. D. and Ada Rivers promoted the subsequent use of the site as a children's garden. The area contains garden plots for vegetables, herbs, fruit, and flowers that are assigned to youth participating in summer programs (MPRB n.d.). A restored prairie area is also located east of the garden plots and contains interpretive signage about the plant community.

While evergreen plantings are a predominant character-defining feature across the park, the only specific, known areas where historic, pre-1975 plants currently exist, based on previous studies and historical research conducted for this cultural landscape study, are located outside of the APE and viewsheds. Based on comparisons between current and historical aerial photographs, the vegetation in the APE and

viewsheds is currently far more dense and wide-spanning than depicted in historical aerial photographs through 1971 (ASCS 1937; ASCS 1971). Second growth forests and volunteer plants have overtaken much of the land around the lagoons, and the land between Theodore Wirth Parkway and the Osseo Branch Line tracks. The realignment of the intersection between Theodore Wirth Parkway and Plymouth Avenue, the expansion of the parking lot, and the addition of a turn-around in front of the Chalet have altered historic vegetation patterns around the Chalet (ASCS 1971). Deciduous trees at the center of Picnic Ground No. 4 appear consistent with vegetation present in historical photographs. However, on the whole, the vegetation in this area is currently denser and more wide-spread than historic patterns. This change appears to be created by both a larger quantity of plants, and larger sizes of matured plants. Evergreen species that are currently present are not depicted in historical aerial photographs through 1971 (ASCS 1937, 1971). MPRB staff have indicated that the white pines in Picnic Ground No. 4 were planted approximately during the late-1990s to 2000s (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015).

5.2.7 BUILDINGS IN THE APE AND VIEWSHEDS

The Chalet is the only building located in the APE and viewsheds. It is the centerpiece of the golf course and one of the strongest character-defining features in the park reflecting Wirth's original design intent. The exterior of the building retains its original appearance as depicted in early perspective drawings (Figure 65; also see Figure 5). The two-story building is set into the base of a hill, faced in rough-cut Saint Cloud granite and dark-stained clapboards and wood panels, and has a projecting front section set below a broached gable roof with overhanging eaves on large stepped brackets. Gabled wings with overhanging eaves extend on the north and south sides (Pearson 2008h). The Chalet has been previously evaluated and identified as a contributing resource the GRHD (Roise et al. 2012, MPRB 2015).



Figure 65. Theodore Wirth Chalet, facing west.

5.2.8 STRUCTURES IN THE APE AND VIEWSHEDS

Since Bassett Creek and two railroad lines are located within the APE and viewsheds, a total of 15 vehicular and railroad bridges in Study Area are located within the APE. Table 3 below summarizes the bridges located within the APE and viewsheds; each is also discussed separately in the following subsections. Additionally, seven footbridges are located throughout within the APE and viewsheds, including six within Theodore Wirth Golf Course and one over the west/main channel of Bassett Creek south of Hwy 55 (see Table 4).

Table 3. Bridges Located within the APE and Viewsheds

Inventory No.	Bridge No.	Location	Contributing/ Non-Contributing (C/NC)	Individual NRHP-Eligibility
ROAD-RELATED BRIDGES				
HE-GVC-00049	6247	Plymouth Avenue over Osseo Branch Line	NC (based on 2013 re-evaluation)	Not Eligible
HE-GVC-00050	L9327	Theodore Wirth Parkway over Bassett Creek	C	Eligible
HE-GVC-00091	27678	Theodore Wirth Parkway over Osseo Branch Line Tracks near Golden Valley Road	NC	Not Previously Determined
HE-MPC-01907	27607	Glenwood Avenue over Bassett Creek, Osseo Branch Line and Luce Line	NC	Not Previously Determined
HE-MPC-5287	27237	Highway 55 over Bassett Creek, Osseo Branch Line and Luce Line	Not Previously Determined	Not Eligible
HE-GVC-00056	5908	Highway 55 over Bassett Creek	NC	Not Previously Determined
HE-MPC-5288	Not Available	Highway 55 over East Channel of Bassett Creek	Not Previously Determined	Not Eligible
Not Available	27591	Golden Valley Road over Osseo Branch Line	Not Previously Determined	Not Previously Determined
Not Available	Not Available	Golden Valley Road over Bassett Creek (culvert)	Not Previously Determined	Not Previously Determined
RAILROAD-RELATED BRIDGES				
HE-GVC-376	Not Available	Luce Line Trestle over Bassett Creek	Not Previously Determined	Not Eligible
HE-MPC-5285	Not Available	Luce Line Bridge over Bassett Creek	Not Previously Determined	Not Eligible

Inventory No.	Bridge No.	Location	Contributing/ Non-Contributing (C/NC)	Individual NRHP-Eligibility
HE-MPC-5286	1.7	Osseo Branch Line over east channel of Bassett Creek	Not Previously Determined	Not Eligible
Not Available	Not Available	Osseo Branch Line over Bassett Creek (culvert east of Chalet)	Not Previously Determined	Not Previously Determined
Not Available	1.4	Osseo Branch Line over East Branch of Bassett Creek (south of Highway 55)	Not Previously Determined	Not Previously Determined
Not Available	Not Available	Osseo Branch Line over Bassett Creek Lagoons (culvert north of Plymouth Ave)	Not Previously Determined	Not Previously Determined

5.2.8.1 Bridge No. 6247

The Plymouth Avenue Bridge (Bridge 6247; HE-MPC-0049; non-contributing to the GRHD; not eligible for individual NRHP listing) was constructed in 1930 to replace a timber pile bridge required to extend Plymouth Avenue into the park (Figure 66). The six-span, reinforced-concrete slab bridge was substantially renovated in 2006 but still retains its distinctive arched concrete piers. The bridge appears similar at track level and from the Bassett Creek Trail as seen in historical photographs after its construction (Figure 67). Concrete embankments were added shortly afterwards in 1933 to prevent continued settling of the fill (MBPC 1934:66). However, from road grade the historical integrity of the bridge has been substantially compromised by the modern deck, railing, and light fixtures. Bridge 6247 was previously determined eligible for the NRHP under Criterion C for its design and identified as a contributing feature to the GRHD. However, this determination was later reversed after the 2006 renovation due to a loss of design integrity (MnDOT 2013). Bridge No. 6247 and the broader route of Plymouth Avenue are discussed further under Section 5.4 Contributing Features in the APE and Viewsheds.

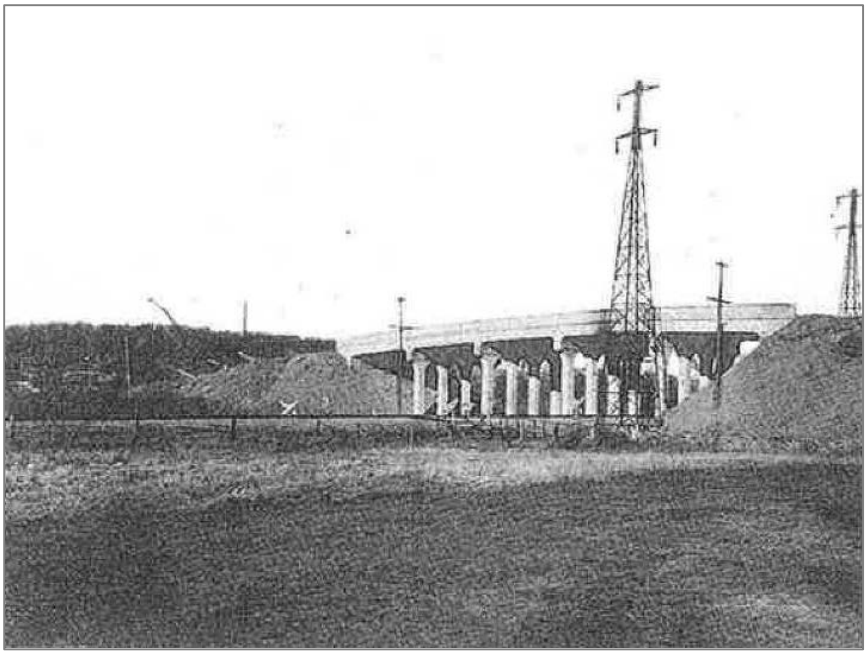


Figure 66. Historic view of Bridge 6247 after its construction in 1930 (MBPC 1931:100).



Figure 67. Current view of Bridge 6247 (Plymouth Avenue over Osseo Branch Line tracks and Bassett Creek), facing north.

5.2.8.2 Bridge No. L9327

Bridge L9327 (HE-GVC-00050; contributing to the GRHD; individually NRHP-eligible) was constructed in 1940 with WPA labor using similar stone facing to the Chalet to replace an unsightly concrete and steel bridge crossing Bassett Creek. The arched, ridged-frame, concrete culvert bridge has an eighteen-foot span and is faced in Saint Cloud seam-faced granite. The barrel arch measures fifty feet wide. The abutments are monolithic and U-shaped. Stone piers with stone copings form the railings (Pearson 2008c) (Figure 68). The bridge carries two lanes of vehicular traffic bracketed with sidewalks on each side; however, only the west sidewalk is connected to the current trail system. Bridge L9327 has been determined eligible for the NRHP under Criterion C as an excellent example of an ornamental park bridge (Hess n.d.). This bridge has been previously evaluated and determined as a contributing resource to the GRHD (Roise et al. 2012, MPRB 2015). Cobblestone riprap was added to the abutments in 2014-15 as part of an erosion repair project (Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).



Figure 68. Bridge L9327 (Theodore Wirth Parkway over Bassett Creek), facing northwest.

5.2.8.3 Bridge No. 27678

Theodore Wirth Parkway is bridged at one other location within the APE near Golden Valley Road (Bridge 27678 [HE-GVC-00091; non-contributing to the GRHD; individual NRHP-eligibility not previously determined]) where it crosses over the Osseo Branch Line tracks. This four-span concrete, curved structure was built between 1988 and 1991 (Figure 69). The deck is edged by a metal picket railing. The straight wing walls are faced with granite and the two piers have concrete columns (Pearson 2008n). The contemporary bridge design does not reference historic features in the park (Roise et al. 2012, MPRB 2014).



Figure 69. Bridge 27678, facing southeast.

5.2.8.4 Bridge No. 27607

Bridge 27607 (HE-GVC-01907; non-contributing to the GRHD; individual NRHP-eligibility not previously determined) carries Glenwood Avenue over the Osseo Branch Line and Luce Line tracks (Figure 70). The five-span, pre-cast concrete channel-beam structure was built in 1982. Two concrete piers with cylindrical concrete columns support the concrete deck. The deck carries two lanes of vehicular traffic and sidewalks on both sides of the roadway. Low concrete parapets topped by modern metal poles form the railings (Atwood 2009c) (Roise et al. 2012, MPRB 2014).



Figure 70. Bridge 27607, facing southeast.

5.2.8.5 Bridge No. 5908

Bridge 5908 (HE-GVC-00056; not contributing to the GRHD; individual NRHP-eligibility not previously determined), constructed in 1947 and altered in 1988, carries Highway 55 over Bassett Creek (Figure 71). It is composed of a two-span concrete box culvert with exterior cell walls that form the wing walls projecting into the lagoon. The culverts allow water flow between Wirth Lake to the west and Bassett Creek via the lagoon located to the south of this structure. An additional small, stone culvert serves as an outlet for Wirth Lake into the lagoon (Figure 72) (Roise et al. 2012, MPRB 2015).



Figure 71. Current view of Bridge 5908, facing north.



Figure 72. Stone culvert between Wirth Lake and Bassett Creek, facing northwest.

5.2.8.6 Highway 55 over East Channel of Bassett Creek

The Highway 55 Bridge over the East Channel of Bassett Creek (HE-MPC-5288; not previously determined as contributing or non-contributing to the GRHD; individually not eligible for NRHP listing), constructed ca. 1920, is only partially visible and has been covered by fill for Highway 55 construction. The visible portion on the north side consists of a rock face ashlar stone wall, corrugated circular metal pipe covered by a metal grate, and limestone wingwalls at each end of the ashlar wall. Portions of the ashlar wall are covered by a concrete parge coat. There is no visible culvert entering Bassett Creek on the south side (Figure 73).



Figure 73. Highway 55 over East Channel of Bassett Creek (facing southeast).

5.2.8.7 Bridge No. 27237

Bridge 27237 (HE-MPC-5287; non-contributing feature to the GRHD; individually not-eligible for NRHP listing), constructed in 1984, carries Highway 55 over the Osseo Branch Line and Luce Line railroad tracks. This continuous reinforced concrete slab bridge was constructed in 1984 as a replacement to an earlier structure during a major highway rebuilding (Figure 74).



Figure 74. Bridge 27237, facing northeast.

5.2.8.8 Bridge No. 27591

Bridge 27591 (not previously inventoried or evaluated) was recently constructed in 2001, replacing an earlier bridge carrying Golden Valley Road over the Osseo Branch Line railroad tracks (National Bridges 2015) (Figure 75). This bridge is a three-span, pre-stressed concrete stringer deck bridge.



Figure 75. Bridge 27591, facing northeast.

5.2.8.9 Golden Valley Road over Bassett Creek

A large, metal culvert (not previously inventoried or evaluated) carries Golden Valley Road over Bassett Creek. It is set into a low concrete face wall that is surrounded by stone riprap on the eastern and western banks of the river (Figure 76). This culvert appears to date to approximately 1957 based on historic aerial photographs (ASCS 1957).



Figure 76. Culvert at Golden Valley Road, facing north.

5.2.8.10 Luce Line Bridges over Bassett Creek

The Luce Line Trestle over Bassett Creek (HE-GVC-376; not previously determined as a contributing or non-contributing feature to the GRHD; not eligible for individual NRHP listing) is located in the golf course, south of Plymouth Avenue. During field survey, it was found that the wooden trestle bridge was substantially altered in 2013 (106 Group 2012b). The original five-span bridge now only has three spans. The superstructure has been replaced with a metal girder, two of the wooden bents have been removed and the other two have been reinforced with concrete, and the wooden abutments have been replaced with concrete (Figure 77). Cobblestone riprap was placed along the creek banks under the bridge in 2014-15 (Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).



Figure 77. Current view of Luce Line Trestle over Bassett Creek, facing east.

The Luce Line Bridge over Bassett Creek (HE-MPC-5285; not previously determined as a contributing or non-contributing feature to the GRHD; not eligible for individual NRHP listing) is only a partially visible structure that has been covered with fill. This bridge carries the Luce Line over the main channel and east channel of Bassett Creek (Figure 78, foreground). Much of the original creek channel has been in filled. The Luce Line over Bassett Creek bridge currently appears to only consist of a corrugated metal culvert (replaced in 2009) that passes under the stone ballast on the east side of the tracks (Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).



Figure 78. Luce Line over Bassett Creek (foreground) and Bridge 1.7 (background), facing southeast.

5.2.8.11 Osseo Branch Line Bridges and Culverts

Bridge 1.7 (HE-GVC-5286; not previously determined a contributing or non-contributing feature to the GRHD; not eligible for individual NRHP listing) is a four-span, 16-foot concrete slab bridge with reinforced concrete abutments and angled wing walls carrying the Osseo Branch Line over Bassett Creek. Two corrugated steel pipe culverts are also located under the bridge and secured by ballast fill (see Figure 78, background). It is also only partially visible and has been covered with fill for Bassett Creek.

Additionally, a concrete box culvert surrounded by a limestone wall (not previously inventoried or evaluated) is located west of the Osseo Branch Line tracks and north of Plymouth Avenue. It appears to carry the Osseo Branch Line and an adjacent trail to the west over the Bassett Creek Lagoons. This structure appears to date to approximately 1945 based on historical aerial photographs (Figure 79) (ASCS 1945).



Figure 79. Concrete box and stone wall culvert north of Plymouth Avenue, facing east.

North of Glenwood Avenue, Bridge 1.4 (not previously inventoried or evaluated) carries the Osseo Branch Line over the eastern branch of Bassett Creek (Figure 80). It is a double concrete culvert/pipe structure dating to 1943 (106 Group 2012c).



Figure 80. Osseo Branch Line Bridge 1.4, facing east.

A metal pipe culvert (not previously inventoried or evaluated) is located immediately north of Bridge 6247 at Plymouth Avenue that carries the Osseo Branch Line over Bassett Creek (Figure 81).



Figure 81. Metal pipe culvert north of Plymouth Avenue, facing east.

5.2.8.12 Footbridges

A total of seven footbridges are located in the APE and viewsheds, including six footbridges located throughout Theodore Wirth Golf Course and one footbridge located east of Picnic Ground No. 4. Table 4 summarizes these bridges according to their location, span type, and materials. None of these bridges have been previously inventoried or evaluated as contributing or non-contributing resources, or as individual resources. All of the creek bridges had cobblestone riprap placed under them in 2014-15 (Personal Communication, Andrea Weber, Project Manager, MPRB, July 7, 2015).

Table 4. Footbridges in the APE and Viewsheds

Location	Span Type (Arched/Flat)	Materials
12th Fairway (NW; 1 of 2 in pair)	Flat	Wood, Metal & Concrete
12th Fairway (SE; 2 of 2 in pair)	Arched	Wood
11th Green	Arched	Wood
Chalet	Arched	Wood
1st Fairway	Arched	Wood & Metal
2nd Fairway	Flat	Wood, Metal & Concrete
East of Picnic Ground No. 4	Arched	Wood & Metal

These arched and flat single-span bridges carry pathways across Bassett Creek and Theodore Wirth Parkway. Three of the six bridges in the golf course are fully constructed of wood, while the others are constructed in combinations of wood, metal, and concrete (Figures 82 and 83). The bridge crossing Theodore Wirth Parkway south of the Chalet was recommended in Eckbo's 1971 plan, although it does not appear in aerial photographs until 1991 (Eckbo et. el. 1971:3.73-3.74) (Figure 84). A pair of footbridges is located at the far northwestern section of the golf course; the southeast bridge of this pair is wider, more contemporary, and appears to be added as a more suitable structure for golf carts. The footbridge located outside of the golf course at the east channel of Bassett Creek is constructed in a combination of wood and metal.



Figure 82.Example of wood and metal footbridge at the east of Picnic Ground No. 4, facing southeast.



Figure 83. Example of concrete, wood and metal footbridge at Theodore Wirth Golf Course, facing northwest.



Figure 84. Footbridge over Theodore Wirth Parkway, facing southeast.

Other structures present within the APE include a boat launch (currently closed and planned to be removed in the future), fishing dock, and boardwalk at Wirth Lake. The boat launch area is an asphalt apron, accessed through a parking lot at Picnic Ground No. 4, and is marked with metal posts, chains, and signage (Figure 85). The fishing dock is a moveable, T-shaped structure with a wood board deck and wood railings (Figure 86). The boardwalk at Wirth Lake is a linear, metal structure that runs parallel to Highway 55 and has two covered rest areas with benches (Figure 87). Wooden stairs have also been set into the slopes of the golf course at two locations (along the 12th fairway, and the 9th fairway adjacent to the footbridge over Theodore Wirth Parkway). Concrete and wooden stairs lead from the Chalet up the hillside to the winter recreation and maintenance areas (Figure 88).



Figure 85. Boat launch area, facing west (the boat launch is currently closed).



Figure 86. View to fishing dock, facing south.



Figure 87. Boardwalk, facing east.



Figure 88. Concrete and wood stairs at Chalet, facing southwest.

5.2.9 SITE FURNISHINGS AND SMALL SCALE ELEMENTS IN THE APE AND VIEWSHEDS

A variety of small-scale features are present within the APE and viewsheds, including fences and bollards, furnishings, memorials, winter recreation equipment, utilities, lighting, and signage. According to NRHP guidelines for counting features as contributing or non-contributing, some of these small-scale elements have not been previously evaluated as part of the draft NRHP nomination for the GRHD. However, many are discussed in the draft NRHP nomination. Where available, the status for the currently-documented period of significance (through 1942) is noted. The potential for contributing features between 1942 and 1975 is also discussed below.

5.2.9.1 Fences & Bollards

As a public park, most of the borders in Theodore Wirth Park are unfenced, except for golf course areas on the northern edge of the park. These areas are fenced off with a chain link fence from adjacent unpaved trails and adjacent residential development. A contemporary black metal picket fence runs along portions of Theodore Wirth Parkway north of Bridge L9327 (Figure 89). Wooden split rail fencing is also located along a portion of the parkway, roughly between the Chalet and Tool Building, and along the southern edge of Glenwood Avenue (Figure 90). Based on its materials and design, the fence appears to post-date 1975. MPRB staff have indicated that current fencing along Theodore Wirth Parkway was installed more recently, and outside of the potential extended period of significance (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). These features have not been previously evaluated, but appear to post-date the potential extended period of significance to 1975 and therefore do not appear to be contributing features.



Figure 89. Metal fencing along Theodore Wirth Parkway at higher elevations north of Bridge L9327, facing southwest.



Figure 90. Wooden split rail fencing along Theodore Wirth Parkway, south of the Chalet near the 18th green, facing southwest.

5.2.9.2 Benches

Numerous benches are located throughout the golf course and near the Chalet. Additional benches are located along pathways throughout the park. Three principal style variations exist: wood planks supported by metal posts; wood slats set into exposed-aggregate concrete supports; and wooden bench seats without back supports. While the draft NRHP nomination discusses benches, none of these benches have been previously evaluated or determined as contributing features to the GRHD.

The wooden plank and metal post benches are very basic and utilitarian in appearance, with some variations among the form and color of supports. Based on their materials and design, these benches appear to post-date 1975. This style exists throughout the golf course at the start of each hole, and along paved paths south of Highway 55. Several of these benches are also located in front of the Chalet (Figure 91). The benches include single- and double-seat forms. MPRB staff have indicated that the benches located in Theodore Wirth Park are typically added during construction projects, and that the front-nine portion of the golf course was recently rehabilitated in 1992 (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). More substantial wooden slat and exposed aggregate concrete benches exists near the footbridge southeast of the Chalet and in Picnic Ground No. 4 (Figure 92). These also include single- and double-seat forms. This style was first introduced in the 1930s and is still in production (Pearson 2002:16). They can be found throughout the parkway system. Based on the color of the concrete and wood, the single-seat bench near the Chalet appears to be more recent while the double-seat bench facing Plymouth Avenue appears to be older and potentially pre-dates 1975. The single-seat form in Picnic Ground No. 4 appears to post-date 1975. The bench at Plymouth Avenue appears to be a contributing feature (see Figure 30A). The all-wooden benches with no back supports are notably more blocky and darker in color than other benches. Several of these benches are surrounded by bollard and chain fencing reflective of the 1970s period and appear to be contributing features (Figure

93). This bench style is only located in front of the Chalet; however, it mimics the set of picnic benches located east of Bridge L9327 (described below). These furnishings were not specified in the Eckbo Plan, although they appear similar to the fencing developed by InterDesign in the 1970s. MPRB staff are not aware of any benches that were designed by Alfred French (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). These benches also have not been indicated as the work of InterDesign or Alfred French in previous studies (Roise et al. 2012, Pearson 2002, Mathis 2014).



Figure 91. Example utilitarian bench style in front of the Chalet, typical throughout the golf course, facing northwest.



Figure 92. Example wooden slat and exposed-aggregate concrete bench at Picnic Ground No. 4, facing north.



Figure 93. 1970s-style seating area with bollard-and-chain surround at the Chalet, facing south.

5.2.9.3 Picnic Tables & Other Furnishings

Picnic tables are located in five areas within the APE: in front of the Chalet; east of Bridge L9327; at the archery range; at Picnic Ground No. 4; and near the JD Rivers' Children's Garden (see Figure 30A and 30B). Several design variations exist as described below. The WPA benches and 1970s-era wood benches appear to date within the extended period of significance, while the other variations appear to post-date

1975. None of the picnic tables have been previously evaluated and determined as contributing features to the GRHD.

Circular, green metal tables with four seats, and hexagonal tables with six seats, are located in front of the Chalet (Figures 94 and 95). The hexagonal set appears be formed by composite materials giving the appearance of wood with metal supports. Based on their design and materials, these picnic tables appear to post-date 1975. MPRB staff have indicated these two styles are more recent and date to the reconstruction of the parking and re-alignment of Theodore Wirth Parkway, which occurred roughly between 1969 and 1979 (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). The WPA constructed concrete picnic tables in Picnic Grounds No. 4 (Figure 96). These tables are stamped with “WPA 1939” on the seats. While the WPA picnic tables have not previously been determined as contributing resources to the GRHD, it appears that they have potential as contributing features as discussed further under Section 5.4 Contributing Features in the APE and Viewsheds. Rectangular wooden picnic tables with rounded metal supports are located east of Bridge L9327, at the archery range, and in Picnic Ground No. 4 and near JD Rivers’ Children’s Garden (Figure 97). This style dates to the 1970s (Pearson 2002:16). All-wooden, rectangular picnic tables are located west of the JD Rivers’ Children's Garden and east of the archery range and appear to post-date 1975 (Figure 98). MPRB staff have indicated that this style is more recent, dating approximately to when the garden was developed between 1981 and 1982 (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). MPRB staff have also indicated these benches are from inside of the Picnic Pavilion and are not intended as landscape furnishings (Personal Communication, Andrea Weber, Project Manager, MPRB, July 9, 2015). The all wooden tables located east of Bridge L9327 are notably more blocky and darker in color than others in the APE (Figure 99). They are similar in style to the benches located southeast of the Chalet with a bollard-and-chain surround. These tables were not specified in the Eckbo Plan in concept or as a design typology, but appear to have been installed concurrently with improvements from the plan. MPRB staff are not aware of any picnic tables that were designed by Alfred French (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). These picnic tables have also not been indicated as the work of InterDesign or Alfred French in previous studies (Roise et al. 2012, Pearson 2002, Mathis 2014).



Figure 94. Circular, green metal picnic tables at Chalet, facing north.



Figure 95. Hexagonal, composite material picnic tables at Chalet, facing southwest.



Figure 96. WPA tables benches at Picnic Ground No. 4, facing southwest.



Figure 97. Example wooded picnic table with rounded metal supports, facing west.



Figure 98. Example all-wooden rectangular picnic tables (note these belong inside of the Picnic Pavilion and are not intended as a landscape furnishing), facing northeast.



Figure 99. 1970s-style picnic tables located east of Chalet, facing east (note similarities to benches at Chalet).

Other furnishings in Picnic Ground No. 4 include trash cans, signage, grills, a water pump, and a WPA concrete sandbox. The WPA also built a low stone wall surrounding the water pump that is set within a hillside slope located east of the parking lot. Several metal grills and trash cans are located throughout the grounds that appear to post-date 1975 based on their materials and design. The JD Rivers' Children's

Garden features a variety of furnishings, including pergolas and other structures to support plant cultivation, numerous garden ornaments, and community art projects (Figure 100). The JD Rivers' Children's Garden was developed in 1982, and therefore, its features post-date 1975 and would not be contributing features to the GRHD.



Figure 100. JD Rivers' Children's Garden, facing northeast.

5.2.9.4 Memorials

The Finnish-American Monument (HE-GVC-00095; non-contributing but subject to review if period of significance is extended; individual NRHP eligibility not previously determined), constructed to commemorate the large Finnish community traditionally located in the Harrison Neighborhood, is located at the center of Picnic Ground No. 4 (Figure 101). The large, rectangular, granite slab monument, constructed in 1958, features a map of Finland on the west side and a map of Minnesota on the east side (Pearson 2008l). The Theodore Wirth Interpretive Statue Garden (HE-GVC-00098; non-contributing to the GRHD; not previously evaluated for NRHP eligibility) is a modern addition in front of the Chalet (Figure 102). The group of six, life-size statues was constructed in 2004. It features Theodore Wirth surrounded by children playing. Sculptor Bill Rains designed the statues using his grandchildren as models (Pearson 2008h).



Figure 101. Finnish-American Monument, facing southeast.



Figure 102. Theodore Wirth Interpretive Statue Garden at the Chalet, facing southwest.

The Finnish-American Monument has been previously evaluated and determined as non-contributing, which is likely due to its age that falls outside of the currently documented period of significance in the draft NRHP nomination ending in 1942 (Roise et al. 2012, MPRB 2014). Under the extended period of significance, it appears this feature has potential as a contributing feature as discussed further under Section 5.4 Contributing Features in the APE and Viewsheds.

5.2.9.5 Equipment & Utilities

Two large terminals and bullwheels for a tow rope are located on the 10th fairway of the 18-hole golf course north of the Chalet, supporting winter recreation activities (Figure 103). The drive bullwheel with the power source is located at the bottom of the hill and the return bullwheel is located at the top. This feature appears to post-date 1975 and therefore, appears to be non-contributing to the GRHD.



Figure 103. Tow rope anchors at winter recreation area, facing northwest.

Metal and exposed-aggregate concrete trash cans are located around the Chalet and throughout Picnic Ground No. 4 (Figures 104 and 105). Additionally, round wire-mesh trash cans are located adjacent to benches in front of the Chalet and throughout the golf course (Figure 106). MPRB staff have indicated that the trashcans present across Theodore Wirth Park are moveable and ubiquitous through the entire Minneapolis park system (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). The metal trash cans do not readily appear to date within the extended period of significance (through 1975); however, the exposed-aggregate style on the Chalet patio does appear to date roughly within the 1970s based on its design and materials.

Figure 104. Example of metal trash can at the Chalet, facing west.



Figure 105. Example of metal trash can at the Chalet, facing west.



Figure 106. Example of exposed aggregate trash can at the Chalet, facing northeast.



Figure 107. Example of wire mesh trash can on Theodore Wirth Golf Course, facing west.

Various utility posts, structures, and boxes are located throughout the APE and viewsheds. These features appear to post-date 1975. A double circuit high voltage transmission line (HVTL) is the most prominent utility structure. The double circuit HVTL originates from the Aldrich Substation in Minneapolis and splits roughly at Farwell Avenue, where one circuit continues in a generally north-northwesterly direction paralleling the Osseo Branch Line to the Indiana Substation in Robbinsdale (HE-TRL-001; not previously determined a contributing or non-contributing feature to the GRHD; not eligible for individual NRHP listing), and the other circuit extends in a generally westerly direction roughly paralleling the Luce Line to the Bassett Creek Substation in Plymouth (not previously evaluated) (Figure 107) (Minnesota Geospatial Information Office 2008). A ca. 1950 Xcel Energy high voltage transmission line (HVTL) (HE-TRL-001; not previously determined a contributing or non-contributing feature to the GRHD; not eligible for individual NRHP listing) is the most prominent utility structure (Figure 107). The infrastructure is located on the west side of the Osseo Branch Line railroad corridor to Lowry Avenue, and the east side of freight rail corridor south of Lowry Avenue (FTA 2014:251). The HVTL is comprised of three transmission wires and support tower structures that are spaced at approximately 350 foot intervals. The towers are constructed of bolted angle iron and rest on concrete piers. They have four legs with angle iron lateral and cross braces. The towers are comprised of seven panels surmounted by gusset plates on all sides where the legs meet. Above the gusset plates is a steel truss. There is a ladder comprised of bolts on the northwest leg of the tower. The structures have two simple truss cross arms that support the wires using ceramic insulators. One cross arm is mounted just above the gusset plates and the other is near the top of the tower (Kellerhals et al. 2012:51; 106 Group 2012e).



Figure 108. Visibility of Xcel Energy transmission line infrastructure at Theodore Wirth Golf Course, facing south.

5.2.9.6 Lighting

Lighting was first implemented throughout Theodore Wirth Park and Theodore Wirth Parkway roughly between 1910 when the city began experimenting with gas lights and 1933 when the old standards were replaced with electric lights (Pearson 2002:16). The Eckbo plan called for a comprehensive guide and master plan to guide the selection of lighting fixtures and their placement (Eckbo et al. 1971:6.05). The transparent cube standard was designed by Alfred French of InterDesign (Pearson 2002:7.11). These standards were installed throughout the Grand Rounds as part of implementing the Eckbo Plan. Within the APE and viewsheds, these lighting standards are located in the parking lot of the Chalet (Figure 108). Additional large-scale, utilitarian standards consisting of floodlights mounted on wooden posts are located throughout the winter recreation area (Figure 109). Contemporary fixtures were mounted onto the Plymouth Avenue bridge after its remodel in 2006 (Bridge 6247) (Figure 110). Other contemporary fixtures were installed as replacements along the parkways and reflect earlier styles (Figure 111). These were installed throughout the parkway in the early-2000s as replacements to the cube standards, which were difficult to maintain (Roise et al. 2012). The new standards are characterized by a tall, fluted standard with a curved cross-arm supporting a bell-shaped cover.



Figure 109. Example of 1970s post and cube light standard at the Chalet parking lot, facing west.



Figure 110. Example of large-scale, utilitarian lighting at winter recreation area, facing west.



Figure 111. Contemporary light standards on Bridge 6247, facing north.



Figure 112. Example of contemporary light standard reflective of 1930s ornamental style along Theodore Wirth Parkway, facing northwest.

5.2.9.7 Signage

Standard traffic signs, wayfinding and other signage are located throughout the APE and viewsheds (Figure 112). Wayfinding signage was introduced in the Grand Rounds as part of the Eckbo Plan, and later replaced by an updated signage program in 1999 when MPRB adopted the *Grand Rounds Scenic Byway Interpretive Master Plan* (Mathis 2014:68). While some of the original 1970s elements exist in Theodore Wirth Park, none are present within the APE and viewsheds. The signage program from 1999 included horizontal wood identification signs, wood-frame information kiosks, and painted metal information signposts at major intersections (Roise et al. 2012). Similar aesthetics were used in the kiosks and entrance signs to the parks and parkways between the 1970s-era design by Peter Seitz and the 1999 Scenic Byway Program. These similarities include the low, rustic, routered horizontal wood forms on the entrance signs, and the overall shape and scale of the kiosks. Changes appearing in the 1999 design include the addition of color along the roofline of pyramidal kiosks, and the addition of the address, interpretive panels, and maps. The text style of lettering also appears different between the 1970s version, which is taller, more angular and in all capital letters, and the 1999 version, which is shorter, more rounded, and includes lower-case lettering. None of the earlier 1970s signs were found in the APE and viewsheds during field survey.

Various other signage is located throughout the APE and viewsheds. An oblong metal sign marks the entrance to Picnic Grounds No. 4 (Figure 113). MPRB staff have indicated that this entrance sign appears to date to approximately the timeframe of WPA improvements (ca. 1938 to 1941) (Personal Communication, Adam Arvidson, Interim Director of Strategic Planning, MPRB, July 1, 2015). This sign appears to be contributing to the GRHD. Large-scale, wood signs mark the entrances to Theodore Wirth Park and the JD Rivers' Children's Garden on Glenwood Avenue; and Theodore Wirth Parkway at the intersection of Plymouth Avenue and the parkway (Figures 114 and 115). A large-scale, metal sign marks the entrance to the Theodore Wirth Golf Course at the Chalet (Figure 116). A small, metal sign is posted below a stop sign marking the Grand Rounds Scenic Byway at the intersection of Golden Valley Road and the parkway (Figure 117). Interpretive signage is also located at both prairie restoration areas within the APE (Figure 118). Aside from the signage at Picnic Ground No. 4, none of the other signage in the APE and viewsheds appears to date within the potential extended period of significance, and therefore, does not appear to be contributing features to the GRHD.



Figure 113. Example kiosk north of Bridge L9327 along Theodore Wirth Parkway and Bassett Creek, facing northwest.



Figure 114. Entrance Signage for Picnic Ground No. 4, facing northwest.



Figure 115. Entrance Signage for Theodore Wirth Park at Glenwood Avenue, facing west.



Figure 116. Entrance signage for JD Rivers' Children's Garden, facing northeast.



Figure 117. Entrance Signage for Theodore Wirth Golf Course at the Chalet, facing southwest.



Figure 118. Scenic Byway Signage at the intersection of Theodore Wirth Parkway and Golden Valley Road, facing east.



Figure 119. Example interpretive signage at prairie restoration area north of Glenwood Avenue, facing south.

5.2.10 ARCHAEOLOGICAL RESOURCES IN THE APE AND VIEWSHEDS

One archaeological site is located within the APE representing the Germania Brewery (21-HE-0407; contributing status to the GRHD undetermined; individually NRHP-eligible) [redacted]. Theodore Wirth considered this feature undesirable for the park, and it was soon redeveloped once the land was acquired for park use (Wirth 2006:174). The Germania Brewery does not have a direct relationship to park planning and development, or the GRHD. It has not been previously evaluated or determined as a contributing resource to the GRHD. However, it has been previously determined eligible for the NRHP (Vermeer 2012).

5.3 Overall Integrity

The NPS guidelines define the integrity of cultural landscapes as the degree, on whole, to which the character-defining features that convey its historical significance are still present (NPS 2009:71). Since landscapes are dynamic spaces, change and evolution are integral to those resources. Therefore, integrity depends on the extent to which the general character of the historic period is evident, and the degree to which incompatible elements impact that character and are reversible. When the integrity of a specific feature may impact its status as a contributing feature, those conditions are specified in the sections below.

The integrity of the park, as a whole, has been previously documented by Hess, Roise and Company as part of the Grand Rounds NRHP draft nomination in 2012. Theodore Wirth Park and Theodore Wirth Parkway were found to retain their historic form and character. They were also found to retain good

integrity of location, design, setting, feeling, and association (Roise et al. 2012:7.52-7.53). Survey work for the BLRT project confirmed those conditions are still current, on whole.

5.4 Contributing Features in the APE and Viewsheds

Contributing and non-contributing features in Theodore Wirth Park have been previously inventoried as part of the draft NRHP nomination for the GRHD during the period of significance that is currently documented (1887-1942). The district is in the process of being evaluated by the MnSHPO and MPRB to determine if it possesses potential significance within the period of 1943 to the mid-1970s , related to improvements made in accordance with the 1971 Eckbo Plan. Character-defining features that date, or appear to date within the potential extended period of significance through 1975 are also discussed in this section. The draft NRHP nomination for the GRHD states that major resources are included in the count of contributing and noncontributing resources, and that the district also includes numerous minor features and small-scale elements (i.e., signage and lighting) that are not counted as separate resources but mentioned in the nomination (Roise et al. 2012:7.1). Minor features and small-scale elements are also addressed below as to whether they appear to contribute to the areas of significance for the GRHD. Additionally, this study documents larger landscape features, such as topography, views and vistas, and vegetation, that were not previously inventoried as part of the draft NRHP nomination but are character-defining features of the cultural landscape of Theodore Wirth Park.

In addition to the draft NRHP nomination, the 2015 Master Plan provides a cultural resources inventory that lists “potentially contributing” features that were built during the period of significance (1884-1942) and are “intact” from that period (MPRB 2015:5.5). The 2015 Master Plan also inventories post-1942 features. While these features are indicated as not “potentially contributing” in the 2015 Master Plan under the currently-documented period of significance, they are subject to review within the potential extended period of significance. The 2015 Master Plan states that an official determination of contributing features in Theodore Wirth Park had not been completed at the time the plan was published (MPRB 2014:5.5). This is likely due to the ongoing consultation between MnSHPO and MPRB as part of updating the draft NRHP nomination.

Most of the “potentially contributing” features inventoried in the 2015 Master Plan (13 out of 15) that are located within the APE and viewsheds are the same as those listed in the draft NRHP nomination. The 2015 Master Plan includes the following two additional features located within the APE and viewsheds: winter recreation area, an additional land use within the Theodore Wirth Golf Course; and Germania Brewery, an archaeological site. These features are discussed further in the sections below. Additionally, the 2015 Master Plan identifies Bridge 6247 at Plymouth Avenue as not “potentially contributing,” while the draft NRHP nomination lists it as contributing. This is due to a subsequent re-evaluation of Bridge 6247 in 2013, which is discussed further under Section 5.4.1.2.

5.4.1 CONTRIBUTING FEATURES IN THE APE AND VIEWSHEDS (PRE-1942 PERIOD OF SIGNIFICANCE)

The draft NRHP nomination lists a total of 30 contributing and non-contributing features to the GRHD within Theodore Wirth Park (Roise et al. 2012). Of these 30 total features, eight features identified as contributing are located within the APE and viewsheds for the BLRT project; however, one of these features (the Plymouth Avenue Bridge/Bridge 6247) has been subsequently evaluated and found to be non-contributing to the GRHD (see Section 5.4.1.2). These contributing resources reflect the currently documented period of significance (1887-1942), rather than the potential extended period through the mid-1970s that is under discussion. Table 5 below summarizes the contributing features identified in the draft NRHP nomination under the currently documented period of significance that are located within the APE and viewsheds (Figure 119A and 119B).

Table 5. Contributing Features from the Draft NRHP Nomination in the APE and Viewsheds (for the period of significance documented as 1884-1942)

Inventory No.	Major Feature
HE-GVC-00015	The Chalet
HE-GVC-00049	*Bridge No. 6247**
HE-GVC-00050	Bridge No. L9327
HE-GVC-00081	Theodore Wirth Park
HE-GVC-00082	Theodore Wirth Parkway
HE-GVC-00089	Bassett Creek Lagoons
HE-GVC-00094	Wirth Lake
HE-GVC-00097	Theodore Wirth Golf Course**

* The subsequent re-evaluation of this feature in 2013 is discussed in Section 5.4.1.2.

**The winter recreation area inventoried in the 2015 Master Plan appears to be a supporting land use of the Theodore Wirth Golf Course, as discussed further in Section 5.4.3.

In addition to these eight features identified as contributing in the draft NRHP nomination, the 2015 Master Plan identifies two "potentially contributing" features that are located within the APE and viewsheds, and were not listed in the draft NRHP nomination (MPRB 2015:5.6-5.11). "Potentially contributing" features were identified as being built within the period of significance (through 1942) and still being intact. The 2015 Master Plan states that an official determination had not been completed at the time of publication (MPRB 2015:5.5).

The two additional features identified in the 2015 Master Plan as "potentially contributing" that are located within the APE and viewsheds include the winter recreation area land use and the Germania Brewery. The historical significance and integrity of these features were further documented to inform whether these features appear to be contributing features to the GRHD. Additionally, the 2015 Master Plan identifies the Plymouth Avenue Bridge (Bridge 6247) as non-contributing, which is contrary to the prior recommendation made in the draft NRHP nomination (MPRB 2015:5.8, Roise, et al. 2012). The subsequent re-evaluation of this feature in 2013 is discussed under Section 5.4.1.2.

The two railroad lines that cross through Theodore Wirth Park, the Luce Line and the Osseo Branch Line, as well as bridges associated with each line within the Study Area, are not addressed in the current draft NRHP nomination for the GRHD, but fall within the current period of significance for the GRHD (ending in 1942). The Luce Line (HE-GVC-055 [Golden Valley Segment] and HE-MPC-9800 [Minneapolis Segment]) and two associated bridges, Luce Line Trestle over Bassett Creek (HE-GVC-376) and Luce Line Bridge over Bassett Creek (HE-MPC-5285), have been previously determined not individually eligible for listing in the NRHP. However, neither the Luce Line nor the associated bridges are identified as either contributing or non-contributing in the draft NRHP nomination for the GRHD. Similarly, the Osseo Branch Line (HE-RRD-002) has been determined individually eligible for the NRHP, but was not identified as a contributing or non-contributing resource to GRHD in the draft NRHP nomination. One bridge associated with the Osseo Branch Line, Bridge 1.7 (HE-GVC-5286), has been previously determined to be non-contributing to the Osseo Branch Line and not individually eligible for listing in the NRHP; however, the bridge was also not identified as either a contributing or non-contributing resource to GRHD in the draft NRHP nomination. Both of these railroad lines and their associated bridges were constructed within the currently documented period of significance (1887-1942) for the GRHD. However, despite being constructed during this time period, neither railroad line, nor their associated bridges reflect the design intent of Theodore Wirth Park and are not related to the areas of significance for which the GRHD qualifies for listing in the NRHP. Therefore, the Luce Line and the Osseo Branch Line, along with the Luce Line Trestle over Bassett Creek, the Luce Line Bridge over Bassett Creek, and the Osseo Branch Line Bridge 1.7, appear to be non-contributing to the GRHD.

5.4.1.1 Germania Brewery

The Germania Brewery is identified as “potentially contributing” in the 2015 Master Plan. This feature was developed in 1887 prior to the acquisition of this portion of Theodore Wirth Park and was not intentionally incorporated into plans for the park or Grand Rounds system. It has been determined individually eligible for the NRHP under Criterion A as an industrial/recreation site associated with Germania Brewery and Criterion D for the information potential of the Germania Park, Gilbert Resort, and summer garden regarding the lifeways of Germanic peoples. However, it does not reflect the documented significance of the GRHD under Criterion A in the areas of Community Planning and Development and Entertainment/Recreation, or Criterion C for Landscape Architecture (Vermeer 2012). Therefore, this feature appears to be non-contributing to the GRHD.

5.4.1.2 Plymouth Avenue Bridge (Bridge 6247) / Plymouth Avenue

Bridge 6247 carries Plymouth Avenue over the Osseo Branch Line and provides an eastern entrance to the park. It had been previously evaluated and determined to be a contributing feature to the GRHD (Roise et al. 2012). However, due to a substantial rehabilitation in 2006 that replaced the road deck and railings and added new light fixtures, the bridge retains poor historical integrity and was evaluated as part of MnDOT's Minnesota Phase 2 Local Historic Bridge Study in 2013 as not-individually eligible for NRHP-listing and non-contributing to the GRHD (Mead & Hunt, et al. 2015:A1).

The route of the Plymouth Avenue extension (roadway), which travels over the Plymouth Avenue Bridge, was first depicted in the *1914 General Plan for the Improvement of Glenwood Park* (MBPC 1915:94a). Theodore Wirth began advocating for the route in the MBPC Annual Report for 1916 as an integral component of the Grand Rounds system and a scenic approach to the Chalet (MBPC 1917:40). It is

featured consistently in subsequent historical plans for the park (MBPC 1917:41; MBPC 1918:38; MBPC 1921:75; MBPC 1927:96a). While the route would not receive final curbs and pavement until after the embankment for Bridge 6247 was stabilized in 1933, the route was in place several years prior to the construction of this bridge (MBPC 1922:71; MBPC 1934:66, Atwood 2009a).

The current alignment of Plymouth Avenue follows its historic alignment as depicted in historical plans and aerial photographs, except for its intersection with Theodore Wirth Parkway (ASCS 1937; ASCS 1971). The intersection was altered sometime between 1971 and 1979 (ASCS 1971; NETR 1979). However, the alteration was not depicted as part of the transportation recommendations in the Eckbo Plan (Eckbo et al. 1971:3.3-3.4; 3.76). The current roadway width measures between 35 feet and 50 feet (where a bus stop is located), which is not consistent with the parkway recommendations contained in the Eckbo Plan. Rose-chip sealed pavement is not visible on any portion of the roadway, as recommended by the Eckbo Plan for parkways within the Grand Rounds parkway system. The current alignment of this intersection extends Theodore Wirth Parkway south along the former alignment of Plymouth Avenue, and shifts the intersection of these roadways to the southeastern corner of the parking lot. As such, the length of Plymouth Avenue is shortened and the intersection is simplified from its historic Y-form with a center planting island to a basic T-form. This alteration somewhat compromises the integrity of design, workmanship and materials at the western end of the route. However, the route still retains its sense of direction and destination. Additionally, the 2006 rehabilitation of Bridge 6247 slightly compromises the integrity of feeling at the eastern end of the route. While the design of the above-deck elements are of a similar Classical Revival aesthetic as the original, the historic sense of the past is no longer conveyed by the bridge at road grade; the 2006 rehabilitation also slightly compromises the integrity of setting at the eastern end of the route since the bridge railings and contemporary lights no longer convey the full historic character of the physical environment at road grade. The wooded setting at Bridge 6247 depicted in historical aerial photographs and plans is still present today and contributes to the historic integrity of its setting at the eastern end (MBPC 1914:94a; MBPC 1917:41; MBPC 1927:96). The historic east-west orientation of Plymouth Avenue is maintained, as well as the historic north-south location of the alignment relative to the Chalet building. The historic function of Plymouth Avenue as an eastern approach to the Chalet is also maintained. Therefore, it retains good integrity of location and association.

Overall, although the Plymouth Avenue Bridge is not eligible for listing in the NRHP, either individually or as a contributing feature to the GRHD, Plymouth Avenue (roadway) retains sufficient integrity to convey its historical significance. While the integrity of the east and west connecting points of the route have been slightly compromised, the route, on whole, retains its sense of direction, destination, and overall setting as an eastern access route to Theodore Wirth Park, as well as its grading and views approaching the Chalet. Therefore, Plymouth Avenue appears to be a contributing feature to the GRHD (see Figure 119A).

5.4.2 ADDITIONAL FEATURES IN THE APE AND VIEWSHEDS: 1943-1975

This cultural landscape study also documented the following features within the APE and viewsheds based on their date of construction within the extended period of significance that is currently under evaluation, and their relationship to the areas of significance for which the GRHD is eligible for listing in

the NRHP: the Finnish-American Monument and features implemented in accordance with the Eckbo Plan. In addition, Bridge 5908 (HE-GVC-00056), which is currently identified as non-contributing in the draft NRHP nomination but falls within the extended period of significance, is also discussed. The overall presence of these features in relationship to Theodore Wirth Park and the GRHD, as a whole, and the integrity of the features were documented through research and field survey.

5.4.2.1 Finnish-American Monument

The Finnish-American Monument is currently indicated as non-contributing in the draft NRHP nomination due to its date of construction. This monument was constructed in 1958 at the center of Picnic Ground No. 4. It is similar in its commemorative nature, use of stone material, and ornamental value to other historical markers in the GRHD. Many of these historical markers are also recommended contributing resources to the historic district (Roise et al. 2012). The Finnish-American Monument maintains good integrity of location, design, setting, materials, workmanship, feeling, and association. It was constructed within the potential extended period of significance (assumed through 1975) that is currently under evaluation. Therefore, this monument appears to be contributing to the GRHD within the extended period of significance, under Criterion C in the area of Landscape Architecture, for its ornamental value that is consistent with similar features across the historic district (see Figure 119B).

5.4.2.2 Eckbo Plan and Related Features

The Eckbo Plan focused on reinforcing the recreational qualities of the park and resolving transportation conflicts. The period of significance for the GRHD is currently documented as 1884 to 1942, although it is currently being evaluated to determine if it possesses significance within the period 1943 through the mid-1970s, reflecting the potential significance of improvements developed in accordance with the plan by Eckbo, Dean, Austin and Williams.

Circulation features implemented as a result of the Eckbo Plan appear to be contributing to the significance of the GRHD if this extended period is determined significant. Paved pedestrian and bicycle paths, and the pedestrian bridge over the parkway at the Chalet, were both recommended in the plan. The locations of the paths reflect the concept of a proposed “Bicycle Grand Rounds” stated in the plan. This pathway runs the entire length of the parkway that is located in the APE and viewsheds. The paved pathway west of Theodore Wirth Parkway retains good integrity of location, setting, association, and feeling. Integrity of design and materials is less clear since the intent of the plan was not design-focused. Overall, the paved pathway west of Theodore Wirth Parkway appears to convey the significance of the Eckbo Plan under Criterion A in Community Planning and Development and Entertainment/Recreation, and Criterion C in the area of Landscape Architecture for its association with Eckbo, Dean, Austin and Williams. Therefore, the paved pathway west of Theodore Wirth Parkway appears to be contributing, dependent on the final determination of the period of significance for the GRHD (see Figure 119A).

While the wooden footbridge at the Chalet is present at the location recommended in the Eckbo Plan, it does not appear in aerial photographs until 1991, which is outside of the period of significance under discussion. Therefore, the pedestrian bridge at the Chalet appears to be non-contributing to the GRHD.

The bicycle and pedestrian path parallel to the Osseo Branch Line tracks appears to be non-contributing to the GRHD. This path runs from Highway 55 to the picnic area located east of Bridge L9327. The location

of this path within railroad ROW, its discontinuous surfacing and lack of signage, and its at-grade intersection with the Luce Line tracks are not consistent with the intent of the Eckbo Plan to enhance recreational value and resolve transportation conflicts. Additionally, the plan depicted an underpass for the pedestrian and bicycle path at the Luce Line tracks that would alleviate the crossing conflict, which is not present. Historical aerial photographs between 1937 and 1979 show an old service road from Highway 55 to the Luce Line tracks existed roughly in the same alignment as the present-day trail; however, the service road did not cross the tracks (ASCS 1938; NETR 1979). The present day trail and crossing at the Luce Line tracks first appear in a 1991 aerial photograph (NETR 1991). The pathway does not appear to be implemented as a result of Eckbo Plan recommendations or any other historic plans for the Theodore Wirth Park within the extended period of significance through 1975. Therefore, the pathway adjacent to the Osseo Branch Line tracks on railroad ROW appears to be non-contributing to the GRHD.

Many of the small-scale features installed concurrently with circulation improvements recommended by the Eckbo Plan appear to be contributing. The cube-style lighting, designed by Alfred French to implement recommendations in the Eckbo Plan, appears to be contributing to the historic significance of the GRHD, if the Eckbo Plan improvements are determined to be significant (see Figure 119A). The blocky wood benches with the bollard-and-chain surrounds at the Chalet, and the picnic tables located east of the Chalet that exhibit a similar aesthetic, appear to date within the extended period of significance and support the continued recreational use of the park, as intended by the Eckbo Plan. Therefore, these features appear to have potential significance as improvements consistent with Eckbo Plan recommendations (see Figure 119A). These small-scale features support Criterion A in the areas of Community Planning and Development and Entertainment/Recreation as they enhance the overall function and use of the park. While these small-scale features do not maintain a strong or cohesive presence across Theodore Wirth Park, the aesthetic of light standards, picnic tables, and benches are unique and recognizable within the extended period of significance, and therefore appear to have significance under Criterion C. While the signage program developed by Peter Seitz appears to have historical significance, none of these features exist within the APE and viewsheds. Therefore, the signage present in the APE and viewsheds does not appear to be contributing to the GRHD.

5.4.2.3 Bridge 5908

Bridge 5908 is currently indicated as non-contributing in the draft NRHP nomination due to its date of construction. The bridge carries Highway 55 over Bassett Creek and was originally constructed in 1947, within the potential extended period of significance for the GRHD that is currently under discussion. However, the north end was rebuilt in 1987 (Pearson 2008q). In addition, its design and planning are not related to historic plans for park development and do not contribute to the areas of significance for the GRHD. Therefore, Bridge 5908 appears to be non-contributing to the GRHD.

5.4.3 OTHER CHARACTER-DEFINING FEATURES IN THE APE AND VIEWSHEDS

Additional information is provided on the winter recreation area land use, Picnic Ground No. 4 (including the WPA picnic tables and WPA-era entrance sign), paths south of Highway 55, and the exposed aggregate bench located along Plymouth Avenue below. These features have not been previously determined as contributing or non-contributing features to the GRHD (Roise et al. 2012, MPRB 2015).

These features have also not been previously inventoried as part of the statewide survey of historic properties on file at MnSHPO.

The winter recreation area land use is located within Theodore Wirth Golf Course. Theodore Wirth Golf Course has previously been determined as a contributing feature to the GRHD; however, the winter recreation area land use has not (Roise et al. 2012:137-138). The golf course has been used consistently throughout its history for winter recreation activities. Winter recreation is a historically significant land use within Theodore Wirth Golf Course that contributes to its entertainment/recreation value. However, winter recreation uses occur throughout the golf course and are not confined to a discrete area. Ski jumps were historically located on the 10th fairway and are currently non-extant; however, the 2015 Master Plan has indicated that below ground archaeological remains may exist (MPRB 2015:5.6). Since the presence of these remains has not been determined, and the location of other winter recreation activities is not precise, the winter recreation area land use currently appears to be a supporting land use within the Theodore Wirth Golf Course rather than a separate contributing or non-contributing feature of the GRHD (see Figure 119A).

Picnic Ground No. 4 was constructed by 1939 based on the WPA stamps in the concrete benches (see Figure 119B). While specific plans for the picnic area were not included in MBPC Annual Reports, the grounds exhibit the character-defining vegetation, topography, and views that relate to the original design intent for the park. When the land around Wirth Lake was acquired in 1907, Wirth described its condition as "the site of an old beer garden and resort of dubious character and reputation [that] had long been an eyesore and detriment to that section of the city" (Wirth 2006:174). Citizens had petitioned the MBPC to acquire the land, which was then developed into an attractive and popular picnic area according to Wirth. Its development as a scenic picnic area takes advantage of the natural topography and water features in the park. Picnic Ground No. 4 also has a clear relationship to adjacent picnic grounds south of Wirth Lake and south of Glenwood Avenue, and the Picnic Pavilion (located outside of Picnic Ground No. 4). The WPA constructed permanent concrete and metal post picnic tables that are set into the ground in Picnic Ground No. 4. These tables have a unique style that is not found in other areas of the park. Their quantity compared to other styles of picnic benches present in the area creates a strong presence. The stamps on the seats indicate these tables were constructed in 1939 by the WPA. These tables are notable evidence of the federal relief efforts that provided lasting utilities and recreational amenities throughout Theodore Wirth Park and the GRHD. Several other features are located in Picnic Ground No. 4 that appear to support the recreational use of the grounds, and are, or appear to be associated with the WPA: the oblong, metal entrance sign (see Figure 113); a cobblestone wall surrounding the water pump located east of the parking lot for Picnic Ground No. 4 constructed in 1940 by the WPA; and a concrete sandbox on one of the hilltops in Picnic Ground No. 4 constructed by the WPA.

While the design, materials, and workmanship of Picnic Ground No. 4 are not well-documented historically, it has good integrity of location, setting, feeling and association conveying the historic planning and development intent of Theodore Wirth Park. While the benches show signs of deterioration, they have good integrity of location, setting, design, materials, workmanship, feeling, and association. Therefore, it appears that Picnic Ground No. 4 and the WPA picnic tables are contributing features to the GRHD, under Criterion A in the area of Community Planning and Development and

Entertainment/Recreation (see Figure 119B). Within the land use area of Picnic Ground No. 4, the entrance sign, cobblestone wall surrounding the water pump, and concrete sandbox also appear to be contributing under Criterion A in the areas of Community Development and Planning and Entertainment/Recreation as they support the use of Picnic Ground No. 4.

Select segments of paved pathways located in the APE and viewsheds appear to follow the alignment of pathways either shown in Wirth's 1914 plan and/or were present in historic aerial photographs during the potential extended period of significance through 1975. These segments are located east of Wirth Lake, within or near Picnic Ground No. 4 (see Figure 119B). These pathways appear to contribute to the historical significance of the GRHD under Criterion A in the area of Community Planning and Development and Entertainment/Recreation and Criterion C in the area of Landscape Architecture, since they reflect circulation routes in Wirth's 1914 plan and support the overall use and enjoyment of Wirth Lake and Picnic Ground No. 4.

Additionally, one of the exposed-aggregate style benches located along Plymouth Avenue appears to date within the potential extended period of significance. This double-seat bench is located on the south side of Plymouth Avenue just west of the Route 7 southbound bus stop (see Figure 119A). Based on the style of the bench and aging of the wood and concrete, this bench appears to pre-date 1975. Overall, this style of bench was implemented across the parkway system beginning in the 1930s and is still currently manufactured and installed by MPRB today. While many of examples of this style are located throughout Theodore Wirth Park, this individual bench located near the Route 7 southbound bus stop along Plymouth Avenue appears to have been installed at an earlier date. This bench appears to contribute to the historical significance of the GRHD under Criterion A in the area of Community Planning and Development and Entertainment/Recreation since it supports the overall use and enjoyment of the park, and under Criterion C in the area of Landscape Architecture since it reflects a distinctive style of furnishings that was developed for the parkway system and consistently implemented throughout its history.

Other character-defining features identified during field survey and described in Section 5.2 Character Defining Features in the APE and Viewsheds appear to be non-contributing to the GRHD. These features either date to outside of the period of significance or do not contribute to the areas of significance that the GRHD is eligible under and, therefore, 106 Group concurs with the remaining recommendations under the draft NRHP nomination. However, the following two features within the APE and viewsheds have been individually inventoried and determined individually eligible for listing in the NRHP: Germania Brewery (21HE0407) and the Osseo Branch Line (HE-RRD-002).

Table 6 summarizes the additional features in the APE and viewsheds that appear to be contributing to the GRHD based on the historical research and field survey completed for this cultural landscape study. A total of seven additional features were identified as a result of this cultural landscape study.

Table 6. Additional Features in the APE and Viewsheds that Appear to be Contributing

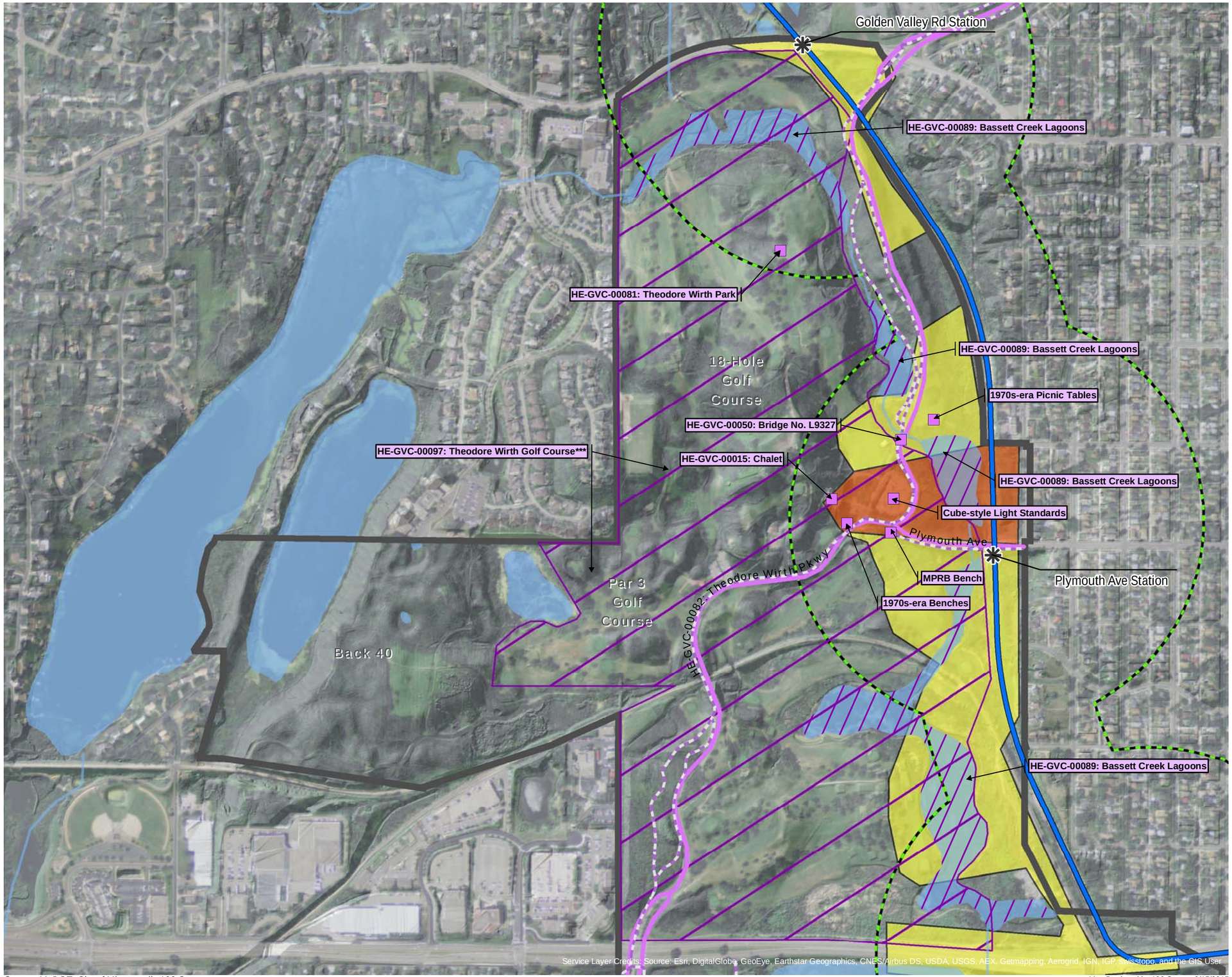
Inventory No.	Features within the APE and Viewsheds	Appear to be Contributing
HE-GVC-00095	Finnish-American Monument	Y
n/a	Picnic Ground No. 4 (including WPA Picnic Tables, WPA cobblestone wall, WPA concrete sandbox, and WPA-era entrance sign)	Y
n/a	Paved Pedestrian and Bicycle Path west of Theodore Wirth Parkway	Y
n/a	1970s-Era Small-Scale Features (cube style light standards; benches and picnic tables)	Y
n/a	Pathways south of Highway 55	Y
n/a	MPRB Exposed-Aggregate Bench (on Plymouth Avenue)	Y
n/a	Plymouth Avenue (route)	Y

Table 7 summarizes all of the features located within the APE and viewsheds that are currently determined, and appear to be contributing to the GRHD. In total, 14 features were identified as contributing features, that have either previously been determined as contributing or appear to be contributing based on the documentation completed for this cultural landscape study. The locations of these features are also depicted on Figures 119A and 119B.

Table 7. Summary: All Features in the APE and Viewsheds that are Determined or Appear to be Contributing

Inventory No.	Features within the APE and Viewsheds
HE-GVC-00015	The Chalet
HE-GVC-00050	Bridge No. L9327
HE-GVC-00081	Theodore Wirth Park
HE-GVC-00082	Theodore Wirth Parkway
HE-GVC-00089	Bassett Creek Lagoons
HE-GVC-00094	Wirth Lake
HE-GVC-00097	Theodore Wirth Golf Course
HE-GVC-00095	Finnish-American Monument
n/a	Picnic Ground No. 4 (including WPA Picnic Tables, WPA cobblestone wall, WPA concrete sandbox, and WPA-era entrance sign)
n/a	Paved Pedestrian and Bicycle Path west of Theodore Wirth Parkway
n/a	1970s-Era Small-Scale Features (cube style light standards; benches and picnic tables)
n/a	Pathways south of Highway 55
n/a	MPRB Exposed-Aggregate Bench (on Plymouth Avenue)
n/a	Plymouth Avenue (route)

Blue Line Extension LRT (BLRT)
Theodore Wirth Regional Park
Cultural Landscape Study
Minneapolis and Golden Valley, Minnesota



Proposed Alignment

Proposed Station

Architecture/History Area of Potential Effect

Study Area

Viewshed of Project

Chalet Viewshed of Project

Contributing Features

Individual Feature Area within Theodore Wirth Park (See Label)*

Feature Location (See Label)

Linear Feature (See Label)

Regional and Paved Trail**

* Individual feature areas do not include the full extent of Theodore Wirth Park.

** Trails indicated may not constitute all park trails.

*** The area included on the current inventory form for the Theodore Wirth Golf Course includes the two golf courses and the Back 40. The area depicted here encompasses the approximate boundaries of only the two golf courses.

0 150 Meters

0 400 Feet

1:7,650

106GROUP

Contributing Features of Park within APE and Viewsheds - North Half

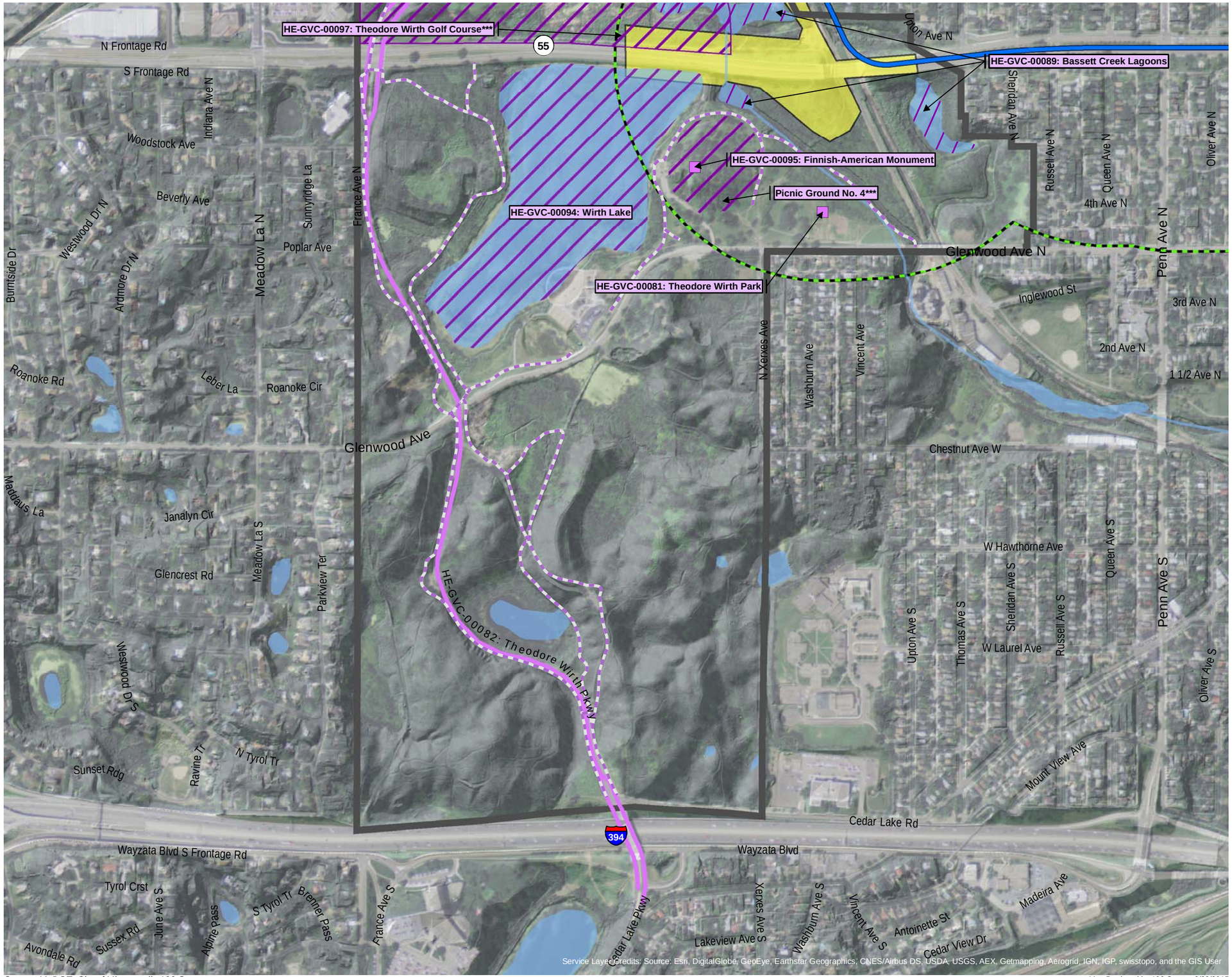
Figure 119A

Source: MnDOT; City of Minneapolis;106 Group

Map Produced by 106 Group 9/15/2015

Blue Line Extension LRT (BLRT)
Theodore Wirth Regional Park
Cultural Landscape Study

Minneapolis and Golden Valley, Minnesota



Source: MnDOT; City of Minneapolis;106 Group

Map Produced by 106 Group 8/28/2015

- Proposed Alignment
- Architecture/History Area of Potential Effect
- Study Area
- Viewshed of Project

Contributing Features

- Individual Feature Area within Theodore Wirth Park (See Label)*
- Feature Location (See Label)
- Linear Feature (See Label)
- Regional and Paved Trail**

* Individual feature areas do not include the full extent of Theodore Wirth Park.

** Trails indicated may not constitute all park trails.

***Includes
10-15 WPA Tables 4-5 Other Tables
1 WPA-era Entrance Sign 2-3 Grills
1 Water Pump w/ WPA Cobblestone Wall

****The area included on the current inventory form for the Theodore Wirth Golf Course includes the two golf courses and the Back 40. The area depicted here encompasses the approximate boundaries of only the two golf courses.

0 150 Meters
0 400 Feet
1:7,650

106GROUP

Contributing Features of Park within APE and Viewsheds - South Half

Figure 119B

6.0 SUMMARY

This cultural landscape study addresses Theodore Wirth Regional Park within the combined boundary from the draft NRHP nomination and the current park boundary (Study Area) and focuses more specifically on features located with the APE and viewsheds; it does not address other MPRB-owned properties or other historic resources that are located outside of the current Study Area. The specific purpose of this cultural landscape study includes the following:

- Provide a historic context for Theodore Wirth Park and document its developmental history to provide an understanding of the landscape features of the park (see Section 3).
- Identify viewsheds within Theodore Wirth Park where the BLRT project may be visible, including the four viewsheds specifically identified by the MPRB and MnDOT CRU, and identify any other viewsheds that may exist through field survey and comparing those areas to the current APE (see Section 4).
- Identify the physical characteristics of the landscape, including a broad overview across the entire park and specific details within the APE and viewsheds, using existing documents and field survey (see Sections 5.1 and 5.2).
- Identify contributing elements to the GRHD within the APE and viewsheds where properties may be affected by the proposed BLRT project (see Section 5.4).

Reconnaissance-level historical research, field survey, and documentation was completed for Theodore Wirth Park, as a whole, while more intensive-level historical research, field survey, and documentation was completed within the APE and viewshed areas. Field survey documented viewsheds to the proposed BLRT project from areas within Theodore Wirth Park, and identified the locations of character-defining and contributing resources.

Overall, the current APE was found to capture all of the viewsheds in the Study Area except for one area in Theodore Wirth Golf Course, located north of Highway 55, encompassing approximately 5.5 acres. A total of 14 features located within the APE and viewsheds have been previously determined or appear to be contributing features to the GRHD. These features were identified through research and field survey. As a result, these 14 features within the APE and viewsheds contribute, or appear to contribute to the historical significance of Theodore Wirth Park and the GRHD during the period of 1884 to 1975.

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APPENDIX A: ELIGIBILITY OF PROPERTIES WITHIN THEODORE WIRTH PARK IN MNSHPO INVENTORY (APRIL 2015)

Current Eligibility of Properties Located in Theodore Wirth Park within the MnSHPO Inventory

Feature (* Notes features in APE and Viewsheds)	Inventory No.	Draft NRHP Nomination Contributing/Non-Contributing Status (C/NC)	Individual NRHP Eligibility
Birch Pond I	21HE0342	Not Previously Determined	Not Previously Determined
Birch Pond II	21HE0343	Not Previously Determined	Not Previously Determined
Keegan/Schell Farmstead	21HE0405	Not Previously Determined	Not Previously Determined
Heckrich's Saloon	21HE0406	Not Previously Determined	Not Previously Determined
Germania Brewery*	21HE0407	Not Previously Determined *(appears to be non-contributing to the GRHD)*	NRHP-Eligible
The Chalet*	HE-GVC-00015	C	Not Previously Determined
Bridge 6247 (Plymouth Ave. bridge)*	HE-GVC-00049	C *(appears to be non-contributing based on 2013 re-evaluation)*	Not-Eligible
Bridge L9327 (WPA bridge)*	HE-GVC-00050	C	NRHP-Eligible
Bridge 5908*	HE-GVC-00056	NC *(appears to be non-contributing to the GRHD within the potential extended period of significance)*	Not Previously Determined
Theodore Wirth Park*	HE-GVC-00081	C	Undetermined by SHPO
Theodore Wirth Parkway*	HE-GVC-00082	C	Not Previously Determined
Picnic Pavilion	HE-GVC-00083	C	Not Previously Determined
Par 3 Golf Course Clubhouse	HE-GVC-00085	NC	Not Previously Determined
Tool Building	HE-GVC-00086	C	Not Previously Determined
Par 3 Golf Course	HE-GVC-00087	NC	Not Previously Determined
Bassett Creek Lagoons*	HE-GVC-00089	C	Not Previously Determined

Feature (* Notes features in APE and Viewsheds)	Inventory No.	Draft NRHP Nomination Contributing/Non-Contributing Status (C/NC)	Individual NRHP Eligibility
Bridge 27678*	HE-GVC-00091	NC *(appears to be non-contributing, outside of the potential extended period of significance)*	Not Previously Determined
Wirth Lake Beach House	HE-GVC-00092	NC	Not Previously Determined
Wirth Lake Beach	HE-GVC-00093	C	Not Previously Determined
Wirth Lake*	HE-GVC-00094	C	Not Previously Determined
Finnish-American Monument*	HE-GVC-00095	NC *(appears to be contributing under potential extended period of significance)*	Not Previously Determined
Bridge 27677	HE-GVC-00096	NC	Not Previously Determined
Theodore Wirth Golf Course*	HE-GVC-00097	C	Not Previously Determined
Theo Wirth Interpretive Statue Garden*	HE-GVC-00098	NC *(appears to be non-contributing, outside of the potential extended period of significance)*	Not Previously Determined
Loring Cascade	HE-GVC-00099	NC	Not Previously Determined
Glenwood Line Streetcar Shelter	HE-GVC-00100	C	Not Previously Determined
Luce Line (Golden Valley Segment)*	HE-GVC-055	Not Previously Determined *(appears to be non-contributing to the GRHD)*	Not-Eligible
Luce Line Trestle over Bassett Creek*	HE-GVC-376	Not Previously Determined *(appears to be non-contributing to the GRHD)*	Not-Eligible

Feature (* Notes features in APE and Viewsheds)	Inventory No.	Draft NRHP Nomination Contributing/Non-Contributing Status (C/NC)	Individual NRHP Eligibility
Birch Pond	HE-MPC-01898	C	Not Previously Determined
Martha E. Crone Visitors Shelter	HE-MPC-01899	NC	Not Previously Determined
Quaking Bog	HE-MPC-01906	C	Not Previously Determined
Bridge 27607*	HE-MPC-01907	NC *(appears to be non-contributing, outside of the potential extended period of significance)*	Not Previously Determined
Victory Memorial Drive Boulder	HE-MPC-01910	C	Not Previously Determined
Eloise Butler Wildflower Garden	HE-MPC-05098	C	Not Previously Determined
Luce Line Bridge over Bassett Creek*	HE-MPC-5285	Not Previously Determined *(appears to be non-contributing to the GRHD)*	Not-Eligible
Bridge 1.7*	HE-MPC-5286	Not Previously Determined *(appears to be non-contributing to the GRHD)*	Not-Eligible
Bridge 27237*	HE-MPC-5287	Not Previously Determined *(appears to be non-contributing, outside of the potential extended period of significance)*	Not-Eligible
Luce Line (Minneapolis Segment)*	HE-MPC-9800	Not Previously Determined *(appears to be non-contributing to the GRHD)*	Not-Eligible

Feature (* Notes features in APE and Viewsheds)	Inventory No.	Draft NRHP Nomination Contributing/Non-Contributing Status (C/NC)	Individual NRHP Eligibility
Osseo Branch Line*	HE-RRD-002	Not Previously Determined *(appears to be non-contributing to the GRHD)*	NRHP-Eligible
Xcel Energy Transmission Line*	HE-TRL-001	Not Previously Determined *(appears to be non-contributing to the GRHD)*	Not-Eligible
Highway 55 over East Channel of Bassett Creek*	HE-MPC-5288	Not Previously Determined *(appears to be non-contributing to the GRHD)*	Not-Eligible

APPENDIX B: PROJECT PERSONNEL

LIST OF PERSONNEL

Principal-In-Charge	Anne Ketz, M.A., RPA
Project Manager	Jennifer Bring, B.S.
Principal Investigator	Parisa Ford, M.S., AICP
Field Historians	Kelli Andre Kellerhals, M.S. Parisa Ford, M.S., AICP Katie Ohland, M.S.
Graphics and GIS	Nathan Moe, B.A.

SECTION 106 PROGRAMMATIC AGREEMENT
BETWEEN
THE FEDERAL TRANSIT ADMINISTRATION
AND
THE MINNESOTA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE CONSTRUCTION OF
THE INTERCHANGE PROJECT
MINNEAPOLIS, MINNESOTA

WHEREAS, the Hennepin County Regional Railroad Authority (HCRRA) and the Metropolitan Council (MC) are proposing to construct The Interchange Project (PROJECT), an intermodal transit facility in downtown Minneapolis as more fully described in the project Environmental Assessment (EA); and

WHEREAS, HCRRA and MC are proposing to use funding assistance from the Federal Transit Administration (FTA) to implement the PROJECT, assistance that would render the PROJECT a Federal undertaking pursuant to Section 106 of the National Historic Preservation Act (Section 106), 16 U.S.C. Section 470(f), as amended; and

WHEREAS, FTA, HCRRA and MC have consulted with the Minnesota State Historic Preservation Officer (MnSHPO) pursuant to federal regulations at 36 CFR Part 800 implementing Section 106; and

WHEREAS, the FTA invited the Advisory Council on Historic Preservation (ACHP) to participate in the development of this AGREEMENT and the ACHP stated that it will not participate in the consultation by letter dated November 21, 2011 to the FTA; and

WHEREAS, the City of Minneapolis (CITY) has elected to participate as a consulting party in the Section 106 process for this PROJECT and has been invited to concur with this AGREEMENT; and

WHEREAS, the Minnesota Ballpark Authority, as owner of the adjacent Target Field stadium, has participated in this consultation and has been invited to concur with this AGREEMENT; and

WHEREAS, upon initiation of the Section 106 consultation process and in accordance with 36 CFR 800.2(c)(2)(ii), the FTA contacted the Shakopee Mdewakanton Sioux Community, the Prairie Island Indian Community, the Lower Sioux Indian Community, and the Upper Sioux Indian Community, all federally recognized tribes, inviting their participation in the consultation process for this project, and received no responses requesting further consultation; and

WHEREAS, this AGREEMENT was developed with appropriate public involvement (pursuant to 36 CFR 800.2(d) and 800.6(a)) coordinated with the scoping, public review and comment, and public hearings conducted by FTA and HCRRA to comply with NEPA and its implementing regulations; and

WHEREAS, the FTA and the Minnesota Department of Transportation Cultural Resources Unit (MnDOT CRU), in consultation with MnSHPO, have determined the Area of Potential Effect (APE) for the project as shown on Attachment A to this AGREEMENT; and

WHEREAS, FTA and MnDOT CRU, in consultation with MnSHPO have identified historic properties in the PROJECT's APE which are listed in or eligible for the National Register of Historic Places (NRHP), as shown in Attachment A to this AGREEMENT, and MnSHPO has concurred with these determinations; and

WHEREAS, the full range of effects on historic properties will not be known prior to the approval of grant funds, and this AGREEMENT provides for ongoing consultation to assess effects and stipulate measures to avoid, reduce, or mitigate adverse effects, in fulfillment of the requirements of Section 106 in accordance with 36 CFR 800.14(b)(1)(ii); and

WHEREAS, the FTA will be responsible for ensuring that HCRAA and MC ensure that all aspects of PROJECT implementation meet the terms of this AGREEMENT, in consultation with MnDOT CRU, which assisted the FTA in the preparation of information, analysis, and recommendations regarding the Section 106 process; and

WHEREAS, the HCRRA and MC will administer the implementation of the PROJECT and will complete the stipulations of the AGREEMENT;

NOW, THEREFORE, the FTA, MnSHPO, HCRRA, and MC agree that the PROJECT will be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

FTA will ensure that HCRAA and MC will carry out the terms of this AGREEMENT and will require, as a condition of any approval of FTA funding for the PROJECT, adherence to the stipulations of this AGREEMENT. The parties understand that time is of the essence in the delivery of the PROJECT, and will use good faith efforts in implementing the terms of this AGREEMENT so as not to cause unreasonable delay in the PROJECT schedule.

I. PROJECT DESIGN DEVELOPMENT

A. The PROJECT design will effectively meet the project purpose and need, while avoiding, minimizing, and/or mitigating adverse effects to historic properties in the area. Avoidance of adverse effects is preferable and will be considered to the extent feasible.

B. New construction on the project site, located immediately across 5th Street North from the Minneapolis Warehouse Historic District, has potential visual and functional effects on the historic features of the district, including its setting, buildings and streetscape features. HCRRA and MC will develop the project design in accordance with the Secretary of the Interior's Standards for Archaeology and Historic Preservation (SOI STANDARDS), taking into account the suggested approaches to new construction in historic areas in the *Secretary of the Interior's Guidelines for the Rehabilitation of Historic Properties*. The CITY's *Minneapolis Warehouse Historic District Design Guidelines* (Minneapolis Heritage Preservation Commission, March 2, 2010) also provide general guidance for new construction in the adjacent historic district. (In any design issue reviewed pursuant to this AGREEMENT where there may be a conflict between the SOI STANDARDS and the CITY's guidelines, the SOI STANDARDS will take precedence.)

1. HCRRA or MC will contract with an historical architect to work with the design-build contractor to ensure that the above-referenced standards are taken into account throughout the design-build process. The architect will meet the Secretary of the Interior's Professional Qualifications Standards for Historical Architect (36 CFR 61 Appendix A).

2. HCRRA or MC, through MnDOT CRU, will submit the PROJECT design documents for architectural and site project elements (including the bridge structure, the LRT platform and overhead catenary system, and the site architectural and landscape elements including the plazas and the vertical circulation system) to MnSHPO and the CITY for a 30-day review and comment, with a copy to FTA. If no comments are received in this period, HCRRA and MC may presume there are no comments. The PROJECT Conceptual Plans (10/20/11) and the PROJECT Urban Design Guidelines (11/29/11 draft) have been submitted to MnSHPO and the CITY for review and comment. The following documents will be submitted to MnSHPO and the CITY during the design process:

    a. The PROJECT Design-Build Concept Drawings, developed by the selected design-build contractor as part of their project proposal.
    b. The PROJECT Design Development Drawings, developed by the design-build contractor in consultation with HCRRA.
    c. The PROJECT Final Design Plans, developed by the design-build contractor in consultation with HCRRA.

3. HCRRA or MC and the design-build contractor will incorporate comments from MnSHPO and the CITY, as feasible, on the PROJECT Design-Build Concept Drawings and on the

PROJECT Design Development Drawings, for all PROJECT elements with potential effects on historic properties. Within two weeks of receipt of comments, HCRRA or MC's historic architect will provide MnSHPO and the CITY with a summary of how the comments have been addressed in the PROJECT design, with a copy to MnDOT CRU. If there are any portions of the PROJECT where it is not feasible to incorporate comments from MnSHPO and the CITY, HCRRA or MC will provide an explanation.

4. Following MnSHPO review and comment on the PROJECT Design Development Drawings, pursuant to Stipulation I.B.2.b., above, HCRRA or MC's historic architect (see Stipulation I.B.1, above) will continue to monitor development of PROJECT plans to ensure that the above-referenced standards are taken into account, and will provide periodic reports to MnSHPO, the CITY, and MnDOT CRU on a schedule mutually agreed upon by MnSHPO, MnDOT CRU, and HCRRA or MC.

5. HCRRA or MC, through MnDOT CRU, will submit the PROJECT Final Design Plans to MnSHPO and the CITY, pursuant to Stipulation I.B.2.c., above, for 30-day review and comment on any aspects of the PROJECT design which are not in conformance with SOI STANDARDS or otherwise have effects on historic properties. It is recognized that, at this stage of review, many project elements will be completed or under construction.

6. If there are any portions of the PROJECT that do not meet the SOI STANDARDS, based on MnSHPO's written comments, the project elements at issue will be considered to have an adverse effect, and mitigation measures will be developed and implemented in accordance with Stipulation V of this AGREEMENT.

7. If there are any portions of the PROJECT that do not meet MnSHPO's written comments based on factors other than the SOI STANDARDS, FTA, in consultation with MnSHPO, will make a determination on whether the project elements at issue will have an adverse effect, and if, so, mitigation measures will be developed and implemented in accordance with Stipulation V of this AGREEMENT.

II. NOISE AND VIBRATION ASSESSMENT AND MIGITATION

A. The assessment of noise and vibration issues conducted for the PROJECT Environmental Assessment (EA) (*Noise and Vibration Impact Assessment Technical Report, Interchange Light Rail Transit Enhancement Project*, Kimley-Horn and Associates, Inc., October 2011) has identified potential adverse effects from construction noise and from construction vibration on the Ford Building, a historic property located in the Minneapolis Warehouse Historic District.

B. HCRRA or MC will develop and implement a Historic Properties Vibration and Noise Management and Remediation Plan (VNMRP) to address construction noise and vibration issues related to the Ford Building. The VNMRP will include the following elements:

1. Pre-construction survey. The VNMRP will include a methodology for a pre-construction survey of the Ford Building, which will include:
    a. A visual survey of historically significant features of each building, completed by a historical architect (including the 7/11/11 memo *Noise and Vibration Control Review of the Ford Centre* from Chuck Liddy of Miller Dunwiddie Architecture to Chuck Ballentine of The Interchange Project).
    b. A structural survey to identify and document pre-existing defects, completed by a qualified professional engineer.
    c. A discussion of any fragile or loose elements needing to be temporarily removed, secured or repaired.
2. Construction vibration and construction noise limits. The VNMRP will stipulate thresholds for construction vibration and construction noise limits at the Ford Building. Limits will be set using the criteria in the *Transit Noise and Vibration Impact Assessment* guidance manual (FTA 2006); if different thresholds are set, the plan will include supporting documentation.
3. Construction vibration. The VNMRP will include a methodology for vibration monitoring during PROJECT construction, including details about the process, equipment, documentation standards, frequency of monitoring, and use of alternate construction means and methods when it is not possible to meet the limits.
4. Construction noise. The VNMRP will include a discussion of specific measures to be followed to reduce and/or mitigate the effects of construction noise on tenants of the Ford Building during the construction process, including monitoring and documentation standards.
5. Reporting of results to MnSHPO, FTA, and property owners. The VNMRP will include provisions for timely reporting of the results of the pre-construction survey, construction monitoring, and any remediation requests to MnSHPO and FTA.
6. Notifying HCRRA or MC of noise or vibration effects. The VNMRP will include a process for notifying HCRRA or MC of any observed vibration or noise effects on the Ford Building, along with any specific provisions to address problems (including, but not limited to, cessation of construction activity, changing of construction means and methods, and other appropriate measures).

C. HCRRA or MC will include the VNMRP by reference in the design-build contract to ensure its implementation.

D. HCRRA or MC will develop the VNMRP in consultation with MnSHPO and the CITY, and the draft plan will be submitted to FTA and MnSHPO, through MnDOT CRU, for a 30-day review and comment period. The HCRRA or MC shall consider all comments received in a timely fashion prior to issuing the final report.

E. The owner of the Ford Building will be consulted regarding the provisions of the VNMRP. This consultation will provide information on the purpose of, and process for completing, the pre-construction survey. This consultation will also provide the property owner information on whom to contact during construction in the event any questions or concerns may arise related to construction, including blocked access, excessive noise or vibration. In addition, the property owner will be informed of the process for seeking remediation of any potential damage during construction. Any agreements with the owner of the Ford Building that contain provisions related to vibration or noise issues will be consistent with the provisions of the VNMRP. Copies of any such agreements will be made a part of the VNMRP and/or forwarded to MnSHPO and FTA.

III. ARCHAEOLOGY

A. The archaeological assessment of the project's Archaeological Area of Potential Effect (Attachment B to this AGREEMENT) did not identify any archaeological properties eligible for the NRHP. It did, however, identify one location within the archaeological APE along 5th Avenue North which has potential for a historical archaeological site. Subsequent PROJECT planning has determined that there is no anticipated PROJECT-related work planned for this location.

B. HCRRA and MC will ensure that no PROJECT-related work will occur on 5th Avenue North beyond a line 50 feet north, and parallel to, the north curb line of 5th Street.

C. HCRRA and MC will include in construction contracts appropriate provisions to ensure that Stipulations III.A. and III.B, above, are carried out by the contractor.

IV. TRAFFIC AND PEDESTRIAN CIRCULATION

A. The re-design of the intersection of 6th Avenue North and 5th Street North may increase future vehicular traffic on 6th Avenue North between 5th Street North and Washington Avenue, through the Minneapolis Warehouse Historic District. The parties to this AGREEMENT recognize the CITY's *Warehouse District Heritage Street Plan* (adopted August 2011) as an appropriate guideline to protecting the historic features along 6th Avenue North while accommodating potential increases in vehicular and pedestrian traffic through the area.

B. The PROJECT facilitates the coming together of several light rail lines, and, together with other developments in the area, cumulatively contributes to the need for pedestrian connections to the larger downtown area. The parties to this AGREEMENT recognize the CITY's *Minneapolis Warehouse Historic District Design Guidelines* (adopted March 2010), the CITY's *Downtown East/North Loop Master Plan* (adopted October 2003), and the CITY's *North Loop Small Area*

Plan (adopted April 2010) as appropriate guidelines to protecting the character of historic properties while providing for pedestrian connections.

V. RESOLUTION OF ADVERSE EFFECTS

A. In any instance where the final design of PROJECT components does not meet the SOI STANDARDS, or if, in consultation with MnSHPO, FTA, HCRRA and MC determine it is not practicable to avoid other adverse effects, HCRRA or MC and MnDOT CRU will consult with MnSHPO and the CITY to develop a mitigation plan appropriate to the historic property and type and degree of effect.

B. HCRRA or MC shall notify consulting parties to this agreement when a mitigation plan will be prepared pursuant to this stipulation. The mitigation plan shall be developed within 60 calendar days of such notification. If more time is required to develop the mitigation plan, HCRRA or MC will notify consulting parties to this AGREEMENT regarding the reason for the delay and the anticipated timeframe for mitigation plan distribution. HCRRA or MC, through MnDOT CRU, will provide a copy of the draft mitigation plan to consulting parties for a 30-day comment period during which consulting parties may provide written comments to HCRRA or MC.

C. HCRRA or MC agrees to take into account any timely comments of consulting parties in the development of final mitigation plans. A mitigation plan will be final upon acceptance by FTA and MnSHPO. Consulting parties will receive copies of all final mitigation plans and may also be invited to concur in mitigation plans.

VI. DISCOVERY

A. If previously unidentified historic properties are discovered unexpectedly during construction of the PROJECT, all ground-disturbing activities will cease in the area where any historic property is discovered as well as in the immediately adjacent area. The contractor will immediately notify HCRRA of the discovery and implement interim measures to protect the discovery from looting and vandalism. HCRRA will contract with a qualified archaeologist to record, document, and provide an opinion on the NRHP eligibility of the discovery to FTA within seventy-two (72) hours of receipt of notification, and will notify MnSHPO and other consulting parties, including any Indian tribes that may attach religious and cultural significance to the property, of the discovery.

B. FTA will have ten (10) business days following notification provided in accordance with Stipulation VI.A., above, to determine the National Register eligibility of the discovery after considering timely filed views (received within seven (7) business days of notification) of the MnSHPO and other consulting parties. FTA may assume the newly discovered property to be eligible for the NRHP for the purposes of Section 106 pursuant to 36 CFR 800.13(c).

C. For properties determined eligible, HCRRA and its qualified archaeologist, in consultation with MnSHPO, consulting parties, and FTA, will design a plan for resolving adverse effects taking into account the nature of identified properties and the feasibility of avoiding the adverse effects. Consulting parties will have seven calendar days to provide their views on the proposed plan. FTA will ensure that the timely filed recommendations of consulting parties are taken into account prior to granting approval of the measures that HCRRA will implement to resolve adverse effects. HCRRA will carry out the approved measures prior to resuming ground-disturbing work in the area of discovery.

D. Any human remains encountered during PROJECT construction will be addressed pursuant to the Minnesota Private Cemeteries Act (Minnesota Statutes Sect. 307.08); the Native American Graves Protection and Repatriation Act of 1990, as amended, the Archaeological Resource Protection Act of 1979, as amended, and the ACHP's *Policy Statement on the Treatment of Burial Sites, Human Remains and Funerary Objects* (February 23, 2007), as applicable. If any human remains are encountered, all ground-disturbing activities will cease in the area where such remains are discovered as well as in the immediately adjacent area. The contractor will immediately notify appropriate law enforcement agencies in order to determine whether the site discovered is a crime scene, and will notify HCRRA. HCRRA will immediately notify the Office of the State Archaeologist (OSA), MnSHPO, and FTA. FTA will consult with OSA and Indian tribes to develop treatment measures for the remains. FTA will take into account the recommendations of consulting parties prior to granting approval of the plan. The FTA will ensure that HCRRA or MC has fully implemented the terms of any treatment plan prior to allowing ground-disturbing work to proceed in the area of discovery.

E. HCRRA or MC will include in appropriate construction contracts provisions to ensure that the Stipulations VI.A through VI. D, above, are carried out by the contractor.

VII. STANDARDS

A. All work carried out pursuant to this AGREEMENT will meet the Secretary of the Interior's Standards for Archaeology and Historic Preservation (SOI STANDARDS), taking into account the suggested approaches to new construction in the SOI STANDARDS for Rehabilitation. In instances where this is not feasible, mitigation measures will be developed and implemented pursuant to Stipulation V of this AGREEMENT.

B. HCRRA and MC will ensure that all work carried out pursuant to this AGREEMENT will be done by or under the direct supervision of historic preservation professionals who meet the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61 Appendix A). The MnDOT CRU, assisting in AGREEMENT implementation through FTA designation, meets these standards for history, architectural history, precontact archaeology, and historic archaeology. FTA, HCRRA

and MC shall ensure that consultants retained for services pursuant to the AGREEMENT meet these standards.

VIII. DISPUTE RESOLUTION

A. Should any signatory to this AGREEMENT, including any invited signatory, object at any time to any action proposed or the manner in which the terms of this AGREEMENT are implemented, FTA shall consult with such party to resolve the objection. FTA consultation shall take place within ten (10) days of receipt of written documentation of said objection and shall be documented in the form of meeting notes and/or a written letter of response. If FTA determines, within thirty (30) days of documenting consultation efforts with the objecting party that the objection cannot be resolved, FTA shall:

1. Forward all documentation relevant to the dispute, including the FTA's proposed resolution, to the ACHP. The ACHP shall provide FTA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FTA shall prepare a written response that takes into account any advice or comments from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. FTA will then proceed according to its final decision.

2. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period after receipt of adequate documentation, FTA may render a final decision regarding the dispute and proceed accordingly. In reaching its decision, FTA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the AGREEMENT and provide them and the ACHP with a copy of such written response.

3. FTA's responsibility to carry out all other actions subject to the terms of this AGREEMENT that are not the subject of the dispute remains unchanged.

IX. AMENDMENTS

Any signatory or invited signatory to this AGREEMENT may request that it be amended, whereupon the signatories and consulting parties shall consult to consider such amendment. Any amendments shall be in writing and shall be signed by all signatories to be effective.

X. TERMINATION OF AGREEMENT

Any signatory to this AGREEMENT may terminate it by providing ninety (90) days notice to the other parties. The parties must consult with each other during the notice period in an attempt to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the FTA will comply with 36 CFR 800.3 through 800.13 with regard to the undertaking covered by this AGREEMENT.

XI. DURATION OF AGREEMENT

This AGREEMENT will terminate one year after the PROJECT enters revenue service operation or within ten (10) years, whichever comes first, or upon mutual agreement of the signatories. Prior to such time, FTA may consult with the other signatories to reconsider the terms of the AGREEMENT and revise, amend, or extend it in accordance with Stipulation IX.

XII. EXECUTION OF AGREEMENT

This agreement may be executed in counterparts.

Execution of this AGREEMENT and implementation of its terms is evidence that the FTA has afforded the ACHP a reasonable opportunity to comment on the PROJECT and that the FTA has taken into account the effects of the PROJECT on historic properties.

SIGNATORIES:

FEDERAL TRANSIT ADMINISTRATION

By: Rhonda Reed Date: 2/23/2012
for Marisol Simon, Region V Administrator

MINNESOTA STATE HISTORIC PRESERVATION OFFICE

By: Barbara Howard Date: 2/28/2012
Barbara Howard, Deputy State Historic Preservation Officer

INVITED SIGNATORY:

HENNEPIN COUNTY REGIONAL RAILROAD AUTHORITY

By: _____ Date: 3/28/12
Peter McLaughlin, Chair

INVITED SIGNATORY:

METROPOLITAN COUNCIL

By: _____ Date: 3.6.2012

Patrick P. Born, Regional Administrator

CONCURRING PARTY:

I concur with the Programmatic Agreement between the Federal Transit Administration and the Minnesota State Historic Preservation Office regarding the Interchange project in Minneapolis. MN.

CITY OF MINNEAPOLIS

By: Jack Byers Date: 2-26-12

Jack Byers, Planning Manager, Community Planning and Economic Development

CONCURRING PARTY:

I concur with the Programmatic Agreement between the Federal Transit Administration and the Minnesota State Historic Preservation Office regarding the Interchange project in Minneapolis. MN.

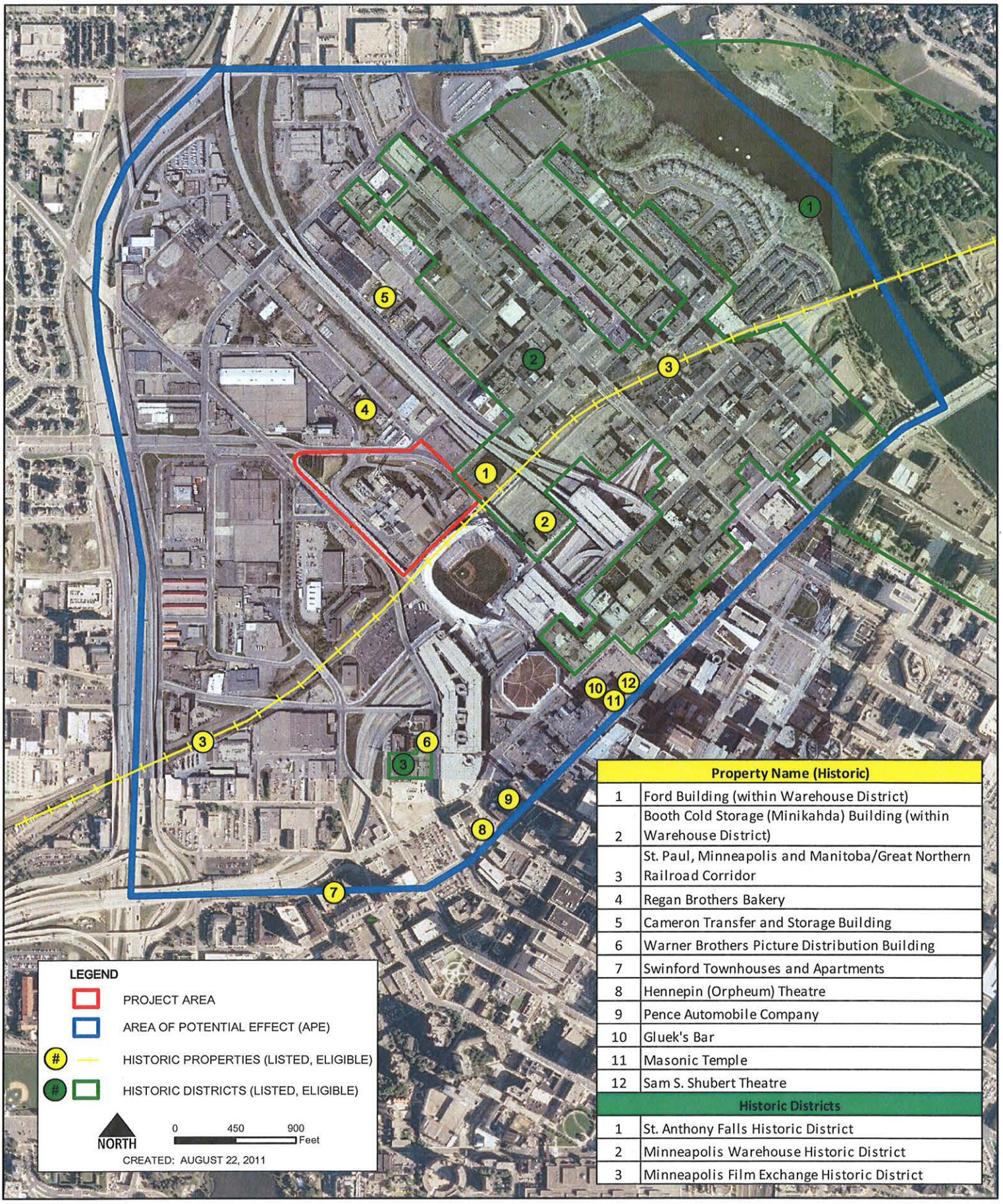
MINNESOTA BALLPARK AUTHORITY

By: _____ Date: 2/21/12

Steve Cramer, Chair

By: _____ Date: 2.21.12

Dan Kenney, Executive Director



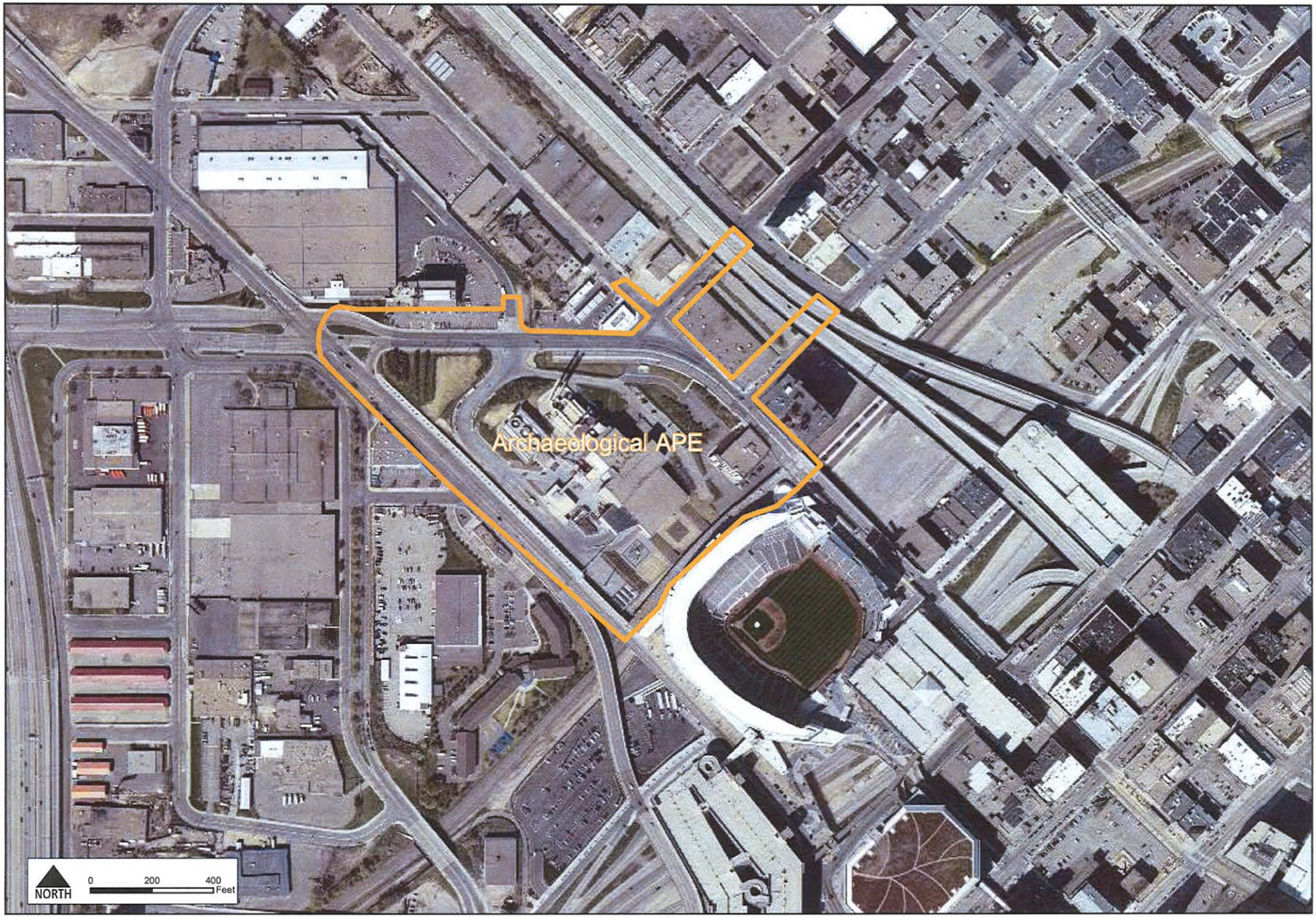
	Property Name (Historic)
1	Ford Building (within Warehouse District)
2	Booth Cold Storage (Minikahda) Building (within Warehouse District)
3	St. Paul, Minneapolis and Manitoba/Great Northern Railroad Corridor
4	Regan Brothers Bakery
5	Cameron Transfer and Storage Building
6	Warner Brothers Picture Distribution Building
7	Swinford Townhouses and Apartments
8	Hennepin (Orpheum) Theatre
9	Pence Automobile Company
10	Gluek's Bar
11	Masonic Temple
12	Sam S. Shubert Theatre
	Historic Districts
1	St. Anthony Falls Historic District
2	Minneapolis Warehouse Historic District
3	Minneapolis Film Exchange Historic District

SECTION 106 PROGRAMMATIC AGREEMENT

ATTACHMENT A. AREA OF POTENTIAL EFFECT AND HISTORIC PROPERTIES

The Interchange
connecting people and places

Kimley-Horn and Associates, Inc.



The Interchange
connecting people and places

Hennepin

Kimley-Horn and Associates, Inc.

SECTION 106 PROGRAMMATIC AGREEMENT

ATTACHMENT B. ARCHAEOLOGICAL AREA OF POTENTIAL EFFECT

Appendix I
Section 404 Coordination

The following documents pertain to Section 404 coordination and include the Clean Water Act Section 404 Wetland Permit Application, a US Army Corps of Engineers (USACE) coordination letter, and notes from USACE and Technical Evaluation Panel (TEP) coordination meetings.

I.1 Section 404 Wetland Permit Application

1. Metropolitan Council, BLRT Extension Project Wetland Permit Application, May 2016. Available at http://metrocouncil.org/blrt/feis

I.2 Coordination with US Army Corps of Engineers

1. Letter from USACE to the Federal Transit Administration concurring on Point 4 (Design Phase Impact Minimization), June 16, 2016

I.3 USACE and TEP Coordination Meeting Notes

1. USACE coordination meeting notes, March 26, 2015
2. TEP coordination meeting notes, May 19, 2015
3. TEP coordination meeting notes, December 8, 2015

Agency coordination letters prior to 2015 can be found in the Bottineau Transitway Draft EIS at this website link:

metrocouncil.org/Transportation/Projects/Current-Projects/METRO-Blue-Line-Extension/Publications-And-Resources/Environmental/DEIS/BLLRT_DEIS_App-D_AgencyCoordination.aspx

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Appendix I
Section 404 Coordination

I.1 Section 404 Wetland Permit Application

1. Metropolitan Council, BLRT Extension Project Wetland Permit Application, May 2016

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METRO Blue Line Extension Project

Wetland Permit Application

May 2016

METROPOLITAN COUNCIL

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PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Peter DeMuth, P.E., Civil/ Utilities Engineering Lead, Metropolitan Council
Mailing Address: Blue Line Extension LRT Project Office, 5514 W. Broadway Ave, Suite 200, Crystal, MN 55428
Phone: 612 373 5308
E-mail Address: Peter.demuth@metrotransit.org

Authorized Contact (do not complete if same as above): Jeffrey W. Olson, SEH, Inc.
Mailing Address: 3535 Vadnais Center Drive, St. Paul, MN 55110 - 5196
Phone: 612 598 4254
E-mail Address: jolson@sehinc.com

Agent Name: Jeffrey W. Olson
Mailing Address: 3535 Vadnais Center Drive, St. Paul, MN 55110 - 5196
Phone: 612 598 4254
E-mail Address: jolson@sehinc.com

PART TWO: Site Location Information

County: Hennepin **City/Township: Brooklyn Park, Robbinsdale, Crystal, Golden Valley, Minneapolis**

Parcel ID and/or Address: Linear project (various)

Legal Description (Section, Township, Range):
T120N R21W (Sections 31 and 32)
T119 N R21W (Sections 5, 17,8,20,29,30,32)
T118N R21W (Sections 5,4,9)
T29N R24W (Sections6,7,18,17)
T118N R24W (Sections 17,20,21,22)

Lat/Long (decimal degrees): 45.020545, -93.332826

Attach a map showing the location of the site in relation to local streets, roads, highways. See attached location map.

Approximate size of site (acres) or if a linear project, length (feet): ~13 miles in length

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted ***prior to*** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

See narrative attached to this permit application form.

PART FOUR: Aquatic Resource Impact[1] Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	**Aquatic Resource Type** (wetland, lake, tributary etc.)	**Type of Impact** (fill, excavate, drain, or remove vegetation)	**Duration of Impact** Permanent (P) or Temporary (T)[1]	**Size of Impact**[2]	**Overall Size of Aquatic Resource** [3]	**Existing Plant Community Type(s)** in Impact Area[4]	**County, Major Watershed #, and Bank Service Area #** of Impact Area[5]
See narrative attached to this permit application form							

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

None.

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: _____ Date: 5/16/16

I hereby authorize Jeffrey W. Olson to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

_____

[1] The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Attachment A
Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☐ **Wetland Type Confirmation**

☐ **Delineation Concurrence**. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination**. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination**. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).
http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx

Attachment B
Supporting Information for Applications Involving Exemptions, No Loss Determinations, and Activities Not Requiring Mitigation

Complete this part ***if*** you maintain that the identified aquatic resource impacts in Part Four do not require wetland replacement/compensatory mitigation OR ***if*** you are seeking verification that the proposed water resource impacts are either exempt from replacement or are not under CWA/WCA jurisdiction.

Identify the specific exemption or no-loss provision for which you believe your project or site qualifies:

The Council asserts that several delineated basins within the proposed BLRT Extension project area are outside of the scope of the Wetland Conservation Act (WCA) and would therefore not be regulated per WCA. Some of these basins were constructed in uplands for the sole purpose of the storage or conveyance of stormwater. Other basins are part of the permitted (if after 1991 WCA enactment) stormwater management infrastructure. Relevant WCA LGUs within the project area have reviewed and commented on the "***Technical Memorandum: Jurisdictional Issues Associated with Delineated Basins; Blue Line Extension LRT***" which summarizes jurisdictional assertions. Data in the narrative attached to this permit application form incorporate the WCA LGU findings. Additionally, the USACE has reviewed this **Technical Memorandum** and concluded which basins within the project area are Likely Jurisdictional Waters and Streams, Non-Waters of the US (non-WOUS), and Isolated Basins. Data in the attached narrative incorporates the USACE findings concerning jurisdiction.

Per WCA, some excavation (cut) impacts within Type 1 or Type 2 basins within the project would not require mitigation; specifically those that are not USACE jurisdictional.

Provide a detailed explanation of how your project or site qualifies for the above. Be specific and provide and refer to attachments and exhibits that support your contention. Applicants should refer to rules (e.g. WCA rules), guidance documents (e.g. BWSR guidance, Corps guidance letters/public notices), and permit conditions (e.g. Corps General Permit conditions) to determine the necessary information to support the application. Applicants are strongly encouraged to contact the WCA LGU and Corps Project Manager prior to submitting an application if they are unsure of what type of information to provide:

The "***Technical Memorandum: Jurisdictional Issues Associated with Delineated Basins; Blue Line Extension LRT***" summarizes assertions concerning jurisdiction of basins within the proposed BLRT Extension project area. The narrative (See Table 6 in narrative) that accompanies this permit application form incorporates the findings of the relevant WCA LGUs and the USACE concerning jurisdiction.

Attachment C
Avoidance and Minimization

Project Purpose, Need, and Requirements. Clearly state the purpose of your project and need for your project. Also include a description of any specific requirements of the project as they relate to project location, project footprint, water management, and any other applicable requirements. Attach an overhead plan sheet showing all relevant features of the project (buildings, roads, etc.), aquatic resource features (impact areas noted) and construction details (grading plans, storm water management plans, etc.), referencing these as necessary:

See attached narrative.

Avoidance. Both the CWA and the WCA require that impacts to aquatic resources be avoided if practicable alternatives exist. Clearly describe all on-site measures considered to avoid impacts to aquatic resources and discuss at least two project alternatives that avoid all impacts to aquatic resources on the site. These alternatives may include alternative site plans, alternate sites, and/or not doing the project. Alternatives should be feasible and prudent (see MN Rules 8420.0520 Subp. 2 C). Applicants are encouraged to attach drawings and plans to support their analysis:

See attached narrative.

Minimization. Both the CWA and the WCA require that all unavoidable impacts to aquatic resources be minimized to the greatest extent practicable. Discuss all features of the proposed project that have been modified to minimize the impacts to water resources (see MN Rules 8420.0520 Subp. 4):

See attached narrative.

Off-Site Alternatives. An off-site alternatives analysis is not required for all permit applications. If you know that your proposal will require an individual permit (standard permit or letter of permission) from the U.S. Army Corps of Engineers, you may be required to provide an off-site alternatives analysis. The alternatives analysis is not required for a complete application but must be provided during the review process in order for the Corps to complete the evaluation of your application and reach a final decision. Applicants with questions about when an off-site alternatives analysis is required should contact their Corps Project Manager.

The attached narrative discusses the suite of alternatives that were studied during the Draft EIS phase of the proposed BLRT Extension project, as well as the Preferred Alternative (the proposed BLRT Extension project) and the No-Build Alternatives for the Final EIS phase.

Attachment D
Replacement/Compensatory Mitigation

Complete this part ***if*** your application involves wetland replacement/compensatory mitigation not associated with the local road wetland replacement program. Applicants should consult Corps mitigation guidelines and WCA rules for requirements.

Replacement/Compensatory Mitigation via Wetland Banking. Complete this section if you are proposing to use credits from an existing wetland bank (with an account number in the State wetland banking system) for all or part of your replacement/compensatory mitigation requirements.

Wetland Bank Account #	**County**	**Major Watershed #**	**Bank Service Area #**	**Credit Type** (if applicable)	**Number of Credits**
See attached narrative.					

Applicants should attach documentation indicating that they have contacted the wetland bank account owner and reached at least a tentative agreement to utilize the identified credits for the project. This documentation could be a signed purchase agreement, signed application for withdrawal of credits or some other correspondence indicating an agreement between the applicant and the bank owner. *However, applicants are advised not to enter into a binding agreement to purchase credits until the mitigation plan is approved by the Corps and LGU.*

Project-Specific Replacement/Permittee Responsible Mitigation. Complete this section if you are proposing to pursue actions (restoration, creation, preservation, etc.) to generate wetland replacement/compensatory mitigation credits for this proposed project.

WCA Action Eligible for Credit[1]	**Corps Mitigation Compensation Technique**[2]	**Acres**	**Credit % Requested**	**Credits Anticipated**[3]	**County**	**Major Watershed #**	**Bank Service Area #**
See attached narrative.							

[1]Refer to the name and subpart number in MN Rule 8420.0526.
[2]Refer to the technique listed in *St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota*.
[3]If WCA and Corps crediting differs, then enter both numbers and distinguish which is Corps and which is WCA.

Explain how each proposed action or technique will be completed (e.g. wetland hydrology will be restored by breaking the tile……) and how the proposal meets the crediting criteria associated with it. Applicants should refer to the Corps mitigation policy language, WCA rule language, and all associated Corps and WCA guidance related to the action or technique:

See attached narrative.

Attach a site location map, soils map, recent aerial photograph, and any other maps to show the location and other relevant features of each wetland replacement/mitigation site. Discuss in detail existing vegetation, existing landscape features, land use (on and surrounding the site), existing soils, drainage systems (if present), and water sources and movement. Include a topographic map showing key features related to hydrology and water flow (inlets, outlets, ditches, pumps, etc.):

See attached narrative; specifically Appendix B (planset) for depictions of proposed expansions of the boundaries of W39 and W28, Appendix D (conceptual figure depicting potential on-site wetland mitigation area at Theodore Wirth Regional Park), and Figure 2 (page 7) for imagery of potential on-site wetland mitigation opportunities at W22 and near W23.

Attach a map of the existing aquatic resources, associated delineation report, and any documentation of regulatory review or approval. Discuss as necessary:

See attached narrative; specifically Appendix A (Agency Correspondence).

For actions involving construction activities, attach construction plans and specifications with all relevant details. Discuss and provide documentation of a hydrologic and hydraulic analysis of the site to define existing conditions, predict project outcomes, identify specific project performance standards and avoid adverse offsite impacts. Plans and specifications should be prepared by a licensed engineer following standard engineering practices. Discuss anticipated construction sequence and timing:

See attached narrative; specifically Appendix B (planset with planview and cross-sectional drawings).

For projects involving vegetation restoration, provide a vegetation establishment plan that includes information on site preparation, seed mixes and plant materials, seeding/planting plan (attach seeding/planting zone map), planting/seeding methods, vegetation maintenance, and an anticipated schedule of activities:

This will be provided as supplemental information during the permit/ approval processing period.

For projects involving construction or vegetation restoration, identify and discuss goals and specific outcomes that can be determined for credit allocation. Provide a proposed credit allocation table tied to outcomes:

This will be provided as supplemental information during the permit/ approval processing period.

Provide a five-year monitoring plan to address project outcomes and credit allocation:

This will be provided as supplemental information during the permit/ approval processing period.

Discuss and provide evidence of ownership or rights to conduct wetland replacement/mitigation on each site:

This will be provided as supplemental information during the permit/ approval processing period.

Quantify all proposed wetland credits and compare to wetland impacts to identify a proposed wetland replacement ratio. Discuss how this replacement ratio is consistent with Corps and WCA requirements:

See attached narrative.

By signature below, the applicant attests to the following (only required if application involves project-specific/permittee responsible replacement):

- All proposed replacement wetlands were not:
  - Previously restored or created under a prior approved replacement plan or permit
  - Drained or filled under an exemption during the previous 10 years
  - Restored with financial assistance from public conservation programs
  - Restored using private funds, other than landowner funds, unless the funds are paid back with interest to the individual or organization that funded the restoration and the individual or organization notifies the local government unit in writing that the restored wetland may be considered for replacement.
- The wetland will be replaced before or concurrent with the actual draining or filling of a wetland.
- An irrevocable bank letter of credit, performance bond, or other acceptable security will be provided to guarantee successful completion of the wetland replacement.
- Within 30 days of either receiving approval of this application or beginning work on the project, I will record the Declaration of Restrictions and Covenants on the deed for the property on which the replacement wetland(s) will be located and submit proof of such recording to the LGU and the Corps.

Applicant or Representative: Peter DeMuth, P.E. Title: Civil/ Utilities Engineering Lead, Metropolitan Council

Signature: _____ Date: 5/16/16

Attachment E
Local Road Replacement Program Qualification

Complete this part ***if*** you are a local road authority (county highway department, city transportation department, etc.) seeking verification that your project (or a portion of your project) qualifies for the MN Local Government Road Wetland Replacement Program (LGRWRP). If portions of your project are not eligible for the LGRWRP, then Attachment D should be completed and attached to your application.

Discuss how your project is a repair, rehabilitation, reconstruction, or replacement of a currently serviceable road to meet state/federal design or safety standards/requirements. Applicants should identify the specific road deficiencies and how the project will rectify them. Attach supporting documents and information as applicable:

Not applicable – transit project.

Provide a map, plan, and/or aerial photograph accurately depicting wetland boundaries within the project area. Attach associated delineation/determination report or otherwise explain the method(s) used to identify and delineate wetlands. Also attach and discuss any type of review or approval of wetland boundaries or other aspects of the project by a member or members of the local Technical Evaluation Panel (TEP) or Corps of Engineers:

Not applicable – transit project.

In the table below, identify only the wetland impacts from Part 4 that the road authority has determined should qualify for the LGRWRP.

Wetland Impact ID (as noted on overhead view)	**Type of Impact** (fill, excavate, drain)	**Size of Impact** (square feet or acres to 0.01)	**Existing Plant Community Type(s)** in Impact Area[1]	**County, Major Watershed #, and Bank Service Area #** of Impact[2]
Not applicable				

[1]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

[2]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

Discuss the feasibility of providing onsite compensatory mitigation/replacement for important site-specific wetland functions:

The BWSR Road Replacement is not applicable to the proposed BLRT Extension project.

Please note that under the MN Wetland Conservation Act, projects with less than 10,000 square feet of wetland impact are allowed to commence prior to submission of this notification so long as the notification is submitted within 30 days of the impact. The Clean Water Act has no such provision and requires that permits be obtained prior to any regulated discharges into water of the United States. To avoid potential unauthorized activities, road authorities must, at a minimum, provide a complete application to the Corps and receive a permit prior to commencing work.

By signature below, the road authority attests that they have followed the process in MN Rules 8420.0544 and have determined that the wetland impacts identified in Part 4 are eligible for the MN Local Government Road Wetland Replacement Program.

Road Authority Representative: Not applicable Title:

Signature: _____ Date:

Technical Evaluation Panel Concurrence: Project Name and/or Number: 131203

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

TEP member: Representing:

Concur with road authority's determination of qualification for the local road wetland replacement program? ☐ Yes ☐ No

Signature: _____ Date:

Upon approval and signature by the TEP, application must be sent to: **Wetland Bank Administration**
Minnesota Board of Water & Soil Resources
520 Lafayette Road North
Saint Paul, MN 55155

Wetland Permit Application

METRO Blue Line Extension Project

Metropolitan Council
Hennepin County, Minnesota

SEH No. HDRMN 131203

May 2016

SEH
Building a Better World for All of Us®
Engineers | Architects | Planners | Scientists

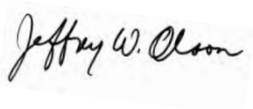
Wetland Permit Application
METRO Blue Line Extension Project
Metropolitan Council
Hennepin County, Minnesota

SEH No. HDRMN 131203

May 2016

The procedures and field methods described in this Wetland Permit Application constitute an official wetland delineation in accordance with the 1987 U.S. Army Corps of Engineers *Wetlands Delineation Manual* and *Regional Supplement*. This Wetland Permit Application follows the procedures and guidance for submitting Clean Water Act Section 404 permit requests as defined in the *Minnesota Local Road Authority Reference Guide to U.S. Army Corps of Engineers (Corps) Clean Water Act Section 404 & Rivers and Harbors Act Section 10 Permits, Version 1.a* (U.S. Army Corps of Engineers and Minnesota Department of Transportation, 2014).

I hereby certify that this Wetland Permit Application was prepared by me or under my direct supervision.



May 16, 2016

Name: Jeffrey W. Olson, Sr. Scientist — Date
Minnesota Certified Wetland Delineator, No. 1089

Short Elliott Hendrickson Inc.
3535 Vadnais Center Drive
St. Paul, MN 55110 - 5196

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Appendices

Appendix A	Agency Correspondence
Appendix B	Proposed BLRT Extension Project Planset (Planview and Cross-Sections) Depicting Impacts to Wetlands and Aquatic Resources
Appendix C	List and Mapbook of Adjacent Landowners
Appendix D	Concept Drawings of Selected Potential On-site Wetland Mitigation Opportunities

Wetland Permit Application

METRO Blue Line Extension

Prepared for the Metropolitan Council

1.0 Introduction

This wetland permit application has been prepared to describe impacts to wetlands and aquatic resources associated with the proposed METRO Blue Line Extension (proposed BLRT Extension project) in Hennepin County. The proposed BLRT Extension project is a 13 mile light rail transit line that would extend westward along Trunk Highway (TH) 55 from Target Field Station to the BNSF Monticello Subdivision at the eastern edge of Theodore Wirth Regional Park. It then would follow the BNSF corridor from TH 55 to just south of 73rd Avenue in Brooklyn Park. From that point it would cross eastward to West Broadway Avenue and extend north to a point just north of TH 610. **Figure 1** shows a general location map of the proposed BLRT Extension project. **Figure 2** shows a mapbook of delineated basins, aerial imagery, public waters, and other water resource features in the project area. **Figure 3** shows a mapbook of hydric soils, delineated basins and 2 foot LiDAR contours.

The segment of West Broadway Avenue in the city of Brooklyn Park from approximately Candlewood Drive north to just north of 93rd Avenue North is part of the West Broadway Avenue (CSAH 103) Reconstruction project. Impacts to wetland and aquatic resources within this segment are described in a separate WCA/ Corps Joint Permit Application.

The demonstration of wetland impact avoidance and minimization in this application follows the sequencing process of the Minnesota Wetland Conservation Act (WCA) of 1991 and the federal Clean Water Act. These procedures require that projects that may result in the draining or filling of wetland habitat should demonstrate avoidance and minimization of such impacts. Wetland impacts that cannot be feasibly avoided or minimized must be replaced by compensatory mitigation.

The proposed BLRT Extension project would result in permanent impacts to wetland habitat. This permit application is requesting an Individual Permit approval under Section 404 of the Clean Water Act, Water Quality Certification under Section 401 of the Clean Water Act, and a WCA Approval of Replacement Plan for permanent impacts to aquatic resources, including wetlands. The BLRT Extension project would also result in temporary impacts to wetland and aquatic habitat. A Public Waters Work Permit for work within state-designated Public Waters would be submitted electronically via the Minnesota Department of Natural Resources Permitting and Reporting System (MPARS).

1.1 Relationship of NEPA and Clean Water Act Section 404 Permitting Processes

At the suggestion of the U.S. Army Corps of Engineers (USACE), the Metropolitan Council (Council) is submitting the wetland permit application for this project as close to “concurrent”

as possible with the public review/comment period for the Final Environmental Impact Statement (Final EIS) document, which is planned to be published in mid-July 2016. Submittal of this permit application at this time should allow for the USACE to issue a Public Notice of the wetland permit application at or near the time of the Final EIS publication so that comments received under both reviews can be considered together.

Also, during the National Environmental Policy Act (NEPA) process for this project, the Council, the Federal Transit Administration (FTA), U.S. Environmental Protection Agency (USEPA), and the USACE have agreed to follow an informal process that merges decision-making under NEPA and Section 404 of the Clean Water Act. The NEPA/Section 404 Merger process recognizes that both NEPA and Section 404 review processes involve the evaluation of project purpose and need, the development of alternatives, the assessment of environmental and social impacts, and the balancing/mitigation of impacts in a Preferred Alternative.

This coordination process is structured around 4 concurrence points to establish progress on the above-noted steps. The 4 concurrence points are: 1) Purpose and Need, 2) Range of Alternatives Considered, 3) Preferred Alternative, and 4) Avoidance and Minimization of impacts to wetlands and aquatic resources. Written concurrence was received on June 19, 2013 from USACE and USEPA on the first two concurrence points (purpose and need and range of alternatives). Concurrence on the preferred alternative (the proposed BLRT Extension project) was received from the USACE and USEPA on October 1, 2013. This WCA/ Corps Joint Permit Application contains a discussion of Avoidance and Minimization of impacts to wetlands and aquatic resources as well as a preliminary mitigation strategy. This discussion is anticipated to be sufficient for the USACE to issue a letter of agreement concerning Concurrence Point #4. It is anticipated that the USACE would be able to issue this letter by mid-June 2016. Following completion of the NEPA process and further refinement of the proposed BLRT Extension project in advanced design, the mitigation plan would be refined and finalized.

Given the comprehensive environmental review process that has been conducted for the proposed BLRT Extension project and the USACE's role as a cooperating agency for the NEPA process, the approach for this permit application submittal is to refer to pertinent sections of the Final EIS for additional information, rather than reproducing those data here. An electronic copy of the Final EIS will be available upon request.

1.1.1 Concurrence Point 1: Purpose and Need

Written concurrence was received from the USACE and USEPA on June 19, 2013 concerning Concurrence Point 1. Refer to **Appendix A** for written concurrence.

1.1.2 Concurrence Point 2: Range of Alternatives Considered

Written concurrence was received from the USACE and USEPA on June 19, 2013 concerning Concurrence Point 2. Refer to **Appendix A** for written concurrence.

1.1.3 Concurrence Point 3: Preferred Alternative

Written concurrence was received from the USACE and USEPA on October 13, 2013 concerning Concurrence Point 3. Refer to **Appendix A** for written concurrence.

1.1.4 Concurrence Point 4 (Pending): Avoidance and Minimization of Impacts to Wetlands and Aquatic Resources

Proposed measures to avoid and minimize impacts to wetlands and aquatic resources associated with the proposed BLRT Extension project are described in this wetland permit

application. See Section 5.5.1. Additionally, a preliminary mitigation strategy is described herein. See Section 5.6. The Council proposes to use a combination of private wetland banking credits and on-site wetland mitigation opportunities to compensate for proposed impacts to wetlands and aquatic resources. Available wetland credits within Hennepin County would be prioritized and credits elsewhere in Bank Service Area 7, such as Carver County would be used secondarily. Supplemental information on final design elements of the proposed BLRT Extension project would be submitted to the USACE and WCA LGUs during advanced design stages in support of the replacement plan approval and issuance of the Section 404 USACE permit. The Council anticipates that this WCA/Corps Joint Permit Application provides the necessary information for the USACE to provide Concurrence Point 4 approval. The Section 404 permit and final WCA approvals would be issued after the Record of Decision for the proposed BLRT Extension project is published. Specific wetland bank credits would be identified and proposed for compensatory mitigation after the publication of the ROD as well. A summary of wetland and aquatic resource impacts, measures to avoid and minimize impact to wetlands and aquatic resources and a proposed preliminary mitigation strategy is described herein.

2.0 Project Description

2.1 Project Location

The proposed BLRT Extension project is a 13 mile light rail transit line that would extend westward along Trunk Highway (TH) 55 from Target Field Station in downtown Minneapolis to the BNSF Monticello Subdivision at the eastern edge of Theodore Wirth Regional Park. It then would follow the BNSF corridor from TH 55 to just south of 73rd Avenue in Brooklyn Park. From that point it would cross eastward to West Broadway Avenue and extend north to a point just north of TH 610. **Figure 1** shows a general location map of the proposed BLRT Extension project. The proposed BLRT Extension project area is depicted in detail in **Figures 2 and 3** and in **Appendix B** (planset of planview and cross-sectional drawings)**.**

2.2 Existing Conditions

The character of the area surrounding the proposed BLRT Extension project transitions from a moderately dense urban setting in north Minneapolis to a less dense suburban setting starting in Golden Valley, Robbinsdale, and Crystal, and extending through Brooklyn Park at the north end of the corridor. The proposed BLRT Extension project area includes a variety of land use patterns that have been influenced by the transportation-oriented history of the corridor. Low-density, auto-oriented land uses have heavily influenced existing development patterns in the corridor, which primarily reflect highway-oriented regulations and traditional suburban development forms. Additionally, the presence of the existing railway lines influenced the development patterns and settings in the proposed BLRT Extension project corridor (e.g., development set back from the railroad right-of-way). Portions of the proposed BLRT Extension project area near Highway 610 to the northern terminus are to some extent still agricultural, though rapidly developing with commercial uses.

2.3 Purpose and Need

The purpose of the proposed BLRT Extension project is to provide transit service which would satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public.

The proposed BLRT Extension project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.

The proposed BLRT Extension project Purpose and Need is Concurrence Point #1, which was agreed to during the informal arrangement to combine where possible the NEPA and Clean Water Act Section 404 processes. Concurrence of the Purpose and Need was obtained in June 19, 2013 (see **Appendix A**).

3.0 Project Alternatives

The Range of Alternatives Considered is NEPA/Section 404 Merger Concurrence Point #2, as noted in Section 1.1 above. Concurrence was obtained on the Range of Alternatives Considered on June 19, 2013. The Final EIS summarizes the decision-making process (discussed in detail in the Draft EIS) involved in selecting the Locally Preferred Alternative (LPA) and the Least Environmentally Damaging Practicable Alternative (LEDPA). The Final EIS discusses in detail the No-Build Alternative and the Preferred Alternative (the Preferred Alternative is the proposed BLRT Extension project).

Table 1 summarizes wetland impacts associated with the Draft EIS alternatives including the Draft EIS Preferred Alternative. It should be noted that wetland impacts in the Draft EIS were based on a 1% level of engineering effort; whereas, wetland impacts associated with the proposed BLRT Extension project as discussed in the Final EIS are based on a considerably higher level of engineering effort. Also, wetland boundaries in the Draft EIS were based on a cursory "windshield" level of effort augmented with off-site data such as the National Wetland Inventory and hydric soil mapping data. Wetland impacts in the Final EIS are based on approved boundaries of delineated wetlands within the proposed BLRT Extension project area and agency concurrence on jurisdiction of delineated wetlands and actual limits of disturbance. Thus, wetland impacts as discussed in the Draft EIS are not directly comparable to those discussed in the Final EIS and in this WCA/ Corps Joint Permit Application.

The selection of the Draft EIS Preferred Alternative was a best balance of social impacts and environmental impacts in compliance with 404 (b)(1) Guidelines. The Draft EIS No-Build assumed no wetland impacts; whereas, the Final EIS No-Build assumes a considerable amount of road infrastructure improvement that would proceed in the absence of the proposed BLRT Extension project (See Section 3.2). The large road infrastructure projects that are assumed with the Final EIS No-Build are likely associated with considerable though undefined wetland impacts.

Table 1
Wetland Impacts Associated with Draft EIS Alternatives

Alternative	Alignment/ Station Impact (ac)	Park and Ride Impact (ac)	OMF Impact (ac)	Total Impacts (ac)
No-Build	0	0	0	0
Enhanced Bus/ TSM	0	0	0	0
A – C - D1	3.2	0	0	3.2
B – C – D1 (**The Draft EIS Preferred Alternative**)	9.3	0.1	93rd Ave option: 0.0	9.4
			101st Ave option: 0.8	10.2
B - C – D2	3.9	0.1	93rd Ave option: 0.0	4.0
			101st Ave option: 0.8	4.8

3.1 The Final EIS Preferred Alternative (the Proposed BLRT Extension Project)

The Preferred Alternative (hereinafter referred to as the proposed BLRT Extension project) begins at Target Field Station in downtown Minneapolis and follows Olson Memorial Highway west to the BNSF corridor just west of Thomas Avenue where it enters the BNSF right-of-way. Adjacent to the freight rail tracks, it continues in the rail corridor through the cities of Golden Valley, Robbinsdale, Crystal, and into Brooklyn Park. It then crosses Bottineau Boulevard at 73rd Avenue to West Broadway Avenue continuing north to the northern terminus just north of TH 610 near the Target North Campus. See **Figures 2 and 3**.

The proposed BLRT Extension project includes seven new LRT bridges: a 350-foot-long crossing of the Hennepin Energy Recovery Center (HERC) driveway, a 700-foot-long crossing of the ponds immediately north of Golden Valley Road (Wetlands 38 and 39), a 1,200-foot-long crossing of Grimes Pond (Wetland 33) in Robbinsdale, a 375-foot-long bridge over TH 100, a 1,200-foot-long bridge over the CP rail tracks, a 925-foot-long bridge over the 73rd Avenue/Bottineau Boulevard intersection, and a 250-foot-long bridge over TH 610.

In addition, five reconstructed roadway bridges are part of the proposed BLRT Extension project: a 375-foot-long Olson Memorial Highway bridge over BNSF, a 375-foot-long Plymouth Avenue bridge, a 120-foot-long Theodore Wirth Parkway bridge, a 215-foot-long Golden Valley Road bridge, and a 110-foot-long 36th Street bridge. The Olson Memorial Highway Bridge over I-94 in Minneapolis and the I-94/I-694 Bridge over BNSF in Brooklyn Park would require modifications to accommodate the proposed BLRT Extension project. Two pedestrian bridges are also being considered over Bottineau Boulevard (CR 81) at Bass Lake Road and at 63rd Avenue.

The general elements of the proposed BLRT Extension project are passenger stations, the Operations and Maintenance facility (OMF), Traction Power Sub-Stations (TPSSs), fare collection, trackway, vehicles, and train control. See **Figures 2 and 3** and **Appendix B** (planview and cross-sectional drawings planset) for additional information. These features of the proposed BLRT Extension project are briefly described below.

- **Stations and Park and Ride Facilities** – See **Table 2** for a list and description of the stations. Both Golden Valley Road and Plymouth Avenue Stations are included in the proposed BLRT Extension project. Both stations would have vertical circulation (elevator and stairs) to allow passengers to access the station platforms. The 63rd Avenue station would have a pedestrian overpass of the BNSF freight tracks to provide better rider access between the parking ramp and the proposed BLRT Extension project platform.

- **Operations and Maintenance Facility (OMF)** – The OMF site would be located at the north end of the proposed BLRT Extension project in the city of Brooklyn Park. The proposed OMF site is depicted in **Figures 2 and 3**. The proposed OMF site was selected based on its proximity to the end of the line, adequate space for the special trackwork required between the mainline track and the facility, and adequate property for the facility (about 10.4 acres). The OMF site would be occupied by a storage and maintenance building that is about 140,000 square-feet, surface parking for employees and visitors, trackwork, and open space. The facility would include areas to store, service, and maintain up to 30 light rail vehicles (LRVs), vehicle washing and cleaning equipment, and office space to accommodate staff who would report for work at this facility. The facility would be equipped to perform daily cleaning and repair activities on the LRVs as they enter and leave revenue service. Scheduled service and maintenance inspections also would be performed in this facility.

- **Traction Power Substations** – A total of 17 potential TPSS locations have been identified along the proposed BLRT Extension project. TPSS sites each have a footprint of approximately 4,000 square feet (SF) and are able to accommodate a single-story building about 40 feet by 20 feet. The Council anticipates that most TPSS sites would be located within existing transportation rights-of-way.
- **Fare-Collection System** – A self-service, proof-of-payment fare-collection system was assumed for the proposed BLRT Extension project, consistent with that used on the other regional transitways today. A proof-of-payment fare-collection system minimizes the right-of-way needed for each station.
- **Trackway** – LRVs would operate on standard-gauge rail. The proposed BLRT Extension project would be double-tracked throughout to provide separate tracks for northbound and southbound trains. Crossovers to allow trains to cross from the northbound to the southbound tracks would be provided at regular intervals for special operations or emergencies. Typically, the trackway in the BNSF rail corridor segment of the proposed BLRT Extension project would be ballasted track separate from the freight rail track. Alignments in streets would be either ballasted or embedded depending on the location and the context of the street.
- **Vehicles** – The conceptual engineering to support the Final EIS assumes the following LRV characteristics:
  - Articulated train cars could operate in either directional and could be operated as a single-unit or multi-unit train.
  - Cars would be designed for use with an overhead catenary system.
  - Each car would have 66 seats and capacity for 160 passengers (sitting and standing).
  - Two- to three-car trains would operate at speeds up to 55 mph.
  - Cars would be fully compatible with Americans with Disabilities Act (ADA) standards.
- **Train Control** – An operator would occupy each train and would have control over acceleration and braking as well as operating the passenger doors. Automated systems would inform the operator of various train and transitway operating conditions and would manage traffic signal priority, activation of crossing gates, and track switch operations.

Operating Frequencies – The Final EIS assumes that trains would operate at 10-minute frequencies for weekday operations.

Table 2
Stations Along the Proposed BLRT Extension Project

Station	Platform Configuration	Passenger Drop-off	Park and Ride Facility
Target Field Station[1]	Not applicable	Not applicable	Not applicable
Van White Boulevard	Center	No	No
Penn Avenue	Center	No	No
Plymouth Avenue/Theodore Wirth Regional Park	Center	Yes	No
Golden Valley Road	Center	Yes	100 spaces (surface lot)
Robbinsdale	Center	Yes	550 spaces (parking ramp)

Table 2 Stations Along the Proposed BLRT Extension Project			
Station	**Platform Configuration**	**Passenger Drop-off**	**Park and Ride Facility**
Bass Lake Road	Center	Yes	170 spaces (surface lot)
63rd Avenue	Center	Yes	565 spaces (existing ramp spaces)
Brooklyn Boulevard	Center	Yes	No
85th Avenue	Center	Yes	No
93rd Avenue	Center	Yes	No
Oak Grove Parkway	Center	Yes	850 spaces (parking ramp)

[1] Built separately from the proposed BLRT Extension project and included under the No-Build Alternative definition.

3.2 The Final EIS No-Build Alternative

The Final EIS No-Build Alternative reflects existing and committed improvements to the regional transit network for the horizon year of 2040. The Final EIS No-Build Alternative does not include the proposed BLRT Extension project. Based on the Council's *Thrive MSP 2040 Transportation Policy Plan* (*2040 TPP*), major transportation improvements assumed under the No-Build Alternative include:

- I-494 expansion to six lanes from TH 55 to I-94/I-694
- TH 610 extension to I-94 in Maple Grove
- Expansion of West Broadway Avenue (CSAH 103) to four lanes between 85th Avenue North and 93rd Avenue North
- CSAH 81 reconstruction/expansion from north of 63rd Avenue North to TH 169 in Brooklyn Park
- I-94 Auxiliary Lane Construction in St. Michael to Rogers

The adopted regional *2040 TPP* includes several improvements in its fully funded transit scenario. Near the proposed BLRT Extension project this includes the Penn Avenue Bus Rapid Transit (C Line) and Chicago-Fremont Avenue Arterial Bus Rapid Transit line. The plan assumes modest changes to transit service in the corridor, as reflected in the No-Build, particularly to reflect the arterial BRT lines (C Line and Emerson-Fremont) or feeder service to the METRO Green Line Extension.

4.0 General Public Interest Factors

The following summary describes the effects and potential consequences due to the proposed BLRT Extension project on several general factors considered to be in the public interest, which may be helpful in preparing the wetland permit decision(s) and evaluation of potential effects for the local, state, and federal wetland permits needed for the proposed BLRT Extension project. The summary that follows is derived from the Final EIS and the Public Involvement process.

1. **Transportation**: The proposed BLRT Extension project would fill a growing need for mass transit in the western and northwestern suburbs and is anticipated to result in 27,000 daily boardings in 2040. The growing population in the vicinity of the proposed

BLRT Extension project would have a choice to use the proposed BLRT Extension project and use the increasingly large network of mass transit connectivity. The proposed BLRT Extension project would be designed to have a neutral impact on existing freight rail. Concerning vehicular traffic, the No-Build would have seven intersections operating at a Level of Service[1] (LOS) F in 2040; whereas, the proposed BLRT Extension project would have only one intersection operating at LOS F in 2040.

2. **Navigation**: The proposed BLRT Extension project would have no effect on navigation.

3. **Existing/Potential Land Use**: The proposed BLRT Extension project is compatible with the local land use planning policies of the cities of Minneapolis, Golden Valley, Robbinsdale, Crystal and Brooklyn Park.

4. **Public Facilities and Services**: The construction of the proposed BLRT Extension project is expected to cause disruptions to traffic operations, including lane closures, short-term intersection and roadway closures, and detours that would cause local, short-term increases in congestion. Mitigation for these effects would include development and implementation of the Construction Mitigation Plan, which includes a Construction Communication Plan and a construction staging plan. Contractors would need to comply with the requirements of MnDOT, Hennepin County, and all municipalities affected by construction activities related to the closing of roads. Contractors would be required to comply with all guidelines in the Minnesota Manual on Uniform Traffic Control Devices and would develop appropriate traffic control plans.

5. **Business/Home Relocations**: The proposed BLRT Extension project would require full acquisition of 14 parcels and partial acquisitions at 277 parcels. Ten businesses would be displaced by the proposed BLRT Extension project; no residential displacements are anticipated. Property owners subject to acquisition would receive payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation and Real Property Acquisitions Policies Act of 1970 and Minnesota Statute 117.

6. **Historical/Archaeological**: The proposed BLRT Extension project has been evaluated in accordance with Section 106 of the National Historic Preservation Act. The following findings have been made regarding the effects the proposed BLRT Extension project would have on historic resources; the Minnesota Historic Preservation Office has concurred with these findings:

- Adverse effect on the Wayman A.M.E Church, Floyd B. Olson Memorial Statue, Osseo Branch Historic District, Homewood Historic District, Theodore Wirth Segment of the Grand Rounds Historic District, and the West Broadway Avenue Residential Historic District

- No adverse effect (with implementation of mitigation measures) on Sumner Branch Library, Labor Lyceum, Sacred Heart Catholic Church, Robbinsdale Waterworks, and Hennepin County Library – Robbinsdale Branch.

A Section 106 Memorandum of Agreement has been developed that outlines the required mitigation measures to address adverse effects on historic properties.

[1] The effectiveness of roadway intersections in handling traffic is commonly measured in Level of Service (LOS) letter grades ranging from A to F. Generally, the LOS D-E boundary is considered the threshold for ineffective traffic operations.

7. **Tribal Trust Resources**: The proposed BLRT Extension project would have no effect on Tribal Trust resources.

8. **Aesthetic values**: There would be a minor adverse effect on the visual values and aesthetics in several settings throughout the proposed BLRT Extension project area including Olson Memorial Boulevard, Theodore Wirth Regional Park area, Sochacki Park area, residential settings adjacent to the proposed BLRT Extension project in portions of Robbinsdale and Crystal, segments along Bottineau Boulevard including intersections at 63rd Street, 73rd Street and Bass Lake Road, and the Rush Creek Regional Trail area. Noise barriers, where implemented, may impact visual aesthetic values. In some cases the impact could be positive by screening adjacent residences from the proposed BLRT Extension project corridor; in other cases the impact could be perceived as negative because the noise barriers could block views of park areas. Visual and aesthetic impacts can be mitigated with some visual screening and thoughtful management of operational lighting.

9. **Business Activity**: The proposed BLRT Extension project would displace 10 businesses. Other businesses near the proposed BLRT Extension project may expand in order to capitalize on customer and employee accessibility. Some businesses may choose to relocate near the proposed BLRT Extension project for the same reasons.

10. **Employment**: The proposed BLRT Extension project itself would create jobs in the short-term related to the construction activities. Long-term, operation of the proposed BLRT Extension project would create jobs associated with increased transit operations and maintenance expenditures.

11. **Property Values**: Property values are affected by a variety of market conditions. Impacts of an LRT project on property values are difficult to assess conclusively. Continuing population growth and a strengthening of the local economy within the proposed BLRT Extension project corridor may contribute to redevelopment and increased property values. Studies have shown that LRT transit around the country has been an impetus for increased property values near station locations.

12. **Tax Revenues:** The property acquisitions required for the proposed BLRT Extension project would remove property from the local tax base. The lost tax revenues associated with the reduction in the tax base from the proposed BLRT Extension project would be a recurring loss on an annual basis. Partially offsetting these losses, however, would be an increase in other tax revenues. For example, the creation of new jobs and earnings associated with the recurring operations and maintenance spending would foster greater retail spending. The additional revenues from this spending would be recurring gains. The construction of the proposed BLRT Extension project is also expected by the Council to have positive effects on the value of residential and commercial properties within walking distance of a station. The increase in value translates into greater tax revenues and is expected to accrue to the local economy.

13. **Safety**: The proposed BLRT Extension project would be developed in accordance with transitway design guidelines; and the oversight of security personnel would result in no adverse impacts related to safety and security during the operation of the proposed BLRT Extension project. Roadway intersections, as well as pedestrian and bicycle facilities would be improved to meet current safety standards.

14. **Water Supply**: The proposed BLRT Extension project would have no effect on water supply.

15. **Wetlands**: Wetlands within the proposed BLRT Extension project area are disturbed from diminishing ground water, infestations of invasive species, dumping of construction rubble, and encroachment of infrastructure. With proposed mitigation, anticipated to be at a 2:1 ratio, it is anticipated that, overall, the proposed BLRT Extension project would provide an increase in wetland functions and could have a slight beneficial effect.

16. **Flooding**: Floodplain impacts (estimated at 17,000 cubic yards) would be mitigated at a 1:1 ratio with respect to volume (cubic yards). The proposed BLRT Extension project is designed per stringent specifications required in Executive Order 13690 which takes into account weather patterns associated with climate change and anticipated increased intensity of storm events, and as such, the proposed BLRT Extension project would have no effect on flooding intensity or duration.

17. **Soils**: The proposed BLRT Extension project would require extensive soil correction in areas of poor soils; primarily between Olson Memorial Highway and 36th Avenue. Construction stormwater BMPs implemented in accordance with the required NPDES permit discussed in item #23 above would minimize erosion of soil resources.

18. **Mineral Needs**: There would be no effect on mineral resources throughout the proposed BLRT Extension project area. There are no known sand, gravel or metallic ore resources that would be rendered inaccessible as a result of the proposed BLRT Extension project.

19. **Farmland/Food Supply**: The proposed BLRT Extension project would have no effect on Farmland and Food Supply.

20. **Groundwater**: The proposed BLRT Extension project would require some temporary dewatering for construction in and near aquatic resources. Construction staging areas would be designed to contain potential spills in accordance with a contractor-prepared Spill Prevention, Control, and Countermeasures (SPCC) plan.

21. **Noise levels**: The proposed BLRT Extension project would have 366 moderate and 618 severe noise impacts (as defined by FTA noise criteria) without mitigation. With the implementation of Federal Railroad Administration Quiet Zones, impacts would be reduced to 176 moderate and 120 severe. With further mitigation measures (these include wayside warning devices that can be sounded instead of the bell on the LRT vehicle, noise barriers, and interior testing and potential sound insulation), five moderate and two severe noise impacts would remain.

22. **Terrestrial Habitat**: Terrestrial habitat in the proposed BLRT Extension project area is generally forest; including some larger forest complexes and some smaller remnants. All forested habitat in the proposed BLRT Extension project area is disturbed as a result of infrastructure encroachment, fragmentation, dumping, selective tree cutting, and infestations of invasive species. However, these terrestrial habits do provide important habitat for migrating and foraging wildlife. The proposed BLRT Extension project would impact 18 acres of larger forest complexes and 11 acres of smaller forest remnants. Forested habitat loss would be mitigated through tree planting and other landscape restoration.

23. **Aquatic Habitat**: The proposed BLRT Extension project is anticipated to impact approximately 10 acres of wetland, 3 acres of storm pond, and would involve the relocation of approximately 450 feet of Bassett Creek. Impacts to wetlands and aquatic resources would be avoided and minimized to the extent practicable. Unavoidable impacts to wetlands would be mitigated, typically at a 2: 1 mitigation ratio, with a

combination on on-site mitigation and purchase of private wetland mitigation credits. Impacts to the channel of Bassett Creek would be would be minimized with appropriate restoration practices. It is anticipated that the proposed BLRT Extension project would have a minor adverse effect on aquatic habitat.

24. **Habitat Diversity and Interspersion**: The proposed BLRT Extension project mostly stays on or adjacent to an existing freight rail corridor and roadways. The habitat impacts that would result from the proposed BLRT Extension project occur in highly fragmented and disturbed urbanized habitat. With appropriate mitigation such as wetland replacement and tree planting, the proposed BLRT Extension project would have no effect on habitat diversity and interspersion.

25. **Endangered Species**: There would be no effect on state-listed species potentially present in the proposed BLRT Extension project area such as Blanding's turtle and the pugnose shiner if appropriate Minnesota DNR guidelines are adhered to during the construction and post-construction phase. The proposed BLRT Extension project would have No Effect on federally-listed aquatic species known to exist in Hennepin County, i.e. the Higgins eye pearlymussel and the Snuffbox mussel. Per coordination with the USFWS, the conclusion of "May Affect, Incidental Take Not Prohibited", concerning the northern long-eared bat (federally threatened), is appropriate with respect to the proposed BLRT Extension project.

26. **Wild and Scenic Rivers**: The proposed BLRT Extension project would have no effect on Wild and Scenic rivers.

27. **Shoreline Processes**: To accommodate the proposed BLRT Extension project, a ~450-foot section of Bassett Creek would need to be moved approximately 20 feet to the west. With BMPs in place and appropriate re-vegetation, the proposed BLRT Extension project would have no effect on shoreline processes.

28. **Water Quality**: The proposed BLRT Extension project would cause an 83 percent increase in the impervious area within the limits of disturbance. Long-term mitigation measures would include designing and constructing permanent BMPs, such as detention and infiltration facilities, which would control and treat stormwater runoff caused by an increase in impervious surfaces as a result of the proposed BLRT Extension project. A National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit from MPCA would be required. A Stormwater Pollution Prevention Plan (SWPPP), which must be submitted at the time of the permit application, would be developed and implemented during construction. Construction-phase mitigation measures would include developing erosion- and sediment-control plans to control runoff and reduce erosion and sedimentation during construction, and limiting the amount of sediment carried into lakes, streams, wetlands, and rivers by stormwater runoff.

29. **State-listed Impaired Section 303(d) Waters**: Bassett Creek is listed on the 303(d) List of Impaired Waters. Approximately a 400-foot reach of Bassett Creek would be re-located 20 feet to the west in order to accommodate the proposed BLRT Extension project and associated infrastructure. BMPs would be in place to maintain water quality in Bassett Creek. Other impaired waters that would receive runoff from the proposed BLRT Extension project include the Mississippi River (would receive proposed BLRT Extension project runoff via Bassett Creek); Crystal Lake; Upper, Middle, and Lower Twin Lakes; and Shingle Creek. The Total Maximum Daily Load (TMDL) requirements for these receiving waters have been incorporated into stormwater management designs for the proposed BLRT Extension project.

30. **Air Quality**: The vehicle miles traveled associated with the No-Build and the proposed BLRT Extension project are estimated to be approximately equal. Air quality impacts would be minimized during construction through management of fugitive dust and emissions from idling construction equipment. The electric motors used for the proposed BLRT Extension project are cleaner than those used in diesel-burning mass transit. Impacts to air quality would be minimized by appropriate management of fugitive dust and equipment idling emissions during construction.

31. **Energy**: The proposed BLRT Extension project and associated infrastructure would be designed to be energy efficient. Considering a complete life cycle analysis and anticipated (year 2040) vehicle miles traveled comparing the proposed BLRT Extension project and the No-Build, a transportation landscape using proposed BLRT Extension project would use slightly less energy as a transportation landscape without proposed BLRT Extension project.

32. **Secondary and cumulative effects**:

- The proposed BLRT Extension project in combination with the reasonably foreseeable future actions, including the West Broadway Avenue Reconstruction project, would increase overall transportation demand.
- The combination of the roadway improvements and the proposed BLRT Extension project would draw additional vehicle traffic associated with passengers accessing the proposed BLRT Extension project stations
- Reasonably foreseeable future actions would likely increase the density and intensity of development in the proposed BLRT Extension project corridor
- The proposed BLRT Extension project in combination with the reasonably foreseeable future actions could change the character of neighborhoods by increasing mixed use development in the cumulative effects study area
- Additional transportation investments in the proposed BLRT Extension corridor to service induced development, in combination with the reasonably foreseeable future actions, could lead to the acquisition of right-of-way and the relocation of residents and businesses
- Induced development associated with the proposed BLRT Extension project in combination with the reasonably foreseeable future actions could cumulatively could diminish the integrity of a historic property's or district's location, feeling, or association cultural resources
- Induced development associated with the proposed BLRT Extension project and additional transportation facilities in combination with the reasonably foreseeable future actions would change the views in neighborhoods
- Induced development associated with the proposed BLRT Extension project in combination with the reasonably foreseeable future actions and natural population growth would likely place a greater demand on parks and open spaces and result in a cumulative effect
- Induced development associated with the proposed BLRT Extension project in combination with the reasonably foreseeable future actions would likely increase the number of customers in the proposed BLRT Extension project corridor

- Increased development associated with the proposed BLRT Extension project in combination with the reasonably foreseeable future actions could require more service personnel and could cumulatively strain local providers' capacity to deliver services.

33. Recreation: The proposed BLRT Extension project would provide several long-term improvements to pedestrian and bicycle accessibility and safety including bicycle parking, connectivity, trail head improvements, and pedestrian bridges. The construction phase of the proposed BLRT Extension project would temporarily disrupt the use of existing bicycle and pedestrian facilities; detours would be provided as appropriate, and communicated to the public.

5.0 Wetlands and Aquatic Resources

5.1 Wetland Delineation

Wetlands throughout the proposed BLRT Extension project area were delineated during the spring and summer of 2015. Field reviews of wetland delineations by the Technical Evaluation Panel (TEP) and the USACE were completed during the summer and fall of 2015. Notices of Decision (NODs) concerning concurrence on wetland boundaries and types were obtained during the winter of 2015/ 2016 from all relevant WCA LGUs throughout the proposed BLRT Extension project area. See **Appendix A**.

A "***Technical Memorandum: Jurisdictional Issues Associated with Delineated Basins; Proposed BLRT Extension project***" was prepared for the TEP and the USACE describing issues pertaining to jurisdiction (per the WCA, the USACE and the DNR) of each delineated basin within the proposed BLRT Extension project area. The intent of this Technical Memorandum was to serve as an intermediate step before submittal of this WCA/ Corps Joint Permit Application. During the winter and spring of 2016, NODs, specifically pertaining to "No Loss" per the WCA were obtained from each WCA LGU. The "No Loss" NODs establish that either a particular basin is outside of the scope of the WCA or that a specific impact to a basin is not regulated per the WCA (for example, excavation impacts to a Type 1 or 2 wetland). Concurrence from the USACE pertaining to Section 404 jurisdiction of each delineated basin was obtained in correspondence responding to the request for a "hybrid" Preliminary/ Approved Jurisdictional Determination (JD).

Figure 1 provides a general location map of the proposed BLRT Extension project area. **Figure 2** provides a mapbook with aerial imagery, delineated boundaries of basins, National Wetland Inventory (NWI), Public Waters Inventory (PWI), and other water resources features. **Figure 3** provides a mapbook with aerial imagery, delineated boundaries of basins, hydric soils mapping, and 2 foot LiDAR contours.

The approved wetland delineation lines and agency jurisdiction concurrence were used to guide the proposed BLRT Extension project avoidance and minimization process and ultimately determine the wetland impacts necessary for construction.

5.2 Results

A total of 44 palustrine wetlands and one riverine aquatic resource were delineated in the proposed BLRT Extension project area. **Table 3** summarizes characteristics and relevant municipality and WCA LGU for each wetland and aquatic resource in the proposed BLRT Extension project area. **Figures 2 and 3** depict the location of delineated wetlands and aquatic resources in the proposed BLRT Extension project area. **Appendix B** depicts planview and cross-sectional drawings of the proposed BLRT Extension project and associated impacts to wetlands and aquatic resources.

Table 3 summarizes characteristics of basins delineated within the proposed BLRT Extension project.

Table 3
Summary of Basin Characteristics Delineated Within the Proposed BLRT Extension Project

Basin ID	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	Total Basin Size (ac)		Municipality (WCA LGU)
					natural basin	storm pond	
W1	Yes	PEM1A	Seas. flooded basin	Type 1	1.59		Brooklyn Park (Shingle Creek WMC)
W2	Yes	PEM1A	Seas. flooded basin	Type 1	1.37		Brooklyn Park (Shingle Creek WMC)
W3	Yes	PEM1A	Seas. flooded basin	Type 1	1.23		Brooklyn Park (Shingle Creek WMC)
W4	Yes	PEM1A	Seas. flooded basin	Type 1	0.14		Brooklyn Park (Shingle Creek WMC)
W5	Yes	PFO1A	Floodplain forest	Type 1	0.07		Brooklyn Park (Shingle Creek WMC)
W6	Yes	PFO1A	Floodplain forest	Type 1	0.14		Brooklyn Park (Shingle Creek WMC)
W7	Yes	PEM1A	Seas. flooded basin	Type 1	0.55		Brooklyn Park (Shingle Creek WMC)
W8	Yes	PFO1A	Floodplain forest	Type 1	0.14		Brooklyn Park (Shingle Creek WMC)
W9	Yes	PEM1A	Seas. flooded basin	Type 1	0.18		Brooklyn Park (Shingle Creek WMC)
W10	Yes	PEM1A	Seas. flooded basin	Type 1		0.06	Brooklyn Park (Shingle Creek WMC)
W11	Partially	PEM1A	Seas. flooded basin	Type 1	1.06		Brooklyn Park (Shingle Creek WMC)
W12	Yes	PEM1A	Seas. flooded basin	Type 1	0.06		Brooklyn Park (Shingle Creek WMC)
W13	Partially	PEM1A	Seas. flooded basin	Type 1	2.41		Brooklyn Park (Shingle Creek WMC)

Table 3

Summary of Basin Characteristics Delineated Within the Proposed BLRT Extension Project

Basin ID	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	Total Basin Size (ac)		Municipality (WCA LGU)
					natural basin	storm pond	
W14	Yes	PUBGx	Deep Marsh	Type 4		0.61	Brooklyn Park (Shingle Creek WMC)
W15	Yes	PSS1A	Shrub Carr	Type 6		0.79	Brooklyn Park (Shingle Creek WMC)
W16	No	PUBGx	Deep Marsh	Type 4		0.82	Brooklyn Park (Shingle Creek WMC)
W17	No	PSS1A	Shrub Carr	Type 6		0.05	Brooklyn Park (Shingle Creek WMC)
W26	No	PEM1A	Seas. flooded basin	Type 1		0.01	Brooklyn Park (Shingle Creek WMC)
W27	No	PEM1A	Seas. flooded basin	Type 1		0.62	Brooklyn Park (Shingle Creek WMC)
W28	Yes	PFO1A	Floodplain forest	Type 1	2.57		Brooklyn Park (Shingle Creek WMC)
W29	Yes	PEM1C	Shallow Marsh	Type 3		1.02	Crystal (Crystal)
W30	No	PUBGx	Open Water	Type 5		1.2	Robbinsdale (Shingle Creek WMC)
W31	No	PSS1A	Shrub Carr	Type 6	(part of W32)		Robbinsdale (Bassett Creek WMC)
W32	No	PFO1A/ PEMC/ PSS1C	Floodplain forest/ Shallow Marsh/ Shrub Carr	Type 1/ Type 3/ Type 6	7.71		Robbinsdale (Bassett Creek WMC)
W33	No	PUBGx	Open Water	Type 5	7.41		Robbinsdale (Bassett Creek WMC)
W34	Yes	PEM1F	Deep Marsh	Type 4	17.01		Golden Valley (Golden Valley) and Robbinsdale (Bassett Creek WMC)

Table 3

Summary of Basin Characteristics Delineated Within the Proposed BLRT Extension Project

Basin ID	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	Total Basin Size (ac)		Municipality (WCA LGU)
					natural basin	storm pond	
W35	No	PFO1A	Floodplain forest	Type 1	0.85		Robbinsdale (Bassett Creek WMC)
W36	No	PSS1A	Shrub Carr	Type 6	1.39		Robbinsdale (Bassett Creek WMC)
W37	No	PEM1A	Seas. flooded basin	Type 1		0.08	Golden Valley (Golden Valley)
W38	No	PUBGx/ PEMA	Open Water/ wet (fresh) meadow	Type 5/ Type 2	3.08		Golden Valley (Golden Valley)
W39	No	PUBGx	Open Water	Type 5	2		Golden Valley (Golden Valley)
W40	No	PEM1A	Seas. flooded basin	Type 1	0.31		Golden Valley (Golden Valley)
W41	No	PEM1A	Seas. flooded basin	Type 1		0.19	Golden Valley (Golden Valley)
W42	No	PSS1A	Shrub Carr	Type 6		0.29	Golden Valley (Golden Valley) and Minneapolis (Minneapolis)
W44	No	PUBGx	Open Water	Type 5	0.87		Robbinsdale (Bassett Creek WMC)
W45	No	PFO1A	Floodplain forest	Type 1	2.05		Robbinsdale (Bassett Creek WMC)
W46	Yes	riverine	riverine	riverine	Not Applicable (linear)		
W46	No	PFO1A	Floodplain forest	Type 1	11.14		Golden Valley (Golden Valley)

Table 3
Summary of Basin Characteristics Delineated Within the Proposed BLRT Extension Project

Basin ID	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	Total Basin Size (ac)		Municipality (WCA LGU)
					natural basin	storm pond	
W47	No	PFO1A	Floodplain forest	Type 1	part of W46		Golden Valley (Golden Valley)
W48	No	R2UBGx	Riverine	Type 4	0.5		Minneapolis (Minneapolis)
W49	No	PFO1A	Floodplain forest	Type 1		0.08	Golden Valley (Golden Valley) /Minneapolis (Minneapolis)
W50	No	PEM1A	Seas. flooded basin	Type 1	0.12		Golden Valley (Golden Valley)
W51	Yes	PEMA	Seas. flooded basin	Type 1	4.59		Brooklyn Park (Shingle Creek WMC)
W52	Yes	PEMA	Seas. flooded basin	Type 1	0.05		Brooklyn Park (Shingle Creek WMC)
pond east of W30	No	PUBG	Open Water	Type 4		0.91	Robbinsdale (Shingle Creek WMC)

5.3 Regulatory Jurisdiction

Wetlands in the proposed BLRT Extension project area are regulated by several agencies at the local, state, and federal levels including the USACE and the EPA at the federal level, and the Minnesota Board of Water and Soil Resources (BWSR) and the Minnesota Pollution Control Agency (MPCA) at the state level. The proposed BLRT Extension project crosses several Wetland Conservation Act (WCA) LGUs. **Table 4** identifies the relevant WCA LGU for each delineated basin in the proposed BLRT Extension project area. **Table 4** also summarizes the jurisdiction of each delineated basin or aquatic resource in the proposed BLRT Extension project area per the WCA, the USACE, and the DNR. Any proposed work below the Ordinary High Water (OHW) elevation or in Public Waters, Public Waters Wetlands, or unnumbered Public Watercourses mapped by the Public Waters Inventory is regulated by the Minnesota Department of Natural Resources. In some cases, the DNR may decide to waive jurisdiction to the WCA LGU. This would be determined during the review of the DNR Public Waters Work Permit application which would be submitted electronically via the MPARS on-line interface.

The "***Technical Memorandum: Jurisdictional Issues Associated with Delineated Basins; Proposed BLRT Extension project***" discusses regulatory jurisdictional issues for each delineated basin in the proposed BLRT Extension project area. Typically, basins that were excavated from uplands for the conveyance or storage of stormwater are considered outside the scope of the WCA and are not regulated by WCA. Further, certain types of impacts to WCA jurisdictional basins are not regulated by the WCA, e.g. excavation impacts to Type 1 or 2 wetlands. Delineated basins may be USACE jurisdictional based on hydrologic connection with Waters of the US, a request for and approval of a Preliminary Jurisdictional Determination (JD), or affirmative findings in an Approved JD. **Table 4** summarizes impacts to wetlands and aquatic resources in the proposed BLRT Extension project area that are jurisdictional per the WCA, the USACE, and the DNR. Data in **Table 4** are based on concurrence with relevant WCA LGUs and the USACE.

Table 4 summarizes agency jurisdiction within the proposed BLRT Extension project area.

Table 4
Agency Jurisdiction of Basins Delineated Within the Proposed BLRT Extension Project Area

Basin ID	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	USACE Jurisdiction			WCA Jurisdiction	DNR Jurisdiction	Municipality (WCA LGU)
					Likely Juris. Waters and Streams	Non-WOUS (no mitigation required)	Isolated Basins (no mitigation required)			
W1	Yes	PEM1A	Seas. flooded basin	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W2	Yes	PEM1A	Seas. flooded basin	Type 1			yes	yes	yes	Brooklyn Park (Shingle Creek WMC)
W3	Yes	PEM1A	Seas. flooded basin	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W4	Yes	PEM1A	Seas. flooded basin	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W5	Yes	PFO1A	Floodpl. forest	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W6	Yes	PFO1A	Floodpl. forest	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W7	Yes	PEM1A	Seas. flooded basin	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W8	Yes	PFO1A	Floodpl. forest	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)

Table 4

Agency Jurisdiction of Basins Delineated Within the Proposed BLRT Extension Project Area

Basin ID	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	USACE Jurisdiction			WCA Jurisdiction	DNR Jurisdiction	Municipality (WCA LGU)
					Likely Juris. Waters and Streams	Non-WOUS (no mitigation required)	Isolated Basins (no mitigation required)			
W9	Yes	PEM1A	Seas. flooded basin	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W10	Yes	PEM1A	Seas. flooded basin	Type 1		yes		yes	no	Brooklyn Park (Shingle Creek WMC)
W11	Partially	PEM1A	Seas. flooded basin	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W12	Yes	PEM1A	Seas. flooded basin	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W13	Partially	PEM1A	Seas. flooded basin	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
W14	Yes	PUBGx	Deep Marsh	Type 4		yes		no	no	Brooklyn Park (Shingle Creek WMC)
W15	Yes	PSS1A	Shrub Carr	Type 6		yes		no	no	Brooklyn Park (Shingle Creek WMC)
W16	No	PUBGx	Deep Marsh	Type 4		yes		no	no	Brooklyn Park (Shingle Creek WMC)
W17	No	PSS1A	Shrub Carr	Type 6		yes		no	no	Brooklyn Park (Shingle Creek WMC)
W26	No	PEM1A	Seas. flooded basin	Type 1		yes		no	no	Brooklyn Park (Shingle Creek WMC)
W27	No	PEM1A	Seas. flooded basin	Type 1		yes		no	no	Brooklyn Park (Shingle Creek WMC)
W28	Yes	PFO1A	Floodpl. forest	Type 1	yes			yes	yes	Brooklyn Park (Shingle Creek WMC)
W29	Yes	PEM1C	Shallow Marsh	Type 3	yes			yes	no	Crystal (Crystal)
W30	No	PUBGx	Open Water	Type 5		yes		no	no	Robbinsdale (Shingle Creek WMC)

Table 4

Agency Jurisdiction of Basins Delineated Within the Proposed BLRT Extension Project Area

Basin ID	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	USACE Jurisdiction			WCA Jurisdiction	DNR Jurisdiction	Municipality (WCA LGU)
					Likely Juris. Waters and Streams	Non-WOUS (no mitigation required)	Isolated Basins (no mitigation required)			
W31	No	PSS1A	Shrub Carr	Type 6	yes			yes	yes	Robbinsdale (Bassett Creek WMC)
W32	No	PFO1A/ PEMC/ PSS1C	Floodpl. forest/ Shallow Marsh/ Shrub Carr	Type 1/ Type 3/ Type 6	yes			yes	yes	Robbinsdale (Bassett Creek WMC)
W33	No	PUBGx	Open Water	Type 5	yes			yes	yes	Robbinsdale (Bassett Creek WMC)
W34	Yes	PEM1F	Deep Marsh	Type 4	yes			yes	yes	Golden Valley (Golden Valley) and Robbinsdale (Bassett Creek WMC)
W35	No	PFO1A	Floodpl. forest	Type 1	yes			yes	no	Robbinsdale (Bassett Creek WMC)
W36	No	PSS1A	Shrub Carr	Type 6	yes			yes	no	Robbinsdale (Bassett Creek WMC)
W37	No	PEM1A	Seas. flooded basin	Type 1		yes		no	no	Golden Valley (Golden Valley)
W38	No	PUBGx/ PEMA	Open Water/ wet (fresh) meadow	Type 5/ Type 2			yes	yes	no	Golden Valley (Golden Valley)
W39	No	PUBGx	Open Water	Type 5			yes	yes	no	Golden Valley (Golden Valley)
W40	No	PEM1A	Seas. flooded basin	Type 1	yes			yes	no	Golden Valley (Golden Valley)
W41	No	PEM1A	Seas. flooded basin	Type 1		yes		no	no	Golden Valley (Golden Valley)

Table 4

Agency Jurisdiction of Basins Delineated Within the Proposed BLRT Extension Project Area

Basin ID	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	USACE Jurisdiction			WCA Jurisdiction	DNR Jurisdiction	Municipality (WCA LGU)
					Likely Juris. Waters and Streams	Non-WOUS (no mitigation required)	Isolated Basins (no mitigation required)			
W42	No	PSS1A	Shrub Carr	Type 6		yes		no	no	Golden Valley (Golden Valley) and Mpls (Mpls)
W44	No	PUBGx	Open Water	Type 5			yes	yes	no	Robbinsdale (Bassett Creek WMC)
W45	No	PFO1A	Floodpl. forest	Type 1			yes	yes	no	Robbinsdale (Bassett Creek WMC)
W46	Yes	riverine	riverine	riverine	yes			no	yes	
W46	No	PFO1A	Floodpl. forest	Type 1	yes			yes	no	Golden Valley (Golden Valley)
W47	No	PFO1A	Floodpl. forest	Type 1	yes			yes	yes	Golden Valley (Golden Valley)
W48	No	R2UBGx	Riverine	Type 4	yes			yes	no	Mpls (Mpls)
W49	No	PFO1A	Floodpl. forest	Type 1		yes		no	no	Golden Valley (Golden Valley) /Mpls (Mpls)
W50	No	PEM1A	Seas. flooded basin	Type 1	yes			yes	no	Golden Valley (Golden Valley)
W51	Yes	PEMA	Seas. flooded basin	Type 1	yes			yes	no	Brooklyn Park (Shingle Creek WMC)
W52	Yes	PEMA	Seas. flooded basin	Type 1			yes	yes	no	Brooklyn Park (Shingle Creek WMC)
pond east of W30	No	PUBG	Open Water	Type 4	yes			no	no	Robbinsdale (Shingle Creek WMC)

5.4 Aquatic Resources

A reach of Bassett Creek, in the vicinity of the Plymouth Avenue Bridge, would be re-located in order to accommodate the re-aligned freight rail, the proposed BLRT Extension project and the Minneapolis Park and Recreation Board multi-use recreational trail. See **Appendix B; sheet 5** (planview drawing) and **sheet 18** (cross-sectional drawing). This reach is approximately 450 feet long and would be moved 20 feet to the west. Appropriate BMPs, such as silt fences and silt curtains would be in-place during construction and post-construction phases in order to minimize potential siltation and sedimentation into receiving waters. This reach of Bassett Creek would be restored with appropriate techniques. Creek banks of the restored reach would be rapidly re-vegetated post-construction with appropriate seed mixes, plugs, and whips. Anchored jute mats (or equivalent stabilization materials) and rapid re-vegetation would be used on Bassett Creek banks to minimize erosion and siltation.

Bassett Creek, specifically reach ID 07010206 – 538 (Medicine Lake to the Mississippi River) is listed on the MPCA 2014 303(d) List of Impaired Waters. The impairments are Aquatic Life and Aquatic Recreation and the stressors are chloride and fecal coliform. The MPCA requires that water quality in a 303(d)-listed water cannot be made worse as a result of a proposed action.

5.5 Sequencing

5.5.1 Avoidance and Minimization

The proposed BLRT Extension project has been designed to avoid and minimize impacts to wetlands wherever possible. Wetland impacts cannot be completely avoided while still satisfying the primary needs of the proposed BLRT Extension project due to the number and location of wetland basins lying immediately adjacent to the proposed BLRT Extension project. Further, the location of the proposed BLRT Extension project trackage and the re-alignment of the BNSF freight rail is constrained by required track geometry and design guidelines.

The Final EIS No-Build assumes that the proposed BLRT Extension project would not be built; however, it also assumes that 5 major highway expansions and several local road projects would occur (See **Section 3.2**). Therefore, it is anticipated that there would be wetland and aquatic resource impacts in the absence of the proposed BLRT Extension project, though these potential impacts have not been quantified. The exact extent of impacts to wetlands and aquatic resources associated with these 5 major highway expansions and several local road projects are not known at this time.

The proposed BLRT Extension project does not have the least impacts to wetlands and aquatic resources among all build alternatives that were studied previously in the Draft EIS. However, per 404(b)(1) Guidelines, the current proposed BLRT Extension project was selected based on a best balance of social, economic and environmental issues.

In areas where impacts cannot be avoided, measures have been taken to minimize the wetland impacts. Design measures such as changes to the proposed BLRT Extension project profile, steeper side slopes and proposed elevated platforms on structure rather than fill have been designed in several areas to minimize impacts.

Best management practices such as erosion control and rapid re-vegetation during post-construction would help to minimize impacts to wetlands throughout the proposed BLRT Extension project area. Specific measures to avoid and minimize wetland impacts to individual wetlands within the proposed BLRT Extension project area are summarized below:

W1. All impacts to W1 have been avoided as a result of judicious location of the Operations and Maintenance Facility (OMF). One north-south oriented OMF alternative studied impacted a portion of W1. W1 is not depicted on the planset.

W2. W2 would not be impacted by the proposed BLRT Extension project and associated infrastructure. No alternatives were proposed that would have impacted W2. See **Appendix B**; sheet 14 of 30.

W3. All impacts to W3 have been avoided as a result of judicious location of the Operations and Maintenance Facility (OMF). One east-west oriented OMF alternative studied would have impacted a small portion of W3. W3 is not depicted on the planset.

W4. The entirety of W4 would be impacted as a result of the re-alignment of West Broadway Avenue North. See planset sheet 14 of 30 (**Appendix B**). Southbound West Broadway Avenue and northbound West Broadway Avenue separate in the vicinity of Oak Grove Parkway to form a wide boulevard which would accommodate several needed stormwater management features. Side slopes near W4 are 1v : 4h. The number of lanes, lane width and other road configuration characteristics of West Broadway Avenue are as required by the Highway Capacity Manual and the County State Aid Highway Design Manual. Impacts to W4 could not be avoided. See **Appendix B**; sheet 14 of 30.

W5. Impacts to W5 would be completely avoided. Wetland 5 is not depicted on the planset.

W6. Impacts to W6 would be completely avoided. See **Appendix B**; sheet 14 of 30.

W7. W7 would be impacted from reconstruction of Oak Grove Parkway and associated sidewalk and trail. See **Appendix B**; sheet 14 of 30. Proposed side slopes are 1v : 4h.

W8. A portion of W8 would be impacted as a result of the re-alignment of Oak Grove Parkway. The proposed trail / sidewalk associated with the re-alignment would impact the northernmost portion of W8. See **Appendix B**; sheet 15 of 30. Sideslopes near W8 are proposed at 1v : 4h.

W9. The northernmost portion (0.0012 ac) of W9 would be impacted as a result of the re-alignment of Oak Grove Parkway. Sideslopes near W9 are 1v : 4v. See **Appendix B**; sheet 15 of 30.

W10. W10, a roadside ditch, is adjacent to the existing alignment of West Broadway Avenue. This section of old West Broadway Avenue would be removed. Currently, W10 is not considered to be an impact. See **Appendix B**; sheet 15 of 30.

W11. Impacts to W11 would be completely avoided. See **Appendix B**; sheet 15 of 30.

W12. W12 would be impacted in entirety as a result of road fill impact associated with the northbound lanes of West Broadway Avenue North and cut impacts associated with stormwater management in the boulevard of West Broadway Avenue North. Side slopes near W12 were steepened to the extent practicable and are 1v : 3h; steeper side slopes would require guard rail. See **Appendix B**; sheet 14 of 30.

W13. The easternmost extent of W13 is impacted as a result of the re-alignment of 99th Avenue North and Oak Grove Parkway Station parking ramp. Impacts are associated with road fill and trail/ sidewalk fill. Sideslopes near W13 are 1v : 4h. See **Appendix B**; sheet 13 of 30.

W14. W14 is impacted as a result of the re-alignment of 99th Avenue North and Oak Grove Parkway and the construction of stormwater basins in the median of Oak Grove Parkway. Impacts include portions of road fill and trail/ sidewalk fill. Sideslopes near W14 are 1v : 4h. W14 is currently a stormpond. See **Appendix B**; sheet 13 of 30.

W15. Impacts to W15 would be completely avoided and were never part of any proposed BLRT Extension project alternative. Wetland 15 is not depicted on the planset.

W16. W16 would be impacted as a result of the proposed BLRT Extension project trackage that follows the west side of West Broadway Avenue from 94th Avenue northward. Impacts include track fill in the western portion and trail/ sidewalk fill in the eastern portion. W16 is a stormpond that would be replaced by a proposed stormpond immediately to the west. See **Appendix B**; sheet 12 of 30.

W17. W17, a stormpond, would not be impacted as a result of the proposed BLRT Extension project. See **Appendix B**; sheet 12 of 30.

W 18-25. W18 though W25 are part of the West Broadway Avenue (CSAH 103) Reconstruction project. Impacts to these wetlands would be discussed in the WCA/ Corps Joint permit application for that project. Wetlands 18-25 are not depicted on the planset.

W26. W26 would be impacted as a result of the reconstruction of West Broadway Avenue and a multi-use recreational trail. Wetland 26 is not depicted on the planset.

W27. W27 would not be impacted as a result of the proposed BLRT Extension project. No proposed alternatives would have impacted W27. Wetland 27 is not depicted on the planset.

W28. W28 would be impacted as a result fill associated with freight trackage and freight rail maintenance road, and cut impacts associated with compensatory floodplain volumes and stormwater capacity. Side slopes of the freight rail fill were steepened to the extent practicable (1v : 2h) to minimize fill footprint. See **Appendix B**; sheet 11 of 30.

W29. Impacts to W29 would be completely avoided as a result of the proposed BLRT Extension project. Wetland 29 is not depicted on the planset.

W30. Impacts to W30 would be completely avoided as a result of the proposed BLRT Extension project. Wetland 30 is not depicted on the planset.

W31. W31 is part of W32. See description of W32. See **Appendix B**; sheet 9 of 30.

W32. W32 would be temporarily impacted as a result of construction staging areas that would be required for construction of the light rail trackage and re-alignment of the freight rail. The temporary wetland impacts would be restored to pre-construction conditions and re-planted with appropriate native vegetation. Fuel for construction machinery would be secured to prevent spillage and potential water quality impacts. Infestations of invasive plant species in the staging area would be monitored and controlled as necessary. This size of the temporary impact area has been minimized to the extent practicable. See **Appendix B**; sheet 9 of 30.

W33. W33 (Grimes Pond) would be impacted as a result of the construction of the proposed BLRT Extension project trackage on a bridge over the west edge of Grimes Pond, temporary impacts required for the construction of the elevated platform, and cut impacts associated with maintaining stormwater capacity. The permanent impact has been conservatively calculated based on the area of the bridge platform. However, actual permanent fill impacts

would be the cumulative total cross-sectional footprint of the support piers for the platform, which is anticipated to be significantly less area. The overall impact to W33 has been significantly reduced from the Draft EIS phase of the proposed BLRT Extension project. In the Draft EIS Preferred Alternative, the freight rail and LRT would have been reconstructed on a new embankment that would have increased the amount of fill required in W33. See **Appendix B**; sheet 9 of 30.

W34. W34 would not be impacted as a result of the proposed BLRT Extension project. See **Appendix B**; sheet 8 of 30.

W35. W35 would be impacted partially by track fill associated with the freight rail re-alignment and track cut associated with storm volume compensation. Side slopes of the freight rail track fill would be 1v : 2h. A corridor protection wall separates the freight rail alignment from the proposed BLRT Extension project trackage. The corridor protection wall is needed in any section of trackage where the distance between the freight rail centerline is less than 35 feet from the centerline of the southbound proposed BLRT Extension project trackage. Thus, the corridor protection wall serves to minimize the overall footprint of the shared freight/ proposed BLRT Extension project trackage and minimizes wetland impacts while providing safe operation of the freight rail and the proposed BLRT Extension project. See **Appendix B**; sheet 8 of 30.

W36. W36 would be impacted by the proposed BLRT Extension project trackage fill. Side slopes would be 1v : 2h. The corridor protection wall between the freight rail and the proposed BLRT Extension project tracks would serve to minimize the overall footprint of the freight/ proposed BLRT Extension project alignment and minimize wetland impacts to W36. See **Appendix B**; sheet 8 of 30.

W37. W37 would be completely impacted as a result of unavoidable track fill. W37 is a low quality ditch that lies between Kewanee Way and the proposed BLRT Extension project corridor. See **Appendix B**; sheet 7 of 30.

W38. W38 would not be impacted as a result of the proposed BLRT Extension project. Previous design iterations had a small trail-related impact to W38; however, this impact has been eliminated by moving the trail westward. In the Draft EIS phase of the proposed BLRT Extension project, the freight rail embankment would have been reconstructed west of its current location, requiring placement of fill in W38. See **Appendix B**; sheet 6 of 30.

W39. W39 would be impacted as a result of proposed BLRT Extension project trackage fill associated with a bridge platform along the west edge of the wetland. W39 would also have temporary impacts associated with construction of the bridge platform. W39 would also be impacted as a result of cut impacts associated with storm volume compensation. The permanent impact has been conservatively calculated based on the area of the bridge platform. However, actual permanent fill impacts would be the cumulative total cross-sectional footprint of the support piers for the platform, which is anticipated to be significantly less area. The overall impact to W39 has been significantly reduced from the Draft EIS phase of the proposed BLRT Extension project. In the Draft EIS Preferred Alternative, the freight rail and LRT would have been reconstructed on a new embankment that would have increased the amount of fill required in W39. See **Appendix B**; sheet 6 of 30.

W40/ W50. W40/W50 would be impacted as a result of proposed BLRT Extension project trackage fill and excavation impacts associated with compensatory stormwater volumes. Side slopes near W40/W50 would be 1v : 2h. The footprint of the overall freight/ proposed BLRT Extension project alignment has been minimized in the southern portion of W40 and

along all of W50 with a corridor protection wall; however, the entire W40/W50 would be unavoidably impacted. See **Appendix B**; sheet 5 of 30.

W41. W41 would be completely impacted by the Plymouth Avenue Station and track fill. A corridor protection wall serves to minimize the shared freight/ proposed BLRT Extension project alignment; however, all of W41 would be unavoidable impacted. See **Appendix B**; sheet 5 of 30.

W42. W42 would be completely impacted by proposed BLRT Extension project trackage fill. Side slopes near W42 are at 1v : 2h; however, impacts to W42 are unavoidable. See **Appendix B**; sheet 4 of 30.

W43. W43 is part of the West Broadway Avenue (CSAH 103) Reconstruction and would be discussed in the WCA/ Corps Joint Permit Application for that project. Wetland 43 is not depicted in the planset.

W44. W44 would be completely impacted as a result of track fill associated with the proposed BLRT Extension project. Side slopes near W44 are 1v : 2h. A corridor protection wall minimizes the footprint of the overall freight/ proposed BLRT Extension project alignment near the southern end of W44. Despite these characteristics that minimize footprint; impacts to W44 are unavoidable. See **Appendix B**; sheet 10 of 30.

W45. W45 would be impacted as a result of freight rail track fill and freight rail track cut. Side slopes near W45 are 1v : 2h. A corridor protection wall and a retaining wall separate freight rail from the proposed BLRT Extension project alignment in the southern portion of W45 thus serving to minimize the overall footprint of the shared rail alignment. Wetland impacts to W45 have been minimized to the extent practicable. See **Appendix B**; sheet 10 of 30.

W46. A portion W46 is the channel of Bassett Creek (riverine) and another portion is the palustrine wetland fringe along Bassett Creek. A ~450 foot reach of Bassett Creek near the Plymouth Avenue Bridge would be relocated approximately 20 feet to the west. Best management practices would be used to maintain acceptable water quality in Bassett Creek during the construction and post-construction period. The palustrine portion of W46 would be impacted by freight rail track fill and trail-related fill. The side slopes near W46 are 1v : 3h. Retaining walls and corridor protection walls have been used to minimize the footprint of the shared freight/ proposed BLRT Extension project alignment to the extent practicable. The impacts to W46 have been calculated conservatively; a portion of impacts to W46 are beneath the existing (and proposed) Plymouth Avenue Bridge and may not have the complete fill footprint as depicted in the planset. See **Appendix B**; sheet 5 of 30.

W47. W47 is the southern extension of W46. Impacts to W47 are included in the impact description for W46. See **Appendix B**; sheet 5 of 30.

W48. W48 would be impacted with fill associated with reconstruction of the BNSF freight rail, associated freight rail maintenance road, proposed BLRT Extension project trackage and a pedestrian sidewalk along Olson Memorial Highway. Additionally, portions of W48 would be temporarily impacted during the construction period. Side slopes near W48 are 1v : 2h. Retaining walls are proposed along the east and west sides of the shared freight/ proposed BLRT Extension project alignment and a corridor protection wall is proposed separating the freight rail from the proposed BLRT Extension project. The retaining walls and corridor protection walls serve to minimize the footprint of the shared rail alignment and thus minimizes impacts to wetlands to the extent practicable. See **Appendix B**; sheet 3 of 30.

W49. W49 would be partially impacted as a result of freight rail track fill. Side slopes near W49 are 1v : 2h. Impacts to W49 were minimized to the extent practicable. W49 is a disturbed ditch that lies between the existing BNSF and CP freight rail tracks. See **Appendix B**; sheet 4 of 30.

W50. See impact description for W40/ W50. See **Appendix B**; sheet 5 of 30.

W51. W51 is part of a wetland mitigation site constructed by the Target Corporation in the early 2000s as compensation for wetlands impacted from construction of the corporate campus. W51 would be impacted as a result of road fill and trail/ sidewalk fill. Side slopes near W51 are 1v : 4h. Impacts to W51 were minimized to the extent practicable. See **Appendix B**; sheet 14 of 30.

W52. W52, located on the south side of 101st Avenue North, would be impacted as a result of road fill and stormwater pond cut as a result of the Operations and Maintenance Facility (OMF). W52 would be completely impacted unavoidably. See **Appendix B**; sheet 16 of 30.

5.5.2 Wetland Impacts

Considering all basins that were delineated within the proposed BLRT Extension project area, total fill impacts are 8.4832 ac, total cut impacts are 1.4762 ac, total temporary impacts are 3.2284 ac. Combined fill, cut and temporary impacts are 13.1878 ac. Some of these impacts would not require mitigation as a result of agency jurisdiction or if they would be temporary impacts.

Table 5 is a summary of wetland impacts by wetland type for the proposed BLRT Extension project. **Table 6** shows a more detailed description of wetland impacts; including cut impacts, fill impacts, and temporary impacts, and mitigation requirements for wetlands within the proposed BLRT Extension project area.

Table 5
Summary of Wetland Impacts by Wetland Type

Wetland Type	Total Impacts (ac)	Impacts Requiring Mitigation for WCA (ac)	Impacts Requiring Mitigation for USACE (ac)
1	6.5824	4.2731	2.5166
2	0.0000	0.0000	0.0000
3	0.0000	0.0000	0.0000
4	2.4892	0.0138	1.0138
5	3.6152	1.6922	0.4950
6	0.5010	0.2124	0.2124
Riverine (linear feet)	450 linear feet (Bassett Creek)	450 linear feet (Bassett Creek)	450 linear feet (Bassett Creek)
Total Acres (Wetland)	**13.1878**	**6.2815**	**4.1623**
Total Linear feet (Riverine)	**450 linear feet (Bassett Creek)**	**450 linear feet (Bassett Creek)**	**450 linear feet (Bassett Creek)**

Table 6 Summary of Wetland Impacts, Jurisdictions and Mitigation Requirements

Basin ID	Updated NWI [1]	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	Total Basin Size (ac)		USACE Jurisdiction			WCA Juris.	MnDNR Juris.	Impact Type						Mitigation Ratio (2:1)	WCA Mitigation Requirements (ac)	Corps Mitigation requirements (ac)	Municip. (WCA LGU)
						natural basin	storm pond	Likely Juris. Waters and Streams	Non-WOUS (no mitigation required)	Isolated Basins (no mitgation required)			Fill impact (ac)	Cut impact (ac)	Temp. Impact (ac)	Total Impact (ac)	Total WCA Mitigatable Impacts (ac)	Total Corps Mitigatable Impacts (ac)				
W1	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	1.59				yes	yes	no	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W2	PEM1C	Yes	PEM1A	Seas. flooded basin	Type 1	1.37				yes	yes	yes	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W3	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	1.23				yes	yes	no	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W4	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	0.14				yes	yes	no	0.1357	0	0	0.1357	0.1357	0	2 to 1	0.2714	0	Brooklyn Park (Shingle Creek WMC)
W5	PFO1A	Yes	PFO1A	Floodplain forest	Type 1	0.07				yes	yes	no	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W6	PFO1A	Yes	PFO1A	Floodplain forest	Type 1	0.14				yes	yes	no	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W7	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	0.55				yes	yes	no	0.2869	0	0	0.2869	0.2869	0	2 to 1	0.5738	0	Brooklyn Park (Shingle Creek WMC)
W8	PFO1A	Yes	PFO1A	Floodplain forest	Type 1	0.14				yes	yes	no	0.0254	0	0	0.0254	0.0254	0	2 to 1	0.0508	0	Brooklyn Pk (Shingle Creek WMC)
W9	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	0.18				yes	yes	no	0.0012	0	0	0.0012	0.0012	0	2 to 1	0.0024	0	Brooklyn Park (Shingle Creek WMC)
W10	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1		0.06		yes		yes	no	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W11	PEM1A	Partially	PEM1A	Seas. flooded basin	Type 1	1.06				yes	yes	no	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W12	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	0.06				yes	yes	no	0.0233	0.0332	0	0.0565	0.0233	0	2 to 1	0.0466	0	Brooklyn Park (Shingle Creek WMC)
W13	PEM1A	Partially	PEM1A	Seas. flooded basin	Type 1	2.41				yes	yes	no	0.5333	0	0	0.5333	0.5333	0	2 to 1	1.0666	0	Brooklyn Park (Shingle Creek WMC)

Table 6 Summary of Wetland Impacts, Jurisdictions and Mitigation Requirements

Basin ID	Updated NWI [1]	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	Total Basin Size (ac)		USACE Jurisdiction			WCA Juris.	MnDNR Juris.	Impact Type						Mitigation Ratio (2:1)	WCA Mitigation Requirements (ac)	Corps Mitigation requirements (ac)	Municip. (WCA LGU)
						natural basin	storm pond	Likely Juris. Waters and Streams	Non-WOUS (no mitigation required)	Isolated Basins (no mitgation required)			Fill impact (ac)	Cut impact (ac)	Temp. Impact (ac)	Total Impact (ac)	Total WCA Mitigatable Impacts (ac)	Total Corps Mitigatable Impacts (ac)				
W14	PEM1A	Yes	PUBGx	Deep Marsh	Type 4		0.61		yes		no	no	0.6058	0	0	0.6058	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W15	Not mapped	Yes	PSS1A	Shrub Carr	Type 6		0.79		yes		no	no	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W16	PUBGx/ PEM1C	No	PUBGx	Deep Marsh	Type 4		0.82		yes		no	no	0.8194	0	0	0.8194	0	0	2 to 1	0	0	Brooklyn Pk (Shingle Creek WMC)
W17	Not mapped	No	PSS1A	Shrub Carr	Type 6		0.05		yes		no	no	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W26	Not mapped	No	PEM1A	Seas. flooded basin	Type 1		0.01		yes		no	no	0.01	0	0	0.01	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W27	PEM1C	No	PEM1A	Seas. flooded basin	Type 1		0.62		yes		no	no	0	0	0	0	0	0	2 to 1	0	0	Brooklyn Park (Shingle Creek WMC)
W28	PABGx/ PEM1C	Yes	PFO1A	Floodplain forest	Type 1	2.57		yes			yes	yes	0.2821	0.1482	0	0.4303		0.4303	2 to 1	0	0.8606	Brooklyn Park (Shingle Creek WMC)
W29	PEM1C	Yes	PEM1C	Shallow Marsh	Type 3		1.02	yes			yes	no	0	0	0	0	0	0	2 to 1	0	0	Crystal (Crystal)
W30	PUBG/ PEM1A	No	PUBGx	Open Water	Type 5		1.2		yes		no	no	0	0	0	0	0	0	2 to 1	0	0	Robbinsdale (Shingle Creek WMC)
W31	PSS1A	No	PSS1A	Shrub Carr	Type 6	Part of W32		yes			yes	yes	0	0	0	0	0	0	2 to 1	0	0	Robbinsdale (Bassett Creek WMC)
W32	PFO1A	No	PFO1A/ PEMC/ PSS1C	Floodplain forest/ Shallow Marsh/ Shrub Carr	Type 1/ Type 3/ Type 6	7.71		yes			yes	yes	0	0	1.2544	1.2544	0	0	2 to 1	0	0	Robbinsdale (Bassett Creek WMC)
W33	PABG	No	PUBGx	Open Water	Type 5	7.41		yes			yes	yes	0.3464	0.0731	1.2725	1.692	0.4195	0.4195	2 to 1	0.839	0.839	Robbinsdale (Bassett Crk WMC)
W34	PEM1F/ PABG	Yes	PEM1F	Deep Marsh	Type 4	17.01		yes			yes	yes	0	0	0	0	0	0	2 to 1	0	0	Golden Valley (Golden

Table 6 Summary of Wetland Impacts, Jurisdictions and Mitigation Requirements

Basin ID	Updated NWI [1]	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	Total Basin Size (ac)		USACE Jurisdiction			WCA Juris.	MnDNR Juris.	Impact Type						Mitigation Ratio (2:1)	WCA Mitigation Requirements (ac)	Corps Mitigation requirements (ac)	Municip. (WCA LGU)
						natural basin	storm pond	Likely Juris. Waters and Streams	Non-WOUS (no mitigation required)	Isolated Basins (no mitgation required)			Fill impact (ac)	Cut impact (ac)	Temp. Impact (ac)	Total Impact (ac)	Total WCA Mitigatable Impacts (ac)	Total Corps Mitigatable Impacts (ac)				
																						Valley) and Robbinsdale (Bassett Creek WMC)
W35	PEM1F	No	PFO1A	Floodplain forest	Type 1	0.85		yes			yes	no	0.3639	0.0394	0	0.4033	0.4033	0.4033	2 to 1	0.8066	0.8066	Robbinsdale (Bassett Creek WMC)
W36	PSS1A	No	PSS1A	Shrub Carr	Type 6	1.39		yes			yes	no	0.2124	0	0	0.2124	0.2124	0.2124	2 to 1	0.4248	0.4248	Robbinsdale (Bassett Creek WMC)
W37	Not mapped	No	PEM1A	Seas. flooded basin	Type 1		0.08		yes		no	no	0.0755	0	0	0.0755	0	0	2 to 1	0	0	Golden Valley (Golden Valley)
W38	PFO1A/ PABG	No	PUBGx/ PEMA	Open Water/ wet (fresh) meadow	Type 5/ Type 2	3.08				yes	yes	no	0	0	0	0	0	0	2 to 1	0	0	Golden Valley (Golden Valley)
W39	PFO1A	No	PUBGx	Open Water	Type 5	2				yes	yes	no	0.398	0.0025	0.6505	1.051	0.4005	0	2 to 1	0.801	0	Golden Valley (Golden Valley)
W40	PFO1A	No	PEM1A	Seas. flooded basin	Type 1	0.31		yes			yes	no	0.3006	0.0121	0	0.3127	0.3127	0.3127	2 to 1	0.6254	0.6254	Golden Valley (Golden Valley)
W41	Not mapped	No	PEM1A	Seas. flooded basin	Type 1		0.19		yes		no	no	0.1917	0	0	0.1917	0	0	2 to 1	0	0	Golden Valley (Golden Valley)
W42	Not mapped	No	PSS1A	Shrub Carr	Type 6		0.29		yes		no	no	0.2886	0	0	0.2886	0	0	2 to 1	0	0	Golden Valley (Golden Valley) and Mpls (Mpls)
W44	PABG	No	PUBGx	Open Water	Type 5	0.87				yes	yes	no	0.8722	0	0	0.8722	0.8722	0	2 to 1	1.7444	0	Robbinsdale (Bassett Creek WMC)
W45	Not mapped	No	PFO1A	Floodplain forest	Type 1	2.05				yes	yes	no	1.1982	0.1483	0	1.3465	1.1982	0	2 to 1	2.3964	0	Robbinsdale (Bassett Creek WMC)
W46	riverine	Yes	riverine	riverine	riverine	N/A		yes			no	yes	0	0	0	0	0	0	2 to 1	0	0	
W46	PFO1A	No	PFO1A	Floodplain forest	Type 1	11.14		yes			yes	no	0.9799	0.0633	0.0008	1.044	0.9799	1.0432	2 to 1	1.9598	2.0864	Golden Valley (Golden Valley)

Table 6 Summary of Wetland Impacts, Jurisdictions and Mitigation Requirements

Basin ID	Updated NWI [1]	Hydric Soil Map?	Field-Verified Cowardin	Eggers & Reed	Circ. 39 Class. [2]	Total Basin Size (ac)		USACE Jurisdiction			WCA Juris.	MnDNR Juris.	Impact Type						Mitigation Ratio (2:1)	WCA Mitigation Requirements (ac)	Corps Mitigation requirements (ac)	Municip. (WCA LGU)
						natural basin	storm pond	Likely Juris. Waters and Streams	Non-WOUS (no mitigation required)	Isolated Basins (no mitgation required)			Fill impact (ac)	Cut impact (ac)	Temp. Impact (ac)	Total Impact (ac)	Total WCA Mitigatable Impacts (ac)	Total Corps Mitigatable Impacts (ac)				
W47	PEM1C	No	PFO1A	Floodplain forest	Type 1	Part of W46		yes			yes	yes	0	0	0	0	0	0	2 to 1	0	0	Golden Valley (Golden Valley)
W48	R2UBG	No	R2UBGx	Riverine	Type 4	0.5		yes			yes	no	0.1038	0	0.0502	0.154	0.1038	0.1038	2 to 1	0.2076	0.2076	Mpls (Mpls)
W49	PFO1A	No	PFO1A	Floodplain forest	Type 1		0.08		yes		no	no	0.1018	0	0	0.1018	0	0	2 to 1	0	0	Golden Valley (Golden Valley) /Mpls (Mpls)
W50	PFO1A	No	PEM1A	Seas. flooded basin	Type 1	0.12		yes			yes	no	0.1176	0	0	0.1176	0.1176	0.1176	2 to 1	0.2352	0.2352	Golden Valley (Golden Valley)
W51	PEMA	Yes	PEMA	Seas. flooded basin	Type 1	4.59		yes			yes	no	0.2095	0	0	0.2095	0.2095	0.2095	2 to 1	0.419	0.419	Brooklyn Park (Shingle Creek WMC)
W52	not mapped	Yes	PEMA	Seas. flooded basin	Type 1	0.01				yes	yes	no	0	0.0461	0	0.0461	0.0461	0	2 to 1	0.0922	0	Brooklyn Park (Shingle Creek WMC)
pond east of W30	PUBG	No	PUBG	Open Water	Type 4		0.91	yes			no	no	0	0.91	0	0.91	0	0.91	2 to 1	0	1.82	Robbinsdale (Shingle Creek WMC)
Total						**70.55**	**6.73**						**8.4832**	**1.4762**	**3.2284**	**13.1878**	**6.2815**	**4.1623**	**2 to 1**	**12.563**	**8.3246**	

5.5.3 Other Aquatic Resource Impacts

The DNR is responsible for all public waters and public waters wetlands in the proposed BLRT Extension project area. Public Waters are depicted on **Figures 2 and 3**. A Public Waters Work Permit application would be submitted to the DNR via the MPARS on-line tool. The DNR may choose to waive jurisdiction of Public Waters to WCA during the permit review period. A summary of public waters and proposed impacts in the proposed BLRT Extension project area is as follows:

- **Unnumbered Public Watercourse**. Culverted outlet from W28. See **Figure 2**. Impacts to W28 are discussed in **Section 5.5.1** and in **Table 6**.
- **Public Water Wetland 644W**. Grimes Pond (Wetland # 33) and North Rice Pond (Wetland #32). See **Figure 2**. Impacts to W33 and 32 are discussed in **Section 5.5.1** and in **Table 6**.
- **Public Water 651P**. Backwater of Bassett Creek associated with Wetland #46, just north of the Plymouth Avenue bridge. See **Figure 2**. Impacts to W46 are discussed in **Section 5.5.1** and in **Table 6**.
- **Unnumbered Public Water Watercourse**. Bassett Creek near the Plymouth Avenue bridge (associated with Wetland #46) and associated with Wetland #48 near the intersection of the BNSF freight rail and Olson Memorial Highway. See **Figure 2**. Impacts to W46 and W48 are discussed in **Section 5.5.1** and in **Table 6**.

5.6 Proposed Mitigation

5.6.1 Objective

Impacts to wetlands and aquatic resources would occur in Bank Service Area (BSA) 7 and Major Watershed 20 (Mississippi River – Twin Cities). All impacts are in Hennepin County, within the 7-County Metro area and within the "<50%" zone". The objective of the mitigation strategy is to find a combination of suitable credits from bank accounts within BSA 7 and within the "<50%" zone and on-site wetland mitigation opportunities. For wetland impacts that are non USACE jurisdictional, the Council proposes to purchase credits for suitable wetland banks that are not USACE-approved and to some extent with credits deriving from on-site mitigation opportunities. For those wetland impacts that are USACE jurisdictional, the Council proposes a combination of the purchase of USACE-approved credits and augmented with some on-site mitigation opportunities.

A 2:1 mitigation ratio is currently assumed given that proposed mitigation (purchased credits or on-site opportunities) can likely meet 2 of the 3 USACE requirements that incrementally reduce mitigation from a base of 2.5:1. Credits purchases would begin within Hennepin County and, as needed, expand to other counties within BSA 7 and within the "<50% Zone". **Table 6** provides a summary of wetland impact, wetland type, impact type, and mitigation requirements.

Mitigation opportunities are summarized below:

- **Private Mitigation Bank Credits**. Suitable wetland banks that are within BSA 7 and within the "<50%" zone are located in Hennepin County, a portion of Carver County and a portion of Washington County. Credits that are USACE-approved would be purchased for impacts to wetlands that are determined to be USACE jurisdictional. Conversely, credits that are non USACE-approved would be used to mitigate for impacts to wetlands that are determined to be not USACE jurisdictional. The proposed wetland mitigation follows the approach in the *St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota* (USACE 2009) and the Minnesota WCA Rule as amended in August 2009. A summary of suitable and currently available banked credits is as follows:
    - **USACE-Approved Credits**. Currently, there are approximately 23 acres of USACE-approved wetland credits (including various wetland types and upland credits) available in either Hennepin County or in the BSA 7 portion of Carver County (all within the "<50%" zone).
    - **Non USACE-Approved Credits**. Currently, there are approximately 18 acres of Non USACE-approved wetland credits (including various wetland types and upland credits) available in either Hennepin County or in the BSA 7 portion of Carver County (all within the "<50%" zone).
- **On-site Wetland Mitigation Opportunities**. Several areas within or adjacent to the proposed BLRT Extension project area have been identified that would provide on-site wetland mitigation. These areas are Theodore Wirth Regional Park, the former Joyner's Golf Course (W22), and the North Hennepin Community College and several small expansions of existing wetland boundaries (W28 and W39). See **Appendix D** for a conceptual drawing of the Theodore Wirth Regional Park site. See **Figure 2 (page 7)** for the W22 site and North Hennepin Community College site. See **Appendix B** (planset) for details on expansions to W28 and W39.

- **Theodore Wirth Regional Park**. This on-site mitigation area is located in the northwest quadrant of the intersection of the BNSF freight rail corridor and Olson Memorial Highway. See **Figure 2**. This site is adjacent to Bassett Creek and is currently overlain in part by fill composed of concrete rubble. With fill removal, grading and native vegetation establishment, this site would provide required floodplain mitigation as well as wetland mitigation. Portions of this area would be excavated to intercept the water table and form a mosaic of wetland types 1, 2, 3 and 6. Plantings within proposed wetland would be appropriate seed mixes, plugs and whips. Upland prairie buffer would be established above the established wetland boundary. It is estimated that this area could yield approximately 1.50 acres of on-site wetland credits.

- **Former Joyner's Golf Course (W22).** The former Joyner's Golf Course was planned to be converted to a wetland mitigation bank in the early 2000s. See **Figure 2** for location. Details of the agency coordination for this process would be discussed in detail in the WCA/ Corps Joint Permit Application for the West Broadway Avenue (CSAH 103) Reconstruction project (Hennepin County). The state and federal agency process for establishing a wetland bank here was abandoned in 2007 as a result of the economic downturn that adversely impacted building construction. The intent was to re-meander Shingle Creek through the former golf course; however, the straightened reach of Shingle Creek was never connected via ditches or culverts to the re-meander. Some work was completed at the site before it was abandoned; however, it was never vegetated according to the planting plan and monitoring was never initiated. The Council proposes to establish direct (permittee responsible) wetland replacement credits on the site for use as mitigation for proposed BLRT Extension project. The Council would coordinate with Hennepin County should it be determined that a portion of the replacement wetland credits would be used as mitigation for the West Broadway Avenue (CSAH 103) Reconstruction project wetland impacts. If the presence of the former golf course establishes a previous upland condition, then it is assumed that the area could yield wetland creation; at 75% credit, or approximately 5-7 acres of credit. If the wetlands present on-site prior to the construction of the golf course are considered to be the baseline, then the area would yield wetland restoration; at 100% credit, or approximately 8-10 acres of credit. Currently the re-meander through the former golf course is not connected to the straightened reach of Shingle Creek. It would be a matter of discussion with the USACE as to whether proposed mitigation activities at the former golf course could become Corps-approved credits or not.

- **Various Proposed Expansions of Existing wetland in the Proposed BLRT Extension Project Area.** A small expansion of the boundaries of W39 (See **Appendix B, Sheet 6**) would increase the size of the wetland by approximately 0.092 acres. The expansion area associated with W28 is 0.5871 acres. A percentage of the expansion areas associated with W39 and W28 may be creditable as wetland creation or upland buffer.

It is anticipated that 4.1623 acres of wetland impact would require replacement to meet the USACE requirements set forth in the 2008 Federal Mitigation Rule and *St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota* (USACE 2009). The USACE base compensation ratios for wetland replacement are typically at a 2.5: 1 ratio. Depending on factors of whether replacement can be achieved in-kind, in-place, and/or in-advance, the compensation ratio can be decreased at incremental steps of 0.25:1 to achieve a smaller compensation ratio. The Council anticipates that a mitigation ratio of 2:1 can be achieved based on the likelihood that at least 2 of the factors above can be met.

Total wetland impacts are 13.1878 ac. The portion of the total wetland impacts that are WCA jurisdictional is 6.2815 ac. The portion of the total wetland impacts that are USACE jurisdictional is 4.1623 ac. Assuming a 2:1 mitigation ratio for WCA would require 12.563 ac of wetland mitigation. Assuming a 2:1 mitigation ratio for USACE would require 8.3246 ac of wetland mitigation. It is estimated that on-site wetland mitigation opportunities within the proposed BLRT Extension project area could yield ~5 acres of wetland credit (including upland buffers). The remainder (7.563 ac for WCA and 3.3246 ac for the USACE) of mitigation needs could be purchased from suitable private wetland mitigation banks. Characteristics of on-site mitigation opportunities are summarized in **Table 7**. Available credits in existing wetland banks, some Corps -approved and some non Corps-approved, are summarized in **Table 8**.

5.6.2 Site Selection

On-site mitigation opportunities within and near the proposed BLRT Extension project area are somewhat constrained. The northern third of the proposed BLRT Extension project area, roughly coincident with the city of Brooklyn Park, is on the southern fringe of the Anoka Sand Plain. Here, water tables have dropped dramatically in the past half century requiring excessive soil removal to intercept the perched water table and make mitigation feasible. Even with deep excavation, the anticipated wetland hydrology is at risk of failure in the long term. The southern two-thirds of the proposed BLRT Extension project are largely constrained by existing development. However, given these constraints, several on-site mitigation opportunities have been located and are summarized in **Table 7**.

Table 7
Summary of On-Site Wetland Mitigation Opportunities

On-Site Mitigation Opportunity	Location	Reference to Figure or Drawing	Relation to Impacts
Theodore Wirth Regional Park	West of the proposed BLRT Extension project and just north of Olson Memorial Highway	See **Appendix D**; see concept drawing	Within same Major Watershed and BSA of impacts within the proposed BLRT Extension project.
Bassett Creek relocation (Water of the US)	450 feet of Bassett Creek near the Plymouth Avenue Bridge	See **Appendix B**; Sheets 4 of 26 (planview) and 14 of 26 (cross-section)	New channel 20 feet to the west of old channel.
Expansion of southeast corner of	East side of proposed	See **Appendix B**; Sheet 5 of 26	Adjacent to Wetland 39

Table 7 Summary of On-Site Wetland Mitigation Opportunities			
On-Site Mitigation Opportunity	Location	Reference to Figure or Drawing	Relation to Impacts
Wetland 39	BLRT Extension project and just north of Golden Valley Road		
Expansion of southern and western edge of Wetland 28	West side of proposed BLRT Extension project and just north of 62nd Ave North	See **Appendix B**; sheet 9 of 26	Adjacent to Wetland 28.
Former Joyners Golf Course	West side of West Broadway Ave (city of Brooklyn Park) and just north of Shingle Creek	See **Figure 2 and 3** (page 7)	Delineated as Wetland 22 (within the West Broadway Avenue (CSAH 103) Reconstruction project. Previous planning was nearly completed for a wetland mitigation bank at this site. Subject of agency coordination to seek concurrence that this site, under appropriate conditions, could provide direct replacement credits for the proposed BLRT Extension project.

Private wetland bank credits that would be suitable as mitigation for impacts within the proposed BLRT Extension project are summarized in **Table 8**. All suitable credits are in BSA 7 and in the "<50%" portion of the State. Available credits change over time. A draft Purchase Agreement for selected bank credits would be submitted to the TEP and the USACE as the permitting process matures.

Table 8 Summary of Private Wetland Mitigation Bank Credit Opportunities				
County	Bank Acct.	BSA, Zone, Major Watershed)	USACE Approved?	Wetland Types (ac) Available
Hennepin	**#1171**	BSA 7, <50%, 20	Yes	3 (1.27)
Hennepin	**#1310**	BSA 7, <50%, 19	No	2 (0.4), 3 (0.557), 6 (1.883)
Hennepin	**#1361**	BSA 7, <50%, 18	No	2 (0.3273), 3 (2.5341), U (0.846)
Hennepin	**#1414**	BSA 7, <50%, 19	Yes	3 (0.2238) 4 (0.3927) U (0.2679)
Hennepin	**#1518**	BSA 7, <50%, 20	Yes	1 (0.9216) 2 (0.904)

Table 8 Summary of Private Wetland Mitigation Bank Credit Opportunities				
County	Bank Acct.	BSA, Zone, Major Watershed)	USACE Approved?	Wetland Types (ac) Available
				4 (0.344)
Hennepin	**#1518**	BSA 7, <50%, 20	No	2 (3.974)
Hennepin	**#1546**	BSA 7, <50%, 18	No	2 (1.02) 3 (0.35)
Hennepin	**#1560**	BSA 7, <50%, 20	No	2 (2.42) 3 (0.26) U (0.24)
Carver	**#1375**	BSA 7, <50%, 19	Yes	2 (2.67) 3 (1.13) 4(5.97) U (10.98)
Carver	**#1444**	BSA 7, <50%, 19	Yes	1 (4.76) 3 (4.62)
Carver	**#1444**	BSA 7, <50%, 19	No	U (4.02)
Total Non-Corps Approved Credits Currently Available:				**23.390**
Total Corps Approved Credits Currently Available:				**18.83**

5.6.3 Site Protection

All potential on-site mitigation areas within the proposed BLRT Extension project area would be protected by deed restrictions. All potential credits purchased from wetland banks would already be protected by perpetual conservation easements.

5.6.4 Baseline Information

The following summarizes site characteristics for potential on-site wetland mitigation opportunities within the proposed BLRT Extension project area:

- **Theodore Wirth Regional Park.** This area is adjacent to Bassett Creek and is partially underlain by fill material composed of construction rubble. Existing plant communities are non-native upland forb-land with some disturbed floodplain forest in the southernmost extent. Fill would be removed and this area would be re-contoured to intercept and retain the flow of Bassett Creek to provide floodplain volume mitigation and wetland mitigation. The lat/ long of this site is: 44.985419/ -93.318095

- **Bassett Creek relocation.** This ~450 foot reach of Bassett Creek would be moved approximately 20 feet to the west in the vicinity of the Plymouth Avenue Bridge. The lat/ long of this site is: 44.991548/ -93.319394

- **Expansion of southeast corner of Wetland 39.** The elevation of the wetland boundary in the southeasternmost extent of Wetland 39 would be moved to the southeast. Soil would be removed and this area would be re-contoured to provide floodplain volume mitigation and wetland mitigation. The lat/ long of this site is: 45.000825/ -93.323692

- **Expansion of southern and western edge of Wetland 28.** The elevation of the wetland boundary in the southern and western extent of Wetland 28 would be moved to the south and west. Soil would be removed and this area would be re-contoured

to provide floodplain volume mitigation and wetland mitigation. The lat/ long of this site is: 45.066318/ -93.367018

- **Former Joyners Golf Course.** This area, once a golf course and prior to that a natural meander of Shingle Creek, was intended to become a wetland mitigation bank in the early 2000s. After most agency permits and approvals had been obtained, the owners, as a result of the economic downturn in the late 2000s, abandoned the project as a result of bankruptcy. Some earthmoving occurred prior to abandonment of the site with the intent of re-meandering Shingle Creek through it – though the site was never actually re-connected to the Creek. No planting of wetland communities or upland buffer occurred. The lat/ long of this site is: 45.100948/ -93.377625

5.6.5 Determination of Credits

Credits, per WCA, would be determined by 8420.0105. Credits, per the USACE, would be determined based on USACE mitigation guidelines.

Potential credits deriving from on-site mitigation opportunities are currently based on assumptions that would require agency concurrence as the permitting process matures. However, the following provides an estimate of the amount of mitigation credit that each on-site mitigation opportunity might yield. The Council estimates that, cumulatively, on-site mitigation opportunities would yield approximately 4-6 acres of wetland credit.

- **Theodore Wirth Regional Park.** Based on the close proximity of Bassett Creek and the presence on construction rubble fill, it is assumed that this site was a wetland in the past. Therefore, wetland credits would be considered restoration for which would yield 100% credit. Upland buffers, planted in native upland prairie would yield 25% credit. The proposed complex of Type 2, 3 and 6 wetlands and upland buffer may yield approximately 1.5 acres of wetland credit.

- **Bassett Creek relocation.** This ~450 foot reach of Bassett Creek would be moved approximately 20 feet to the west in the vicinity of the Plymouth Avenue Bridge. The lat/ long of this site is: 44.991548/ -93.319394. This is the relocation of a linear reach of stream and would involve appropriate BMPs and stream restoration practices.

- **Expansion of southeast corner of Wetland 39.** This expansion of a portion of Wetland 39 currently lies above the delineated boundary of the wetland. Therefore, the excavation would be considered wetland creation, yielding 75% of the footprint of the excavation. The footprint is 0.0916 acres and the credit yield would be a percentage of that, likely 75% if it would be creditable as wetland creation.

- **Expansion of southern and western edge of Wetland 28.** This expansion of a portion of Wetland 28 currently lies above the delineated boundary of the wetland. Therefore, the excavation would be considered wetland creation, yielding 75% of the footprint of the excavation. The footprint of the expansion is 0.5871 acres and the credit yield would be a percentage of that depending on whether it would be wetland creation of upland buffer.

- **Former Joyners Golf Course.** This area was, in the early 2000s, intended to be converted to a wetland mitigation bank and was slated to yield approximately 10-12 acres of credit. Depending on whether the golf course (upland) is considered the baseline or the pre-golf course wet condition is considered the baseline the proposed

wetland work could be considered creation or restoration. It is assumed that the site could yield between 5 and 10 acres of credit.

-

Potential credits deriving from wetland bank purchases are straightforward. There are currently ample credits available in suitable private banks to make up for shortfalls in on-site mitigation opportunities. It is assumed that the mitigation component derived from private wetland bank purchases would be greater than the component deriving from on-site mitigation opportunities.

5.6.6 Mitigation Work Plan

Earthmoving within proposed on-site mitigation areas is scheduled to begin in 2017 or 2018. Side slopes (upland buffers) would be contoured to be as flat as is practicable. Areas where earthmoving would occur would be rapidly re-vegetated. BMPs would be implemented to minimize erosion. Suitable seed mixes, plugs and whips (where appropriate) for wetland and upland prairie communities would be planted.

5.6.7 Maintenance Plan

On-site mitigation areas would be monitored for approximately 5 years based on intended hydrology and plant communities. Invasive species infestations would be mapped and eradicated with herbicide using broadcast or spot spraying methods as needed. Deficiencies in wetland hydrology would be amended as needed. If conditions within the on-site mitigation area are progressing favorably, the monitoring period, with agency concurrence, may be shortened. Final credits derived from the mitigation area would be based on a final wetland delineation that would be submitted to the TEP and the USACE for approval.

5.6.8 Performance Standards

Hydrology monitoring would be based on the suite of hydrology indicators typically used for wetland delineations, including assessment of primary and secondary indicators. If an on-site mitigation area meets the criteria for wetland hydrology per the USACE Wetland Delineation Manual and appropriate Regional Supplements, then it would also meet the performance standards set forth in the monitoring plan.

If an area (wetland credit or native upland buffer credit) has less than 20% of the area occupied by invasive species, it would be considered to meet vegetation performance standards set forth in the monitoring plan.

It is assumed that private mitigation credits would have already achieved performance standards before the credits are released for sale.

5.6.9 Monitoring Requirements

Following construction, permanent sampling/observation points would be established in transects running perpendicular to as-built contours for each on-site wetland mitigation area. Percent cover of each species would be recorded in a radius from the sampling point consistent with the USACE Wetland Delineation Manual and appropriate Regional Supplements. Hydrology indicators would be recorded at each sampling point. A total plant species list would be recorded in a random meander throughout each on-site mitigation area. An annual monitoring report would be submitted to the TEP and the USACE. Corrective actions, where needed, would be undertaken.

It is assumed that relevant private mitigation banks to be used for the proposed BLRT Extension project have already completed a monitoring process before credits are released for sale.

5.6.10 Long-Term Management Plan

After the monitoring period has ended, on-site mitigation areas would be assessed occasionally for potential recurring invasive species issues. Corrective actions would be implemented.

5.6.11 Adaptive Management Plan

If hydrology is deficient, the Council would potentially propose corrective action such as earthwork or adjustment of inverts, or the Council would re-calculate credit yield and make up the difference through purchase of additional private wetland mitigation credits.

Infestations of invasive species throughout the monitoring period and post-monitoring period would be assessed and a strategy to control the issue would be developed. If the issue were of such a magnitude that it would jeopardize credit yield, and it becomes evident that the problem cannot be brought under reasonable control, then credit yield would be re-calculated and additional credits would be purchased from a suitable private wetland mitigation bank.

5.6.12 Financial Assurances

Proposed on-site mitigation success would be the subject of TEP and USACE concurrence based on monitoring. If portions of the on-site mitigation areas and corrective actions are deemed unsuccessful, then the credit deficit would be made up by purchasing additional private wetland mitigation bank credits.

Table 9
Summary of Wetland Replacement Needs

Wetland Regulatory Authority	Quantity of Wetland Impacts Requiring Mitigation by Regulatory Authority	Proposed Mitigation Ratio	Required Mitigation	Total Credits to be Debited from Banks (Proposed)	Total On-site Mitigation Credits
USACE Jurisdiction	4.1623	2:1	8.3246	~3.3246	~5
WCA Jurisdiction	6.2815	2:1	12.5630	~7.5632	~5
DNR Jurisdiction	All assumed to be waived to WCA	--	--	--	--

5.6.13 Agency Requirements

5.6.13.1 U.S. Army Corps of Engineers

The USACE rules require a base replacement ratio of 2.5:1 in for this “<50%” area of Minnesota for direct wetland impacts, with incentives to reduce that ratio to 2:1. Incentives are offered if the wetland mitigation is provided “in kind,” with wetland replacement being the same type as that impacted; “in place,” purchase of credits in the same wetland bank service

area (BSA) or creation of wetland onsite; and, "in advance," or prior to the impacts from the proposed action. In some circumstances, impacts to USACE jurisdictional basins or ditches may be considered "self-mitigating" if it can be demonstrated that the basin or ditch would function similarly comparing pre and post-construction conditions.

5.6.13.2 Wetland Conservation Act (Various WCA LGUs)

The WCA would require a 2 :1 mitigation ratio, given that the impacts would occur in the "<50%" area of Minnesota, BSA 7, Major Watershed 20 and the 7-county Metro area of the Twin Cities and assuming that mitigation would occur BSA 7 and the "<50%" zone. It is assumed that some mitigation would be on-site to the extent practicable and the remainder of required mitigation would derive from private banks in Hennepin County and suitable portions of Carver County.

5.6.13.3 Minnesota Department of Natural Resources

A Public Waters Work Permit, issued by the DNR, would be required for any work that is proposed within Public Watercourses, Public Waters and Public Waters Wetlands. A Public Waters Work Permit application would be submitted electronically through the MPARS. The DNR may choose to waive jurisdiction to WCA LGUs as part of the permit review process.

5.7 Permitting

Permits for impacting wetlands would be required by the USACE and approvals for the replacement plan would be required by the various WCA LGUs. Work within Public Watercourses, Public Waters, or Public Waters Wetlands would require a Public Waters Work Permit issued by the DNR.

5.7.1 U.S. Army Corps of Engineers

The proposed BLRT Extension project is eligible for an Individual Permit. A copy of the Joint Application Form for Activities Affecting Water Resources in Minnesota is provided at the beginning of this document. A copy of this application has also been submitted to the MPCA for their review and approval, and subsequent issuance of Clean Water Act Section 401 Certification.

5.7.2 Wetland Conservation Act – Various WCA LGUs

The WCA LGUs listed below are responsible for administering the WCA in the proposed BLRT Extension project area. Compensatory mitigation for wetland impacts is proposed through withdrawal of credits from a suitable wetland bank and on-site wetland mitigation. A copy of the Joint Application Form for Activities Affecting Water Resources in Minnesota is provided at the beginning of this document. **Tables 3 and 4** show the relevant WCA LGU for each delineated basin in the proposed BLRT Extension project area. Relevant WCA LGUs within the proposed BLRT Extension project area include:

- Shingle Creek Watershed Management Commission
- City of Crystal
- Bassett Creek Watershed Management Commission
- City of Golden Valley
- City of Minneapolis

5.7.3 Minnesota Department of Natural Resources

The DNR is responsible for all public waters and public waters wetlands in the proposed BLRT Extension project area. A DNR Public Waters Work Permit Application would be submitted via the MPARS on-line tool. The DNR may choose to waive jurisdiction to WCA during the permit review process. Public Waters are depicted on **Figures 2 and 3**. A summary of public waters in the proposed BLRT Extension project area is as follows:

- **Unnumbered Public Watercourse**. Culverted outlet from Wetland #28. See **Figure 2**.
- **Public Water Wetland 644W**. Grimes Pond (Wetland # 33) and North Rice Pond (Wetland #32). See **Figure 2**.
- **Public Water 651P**. Backwater of Bassett Creek associated with Wetland #46, just north of the Plymouth Avenue bridge. See **Figure 2**.
- **Unnumbered Public Water Watercourse**. Bassett Creek near the Plymouth Avenue bridge (associated with Wetland #46) and associated with Wetland #48 near the intersection of the BNSF freight rail and Olson Memorial Highway. See **Figure 2**.

5.8 Supplemental Design Data to be Submitted

Data provided in this permit application is anticipated to be adequate for public noticing of the proposed BLRT Extension project under the Wetland Conservation Act (WCA) and the USACE Section 404 permitting requirements. Comments related to wetland impacts, mitigation, and permitting issues received after the publication of the proposed BLRT Extension project Final EIS and before the Record of Decision would be provided to the USACE, MPCA (for CWA 401 Water Quality Certification), DNR, and the appropriate WCA LGU in a supplemental submittal. **Table 10** summarizes supplemental data that would be forthcoming to inform the permit decision.

Table 10
Summary of Supplemental Data to be Provided by The Council

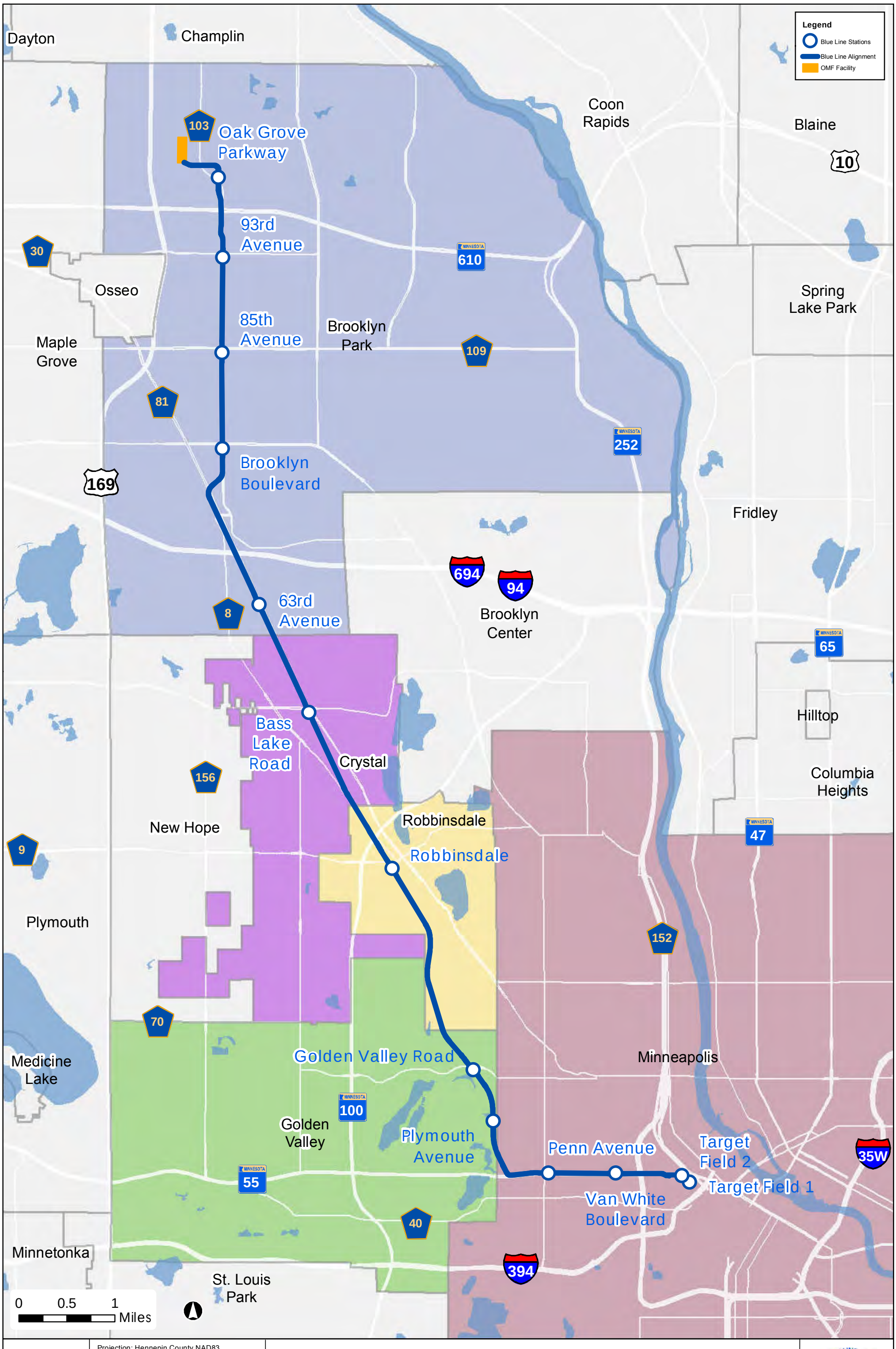
Data	Anticipated Date
Hydraulics Reports (various aquatic resources)	Q1 2017
SWPPP	Q2 2017
Additional Final Design Details	Q2 2017
Detailed Grading and Planting Plans for Proposed On-Site Mitigation	Q2 2017
Draft Purchase Agreements for wetland credit purchases	Q3 2017
Fully executed credit withdrawal transaction forms for purchases on wetland mitigation credits.	Q3 2017

List of Figures

Figure 1 – Proposed BLRT Extension Project Overview Map

Figure 2 – Mapbook with Aerial Imagery, Delineated Basins, NWI, PWI and Other Water Resources

Figure 3 – Mapbook with Aerial Imagery, Hydric Soil Mapping and 2-Foot LiDAR Contours.



Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 1 - Project Location

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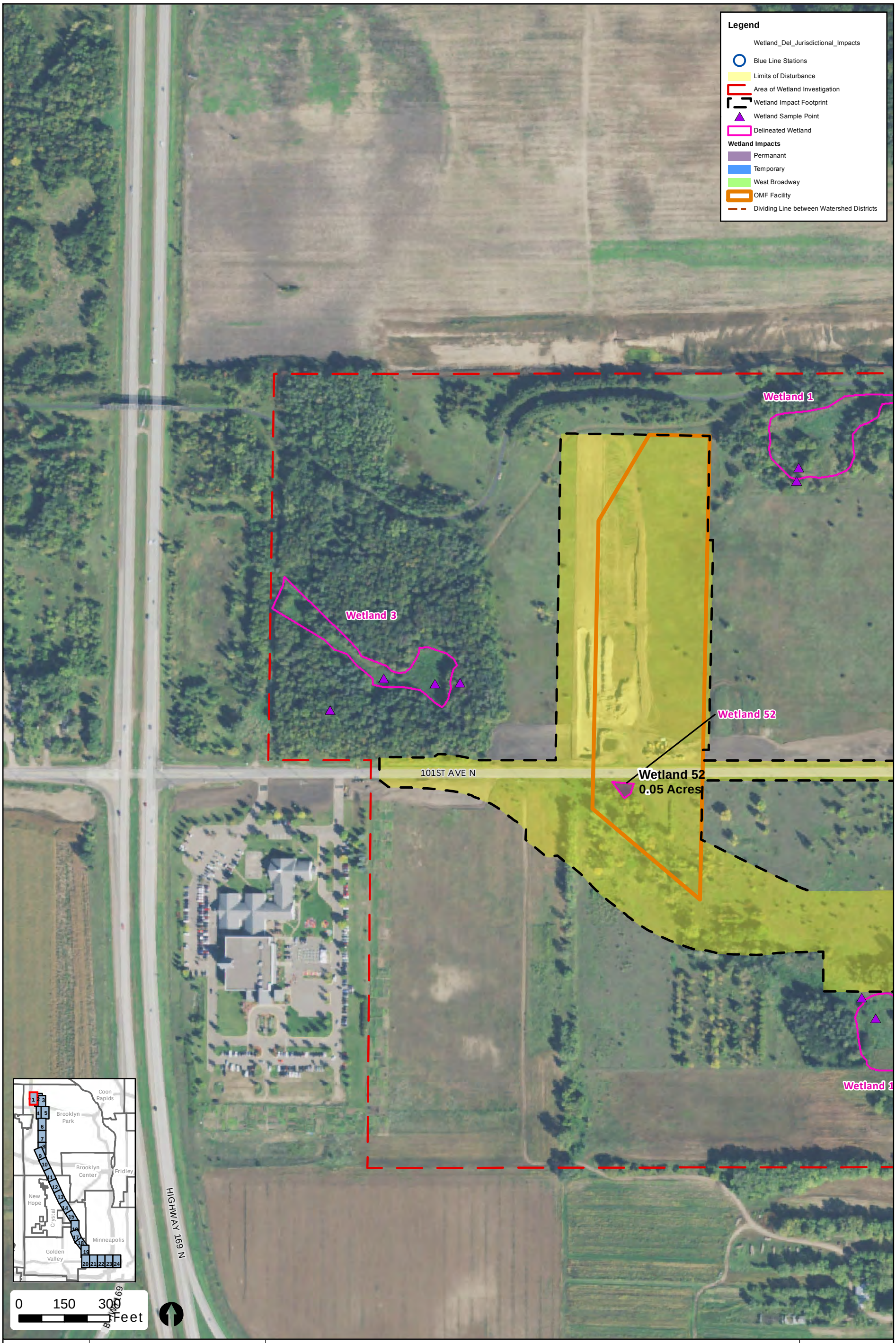

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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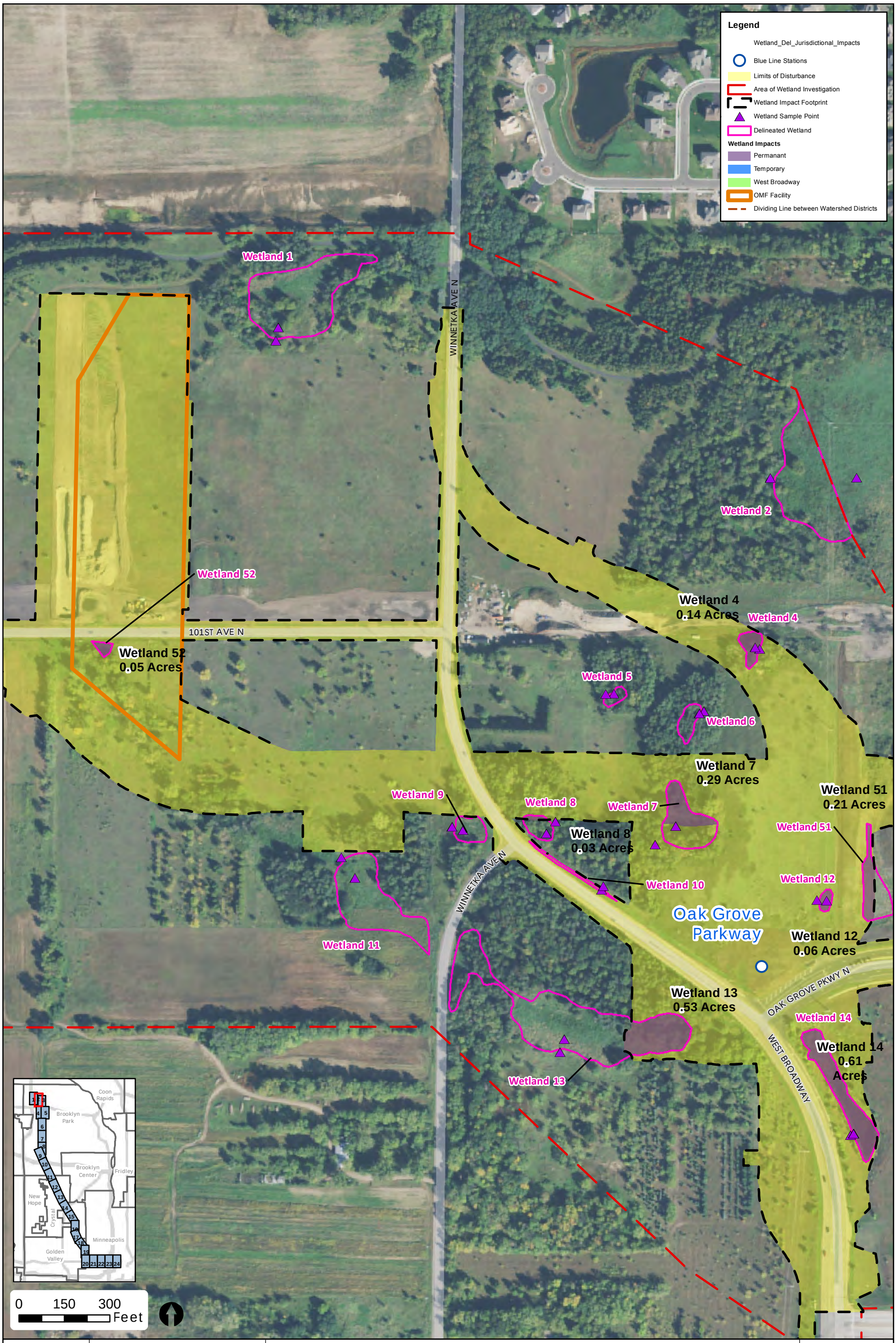

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Figure 2 - Wetlands
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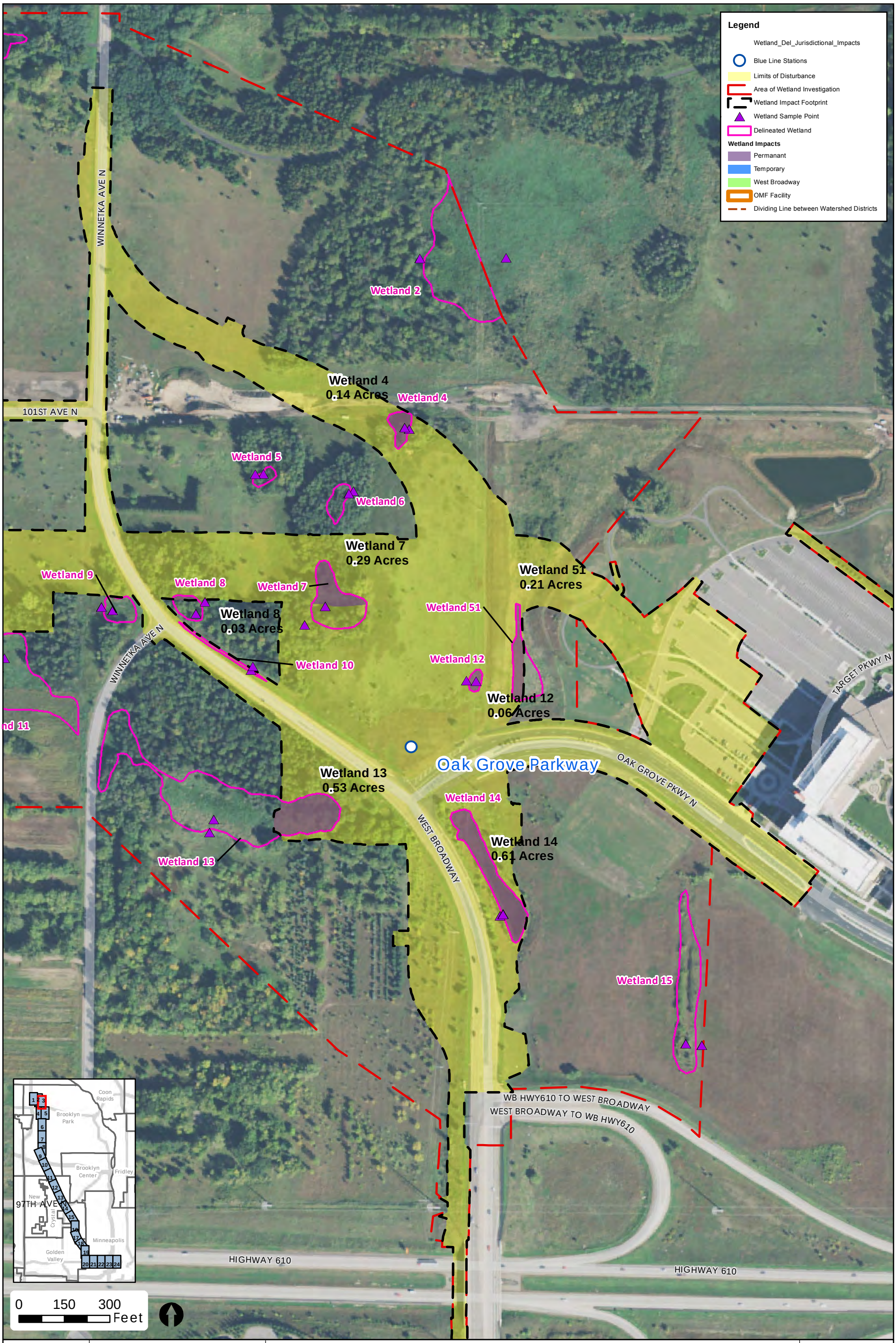

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Figure 2 - Wetlands
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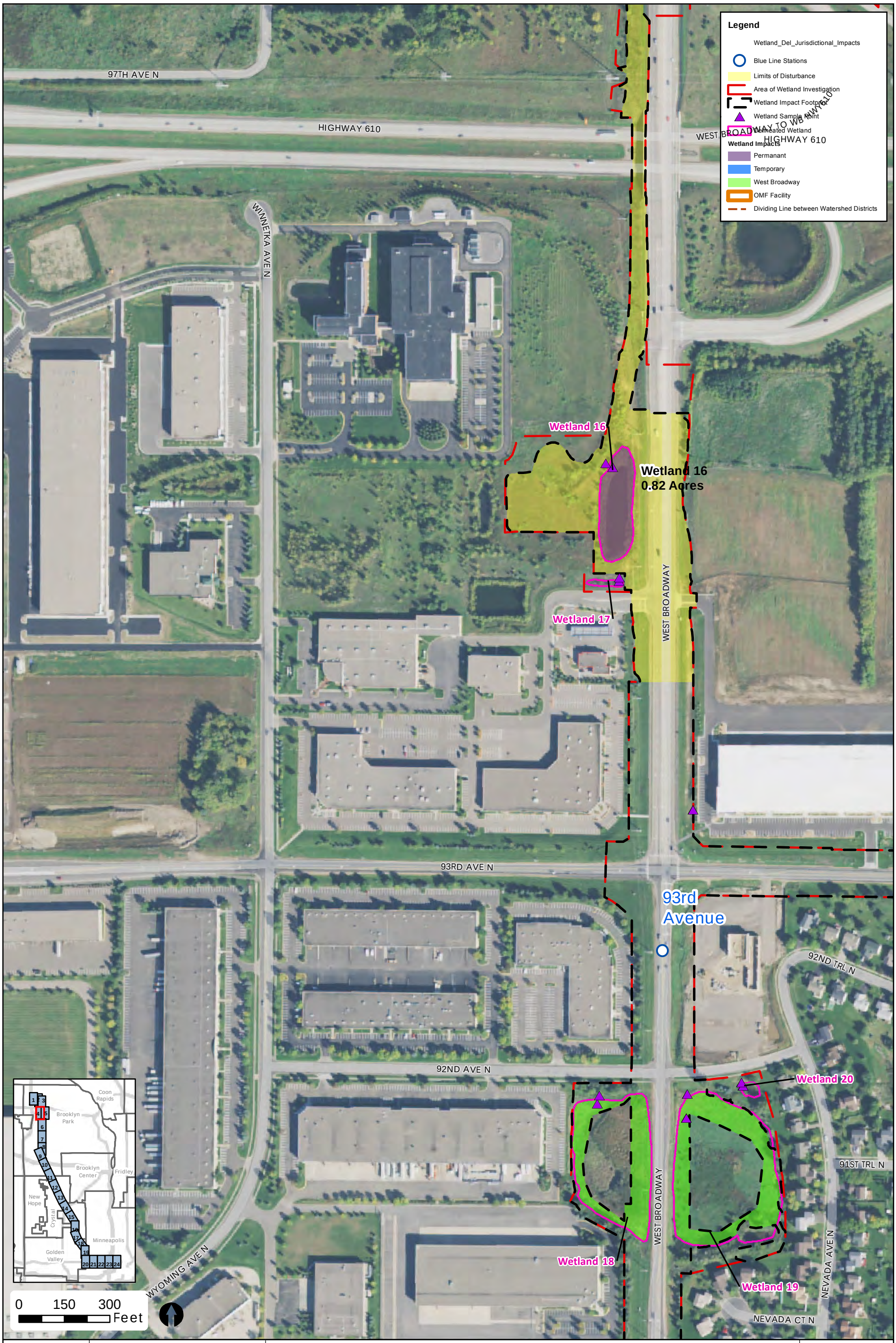

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Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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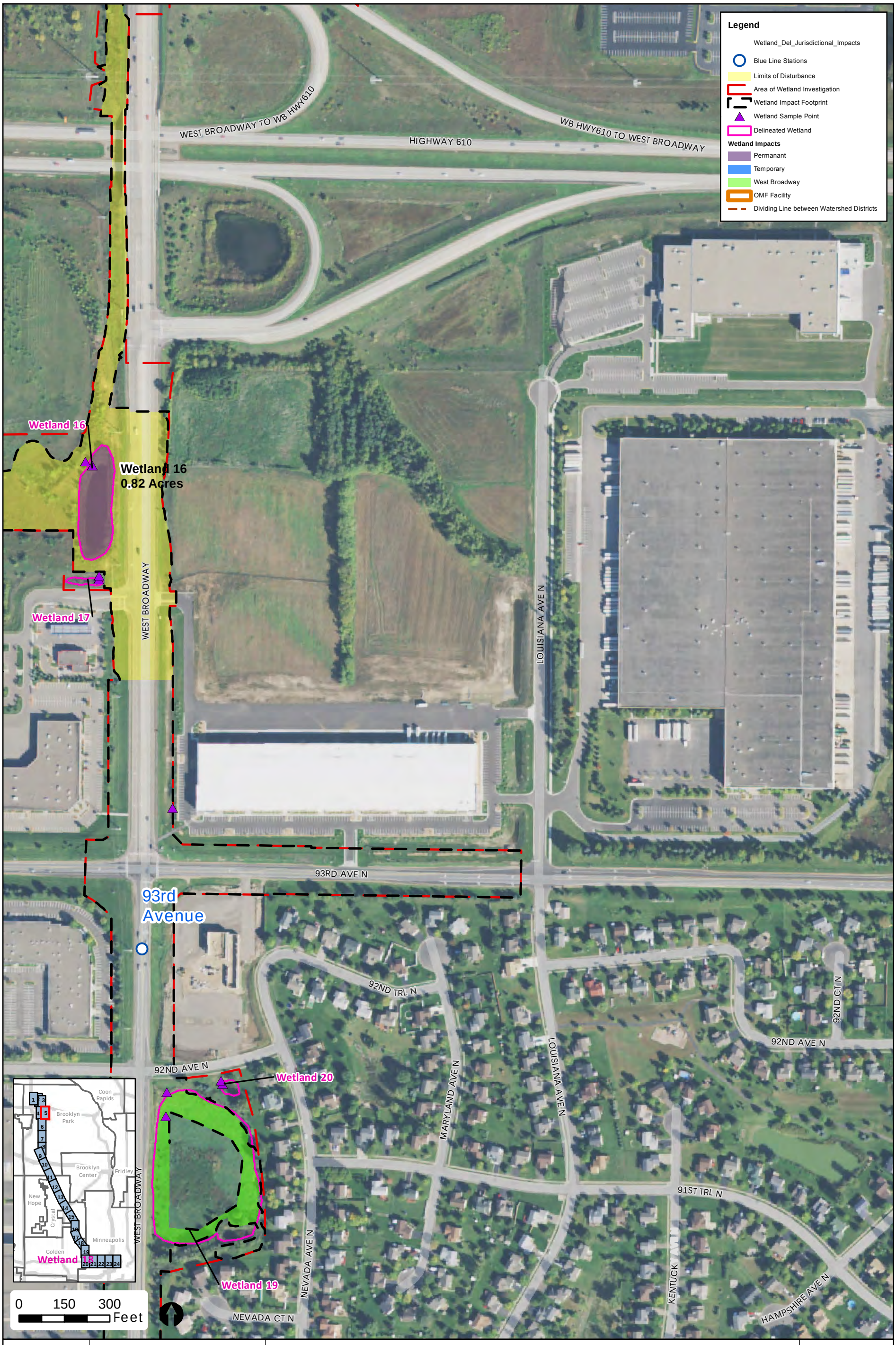

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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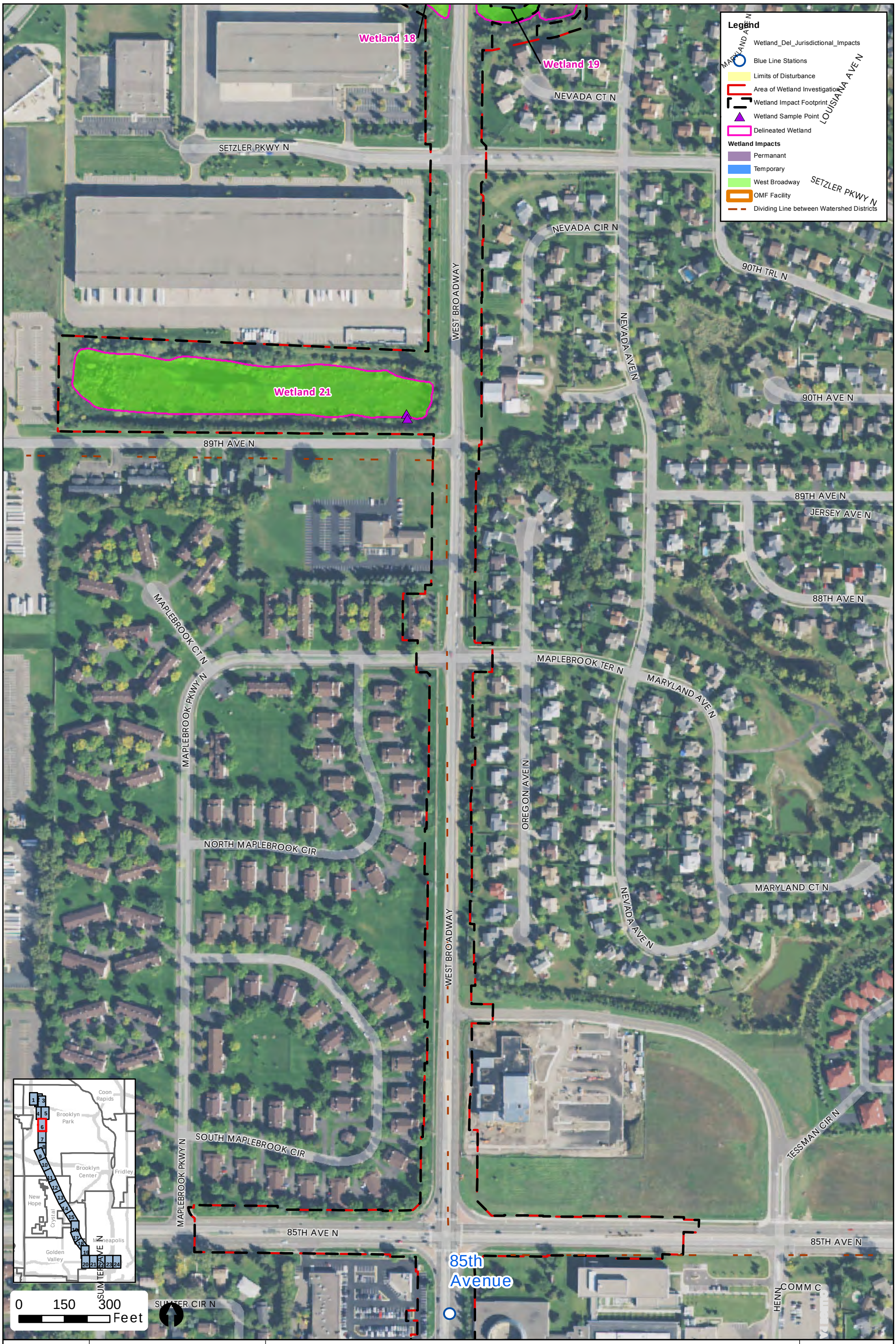

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Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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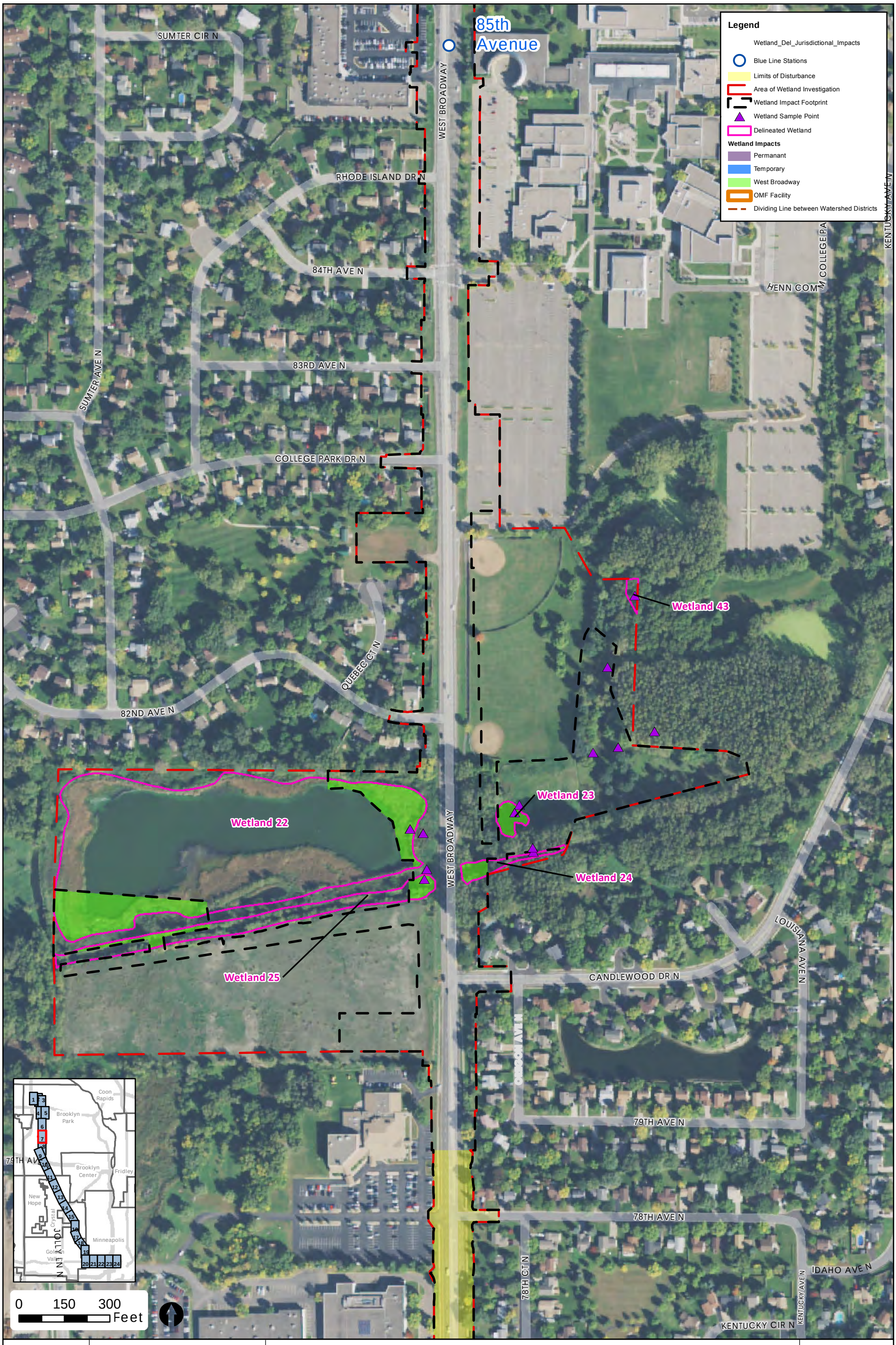

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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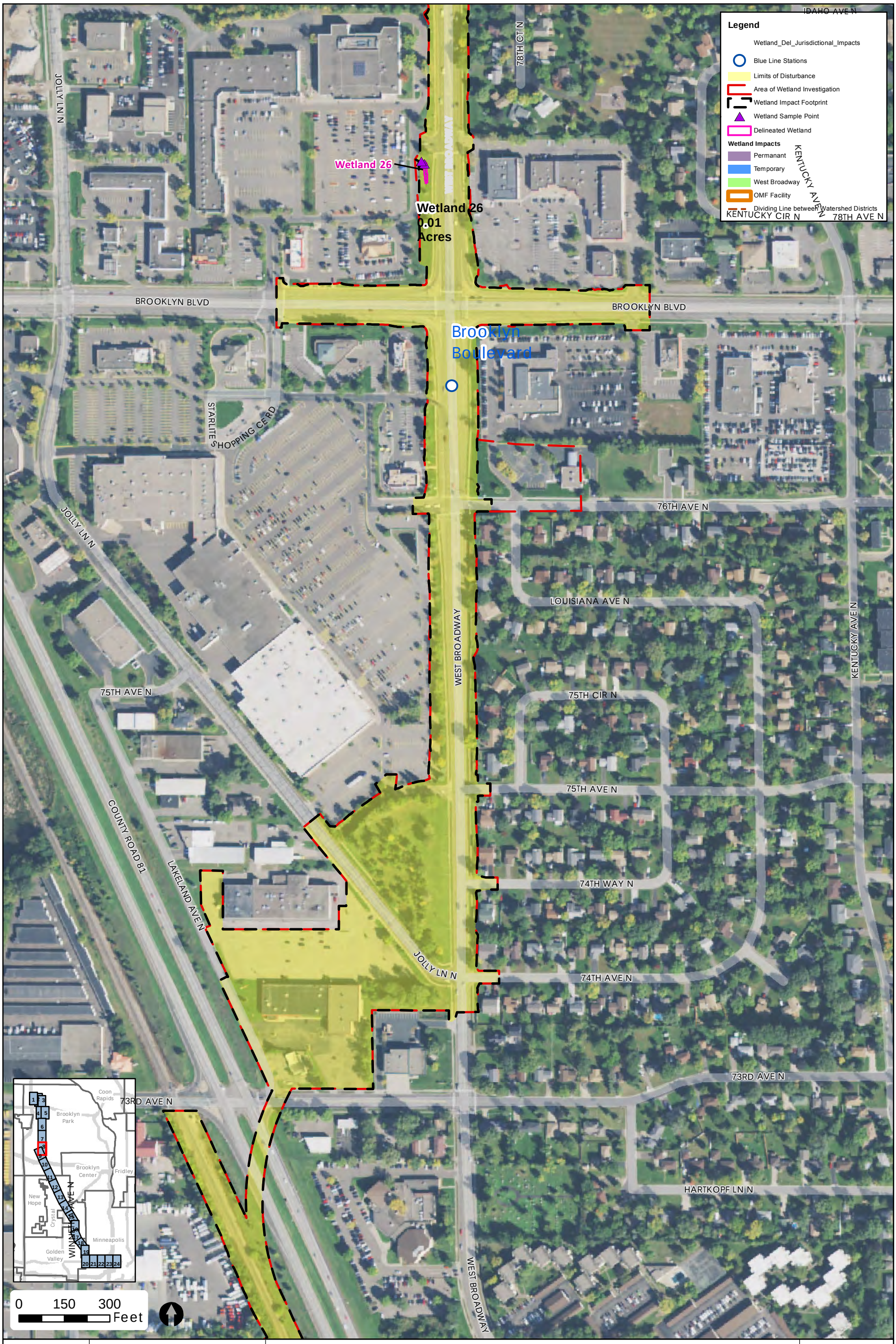

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
Page 8

METRO Blue Line Extension

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Date:5/16/2016

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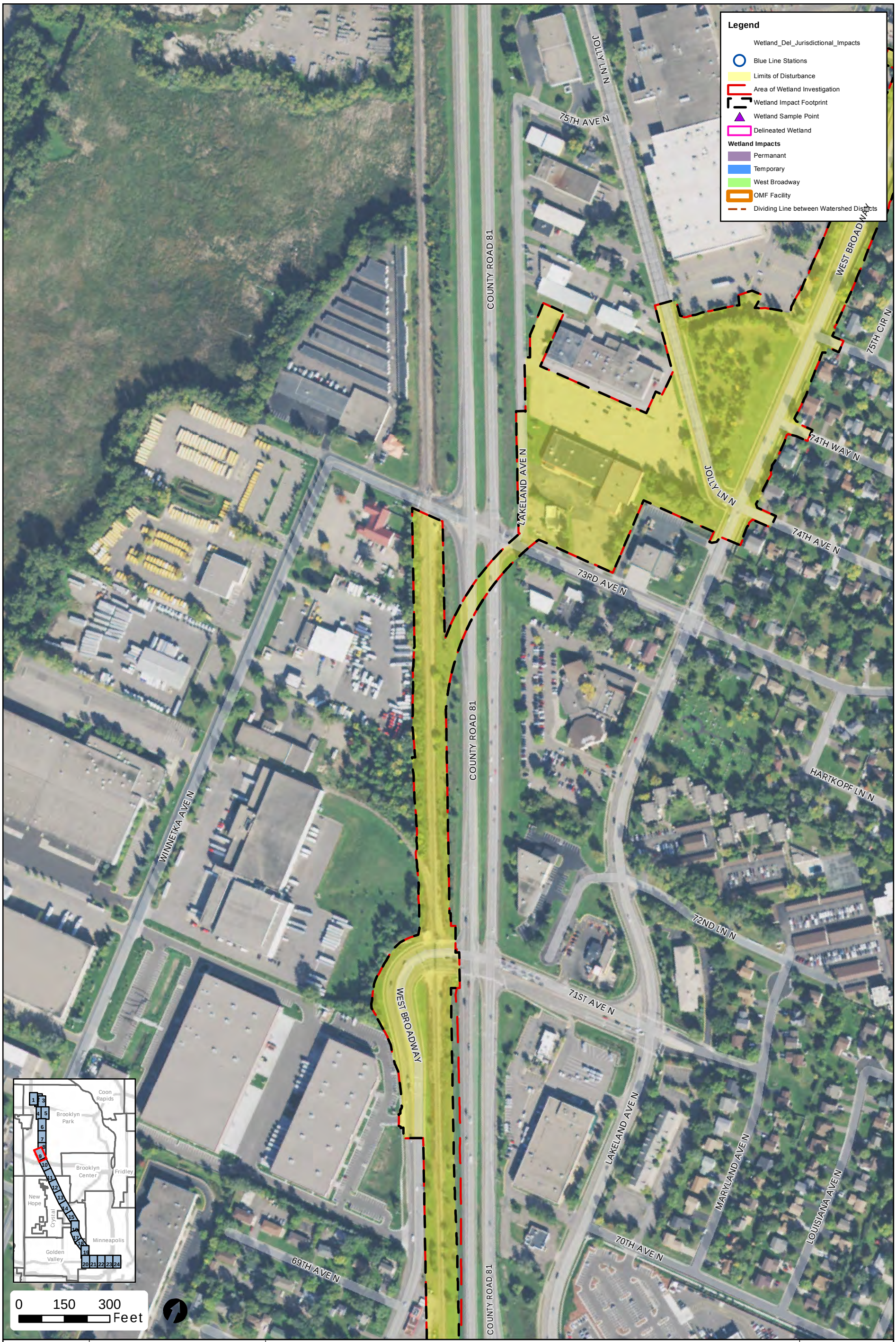

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
Page 9

METRO Blue Line Extension

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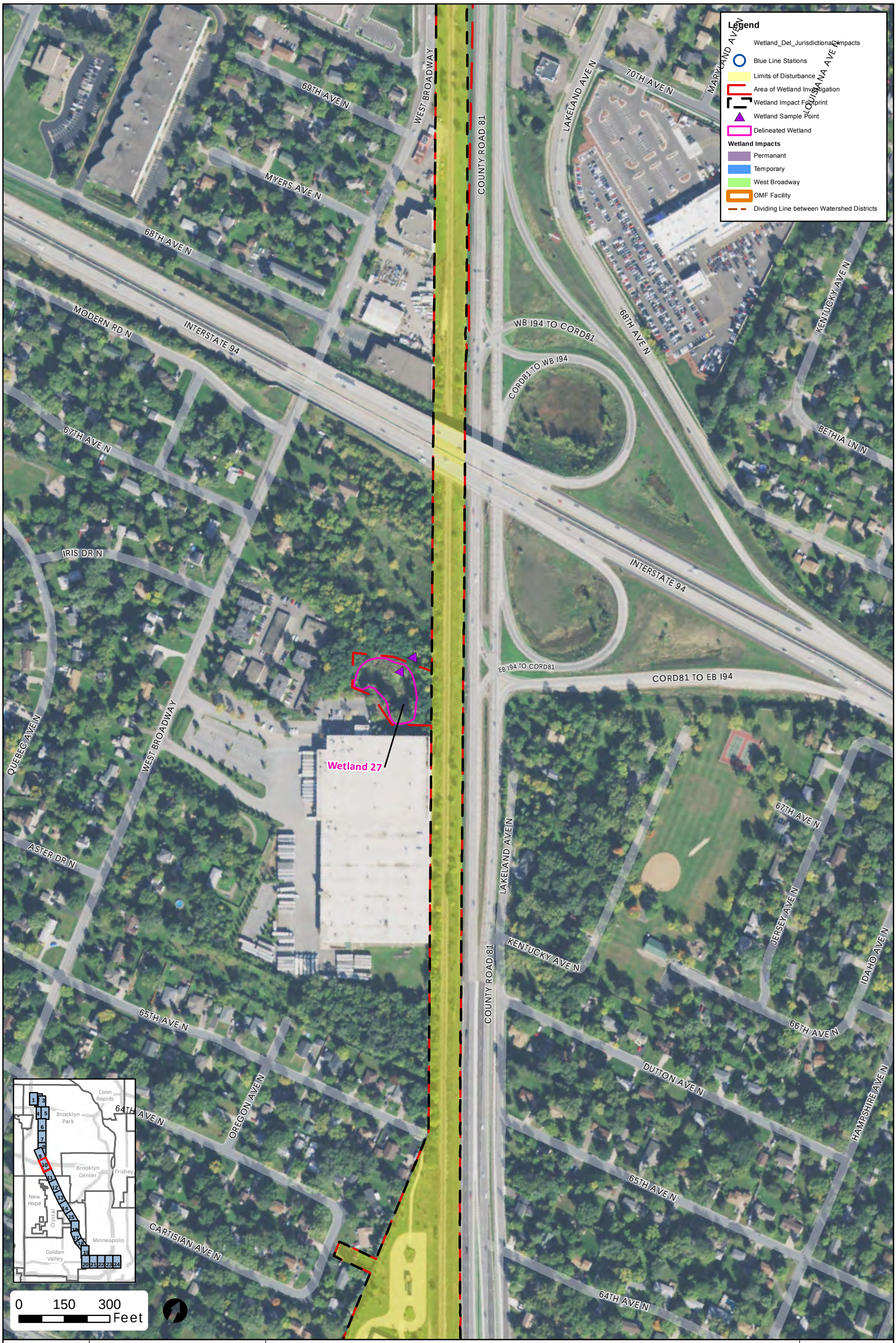

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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Date:5/16/2016

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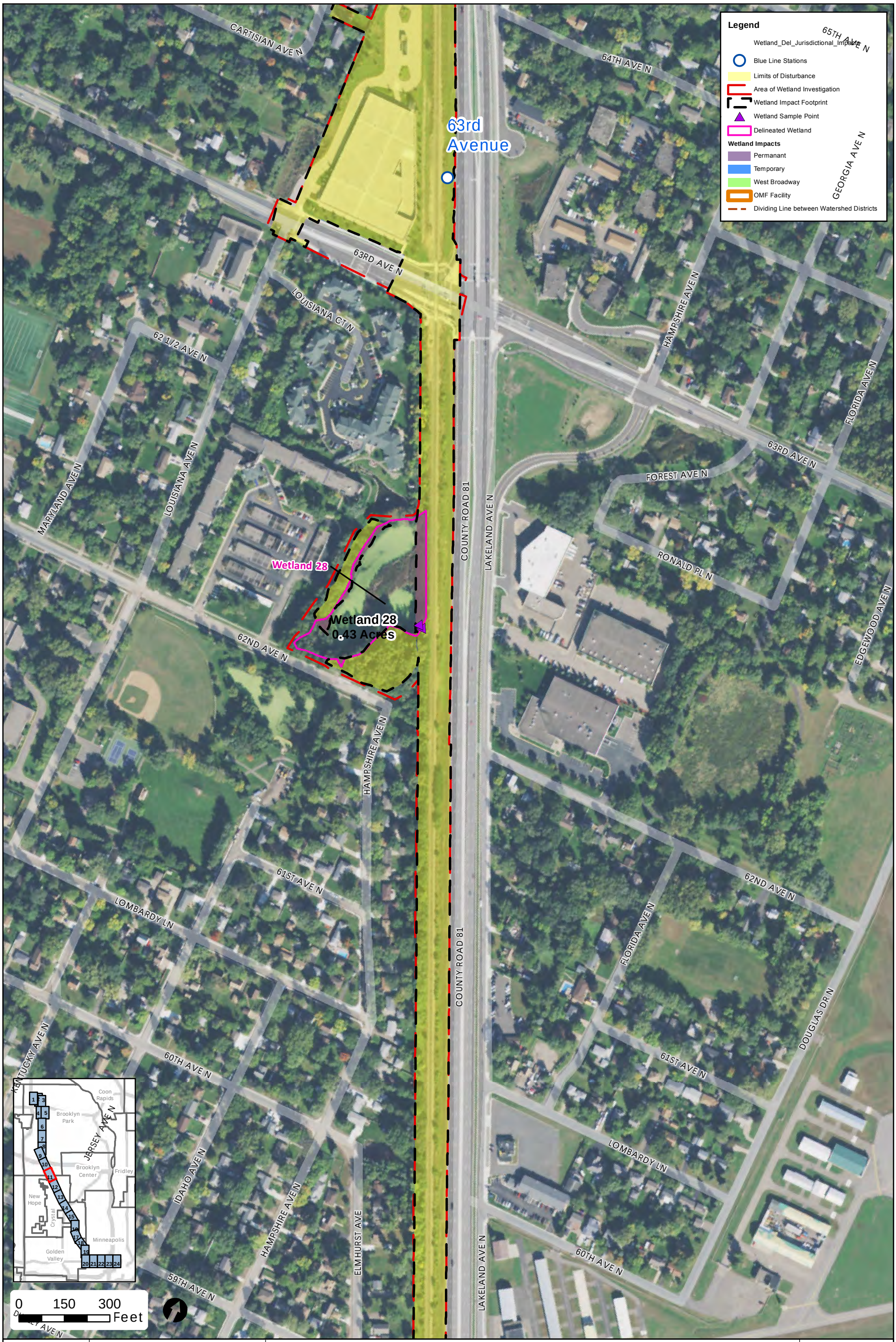

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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Date:5/16/2016

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Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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Date:5/16/2016

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Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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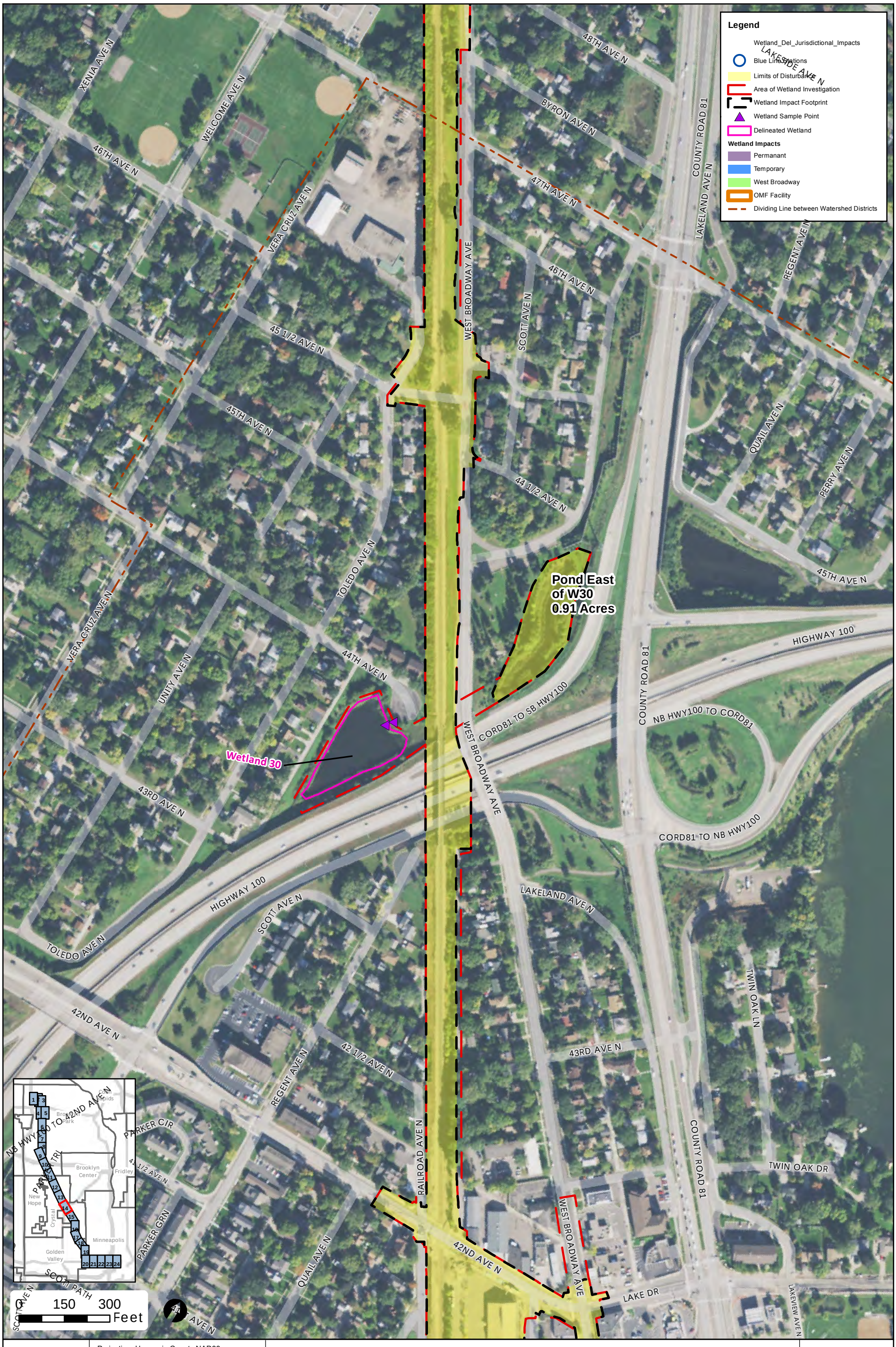

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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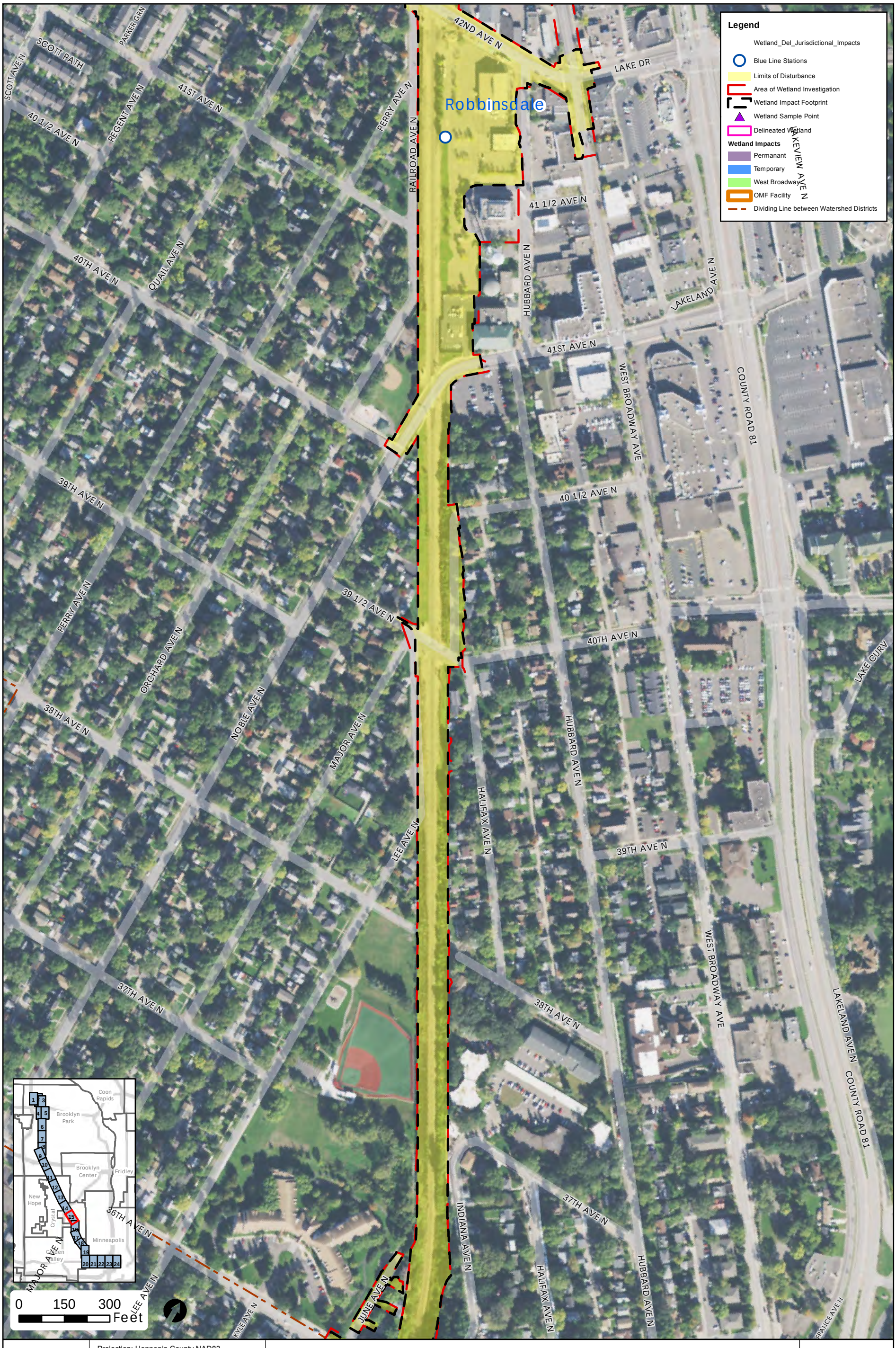

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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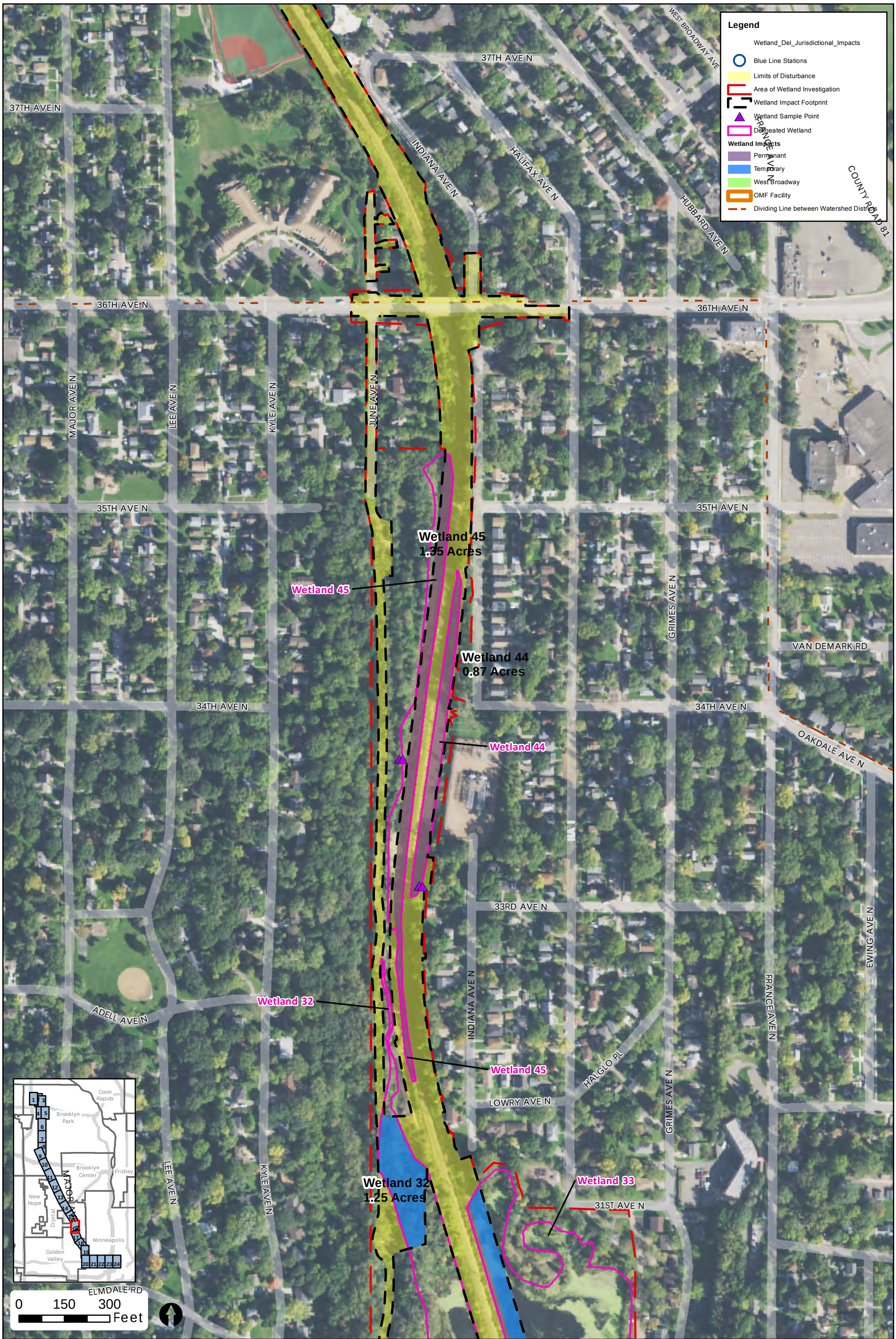

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
Page 16

METRO Blue Line Extension

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Date:5/16/2016

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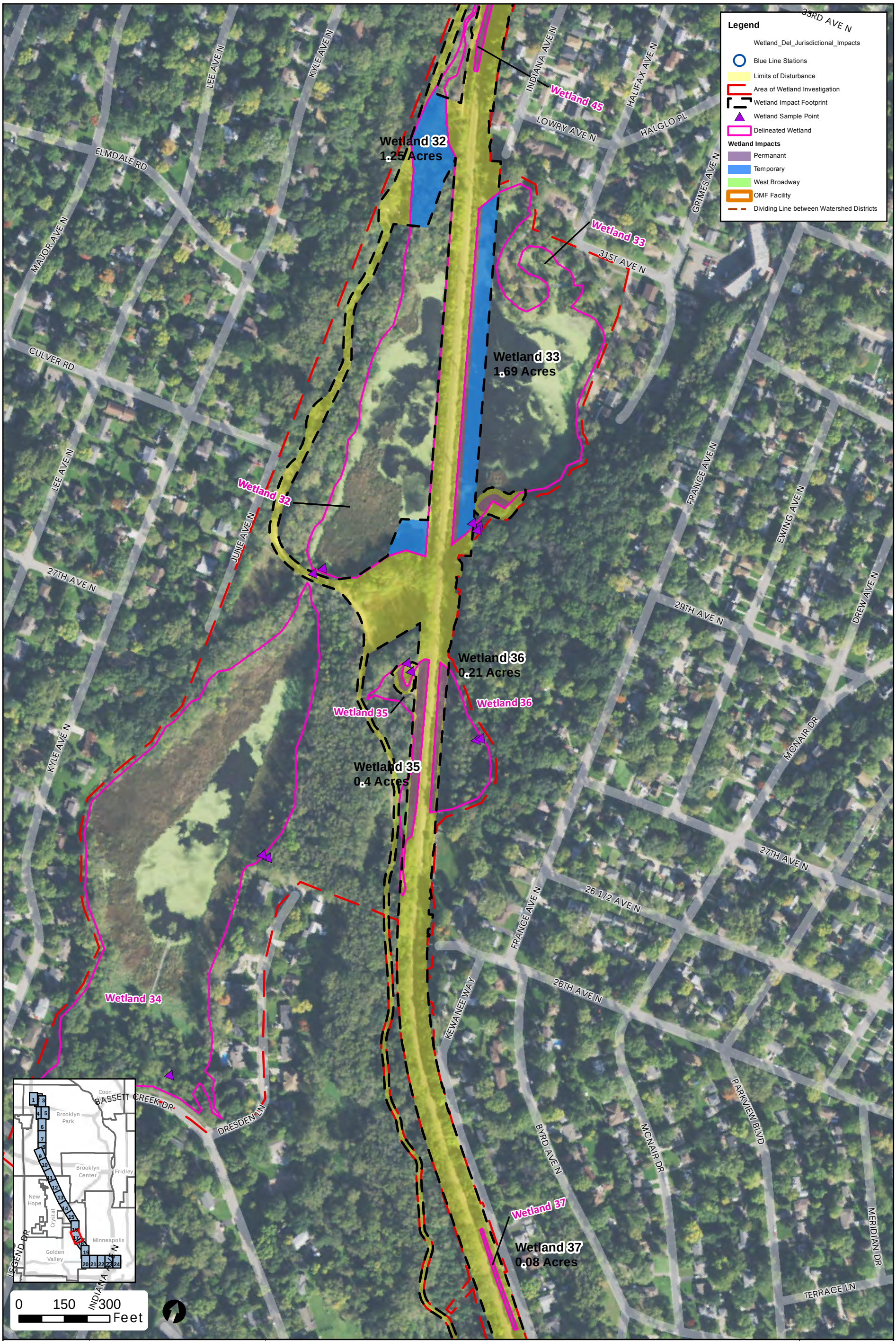

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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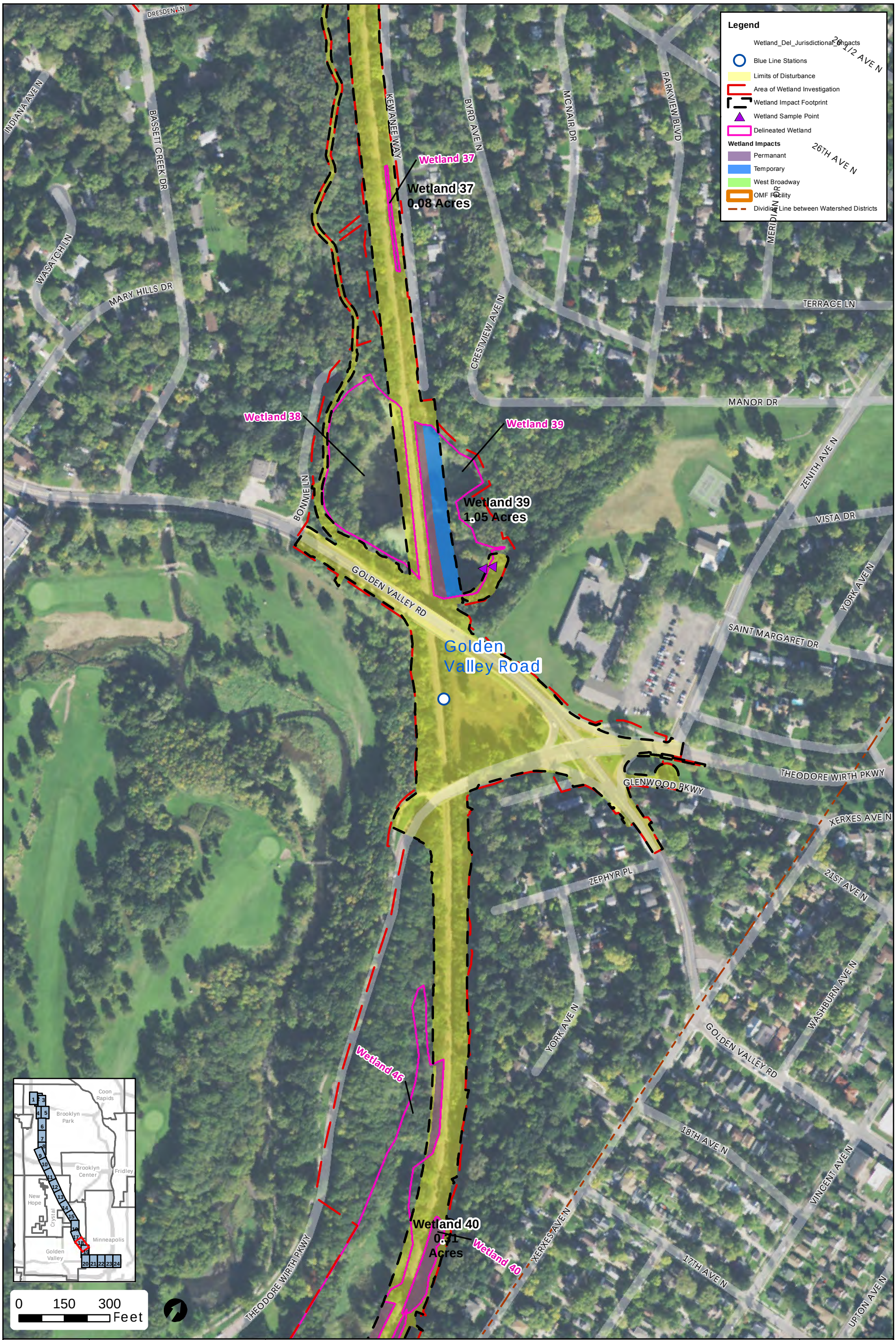

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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Date:5/16/2016

Legend
- Wetland_Del_Jurisdictional_Impacts
- Blue Line Stations
- Limits of Disturbance
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Sample Point
- Delineated Wetland

Wetland Impacts
- Permanant
- Temporary
- West Broadway
- OMF Facility
- Dividing Line between Watershed Districts

ZEPHYR PL
YORK AVE N
GOLDEN VALLEY RD
18TH AVE N
17TH AVE N
16TH AVE N
14TH AVE N
12TH AVE N
VINCENT AVE N
UPTON AVE N
WASHBURN AVE N
XERXES AVE N
FARWELL AVE
OAK PARK AVE N
PLYMOUTH AVE N
THEODORE WIRTH PKWY
Plymouth Avenue

Wetland 46
Wetland 40
Wetland 40
0.31 Acres
Wetland 50
Wetland 50
0.12 Acres
Wetland 46
Wetland 46
1.04 Acres
Wetland 41
Wetland 41
0.19
Acres
Wetland 46
Wetland 42
0.29 Acres
Wetland 49
Wetland 42

Coon Rapids
Brooklyn Park
Brooklyn Center
Fridley
New Hope
Crystal
Minneapolis
Golden Valley

0 150 300 Feet

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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Wetland 46
Wetland 42
0.29 Acres
Wetland 49
Wetland 42
Wetland 49
0.1 Acres
Wetland 49
Wetland 48
0.15 Acres
Wetland 48
Wetland 48
XERXES AVE N
WASHBURN AVE N
UPTON AVE N
THOMAS AVE N
VINCENT AVE N
12TH AVE N
OAK PARK AVE N
8TH AVE N
7TH AVE N
2ND AVE N
FARWELL AVE
HIGHWAY 55
HIGHWAY 55
GLENWOOD AVE
GLENWOOD AVE
YORK AVE
Legend
12TH AVE N
Wetland_Del_Jurisdictional_Impacts
Blue Line Stations
Limits of Disturbance
Area of Wetland Investigation
Wetland Impact Footprint
Wetland Sample Point
Delineated Wetland
Wetland Impacts
Permanant
Temporary
West Broadway
OMF Facility
Dividing Line between Watershed Districts
Coon Rapids
Brooklyn Park
Brooklyn Center
Fridley
New Hope
Crystal
Minneapolis
Golden Valley
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
0 150 300 Feet

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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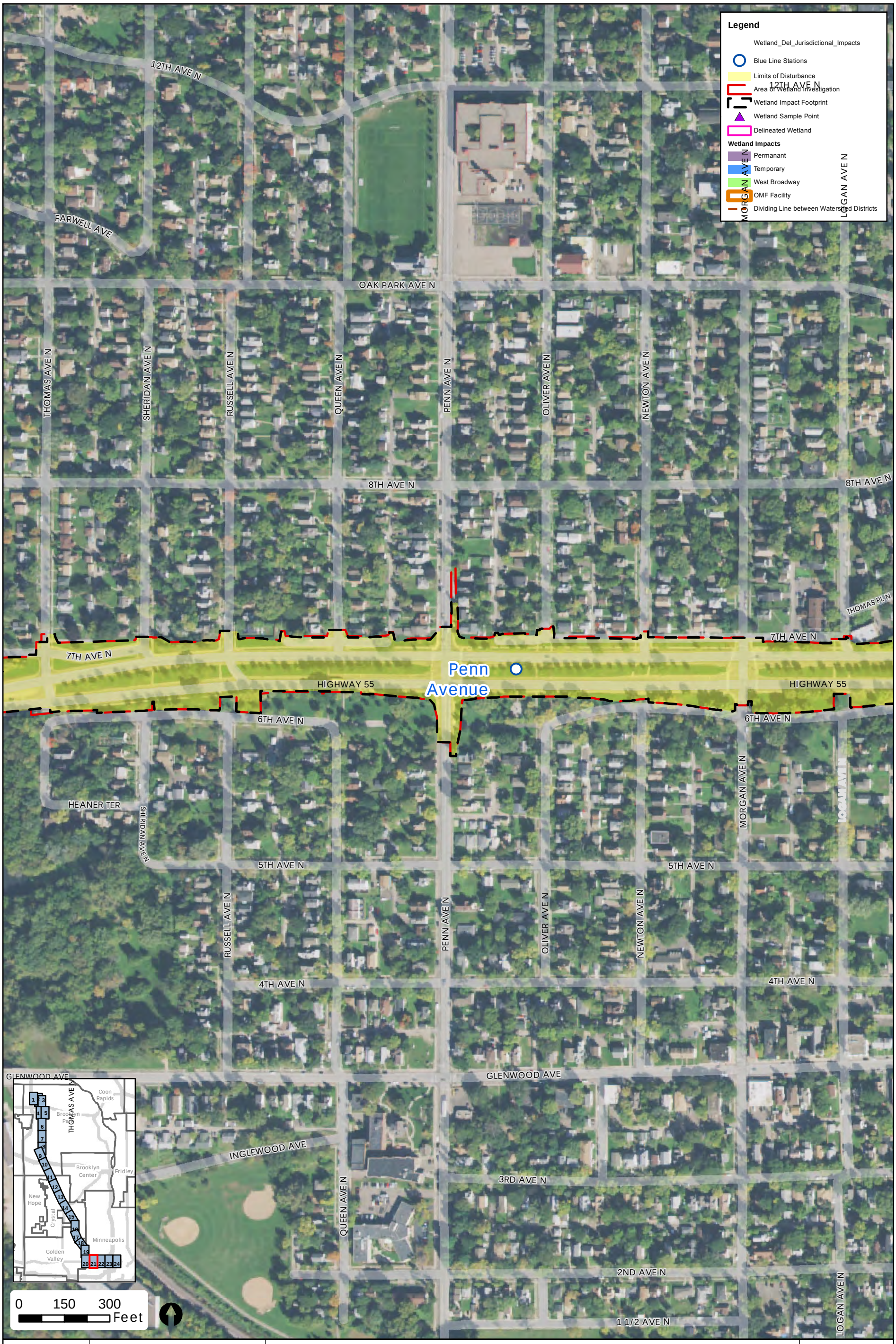

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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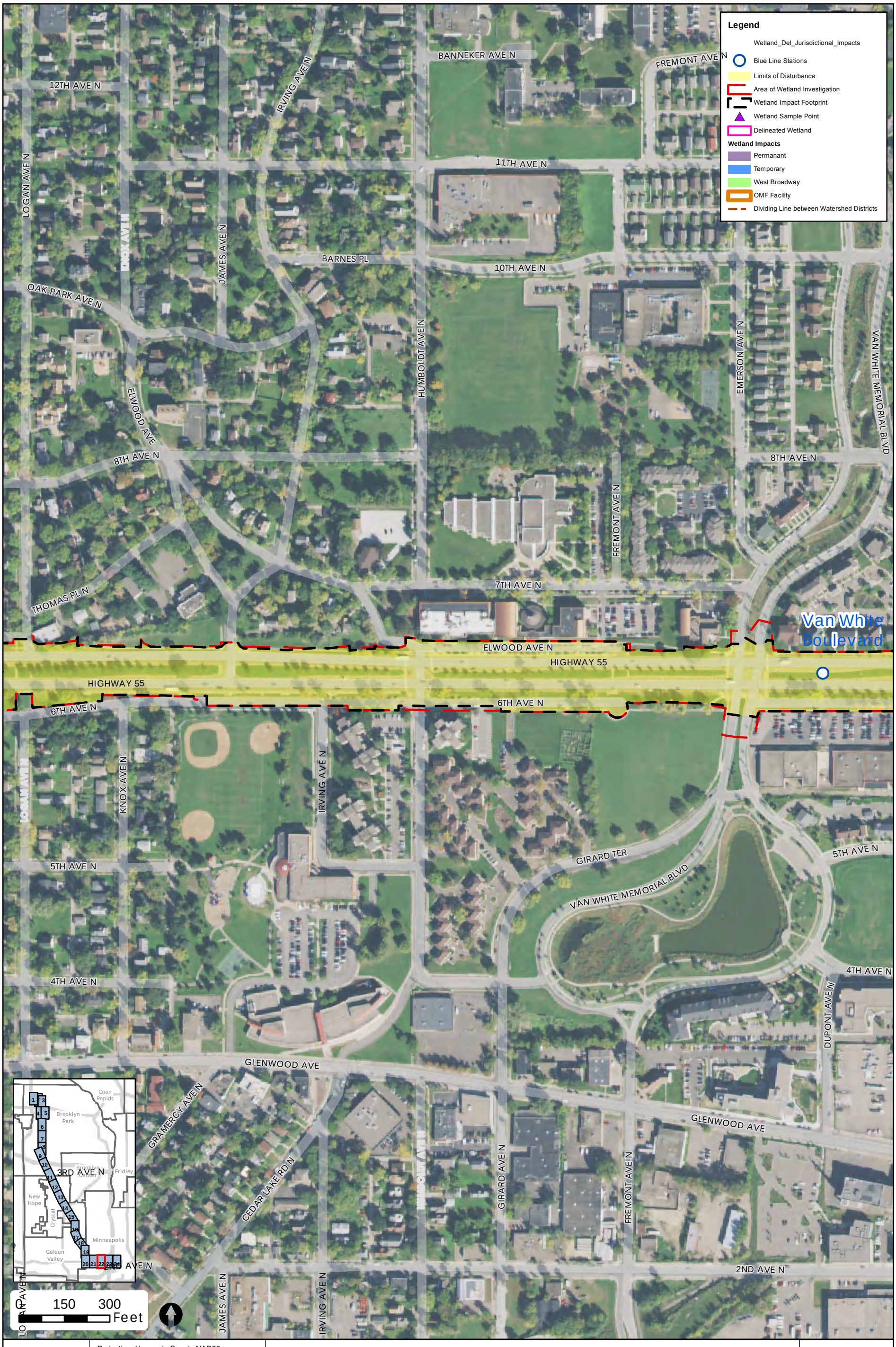

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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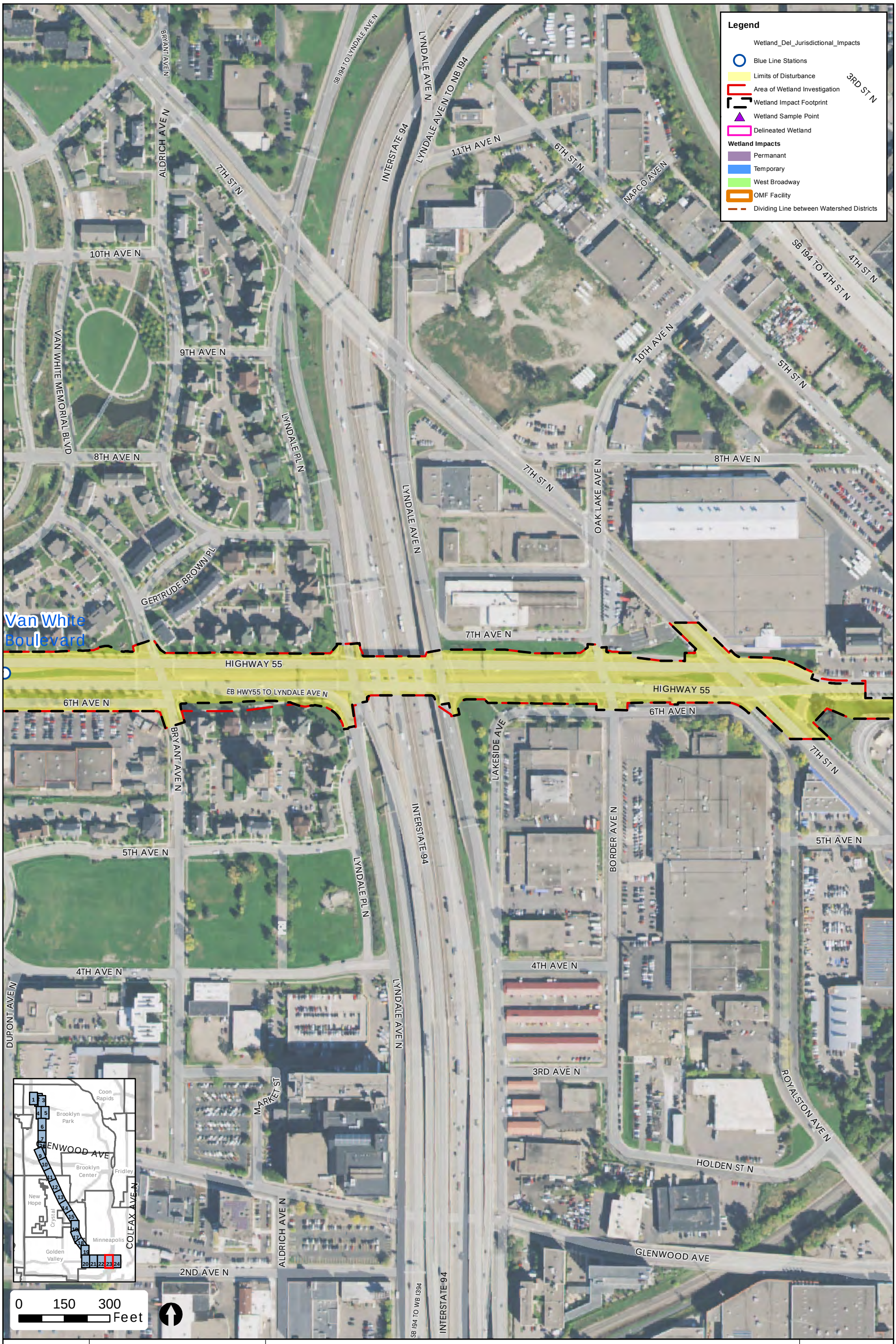

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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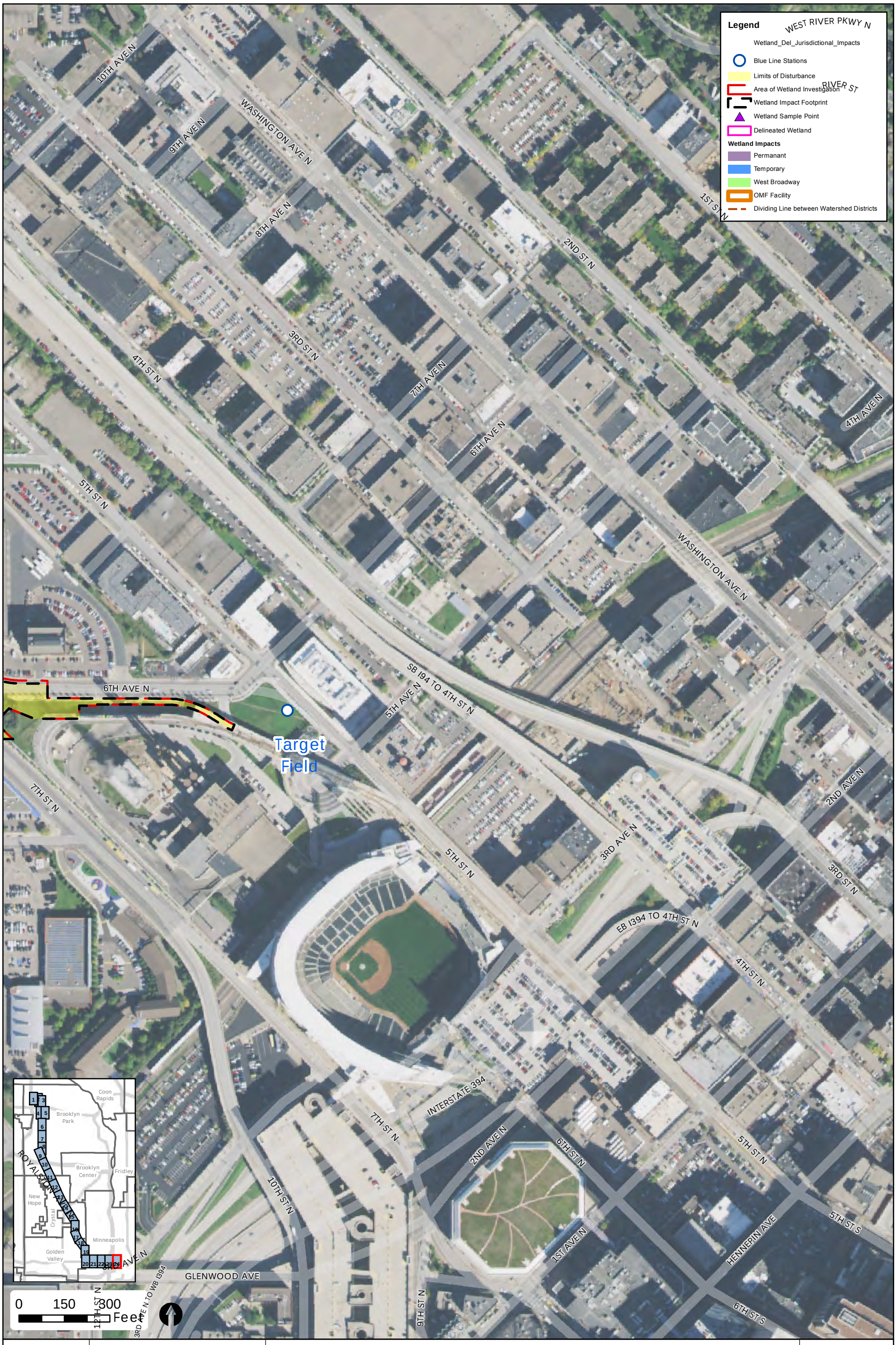

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Wetlands
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METRO Blue Line Extension

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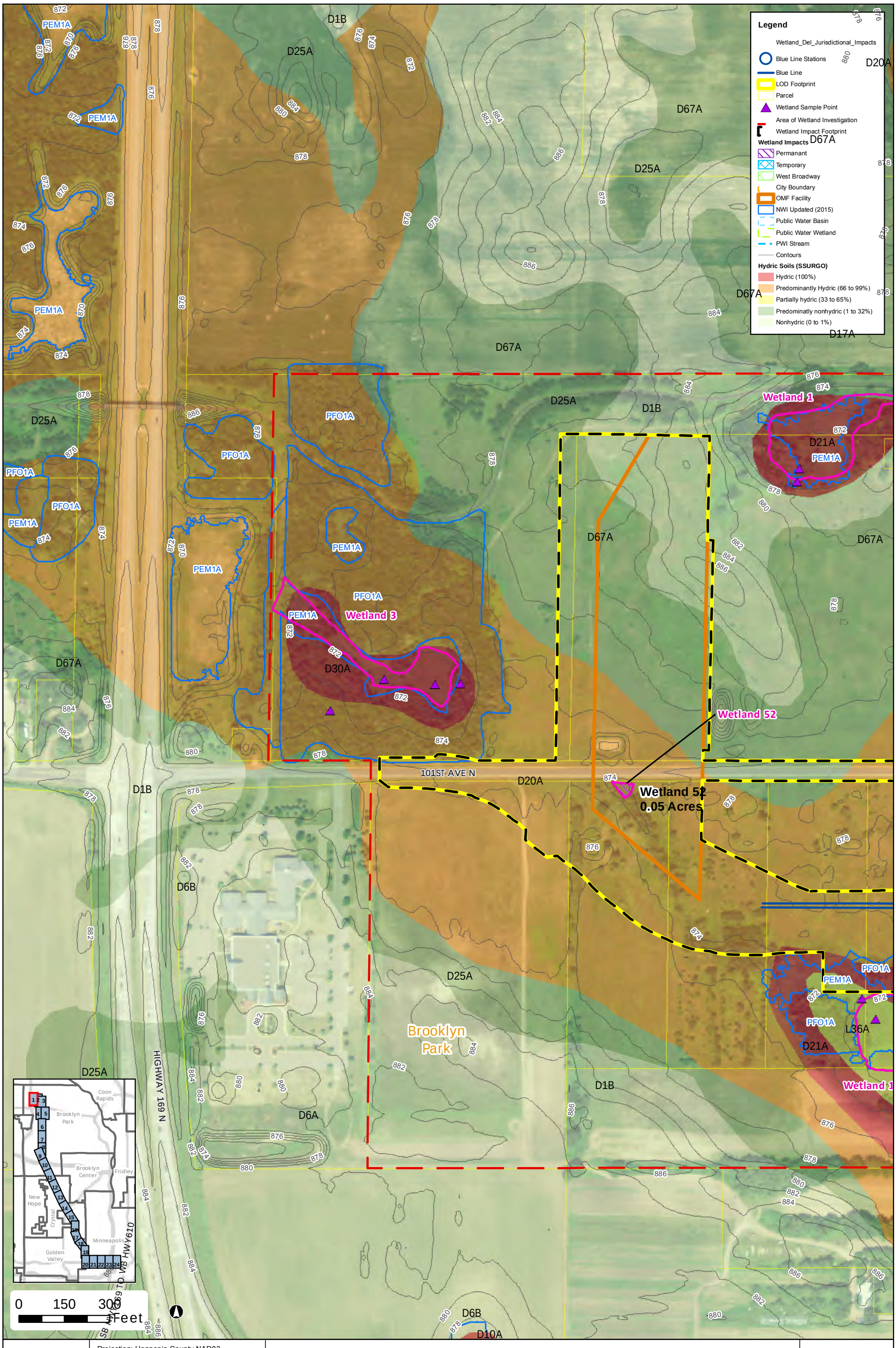

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 1

METRO Blue Line Extension

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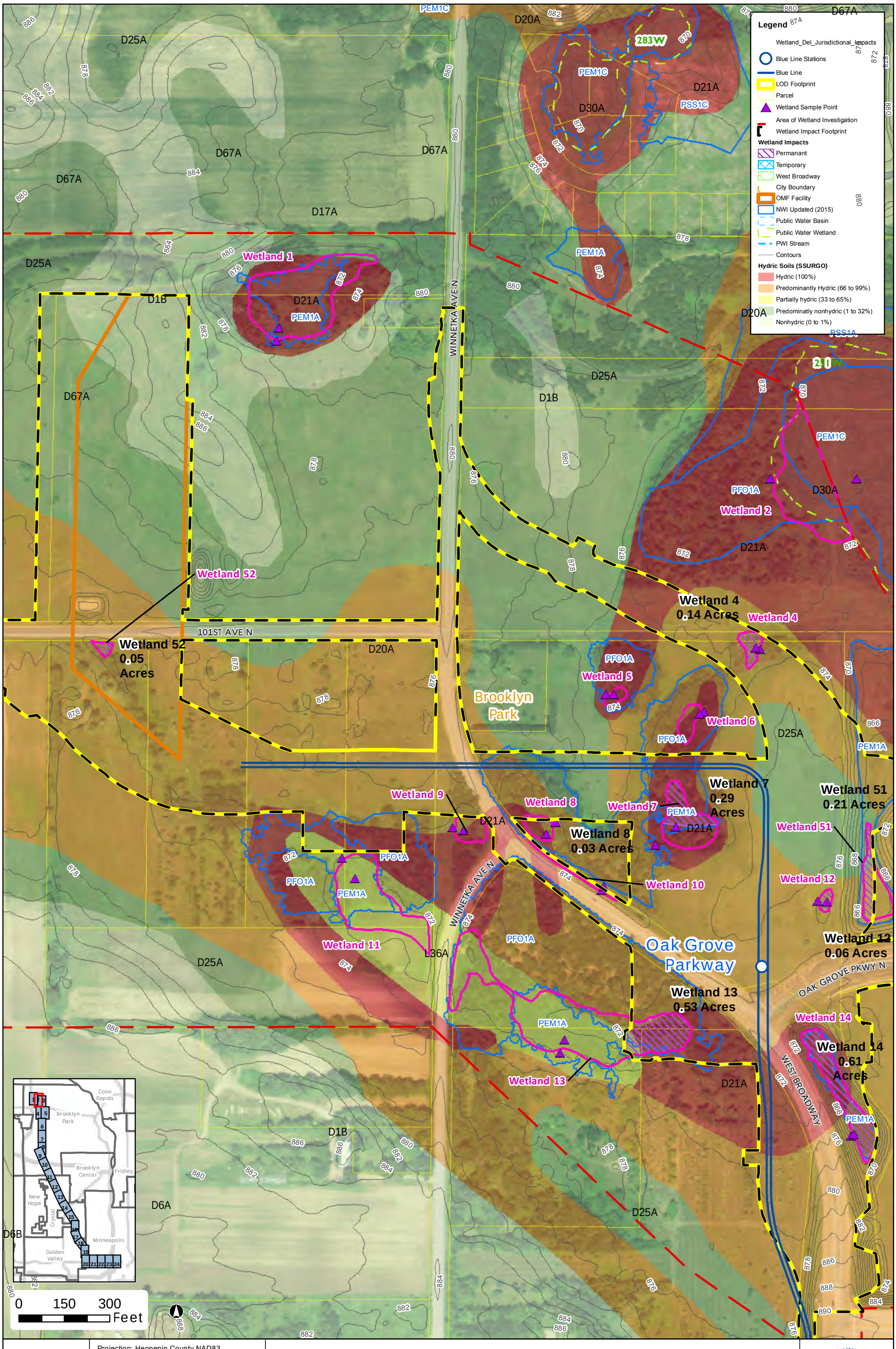

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 2

METRO Blue Line Extension

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METROPOLITAN COUNCIL

METRO BLUE LINE EXTENSION

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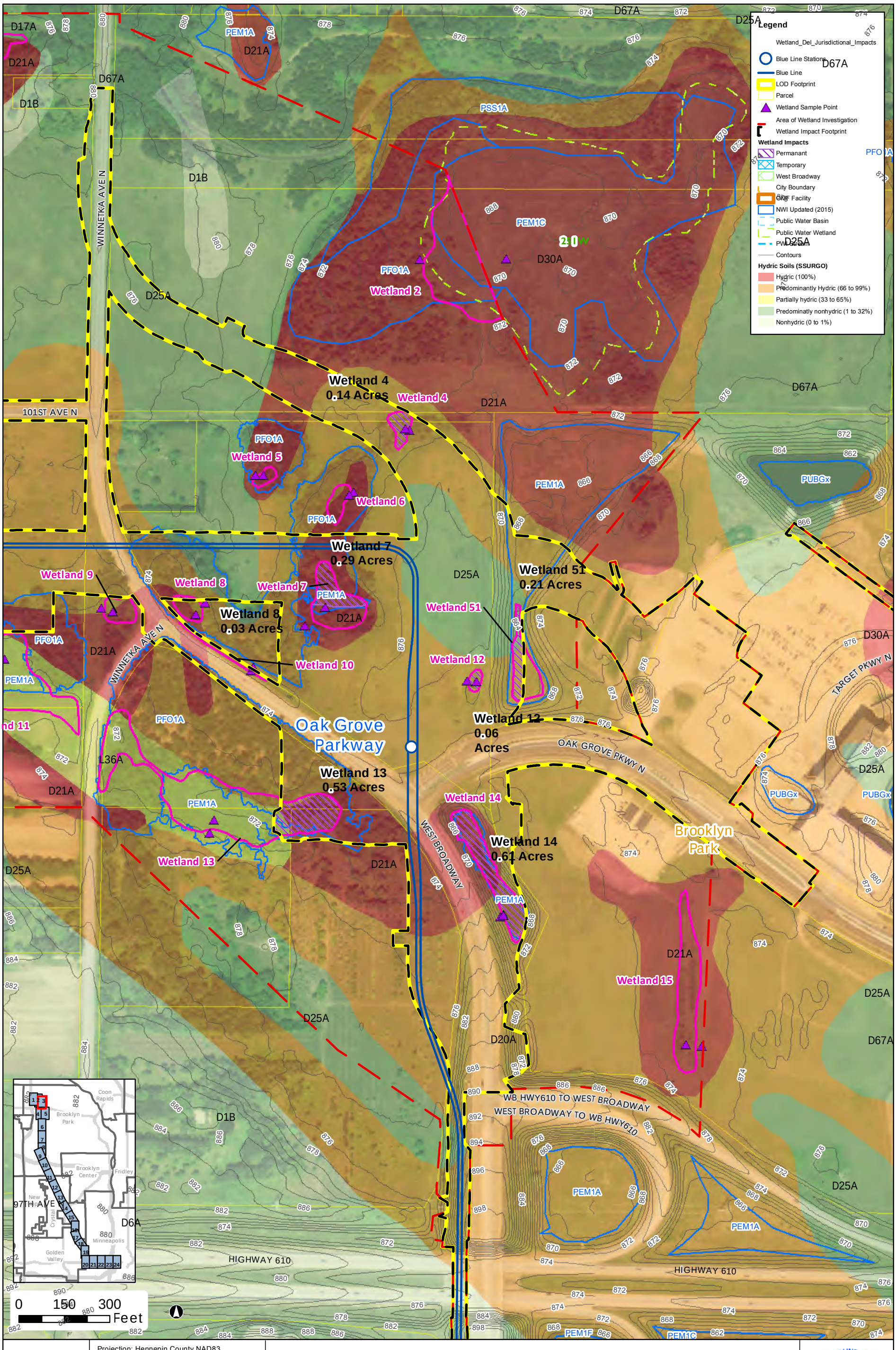
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Wetland_Del_Jurisdictional_Impacts
Blue Line Stations
Blue Line
LOD Footprint
Parcel
Wetland Sample Point
Area of Wetland Investigation
Wetland Impact Footprint
Wetland Impacts
Permanant
Temporary
West Broadway
City Boundary
OMF Facility
NWI Updated (2015)
Public Water Basin
Public Water Wetland
PWI Stream
Contours
Hydric Soils (SSURGO)
Hydric (100%)
Predominantly Hydric (66 to 99%)
Partially hydric (33 to 65%)
Predominatly nonhydric (1 to 32%)
Nonhydric (0 to 1%)
Wetland 2
Wetland 4
0.14 Acres
Wetland 5
Wetland 6
Wetland 7
0.29 Acres
Wetland 8
0.03 Acres
Wetland 9
Wetland 10
Wetland 11
Wetland 12
0.06 Acres
Wetland 13
0.53 Acres
Wetland 14
0.61 Acres
Wetland 15
Wetland 51
0.21 Acres
WINNETKA AVE N
101ST AVE N
OAK GROVE PKWY N
WEST BROADWAY
WB HWY610 TO WEST BROADWAY
WEST BROADWAY TO WB HWY610
TARGET PKWY N
HIGHWAY 610
97TH AVE
Oak Grove Parkway
Brooklyn Park
Brooklyn Center
Coon Rapids
Fridley
New Hope
Crystal
Golden Valley
Minneapolis
0 150 300 Feet
Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.
Figure 3 - Hydric Soils
Page 3
METRO Blue Line Extension
DRAFT
METROPOLITAN COUNCIL
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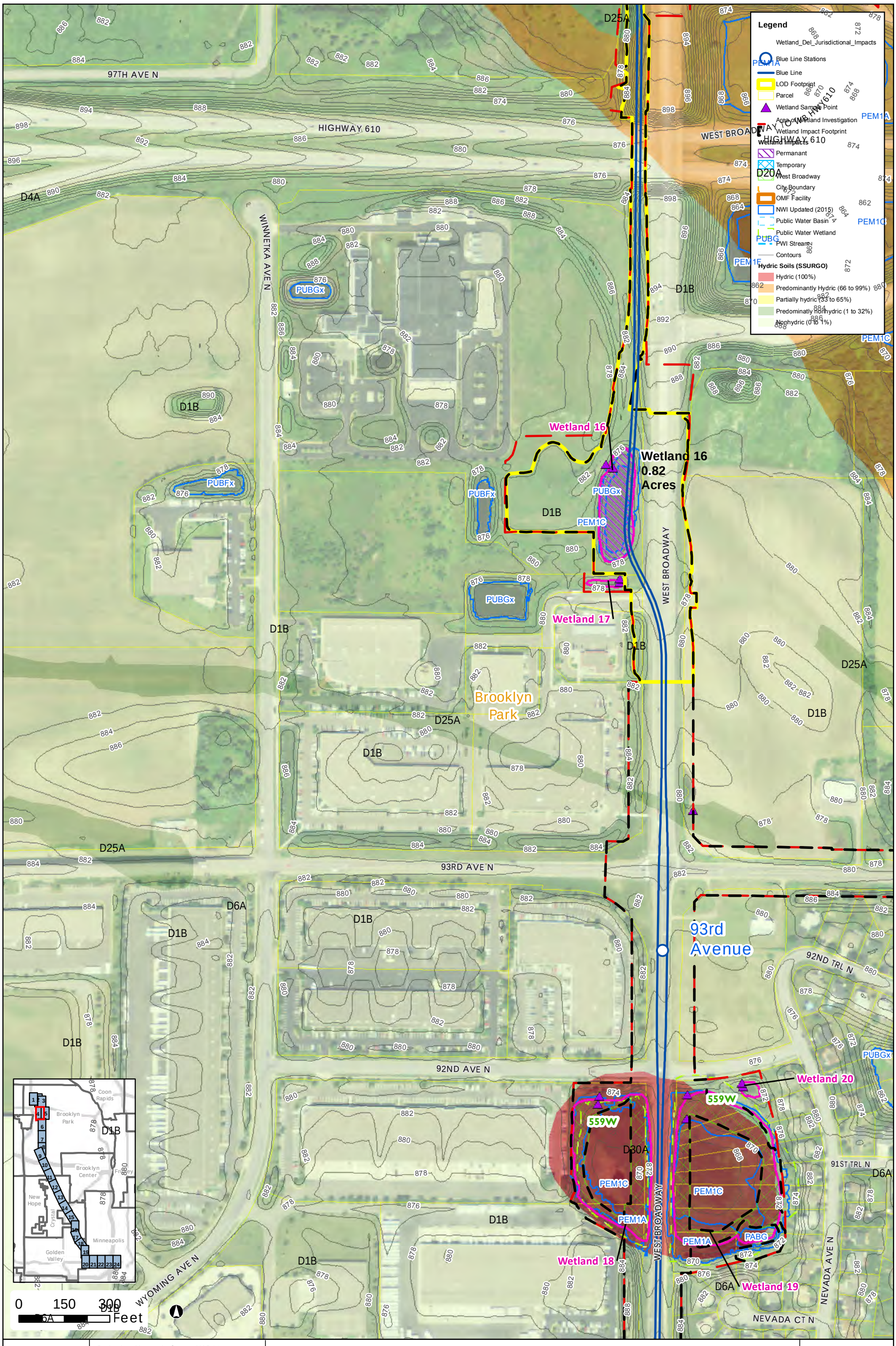

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 4

METRO Blue Line Extension

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Legend
Wetland_Del_Jurisdictional_Impacts
Blue Line Stations
Blue Line
LOD Footprint
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Area of Wetland Investigation
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Hydric Soils (SSURGO)
Hydric (100%)
Predominantly Hydric (66 to 99%)
Partially hydric (33 to 65%)
Predominatly nonhydric (1 to 32%)
Nonhydric (0 to 1%)
PEM1A
PEM1C
PEM1F
PUBG
PUBGx
PUBF
PABG
D25A
D20A
D1B
D6A
D30A
Wetland 16
0.82 Acres
Wetland 17
Wetland 18
Wetland 19
Wetland 20
559W
WEST BROADWAY TO WB HWY610
WB HWY610 TO WEST BROADWAY
HIGHWAY 610
WEST BROADWAY
LOUISIANA AVE N
MARYLAND AVE N
NEVADA AVE N
KENTUCK
93RD AVE N
92ND AVE N
92ND TRL N
92ND CT N
91ST TRL N
HAMPSHIRE AVE N
NEVADA CT N
Brooklyn Park
93rd Avenue
Coon Rapids
Brooklyn Center
Fridley
New Hope
Crystal
Minneapolis
Golden
0 150 300 Feet

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 5

METRO Blue Line Extension

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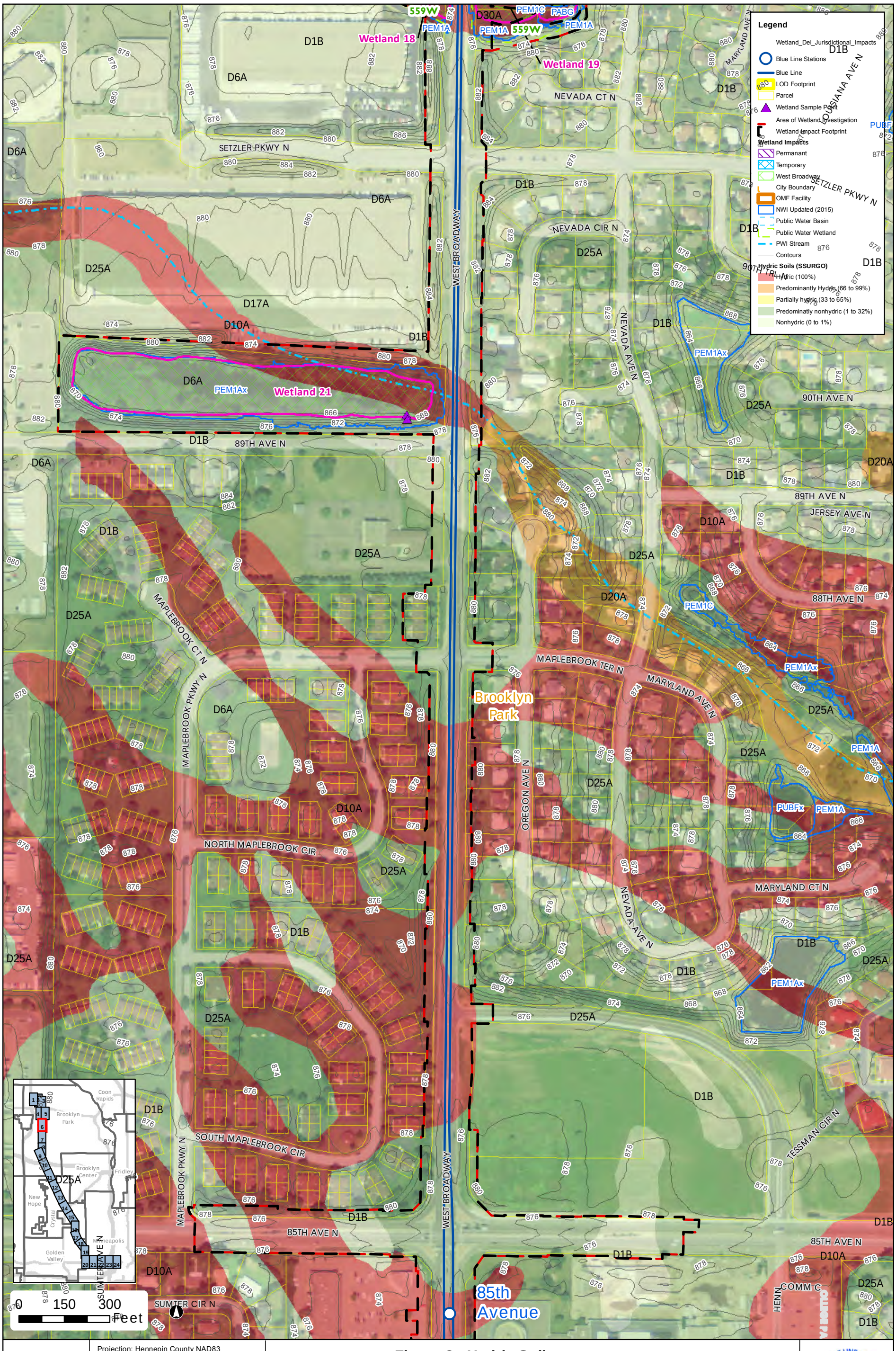

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 6

METRO Blue Line Extension

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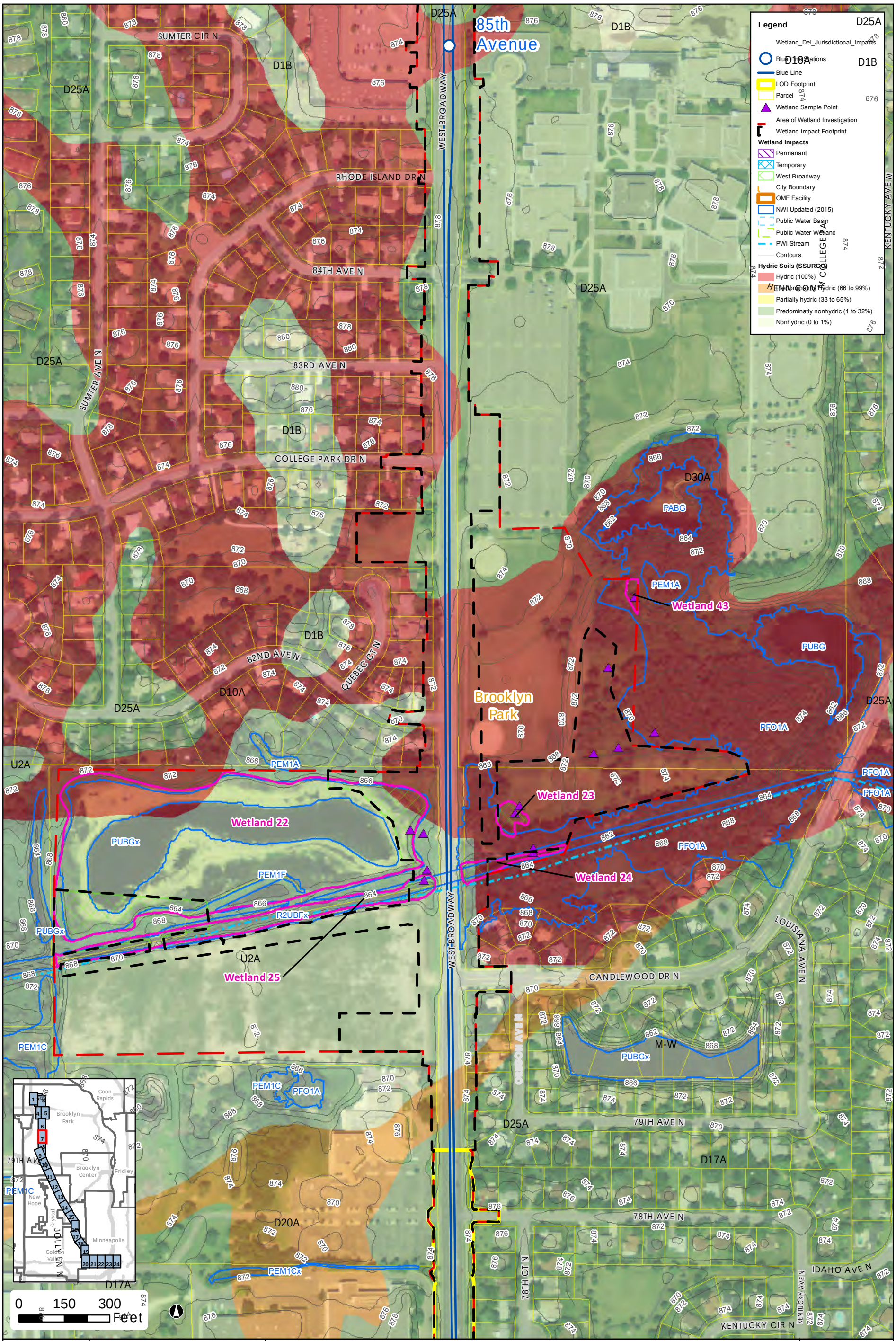

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 7

METRO Blue Line Extension

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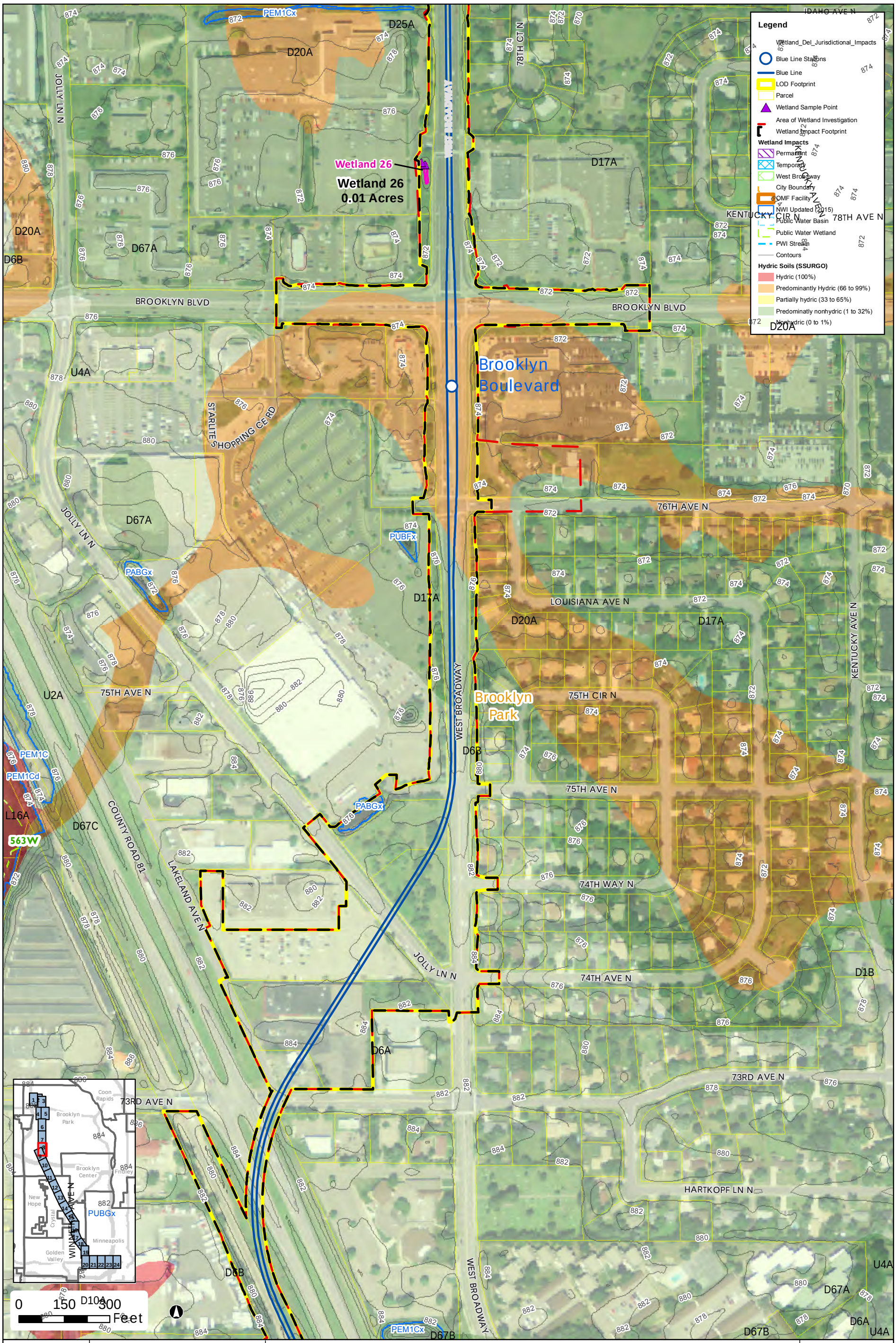

Projection: Hennepin County NAD83
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Figure 3 - Hydric Soils
Page 8

METRO Blue Line Extension

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5/16/2016

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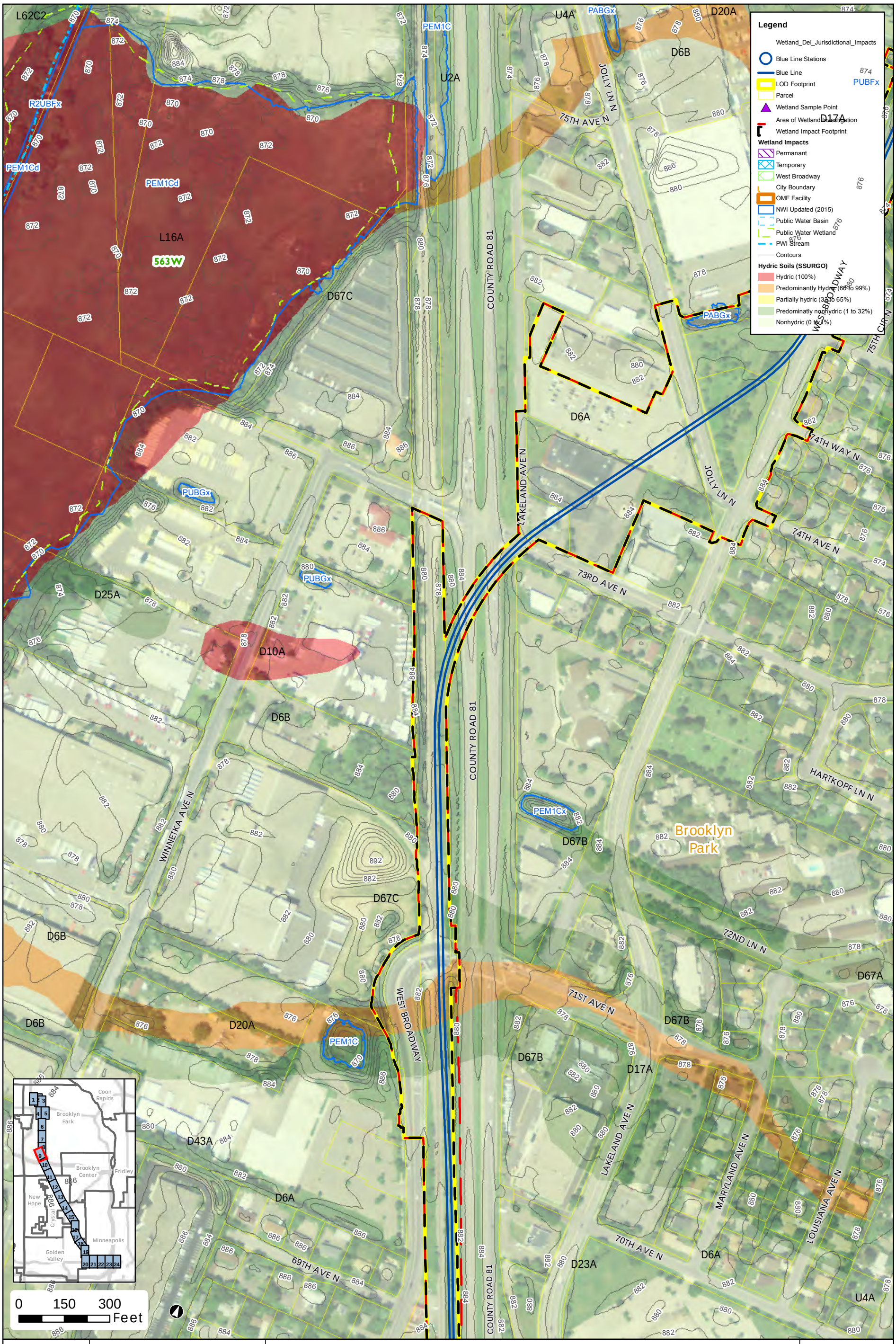

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 3 - Hydric Soils
Page 9

METRO Blue Line Extension

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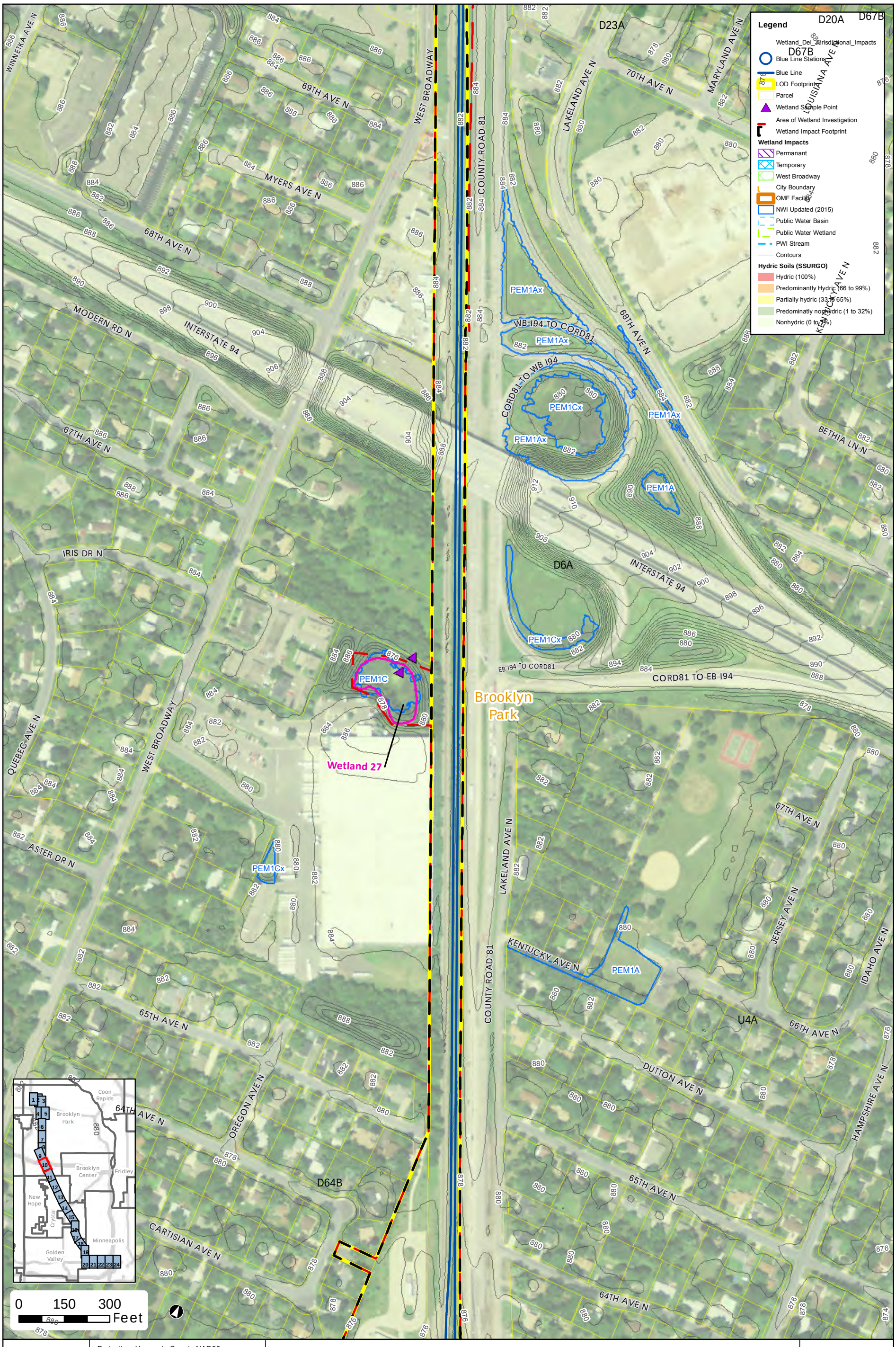
5/16/2016



Projection: Hennepin County NAD83
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Figure 3 - Hydric Soils
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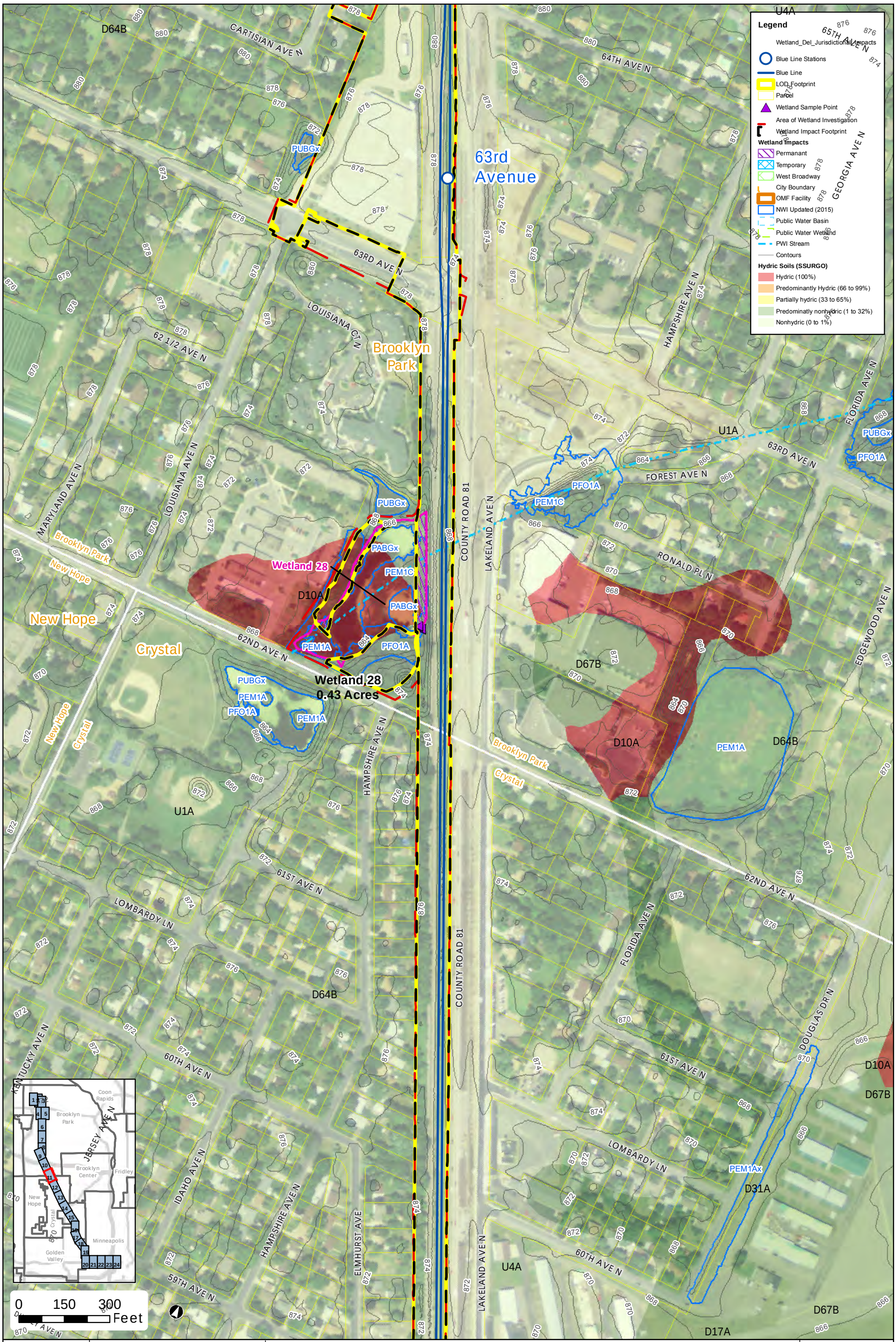

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Figure 3 - Hydric Soils
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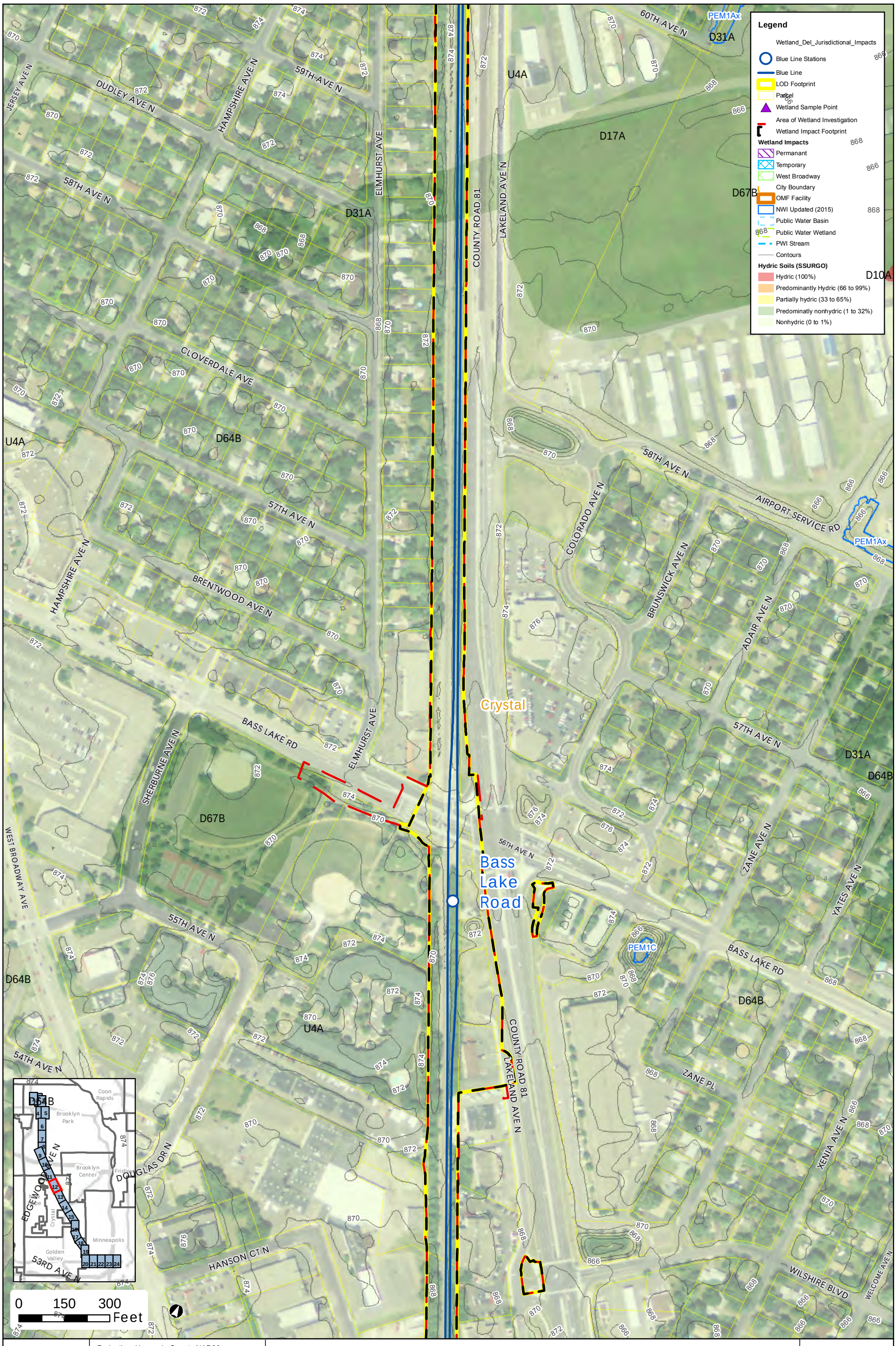

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Figure 3 - Hydric Soils
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Legend
Wetland_Del_Jurisdictional_Impacts
Blue Line Stations
Blue Line
LOD Footprint
Parcel
Wetland Sample Point
Area of Wetland Investigation
Wetland Impact Footprint
Wetland Impacts
Permanant
Temporary
West Broadway
City Boundary
OMF Facility
NWI Updated (2015)
Public Water Basin
Public Water Wetland
Stream
Contours
Hydric Soils (SSURGO)
Hydric (100%)
Predominantly Hydric (66 to 99%)
Partially hydric (33 to 65%)
Predominatly nonhydric (1 to 32%)
Nonhydric (0 to 1%)
Wetland 29
D30A
PEM1C
W
PUBGx
D67B
PUBG
PFO1A
U4A
D64B
D31A
Crystal
Robbinsd
WILSHIRE BLVD
53RD AVE N
52ND AVE N
54TH AVE N
51ST PL N
HANSON CT N
DOUGLAS DR N
LAKELAND AVE N
COUNTY ROAD 81
WELCOME AVE N
VERA CRUZ AVE N
XENIA AVE N
WEST BROADWAY AVE
CORVALLIS AVE N
BERNARD AVE N
51ST AVE N
50TH AVE N
FAIRVIEW AVE N
48TH AVE N
49TH AVE N
47TH AVE N
LAKESIDE AVE N
BYRON AVE N
ZANE AVE N
YATES AVE N
UNITY CT N
TOLEDO AVE N
Coon Rapids
Brooklyn Park
Brooklyn Center
Fridley
New Hope
Crystal
Minneapolis
Golden Valley
0 150 300 Feet

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Figure 3 - Hydric Soils
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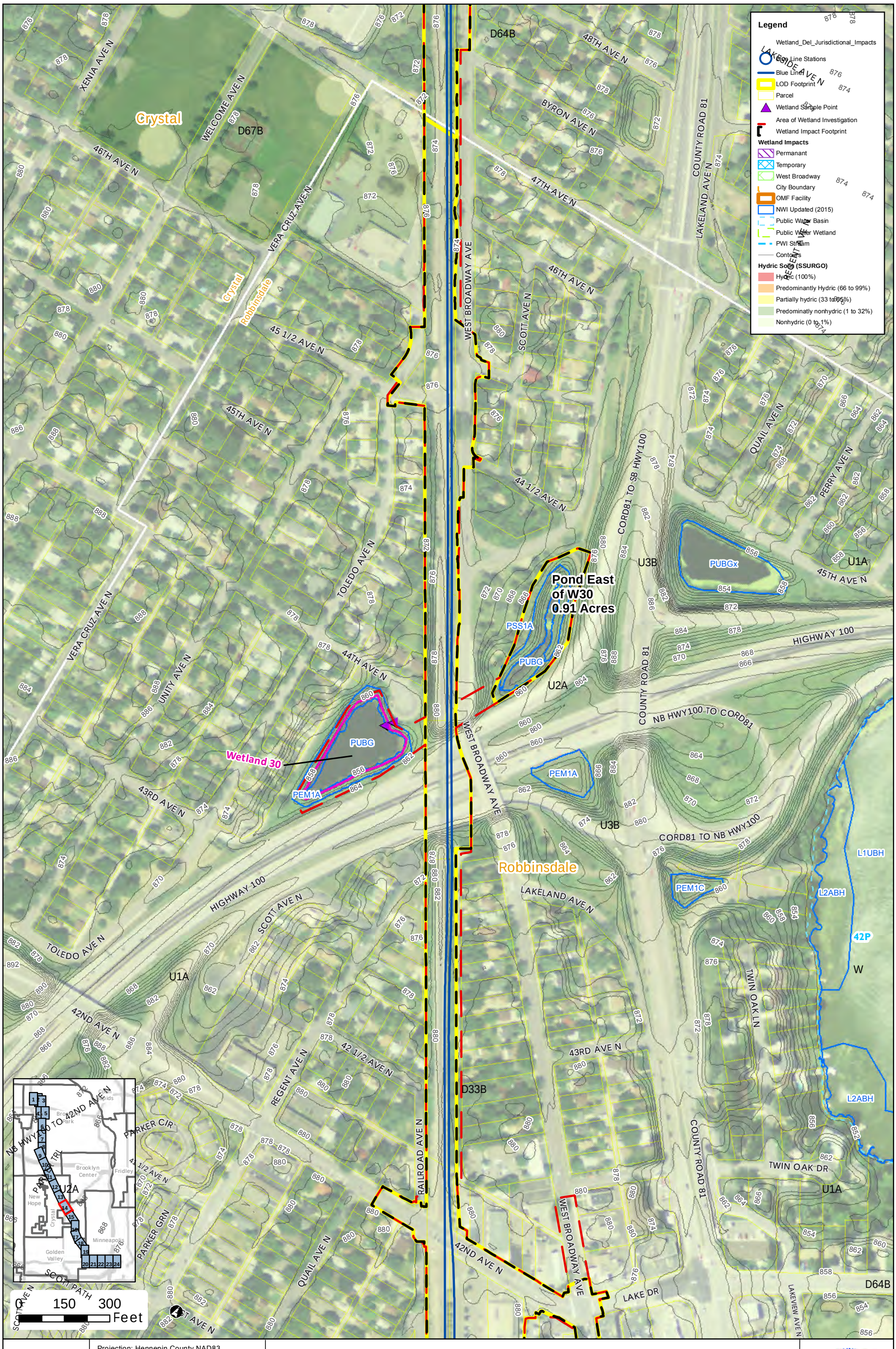

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Figure 3 - Hydric Soils
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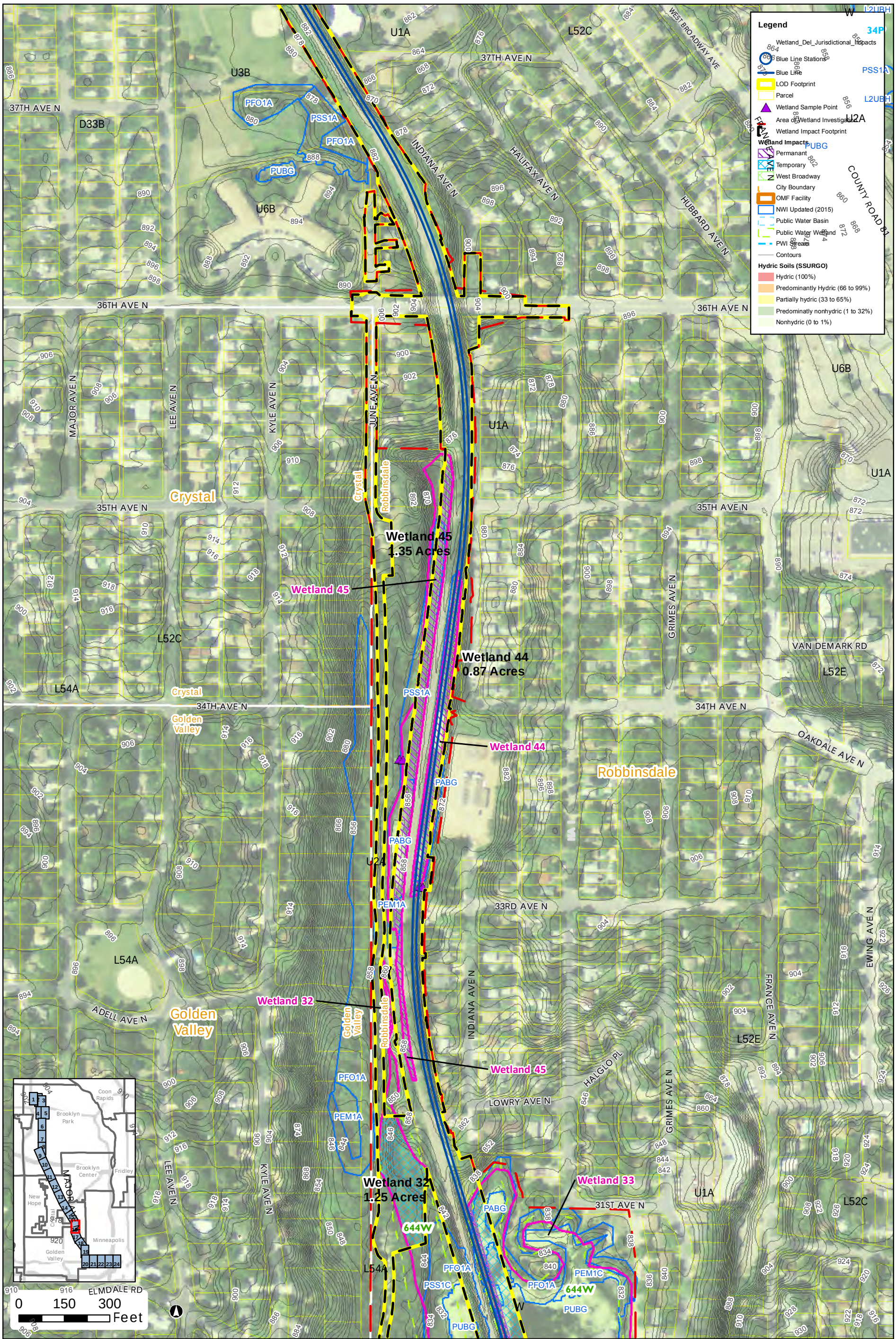

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Figure 3 - Hydric Soils
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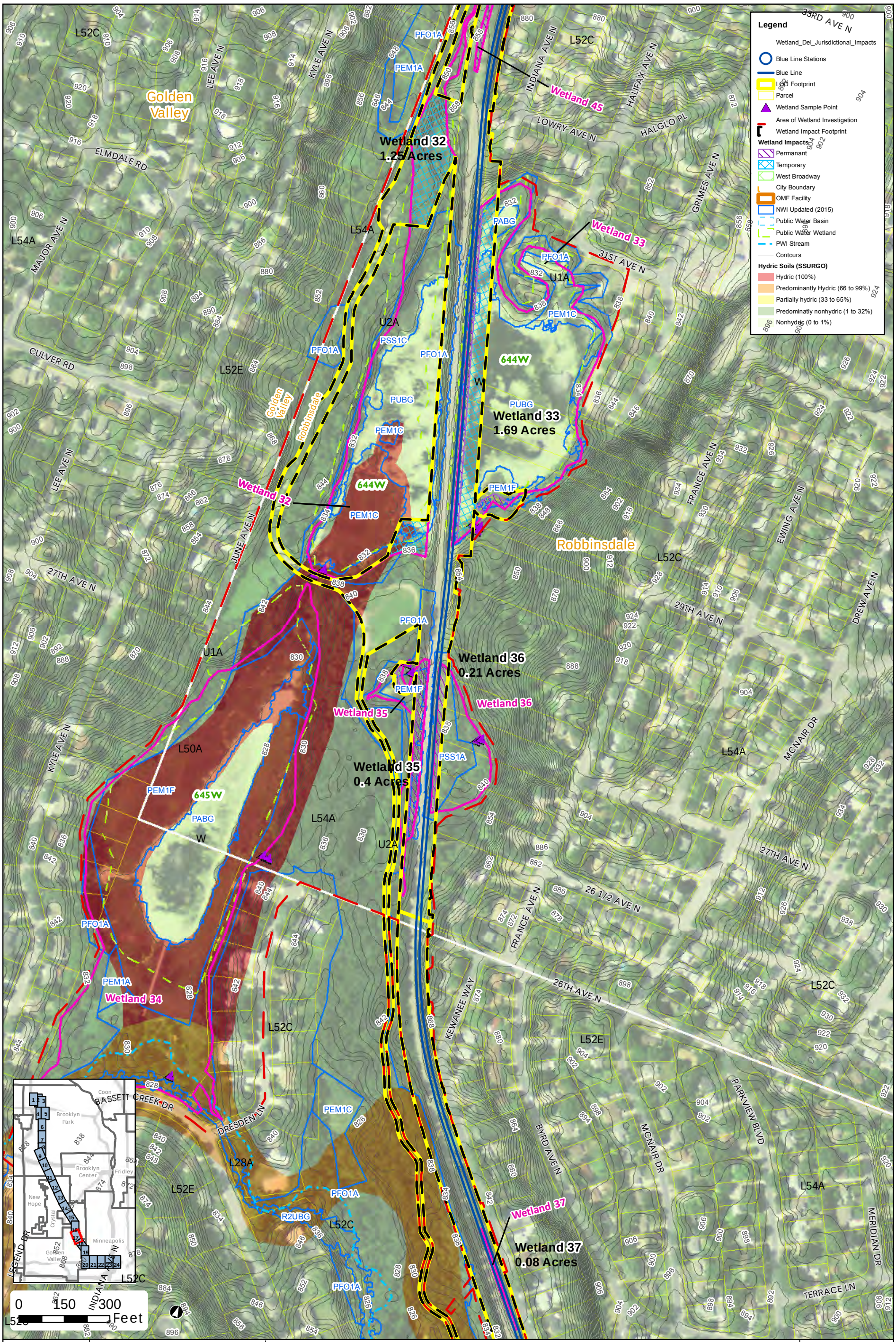

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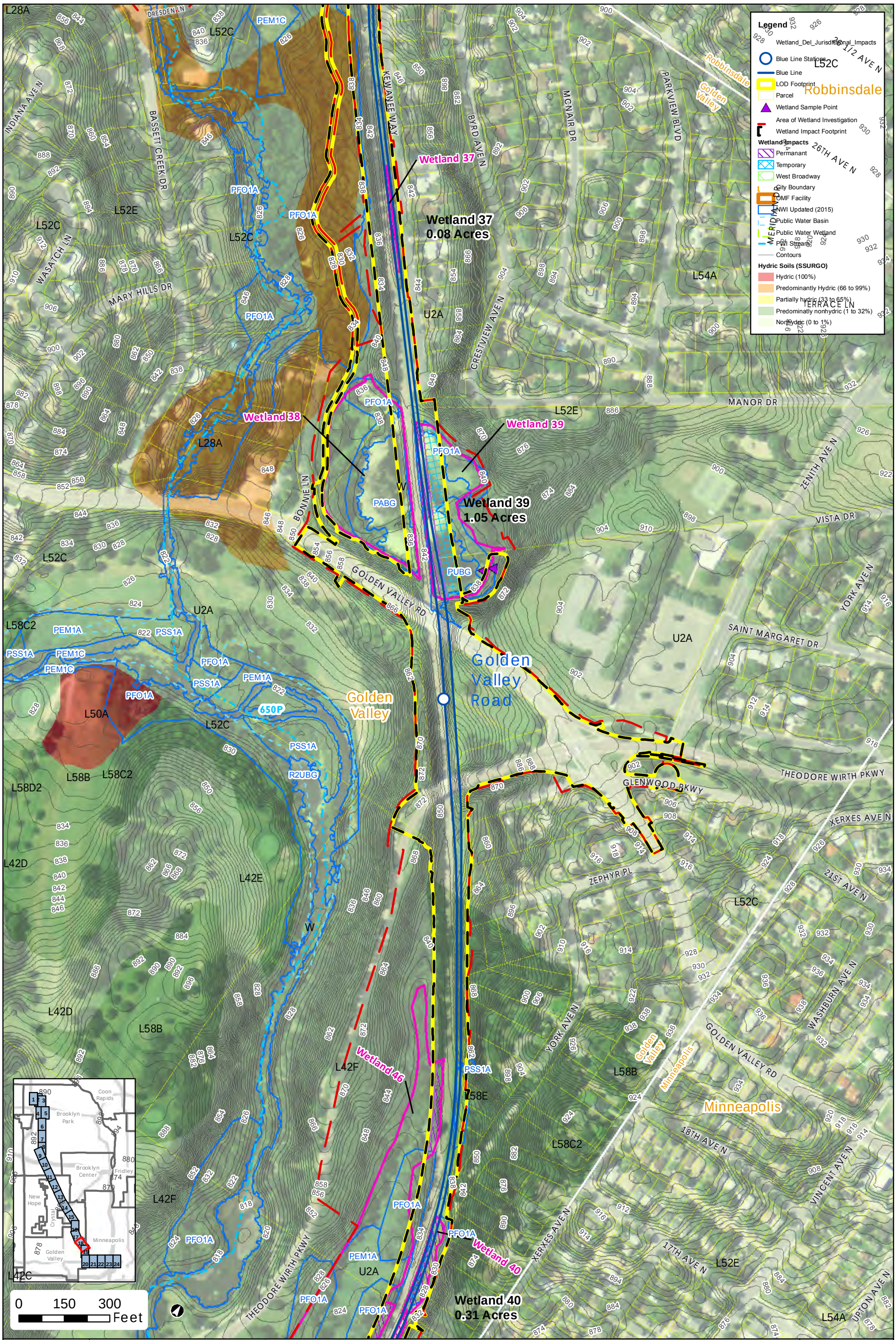

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Figure 3 - Hydric Soils
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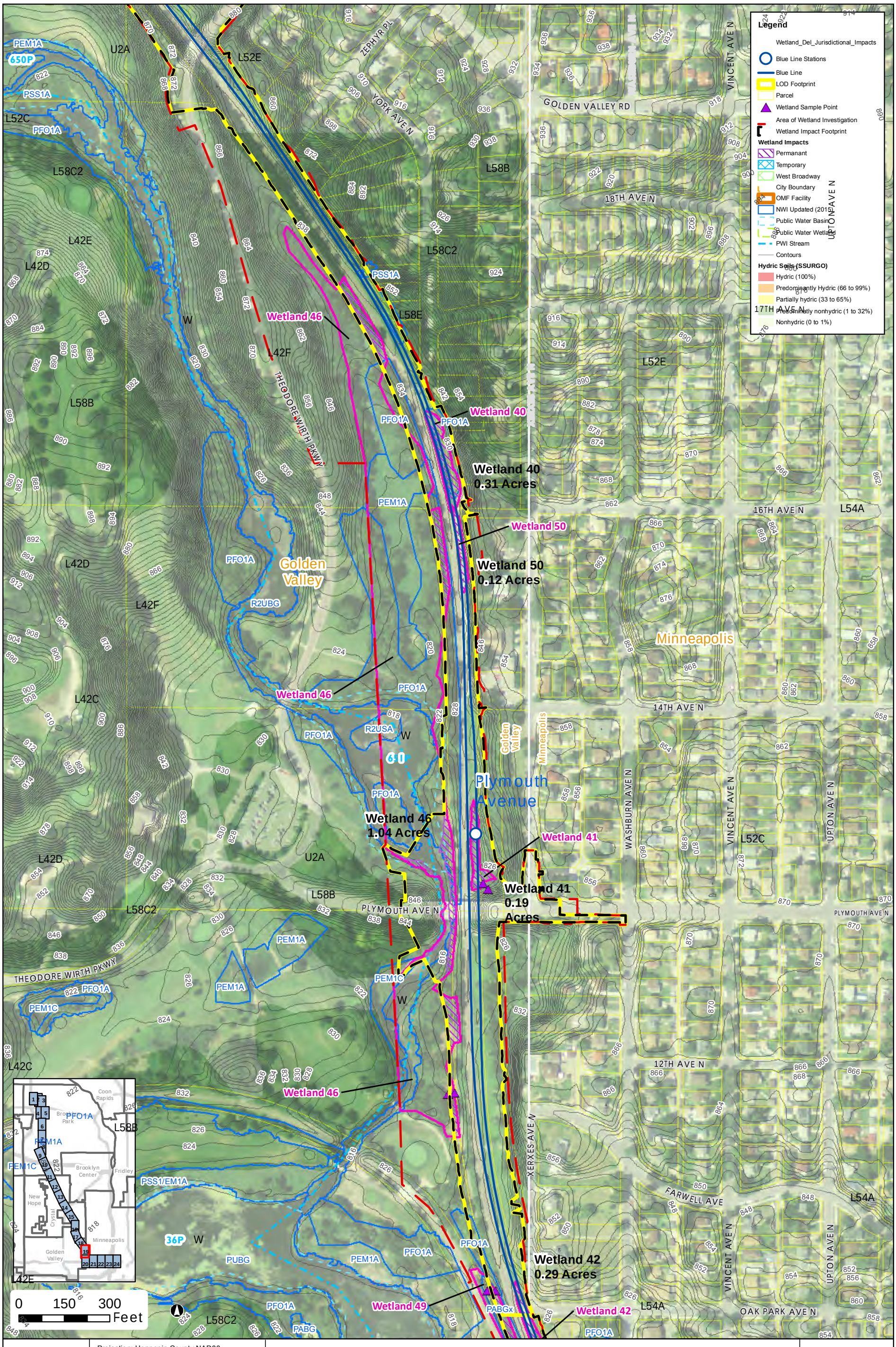

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Figure 3 - Hydric Soils
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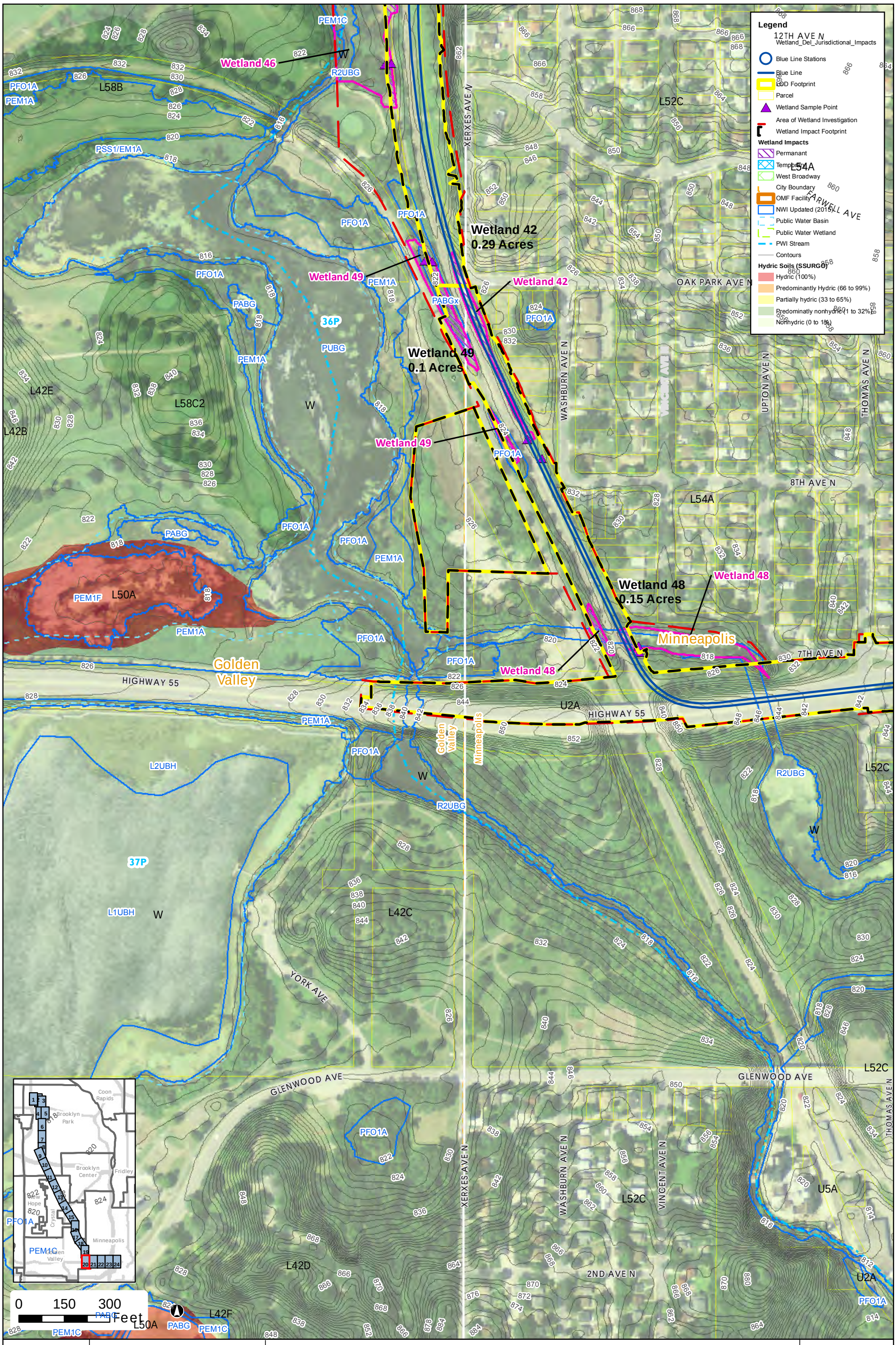

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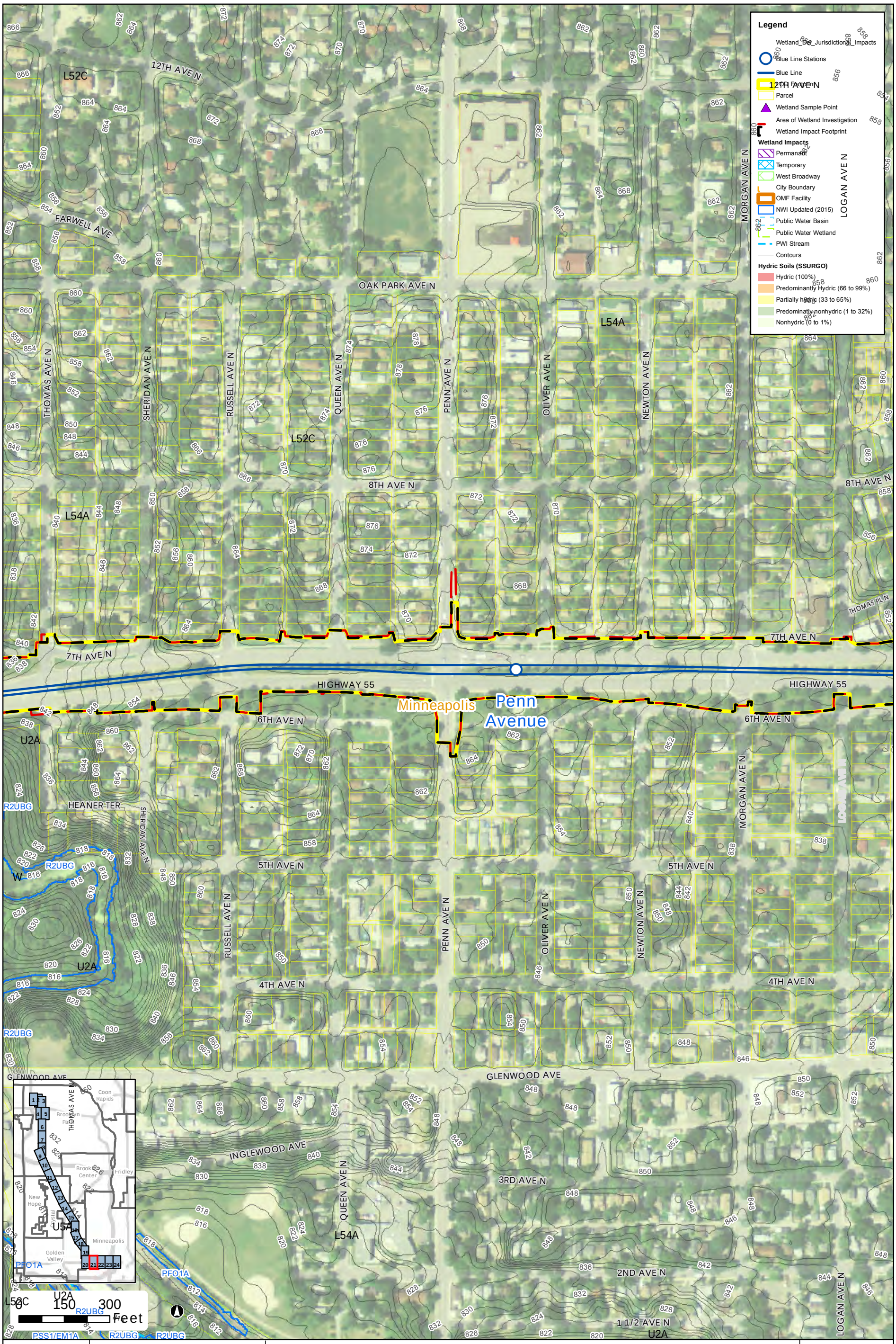

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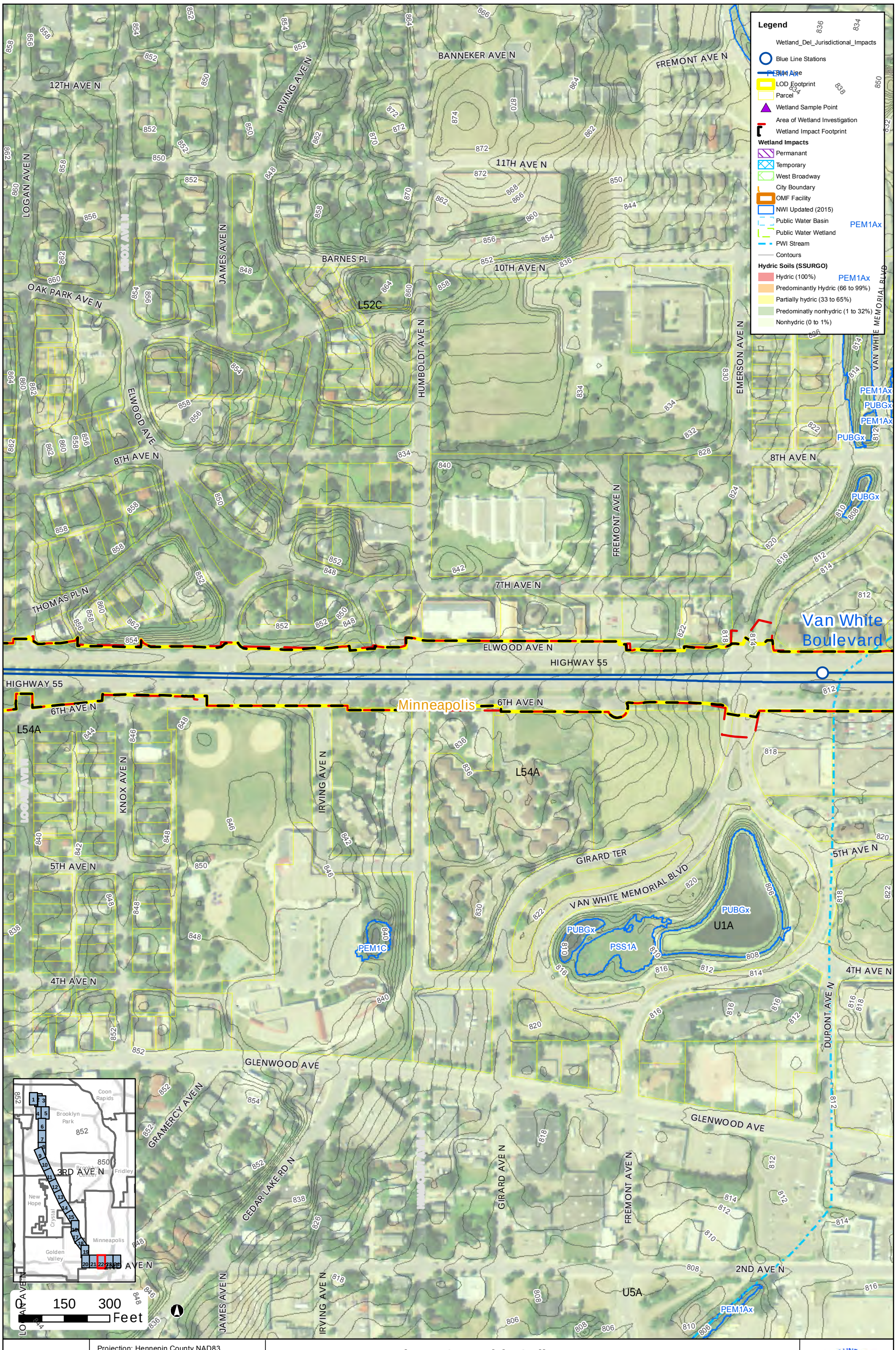

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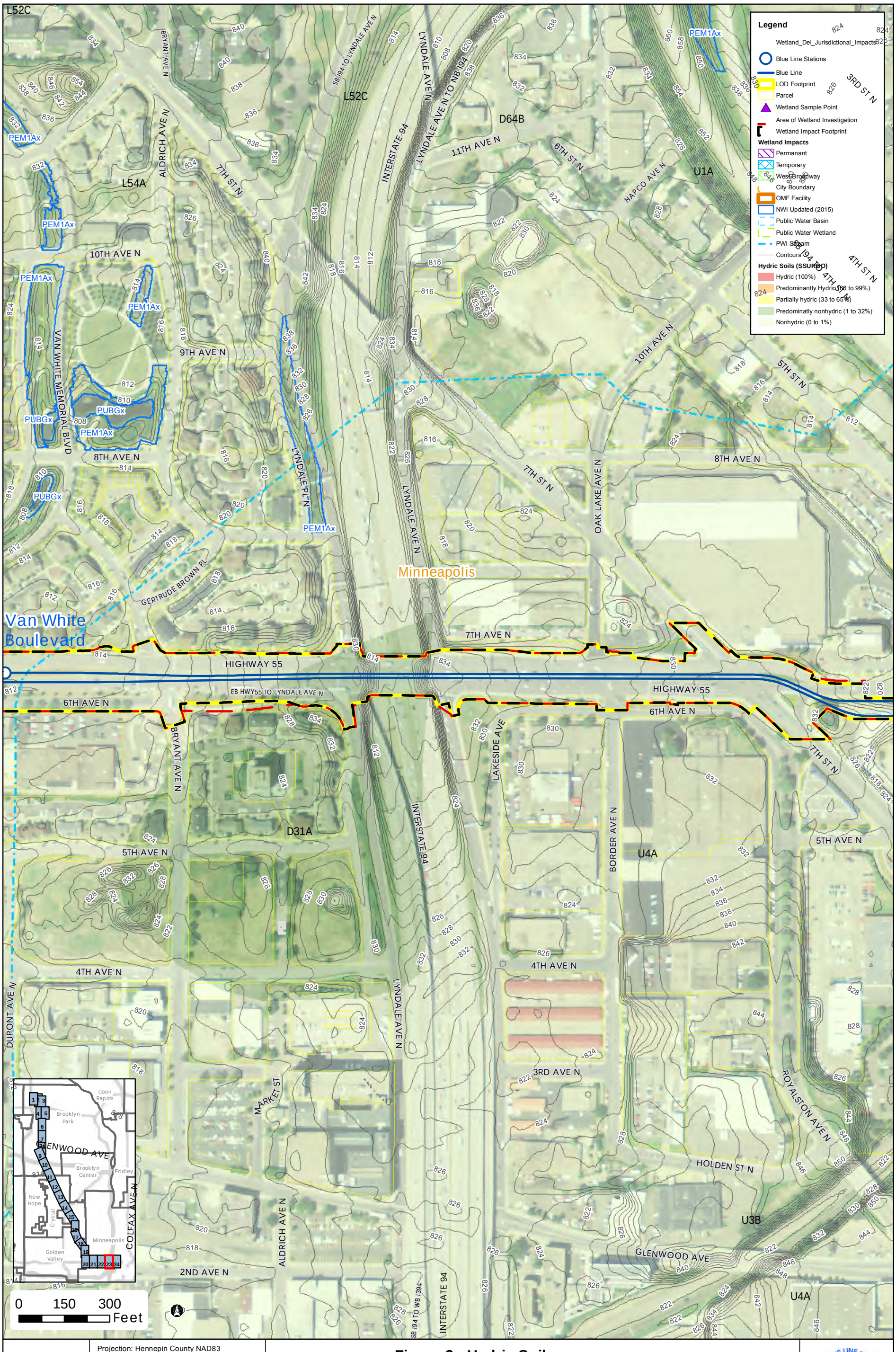

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5/16/2016

Appendix A

Agency Correspondence

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit (LGU)	Address
Bassett Creek Watershed Management Commission (BCWMC)	**7800 Golden Valley Road Golden Valley, MN 55427**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Metropolitan Council	**Blue Line Light Rail Extension (LRT)**	**12/11/15**	

☒ Attach site locator map.

Type of Decision:

☒ Wetland Boundary or Type ☐ No-Loss ☐ Exemption ☐ Sequencing
☐ Replacement Plan ☐ Banking Plan

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: **1/21/16**

☒ Approved ☐ Approved with conditions (include below) ☐ Denied

LGU Findings and Conclusions (attach additional sheets as necessary):

On behalf of the Metropolitan Council, SEH Inc. submitted a wetland delineation report for the Blue Line Light Rail Extension project located within Hennepin County in Brooklyn Park, Robbinsdale, Crystal, Golden Valley, and Minneapolis. The BCWMC is the WCA LGU for the portion of the project within the City of Robbinsdale and within the Bassett Creek Watershed, which is the area south of 36th Ave N. Wetlands associated with this project within the BCWMC jurisdiction are: W31, W32, W33, W34, W35, W36, W44, and W45. Note that W34 straddles both Robbinsdale and Golden Valley. For wetland delineation purposes, the BCWMC has reviewed W34.

The preliminary wetland maps and wetland data forms were submitted on 6/22/15 in preparation for a site review of the wetland boundaries which took place on 6/29/15. Present at the site review were Ben Meyer with BWSR, Stacey Lijewski with Hennepin County, Melissa Jenny with the USACE, Adam Arvidson with the Minneapolis Park and Rec Board, Jeff Olson with SEH for the applicant, and Karen Wold with Barr for the City of Minneapolis, Bassett Creek WMC portion of Robbinsdale, and Golden Valley. Wetland edits were completed based on initial comments and a complete wetland delineation report was submitted on 12/11/15.

During a TEP meeting on 12/8/15, each LGU clarified that they would each retain jurisdiction for their portions of this project.

During the comment period, Karen Wold requested some minor wetland type revisions and wetland size designations. Based on these comments, SEH submitted a revised wetland summary table on 1/4/16, which was provided to the TEP on 1/5/16 and is also attached in this document. No other comments were received during the comment period.

The updated wetland summary table includes the following wetland types and sizes for wetlands within BCWMC jurisdiction:

Wetland ID	Field Verified Cowardin	Eggers & Reed Class.	Circ. 39 Class.	Basin Size (ac)
W31	PSS1A	Shrub Carr	Type 6	Part of W32
W32	PFO1A/PEMC/PSS1C	Floodplain forest/shallow marsh/shrub-carr	Type 1/Type 3/Type 6	7.71
W33	PUBGx	Open Water	Type 5	7.41
W34	PEM1F	Deep Marsh	Type 4	17.01
W35	PFO1A	Floodplain forest	Type 1	0.85
W36	PSS1A	Shrub Carr	Type 6	1.39
W44	PUBGx	Open Water	Type 5	0.87
W45	PFO1A	Floodplain forest	Type 1	11.14

Note: Wetland Types per Circular 39 indicate the majority of wetland types within a delineated basin. Several other minor wetland types may also be present within the basin.

The wetland boundaries and updated wetland types were found to be accurate, based on the requirements of the 1987 USACE Wetland Delineation Manual, the 2010 Midwest Regional Supplement, and the 2015 Guidance for Submittal of Delineation Reports to the USACE and WCA LGU in Minnesota, Version 2.0.

The BCWMC approves the wetland boundaries and types.

For Replacement Plans using credits from the State Wetland Bank:

Bank Account #	Bank Service Area	County	Credits Approved for Withdrawal (sq. ft. or nearest .01 acre)

Replacement Plan Approval Conditions. In addition to any conditions specified by the LGU, the approval of a Wetland Replacement Plan is conditional upon the following:

☐ **Financial Assurance:** For project-specific replacement that is not in-advance, a financial assurance specified by the LGU must be submitted to the LGU in accordance with MN Rule 8420.0522, Subp. 9 (List amount and type in LGU Findings).

☐ **Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that the BWSR "Declaration of Restrictions and Covenants" and "Consent to Replacement Wetland" forms have been filed with the county recorder's office in which the replacement wetland is located.

☐ **Credit Withdrawal:** For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.

Wetlands may not be impacted until all applicable conditions have been met!

LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.

Name	Title	
Jim de Lambert	BCWMC Chair	
Signature	Date	Phone Number and E-mail
	1/31/2018	612-750-6680

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for five years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

☐ Appeal of an LGU staff decision. Send petition and $_____ fee (if applicable) to:	☒ Appeal of LGU governing body decision. Send petition and $500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155

4. LIST OF ADDRESSEES

☒ SWCD TEP member: **Stacey Lijewski**
☒ BWSR TEP member: **Ben Meyer**
☒ DNR TEP member: **Leslie Parris, Kate Drewry**
☒ WD or WMO (if applicable): **Laura Jester (BCWMC), Jim Herbert (Barr)**
☒ Applicant and Landowner (if different) **agent Jeff Olson (SEH)**
☒ City of Robbinsdale: **Richard McCoy**
☒ Corps of Engineers Project Manager **Melissa Jenny**

5. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/WCA_areas.pdf
➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf
➢Department of Natural Resources Regional Offices:

NW Region:	NE Region:	Central Region:	Southern Region:
Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073

For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf
➢For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687 or send to:

US Army Corps of Engineers
St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

➢For Wetland Bank Plan applications, also send a copy of the application to:

Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

6. ATTACHMENTS

In addition to the site locator map, list any other attachments:
☒ **Updated wetland summary table**
☒ **Wetland delineation maps**

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit (LGU)	Address
City of Golden Valley	**7800 Golden VAlley Road Golden Valley, MN 55427**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
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W37	PEM1A	Seas. flooded basin	Type 1	0.08
W38	PUBGx/PEMA	Open Water/wet (fresh) meadow	Type 5/2	3.08
W39	PUBGx	Open Water	Type 5	2.00
W40	PEM1A	Seas. flooded basin	Type 1	0.31
W41	PEM1A	Seas. flooded basin	Type 1	0.19
W46	PFO1A	Floodplain forest	Type 1	11.14
W47	PFO1A	Floodplain forest	Type 1	Part of W46
W50	PEM1A	Seas. flooded basin	Type 1	0.12

Note: Wetland Types per Circular 39 indicate the majority of wetland types within a delineated basin. Several other minor wetland types may also be present within the basin.

The wetland boundaries and updated wetland types were found to be accurate, based on the requirements of the 1987 USACE Wetland Delineation Manual, the 2010 Midwest Regional Supplement, and the 2015 Guidance for Submittal of Delineation Reports to the USACE and WCA LGU in Minnesota, Version 2.0. The City of Golden Valley approves the wetland boundaries and types.

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☐ **Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that the BWSR "Declaration of Restrictions and Covenants" and "Consent to Replacement Wetland" forms have been filed with the county recorder's office in which the replacement wetland is located.

☐ **Credit Withdrawal:** For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.

Wetlands may not be impacted until all applicable conditions have been met!

LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.

Name	Title	
Jeff Oliver, PE	**City Engineer**	
Signature	Date	Phone Number and E-mail
	January 21, 2016	**763-593-8034** **joliver@goldenvalleymn.gov**

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for five years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

☒ Appeal of an LGU staff decision. Send petition and $500 fee (if applicable) to:	☐ Appeal of LGU governing body decision. Send petition and $500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155

4. LIST OF ADDRESSEES

- ☒ SWCD TEP member: **Stacey Lijewski**
- ☒ BWSR TEP member: **Ben Meyer**
- ☒ LGU TEP member (if different than LGU Contact): **Karen Wold (Barr)**
- ☒ DNR TEP member: **Leslie Parris, Kate Drewry**
- ☐ DNR Regional Office (if different than DNR TEP member)
- ☒ City of Golden Valley: **Eric Eckman and Jeff Oliver**
- ☒ WD or WMO (if applicable): **Laura Jester (BCWMC)**
- ☒ Applicant and Landowner (if different) **agent Jeff Olson (SEH)**
- ☐ Members of the public who requested notice:

- ☒ Corps of Engineers Project Manager **Melissa Jenny**
- ☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

5. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/WCA_areas.pdf

➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➢Department of Natural Resources Regional Offices:

NW Region:	NE Region:	Central Region:	Southern Region:
Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073

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➢For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687

or send to:

US Army Corps of Engineers
St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

➢For Wetland Bank Plan applications, also send a copy of the application to:

Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

6. ATTACHMENTS

In addition to the site locator map, list any other attachments:

- ☒ **Updated wetland summary table**
- ☒ **Wetland delineation maps**
- ☐
- ☐
- ☐

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit (LGU)	Address
City of Minneapolis	**309 S Second Ave Room 300** **Minneapolis, MN 55401**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Metropolitan Council	**Blue Line Light Rail Extension (LRT)**	**12/11/15**	

☒ Attach site locator map.

Type of Decision:

☒ Wetland Boundary or Type ☐ No-Loss ☐ Exemption ☐ Sequencing
☐ Replacement Plan ☐ Banking Plan

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: **1/22/16**

☒ Approved ☐ Approved with conditions (include below) ☐ Denied

LGU Findings and Conclusions (attach additional sheets as necessary):

On behalf of the Metropolitan Council, SEH Inc. submitted a wetland delineation for the Blue Line Light Rail Extension project located within Hennepin County in Brooklyn Park, Robbinsdale, Crystal, Golden Valley, and Minneapolis. The City of Minneapolis is the WCA LGU for the portion of the project within Minneapolis. Wetlands associated with this project within the City of Minneapolis are: W42, W48, and W49. Note that W42 and W49 straddle both Golden Valley and Minneapolis. The City of Minneapolis has reviewed W42 and W49.

The preliminary wetland maps and wetland data forms were submitted on 6/22/15 in preparation for a site review of the wetland boundaries which took place on 6/29/15. Present at the site review were Ben Meyer with BWSR, Stacey Lijewski with Hennepin County, Melissa Jenny with the USACE, Adam Arvidson with the Minneapolis Park and Rec Board, Jeff Olson with SEH for the applicant, and Karen Wold with Barr for the City of Minneapolis, Bassett Creek WMC portion of Robbinsdale, and Golden Valley. Wetland edits were completed based on initial comments and a complete wetland delineation report was submitted on 12/11/15.

During a TEP meeting on 12/8/15, each LGU clarified that they would each retain jurisdiction for their portions of this project.

During the comment period, Karen Wold requested some minor wetland type revisions and wetland size designations. Based on these comments, SEH submitted a revised wetland summary table on 1/4/16, which was provided to the TEP on 1/5/16 and is also attached in this document. No other comments were received during the comment period.

The updated wetland summary table includes the following wetland types and sizes for wetlands within the City of Minneapolis jurisdiction:

Wetland ID	Field Verified Cowardin	Eggers & Reed Class.	Circ. 39 Class.	Basin Size (ac.)
W42	PSS1A	Shrub Carr	Type 6	0.29
W48	R2UBGx	Riverine	Type 4	0.50
W49	PFO1A	Floodplain forest	Type 1	0.08

Note: Wetland Types per Circular 39 indicate the majority of wetland types within a delineated basin. Several other minor wetland types may also be present within the basin.

The wetland boundaries and updated wetland types were found to be accurate, based on the requirements of the 1987 USACE Wetland Delineation Manual, the 2010 Midwest Regional Supplement, and the 2015 Guidance for Submittal of Delineation Reports to the USACE and WCA LGU in Minnesota, Version 2.0. The City of Minneapolis approves the wetland boundaries and types.

For Replacement Plans using credits from the State Wetland Bank:

Bank Account #	Bank Service Area	County	Credits Approved for Withdrawal (sq. ft. or nearest .01 acre)

Replacement Plan Approval Conditions. In addition to any conditions specified by the LGU, the approval of a Wetland Replacement Plan is conditional upon the following:

☐ **Financial Assurance:** For project-specific replacement that is not in-advance, a financial assurance specified by the LGU must be submitted to the LGU in accordance with MN Rule 8420.0522, Subp. 9 (List amount and type in LGU Findings).

☐ **Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that the BWSR "Declaration of Restrictions and Covenants" and "Consent to Replacement Wetland" forms have been filed with the county recorder's office in which the replacement wetland is located.

☐ **Credit Withdrawal:** For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.

Wetlands may not be impacted until all applicable conditions have been met!

LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.		
Name **Lois Eberhart**	Title **City of Minneapolis Water Resources Regulatory Administrator**	
Signature Lois E. Eberhart	Date **January 22, 2016**	Phone Number and E-mail **612-673-3260** **lois.eberhart@minneapolismn.gov**

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for three years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

☒ Appeal of an LGU staff decision. Send petition and $**0.00** fee to: Lois Eberhart, City of Minneapolis Water Resources Regulatory Administrator Public Works – Surface Water & Sewers Div. City of Lakes Building Room 300 309 S. Second Avenue Minneapolis MN 55401	☐ Appeal of LGU governing body decision. Send petition and $500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155

4. LIST OF ADDRESSEES

☒ SWCD TEP member: **Stacey Lijewski**
☒ BWSR TEP member: **Ben Meyer**
☒ LGU TEP member (if different than LGU Contact): **Karen Wold (Barr)**
☒ DNR TEP member: **Leslie Parris, Kate Drewry**
☐ DNR Regional Office (if different than DNR TEP member)
☒ City of Minneapolis: **Lois Eberhart and Elizabeth Stout**
☒ WD or WMO (if applicable): **Laura Jester (BCWMC)**
☒ Applicant and Landowner (if different) **agent Jeff Olson (SEH)**
☐ Members of the public who requested notice:

☒ Corps of Engineers Project Manager **Melissa Jenny**
☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

5. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/WCA_areas.pdf

➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➢Department of Natural Resources Regional Offices:

NW Region:	NE Region:	Central Region:	Southern Region:
Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073

For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

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US Army Corps of Engineers

St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

- For Wetland Bank Plan applications, also send a copy of the application to:
  Minnesota Board of Water and Soil Resources
  Wetland Bank Coordinator
  520 Lafayette Road North
  St. Paul, MN 55155

6. ATTACHMENTS

In addition to the site locator map, list any other attachments:

- ☒ **Updated wetland summary table**
- ☒ **Wetland delineation maps**
- ☐
- ☐
- ☐

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit (LGU)	Address
Shingle Creek/West Mississippi WMC	**3235 Fernbrook Lane** **Plymouth, MN 55447**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Metropolitan Council	**Blue Line LRT**	**10/28/2015** **(Decision period extended 12/22/2015**	

☒ Attach site locator map.

Type of Decision:

☒ Wetland Boundary or Type ☐ No-Loss ☐ Exemption ☐ Sequencing
☐ Replacement Plan ☐ Banking Plan

Technical Evaluation Panel Findings and Recommendation (if any):

☒ Approve ☐ Approve with conditions ☐ Deny

Summary (or attach):

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: **2/10/2016**

☐ Approved ☒ Approved with conditions (include below) ☐ Denied

LGU Findings and Conclusions (attach additional sheets as necessary):

SEH submitted a wetland delineation report on behalf of the Metropolitan Council for the Blue Line LRT transportation project, located within the cities of Brooklyn Park, Crystal, Robbinsdale, Golden Valley, and Minneapolis. This Notice of Decision specifically addresses the portion of the project within Shingle Creek and West Mississippi Watersheds north of 36th Ave N in the Cities of Robbinsdale, Crystal, and Brooklyn Park. The Applicant is proposing to construct the Blue Line Light Rail Extension from the existing Target Field station to an end station in Brooklyn Park. The total project area consists of approximately 13 linear miles, of which this review addresses approximately 9 linear miles.

A wetland delineation report was completed by Jeff Olson of Short Elliot Hendrickson (SEH), Inc. on September 30, 2015. 39 wetlands (Wetlands 1-17, 26-30, 33-36, 44, 45, and 51) are located north of 36th Ave N and were identified within watershed boundaries and are included in this review. Wenck staff conducted a field review of wetland boundaries with BWSR and Army Corps staff on July 10, 2015 and the TEP was in agreement with the delineated boundaries and wetland types.

An additional TEP meeting was conducted December 8, 2015 to discuss the wetland delineation report findings. The TEP also discussed impacts to the Target North Campus mitigation wetland (Wetland 51), which was constructed in 2003 and is in permanent conservation easement. Note that the boundary of Wetland 51 was not delineated in the field and is not included in this decision.

The TEP requested that SEH revise the forested PFO wetland Eggers and Reed types from seasonally flooded basins to floodplain forest. SEH submitted a revised table summarizing the identified wetland types which is attached to this document (See "Revised Wetland Summary Table").

Shingle Creek and West Mississippi WMCs approve the boundaries as documented in the attached Revised Wetland Delineation Figures and the wetland types as summarized in the attached Revised Wetland Summary Table with the exception of Wetland 51 on the Target North Campus.

This decision is valid for five years.

For Replacement Plans using credits from the State Wetland Bank:

Bank Account #	Bank Service Area	County	Credits Approved for Withdrawal (sq. ft. or nearest .01 acre)

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Name	Title	
Wes Boll, Wenck Associates, Inc.	**WM WMC WCA Agent**	
Signature Wesley Boll	Date **2/10/2016**	Phone Number and E-mail **(763)479-4283** **wboll@wenck.com**

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Check one:

☒ Appeal of an LGU staff decision. Send petition and $_____ fee (if applicable) to: **Wes Boll** **Wenck Associates** **1800 Pioneer Creek Center** **Maple Plain, MN 55359**	☐ Appeal of LGU governing body decision. Send petition and $500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155

4. LIST OF ADDRESSEES

☒ SWCD TEP member: **Stacey Lijewski – stacey.lijewski@co.hennepin.mn.us**
☒ BWSR TEP member: **Ben Meyer- ben.meyer@state.mn.us**
☒ LGU TEP member (if different than LGU Contact): **City of Brooklyn Park – Jesse Struve – jesse.struve@brooklynpark.org**
☐ DNR TEP member:
☒ DNR Regional Office (if different than DNR TEP member): **Leslie Parris - leslie.parris@state.mn.us**
☐ WD or WMO (if applicable):
☒ Applicant (notice only) and Landowner (if different): **Applicant: Met Council – bluelineext@metrotransit.org**
☒ Members of the public who requested notice (notice only):
Consultant: SEH, Inc. (Jeff Olson)-jolson@sehinc.com
☒ Corps of Engineers Project Manager (notice only): **Melissa Jenny – Melissa.m.jenny@usace.army.mil**
☐ BWSR Wetland Bank Coordinator (wetland bank plan applications only)

5. MAILING INFORMATION

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Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073

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US Army Corps of Engineers
St. Paul District, ATTN: OP-R

180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

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  Wetland Bank Coordinator
  520 Lafayette Road North
  St. Paul, MN 55155

6. ATTACHMENTS

In addition to the site locator map, list any other attachments:

- ☒ **Revised Wetland Delineation Figures**
- ☒ **Revised Wetland Summary Table**
- ☐
- ☐
- ☐

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

REPLY TO
ATTENTION

JUN 19 2013

Operations
Regulatory (2012-01051-MMJ)

Mr. Brent Rusco
Senior Professional Engineer
Hennepin County
Housing, Community Works & Transit
Engineering and Transit Planning
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415-1843

Dear Mr. Rusco:

We have reviewed the documents you recently provided regarding the Bottineau Transitway Project. As a cooperating agency in the preparation of the Environmental Impact Statement (EIS) for this project, this letter contains comments on Chapters 1 and 2 (1.16.13 version) of the Bottineau Transitway Preliminary Draft EIS (PDEIS). This letter is also intended to provide Corps concurrence with Points 1 (Purpose and Need) and 2 (Alternatives Carried Forward) for the Bottineau Transitway Project, as outlined in the National Environmental Policy Act (NEPA) / Section 404 Clean Water Act (404) merger process.

Chapter 1 of the PDEIS discusses the purpose and need for the Bottineau Transitway Project, and states: "The purpose of the Bottineau Transitway is to provide transit service which will satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public." The project need is described as: "the Bottineau Transitway project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.

The Corps concurs with the abovementioned purpose and need statements for use in Bottineau Transitway Project NEPA documentation. Chapter 1 has also provided us with sufficient information to determine the overall project purpose for the Bottineau Transitway Project. As described in the 404(b)(1) Guidelines (Guidelines) of the Clean Water Act, the overall project purpose is what the Corps uses to direct the range of reasonable alternatives to be considered in our 404 permit application review process. We suggest the following overall project purpose, which also includes a more defined geographic boundary: "to provide high-capacity, competitive transit service within the Bottineau Transitway study area."

Our suggested overall project purpose coincides with the transit alternatives that were considered and advanced for further study in the Bottineau Transitway Alternatives Analysis Study Final Report (AA Study), as described in Chapter 2 of the PDEIS. Therefore, the Corps concurs with the array of

alternatives considered for this project, as well as the alternatives that were carried forward for further review, as described below.

The AA Study considered a wide range of transit modes and alignments within the Bottineau Transitway study area. The study progressively narrowed the transitway build alternatives to a set of 21 alternatives (9 light rail transit (LRT) and 12 bus rapid transit (BRT) alignments) to be studied in more detail. Those alternatives were then evaluated against a set of defined goals and evaluating criteria, and 4 LRT alternatives (A-C-D1, B-C-D1, A-C-D2, & B-C-D2), and 1 BRT alternative (B-C-D1) were carried forward for consideration as the Locally Preferred Alternative (LPA). After additional evaluation of the remaining alternatives, the Draft EIS for the Bottineau Transitway Project will be recommending LRT alternative B-C-D1 as the LPA.

To comply with the Guidelines, the alternatives analysis must consider ways to avoid and minimize impacts to waters of the U.S. (WOUS) so that the least environmentally-damaging practicable alternative (LEDPA) can be identified. The Guidelines specifically require that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences" (40 CFR § 230.10(a)). Per the Guidelines, a practicable alternative is defined as available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose. Time and money spent on the proposal prior to applying for a Section 404 permit cannot be factored into the Corps decision regarding whether a less damaging practicable alternative is available.

We have reviewed the draft Water Resources Technical Report prepared for the Bottineau Transitway Project, as well as the technical memorandums, dated May 7, 2012, specifically comparing Alignments A versus B, and Alignments D1 versus D2. Following is a summary of estimated impacts to WOUS that would result from the alignments currently being considered for this project: Alignment A - 1.8 acres of wetland impact, Alignment B - 5.9 acres of wetland impact, Alignment C - 0.7 acre of wetland impact, Alignment D1 - 6.1 acres of wetland impact, and Alignment D2 - 0.7 acre of wetland impact. Alignment C is a common segment to all alternatives. As described, Alternative A-C-D2 would result in the least amount of impacts to WOUS.

You have provided sufficient information describing the limiting factors associated with Alignment D2, and we agree with the selection of Alignment D1 as a portion of the LPA. However, we currently do not have enough information to make a determination regarding Alignments A versus B, mainly because the location of the Operations and Maintenance Facility (OMF) at the northern end of Alternative B has yet to be determined, and the aquatic impacts associated with the alternate locations vary considerably.

Without knowing the final location or the potential impacts to WOUS associated with the OMF, we cannot determine if the entire LPA (B-C-D1) would qualify as the LEDPA, as defined in the Guidelines. Therefore, we are currently unable to comment on concurrence point 3 of the NEPA/404 merger process.

The burden of proof to demonstrate compliance with the Guidelines rests with the applicant; where insufficient information is provided to determine compliance, the Guidelines require that no

permit be issued. If you plan to move forward with Alternative B-C-D1 as the LPA, please submit additional information to support your decision to eliminate Alignment A from consideration.

Thank you for the opportunity to comment on Chapters 1 and 2 of the Bottineau Transitway Preliminary Draft EIS. We are committed to continuing coordination with you and the local Bottineau Transitway project team on concurrence point 3 of the NEPA/404 merger process, through technical review of the DEIS chapters, and through evaluation of impact avoidance measures. For further information, please contact Melissa Jenny, the Corps project manager for Hennepin County, at 651-290-5363 or Melissa.m.jenny@usace.army.mil.

Sincerely,

for Tamara E. Cameron
Chief, Regulatory Branch

Copy furnished:
Maya Sarna, Federal Transit Authority
Kathryn O'Brien, Metro Transit
Joseph Gladke, Hennepin County Regional Rail Authority
Jeanne Witzig, Kimley-Horne
Beth Kunkle, Kimley-Horne

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

OCT 01 2013

REPLY TO
ATTENTION

Operations
Regulatory (2012-01051-MMJ)

Mr. Brent Rusco
Senior Professional Engineer
Hennepin County
Housing, Community Works & Transit
Engineering and Transit Planning
701 Fourth Avenue South, Suite 400
Minneapolis, MN 55415-1843

Dear Mr. Rusco:

We have reviewed the documents you provided in response to our request for additional information regarding the Bottineau Transitway Project. After reviewing this additional information we can now concur with Point 3 (Identification of the Selected Alternative) for the Bottineau Transitway Project, as outlined in the National Environmental Policy Act (NEPA) / Section 404 Clean Water Act (404) merger process.

As stated in our earlier letter, to comply with our 404(b)(1) Guidelines (Guidelines), the alternatives analysis for the Bottineau Transitway must consider ways to avoid and minimize impacts to waters of the U.S. (WOUS) so that the least environmentally damaging practicable alternative (LEDPA) can be identified. Per the Guidelines, a practicable alternative is defined as available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose.

Numerous alignment configurations or alternatives were considered for this project. After reviewing the preliminary wetland impact calculations completed for each alignment, we determined that project alternative A-C-D2 would result in the least amount of impact to WOUS. However, the Locally Preferred Alternative (LPA) for the Bottineau Transitway Project is alternative B-C-D1. At the time of our last letter, you had provided enough information for us to determine that alignment D2 is not a practicable alternative for this project, and we agreed that alignment D1 would be acceptable as part of the LEDPA. You have now provided sufficient information to demonstrate that alignment A is also not a practicable alternative. Therefore, we have made a preliminary determination that the selected alternative B-C-D1 is the LEDPA.

As is typical of a NEPA/404 merger process, if substantial new information regarding alternative B-C-D1 is brought forward later in the project development process, we may revisit this decision and our concurrence that the selected alternative is the LEDPA. In addition, we anticipate further opportunity for avoidance and minimization of impacts to WOUS as the LPA is further refined during the design phase.

We look forward to reviewing the Draft EIS for this project. For further information, please contact Melissa Jenny, the Corps project manager for Hennepin County, at 651-290-5363 or Melissa.m.jenny@usace.army.mil.

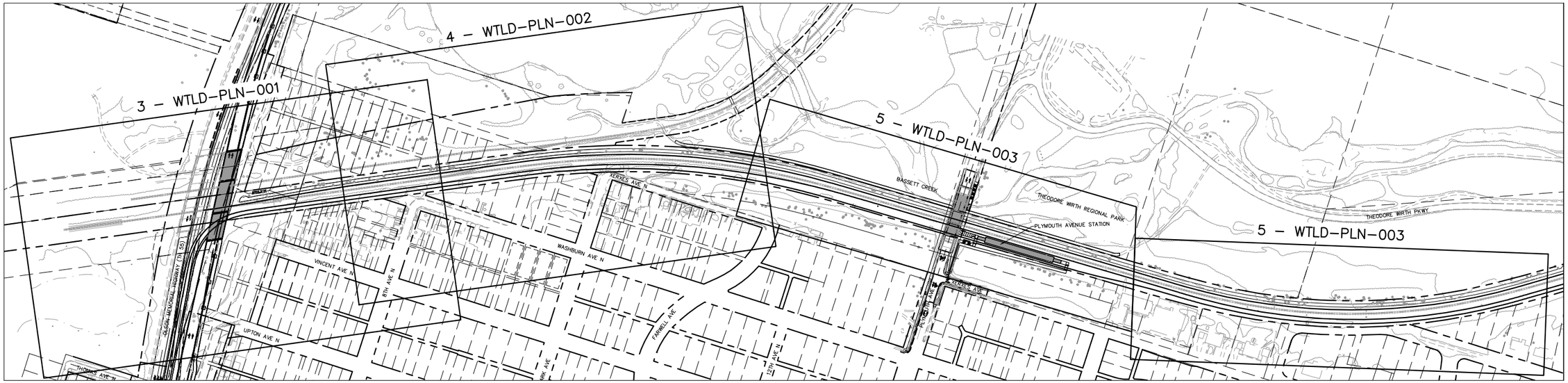
Sincerely,

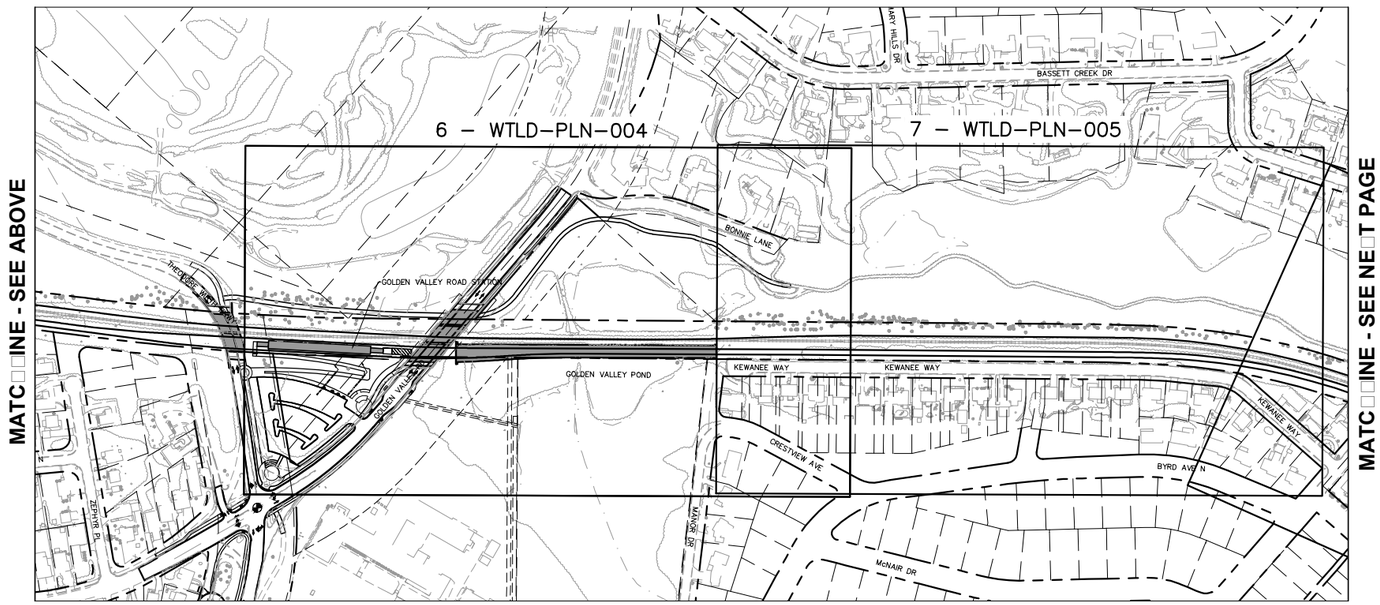
Tamara E. Cameron
Chief, Regulatory Branch

Copy furnished:
Maya Sarna, Federal Transit Authority
Kathryn O'Brien, Metro Transit
Joseph Gladke, Hennepin County Regional Rail Authority
Jeanne Witzig, Kimley-Horne
Beth Kunkle, Kimley-Horne

Appendix B

Proposed BLRT Extension Project Planset (Planview and Cross-Sections) Depicting Impacts to Wetlands and Aquatic Resources





DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - INDEX

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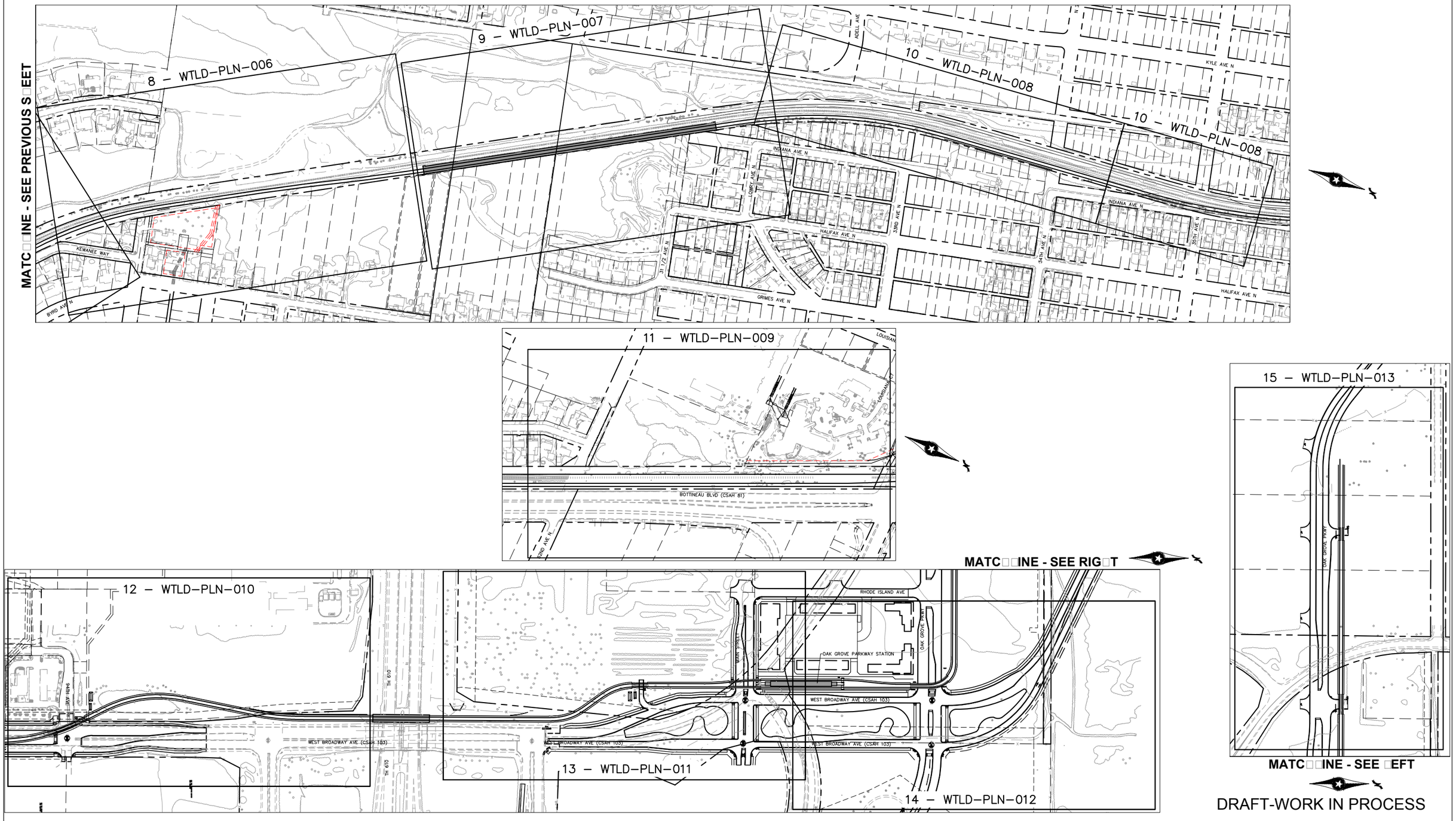

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BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - INDEX

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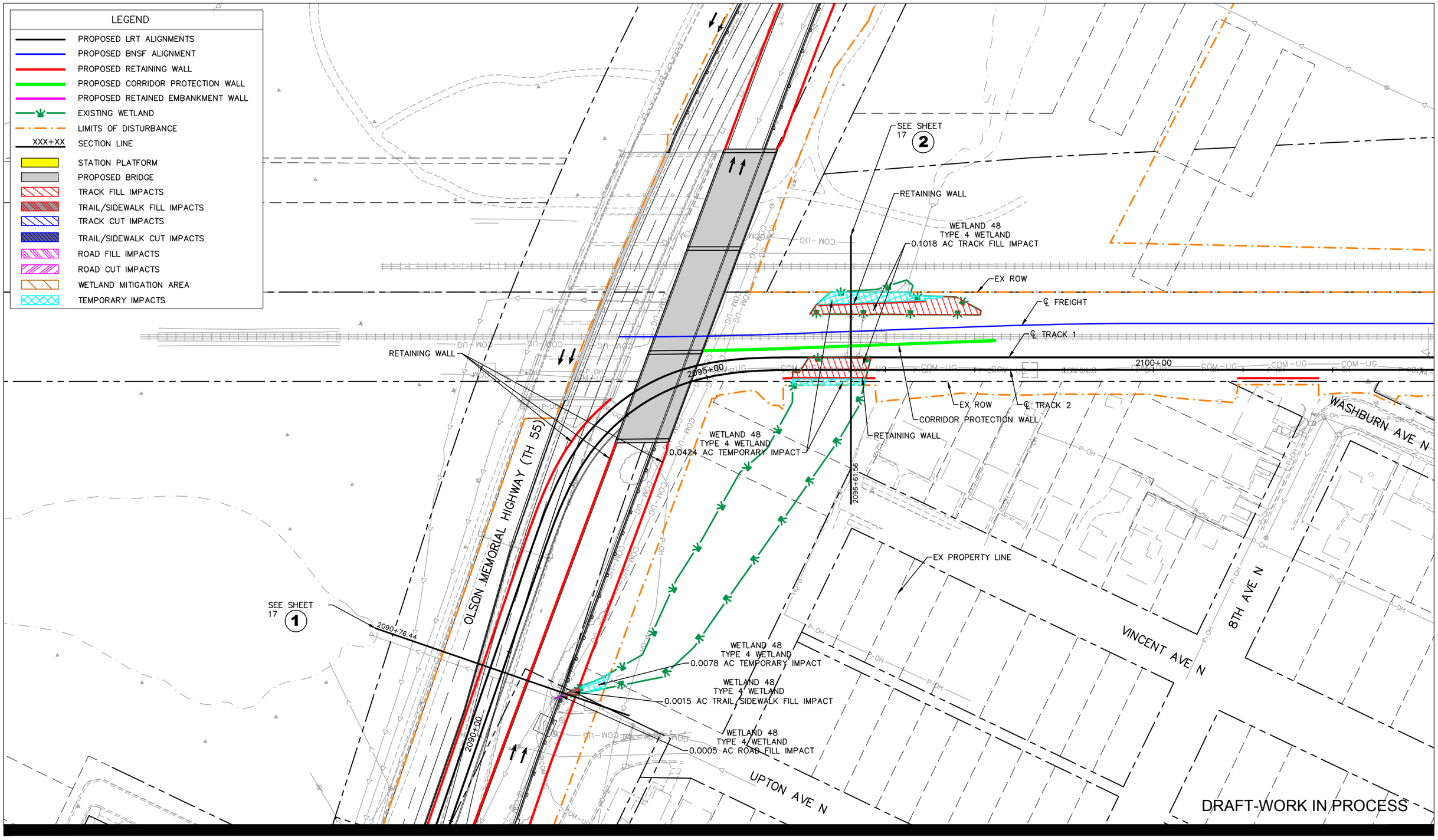

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BLUE LINE LRT EXTENSION

SECTION 404

WETLAND IMPACTS - PLAN VIEW

0 25 50 100

DATE: 5/10/2016

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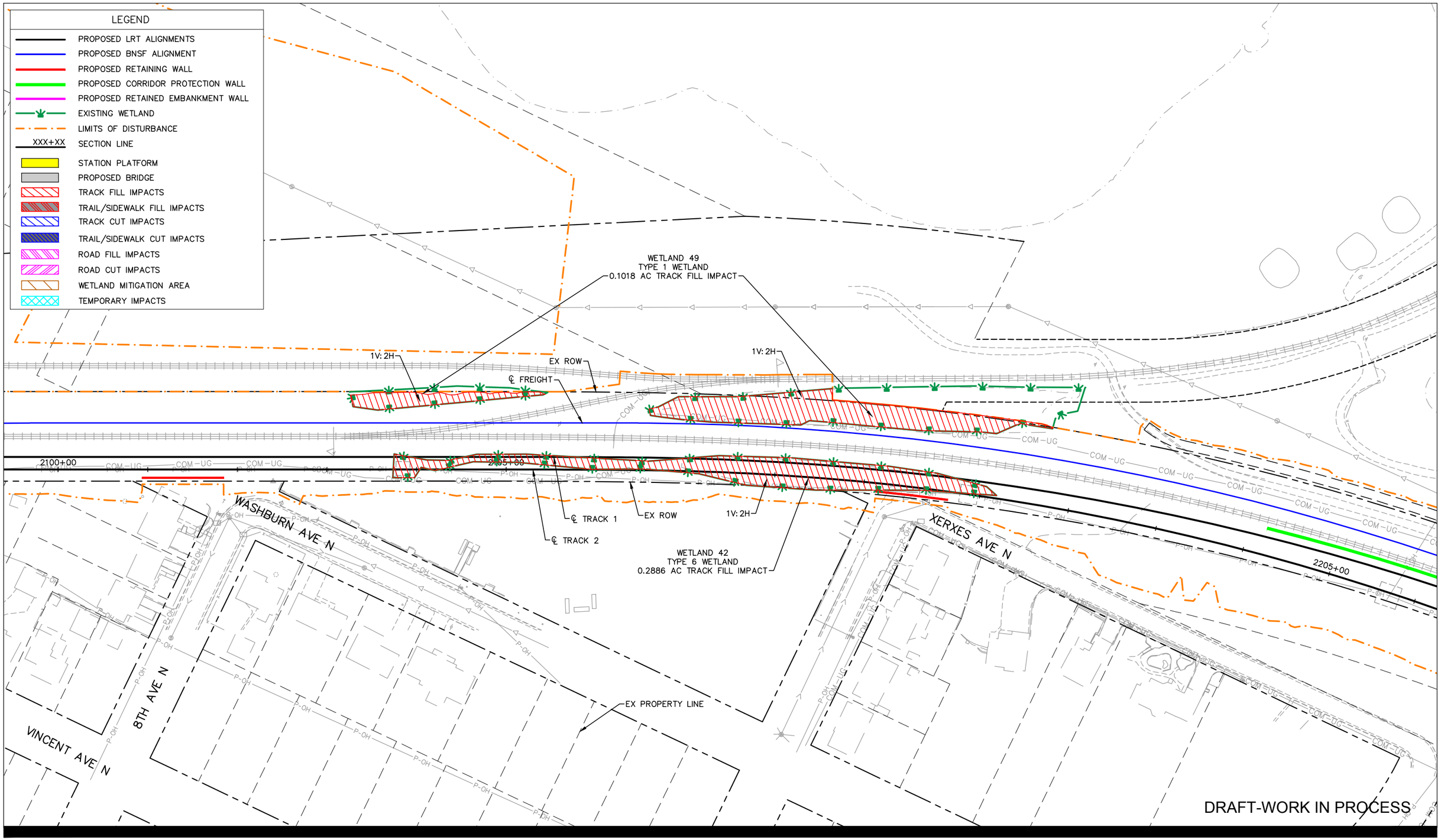

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BLUE LINE LRT EXTENSION

SECTION 404

WETLAND IMPACTS - PLAN VIEW

0 25 50 100

DATE: 5/10/2016

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THEODORE WIRTH REGIONAL PARK

BASSETT CREEK
(MnDNR PUBLIC WATERCOURSE)

MnDNR PUBLIC WATER 651P

WETLAND 46
TYPE 1 WETLAND
0.0633 AC TRAIL CUT IMPACT

WETLAND 46
TYPE 1 WETLAND
0.1071 AC WETLAND MITIGATION AREA

WETLAND 46
RIVERINE WETLAND TYPE
±450 LF OF IMPACT

WETLAND 46
TYPE 1 WETLAND
0.2984 AC TRAIL FILL IMPACT

WETLAND 46
TYPE 1 WETLAND
0.0008 AC TEMPORARY IMPACT

CORRIDOR PROTECTION/
RETAINED EMBANKMENT

RETAINING WALL

℄ FREIGHT

1V: 3H

EX ROW

PLYMOUTH AVENUE STATION

2210+00

2215+00

2220+00

WETLAND 46
TYPE 1 WETLAND
0.6815 AC TOTAL TRACK FILL IMPACT
(SEE BELOW FOR CONTINUATION OF WETLAND)

CORRIDOR PROTECTION WALL

WETLAND 41
TYPE 1 WETLAND
0.1917 AC TRACK FILL

℄ TRACK 1

℄ TRACK 2

EX PROPERTY LINE

SEE SHEET 18
3
2209+75.53

SEE SHEET 18
4
2213+41.79

PLYMOUTH AVE N

MATCH LINE - SEE BELOW

MATCH LINE - SEE ABOVE

CORRIDOR PROTECTION WALL

CORRIDOR PROTECTION/
RETAINED EMBANKMENT

1V: 2H

WETLAND 46
TYPE 1 WETLAND
0.6815 AC TOTAL TRACK FILL IMPACT
(SEE ABOVE FOR CONTINUATION OF WETLAND)

℄ FREIGHT

EX ROW

2225+00

2230+00

2235+00

℄ TRACK 1

℄ TRACK 2

WETLAND 50
TYPE 1 WETLAND
0.1176 AC TRACK FILL IMPACT

WETLAND 40
TYPE 1 WETLAND
0.0121 AC TRACK CUT IMPACT

WETLAND 40
TYPE 1 WETLAND
0.3006 AC TRACK FILL IMPACT

SEE SHEET 19
5
2225+72.06

SEE SHEET 19
6
2227+80.72

SEE SHEET 20
7
2234+15.20

XERXES AVE

YORK AVE

DRAFT-WORK IN PROCESS

LEGEND

- PROPOSED LRT ALIGNMENTS
- PROPOSED BNSF ALIGNMENT
- PROPOSED RETAINING WALL
- PROPOSED CORRIDOR PROTECTION WALL
- PROPOSED RETAINED EMBANKMENT WALL
- EXISTING WETLAND
- LIMITS OF DISTURBANCE
- XXX+XX SECTION LINE
- STATION PLATFORM
- PROPOSED BRIDGE
- TRACK FILL IMPACTS
- TRAIL/SIDEWALK FILL IMPACTS
- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

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BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - PLAN VIEW

0 25 50 100

DATE:
5/10/2016

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LEGEND

- PROPOSED LRT ALIGNMENTS
- PROPOSED BNSF ALIGNMENT
- PROPOSED RETAINING WALL
- PROPOSED CORRIDOR PROTECTION WALL
- PROPOSED RETAINED EMBANKMENT WALL
- EXISTING WETLAND
- LIMITS OF DISTURBANCE
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- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

RETAINING WALL

CORRIDOR PROTECTION/
RETAINED EMBANKMENT

RETAINING WALL

CORRIDOR PROTECTION WALL

WETLAND 38
TYPE 5/ TYPE 2 WETLAND
0.0000 AC IMPACTS

SEE SHEET 21
9 10

EX ROW

℄ FREIGHT

PROP BRIDGE

EX ROW

CORRIDOR PROTECTION WALL

BONNIE LANE

GOLDEN VALLEY ROAD STATION

245+00

2250+00

2255+00

2260+00

GOLDEN VALLEY RD

WETLAND 39
TYPE 5 WETLAND
0.3980 AC TRACK FILL IMPACT

*NOTE: TRACK FILL IMPACT REPRESENTS ACREAGE OF BRIDGE DECK, MAY BE REDUCED LATER WHEN BRIDGE PIER LOCATIONS ARE FINALIZED

GOLDEN VALLEY POND

2254+39.56

℄ TRACK 1

℄ TRACK 2

TEMPORARY ACCESS
FACILTY

EX ROW

KEWANEE WAY

EX ROW

SOUTH GOLDEN
VALLEY POND

SEE SHEET 20
8

WETLAND 39
TYPE 5 WETLAND
0.6505 AC TEMPORARY IMPACT

WETLAND 39
TYPE 5 WETLAND
0.0025 AC TRACK CUT IMPACT

WETLAND 39
TYPE 2 WETLAND
0.0916 AC WETLAND MITIGATION AREA

CRESTVIEW AVE

DRAFT-WORK IN PROCESS

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METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

Kimley»Horn

BLUE LINE LRT EXTENSION

SECTION 404

WETLAND IMPACTS - PLAN VIEW

0 25 50 100

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LEGEND

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- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

EX ROW
CORRIDOR PROTECTION WALL
℄ FREIGHT
WETLAND 37
TYPE 1 WETLAND
0.0755 AC TRACK FILL IMPACT
CORRIDOR PROTECTION WALL
CORRIDOR PROTECTION/
RETAINED EMBANKMENT
2260+00
2265+00
2270+00
KEWANEE WAY
EX ROW
RETAINING WALL
KEWANEE WAY
℄ TRACK 2
℄ TRACK 1
RETAINING WALL
CRESTVIEW AVE
EX PROPERTY LINE
BYRD AVE N
DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - PLAN VIEW

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- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

MnDNR PUBLIC WATER WETLAND 645W

WETLAND 34
TYPE 4 WETLAND
0.000 AC IMPACTS

MnDNR PUBLIC WATER WETLAND 644W

WETLAND 35
TYPE 1 WETLAND
0.0394 AC TRACK CUT IMPACT
(STORM VOLUME COMPENSATION)

WETLAND 35
TYPE 1 WETLAND
0.3639 AC TRACK FILL IMPACT

℄ TRACK 2
℄ TRACK 1
℄ FREIGHT
EX ROW
1V: 2H
1V: 26H
NORTH WETLAND 35
SEE SHEET 23
12
WETLAND 35
TYPE 1 WETLAND
0.0423 AC WETLAND MITIGATION AREA
CORRIDOR PROTECTION WALL
COM – UG
P-OH
2275+00
2305+00
2310+00
EX ROW
CORRIDOR PROTECTION WALL
1V: 2H
2306+58.18
WETLAND 36
TYPE 6 WETLAND
0.2124 AC TRACK FILL IMPACT
SEE SHEET 22
11
EX PROPERTY LINE

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BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - PLAN VIEW

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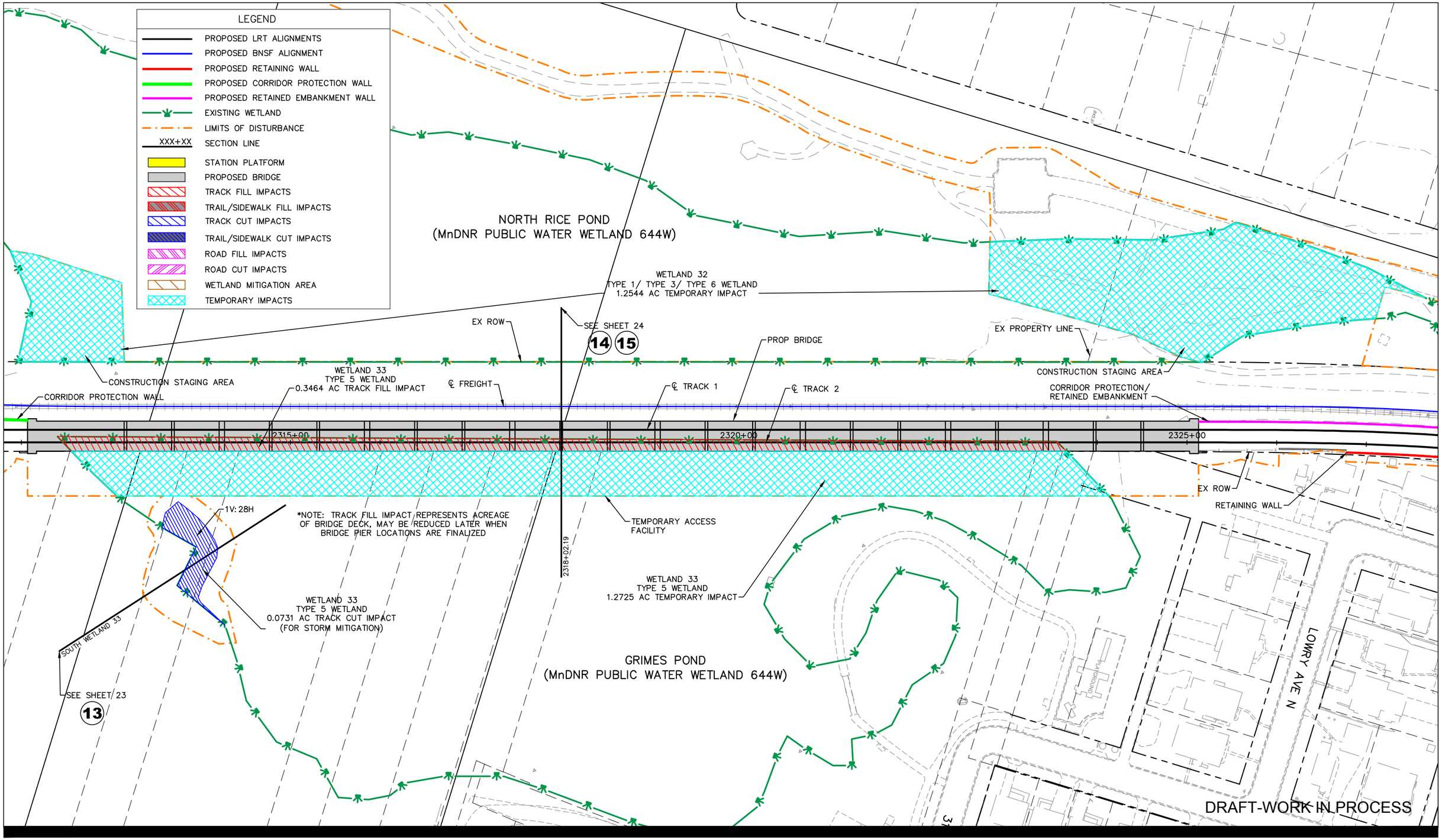

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BLUE LINE LRT EXTENSION

SECTION 404

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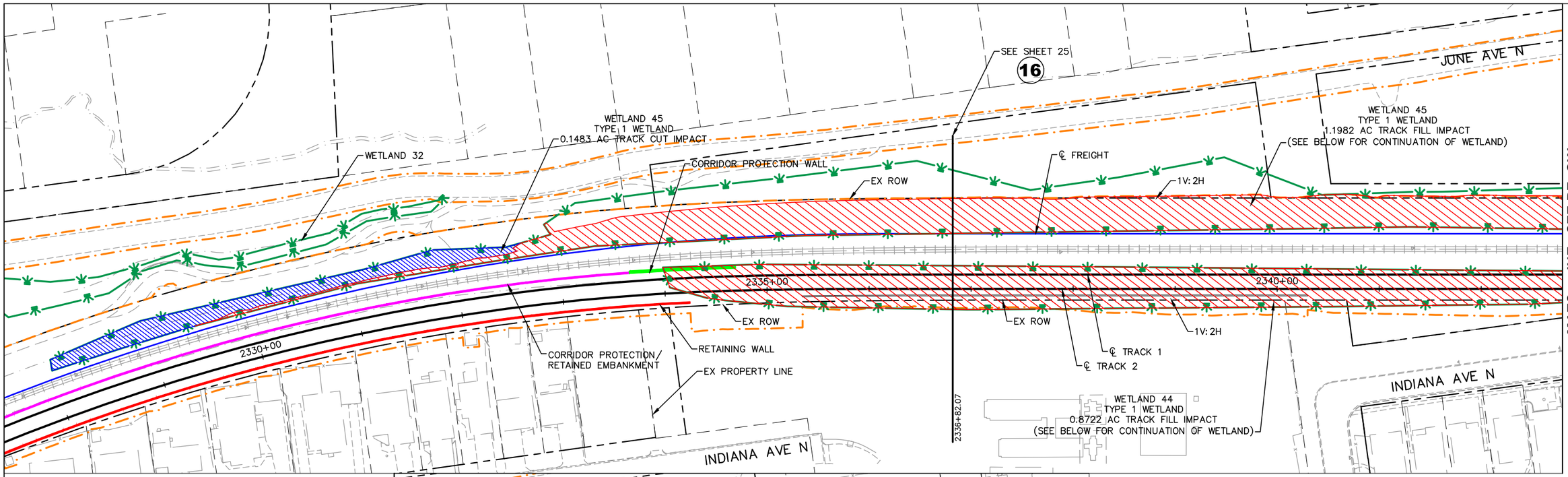

LEGEND

- PROPOSED LRT ALIGNMENTS
- PROPOSED BNSF ALIGNMENT
- PROPOSED RETAINING WALL
- PROPOSED CORRIDOR PROTECTION WALL
- PROPOSED RETAINED EMBANKMENT WALL
- EXISTING WETLAND
- LIMITS OF DISTURBANCE
- XXX+XX SECTION LINE
- STATION PLATFORM
- PROPOSED BRIDGE
- TRACK FILL IMPACTS
- TRAIL/SIDEWALK FILL IMPACTS
- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

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BLUE LINE LRT EXTENSION

SECTION 404

WETLAND IMPACTS - PLAN VIEW

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LEGEND

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- PROPOSED RETAINED EMBANKMENT WALL
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- PROPOSED BRIDGE
- TRACK FILL IMPACTS
- TRAIL/SIDEWALK FILL IMPACTS
- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

WETLAND 28
TYPE 1 WETLAND
0.1482 AC TRACK CUT IMPACT

WETLAND 28
TYPE 2 WETLAND
0.5871 WETLAND MITIGATION AREA

WETLAND 28
TYPE 1 WETLAND
0.2821 AC TRACK FILL IMPACT

1V: 3H

1V: 3H

1V: 2H

NORTH WETLAND 28

EX PROPERTY LINE

SEE SHEET 26
19

LOUISIANA CT

EX ROW

℄ FREIGHT

℄ TRACK 2

℄ TRACK 1

EX ROW

2700+00

2705+00

2710+00

2705+53.75

BOTTINEAU BLVD (CSAH 81)

SEE SHEET 26
18

62ND AVE N

63RD AVE N

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BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - PLAN VIEW

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- STATION PLATFORM
- PROPOSED BRIDGE
- TRACK FILL IMPACTS
- TRAIL/SIDEWALK FILL IMPACTS
- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

WETLAND 16
TYPE 1 WETLAND
0.7497 AC TRACK FILL IMPACT

WETLAND 16
TYPE 1 WETLAND
0.0697 AC TRAIL/SIDEWALK FILL IMPACT

WETLAND 17
TYPE 1 WETLAND
0.0000 AC IMPACTS

2930+00

2935+00

2940+00

998+55 999+00

898+78 899+00

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BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - PLAN VIEW

0 25 50 100

DATE:
5/10/2016

12
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PROPOSED BNSF ALIGNMENT
PROPOSED RETAINING WALL
PROPOSED CORRIDOR PROTECTION WALL
PROPOSED RETAINED EMBANKMENT WALL
EXISTING WETLAND
LIMITS OF DISTURBANCE
XXX+XX SECTION LINE
STATION PLATFORM
PROPOSED BRIDGE
TRACK FILL IMPACTS
TRAIL/SIDEWALK FILL IMPACTS
TRACK CUT IMPACTS
TRAIL/SIDEWALK CUT IMPACTS
ROAD FILL IMPACTS
ROAD CUT IMPACTS
WETLAND MITIGATION AREA
TEMPORARY IMPACTS

EX PROPERTY LINE

WETLAND 13
TYPE 1 WETLAND
0.0912 AC TRAIL/SIDEWALK FILL IMPACT

PC: 44+05.38
PRC: 44+66.46

WETLAND 13
TYPE 1 WETLAND
0.4421 AC ROAD FILL IMPACT

℄ 99TH AVE N (EB)
℄ 99TH AVE N (WB)
PT: 45+27.94
99TH AVE N

SEE SHEET 28
22
43+90.00
1V:4H

WETLAND 14
TYPE 4 WETLAND
0.0242 AC TRAIL/SIDEWALK FILL IMPACT

PC: 50+78.79
WETLAND 14
TYPE 4 WETLAND
0.5816 AC ROAD FILL IMPACT

OAK GROVE PARKW

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - PLAN VIEW

0 25 50 100

DATE:
5/10/2016

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LEGEND

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- TRAIL/SIDEWALK FILL IMPACTS
- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

VE PARKWAY STATION

OAK GROVE PKWY

WEST BROADWAY AVE N

WETLAND 7
TYPE 1 WETLAND
0.0862 AC TRAIL/SIDEWALK FILL IMPACT

WETLAND 7
TYPE 1 WETLAND
0.2007 AC ROAD FILL IMPACT

1V: 4H

SEE SHEET 29
24

WETLAND 6
TYPE 1 WETLAND
0.0000 AC IMPACTS

℄ CSAH 103 (SB)

℄ CSAH 103 (NB)

SEE SHEET 27
20

1V: 4H

WETLAND 4
TYPE 1 WETLAND
0.1357 AC ROAD FILL IMPACT

WETLAND 12
TYPE 1 WETLAND
0.0332 AC ROAD CUT IMPACT

WETLAND 12
TYPE 1 WETLAND
0.0233 AC ROAD FILL IMPACT

WETLAND 51
TYPE 1 WETLAND
0.0984 AC ROAD FILL IMPACT

1V: 3H

℄ CSAH 103 (SB)

WETLAND 51
TYPE 1 WETLAND
0.1111 AC TRAIL/SIDEWALK FILL IMPACT

SEE SHEET 28
23

SEE SHEET 27
21

1V: 4H

WETLAND 2
TYPE 1 WETLAND
0.0000 AC IMPACTS

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BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - PLAN VIEW

0 25 50 100

DATE:
5/11/2016

14
30

LEGEND

- PROPOSED LRT ALIGNMENTS
- PROPOSED BNSF ALIGNMENT
- PROPOSED RETAINING WALL
- PROPOSED CORRIDOR PROTECTION WALL
- PROPOSED RETAINED EMBANKMENT WALL
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- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

EX ROW

EX ROW

EX PROPERTY LINE

EX PROPERTY LINE

SEE SHEET 30 26

SEE SHEET 29 25

℄ OAK GROVE PKWY WB

2986+88

2985+00

2980+00

2975+00

19+00

20+00

21+00

22+00

23+00

24+00

25+00

26+00

27+00

28+00

29+00

30+00

31+00

32+00

33+00

34+00

35+00

R=500.00'

R=545.00'

31+44.35

33+45.00

OAK GROVE PKWY

℄ OAK GROVE PKWY EB

1V: 4H

1V: 4H

WETLAND 9
TYPE 1 WETLAND
0.0012 AC TRAIL/SIDEWALK FILL IMPACT

WETLAND 10
TYPE 1 WETLAND
0.0000 AC IMPACTS

WETLAND 11
TYPE 1 WETLAND
0.0000 AC IMPACT

WETLAND 8
TYPE 1 WETLAND
0.0254 AC TRAIL/SIDEWALK FILL IMPACT

EX ROW

DRAFT-WORK IN PROCESS

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BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - PLAN VIEW

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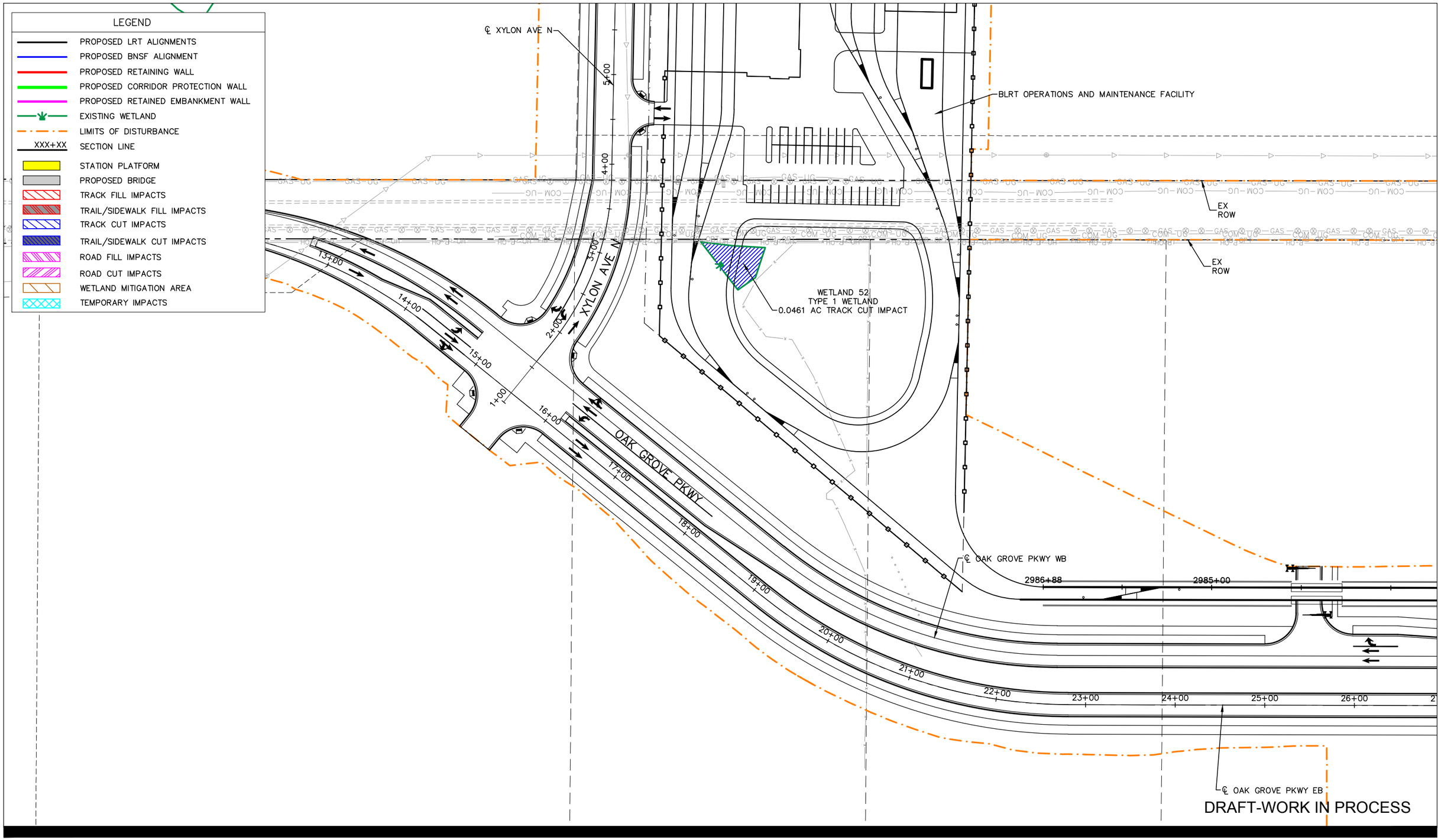

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BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - PLAN VIEW

0 25 50 100

DATE:
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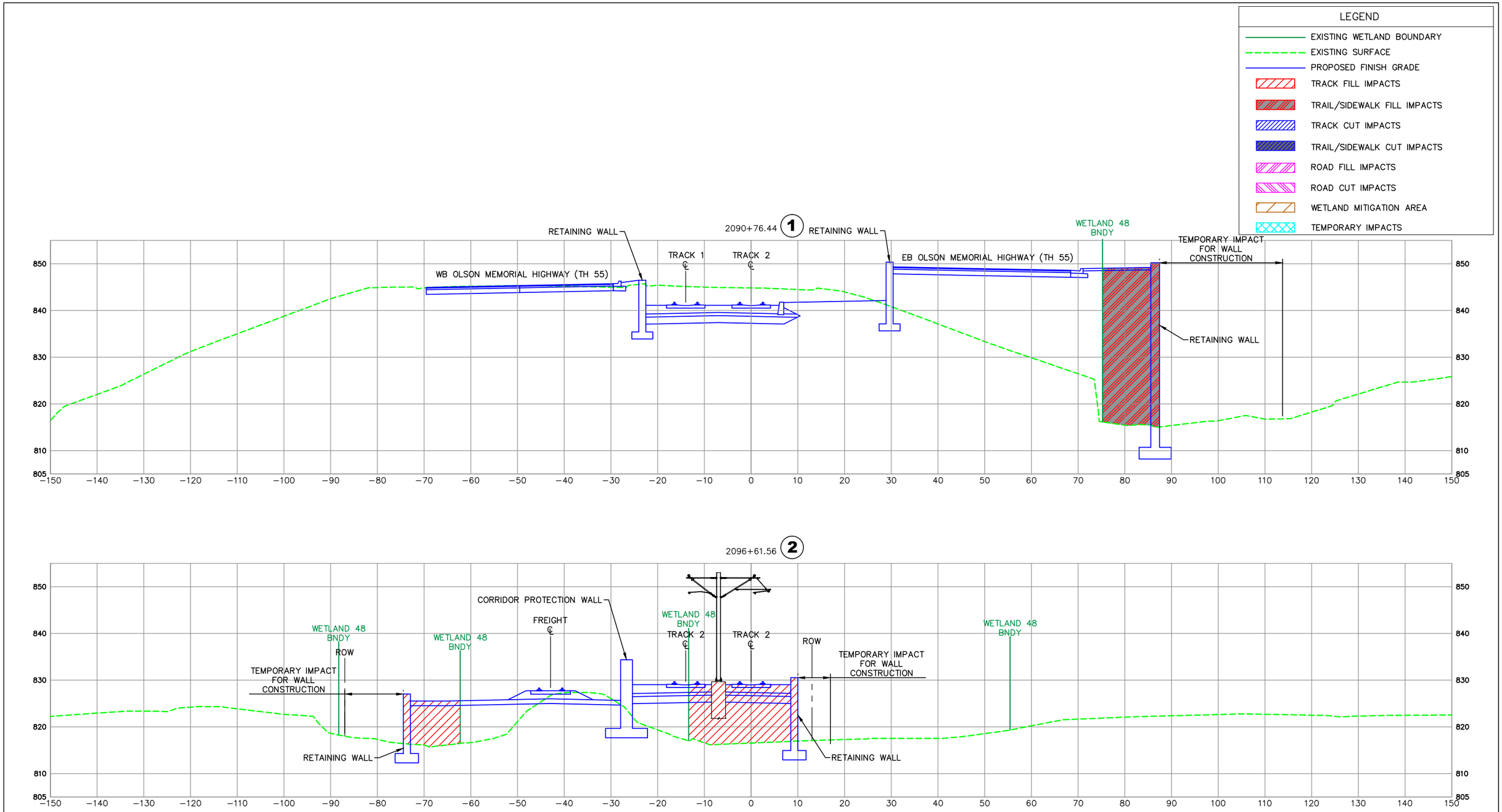

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

SECTION 404

WETLAND IMPACTS - CROSS SECTIONS

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DATE: 5/10/2016

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LEGEND

- EXISTING WETLAND BOUNDARY
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- PROPOSED FINISH GRADE
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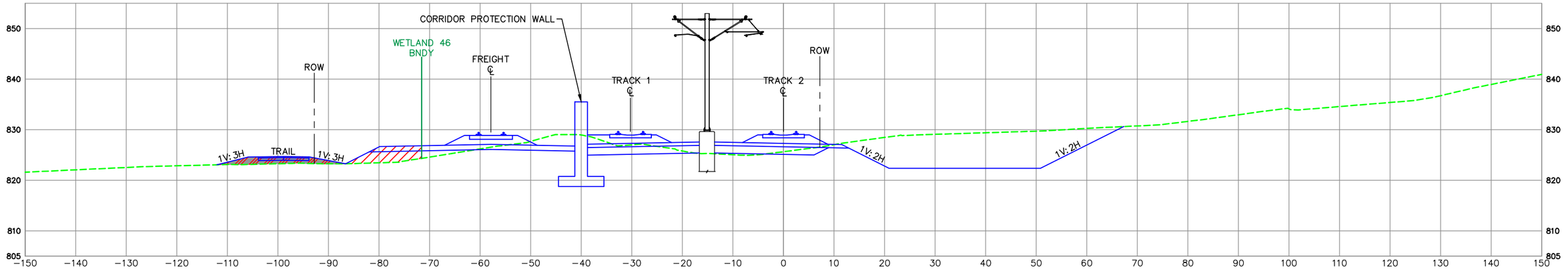
- TRACK CUT IMPACTS
- TRAIL/SIDEWALK CUT IMPACTS
- ROAD FILL IMPACTS
- ROAD CUT IMPACTS
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

2209+75.53 (3)



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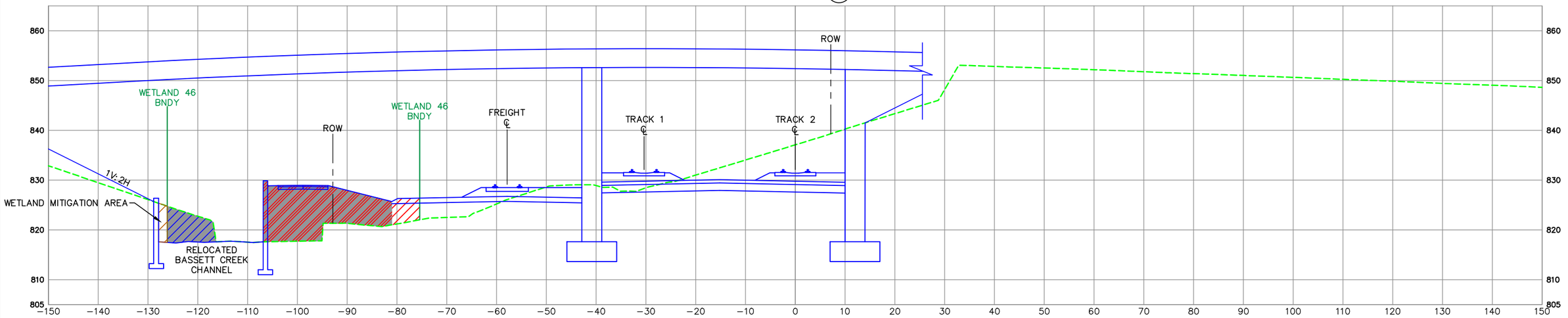

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BLUE LINE LRT EXTENSION

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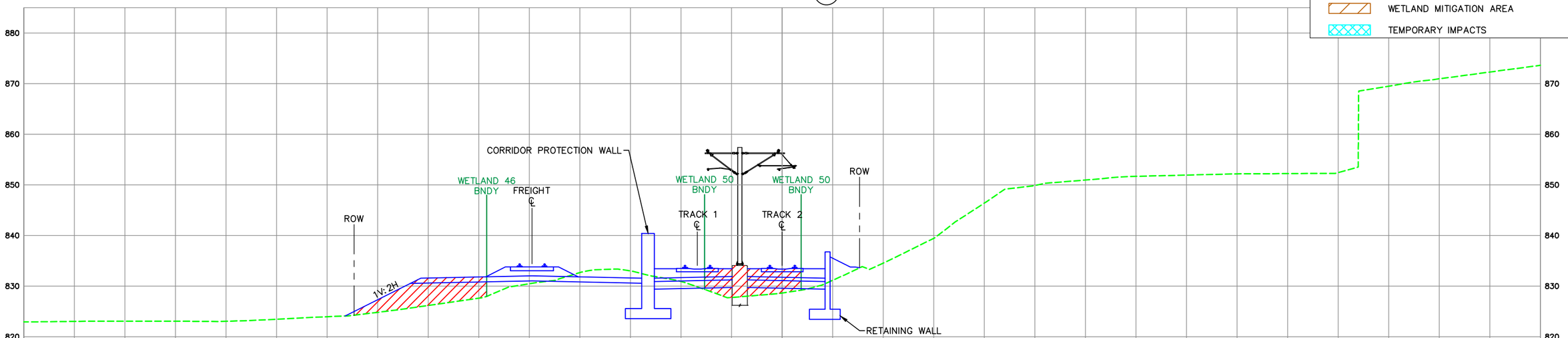
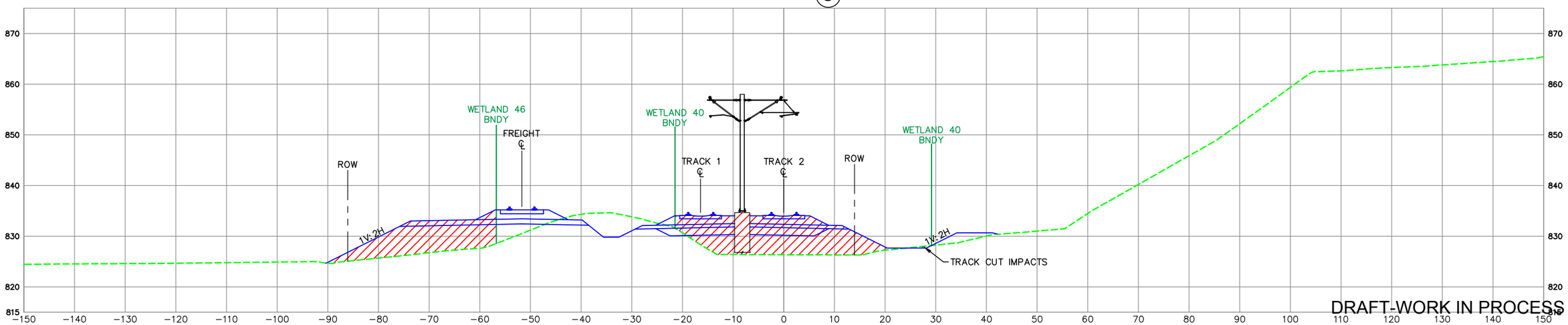
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

2225+72.06 (5)



2227+80.72 (6)



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BLUE LINE LRT EXTENSION

SECTION 404

WETLAND IMPACTS - CROSS SECTIONS

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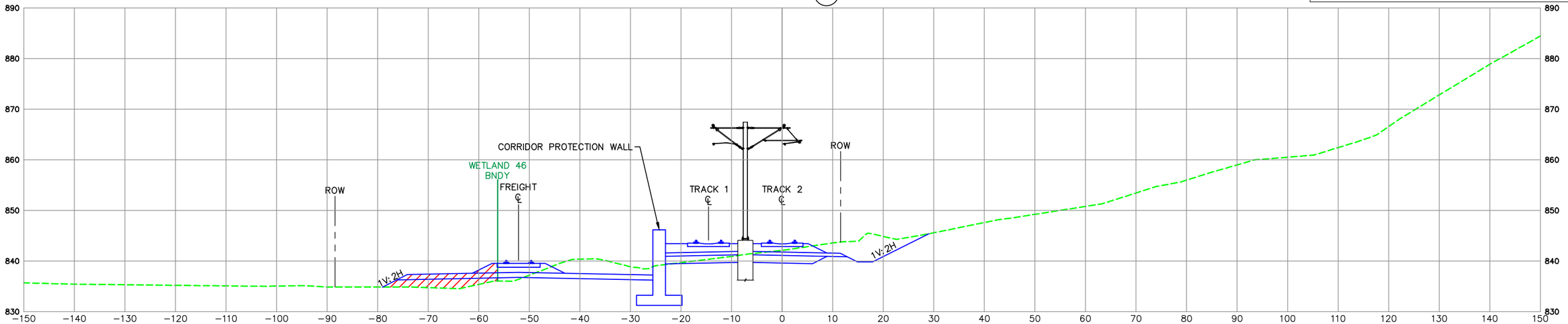
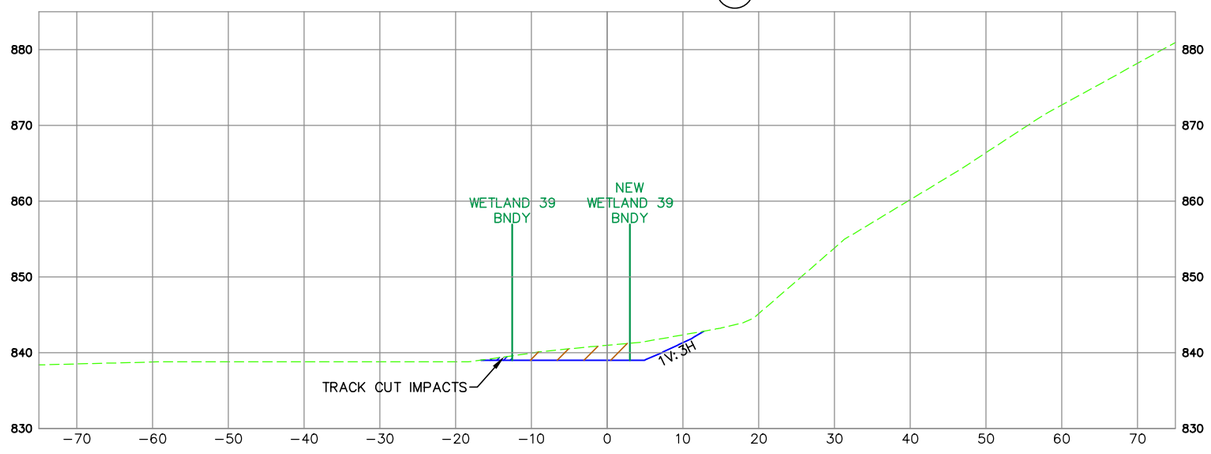
2234+15.20 **7**



SOUTH GOLDEN VALLEY POND **8**



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BLUE LINE LRT EXTENSION

SECTION 404
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- ROAD CUT IMPACTS
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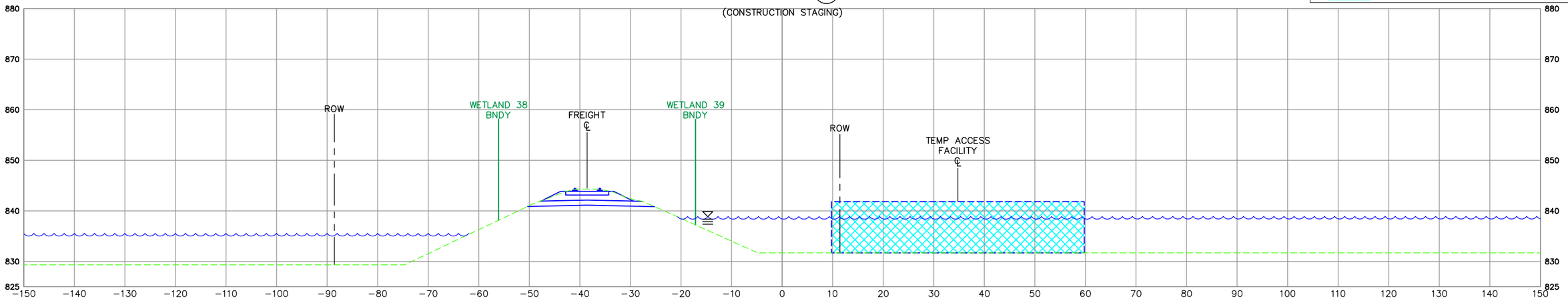
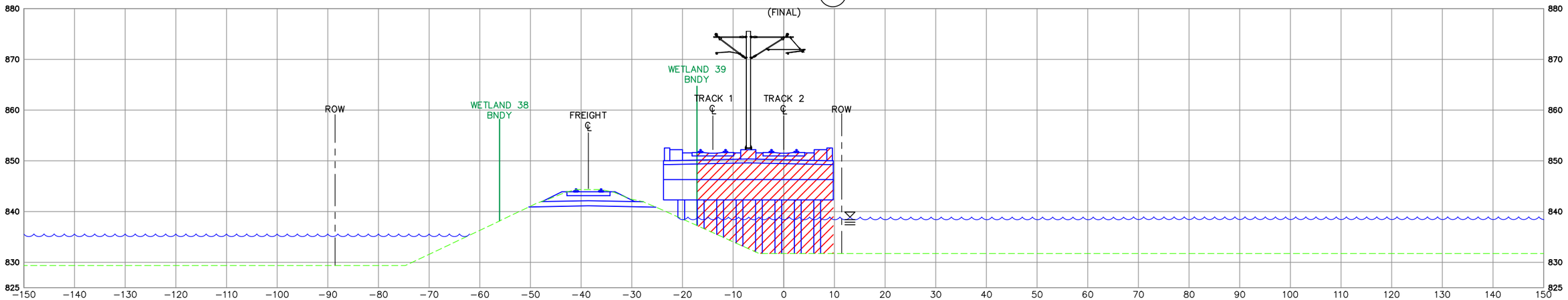
- TEMPORARY IMPACTS

2254+39.56 **9**
(CONSTRUCTION STAGING)



2254+39.56 **10**
(FINAL)



*NOTE: TRACK FILL IMPACT REPRESENTS ACREAGE OF BRIDGE DECK, MAY BE REDUCED LATER WHEN BRIDGE PIER LOCATIONS ARE FINALIZED

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

SECTION 404
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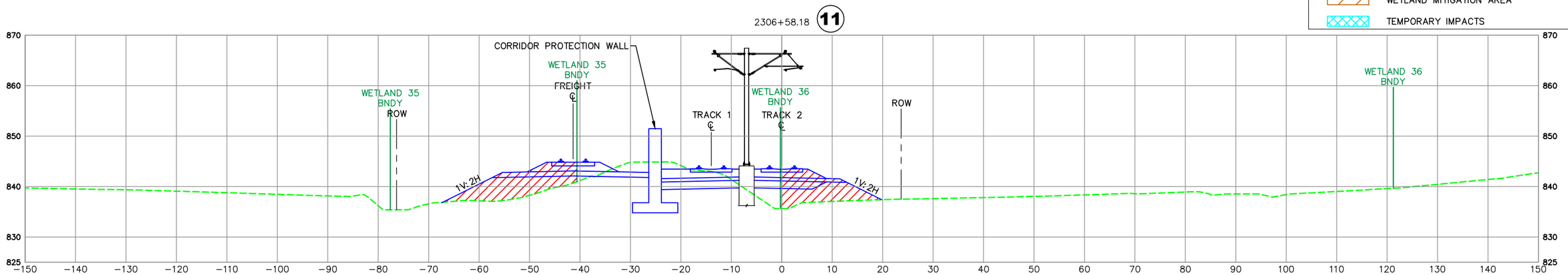

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BLUE LINE LRT EXTENSION

SECTION 404
WETLAND IMPACTS - CROSS SECTIONS

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5/10/2016

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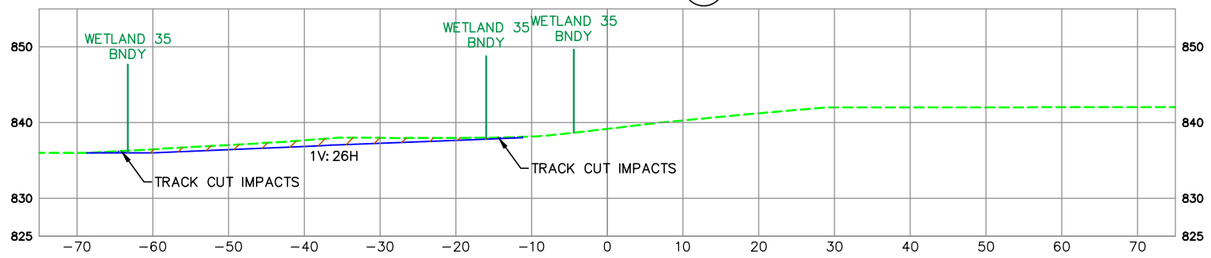
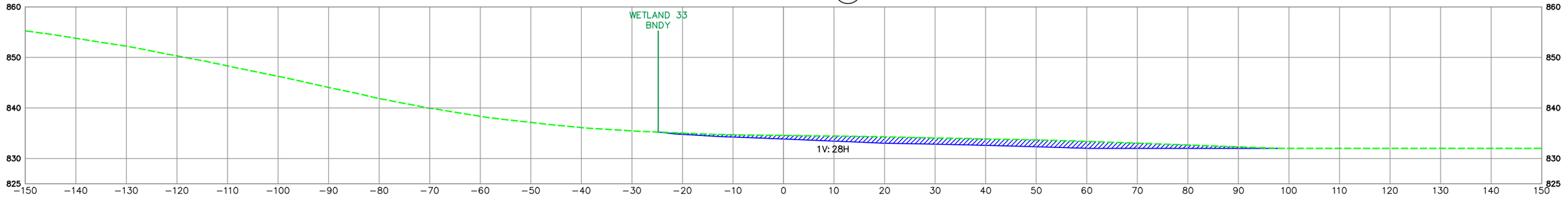
NORTH WETLAND 35 (12)



SOUTH WETLAND 33 (13)



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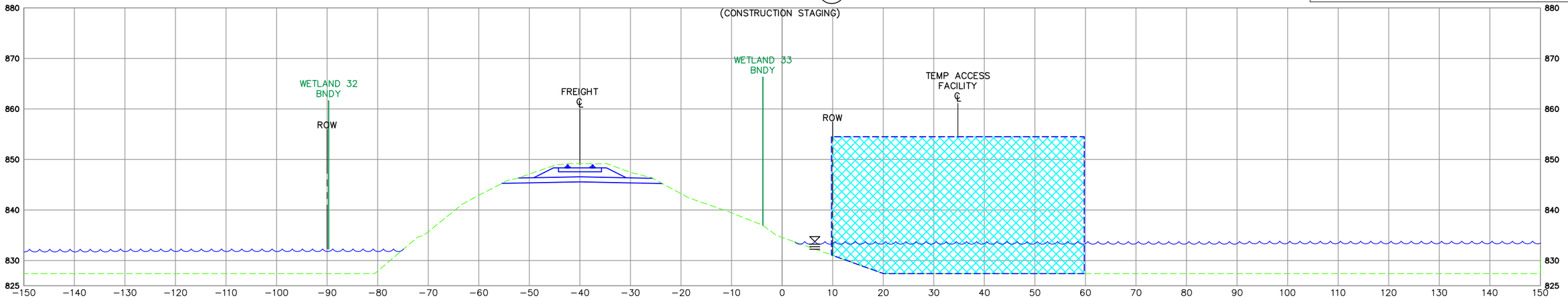
- TEMPORARY IMPACTS

2318+02.19 (14)
(CONSTRUCTION STAGING)



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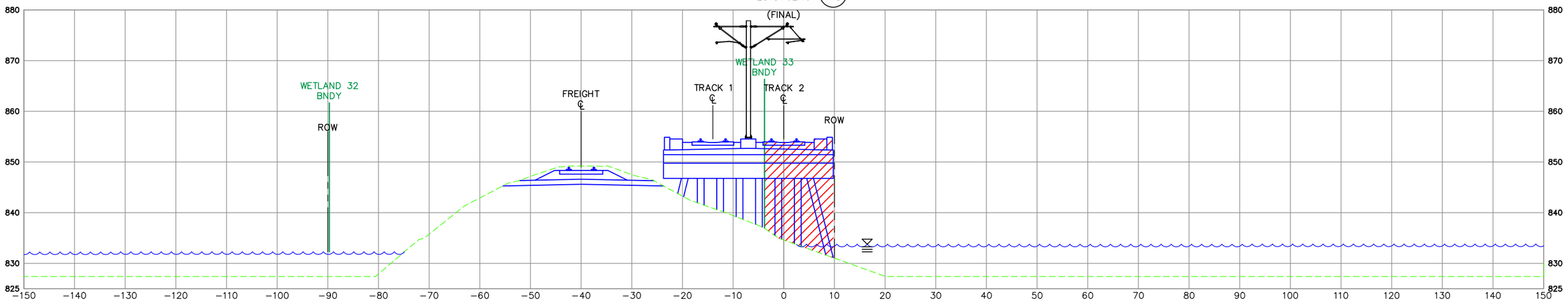

*NOTE: TRACK FILL IMPACT REPRESENTS ACREAGE OF BRIDGE DECK, MAY BE REDUCED LATER WHEN BRIDGE PIER LOCATIONS ARE FINALIZED

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

SECTION 404
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- WETLAND MITIGATION AREA
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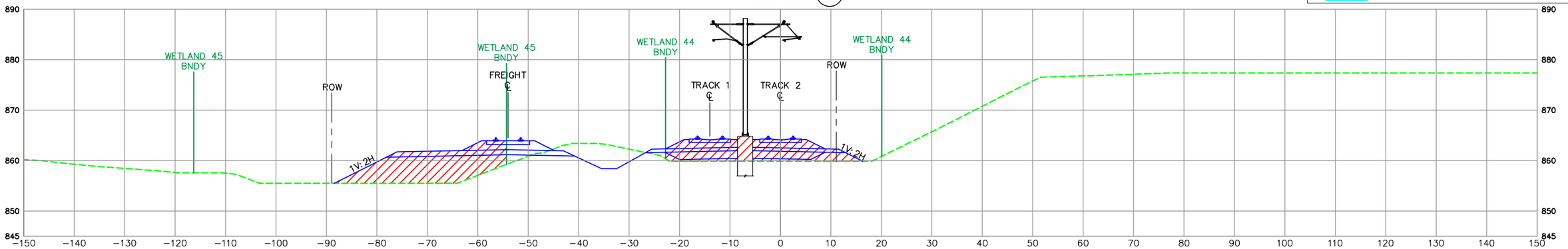
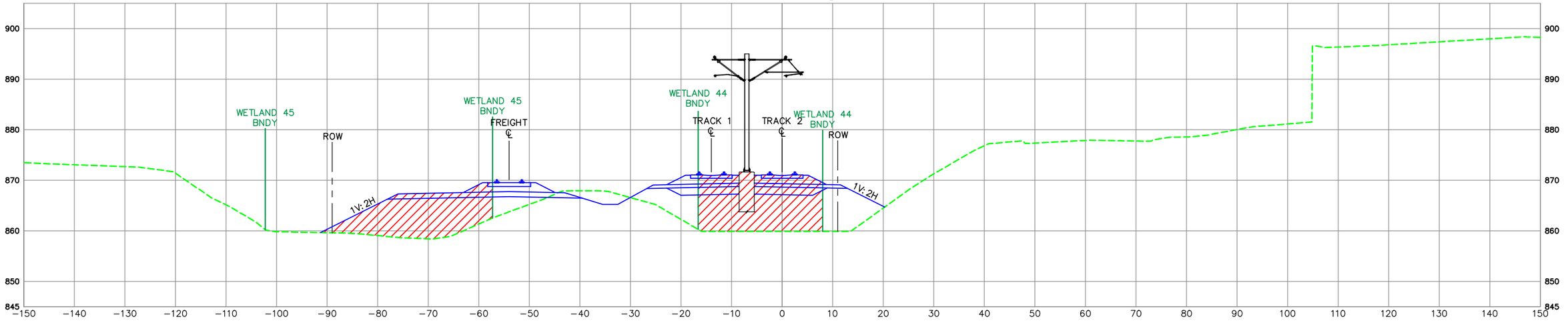
2336+82.07 (16)



2343+79.18 (17)



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BLUE LINE LRT EXTENSION

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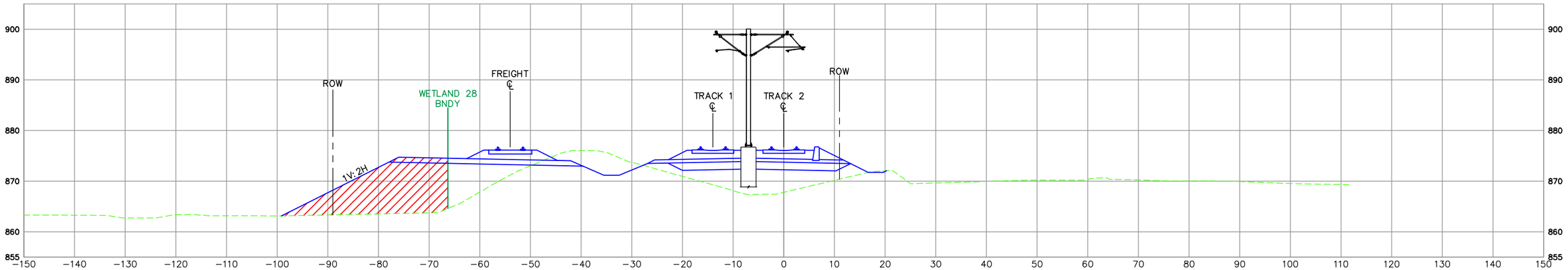
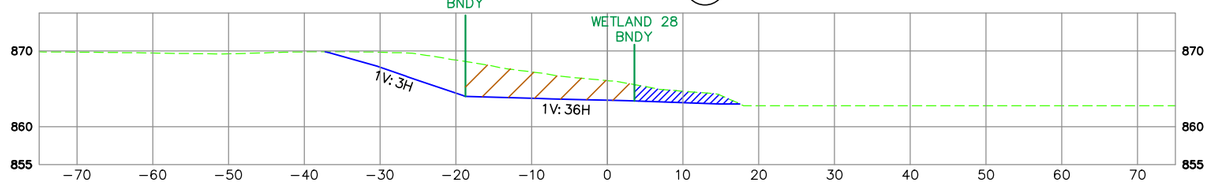
- WETLAND MITIGATION AREA
- TEMPORARY IMPACTS

2705+53.75 **18**



NEW WETLAND 28 BNDY — NORTH WETLAND 28 **19** — WETLAND 28 BNDY



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BLUE LINE LRT EXTENSION

SECTION 404

WETLAND IMPACTS - CROSS SECTIONS

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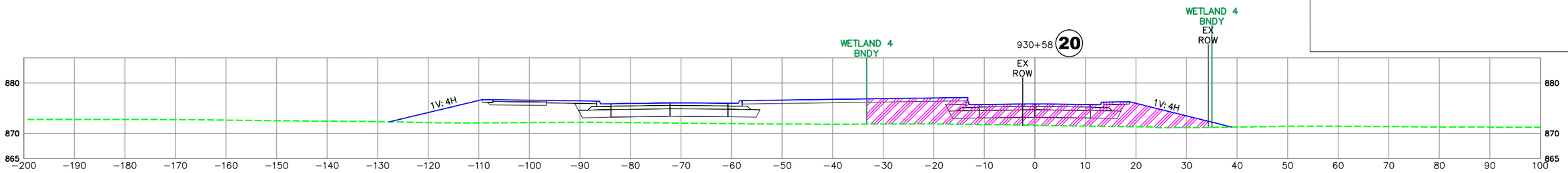

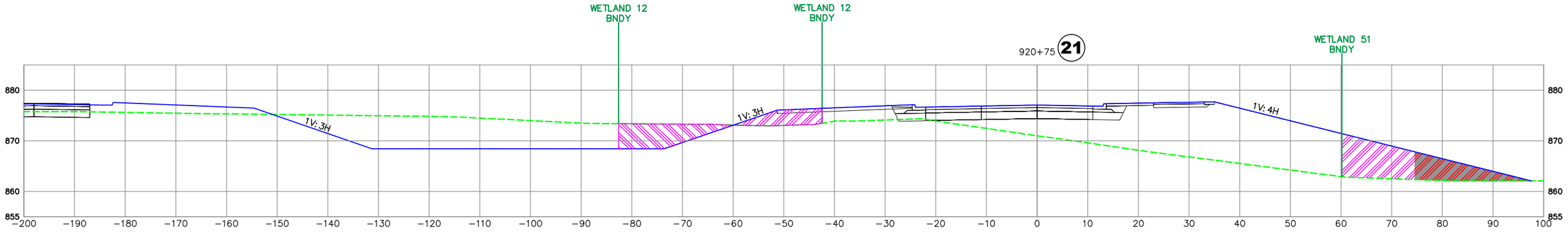

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BLUE LINE LRT EXTENSION

SECTION 404

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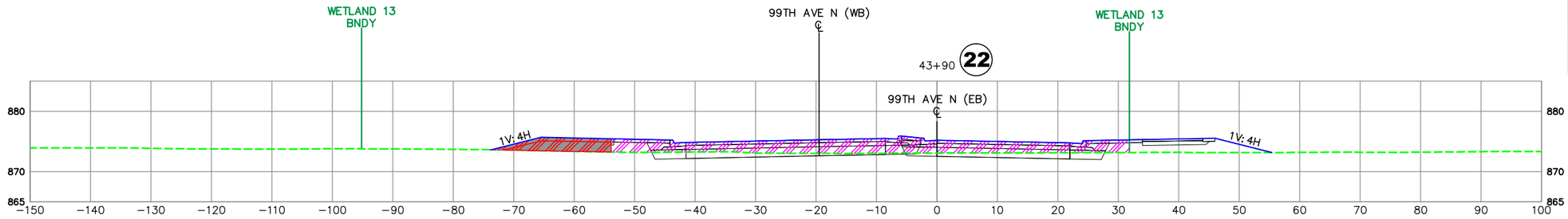

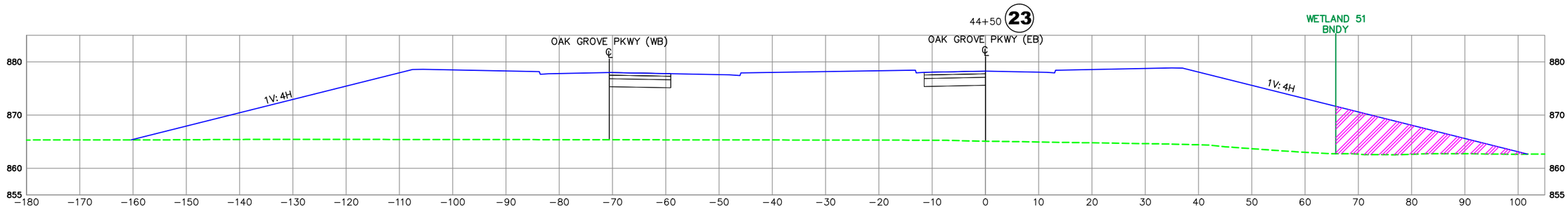

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BLUE LINE LRT EXTENSION

SECTION 404
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IMPACTS

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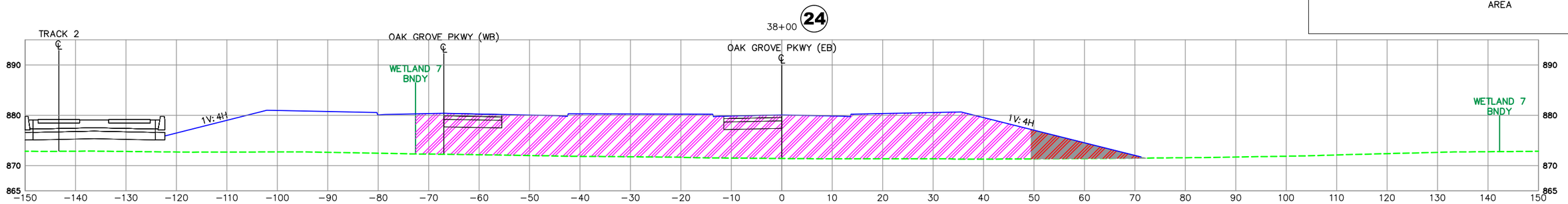

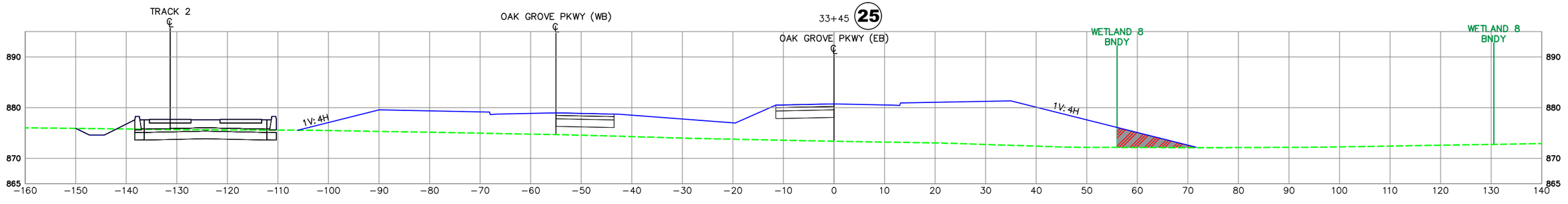

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METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

Kimley»Horn

BLUE LINE LRT EXTENSION

SECTION 404

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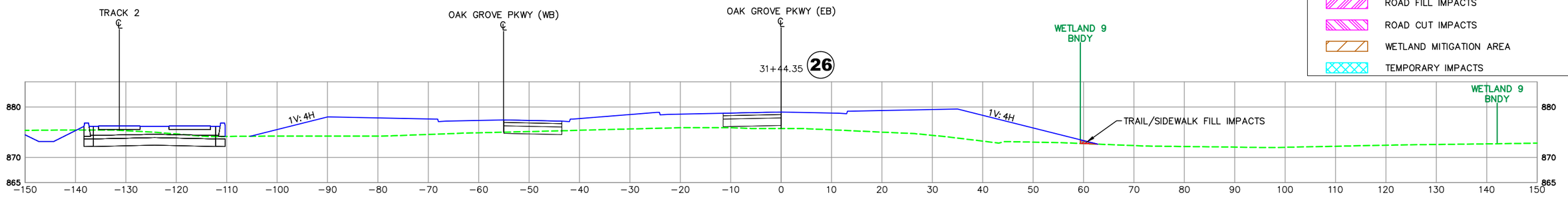

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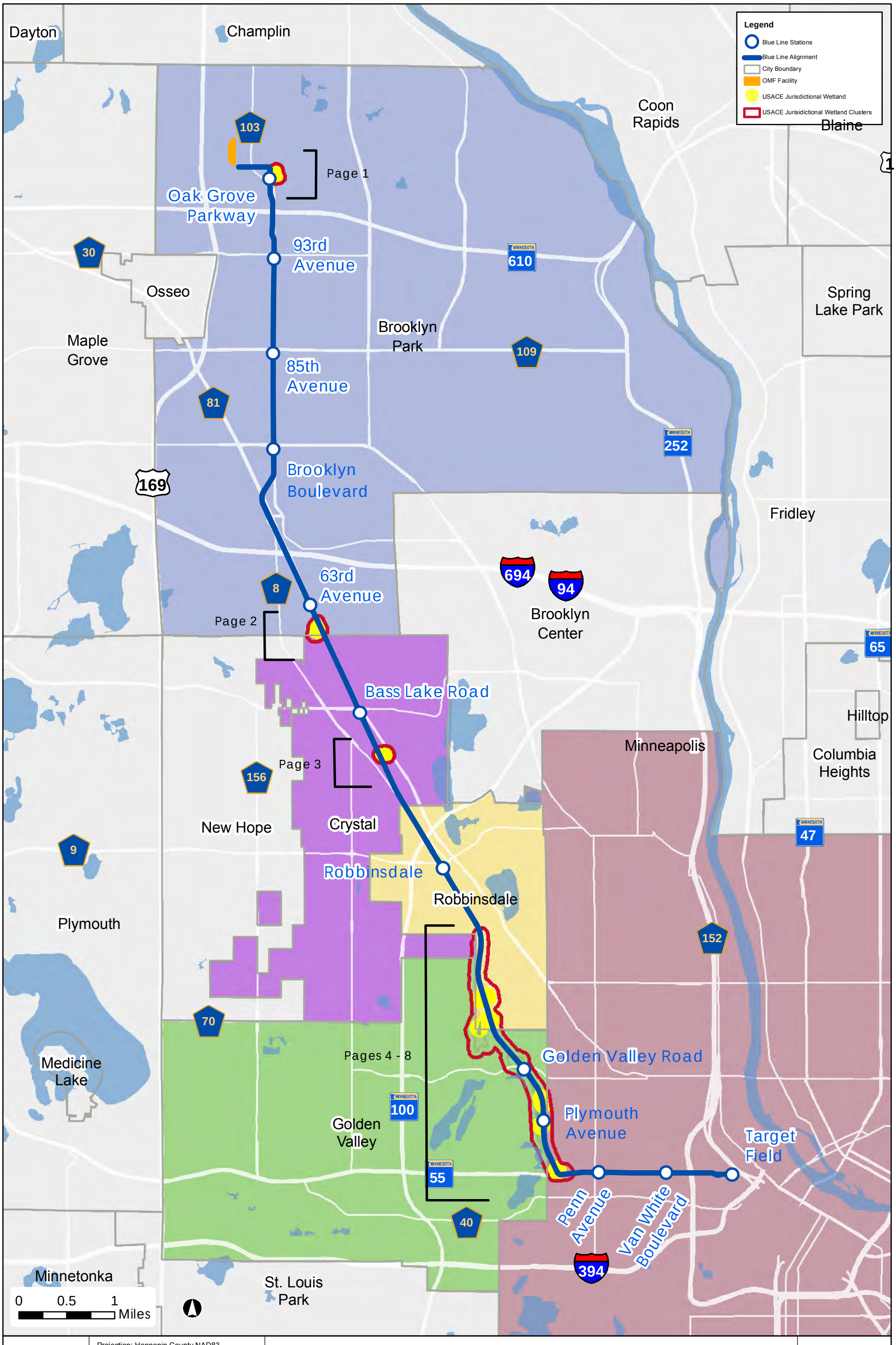
Appendix C

List and Mapbook of Adjacent Landowners

PID	OWNER	TAXPAYER	Address_1	Address_2	Address_3	City	State	Zip	NOTE
0702924110174	BURLINGTON NORTHERN RY	B N & SANTA FE RR CO	PROPERTY TAX DEPT	PO BOX 961089	FORT WORTH TX 76161	FORT WORTH	TX	76161	
0702924410029	JAMES P MILLER	JAMES P MILLER	2933 FRANCE AVE N		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924410030	H A DERESSE & S E ADEDA	H A DERESSE & S E ADEDA	2931 FRANCE AVE N		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924410031	C D DICKERSON & A DICKERSON	CAROLE DICKERSON	2923 FRANCE AVE N		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924410035	P BORRESON & HANNAH BORRESON	PHILLIP BORRESON	HANNAH BORRESON	2905 FRANCE AVE N	ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924410036	SAHIR GHANI	SAHIR GHANI	2901 FRANCE AVE N		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924410060	T J & S T BELDEN	T J BELDEN & S T	2909 FRANCE AVE		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924410063	CITY OF ROBBINSDALE	CITY OF ROBBINSDALE	4100 LAKEVIEW AVE		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924410064	CITY OF ROBBINSDALE	CITY OF ROBBINSDALE	4100 LAKEVIEW AVE		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924440004	JULIE K ANDERSON	JULIE K ANDERSON	2735 FRANCE AVE N		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924440005	C T PETERS & J L PETERS	CHRISTOPHER T/JUDY L PETERS	2701 FRANCE AVE N		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0702924440027	KATHLEEN A RUSHING	KATHLEEN A RUSHING	2747 FRANCE AVE N		ROBBINSDALE MN 55422	ROBBINSDALE	MN	55422	
0811921210005	TARGET CORPORATION	TARGET CORPORATION	PROPERTY TAX DEPT T-0591A	PO BOX 9456	MINNEAPOLIS MN 55440-9456	MINNEAPOLIS	MN	55440-9456	
0911821210003	VILLAGE OF CRYSTAL	CITY OF CRYSTAL	4141 DOUGLAS DR N		CRYSTAL MN 55422	CRYSTAL	MN	55422	
1702924340006	CITY OF MPLS PK BD	CITY OF MPLS PARK BOARD	2117 WEST RIVER RD		MINNEAPOLIS MN 55411	MINNEAPOLIS	MN	55411	
1702924340008	CITY OF MPLS PK BD	CITY OF MPLS PARK BOARD	2117 WEST RIVER RD		MINNEAPOLIS MN 55411	MINNEAPOLIS	MN	55411	
1702924340009	G N RY CO	B N & SANTA FE RR CO	PROPERTY TAX DEPT	PO BOX 961089	FORT WORTH TX 76161	FORT WORTH	TX	76161	
1702924340010	BURLINGTON NORTHERN INC	B N & SANTA FE RR CO	PROPERTY TAX DEPT	PO BOX 961089	FORT WORTH TX 76161	FORT WORTH	TX	76161	
1702924349000									Same area as 1702924340010, 1702924340009
2002924130002	GR NORTH RY CO	B N & SANTA FE RR CO	PROPERTY TAX DEPT	PO BOX 961089	FORT WORTH TX 76161	FORT WORTH	TX	76161	
2002924130045	SOO LINE RAILROAD CO	SOO LINE RAILROAD	REAL ESTATE DEPT SUITE 1525	501 MARQUETTE AVE S	MINNEAPOLIS MN 55402	MINNEAPOLIS	MN	55402	
2002924210003	G N RY CO	B N & SANTA FE RR CO	PROPERTY TAX DEPT	PO BOX 961089	FORT WORTH TX 76161	FORT WORTH	TX	76161	
2002924210004	BURLINGTON NORTHERN INC	B N & SANTA FE RR CO	PROPERTY TAX DEPT	PO BOX 961089	FORT WORTH TX 76161	FORT WORTH	TX	76161	
2002924219000									Same area as 2002924210003, 2002924210004
2002924230002	CITY OF MPLS PARK BOARD	CITY OF MPLS PARK BOARD	2117 WEST RIVER RD		MINNEAPOLIS MN 55411	MINNEAPOLIS	MN	55411	
3211921210001	GT NORTHERN RY CO	B N & SANTA FE RR CO	PROPERTY TAX DEPT	PO BOX 961089	FORT WORTH TX 76161	FORT WORTH	TX	76161	
3211921219000									Same area as 3211921420049, 3211921240020, 3211921210001

3211921240020	BURLINGTON NORTHERN INC	B N & SANTA FE RR CO	PROPERTY TAX DEPT	PO BOX 961089	FORT WORTH TX 76161	FORT WORTH	TX	76161	
3211921420049	BURLINGTON NORTHERN INC	B N & SANTA FE RR CO	PROPERTY TAX DEPT	PO BOX 961089	FORT WORTH TX 76161	FORT WORTH	TX	76161	
3211921430014	HENNEPIN FORFEITED LAND	CITY OF BROOKLYN PARK	ATTN ACCOUNTS PAYABLE	5200 85TH AVE N	BROOKLYN PARK MN 55443	BROOKLYN PARK	MN	55443	



Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 1 - Jurisdictional Wetlands

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METRO Blue Line Extension

5/16/2016

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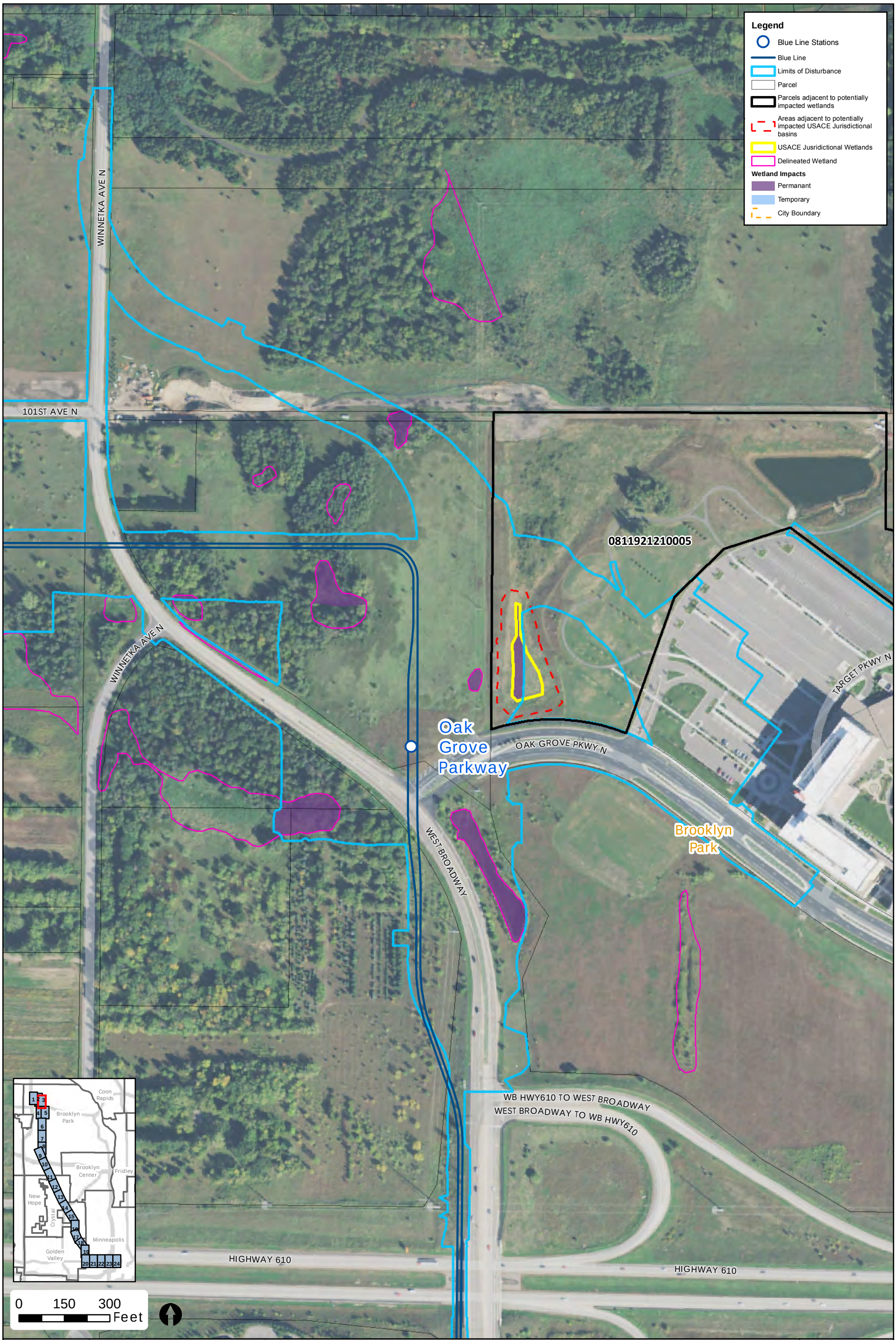

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 1 - Jurisdictional Wetlands

Page 1

METRO Blue Line Extension

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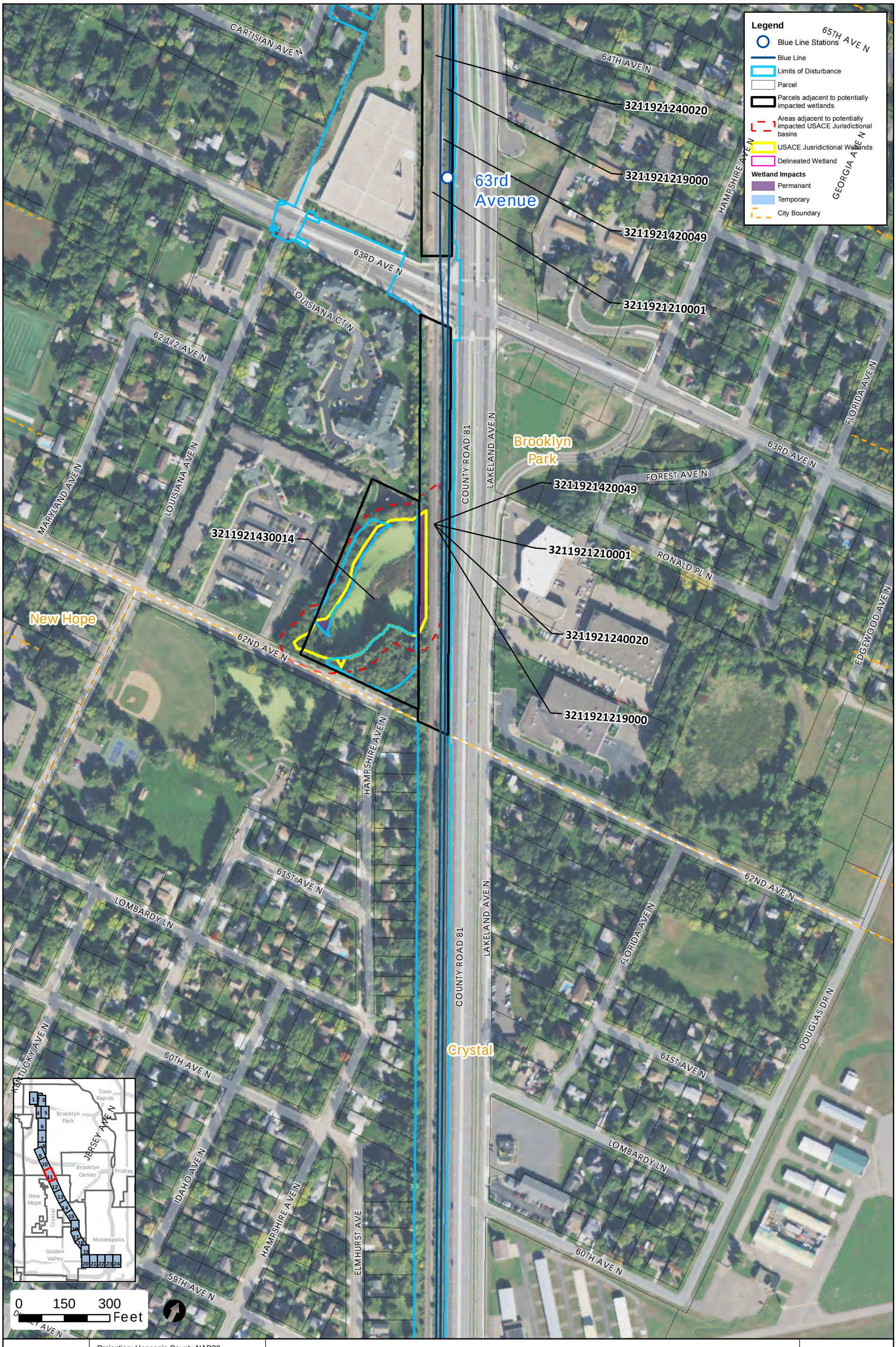

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 1 - Jurisdictional Wetlands

Page 2

METRO Blue Line Extension

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Date: 5/16/2016

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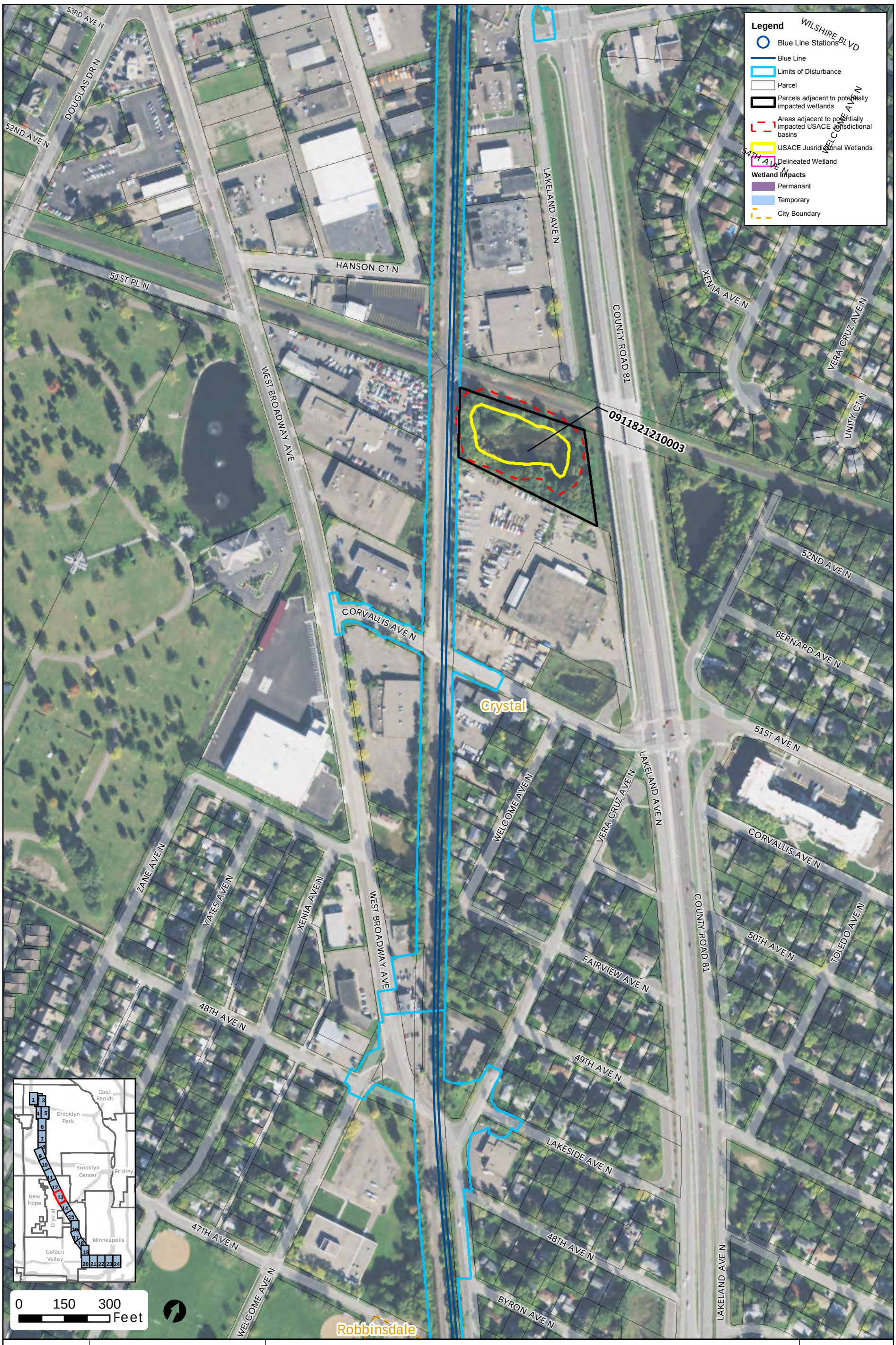

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 1 - Jurisdictional Wetlands

Page 3

METRO Blue Line Extension

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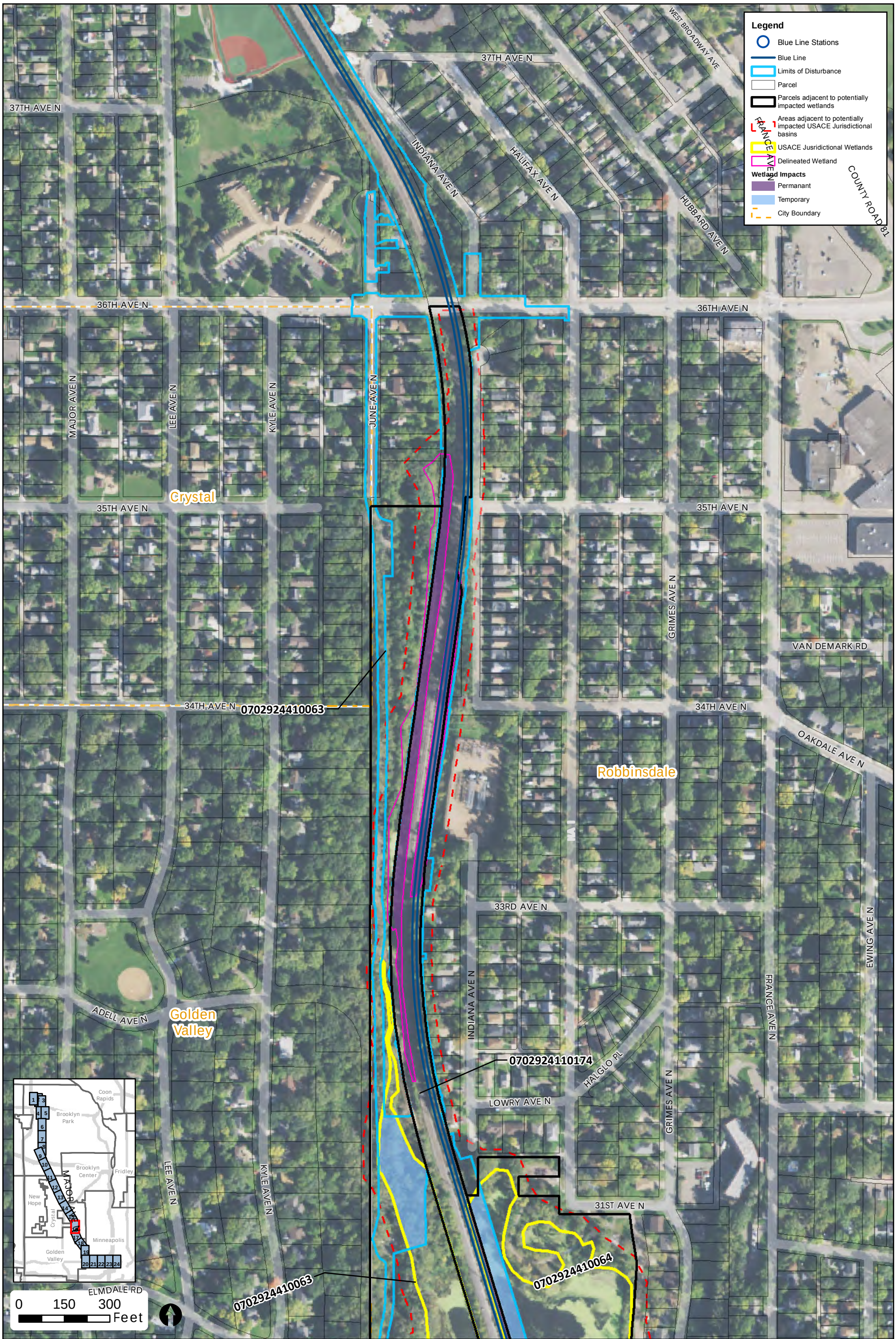

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 1 - Jurisdictional Wetlands

Page 4

METRO Blue Line Extension

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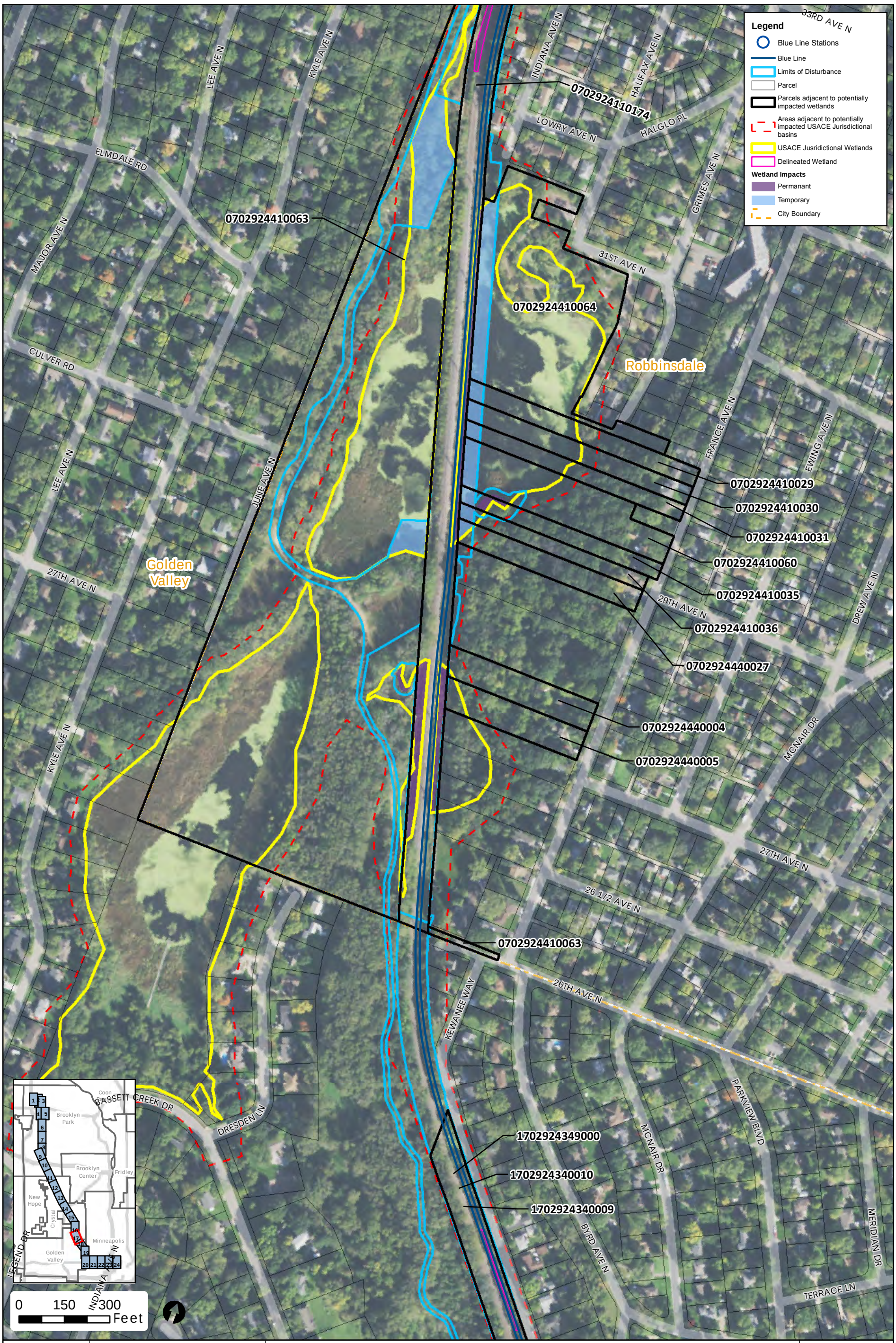

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 1 - Jurisdictional Wetlands

Page 5

METRO Blue Line Extension

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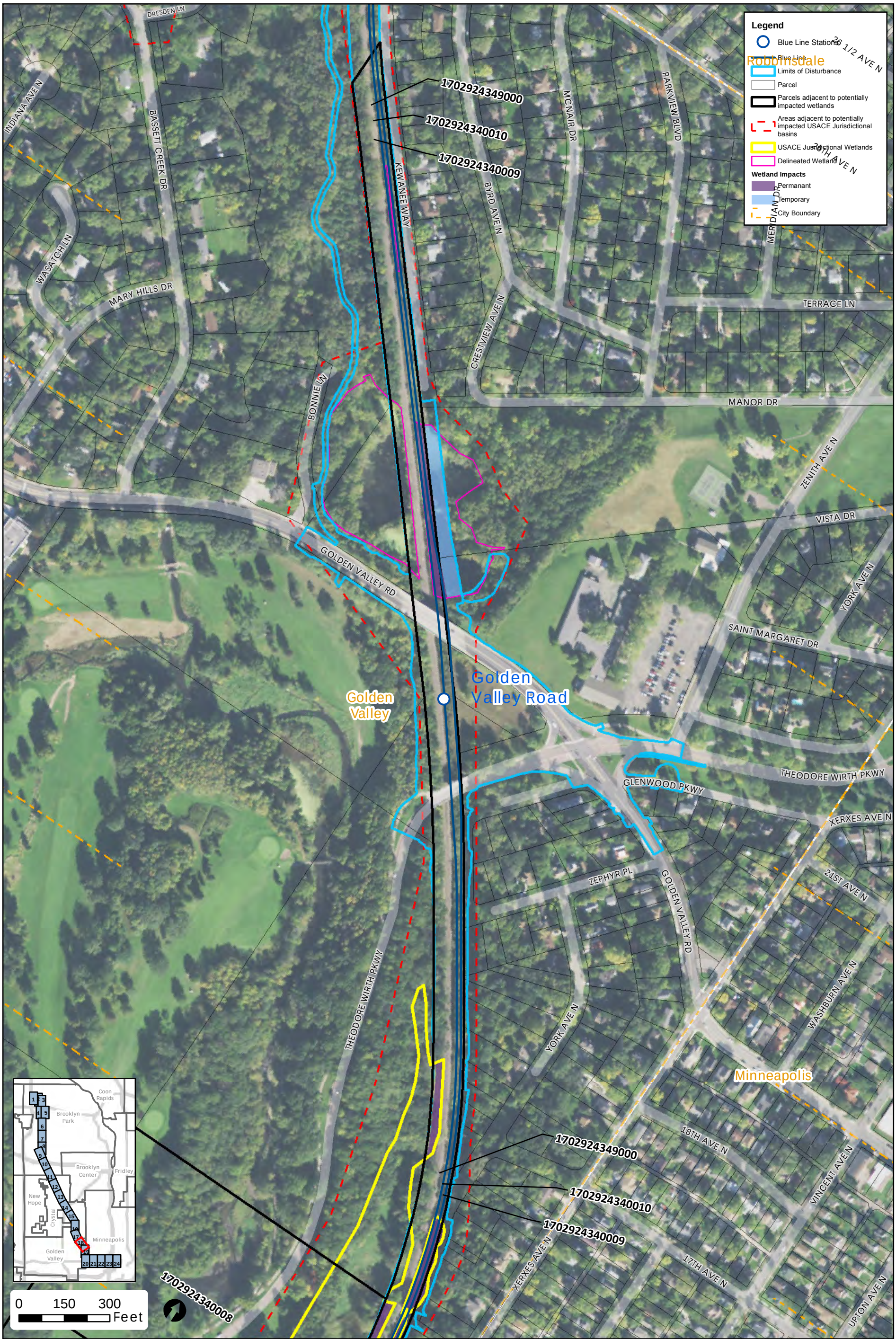

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 1 - Jurisdictional Wetlands

Page 6

METRO Blue Line Extension

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Date: 5/16/2016



Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 1 - Jurisdictional Wetlands

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METRO Blue Line Extension

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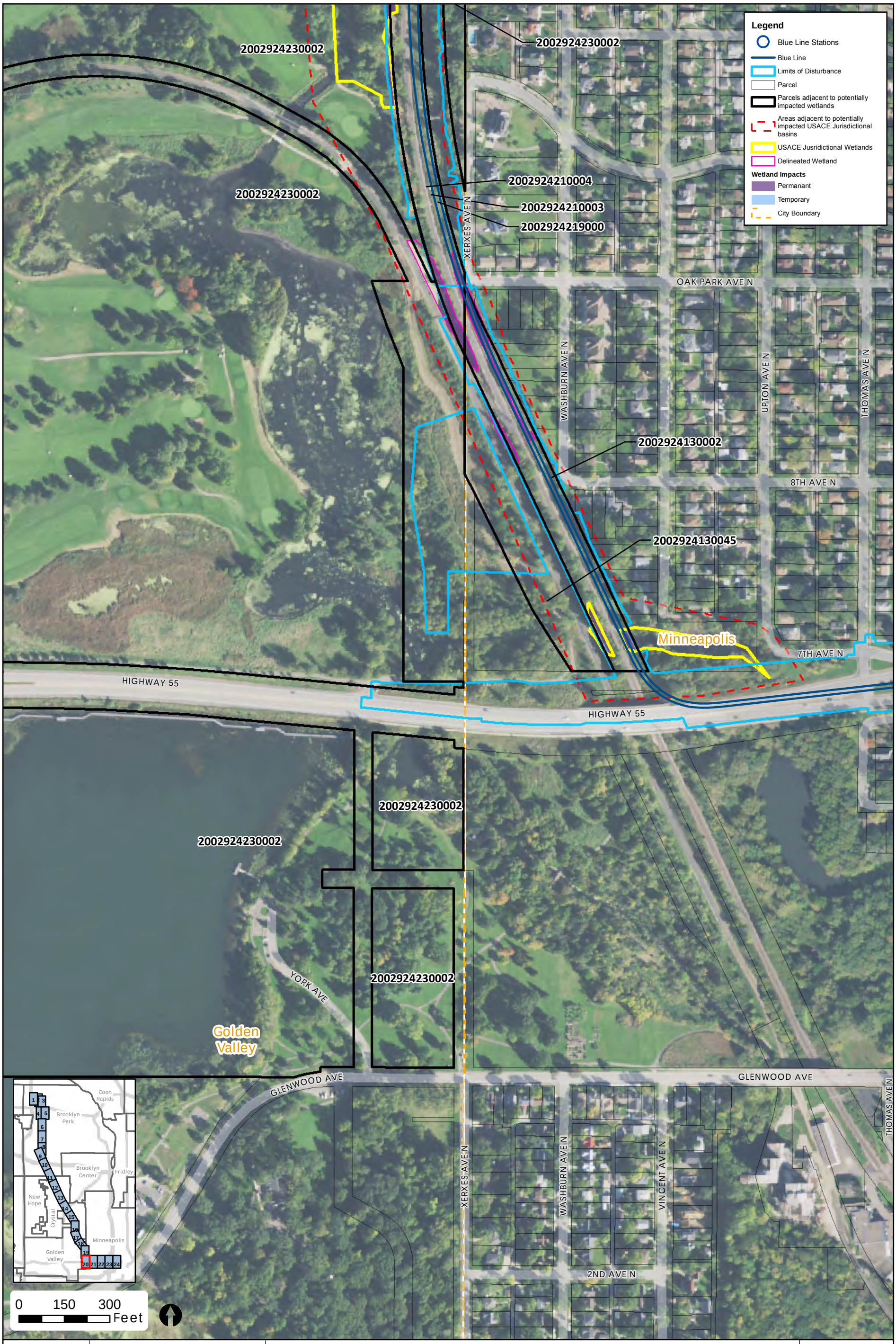

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 1 - Jurisdictional Wetlands

Page 8

METRO Blue Line Extension

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Appendix D

Concept Drawings of Selected Potential On-site Wetland Mitigation Opportunities

EXISTING CONTOURS WILL BE UPDATED WITH SURVEY DATA

CONCEPT DRAWING

LEGEND

- POTENTIAL FLOODPLAIN MITIGATION
- POTENTIAL DITCH TREATMENT AREA
- PROPOSED CONTOURS
- BASSETT CREEK REALIGNMENT

OAK PARK AVE

WASHBURN AVE N

8TH AVE N

CITY OF MINNEAPOLIS PK BOARD

SOO LINE RR

CITY OF MINNEAPOLIS PK BOARD

SOO LINE RR

OLSON MEMORIAL HWY (TH 55)

DRAFT-WORK IN PROCESS

BLUE LINE LRT EXTENSION

Theodore Wirth Regional Park
Floodplain Mitigation ALT 2

01/22/2016

NORTH
0 25 50 100

METROPOLITAN COUNCIL

Kimley»Horn

SRF Consulting Group, Inc.

Feb, 12 2016 01:14 pm H:\BPO\550_Design_Consultant\CAD\005-SEGMENT-GV\PE\EXHIBITS\CIVIL\GV-WR-MPRB-Impacts2.dwg By: rstenglein

Appendix I
Section 404 Coordination

I.2 Coordination with US Army Corps of Engineers

1. Letter from the US Army Corps of Engineers to the Federal Transit Administration concurring on Point 4 (Design Phase Impact Minimization), June 16, 2016

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DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

JUN 16 2016

REPLY TO ATTENTION OF
REGULATORY BRANCH

Operations
Regulatory (2012-01051-MMJ)

Ms. Marisol Simon
U.S. Department of Transportation
Federal Transit Administration, Region V
200 West Adams Street, Suite 320
Chicago, Illinois 60606-5253

Dear Ms. Simon:

We have started our review of the Metro Blue Line Extension Light Rail (BLRT) Project Section 404 Clean Water Act permit application, dated May 2016. After reviewing the wetland avoidance and minimization discussion and figures provided in this document we can now concur with Point 4 (Design Phase Impact Minimization) for the BLRT Project, as outlined in the National Environmental Policy Act (NEPA) / Section 404 Clean Water Act merger process.

Your application includes a detailed discussion regarding the avoidance and minimization efforts that have been incorporated into the BLRT project design in order to reduce overall impacts to aquatic resources throughout the project corridor. After reviewing this information we have made a preliminary determination that these avoidance and minimization efforts as proposed are sufficient to satisfy Clean Water Act requirements, including the minimization requirements described in the 404(b)(1) Guidelines.

We have also reviewed the preliminary compensatory mitigation plan for the BLRT project, as described in your application. As proposed, we have made a preliminary determination that this mitigation plan will likely comply with the Federal Mitigation Rule (33 CFR § 332), and the current St. Paul District Mitigation Policy. The mitigation ratios that you have proposed to compensate for various impacts to aquatic resources throughout the BLRT project corridor seem reasonable, and the hybrid approach described in your compensatory mitigation plan, including construction of permittee-responsible mitigation sites along the corridor and purchase of wetland bank credits from within Bank Service Area (BSA) 7, should be adequate to offset unavoidable adverse impacts to waters of the U.S. throughout the project corridor. We look forward to working with you as you finalize the compensatory mitigation plan for this project.

We reserve the right to revisit the preliminary determinations described above if there are any changes associated with this project that would alter the proposed impacts to aquatic resources within the BLRT corridor or the proposed compensatory mitigation as described in your permit application. We also expect that further avoidance and minimization opportunities will be pursued as design details are developed.

We will continue our review of your permit application, with the intent of publishing a Section 404 Clean Water Act Public Notice for this project concurrent with the Public Notice

period for the BLRT Final Environmental Impact Statement. For further information, please contact Melissa Jenny at 651-290-5363 or Melissa.m.jenny@usace.army.mil.

Sincerely,

Chad Konickson
Chief, Regulatory Branch

Copies furnished:
Virginia Laszewski, EPA
Kathryn O'Brien, Metropolitan Council
Dan Soler, Metropolitan Council
Mary Sue Abel, Metropolitan Council
Ben Meyer, BWSR
Stacey Lijewski, Hennepin County
Jeff Olson, SEH

Appendix I
Section 404 Coordination

I.3 US Army Corps of Engineers (USACE) and Technical Evaluation Panel (TEP) Coordination Meeting Notes

1. USACE coordination meeting notes, March 26, 2015
2. TEP coordination meeting notes, May 19, 2015
3. TEP coordination meeting notes, December 8, 2015

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Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: USACE Coordination Meeting

Date:	3/26/15	**Time:**	1:30 PM	**Duration:**	1.0 hour

Location: USACE Offices – 180 5th Street East, St. Paul, MN

Meeting called by: Kathryn O'Brien – BPO; Melissa Jenny - USACE

Attendees: Melissa Jenny, Tim Smith – USACE
Kathryn O'Brien – BPO
Brent Rusco, Chad Ellos – Hennepin County/BPO
Janet Kennison, Scott Reed – HDR/BPO
Jeff Olson – SEH

Purpose of Meeting: Continuing coordination on Blue Line LRT Extension

Meeting Summary (prepared 4-2-15)

Summary information provided in *italics*.

1) Introduction
2) Review of Agency Roles
   a) Metro Transit – RGU for MEPA and project sponsor
   b) FTA – Federal lead and lead for NEPA
   c) USACE – Cooperating agency under NEPA, Section 404 permitting agency
3) Review of Draft EIS and NEPA/404 Merger process
   a) Concurrence Points 1-3 (Purpose and Need, Alternatives, LEDPA) complete
   b) Concurrent Point 4 – pending (confirm requirements)
4) Next Steps
   a) Review of Issues Map
   b) Wetland Delineation activities
   c) Overall schedule review
5) Next Coordination Meeting

- *Kathryn O'Brien provided an overview of the project and introduced the issue resolution process to the USACE staff.*
  - *Environmental review for the project is being conducted as NEPA/404 merger process, with the USACE as a cooperating agency.*
  - *Through the completion of the Draft EIS, the project has achieved concurrence points 1 through 3 (purpose and need, alternatives, and least environmentally damaging practicable alternative – LEDPA). Concurrence point 4 (permitting) will occur during the Final EIS/ROD process, which is the focus of this meeting.*
- *Jeff Olson discussed the schedule for the wetlands/404 component of the project.*

- *Delineation is planned for late April/May 2015*
- *Obtaining Technical Evaluation Panel (TEP) concurrence on wetland boundaries is planned for June 2015. Given that there are multiple jurisdictions for the state Wetland Conservation Act (WCA), the idea of a "super-TEP" with representation from all WCA Local Governmental Units (LGUs) was discussed.*
- *The first "pre-permitting" meeting is planned for September 2015 – the purpose of this meeting would be to discuss impacts, and mitigation strategies.*
- *The timing of the permit application was discussed – as the USACE is using the FTA's EIS process for its 404 permitting NEPA requirements, the public notice of the application is generally published at the same time as the FEIS.*

- *The new MAP-21 (Moving Ahead for Progress in the 21st Century Act – the current federal law funding surface transportation programs) requirements were discussed. These include the publication of joint Final EIS/ROD documents; the 30 day comment period between Final EIS publication and the issuance of the ROD is eliminated. Therefore the notice of the 404 permit application would need to be published in advance of the ROD. It was noted that two other documents – the Section 4(f) and the Section 106 findings – need to be circulated in advance of the Final EIS/ROD as well, it may make sense to notice the 404 permit application at the same time. The Final EIS team will adjust the project schedule to reflect this.*
- *Jurisdictional determinations (JDs) were discussed. Initially, the Final EIS team assumed preliminary JDs for the project (i.e. the USACE would have jurisdiction over all wetlands on the project. However, another project – the West Broadway Avenue reconstruction – obtained a final JD in 2009 for an isolated wetland along the project corridor. The Final EIS team will review the corridor for possible other isolated basins, and will discuss the potential for final JDs on such basins as appropriate. The USACE mentioned the possibility of a "hybrid" JD where some basins may receive a preliminary JD whereas others would receive a final JD.*
- *The Final EIS team will be scheduling a coordination meeting with the various TEP members and the USACE in the next few weeks.*

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: WCA TEP/USACE Coordination Meeting

Date:	5/19/15	**Time:**	1:30 PM	**Duration:**	1.5 hour
Location:	BPO – Conference Room 2				
Meeting called by:	Kathryn O'Brien – BPO; Jeff Olson – SEH; Scott Reed – BPO/HDR				
Attendees:	See sign-in sheet - attached				
Purpose of Meeting:	Coordination on Blue Line LRT Extension				

Discussion Topics

Summary information presented in *italics*.

1) Introductions
2) Project Overview
    - Estimated water resource impacts (wetlands, stream crossings, floodplains) in DEIS
    - Trackage, Stations, Park and Rides, Operations and Maintenance Facilities, other
3) Project Schedule
    - Landowner notification, BNSF right-or entry permit
    - Wetland delineation (field effort), report
    - TEP and Corps concurrence on wetland boundaries and types
    - Field TEP/ Corps meetings
    - Pre-WCA/ Corps Joint Permit Application meetings
    - NEPA Milestones (note joint FEIS/ROD publication)
    - WCA/ Corps Joint Permit Application Submittal
    - Issuance of WCA replacement plan approval and Corps Permit
4) Discussion of potential WCA Exemptions and per Corps, the Preliminary JD/ Final (Approved JD)
5) Conceptual discussion of sequencing; impact avoidance, minimization, and mitigation
6) Brief discussion of other related environmental issues and status (Section 106, USFWS)
7) Adjourn

The Water Resource Agency Kick-off Meeting for Blue Line LRT began at 1:30PM, and adjourned at 3:00PM.

- *The meeting began with introductions.*
- *A helicopter flyover of the corridor was shown to the group to better orient participants regarding the project alignment, stations, and the Operations and Maintenance Facility. Impacts to water resources (wetlands, streams, floodplains) as known in the DEIS were discussed during the flyover review.*
- *A framework for calculating impacts to water resources in the FEIS was discussed; this will consist of field wetland delineations (with agency boundary concurrence) and refinements in the project footprint. Clarification was provided that footprint means trackage, operations and maintenance facilities,*

stations, park and rides, and other associated infrastructure. The project team emphasized that delineations are being conducted in all of these areas.

- *A draft map of WCA LGU boundaries and relevant watershed district boundaries was shown to the group – some revisions are needed. Also, a few WCA LGU staff have changed – those changes will be incorporated into a final map.*
- *An update on wetland delineation progress was given – the field effort underway since early May and will be finished in early June. Information is not yet in a form that can be distributed to the TEP and Corps. In general, field delineations north of Hwy 610 appear to be considerably smaller in area than what was mapped by the NWI as used in the DEIS for impact estimation. Other areas in the southern portion of the project corridor appear to be generally similar to the boundaries presented in the DEIS.*
- *Preliminary wetland boundary information will be distributed to the group in order to determine which LGU has the majority of wetland impacts. The Blue Line Project Office (BPO) will arrange a teleconference call among WCA LGUs and Corps to discuss how WCA Notices of Decision will be processed for this linear project which traverses many LGUs. It was discussed how this was handled for the Southwest LRT – each LGU along the corridor chose to process its own approval. There appeared to be some interest in consolidating the WCA approval process under one LGU, but the LGUs will require the preliminary impact information prior to determining how it will be handled for the Blue Line LRT.*
- *TEP meetings will be convened during the month of June in order to gain TEP and Corps concurrence on wetland boundaries. It was recommended that TEP field meetings be scheduled at a pre-determined time each week; core TEP members (and Corps) would typically attend all field meetings and appropriate WCA LGUs would join per the boundaries of their jurisdiction.*
- *The group discussed that the water resources agency kick-off meeting would be the first of likely 3 similar "Super TEP" meetings (the next ones would present more detailed information on wetland boundaries and design refinements and ultimately a Pre-Application TEP (Corps) meeting).*
- *The group discussed previous delineation efforts, agency coordination, areas previously determined to be outside of the scope of WCA, and final (approved) jurisdictional determinations that were previously obtained from the Corps. It was also discussed that these findings would need to be updated as they have now expired.*
- *The group discussed that the WCA/ Corps Joint Permit Application would be submitted around May 2016. Based on estimated permit processing times for an Individual Permit (given the amount of wetland impact on the Blue Line LRT project an Individual Permit is assumed) – it is estimated that a permit would be issued in approximately September 2016 (after the publication of the BLRT Final EIS and Record of Decision).*
- *Details on sequencing, including wetland impact avoidance, wetland impact minimization, and mitigation for unavoidable wetland impacts will be forthcoming as design is refined. Sequencing efforts will be described in detail in the WCA/ Corps Joint Permit Application.*
- *Related environmental issues such as Section 106 and USFWS issues were briefly discussed.*

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: WCA TEP/USACE Coordination Meeting

Date:	12/8/15	**Time:**	10:00 AM	**Duration:**	1.5-2 hours
Location:	HDR – 701 Xenia Avenue South, Suite 600, Golden Valley, MN 55416				
Meeting called by:	Kathryn O'Brien – BPO; Jeff Olson – SEH; Scott Reed – BPO/HDR				
Attendees:	Per meeting invite				
Purpose of Meeting:	Continued coordination on Blue Line LRT Extension				

Discussion Topics

1) Introductions
2) Project Review
3) Project Schedule Update
    - February-May 2016 – FTA and cooperating agency review of Final EIS
    - June 2016 – publish Final EIS; notice of 404/DNR/WCA permit application
    - August 2016 – Record of Decision and 404/DNR Permit/WCA approval
4) Summary of Impacts
5) Jurisdictional Issues
    - WCA
    - USACE
    - DNR
6) Target Corporation Mitigation Site and Brooklyn Park Mitigation Site Discussion
7) Open Discussion
8) Adjourn

Summary information presented in *italics*.

The meeting began at 10:00AM with introductions and an overview of the project. Attendees are appended in the sign in sheet.

The total extent of delineated wetlands and delineated storm ponds was discussed. Emphasized that the distinction between natural wetlands and storm ponds are at this point just an assertion and will require concurrence from Wetland Conservation Act (WCA) Local Governmental Units (LGUs) and the Corps.

The total impacts, broken out by wetland type, to wetlands (7.36 ac) and storm ponds (8.53 ac) were presented. Total impact broken out by wetland/storm pond and by municipality were presented. The largest areas of impact are in Brooklyn Park and Robbinsdale. It was suggested that impacts also be presented broken out by WCA LGU. Agreed that the Blue Line Project Office (BPO) will do that.

Jurisdictional considerations were discussed with respect to WCA, Corps, and the Minnesota Department of Natural Resources (DNR). Several delineated basins were discussed, specifically those that appear to have either been excavated in uplands (WCA jurisdiction related) or those that may not have hydrologic connections to Waters of the US (Corps jurisdiction-related). It was agreed that, as an intermediate step toward the WCA/ Corps Joint Permit Application, BPO would submit additional detail about several delineated basins where jurisdiction is uncertain. BPO would then gain concurrence on jurisdiction of these basins from WCA LGUs in the form of a "No Loss" determination where applicable. BPO would also gain concurrence on Corps jurisdiction for this suite of basins.

The team noted that approximately 400 linear feet of Bassett Creek would be shifted to the west under the Plymouth Avenue bridge to accommodate the LRT tracks and the shifted BNSF track.

Melissa Jenny (Corps) summarized a process that is a hybrid between an "Approved Jurisdictional Determination (JD)" and a "Preliminary JD". Those basins that are WCA jurisdictional would automatically be part of the "Preliminary JD" - therefore Corps jurisdictional. Other basins outside of the "Preliminary JD" group would be scrutinized based on basin-specific data presented to the Corps for analysis.

Wetland #28 (City of Brooklyn Park) is a mitigation site in the NW quadrant of 62nd Ave N and the Blue Line. Additional data will be collected concerning areas that were designated as New Wetland Credit (NWC) and Public Value Credit (PVC). Ed Mattheisen (representing Shingle Creek/West Mississippi WMCs) may have some information on this. Some fill impacts will occur as a result of moving the BNSF several feet westward. Other impacts may occur as a result of excavation in places to increase storm storage/treatment volume.

A wetland mitigation strategy was discussed, including a component of on-site mitigation and purchase of private wetland mitigation credits. On-site opportunities potentially include

- *a ~5.5 acre polygon that lies partially within Theodore Wirth Regional Park, just north of Highway 55 and west of the BNSF freight tracks, and*
- *an area on the north side of Shingle Creek (actually within the CSAH 103 project area, but potentially suitable for concurrent mitigation).*

Both on-site areas also are intended for compensatory floodplain volumes. It is unknown at this time how much wetland mitigation these areas may yield.

Ben Meyer (BWSR) mentioned that a considerable amount of private wetland mitigation banked credits would be coming on-line fairly soon (within 2016). These credits would be suitable for the Blue Line needs.

The Target Corporation Mitigation Site was discussed. A perpetual conservation easement was recorded on this site in 2004. It was never banked, rather it was used for direct replacement of 2.18 acres of wetland impact that occurred when the Target headquarters was constructed. At a 2:1 ratio, 4.46 acres of NWC was created. 8.55 acres of WCA credit was created (100% NWC, 100% PVC upland buffer, 75% PVC storm pond). Wes Boll presented a figure that showed that the credited storm ponds lie to the east of the northern edge of the easement. It was discussed that, while the Site was monitored for 5 years (hydrology and extent of invasive species), it was not certified at the end of the monitoring period. Water tables have been dropping rapidly in Brooklyn Park and other areas of the Anoka Sandplain. It was determined that a wetland delineation on the site in the spring (2016) would be appropriate. If wetland is no longer present in the site in what is currently the footprint of needed local road connections - then no mitigation would be required. The loss of hydrology would be determined to be a "force majeure" that occurred prior to Blue Line-related footprint. If the Blue Line would impact existing wetland (or PVC upland buffer) then the appropriate wetland mitigation ratio would be 2:1. Ben Meyer (BWSR) stated that on-site mitigation in Brooklyn Park would likely fail hydrologically and therefore that might not be the best strategy for mitigation. If needed, purchase of suitable private mitigation credits might be the most efficient strategy.

The WCA/ Corps Joint Permit Application will be submitted to the WCA LGUs and Corps in May 2016 in anticipation of Public Noticing of the Permit Application in June 2016. A Technical Memorandum will be submitted to the WCA LGUs and Corps summarizing BPO's assertions on jurisdictional considerations.

The Blue Line meeting adjourned at 12:30 PM.

Appendix J
Section 4(f)/6(f) Supporting Materials

The following is a list of supporting materials including resolutions and meeting notes documenting coordination efforts with stakeholders in the Section 4(f) and 6(f) processes.

J.1 Coordination with Section 4(f)/6(f) Stakeholders

1. Minneapolis Park and Recreation Board resolution on their support of the proposed BLRT Extension project, November 4, 2015
2. Sochacki Park Joint Powers Agreement Board resolution recommending mitigation actions for the temporary occupancy of Sochacki Park, February 8, 2016
3. Federal Transit Administration letter to the National Park Service inviting it to become a Cooperating Agency for the proposed BLRT Extension project, April 22, 2016
4. National Park Service letter accepting Cooperating Agency status for the proposed BLRT Extension project, May 2, 2016
5. Federal Transit Administration letter to the US Department of the Interior transmitting the Amended Draft Section 4(f) and 6(f) Evaluation for review and comment, May 18, 2016
6. National Park Service letter concurring on conversion of Sochacki Park: Sochacki Management Unit in compliance with Section 6(f), June 9, 2016
7. Minnesota Department of Natural Resources email concurring on Amended Draft Section 4(f) finding on Glenview Terrace Park, June 17, 2016
8. US Department of the Interior letter concurring on Amended Draft Section 4(f) and 6(f) Evaluation, June 28, 2016

J.2 General Coordination with Park Stakeholders through Parks Issue Resolution Team (IRT) Meetings

1. Proposed BLRT Extension project Parks IRT Meeting notes, April 28, 2015
2. Proposed BLRT Extension project Parks IRT Meeting notes, May 26, 2015
3. Proposed BLRT Extension project Parks IRT Meeting notes, June 23, 2015
4. Proposed BLRT Extension project Parks IRT Meeting notes, August 25, 2015
5. Proposed BLRT Extension project Parks IRT Meeting notes, November 5, 2015
6. Proposed BLRT Extension project Parks IRT Meeting notes, November 13, 2015
7. Proposed BLRT Extension project Parks IRT Meeting notes, December 9, 2015
8. Proposed BLRT Extension project Parks IRT Meeting notes, January 14, 2016
9. Proposed BLRT Extension project Parks IRT Meeting notes, January 27, 2016

J.3 Other Supporting Materials

1. *Deep Bore Tunnel Analysis Technical Memorandum*
2. *Deep Tunnel Map Book*
3. *Alignment Shift Map Book*

Coordination with the Minnesota State Historic Preservation Office as a Section 4(f) Official with Jurisdiction can be found in **Appendix H**.

Appendix J
Section 4(f)/6(f) Supporting Materials

J.1 Coordination with Section 4(f)/6(f) Stakeholders

1. Minneapolis Park and Recreation Board resolution on their support of the proposed BLRT Extension project, November 4, 2015
2. Sochacki Park Joint Powers Agreement Board resolution recommending mitigation actions for the temporary occupancy of Sochacki Park, February 8, 2016
3. Federal Transit Administration letter to the National Park Service inviting it to become a Cooperating Agency for the proposed BLRT Extension project, April 22, 2016
4. National Park Service letter accepting Cooperating Agency status for the proposed BLRT Extension project, May 2, 2016
5. Federal Transit Administration letter to the US Department of the Interior transmitting the Amended Draft Section 4(f) and 6(f) Evaluation for review and comment, May 18, 2016
6. National Park Service letter concurring on conversion of Sochacki Park: Sochacki Management Unit in compliance with Section 6(f), June 9, 2016
7. Minnesota Department of Natural Resources email concurring on Amended Draft Section 4(f) finding on Glenview Terrace Park, June 17, 2016
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Resolution 2015-331

Resolution Stating Specific Positions of the Minneapolis Park and Recreation Board Related to the Blue Line Light Rail Transit Extension

Whereas, The Minneapolis Park and Recreation Board (MPRB) is the steward of the Minneapolis parks;

Whereas, The proposed Blue Line Light Rail Transit Extension, also known as the Bottineau Line, will pass through and is close to Theodore Wirth Regional Park, which is owned and managed by the MPRB;

Whereas, Regional transportation systems like the light rail network are designed to connect the places where people live, work, and play, and that MPRB is committed to being a constructive participant in the vitality of the region through operation of regional parks;

Whereas, A Memorandum of Understanding (MOU) between MPRB and the Metropolitan Council is in place that allows MPRB the ability to take an official stance on the Bottineau Line's project scope and budget prior to a vote on such by the Corridor Management Committee (CMC);

Whereas, MPRB staff have been involved in ongoing design discussions on various aspects of the Bottineau Line and have found the working relationship with the Bottineau Project Office (BPO) to be a positive one;

Whereas, The BPO has stated that it will need to encumber park land temporarily and permanently in order to construct the Bottineau Line, and such encumbrance will require MPRB and possibly district court approval; and

Whereas, This resolution is supported by the MPRB 2007-2020 Comprehensive Plan, which envisions "Dynamic parks shape city character and meet diverse community needs";

RESOLVED, That the Board of Commissioners supports the BPO's general design direction related to floodplain impacts, existing trails in Wirth Park, and the Olson Memorial Highway trees, provided MPRB staff continue to be directly involved in the design process for these considerations;

RESOLVED, That the Board of Commissioners request continued collaboration between MPRB and BPO staff related to right-of-way impacts and compensation, wetlands and water quality, potential reconstruction of bridges near and within Wirth Park, and a park and ride at the

proposed Golden Valley Road Station, with recognition that these considerations require further design exploration, negotiation, and/or due diligence;

RESOLVED, That the Board of Commissioners recommend that the Plymouth Avenue Station, the Golden Valley Road Station, connections to area parks and trails near the Golden Valley Road and Plymouth Avenue stations, and the reconstruction of the intersection of Golden Valley Road and Theodore Wirth Parkway be included in the final project scope and budget, with the understanding that these four considerations are critical elements of the project that connect the regional transportation system with the regional park system;

RESOLVED, That the BPO shall use all practical methods to achieve safe co-location of freight and light rail;

RESOLVED, That nothing in this resolution shall be understood to abdicate MPRB's interest in nor responsibility for aspects of the project that affect, impact, or benefit the Minneapolis park system; and

RESOLVED, That the President of the Board and Secretary to the Board are authorized to take all necessary administrative actions to implement this resolution.

TO: Minneapolis Park and Recreation Board

FROM: Michael Schroeder,

DATE: November 4, 2015

SUBJECT: Resolution Stating Specific Positions of the Minneapolis Park and Recreation Board Related to the Blue Line Light Rail Transit Extension

BACKGROUND

This action requests that the Board of Commissioners state specific positions relative to the Blue Line Light Rail Extension Project (BLRT) also known as the Bottineau Line. The resolution suggests three general categories of topics: those on which there is general agreement between the Bottineau Project Office (BPO) and the Minneapolis Park and Recreation Board (MPRB), those on which the MPRB does not have enough information to take a position, and those which MPRB wishes to see included in the project scope and budget. The resolution being presented is based on a staff-led Board of Commissioners discussion on October 7, 2015.

Project Summary and Process

The planned Bottineau light rail transit (BLRT) project will operate about 13 miles northwest from downtown Minneapolis through north Minneapolis, Golden Valley, Robbinsdale, Crystal and Brooklyn Park, drawing riders northwest of Brooklyn Park. The proposed alignment will have 10 or 11 new stations in addition to Target Field Station where it will continue as the METRO Blue Line, providing one-seat rides to Minneapolis-St. Paul International Airport and the Mall of America. It will connect Minneapolis and the region's northwest communities with existing LRT on the METRO Green Line, future LRT on the METRO Green Line Extension (Southwest LRT), bus rapid transit on the METRO Red Line, the Northstar commuter rail line, and local and express bus routes.

The line has potential impacts and benefits to lands and assets owned and operated by the Minneapolis Park and Recreation Board (MPRB). It will utilize an existing rail line that passes adjacent to and between parcels of Theodore Wirth Regional Park and Glenwood Terrace Park. It may provide direct station access to Wirth Park. It will also run in the median of Highway 55 (Olson Memorial Highway), which is home to MPRB-maintained trees.

According to the terms of the Memorandum of Understanding (MOU) between the Metropolitan Council and the Minneapolis Park and Recreation Board (MPRB), MPRB "May take a resolution indicating its position on the project scope and budget." Such official stance is to occur prior to the Corridor Management Committee's (CMC) vote on the revised project scope

and budget, prior to the municipal consent process, and prior to issuance of the final Environmental Impact Statement.

Staff from the Bottineau Project Office (BPO) have been undertaking proper due diligence on this requirement by presenting to the Board of Commissioners on three separate occasions throughout 2015. In addition, MPRB staff, Commissioners, and members of the general public have been participating in the design process to date, including:

- Regular staff attendance at bi-weekly Golden Valley Issue Resolution Team (IRT) meetings and Parks IRT meetings (another input method called for in the MOU)
- Occasional staff attendance at bi-weekly Minneapolis IRT meetings
- Commissioner representation and staff attendance at monthly Corridor Management Committee meetings
- Monthly BPO and MPRB staff meetings held at MPRB offices
- Staff review of draft station area planning documents (this is a separate project run by Hennepin County)
- Direct coordination between BPO and MPRB staff as needed relative to permitting, understanding of land ownership, and other planning and design considerations
- Two appointments to the Community Advisory Committee for the Bottineau Line

The CMC's scope and budget vote is set to occur on November 12.

Resolution Format

Throughout 2015, MPRB staff and commissioners have been made aware of and have discussed a variety of concept design considerations related to the BLRT project and MPRB properties and assets. In many cases, Commissioners have already made their concern and/or support clear. In addition, MPRB's official comments on the Draft Environmental Impact Statement (DEIS) still have standing and are being carefully considered by the BPO.

The following is a list of topics that have been raised in Board presentations, at IRT meetings, or in the DEIS. These topics fall into three general categories, each of which has its own "RESOLVED" clause in the resolution:

- **RESOLVED, That the Board of Commissioners support the BPO's general design direction** means that, though ongoing coordination during detailed design and engineering will be necessary, the MPRB and BPO are in general agreement about the way forward on these topics.
- **RESOLVED, That the Board of Commissioners request continued collaboration** means that MPRB does not have enough information to be comfortable with current direction, or that not enough design exploration or negotiation has taken place to warrant either general alignment or a position.

- **RESOLVED, That the Board of Commissioners recommend inclusion in the final project scope and budget** includes those items for which there has been no final resolution and on which MPRB wishes to make a guiding recommendation.

Two additional "RESOLVED" clauses are included to ensure continued basic due diligence around safety and environmental review.

It is important to remember that this resolution is not the last time the MPRB Commissioners will have the opportunity to officially weigh in on the project. This action would provide specific guidance to BPO staff and the CMC when making their final project scope and budget decision.

Topic Summaries

Support for general design direction

For topics in this category, it shall be considered a foregone conclusion that design collaboration between BPO and MPRB staff will continue. BPO has stressed that this will be the case throughout detailed design. That collaboration should extend to MPRB staff having a seat at the table during design discussions, not merely an after-the-fact review capacity.

- *Floodplain Impacts* (Attachment A). It has been shown that floodplain impacts can be mitigated by grading within Wirth Park in an area that does not currently have significant active recreational use. MPRB staff will continue to work with the BPO on the exact shape and impact of this grading and on routing of an existing trail in this vicinity. In addition, conversations will continue to ensure BLRT construction does not exacerbate flooding issues in the vicinity and to consider whether additional storage might be provided to mitigate existing flooding.
- *The Trail in Wirth Park* (Attachment B). The trail that runs east of Basset Creek under the Plymouth Avenue Bridge will be impacted by construction. The BPO has indicated that this trail would be reconstructed on MPRB property for the entire length that it currently runs on railroad land. In addition, modifications to the Plymouth Avenue Bridge would shift the creek channel slightly west to allow for a standard trail width to pass under the bridge adjacent to the creek.
- *Highway 55 Trees.* More than 120 trees exist in the Highway 55 median. These are part of a University of Minnesota study on disease resistant elms. All of these trees must be removed to accommodate the center-running light rail line. The BPO has met with MPRB foresters and the U of MN researchers to discuss these impacts and has indicated they would work with MPRB to relocate trees to the extent feasible.

Request for continued collaboration

For topics in this category, MPRB will require further design exploration, negotiation, information, or due diligence. Topics in this category are not to be considered closed discussions. Rather they are ones on which significant discussion remains.

- *Right-of-Way and Compensation* (Attachment F). Though the BPO has to date been careful to understand MPRB ownership near the corridor and to minimize park land impacts, the discussion of whether and to what degree the MPRB will cooperate in land transfer must continue. Without more specific details on proposed compensation or continued discussion of parkland benefits, it is premature to make any decision on transfer of parkland.
- T*he Golden Valley Road Station Park and Ride* (Attachment G). MPRB Staff have worked with the BPO to consider the option of a park-and-ride at the Golden Valley Station on Park Board property in the interest of project due diligence. The BPO understands the difficulty of acquiring park land for parking. However, the creation a regional trail hub (as described above) with associated parking could provide benefit to park users, allowing for a shared-use situation. Few details of the financial realities of this proposal are known and it is therefore premature to take a position on the possibility or design of a park-and-ride area. It should be noted that a park-and-ride area was included in the concepts arising from the Bottineau Design Charette, though that facility was a structure with a park on top, while the current proposal is for a surface lot.
- *Wetlands and Water Quality*. At the last update to the Board, wetlands delineation and impact determination was underway. Without additional information, MPRB cannot know if impacts and mitigation proposals are generally in line with MPRB desires.
- *Coordination with Railroad, including potential bridge reconstructions*. This is perhaps the greatest unknown in the project at the moment. It is apparently possible that BNSF Railroad will insist on preserving the ability to implement a second track in the corridor, which will require the reconstruction of not only the Plymouth Avenue Bridge, but also the Theodore Wirth Parkway and Golden Valley Road Bridges. The actual parkland impact of these reconstructions is unknown.

<u>Inclusion in the final project scope and budget</u>

For topics in this category, MPRB may wish to make a specific recommendation to BPO and the CMC on items not yet resolved.

- *Stations* (Attachment C). The Draft Environmental Impact Statement proposed the Golden Valley Road Station with a possible second station at Plymouth Avenue. The Plymouth Avenue Station provides direct access to Wirth Regional Park and, as such, is a key inter-modal transfer point. Part of the power of regional transportation systems comes when they connect places not only where people live and work, but also where they play. Failing to connect to Wirth Park at Plymouth Avenue will seem a failure to interconnect some of the region's most important amenities. In addition, failure to implement the Plymouth Avenue Station will bring Wirth Park all the effects with none of the benefit.
- *Trail Connections*. In addition to implementation of the Plymouth Avenue Station itself, trail connections beyond those committed to thus far are also critical. MPRB staff and staff from other agencies have regularly expressed the desire to see more robust trail

connections. Specific suggestions from the MPRB, Golden Valley, and Three Rivers Park District include

- a direct connection across Bassett Creek near the Plymouth Avenue Station, which would link the north-south park trail with the station (Attachment D).
- direct connections between the existing trail along Theodore Wirth Parkway, the proposed Bassett Creek Regional Trail that would run along Golden Valley Road, and they new jointly managed Sochacki Park north of Golden Valley Road. Such a connection would require some additional trail and possibly an underpass of Golden Valley Road, but would create a multi-city multi-modal hub (Attachment E).

- *Golden Valley Road / Theodore Wirth Parkway Intersection***.** This intersection lies just north of the proposed Golden Valley Station and will be significantly impacted by transit operations. Whether the GVR Station is home to a passenger drop-off or park-and-ride, car and bus interconnections will likely increase as a direct result of light rail implementation. In addition, this already difficult free-right-dominated intersection will be used more frequently by pedestrians accessing the station. MPRB and the City of Golden Valley have discussed reconstruction of this intersection with the BPO but have received no commitment. This intersection could be considered a project cost not unlike other safety improvements adjacent to the line in other locations.

RECOMMENDATION

Staff recommends that the Board of Commissioners take specific positions on behalf of the Minneapolis Park and Recreation Board related to the Blue Line Light Rail Transit Extension, as articulated above and tabulated in the resolution.

ATTACHMENTS:

- A-Floodplains (PDF)
- B-Wirth Park Trail (PDF)
- C-Stations (PDF)
- D-TrailConnect-Plymouth (JPG)
- E-TrailConnect-GoldenValley (JPG)
- F-Right-of-way Impacts (PDF)
- G-GVR Park-and-Ride (PDF)

Prepared By: Adam Arvidson, Manager of Public Engagement & Citywide Planning, Strategic Planning
Review:

Cindy Anderson	Completed	10/22/2015 12:20 PM
Adam Arvidson	Completed	10/22/2015 12:26 PM
Michael Schroeder	Completed	10/22/2015 2:56 PM

Jayne Miller Completed 10/24/2015 8:00 PM
Minneapolis Park and Recreation Board Pending 11/04/2015 5:00 PM

MOTION TO RECOMMEND THE FOLLOWING 14 ACTIONS TO PROVIDE MITIGATION AND EQUITABLE COMPENSATION FOR THE TEMPORARY OCCUPANCY OF SOCHACKI PARK FOR CONSTRUCTION STAGING:

1) Removal of existing vegetation as agreed to by BPO staff and JPA staff within the restoration zone, defined as A) the southern construction staging area, and B) the northern staging area (*See Map Attachment A*), blending into the adjacent disturbed areas in the NE quadrant of the park.

2) Removal and disposal of all surface rubble within the restoration zone, in accordance with MPCA permitting requirements.

3) Addition of clean fill and top soil in the restoration zone in accordance with MPCA permitting requirements and consistent with the re-use of this area as guided by stakeholders.

4) Development and implementation of a revegetation plan approved by the JPA staff. The plan will address all areas disturbed by construction activities, including secondary construction activities in the BNSF right-of-way such as moving the Xcel power lines. In addition, the plan will identify practicable additional thickening of the vegetative buffer such as plantings of evergreen trees between the Park and the LRT Corridor for the purposes of reducing visual impacts of the LRT on Park visitors.

5) In the southern staging area, N. Rice Lake water edge restoration work and vegetation plantings to provide learning opportunities for park users (design and species TBD).

6) Restoration of the existing paved interior road to provide for safe two way traffic.

7) Removal or replacement of the northern parking lot to be determined in consultation with JPA staff.

8) Reconstruction and expansion of the interior paved parking lot (exact site TBD in consultation with JPA staff), to include room for a school bus turnaround.

9) Clearing, revegetation and fencing of an area immediately east and north of the interior parking lot within the northern staging area for future use as a dog off leash area.

10) Providing practicable utility services to a site adjacent to the interior parking lot for future development of a bathroom/storm shelter, and drinking water fountain.

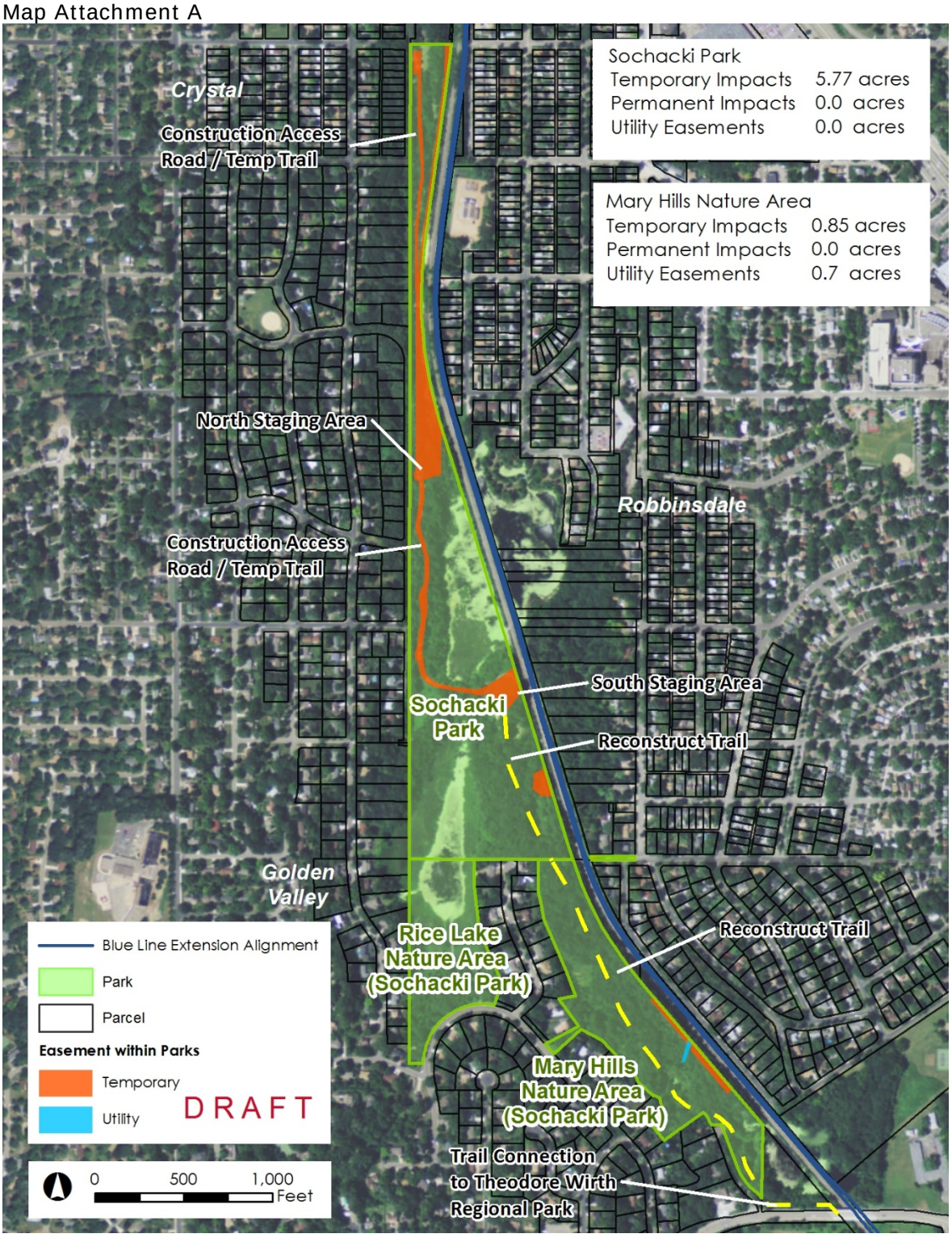
11) Ground preparation for a future education shelter sized for 50 students in a location TBD.

12) Construction of a water education platform on N Rice Lake

13) Redevelopment of a safe 10-foot wide paved trail through the length of the park, running from the northern entrance to the current trail terminus by Bonnie Lane; with restoration along the trail edge as needed.

14) Construction of an off-road trail connection from the existing terminus of the Sochacki Park trail at Bonnie Lane, crossing underneath the reconstructed Golden Valley Road Bridge and connecting to the existing trail in Theodore Wirth Regional Park.

Map Attachment A



U.S. Department
of Transportation
Federal Transit Administration

REGION V
Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

200 West Adams Street
Suite 320
Chicago, IL 60606-5253
312-353-2789
312-886-0351 (fax)

April 22, 2016

Roger A. Knowlton, Acting Chief
National Park Service
Recreation Grants Division
601 Riverfront Drive
Omaha, NE 68102-4226

Re: Invitation to Become a Cooperating Agency for the METRO Blue Line Extension Project in Minneapolis, Minnesota

Dear Mr. Knowlton:

The Federal Transit Administration (FTA) and the Metropolitan Council (Council) are preparing a Final Environmental Impact Statement (Final EIS) for the METRO Blue Line Extension Light Rail (BLRT Extension) project. Federal funding will be pursued for this project from FTA. As a result, as the lead federal agency for the project, FTA is required to undertake environmental review in compliance with the National Environmental Policy Act (NEPA). 42 USC §§ 4321-4370(h). As the local public agency sponsoring the project, the Metropolitan Council must also comply with the requirements of the Minnesota Environmental Policy Act (MEPA).

The BLRT Extension project is located in Hennepin County, Minnesota, extending approximately 13 miles northwest from downtown Minneapolis, serving north Minneapolis and the suburbs of Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The BLRT Extension project is anticipated to serve a broader area to the northwest, including the communities of New Hope, Brooklyn Center, Maple Grove, Osseo, Champlin, and Dayton.

During the environmental review process, FTA and the Council determined that, as proposed, the BLRT Extension project will impact park property purchased using Section 6(f)(3) funds. Because your agency has jurisdiction and expertise with respect to Section 6(f)(3) of the Land and Water Conservation Fund (LWCF) Act of 1965 (Public Law 88-578), we are inviting your agency to be a Cooperating Agency for the NEPA environmental review process for the BLRT Extension project. This is in accordance with the Council on Environmental Quality's Regulations for implementing the procedural provisions of NEPA (40 CFR Part 1501.6).

By becoming a Cooperating Agency, we invite the National Park Service to become more directly involved in the development of the BLRT project in the following ways:

1. Provide timely review and written comment as the Final EIS and other project documents are developed;
2. Participate in coordination meetings, conference calls, and join field reviews, as appropriate; and

3. Pursuant to 40 CFR Part 1506.3, the National Park Service may adopt without re-circulating the Final EIS when, after an independent review, the National Park Service concludes that its comments and suggestions have been satisfied.

To either accept or decline this invitation, please respond to Reggie Arkell at reginald.arkell@dot.gov in writing prior to Friday, May 6, 2016. If your agency chooses to decline the invitation, and does not intend to use the environmental review process to meet any regulatory or statutory requirement to make a determination on the affected park property, FTA respectfully requests that this declaration be made in writing.

If you have questions or would like to discuss the project, please contact Maya Sarna at (202) 366-5811 or maya.sarna@dot.gov.

Sincerely,

Marisol R. Simón
Regional Administrator

ec: Reggie Arkell, Federal Transit Administration
Maya Sarna, Federal Transit Administration
Kathryn O'Brien, Metropolitan Council

United States Department of the Interior
National Park Service
Midwest Region
601 Riverfront Drive
Omaha Nebraska 68102-4226

MAY 0 2 2016

Ms. Marisol R. Simon
U.S. Department of Transportation
Federal Transit Administration, Region V
200 West Adams Street, Suite 320
Chicago, IL 60606-5253

Dear Ms. Simon:

Thank you for your April 22, 2016 letter inviting the National Park Service (NPS) to participate as a cooperating agency with the Federal Transit Administration (FTA) and the Metropolitan Council (Council) as you prepare for a Final Environmental Impact Statement (Final EIS) for the METRO Blue Line Extension Light Rail (BLRT Extension) project located in Hennepin County, Minnesota. The Recreation Grants Division, Midwest Region of the NPS, accepts your invitation as a cooperating agency, in a limited capacity, within the provisions of the Land and Water Conservation Fund (LWCF) program as it relates to LWCF grant #27-01087, June Park, (Sochacki Park / Sochacki Management Unit).

We look forward to working with you. If you have any questions, please contact me at (402) 661-1558 or roger_knowlton@nps.gov.

Sincerely,

Roger A. Knowlton

Roger A. Knowlton
Acting, Chief
Recreation Grants Division

TAKE PRIDE® IN AMERICA

U.S. Department
of Transportation
Federal Transit Administration

REGION V
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Michigan, Minnesota,
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312-886-0351 (fax)

May 18, 2016

Director, Office of Environmental Policy and Compliance
U.S. Department of the Interior
1849 C Street, NW (MS 2462-MIB)
Washington, DC 20240

RE: Section 4(f) Submission for the METRO Blue Line Extension Project in Hennepin County, Minnesota

Dear Ms. Braegelmann:

The Federal Transit Administration (FTA) and the Metropolitan Council (Council) are preparing a Final Environmental Impact Statement (Final EIS) for the proposed METRO Blue Line Extension Light Rail (BLRT Extension) project. The Council is pursuing Federal funding for this project from FTA. As the lead federal agency for the project, FTA is required to undertake environmental review in compliance with the National Environmental Policy Act (NEPA), 42 USC §§ 4321-4370(h). The Final FEIS being prepared includes an Amended Draft Section 4(f) evaluation in accordance with the Department of Transportation Act of 1966 and 23 CFR Part 774.

The proposed BLRT Extension project is located in Hennepin County, Minnesota, extending approximately 13 miles northwest from downtown Minneapolis, serving north Minneapolis and the suburbs of Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The proposed BLRT Extension project is anticipated to serve a broader area to the northwest, including the communities of New Hope, Brooklyn Center, Maple Grove, Osseo, Champlin, and Dayton.

Pursuant to 23 CFR § 774.5, FTA is providing the enclosed BLRT Extension project Amended Draft Section 4(f) and 6(f) Evaluation to the Department of Interior for review and comment. FTA is kindly requesting a written response by **Tuesday, July 5, 2015**. If comments are not received within this period, FTA will assume a lack of objection and proceed with the action. Please direct any questions to Reggie Arkell of the FTA Regional Office at 312-886-3704 or reginald.arkell@dot.gov. Thank you very much for your assistance.

Sincerely,

Marisol R. Simon,
Regional Administrator

Enclosure: METRO Blue Line Extension Project Amended Draft Section 4(f) and 6(f) Evaluation

ec: Reggie Arkell, FTA
Kathryn O'Brien, Metropolitan Council

United States Department of the Interior
National Park Service
Midwest Region
601 Riverfront Drive
Omaha Nebraska 68102-4226

27-01087(MWR-LCPPG)

June 9, 2016

BLRT FEIS: Amended Draft 4(f)/6(f) Evaluation
ER-14/0235R: Metro Blue Line Light Rail Transit Extension (previously Bottineau Extension)

The Recreation Grants Division, Midwest Region of the NPS, accepted the Federal Transit Administration (FTA) and the Metropolitan Council's (Council) invitation to become a cooperating agency, in a limited capacity, within the provisions of the Land and Water Conservation Fund (LWCF) program as it relates to LWCF grant #27-01087, June Park, (Sochacki Park / Sochacki Management Unit). We have reviewed the sections of the FEIS that pertain to the proposed conversion of the Land and Water Conservation Fund (LWCF) Section 6(f)(3) property, Sochacki Park: Sochacki Management Unit.

We agree that use of the park for a period of longer than 6 months constitutes a conversion.
We agree that all practical alternatives have been evaluated and considered.
We agree with the proposed conversion requirements.

Once the conversion has been approved by National Park Service (NPS), replacement property should be immediately acquired and developed according to the replacement proposal timetable. If development will be delayed beyond three years from the date of NPS conversion approval, then a request for delayed development beyond three years with a justification for the delay must be made to NPS.

Exceptions to the immediate replacement requirement will be allowed only when it is not possible for replacement property to be identified prior to the State's request for the conversion.

An express commitment must be received from the State to satisfy Section 6(f)(3) substitution requirements within a specified period normally not to exceed one year following conversion approval.

We agree that following construction, the park property would be restored and enhanced, and would remain under the ownership and control of the city of Robbinsdale and the JPA partners.

We recommend you consult directly with the official who administers the LWCF program in the State of Minnesota as the project moves forward to determine any potential conflicts with Section 6(f)(3) of the LWCF Act (Public Law 88-578, as amended).

The administrator for the LWCF program in Minnesota is Mr. Joe Hiller, Park Grants Coordinator, 500 Lafayette Road, St. Paul, MN 55155-4039

We appreciate the opportunity to provide these comments.

Sincerely,

Roger Knowlton
Acting Chief, Recreation Grants Division

From:	O"Brien, Kathryn
To:	Reed, Scott; BPODMC; Miller, Caroline
Subject:	FW: BLRT Meeting Cancelled
Date:	Friday, June 17, 2016 11:28:46 AM

From: Hiller, Joe H (DNR) [mailto:Joe.Hiller@state.mn.us]
Sent: Friday, June 17, 2016 11:19 AM
To: O'Brien, Kathryn <kathryn.obrien@metrotransit.org>
Subject: RE: BLRT Meeting Cancelled

Kathryn,

I concur with the evaluation of the 0.01-acre impact to Golden Valley's Glenview Terrace Park described in the Amended Draft Section 4(f) and 6(f) Evaluation dated May 2016. All practical alternatives were evaluated and rejected on a sound basis, the construction activities will not diminish outdoor recreation opportunities at the park, and the addition of nearby recreation facilities including the new trailhead with wayfinding signage will improve access to this park.

In 1977, the City and the State signed the Outdoor Recreation Agreement OR77A-29 Glenview Terrace and Sheid Park Tennis Courts to develop recreation facilities at Glenview Terrace Park. In consideration for receiving State funds, the City agreed that it "shall not at any time convert any property developed pursuant to this agreement to uses other than the public outdoor recreation uses specified in the project proposal attached, hereto, without the prior written approval of the Director (now the MN Dept. of Natural Resources)." The MN Department of Natural Resources approves this proposal to convert 0.01-acres to non-recreation use and accepts, as mitigation, the proposed nearby recreation improvements. The State and the City will amend their agreement to reflect this conversion.

Joe Hiller
Park Grant Coordinator
MN Dept. of Natural Resources, Division of Parks and Trails
651-259-5538
Joe.hiller@state.mn.us
500 Lafayette Road, St. Paul, MN 55155-4039

[redacted]

United States Department of the Interior
Office of the Secretary
Washington, D.C. 20240

9043.1
PEP/NRM

JUN 2 8 2016

ER-14/0235

Ms. Marisol Simon, Region V
Regional Administrator
Federal Transit Administration
200 West Adams Street, Suite 320
Chicago, Illinois 60606

Dear Ms. Simon:

As requested, the Department of the Interior (Department) has reviewed the Amended Section 4(f) and 6(f) Evaluations for the Final Environmental Impact Statement (FEIS) for the Metro Blue Line Light Rail Extension (formerly Bottineau Transitway), Hennepin County, Minnesota. The Department offers the following comments and recommendations for your consideration.

Section 4(f) Comments

The Federal Transit Administration (FTA), along with the Metropolitan Council (Council), proposes the construction and operation of the Metro Blue Line Light Rail Extension. The project would consist of a light rail transit (LRT) system extension of approximately 13 miles from downtown Minneapolis to the northwest suburbs. The draft Section 4(f) evaluation in 2014 identified several properties in the project study area eligible to be considered under Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. §303). The Department reviewed the draft evaluation at that time and found the analysis preliminary and impacts to eligible resources not evaluated fully. The Department concurred that there were no feasible or prudent avoidance alternatives to the preferred alternative presented which would result in impacts to a park/recreational resource, Theodore Wirth Regional Park, but determined that additional design information was needed for all other properties.

The current evaluation now considers the potential impacts to 29 eligible properties, including 12 park/recreation properties and 17 historic properties (eligible for or listed on the National Register of Historic Places) from the project now known as the METRO Blue Line LRT Extension (BLRT) project. This evaluation by the FTA has determined that the BLRT project would not use lands from five of the park/recreation properties and 15 of the historic properties. In addition, the FTA has determined that, of the remaining seven park/recreation properties, five would only have temporary occupancy (no permanent use of the park or recreation facility land) and two would be subject to an insignificant amount of use (*de minimis*). This determination means that none of the park/recreation properties would be used by the BLRT project. The Department does not have a review role in the determination of *de minimis* use, but we will note it would appear that negotiations are still underway with the officials with jurisdiction over these properties. The FTA may not use a *de minimis* use determination unless the officials with

jurisdiction agree. Finally, the project would result in adverse effects to the two or three remaining historic properties (the Grand Rounds Historic District, and the Osseo Branch of the St. Paul, Minneapolis and Manitoba Railway Historic District) and to the values for which they were determined to be eligible.

Impacts to the Grand Rounds Historic District, a nationally significant example of urban park development, will come from the need to construct new track, realign the existing BNSF Railway freight track, bridge reconstruction, corridor protection barriers between the two tracks, and construction of passenger stations. In sum, all of these actions will permanently use 0.7 acre from the Theodore Wirth Parkway, which is a contributing element to the Grand Rounds Historic District. All other impacts would be to non-contributing elements and an existing transportation corridor. As avoidance alternatives, the FTA considered two alignment shifts (east and west) and a tunnel option to avoid affecting the historic property; these avoidance alternatives were deemed feasible but not prudent due to other impacts to surrounding residential and business areas.

The impacts to the Osseo Branch, part of the St. Paul, Minneapolis and Manitoba Railway Historic District, would come from the need to use a portion of the Osseo Branch right-of-way that is 100 feet wide and approximately 13 miles long. The Osseo Branch portion of the Historic District preserves a portion of the early historic rail development of the Minneapolis–St. Paul area, which provided an economic outlet for products from potato farmers in Hennepin County. The BLRT project would use the easternmost 50 feet of that right-of-way for a distance of eight miles for the track, and the additional 50 feet for temporary construction easements during construction along the eight miles. The construction easements would require the project to move the existing BNSF Railway track that occupies that portion of the original right-of-way approximately 15 to 25 feet to the west. Many of the same avoidance alternatives proposed for the Grand Rounds Historic District were applied to the Osseo Branch, and found to be feasible but not prudent.

The Department would concur with the FTA that there are no feasible or prudent avoidance alternatives to the preferred alternative presented, which results in impacts to the Grand Rounds Historic District and the Osseo Branch. The evaluation demonstrates that efforts were made to avoid impacts to Section 4(f) resources and to find ways to reduce the severity of the impacts in consultation with the State Historic Preservation Officer and other consulting parties. However, the Department cannot concur that all possible planning needed to minimize harm to Section 4(f) resources has been employed since there is not an executed agreement document to provide a finalized set of mitigation actions for those historic properties. The Department will withhold its final concurrence until there is evidence of a signed agreement. We would also prefer to see evidence that the affected owners have agreed to the *de minimis* determinations for their properties.

Section 6(f) Comments

The National Park Service's (NPS) Recreation Grants Division, Midwest Region, accepted the invitation offered by the FTA and the Council to become a cooperating agency in a limited capacity, within the provisions of the Land and Water Conservation Fund (LWCF) program as it relates to LWCF grant #27-01087, June Park (Sochacki Park/Sochacki Management Unit). The NPS has reviewed the sections of the FEIS that pertain to the proposed conversion of this

property in accordance with the provisions of Section 6(f)(3) of the Land and Water Conservation Fund Act (Public Law 88-578, as amended).

The NPS agrees that use of the park for a period of longer than six months constitutes a conversion. We agree that all practical alternatives were evaluated and considered, and we agree with the proposed conversion requirements.

Once the conversion has been approved by the NPS, replacement property should be immediately acquired and developed according to the replacement proposal timetable. If development will be delayed beyond three years from the date of the NPS conversion approval, then a request for delayed development beyond three years must be made to the NPS with a justification for the delay. Exceptions to the immediate replacement requirement will be allowed only when it is not possible for replacement property to be identified prior to the State of Minnesota's request for the conversion. An express commitment must be received from the State to satisfy the Section 6(f)(3) substitution requirements within a specified period normally not to exceed one year following the conversion approval. The NPS agrees that following construction, the park property should be restored and enhanced, and would remain under the ownership and control of the City of Robbinsdale, as well as the Three Rivers Park District and the City of Golden Valley who are part of a Joint Powers Agreement with the City of Robbinsdale to manage the property.

The NPS recommends you consult directly with the official who administers the LWCF program in the State of Minnesota as the project moves forward to determine any potential conflicts with Section 6(f)(3) of the LWCF Act. The administrator for the LWCF program in Minnesota is Mr. Joe Hiller, Park Grants Coordinator, 500 Lafayette Road, St. Paul, Minnesota 55155-4039.

The Department has a continuing interest in working with the FTA to ensure impacts to resources of concern to the Department are adequately addressed. For continued consultation and coordination with the issues concerning historic resources identified as Section 4(f) resources, please contact Regional Environmental Coordinator Nick Chevance, Midwest Regional Office, National Park Service, 601 Riverfront Drive, Omaha, Nebraska 68102, telephone 402-661-1844. For questions or concerns related to Section 6(f) properties, please contact Acting Chief Roger Knowlton, Recreation Grants Division, at the same address, telephone 402-661-1558.

We appreciate the opportunity to provide these comments.

Sincerely,



for Mary Josie Blanchard
Acting Director, Office of Environmental
Policy and Compliance

cc: marisol.simon@dot.gov

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Appendix J
Section 4(f)/6(f) Supporting Materials

J.2 General Coordination with Park Stakeholders through Parks Issue Resolution Team (IRT) Meetings

1. Proposed BLRT Extension project Parks IRT Meeting notes, April 28, 2015
2. Proposed BLRT Extension project Parks IRT Meeting notes, May 26, 2015
3. Proposed BLRT Extension project Parks IRT Meeting notes, June 23, 2015
4. Proposed BLRT Extension project Parks IRT Meeting notes, August 25, 2015
5. Proposed BLRT Extension project Parks IRT Meeting notes, November 5, 2015
6. Proposed BLRT Extension project Parks IRT Meeting notes, November 13, 2015
7. Proposed BLRT Extension project Parks IRT Meeting notes, December 9, 2015
8. Proposed BLRT Extension project Parks IRT Meeting notes, January 14, 2016
9. Proposed BLRT Extension project Parks IRT Meeting notes, January 27, 2016

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Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Parks Coordination Meeting

Date:	4/28/15	**Time:**	3:30 PM	**Duration:**	1.0 hour
Location:	Blue Line Project Office				
Meeting called by:	Kathryn O'Brien				
Attendees:	Per meeting invite				
Purpose of Meeting:	Parks Coordination on Blue Line LRT Extension – Floodplains Impacts Golden Valley/Robbinsdale				

Meeting Summary (summary information presented in *italics)*

1) Introductions
2) Floodplains
   a) Initial assessment of impacts (Golden Valley/Robbinsdale)
3) Floodplain mitigation opportunities
   a) Locations
   b) Current uses
   c) Future plans / improvements
4) Next Coordination Meeting

- *Kathryn O'Brien opened the meeting after introductions. The purpose of the Parks Issue Resolution Team (IRT) meetings is to focus on the Blue Line LRT Extension (BLRT) project and potential impacts to park resources. The BLRT team has met several times already with the Minneapolis Park and Recreation Board (MPRB) staff, has also met with the Three Rivers Park District (TRPD), and is regularly meeting with the cities along the corridor. The establishment of the Parks IRT meetings formalizes the coordination efforts regarding potential park impacts, and meets the requirements of the Memorandum of Understanding (MOU) executed by Met Council and the MPRB.*
- *O'Brien noted that the focus of the meeting today is floodplains, and turned the meeting over to Lisa Goddard (SRF).*
- *Goddard reviewed the FEMA flood mapping for two areas of the BLRT corridor along the BNSF right of way: 1) Between TH 55 and Golden Valley Road (south reach), and; 2) Between Golden Valley Road and 36th Street (north reach). The south reach segment includes potential impacts to Theodore Wirth Regional Park (TWRP), while the north reach includes potential impacts to Sochacki Park.*

- *Rick Birno noted that Sochacki Park is now the name for the combined park resources of Sochacki Park in Robbinsdale, and the Mary Hills and Rice Lake Nature Areas in Golden Valley. This consolidation is an outcome of the joint powers agreement between the cities of Golden Valley and Robbinsdale, and the TRPD.*
- *Goddard reviewed the requirements for compensatory floodplain storage, specifically the requirement that to be counted as storage, the area excavated must be above the water table but below the 100 year flood elevation and hydraulically connected to the impacted floodplain*
- *The preliminary impacts identified in the south reach were discussed. Approximately 12,000 cubic yards of floodplain impact are anticipated between TH 55 and Golden Valley Road – the northern extent of impacts is actually only a few hundred feet north of Plymouth Avenue.*
- *A knob of comparatively higher ground just north of TH 55 and west of the BNSF was mentioned as a possible mitigation site. The site is comprised of a combination of MPRB property and Canadian Pacific Railway property. It appears that all of the needed compensatory storage could be obtained at this site; however, the site would likely need to be contoured and replanted with trees to create a floodplain forest setting similar to the surround area.*
- *The BLRT team is also exploring the potential for creating compensatory floodplain storage through the MPRB's plans for reconstruction of some of their golf holes.*
- *Cliff Swenson asked about how the floodplain impacts were calculated. Goddard indicated that the team cut cross-sections along the alignment, and matched those against the floodplain elevation and existing ground surface to determine the floodplain fill volume. The cross sections included the freight rail reconstruction, the light rail line, and the light rail stations. Goddard and O'Brien noted that there was no difference in floodplain impact whether the Plymouth Avenue Station was included or not included – the impact is on the west side of the alignment and dictated by where the freight rail would need to go. There is no floodplain impact from the proposed Golden Valley Road Station.*
- *Goddard discussed the potential floodplain impacts in the Grimes Pond/North Rice Pond area. The BLRT team is still looking at various engineering options in this area; the soils are poor quality for construction purposes, and various combinations of filling and spanning the pond area are being considered. Calculations yield floodplain impacts ranging from 7,500 to 10,000 cubic yards in this area. Calculations were done using a likely worst-case scenario of retained fill the full length of the alignment in the pond.*
- *The connectivity of Grimes Pond and North Rice Pond was discussed. Currently there are two culverts connecting the two ponds. The northern culvert is set at a lower elevation, and is often blocked by beaver activity. The southern culvert is at a higher elevation.*
- *Flooding in the area was discussed. The eastern extent of the floodplain intersects private parcels, and in some cases, homes. There has been historical flooding in this area.*
- *Potential flood mitigation areas were presented. The western edge of North Rice Pond could be regarded to create additional storage, but would remove existing vegetation adjacent to the pond. Some storage could be obtained at the south end of North Rice Pond as well. The southeastern portion of Grimes Pond, and a portion of the eastern bank of Grimes Pond could also potentially provide some mitigation. The northern end of Grimes Pond includes a capped contaminated site, so no mitigation would be considered there.*
- *Plans for Sochacki Park were discussed, especially in consideration of the potential floodplain mitigation. Ann Rexine noted that survey work is being conducted in preparation for paving the existing gravel trail in Sochacki Park. Birno noted that several improvements are included in park plans, such as off-leash*

dog park areas and natural play areas, along with plans to improve water quality, manage vegetation, and provide educational experiences.

- *Rexine noted that water quality improvements could be difficult in Sochacki Park considering the extent of the watershed that feeds the park area.*
- *There was a general discussion of the costs and benefits from floodplain mitigation on the west side of North Rice Pond. On the positive side, the mitigation effort could include demolition debris cleanup (the park contains demo debris dumped in the 50s-70s), elimination of nuisance and invasive species, and improvements to access and views of the pond, as well as providing the necessary floodplain and wetland mitigation for the BLRT impacts. Drawbacks include the fact that the park is a 6(f) resource (obtained/improved with LAWCON funds) and would require extensive coordination with the DNR and National Park Service, the potential for asbestos or other problem contaminants in the demo debris, the public perception of the removal of trees and other greenery (regardless of whether it is considered a nuisance or invasive species), and the fact that the cost of such a mitigation plan could be well in excess of what the BLRT project could afford.*
- *Birno noted that whatever plan is carried forward, it should minimize impacts on residents and recreational space.*
- *Rexine agreed to share the Sochacki Park trail survey data and park plan information with the BLRT team.*
- *O'Brien mentioned that the creation of park amenities through the floodplain mitigation process needs to be considered as an option for both potential floodplain and park impacts.*
- *There was general discussion of the private parcels that comprise the southern portion of Grimes Pond – these are very long residential lots that extend from France Avenue on the east side all the way to the BNSF right of way. The homes on these parcels are located near France Avenue, and are 60-80 feet higher in elevation than Grimes Pond. The parcels are generally heavily wooded. Floodplain mitigation may be an option on these parcels.*
- *Swenson asked about the deadline for determining the floodplain mitigation plan. O'Brien noted that options can be carried forward through the Final EIS and Record of Decision (ROD), with final details determined during detailed design efforts post-ROD.*
- *The next meeting will focus on trails and connectivity of park resources to other parks, the surrounding communities, and transportation facilities.*

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Parks Coordination Meeting

Date:	5/26/15	**Time:**	3:30 PM	**Duration:**	1.0 hour
Location:	Blue Line Project Office				
Meeting called by:	Kathryn O'Brien				
Attendees:	See attached sign-in sheet				
Purpose of Meeting:	Parks Coordination on Blue Line LRT Extension – Trails Discussion				

Discussion Topics

Summary information presented in *italics*.

1) Introductions

- *Attendance was limited for this meeting; non-BPO representatives included Tom Marshall of the City of Robbinsdale, and Adam Arvidson and Cliff Swenson of the Minneapolis Park and Recreation Board. Therefore, discussion focused primarily on the Theodore Wirth Regional Park Trail that runs parallel to the BNSF line and passes beneath the Plymouth Avenue Bridge.*

2) Bassett Creek Trail (at GVR Station)

- *This item was tabled, and will be addressed at the next meeting when City of Golden Valley and Three Rivers Park District staff can participate.*

3) TWRP Trail (at Plymouth Avenue Station)

- *The issue of the trail paralleling the BNSF corridor was discussed. The portion of the trail beneath Plymouth Avenue and extending to the south for some distance is on BNSF right of way. The Minneapolis Park and Recreation Board (MPRB) is working with BNSF to establish an official permit for the trail to continue to exist on BNSF property.*
- *The MPRB considers this trail to be an important connection within the Theodore Wirth Regional Park trail system. Therefore the MPRB needs this connection to be maintained after BLRT is constructed.*
- *It was noted that the trail was damaged during the tornado in 2011, and is in need of repair/resurfacing.*
- *Options for reconstructing the trail were discussed. The BLRT project section includes the construction of two LRT tracks in the eastern 50 feet of BNSF right of way, and the reconstruction of the freight rail track, along with a service road, in the western 50 feet of BNSF right of way. Because of the location of Bassett Creek to the west of the trail, there is very little room for the trail after BLRT is constructed. Approximately 8 feet would be left between the new Plymouth Avenue bridge pier and the service road. It is likely that not all of this would be available for trail, as BNSF may want a fence or other buffer between the trail and the service road. Therefore, two options for reconstructing the trail which include shifting Bassett Creek to the west were discussed. One option would involve reconstructing the existing*

concrete creek passage (which is approximately 18 feet wide) under the bridge in a location several feet to the west. Another option would also move the creek to the west, but would provide a wider, more natural creek section.

- *The possibility of building two trail bridges over Bassett Creek that would move the trail out of the BNSF corridor under Plymouth Avenue was discussed. MPRB staff expressed concern about the maintenance of such bridges, and the addition of a circuitous route element to a relatively straight trail.*
- *MPRB staff noted that there are definite benefits to moving the trail entirely out of BNSF right of way.*
- *Trail connections were discussed.*

4) Crystal Lake Regional Trail (at 73rd Avenue Station)

- *This item was tabled, and will be addressed at the next meeting when City of Brooklyn Park and Three Rivers Park District staff can participate.*

5) Next Coordination Meeting

- *The next meeting is tentatively scheduled for 3:30-4:30 PM on June 23rd at BPO. BPO will send out an invite and agenda prior to the meeting.*

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Parks Coordination Meeting

Date:	6/23/15	**Time:**	3:30 PM	**Duration:**	1.0 hour
Location:	Blue Line Project Office				
Meeting called by:	Kathryn O'Brien				
Attendees:	Per meeting invite				
Purpose of Meeting:	Parks Coordination on Blue Line LRT Extension – Trail Impact / Hwy. 55 Trees				

Discussion Topics

1) Introductions

- *Attendance included Tom Marshall of the City of Robbinsdale, Adam Arvidson of the Minneapolis Park and Recreation Board, Ann Rexine of Three Rivers Park District, Rick Birno of the City of Golden Valley. BPO staff included Tom Harrington, Rob Hume, Kathryn O'Brien, Shelley Miller, Scott Reed, and Caroline Miller.*

2) Hwy. 55 Median Trees

- *This item was tabled. BPO staff have been working to make contact with the principal investigator of the U of M tree research study.*

3) TWRP Trail (at Plymouth Avenue Station)

- *The group reviewed the three options for aligning Bassett Creek, the trail, LRT, and freight beneath the Plymouth Avenue Bridge. This exhibit was shown at the last Parks IRT meeting. Adam Arvidson noted that Option 3 appears to have impacts (e.g. a longer bridge) that don't necessarily justify the naturalization of the creek for a short distance. Adam recommended further study of Option 2, which moves the trail out of BNSF right of way. Option 2 also has Plymouth Avenue Bridge approximately within the same footprint as the existing bridge today.*

4) Bassett Creek Regional Trail (GVR Station)

- *Two concepts of the Bassett Creek Regional Trail at Golden Valley Station were shown. Concept A routes the trail on the south side of Golden Valley road, between the vertical circulation from the station and the crosswalk to access the sidewalk, bus connections, passenger drop off, and the surface parking lot (shown on the north side of Golden Valley Road). A conflict point where the trail meets the vertical*

circulation/station exit point was noted. Concept B depicted the trail south of the vertical circulation area at the station, avoiding this conflict. The trail would need to be on fill or structure. Fill would impact a large area or require a retaining wall; the structure option would essentially be a small bridge supporting the trail next to the vertical circulation.

- *Ann Rexine noted that the trail is not currently funded or programmed. However, she would like to discuss the timing of building the trail to minimize the number of times the roadway needs to be under construction.*
- *Ann and Rick Birno commented on the value of Concept B and specifically for residents at Courage Kenny Institute. Adam Arvidson agreed that Concept B is the better option for a recreational user of the park and trail. MPRB is looking for the best solution for recreation, even if that may mean additional use of parkland.*
- *Kathryn O'Brien noted that Concept B will be more expensive than Concept A and that costs above the BLRT project scope will likely need to be part of the trail project.*

5) Crystal Lake Regional Trail

- *The trail extends along the east side CSAH 81 in the project area. It has been constructed south of 73rd Avenue, and will be extended north of 73rd Avenue when that segment of CSAH 81 is reconstructed.*
- *The location where the trail will cross the LRT tracks is not perpendicular; BPO is looking at the appropriate safety measures to protect pedestrians and bicyclists.*
- *Ann brought up the Sochacki Park to Grand Rounds connection trail. This trail is likely out of scope for the BLRT project but its construction could be timed with construction of BLRT.*

6) Next Coordination Meeting

- *The next meeting will be scheduled in July at a 3pm time. The agenda will plan to cover potential Three Rivers Park District property impacts at the OMF site in Brooklyn Park.*

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Parks Coordination Meeting

Date:	8/25/15	**Time:**	3:00 PM	**Duration:**	1.0 hour
Location:	Blue Line Project Office				
Meeting called by:	Kathryn O'Brien				
Attendees:	Per meeting invite				
Purpose of Meeting:	Parks Coordination on Blue Line LRT Extension – Sochacki Park and Related Items				

Discussion Topics

Summary information presented in *italics*.

1) Introductions
   - *Following introductions, Kathryn O'Brien indicated that the purpose of today's meeting is to further discuss Sochacki Park, and the need to consider construction access and construction material laydown areas in the park.*

2) Construction Access Limitations – BNSF Trench
   - *Jim Toulouse summarized the limitations for construction access in the BNSF trench area – especially between 36th Avenue and Golden Valley Road. With the decision being made to build a bridge across Grimes Pond, construction access and staging becomes even more of a critical issue. Access from locations outside the park were considered, but were generally topographically challenging (too steep), or would require the acquisition and demolition of residential homes. Since construction would be a 1-2 year event, the removal of homes was thought to be an unacceptable impact.*

3) Sochacki Park Options
   a) Potential Park Impacts
   b) Regulatory Requirements
      i) Section 4(f)
      ii) Section 6(f)
   - *Scott Reed noted that the joint powers agreement between Three Rivers Park District (TRPD), Robbinsdale, and Golden Valley treats Sochacki Park, Mary Hills Nature Area, and Rick Lake Nature Area as a single "new" Sochacki Park. However, only the original (Robbinsdale) Sochacki Park is subject to Section 6(f) requirements. If there were an actual land transfer that consolidated ownership of the three park units into a singly-owned park entity, then all three units could be considered the same Section 6(f) resource.*
   - *Reed presented the proposed Sochacki Park access scenario using three descriptive categories:*
     - *What would happen in the park?*

- *Construction access to the rail corridor and construction staging/laydown areas would be provided*
- *Met Council would obtain temporary easements for construction; fee title would remain with the City of Robbinsdale*
- *Met Council would work to maintain public access to portions of the park for recreational purposes*
- *A construction management plan would be developed to minimize impacts, maintain public access, and facilitate safety*
- *The park would be restored to pre-construction conditions, with the potential for some enhancements*

o *Section 4(f)*

- *Identified as a temporary occupancy in the Draft EIS/Draft Section 4(f) Evaluation*
- *To stay as a temporary occupancy, would need to avoid interference with the protected activities, features, or attributes of the property*
- *Could consider a full use determination to maintain flexibility during construction*
- *Document appropriately in Final EIS/Final Section 4(f) Evaluation*
- *Need Department of Interior approval*

o *Section 6(f)*

- *A portion of Sochacki Park was acquired using Land and Water Conservation Act funds (LWCF) in 1980*
- *MnDNR Park Grant funding obtained for park improvements in 1984*
- *Temporary non-conforming use under Section 6(f) would need to be 6 months or less*
- *Construction requirements necessitate presence in park for more than 6 months*
- *Would need to do a full conversion of the park*
- *Propose returning the park in a restored state as the mitigation for the Section 6(f) conversion*
- *Would document in a combined Section 4(f)/6(f) Evaluation*
- *Need MnDNR and National Park Service approval; would need to be coordinated with Section 4(f) approvals*

- *Rick Birno noted that Glenview Terrace Park and Mary Hills Nature Area are also grant-funded parks.*
- *Jonathan Vlaming (Three Rivers Park district) noted that a new trail has been planned in Sochacki Park that would pave over the existing gravel trail*
- *Ann noted that many of the potential lay down areas for construction staging on the handout are also prairie restoration areas.*

4) Water Resource Issues – Sochacki Park area
   - *The team reviewed the floodplain and wetland impacts that were identified early in the BLRT project development. The selection of a bridge option by BPO staff eliminates floodplain and wetland impacts, and provides an opportunity to improve flood storage and add wetland acreage through the removal of the existing rail embankment.*

5) Action Items
   - *Birno indicated that it would be good for BPO to do some additional analysis regarding specific access needs and then make a formal recommendation regarding Sochacki Park. Ann Rexine agreed.*

- *Birno, Rexine, and Tom Marshall all noted the importance of considering impacts to citizens; Marshall commented that there is quite a bit of sensitivity by the public regarding Sochacki Park.*
- *Rexine, Birno, and Marshall stated that from their perspective, they were not saying no to the access proposal, but that more discussion and review from the Joint Powers Board, the TRPD Board, and the city councils would be needed.*
- *O'Brien indicated that BPO will proceed on a parallel path – working with the local agencies to further discuss and refine the park access proposal; and working with the MnDNR and National Park Service on the regulatory approval process.*

6) Next Coordination Meeting
   - *To be determined.*

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Parks Coordination Meeting

Date:	11/05/15	**Time:**	1:00 PM	**Duration:**	1.0 hour
Location:	Blue Line Project Office				
Meeting called by:	Kathryn O'Brien				
Attendees:	Ann Rexine (Three Rivers), Jonathan Vlaming (Three Rivers), Adam Arvidson (MPRB), Tom Marshall (Robbinsdale), Rick Birno (Golden Valley), Eric Eckman (Golden Valley), Emily Goellner (Golden Valley), Nadine Chalmers (Hennepin County), Scott Reed (BPO), Shelley Miller (BPO), Lisa Rasmussen (BPO), David Davies (BPO), Caroline Miller (BPO), Michael Jischke (BPO), Alicia Vap (BPO)				
Purpose of Meeting:	Parks Coordination on Blue Line LRT Extension – Trail connections, Golden Valley Road Station area				

Discussion Topics

1) Introductions

2) Trail connections around Golden Valley Road Station area
   - Kathryn O'Brien provided background information on the trail connection idea from Theodore Wirth Park into Sochacki Park. Lisa Rasmussen pulled up Adam Arvidson's graphic showing the concept of a trail running adjacent to the freight tracks. The objective of the meeting is to explore potential options for this trail connection and where it would go.
   - Lisa posed the question what type of trail is envisioned for this segment and who would be using the trail? Bicyclists? Jonathan Vlaming responded that he sees it as a segment for commuting use and for bicyclists to access the Golden Valley Road Station. Jonathan explained that the to connect the trail to Sochacki Park, a boardwalk could potentially be used over the ponds instead of wrapping around the steep hillside north of the Golden Valley Rd bridge. He also expressed that a mid-block crossing of the Bassett Creek Trail across Golden Valley Rd/Bonnie Lane to connect to Sochacki Park is undesirable from Three River's perspective. Three Rivers desires to create trails for all users, not just experienced bicyclists.
   - Alicia Vap noted that the process for determining the trail connection needs to be completed by Q1.
   - Lisa Rasmussen asked the group whether the trail should be a straight line, or more sinuous, both of which would create different user experiences. Lisa also asked about the placement of the trail and whether it should be higher up on the slope in the trees, or down below closer to the freight tracks. Adam responded that it would be good to have a more sinuous trail if there is room, but an exploration of the cost/benefit is needed. He also expressed that the trail should stay closer to the freight tracks to minimize the impact to trees and vegetation. Adam supports exploring the concept of the boardwalk as

well as the wall concept wrapping around the hillside and determining what are the costs and benefits of each.

- The group discussed the potential safety issue of the sharp curve north of the Golden Valley Rd bridge. BPO staff need to look into the requirements for a trail of this type.
- The group discussed that the standard for this trail would be a 10 ft combined bike/ped trail with striping down the middle. This is consistent with Three Rivers concept plan for the BCRT. Eric Eckman brought up the portion of the BCRT near Courage Center for discussion. He encouraged BPO staff to consider additional trail width for a separate ped trail per the BCRT feasibility study. This would allow users of Courage Center to more easily access the Golden Valley Rd station.

3) Action Items
   - Jonathan Vlaming's engineering staff will look at feasibility of doing a boardwalk after the bridge portal, as it enters Sochacki Park. He cited a recent project done in Nine Mile Creek (in Edina) where they eliminated wetland impacts through the use of piers for the boardwalk trail.
   - BPO staff will explore feasibility of the steep slope concept and the boardwalk concept (including consideration of floodplain and wetland impacts).

4) Next Coordination Meeting
   - No date was determined for the next Parks IRT as BPO staff need some time to advance concepts. BPO staff will schedule another meeting after the concepts are further fleshed out and Three Rivers staff have looked at preliminary feasibility.

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Parks Coordination Meeting

Date:	11/13/15	**Time:**	11:30 AM	**Duration:**	1.0 hour
Location:	Blue Line Project Office				
Meeting called by:	Kathryn O'Brien				
Attendees:	Ann Rexine (Three Rivers), Jonathan Vlaming (Three Rivers), Tom Marshall (Robbinsdale), Rick Birno (Golden Valley), Rob Hume (BPO), David Davies (BPO), Caroline Miller (BPO), Scott Reed (BPO)				
Purpose of Meeting:	Parks Coordination on Blue Line LRT Extension – Sochacki Park				

Discussion Topics

1) Introductions

2) Discuss Nov 3 letter from Sochacki Park Joint Powers Partnership Partners
   - Kathryn asked for clarification regarding the decision making authority of the Joint Powers Partnership since City of Robbinsdale is the landowner. Jonathan stated that the Joint Powers Partnership respects the City of Robbinsdale's ownership of the property and as the decision-making body in construction issues in Sochacki Park, but would like their board to provide input and potentially take action.
   - The group discussed each numbered item from the November 3rd letter
   - Item 1: 4(f) documentation. Kathryn noted that as part of the project's 4(f) documentation, alternatives will be explored and documented. Jonathan stressed the importance of demonstrating to the public that we have looked at alternatives, and access through the park is the only viable option.
   - Item 2: Public Involvement on use of Sochacki Park during construction. The group discussed that this is a broader discussion that needs to include more staff from City of Robbinsdale as to nature of meetings and timing.
   - Item 3: Sochacki Park Concept Plan/Joint Powers Agreement purpose statement. Kathryn noted that project staff acknowledge the purpose statement.
   - Items 4 and 5: Construction staging areas and use of park by public during construction. Rob explained the need of the project to access both ends of the bridge through Grimes Pond for construction. Access to both ends allows the project to be more efficient in constructing the bridge.
     - *Tree Removal:* Rob clarified that in the BPO proposed scenario for construction staging, they made all attempts to avoid tree clearing and chose areas that appeared grassy/open. Tree quality was not considered. Tom and Rick clarified that the tree quality throughout the park is poor and some level of tree clearing for construction staging/access would be acceptable as a means of improving the quality of the park long term through replanting/restoration. Rick noted that no tree clearing should occur west of the current entrance road and trail, to maintain the

buffer between nearby homes and the park. Joint Powers staff agreed that a staging area to the north (as they indicated in their Nov 3 letter) would be ideal, even though it requires tree removal, as it minimizes travel throughout the park and could result in long term improved park quality.

- *Access through park + 1 staging area in north + interim trail:* After BPO established the need to access the park from both sides via a construction access road, the group discussed the option of an access road and a staging area at the north end (location as indicated in the Nov 3 letter). BPO staff agreed that a staging area to the north would be valuable and reduce construction traffic through the park. The interim trail would allow continued public use of park during periods of active construction.
- *Access through park + 2 staging areas + interim trail*: After discussion of multiple other options, the group agreed on this option as likely the best option for both parties to move forward with further coordination and input from the public. This option would allow north and south access via the construction access road, plus construction staging at both ends of the bridge. This would be the most beneficial option for construction efficiency. It would also facilitate environmental remediation and vegetative restoration of the laydown areas. This option also includes the interim trail that would keep the park open to users throughout construction.
- *Interim Trail:* Jonathan clarified the description of the interim trail from the Nov 3 letter. He explained that the construction access road and the interim trail would share the same corridor, separated by a construction fence. Rob noted that the construction access road would need at least 12 ft of useable width for a single lane and pullout spots at several locations for opposing trucks to pass. The group agreed that it could be feasible for a construction access road and an interim trail to share the same corridor. The group agreed that an 8 ft (nominal width) interim trail would be sufficient.

- Item 6: Environmental remediation. The group discussed that the BPO would be expected to conduct environmental remediation of demolition debris in areas that may be disturbed by the project. This would include the construction access road and staging areas. It was noted that the BLRT project could not be responsible for remediation of the entire site, but would address demolition debris at and near the ground surface in areas of disturbance. The group discussed the potential benefit to the park of two staging areas being used, in that as the project would be able to complete remediation on those areas.
- Item 7: Environmental mitigation. The project will comply with federal and state regulatory guidelines for mitigation of stormwater and floodplain and wetland impacts. The group did not discuss revegetation of the entire eastern boundary of Sochacki Park for a visual buffer. This is a topic the group will need to discuss at a future meeting. Scott explained that vegetation may be considered a buffer but that it does not mitigate noise. Additionally, Sochacki Park is considered an active use park and under FTA guidance it is not considered a noise sensitive land use.
- Item 8: Future enhancements to the park. Item a, regarding trail connections has been added to the project scope and cost estimate as of November 12. Jonathan stated that he and the Joint Powers staff need to explore the staging area restoration items under b and c. The project agrees that a paved road to the parking lot through the park will be completed as part of the construction access needs, and therefore would be a part of the park in the future. BPO staff indicated that items under d are not feasible under the current project scope and cost estimate because:
  - The current project plan is to maintain the existing BNSF Railway berm as the location of the BNSF track and as such removal of a portion of it is not feasible.

- Constructing a trail connection under both the existing BNSF and the proposed BLRT tracks would put the proposed trail at an elevation (after structure depth and vertical clearances) under the elevation of the water surface.

3) Action Items
   - Caroline explained that the Sochacki Park issues need to be discussed more widely with City of Robbinsdale staff
   - Joint Powers staff will work on providing additional detail to BPO staff about park enhancements as mitigation
   - BPO staff will update the construction staging graphic to reflect today's discussion
   - Visual buffer not discussed at this meeting. Need to discuss at next meeting.
   - Need to determine timing and scope of public outreach for this topic

4) Next Coordination Meeting
   - This topic will be discussed at an upcoming Robbinsdale IRT meeting
   - The group will reconvene to continue discussions on the action items above

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Parks Coordination Meeting

Date:	12/09/15	**Time:**	2:30 PM	**Duration:**	1.5 hours
Location:	Blue Line Project Office, Conference Room 2				
Meeting called by:	Kathryn O'Brien				
Attendees:	Jonathan Vlaming (Three Rivers), Adam Arvidson (MPRB), Tom Marshall (Robbinsdale), Rick Birno (Golden Valley), Eric Eckman (Golden Valley), Emily Goellner (Golden Valley), Nadine Chalmers (Hennepin County), Scott Reed (BPO), Shelley Miller (BPO), Lisa Rasmussen (BPO), David Davies (BPO), Caroline Miller (BPO), Tom Harrington (BPO), Alicia Vap (BPO),				
Purpose of Meeting:	Parks Coordination on Blue Line LRT Extension – Trail connections, Golden Valley Road Station area				

Discussion Topics

1) Introductions

2) Trail Connection from Golden Valley Rd Station to Sochacki Park
   - Tom Harrington grounded the group describing the design challenges in choosing an alignment for the trail connecting Theodore Wirth Park with Sochacki Park. The main challenge is designing around the steep slope north of the Golden Valley Road bridge and maintaining a <5% grade.
   - Tom introduced two concepts that the BPO team has been working on since the last Parks IRT meeting. The first concept is a boardwalk style trail with wood piles that would run adjacent to the hillside slope and connect with Bonnie Lane. He referenced (and provided photographs of) an existing segment of the Luce Line in Golden Valley as an example of this type of construction. The second concept is an asphalt trail with retaining walls on the same alignment as the boardwalk concept. The retaining walls would be on the downslope side of the trail in in this concept.
   - The boardwalk concept would allow for vegetation beneath the piers, making the structure less visible. The retaining wall concept would have 10+ ft high walls in some portions, which would be much more visible than the boardwalk concept. Both concepts are ADA compliant.
   - Tom also acknowledged the concept that Three Rivers staff developed concurrently since the last Parks IRT. The Three Rivers concept also includes retaining walls, but they are located upslope in this concept. This concept has the trail alignment closer to the water than the BPO concepts. Jonathan Vlaming noted that this alignment follows an existing maintenance path.
   - Jonathan raised concerns about the user experience of the BPO concept trails. Since the trail would go adjacent to Bonnie Lane, many users may end up taking a shortcut across Golden Valley Road instead of using the trail. Keeping the trail away from the adjacent road would encourage users to stay on the trail and also have a better user experience by being further into the park.

- Adam Arvidson asked if there would be any gain in user experience in keeping the trail lower through the portal beneath Golden Valley Road bridge?
- Jonathan noted that a bridge over the water was initially dismissed in favor of an option on the slope that appeared to be less expensive. However, the retaining walls could prove to be expensive, so we should consider exploring the boardwalk across the water concept.
- The group discussed pavement versus wooden boardwalk options. The group agreed that pavement appears safer for this trail due to the curve north of the portal.

3) Trail connection to Plymouth Ave Station
    - Tom presented two concepts in response to MPRB's request for exploration of trail connection between the Theo Wirth Trail adjacent to Bassett Creek and the Plymouth Avenue Station. The trail connection would be intended for users on the trail coming from the south and exiting the trail to access the vertical circulation building on Plymouth Avenue.
    - One concept had retaining walls and the other concept had wooden piers with a boardwalk. It was noted that the retaining walls would be prominent/tall due to the steep slope. Both concepts are ADA compliant.
    - Adam noted that he needs to take some time to study the concept to provide more feedback.

4) Hwy 55/BNSF area
    - Tom showed a graphic providing clarity on the construction limits on the trail adjacent to Bassett Creek, between Plymouth Ave and TH 55. The trail construction limits to the south would end at the edge of the CP boundary. Adam acknowledged that this was his understanding.

5) Action Items
    - BPO staff will explore refining the current concepts to see if the portal can be lowered and retaining walls can be minimized
    - BPO staff will also explore an option for at trail over the wetland area.
    - BPO staff will work on costs for the different options to compare
    - Adam will provide feedback on the Plymouth Ave trail connection option presented.

6) Next Coordination Meeting

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Parks Coordination Meeting

Date:	1/15/16	**Time:**	10:00 AM	**Duration:**	1.5 hours
Location:	Blue Line Project Office, Conference Room 2				
Meeting called by:	Kathryn O'Brien				
Attendees:	Jonathan Vlaming (Three Rivers), Tom Marshall (Robbinsdale), Rick Birno (Golden Valley), Caroline Miller (BPO), Marcia Glick (Robbinsdale)				
Purpose of Meeting:	Parks Coordination on Blue Line LRT Extension – Sochacki Park Resolution				

Discussion Topics

1) Introductions
2) Sochacki Park Resolution
   - Following the 12/28 Joint Powers Agreement board meeting, the JPA staff revised the Sochacki Park Resolution (JPA board is comprised of Three Rivers Park District, City of Golden Valley and City of Robbinsdale elected officials).
   - Prior to the meeting the JPA staff sent BPO the revised draft of the Sochacki Park Resolution
   - The meeting was spent going through each item on the revised draft of the resolution
   - The discussion of the policies/principles of the proposed JPA board resolution focused around editorial changes and restructuring a few of the policies to make a more concise action.
   - The only substantive change in the policy/principles section was to remove language about noise barriers in the park since noise impacts are addressed through the NEPA process in coordination with local jurisdictions. Language about providing vegetative buffers as a visual screen was left in the resolution under the revegetation plan.
   - The group spent the majority of the meeting discussing the actions for mitigation in the resolution
   - The group agreed upon language about following MPCA permitting requirements for addressing soil contamination in the restoration zone
   - BPO asked for clarification on the scope and location of the N. Rice Lake water edge restoration work. JPA staff responded that location is adjacent to southern staging area, but outside of it. Harden the edge to the water to allow for park users to access. Requires some tree removal and revegetation. Maybe some large boulders would be added.
   - BPO asked for clarification regarding providing utilities to a future site adjacent to the interior parking lot. Group agreed to leave in language about providing all practicable utility services with details to be worked out after the resolution is passed. There are challenges with bringing in sewer service. Water service is easier.

- BPO asked for clarification regarding ground prep for a future education shelter for 50 students. JPA staff responded that the site would be approximately 30 x 30 ft within the proposed staging area and would be used for day camps.
- BPO asked for clarification regarding width of restored road into park. JPA staff responded that this would need to be wide enough to accommodate a bus passing a car.
- The group discussed the paved trail restoration throughout the park and JPA staff clarified that the resolution states that BPO would reconstruct the entire trail through Sochacki and the Mary Hills portion of the park. BPO noted that they did not previously understand reconstruction of the Mary Hills 8-ft trail portion from the Robbinsdale/Golden Valley border to Bonnie Lane to be a part of the resolution. BPO agreed to include it in the scope of the resolution.
- The group discussed the drawbacks to considering a trail spur from the north/south trail to Culver Rd. It may lead to increased parking and traffic on Culver Road and outreach to residents there should be considered prior to including in the resolution. Rick Birno noted that he will provide this information to the Golden Valley Open Space committee during a meeting on 1/25. He will follow up with the group on this item after meeting with the Open Space Committee.
- The group agreed to generalize language about BPO's commitment to revegetation of disturbed areas and incorporate into the policies/principles on page 1, number 5.
- BPO asked for clarification on scope of water education platform construction on North Rice Lake. JPA staff responded that it will be approximately 20 x 10 ft and floating on water. The exact location is TBD.

3) Next Coordination Meeting
   - After discussing all of the items in the resolution and reaching agreement, BPO staff agreed to send their proposed edits reflecting this discussion to the JPA staff for review and finalization. The resolution will be on the 2/8 agenda for the JPA Board meeting.

Meeting Summary

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Meeting Title: Parks Coordination Meeting

Date:	1/27/16	**Time:**	2:30 PM	**Duration:**	1.5 hours
Location:	Blue Line Project Office, Conference Room 2				
Meeting called by:	Kathryn O'Brien				
Attendees:	Ann Rexine (Three Rivers), Jonathan Vlaming (Three Rivers), Adam Arvidson (MPRB), Tom Marshall (Robbinsdale), Rick Birno (Golden Valley), Eric Eckman (Golden Valley), Emily Goellner (Golden Valley), Nadine Chalmers (Hennepin County), Scott Reed (BPO), Shelley Miller (BPO), Lisa Rasmussen (BPO), Rob Hume (BPO), Sophia Ginis (BPO), David Davies (BPO), Caroline Miller (BPO)				
Purpose of Meeting:	Parks Coordination on Blue Line LRT Extension				

Discussion Topics

1) Introductions

2) Trail Connection from Golden Valley Rd Station to Sochacki Park
   - Tom Harrington described the proposed trail connection from Theodore Wirth Park to Sochacki Park. He mentioned that this has been introduced in a previous Golden Valley DRT. Caroline Miller noted that this was shared with the Sochacki Parks JPA staff briefly at a meeting as well.
   - The revised trail design minimizes retaining walls and incorporates input from Three Rivers' initial design concept that was shared with BPO staff. The concept also keeps the trail close to the water without going into a delineated wetland.
   - Eric Eckman noted that the Bassett Creek watershed typically requires a vegetative buffer between the edge of the wetland and new construction. It's something to keep in mind since the trail is very close to the delineated wetland. Golden Valley is supportive of this concept, just make sure to balance the impacts (wetland, floodplain).
   - Ann Rexine stated that Three Rivers is in favor of this concept

3) Trail connection to Plymouth Ave Station
   - Tom Harrington began this discussion by recapping previous trail connection concepts that have been discussed in previous DRT's and Parks DRT's. A trail with retaining walls on both sides as well as a trail with grading out on both sides were shown to the Parks IRT group in the last meeting. While the concepts serve the objective of a trail connection to the station, they are creating more impacts in terms of visual and floodplains.
   - Tom introduced the newest concept which is a staircase on the north side of Plymouth Avenue and west side of Bassett Creek, with a small bridge across the creek, connecting to the TWRP trail. This

concept is less visually impactful as the stairs are gradual and tucked in close to the Plymouth Avenue Bridge.

- Eric Eckman asked about floodplain impacts with this concept in terms of height constriction by the proposed trail bridge over the creek. BPO staff responded that Bassett Creek is currently in a channel beneath Plymouth Avenue and will be in a channel after it is relocated as part of the project. The stairs concept minimizes floodplain impacts compared to the previous concepts, but we haven't calculated specifics yet. BPO wanted to get feedback and agreement on the general concept before proceeding with more analysis and refinement.
- Adam Arvidson was supportive of this concept and noted that a few commissioners were also supportive. He appreciated how it has less of a visual impact from the Chalet and appears to be tucked into the bridge.
- Kathryn explained that while BPO proposes to build this staircase, the Met Council would not own or maintain the project element. This particular area has complicated landownership with a mix of MPRB, Golden Valley and Minneapolis. Further discussions are needed with these stakeholders to determine who will own and maintain it.

4) Xylon Avenue (Brooklyn Park)
   - Tom explained the trail concept for a trail to extend on the west side of Xylon Avenue adjacent to the OMF. The trail is proposed in the existing ROW, with temporary occupancy of Three Rivers Park District property for tying in grades along the ¼ mile segment.
   - Ann explained that Three Rivers would like to see visual impacts from the OMF mitigated through lighting and vegetative buffers. Kathryn responded that the OMF will be designed in accordance with Brooklyn Park city ordinances and that BPO will continue to coordinate with Three Rivers and Brooklyn Park on the design.
   - Todd introduced the idea of a meandering trail through the park property instead of adjacent to Xylon. Kathryn responded that if Three Rivers and Brooklyn Park would like to go that route it would not be included as part of the LRT project.

5) Action Items

6) Next Coordination Meeting

   - The group discussed Sochacki Park for a few minutes at the end of the meeting. Eric Eckman provided an update on Rick Birno's presentation to the Golden Valley Open Space committee. He noted that visual quality for park users adjacent to the LRT continues to be of importance to Golden Valley and they would like a vegetative buffer on the eastern edge of the park.
   - Tom Marshall provided an update on the Robbinsdale open space committee.

Appendix J
Section 4(f)/6(f) Supporting Materials

J.3 Other Supporting Materials

1. *Deep Bore Tunnel Analysis Technical Memorandum*
2. *Deep Tunnel Map Book*
3. *Alignment Shift Map Book*

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Deep Bore Tunnel Analysis Technical Memorandum

METRO Blue Line LRT Extension (BLRT)
5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Deep Bore Tunnel Analysis

To: Paul Danielson

From: Betty White

Rob Hume

Date: 04-19-2016

Subject: Deep Bore Tunnel Under BNSF's Monticello Subdivision

Introduction

As an alternative to constructing an at-grade light-rail transit (LRT) system within the BNSF Railway's Monticello Subdivision, a deep tunnel concept was explored that would construct the LRT utilizing two parallel round tunnels. Due to the length of this segment, approximately eight miles, it is assumed that the tunnels would be bored using a tunnel boring machine (TBM). This Technical Memorandum provides an overview of a deep tunnel concept and the associated order of magnitude costs.

In addition, a relative unit cost comparison was prepared for a shallow cut and cover LRT tunnel versus BLRT construction at grade for the Alignment Shift Avoidance Option.

Concept Design

The deep tunnel concept is defined as a subterranean light rail system (mainline and stations) that follows the BNSF Railway alignment underground from its crossing of Olson Memorial Highway (TH 55), located in Minneapolis, in the south to the proximity of 73rd Avenue, located in Brooklyn Park, in the north.

The intent of the deep tunnel concept is to plan and design the tunnel system to avoid permanent surface features that change (impact) the existing BNSF Railway corridor. To achieve this, the tunnel will need to enter and exit the BNSF Railway right-of-way (ROW) underground. In addition, all stations and tunnel support systems (ventilation) will need to be located outside the BNSF Railway ROW with subterranean access to and from the LRT system as required.

The deep tunnel concept would include the following core elements:

i. Tunnel Boring
The LRT's inbound and outbound tracks would be accommodated within two parallel precast concrete tunnels with an estimated inside diameter of 20 feet. The tunnels would be constructed utilizing a TBM. Existing soils in the southern half of the tunnel's alignment include peat and soft organic clays to an average depth of approximately 50 feet, with depths as great as 95 feet in some areas. In these areas, it is anticipated that the tunnel would be bored below these deposits at an estimated depth of 120 – 130 feet below the existing surface. Within the northern portion of the tunnel the soils are shallower resulting in an approximate tunnel depth of 70 – 80 feet below the existing surface elevation. It is assumed that a single TBM would bore the first tunnel in one direction and then be reconfigured to bore the second tunnel in the opposite direction.

ii. Bore Pits
To assemble and align the TBM, as well as to service tunneling operations (remove spoil and deliver tunnel panels), tunnel bore pits would be built to the north and south of the useable tunnel segments. A portion of sacrificial tunnel would be built to get the TBM between the bore pit and the useable tunnel. These large, open, temporary pits (approximately 500 feet long by 60 feet wide by 130 feet deep at the southern end and 80 feet deep at the northern end) would be constructed from the surface at a location that can be sustained for the duration of planned tunneling operations (and then removed). The location of the pits will by necessity (the TBM has a very large diameter-turning radius and so cannot deviate much from the planned alignment) be near the BNSF Railway and may require a temporary relocation and/or additional structural support of the existing freight tracks. In addition, the bore pits will require heavy-duty access to a large public roadway for delivery of the TBM segments and other tunneling materials. The tunnels will require a significant temporary power supply to operate the TBM, tunnel ventilation and other associated processes.

iii. Portals
The LRT tunnels will join the surface via a portal at either end of the operating tunnel segments. The portal accommodates the ramping of the track from the surface grade to a depth of adequate cover to accommodate the tunnel – this length is approximately 400 feet. The location of the portals are generally defined by the point at which the tunnel's profile grade intercepts existing ground. Within the portal the light rail grade would be increased to the design criteria maximum of 6%. On the south end of the tunnels the portal would be located starting at Newton Avenue and on the north at Jolly Lane.

iv. Approach Tunnels
To interconnect the portals and the bored tunnels requires curving approach tunnels that accommodate the planned LRT alignment from TH55 into the BNSF Railway ROW and from the BNSF Railway ROW into the West Broadway alignment. The curvature of these approach tunnels is tighter than achievable with a TBM and thus would be constructed using a cut and cover method. The southern approach tunnel would be approximately 2,500 feet in length and would be located within poor soils including peat and soft organic clays to an average depth of approximately 100 feet, likely requiring cofferdam type construction. The northern approach tunnel would be approximately 1,500 feet in length.

v. Stations
To accommodate the planned LRT stations, the two parallel tunnels need to be united with an underground station cavity. In order to avoid extensive impacts to the operating BNSF Railway, the station cavity would likely need to be excavated using tunneling technics. This would require at least one large shaft to the surface for the duration of construction activities, constructing heavy-duty access to the shaft for the delivery of station materials and a temporary electrical service. In addition to the station, lateral shafts would need to be tunneled from the LRT tunnels to the location of the passenger vertical circulation facility. To avoid permanent impacts to the BNSF Railway, the vertical circulation facility would be on purchased property outside the BNSF Railway ROW.

vi. Other items
In addition to the tunnels and passenger accommodations, the tunnel requires emergency egress facilities, mechanical systems for the removal of carry in and nuisance water, a system to accommodate piston effect air movement, and ventilation (operational and emergency). The tunnel will also include electrical and communications system elements.

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Order of Magnitude Cost Estimate

Deep Tunnel

An order of magnitude cost estimate has been created for this design concept. The mainline tunnel cost was developed using the Southwest Light Rail Transit (SWLRT) design concept of utilizing deep bore tunnels under the Kenilworth Channel.

The cost estimate includes boring for dual parallel tunnels 20 feet in diameter each and located 25 feet on center for a length of 40,700 feet. A difficulty factor of 3 was used to account for construction in the soft soils (non-rock) present under the BNSF corridor. Entrance and exit portals, two TBM pits, and cut and cover approach tunnels are also included in the costs.

The Plymouth and Golden Valley stations will be deep underground stations because of the deeper tunnel depth in this area. The Penn Avenue, Robbinsdale, Bass Lake Road and 63rd Avenue stations would be shallower.

Temporary railroad support is included to represent the costs to support the existing BNSF Railway track located adjacent to the TBM pits at either end of the tunnel construction. A cost is also included to provide temporary electrical service to each of the TBM pits.

ROW will be required for the TBM pit locations (temporary occupancy), the station vertical circulation locations, and the ventilation system buildings.

The order of magnitude project cost for this tunnel system would be expected to be in the range of $5 billion to $7 billion. This cost is for the defined tunnel system and not the adjacent project elements connecting to the BLRT tunnel.

Shallow Tunnel Cost Comparison

A relative order of magnitude unit cost comparison was developed for the Alignment Shift Avoidance Option to contrast:

- a shallow cut-and-cover LRT tunnel to the east of the BNSF Railway utilizing the alignment of the Xerxes Avenue North, versus
- the costs developed for the BLRT construction at grade (Municipal Consent level of design)

The shallow tunnel unit cost was derived from work done for the SWLRT tunnel (west) cost estimating with the addition of costs for residential property acquisitions (total take and owner relocation) along Xerxes Avenue North. The cost of the shallow tunnel LRT is approximately $250 million per mile. This is the unit cost to construct a subsurface guideway and does not include stations.

For comparison purposes, the unit cost to construct the BLRT in the vicinity of the Alignment Shift Avoidance Option is approximately $125 million per mile. This is the unit cost to construct the guideway (which requires relocation of the BNSF Railway) and does not include stations.

Other Considerations Related to TBM

i. Availability of the TBM at the time they are required to be on site as well as means of delivery for the several hundred ton TBM will need to be determined. Definition of dismantled TBM and maximum loads for transport need to be investigated. The route will require further investigation including capacity of local roads and bridges. Haul routes need to be defined and reviewed. Width and turning radius to access the tunnel site will need to be determined along with overhead clearance requirements during the delivery of tunneling machine and equipment.

ii. The construction footprint for this tunneling operation will be very large and will control all of the activities in the construction zone. Our research estimates 1 -2 acres for each tunnel drive entrance. The area will require room for the TBM pit as well as the following:
   1. Construction Trailers
   2. Crew Parking/ Off Site Shuttle
   3. Loader/Trucks/Rail Cars – Tunnel Excavation Spoil Removal
   4. Excavation Conveyor Belt System
   5. Tunnel Precast Segmental Panels
   6. Generators
   7. Light Plants
   8. Utilities
      a. Ventilation
      b. Water Supply
      c. Wastewater Removal
      d. Power Supply
   9. Crane(s)

iii. Excavated material may be required to be hauled at all hours of the day and night to maintain continuous tunneling operations.

iv. Available power required to perform tunnel boring operations will need to be investigated.

v. Tunneling operations generally require (2) ten hour shifts per day. Time restrictions will need to be investigated based on the possible need for continuous tunneling operations.

vi. TBMs are expensive and most contractors want to have a very efficient operation to get the TBM in and off the site as soon as possible.

vii. Our research shows that TBM stoppages and/or breakdowns are common and can have a major impact on schedule if the machine needs major repair or replacement. Availability of parts and access to the TBM creates problems.

viii. The level of vibration and settlement will need to be researched and determined prior to starting construction operations. Vibration and settlement limits will need to be established. Monitoring systems may be required to record operations. This will require a specialty contractor that would likely need to be hired by the general contractor in most cases. Ground surface and local building monitoring would also be required.

ix. The possibility of interested tunneling contractors is a real concern. The project may be reduced to one interested contractor. Special insurance riders, additional risk, and higher liability will be the result to the general contractors, as they will not be performing this scope of work.

x. The TBM operation will or can certainly be critical path on this very large project with possible impact to both civil contracts and the systems contract. High liquidated damages will be required in the contract to motivate the contractor to maintain schedule milestones, substantial completion, and completion. This may be an important factor and concern of the contractor during bidding.

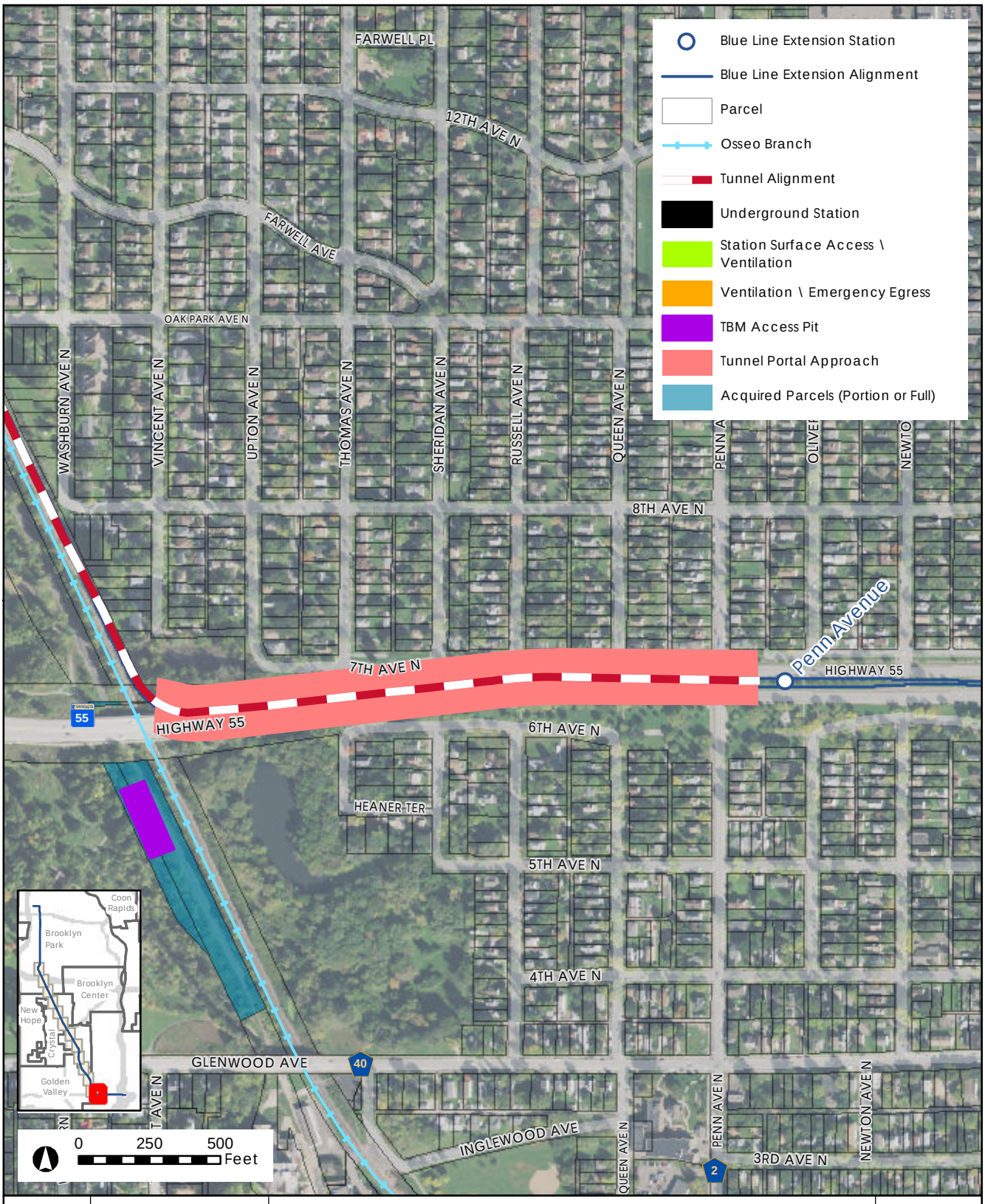
xi. The level of geotechnical investigation required to plan the borings greatly exceeds the currently available subsurface data and the potential contractors may request additional information be provided by the owner. This could delay the bidding process.

xii. Because of the high cost to operate the TBM, construction claims related to cost and schedule could be higher.

xiii. The cost contingency on the project would likely need to be increased due to the anticipated influence of TBM operations.

xiv. Minnesota winter conditions could complicate the belt or slurry paste excavation removal.

Deep Tunnel Map Book



METROPOLITAN COUNCIL

Projection: Hennepin County NAD83 FT
Source: Hennepin County, Metro Transit,

Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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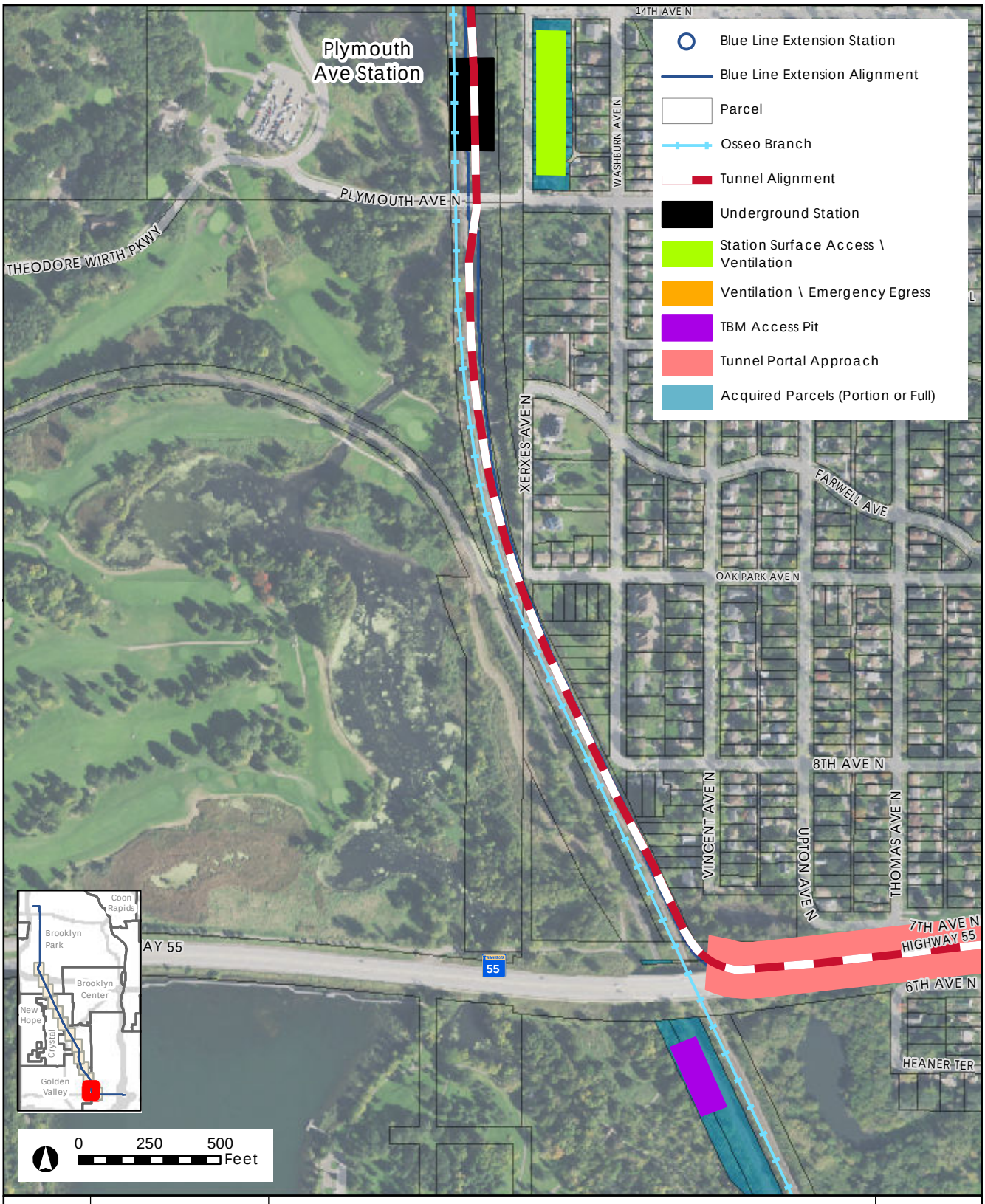
METRO Blue Line Extension

4/20/2016



Projection: Hennepin County NAD83 FT
Source: Hennepin County, Metro Transit,

Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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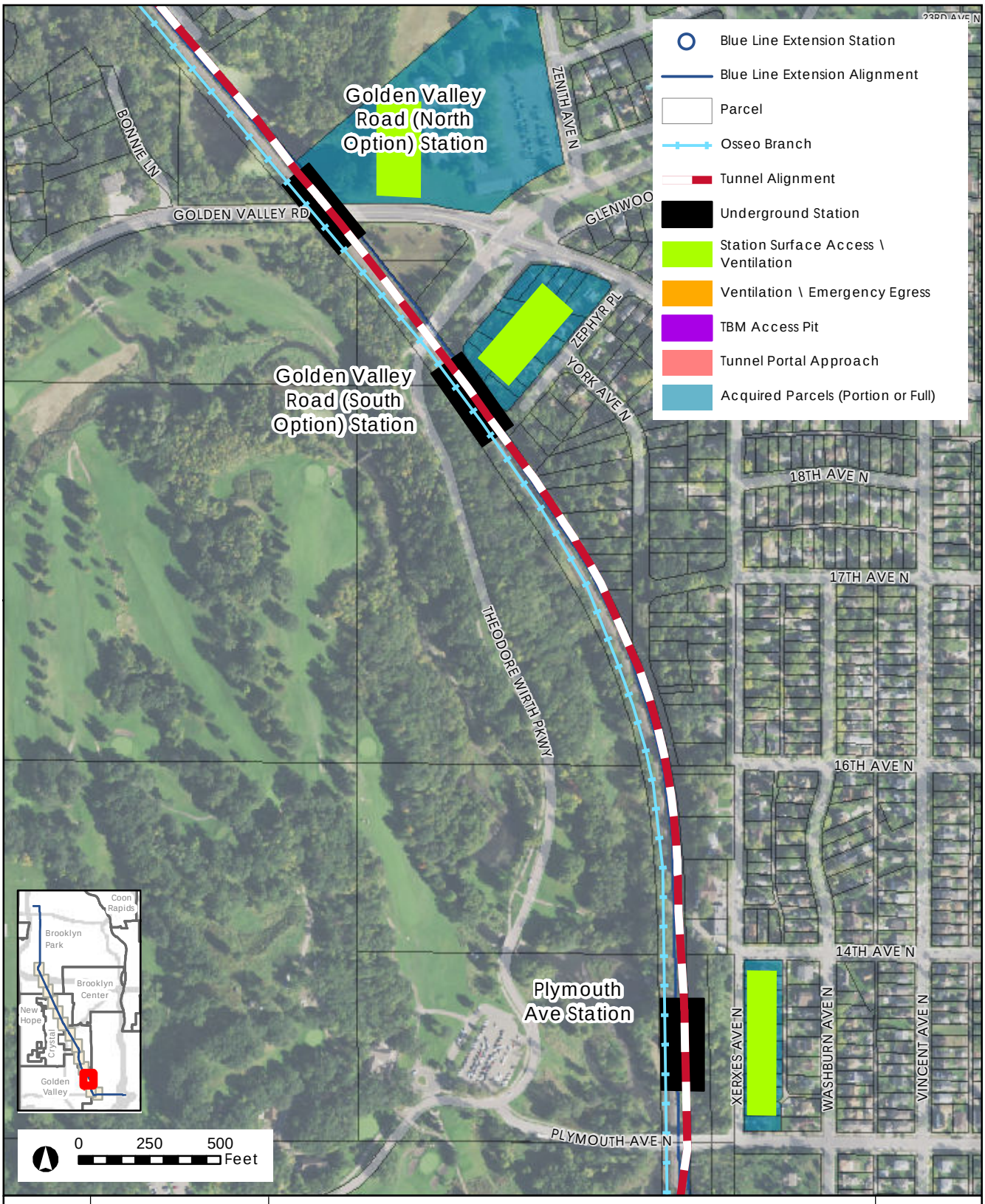
METRO Blue Line Extension

4/20/2016



Projection: Hennepin County NAD83 FT
Source: Hennepin County, Metro Transit,

Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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METRO Blue Line Extension

4/20/2016



Projection: Hennepin County NAD83 FT
Source: Hennepin County, Metro Transit,

Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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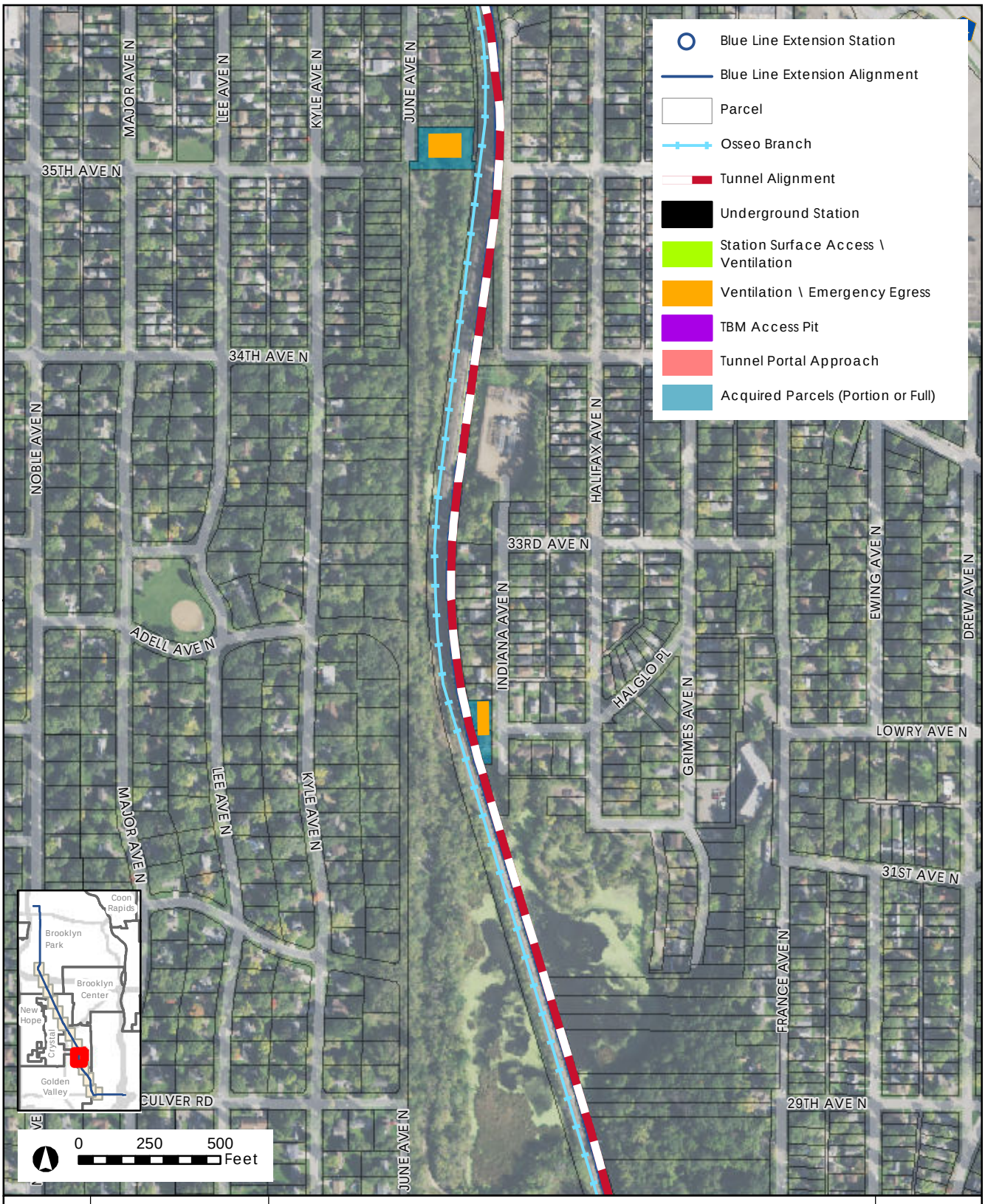
METRO Blue Line Extension

4/20/2016



Projection: Hennepin County NAD83 FT
Source: Hennepin County, Metro Transit,

Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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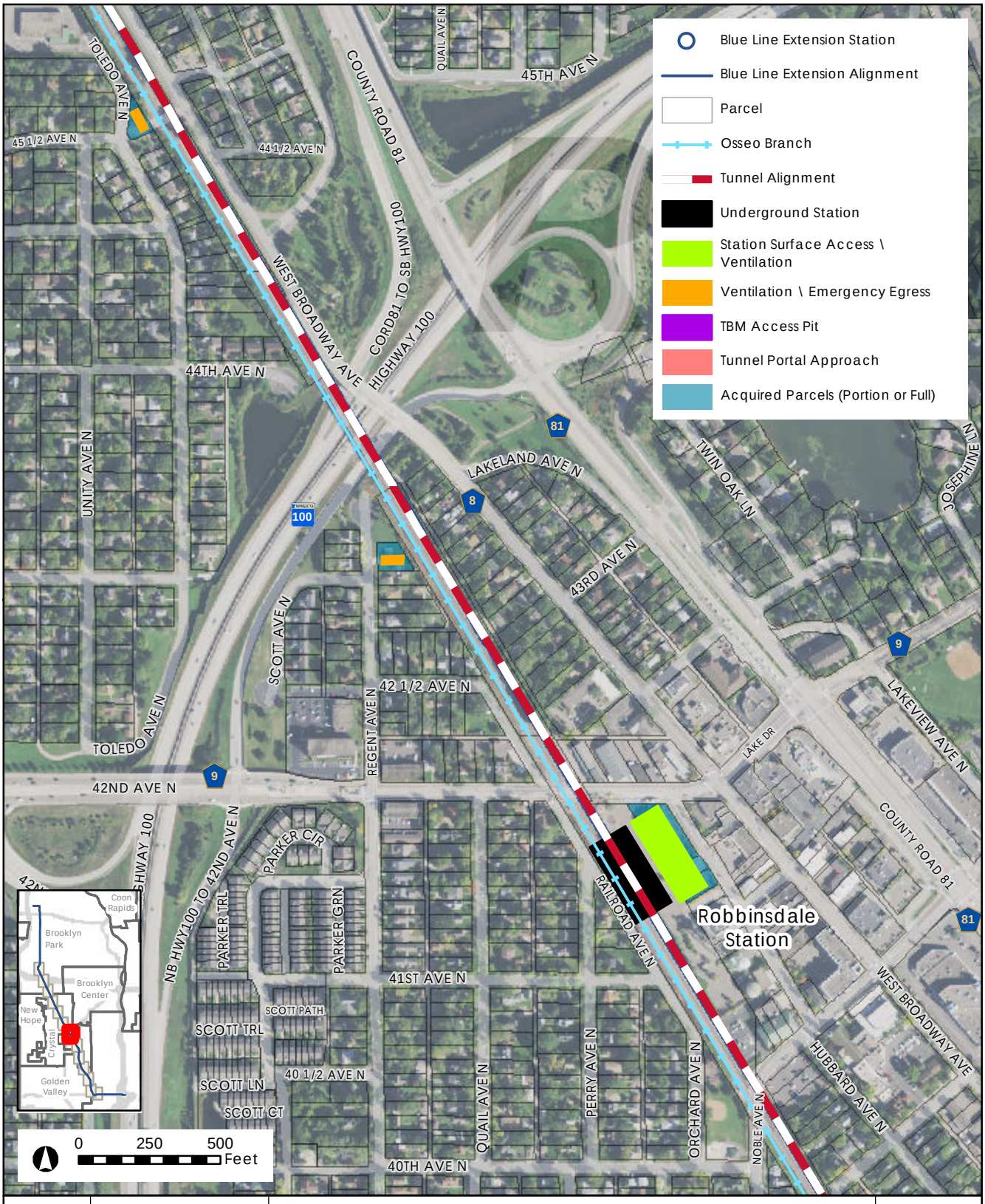

Projection: Hennepin County NAD83 FT
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Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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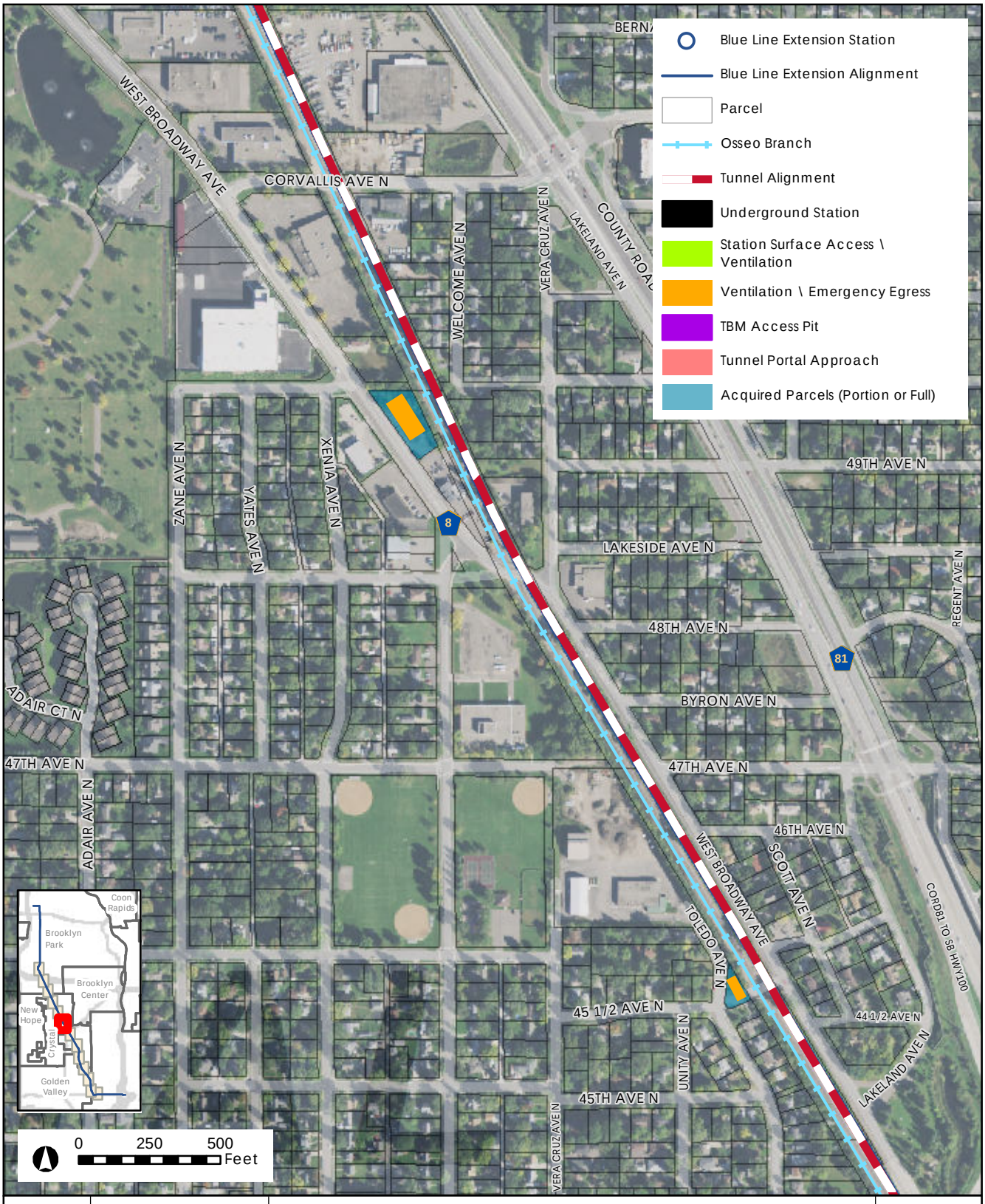

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Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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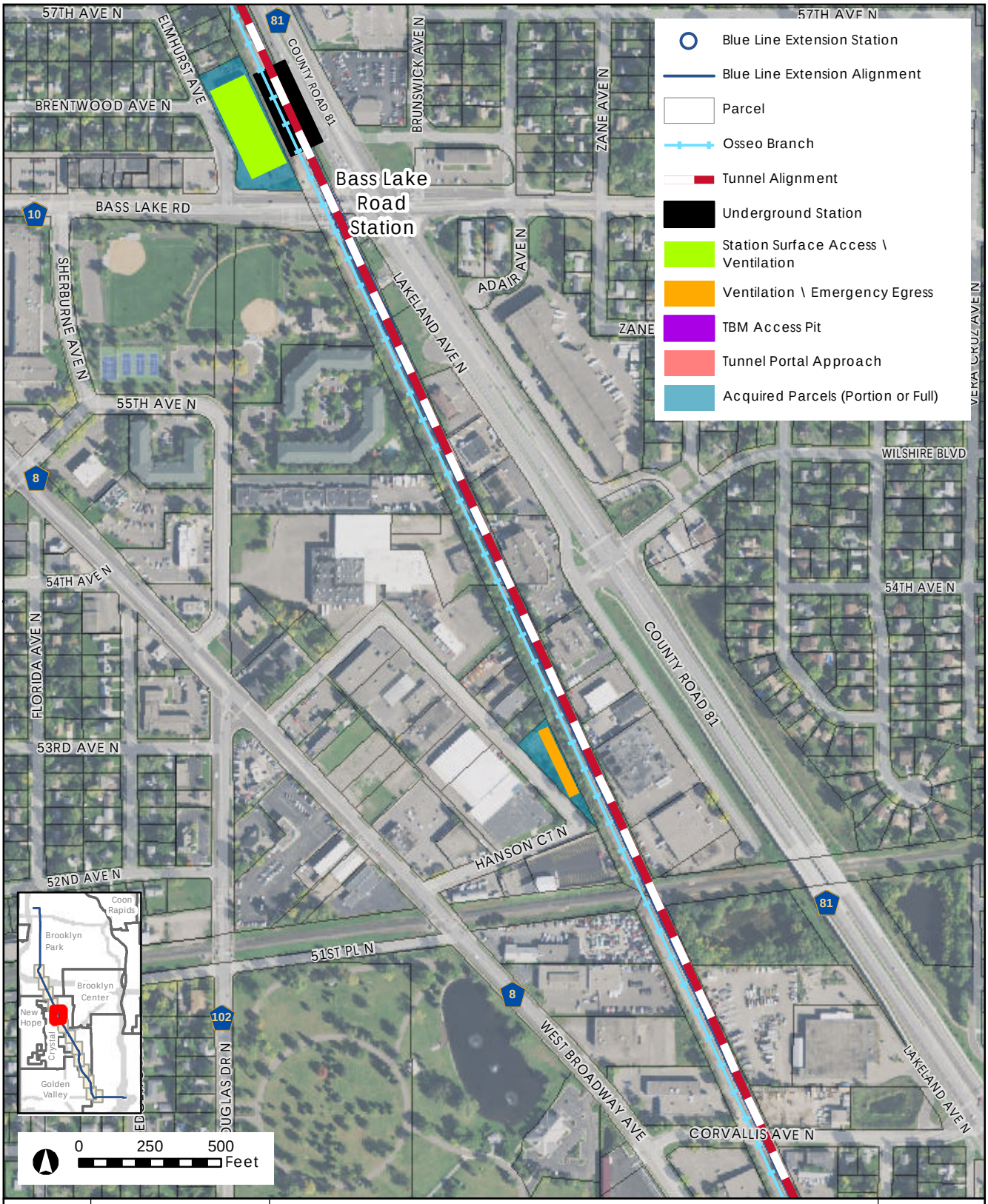
METRO Blue Line Extension

4/20/2016



Projection: Hennepin County NAD83 FT
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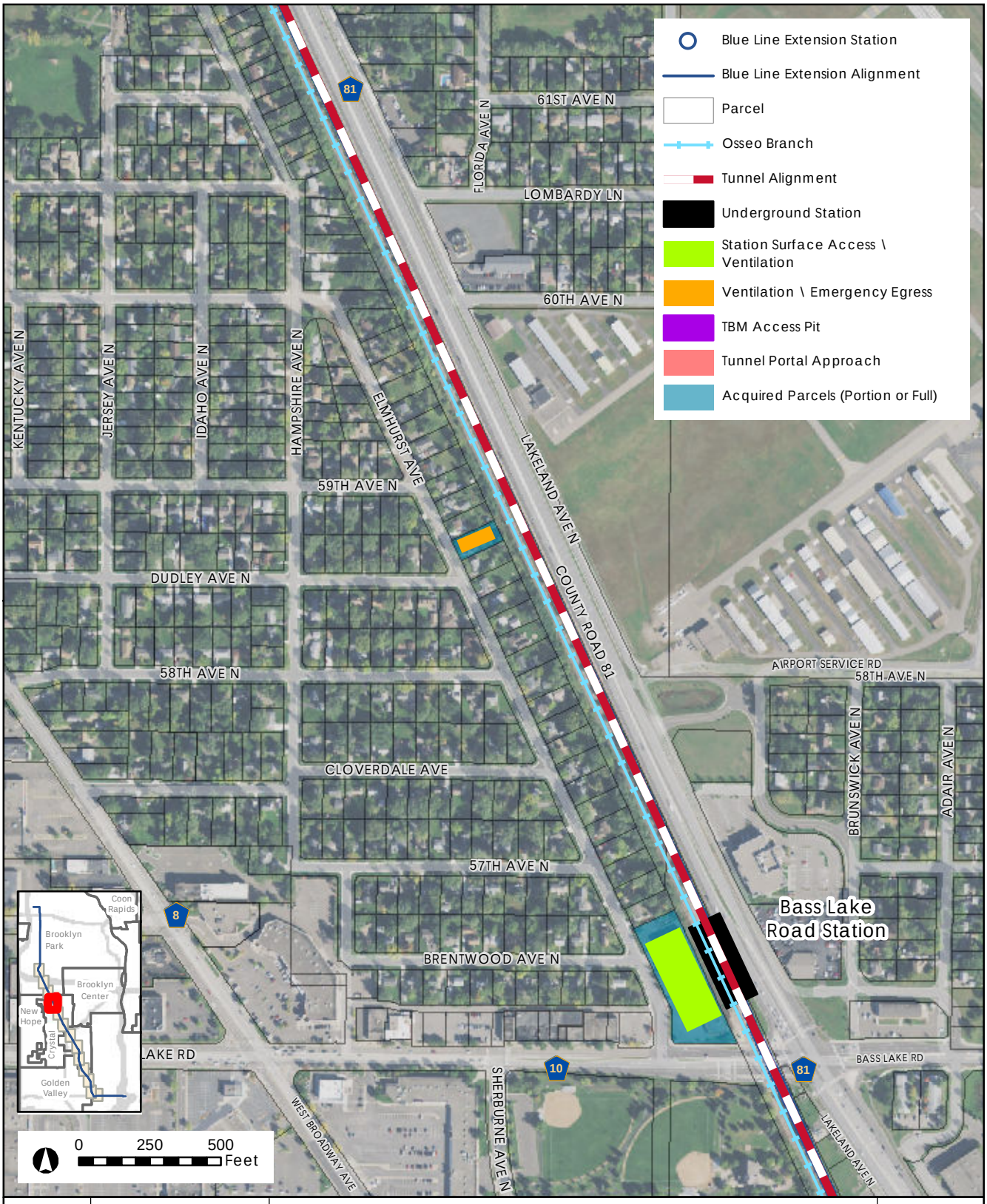

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Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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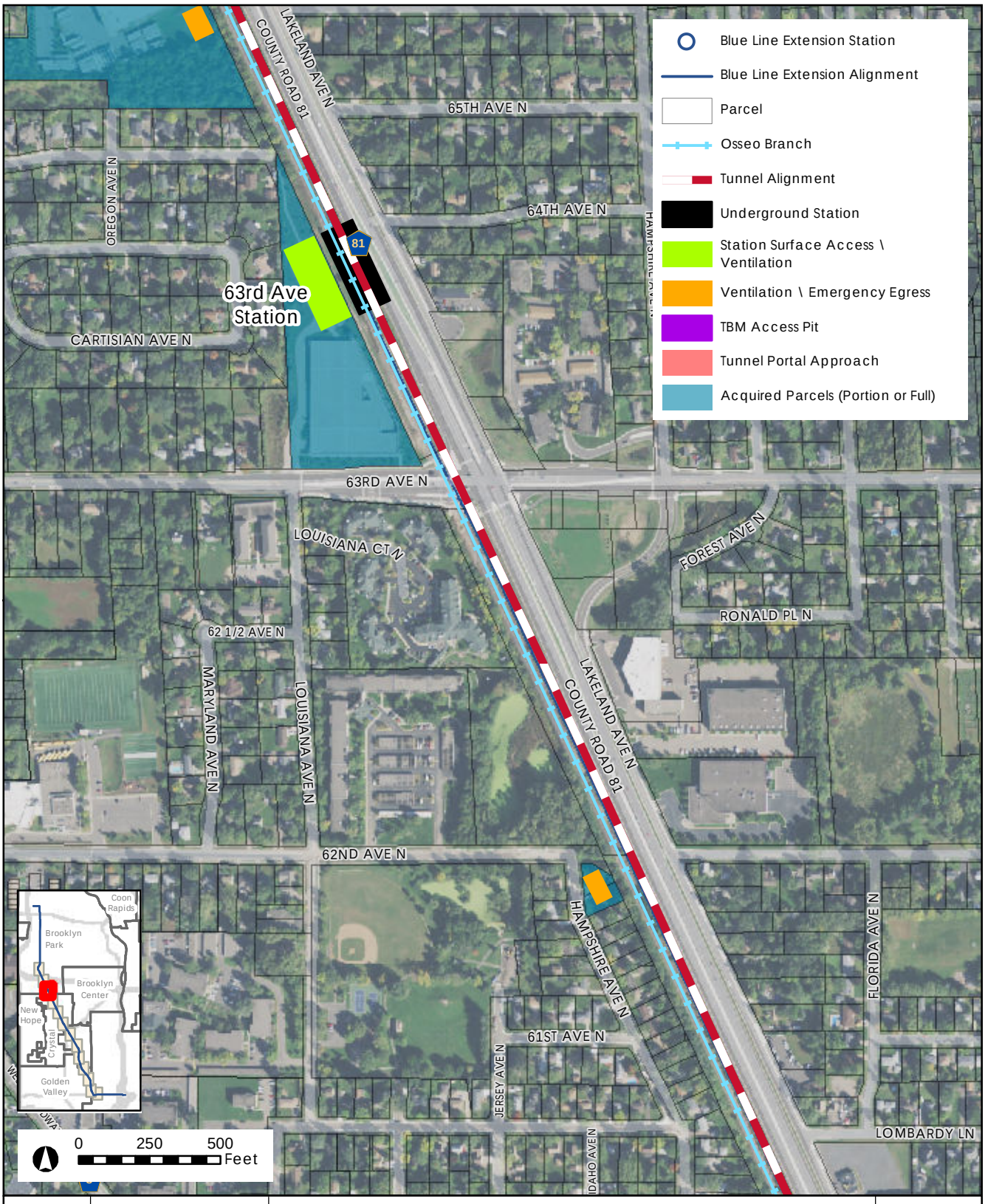
METRO Blue Line Extension

4/20/2016



Projection: Hennepin County NAD83 FT
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Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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METRO Blue Line Extension

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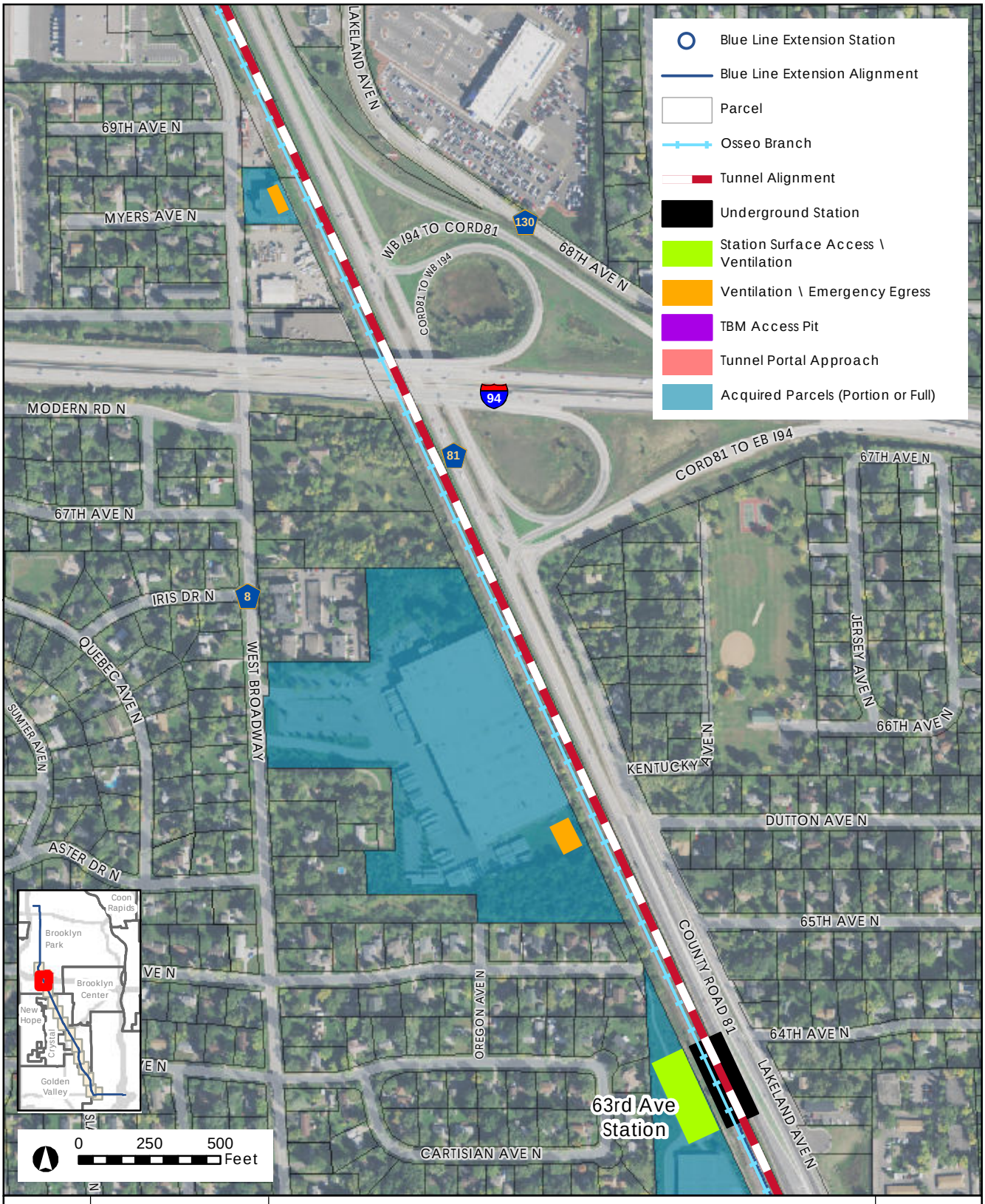

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Figure 1 - Deep Tunnel Estimated Right-of-Way Impact

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METRO Blue Line Extension

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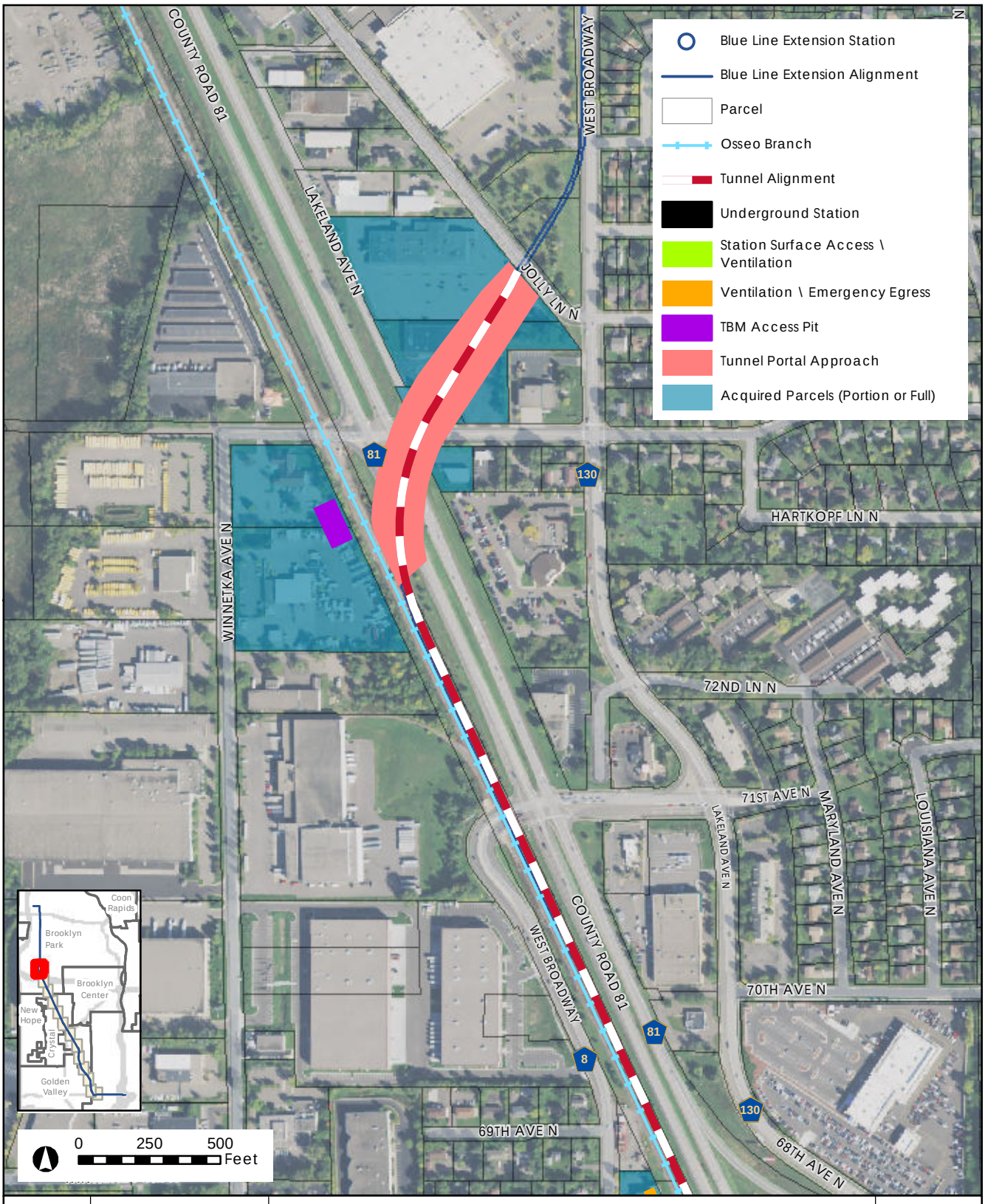

Projection: Hennepin County NAD83 FT
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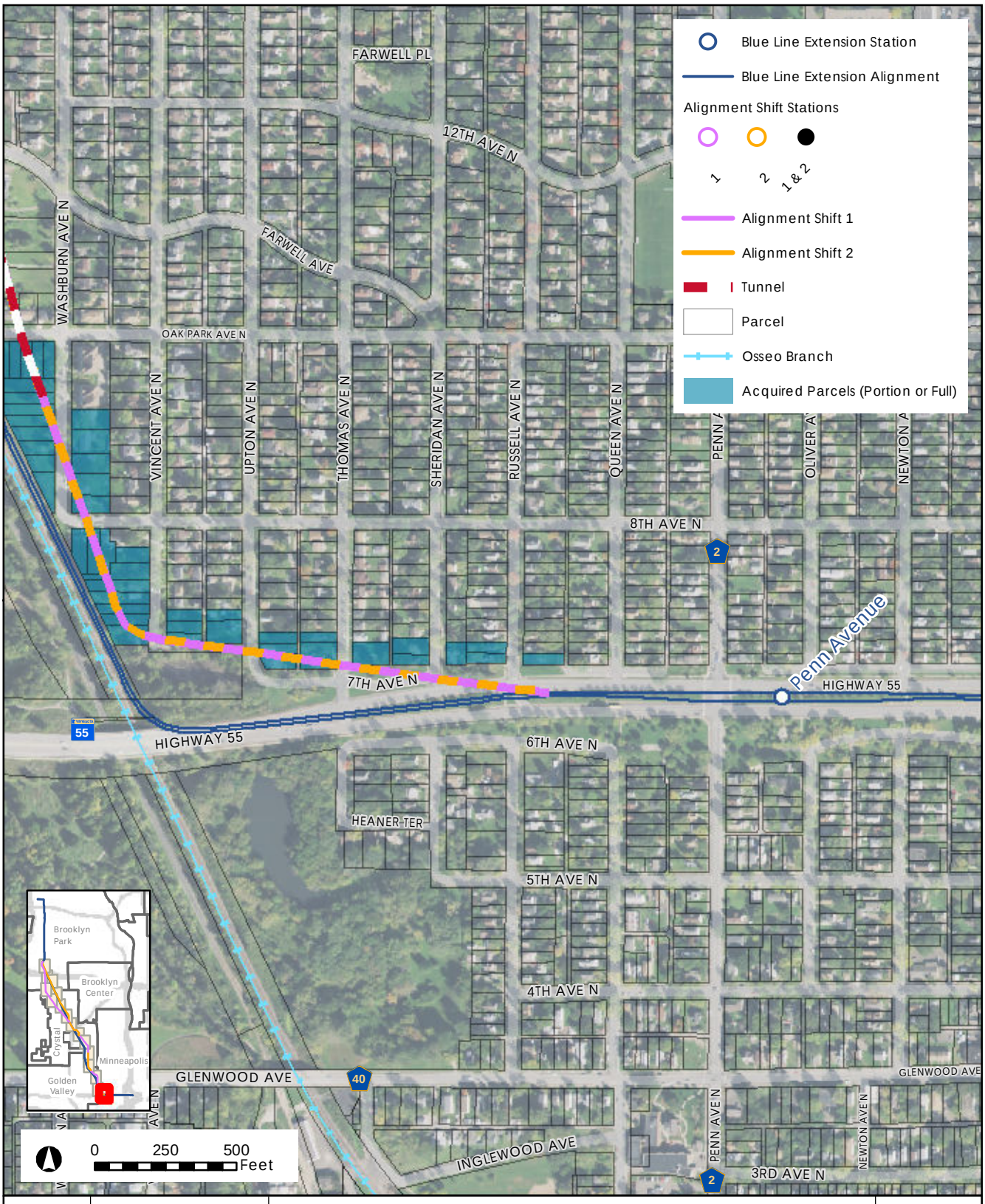
Alignment Shift Map Book



Projection: Hennepin County NAD83 FT
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Figure 2 - Alignment Shift Estimated Right-of-Way Impact

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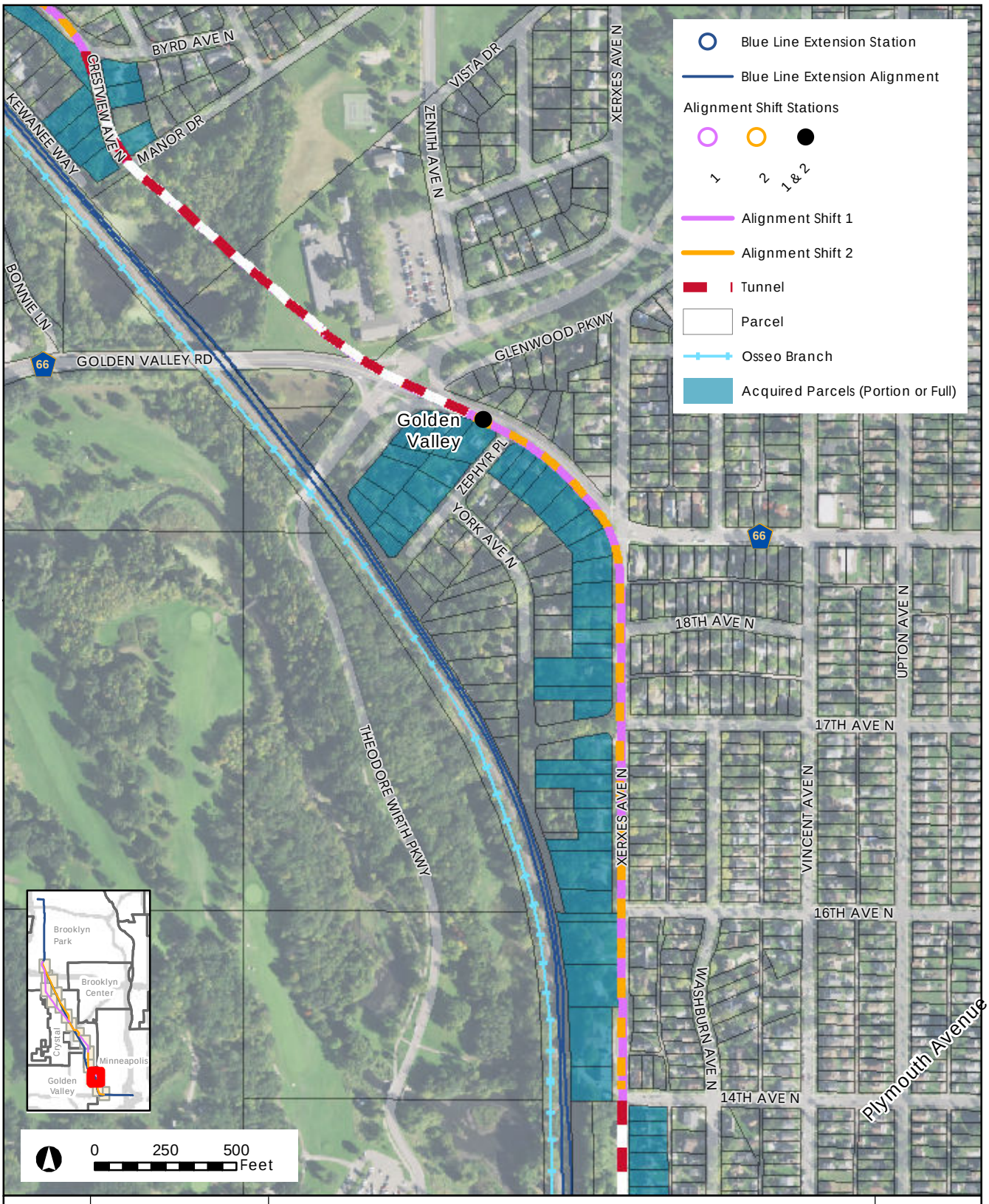

Projection: Hennepin County NAD83 FT
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Figure 2 - Alignment Shift Estimated Right-of-Way Impact

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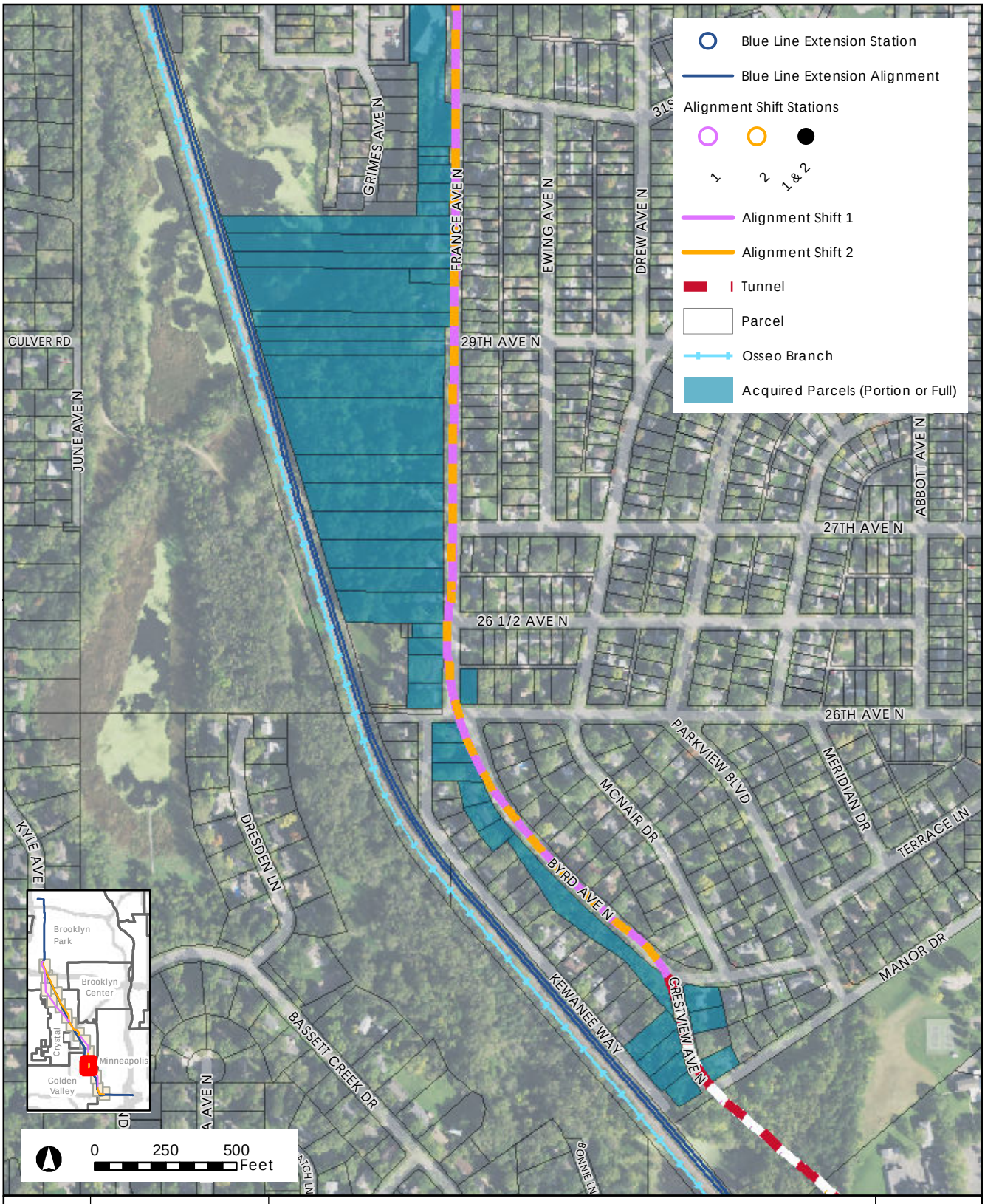

Projection: Hennepin County NAD83 FT
Source: Hennepin County, Metro Transit,

Figure 2 - Alignment Shift Estimated Right-of-Way Impact

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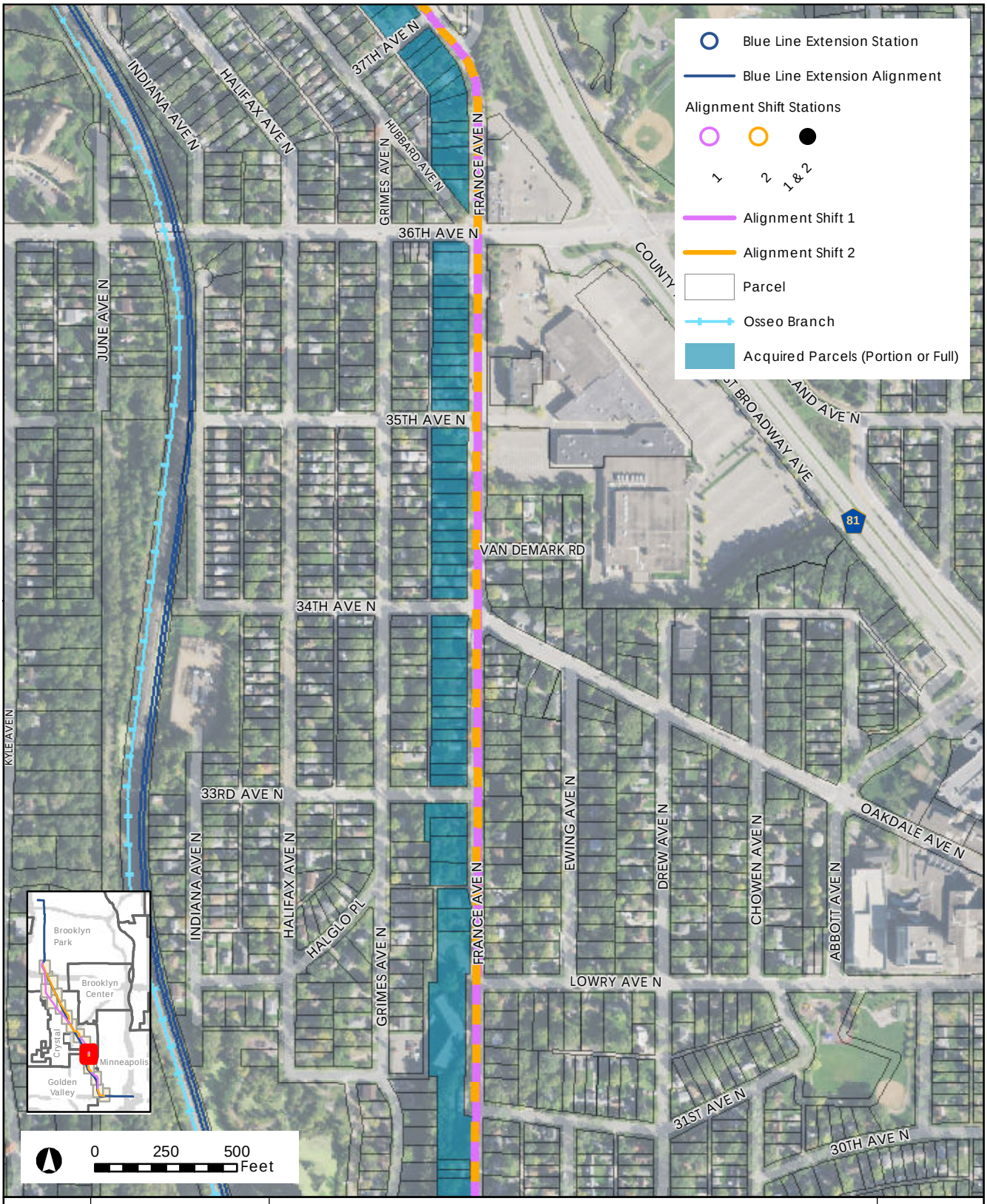

Projection: Hennepin County NAD83 FT
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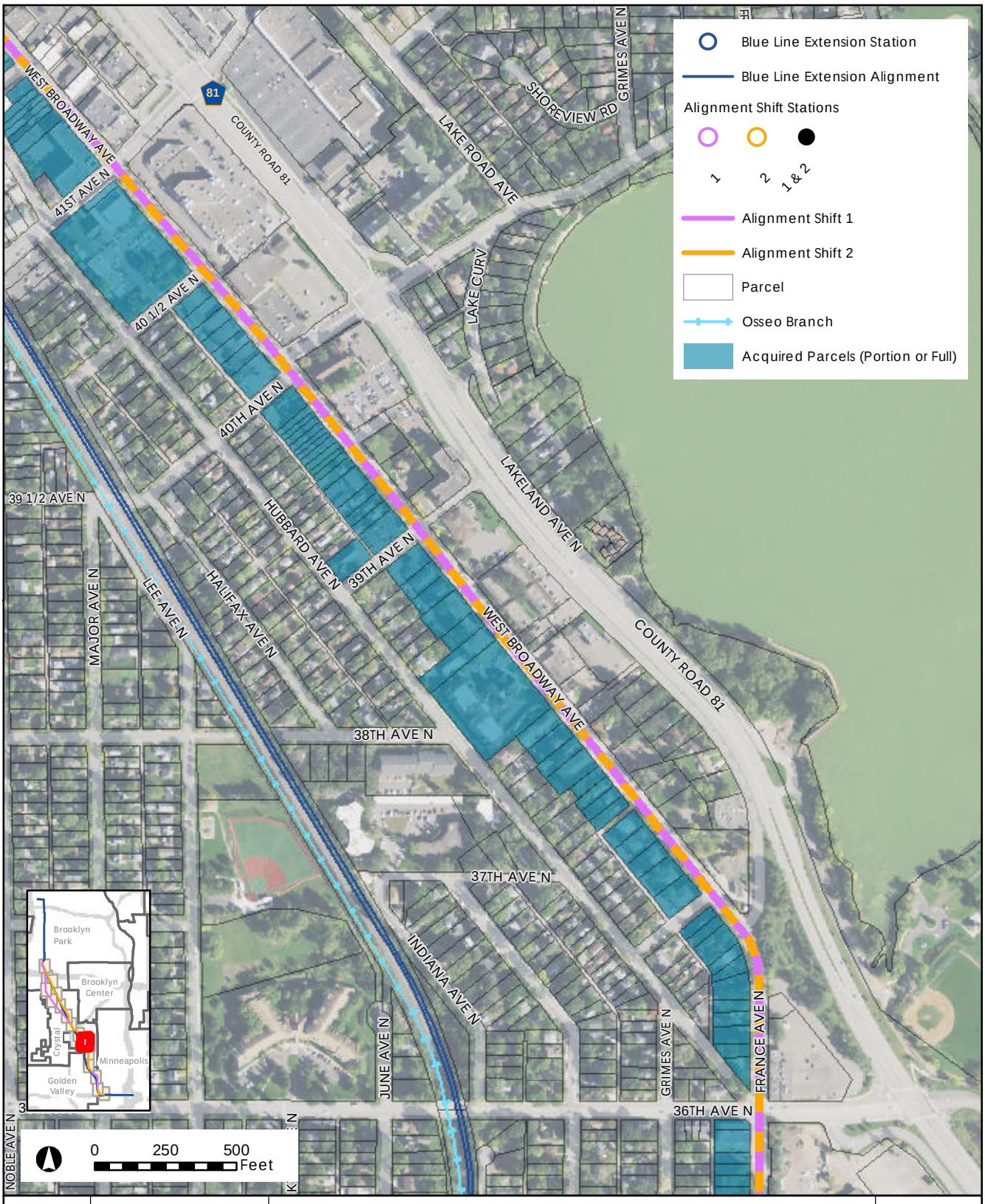

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Figure 2 - Alignment Shift Estimated Right-of-Way Impact

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METRO Blue Line Extension

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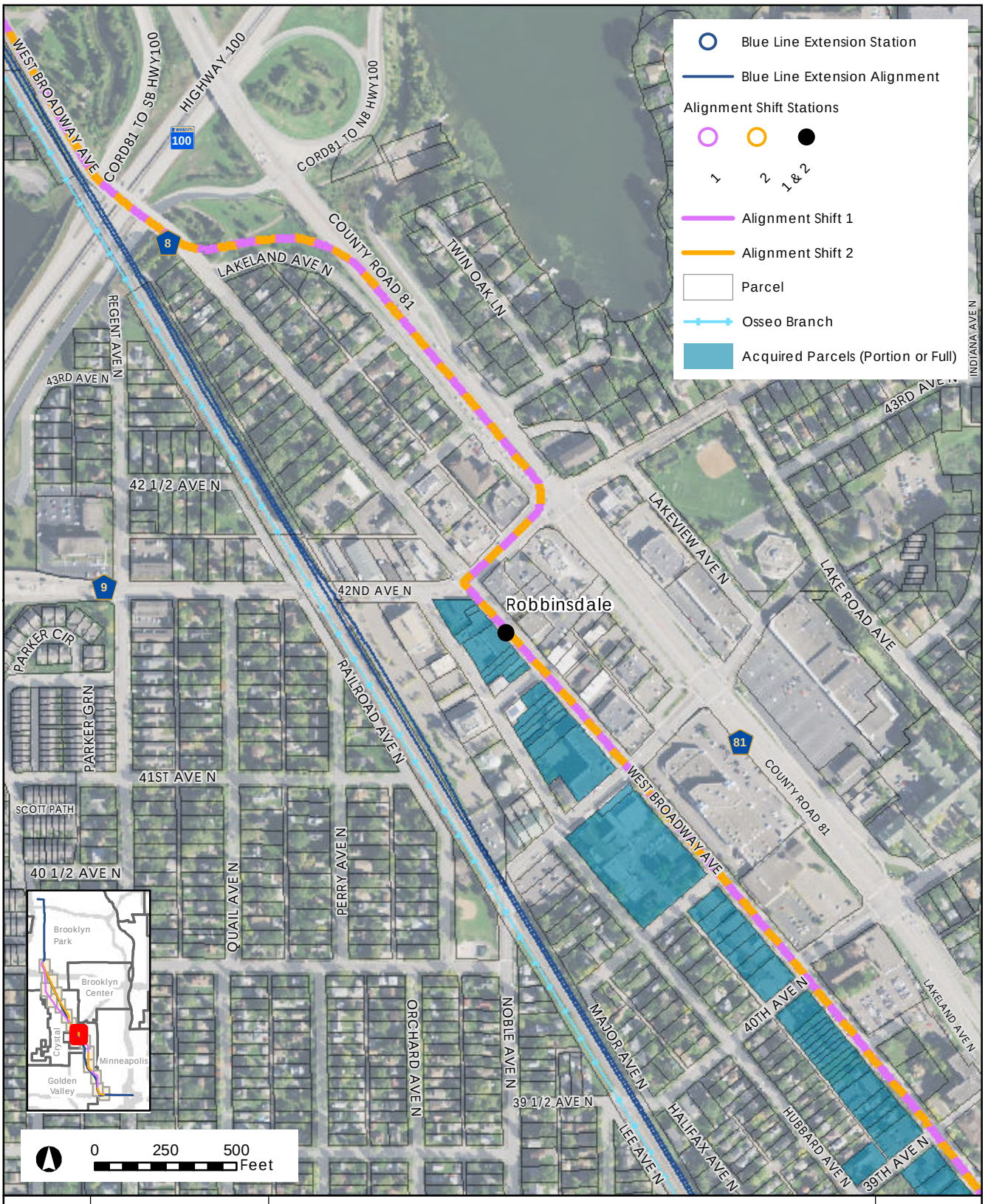

Projection: Hennepin County NAD83 FT
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Figure 2 - Alignment Shift Estimated Right-of-Way Impact

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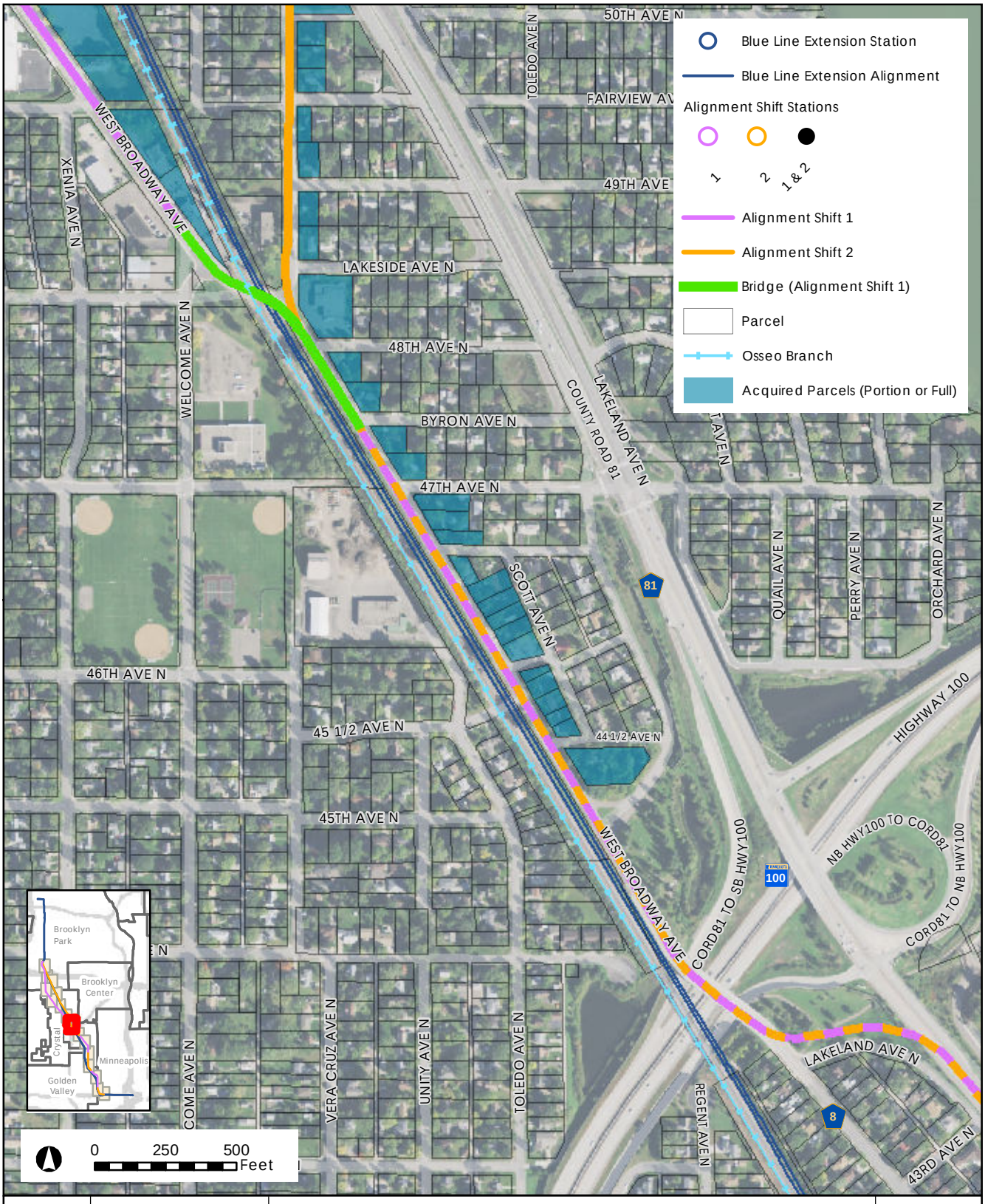

Projection: Hennepin County NAD83 FT
Source: Hennepin County, Metro Transit,

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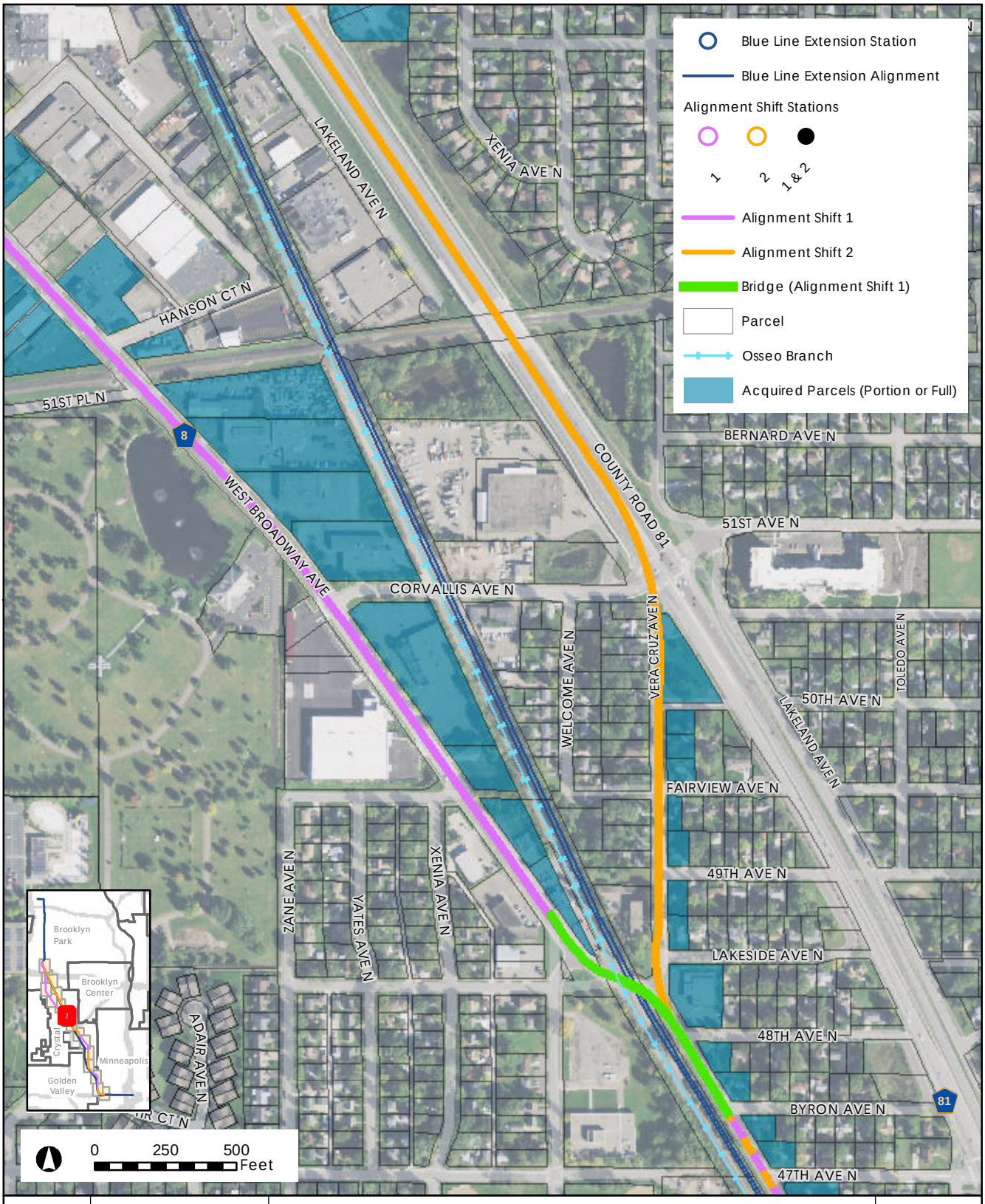
METRO Blue Line Extension

4/20/2016



Projection: Hennepin County NAD83 FT
Source: Hennepin County, Metro Transit,

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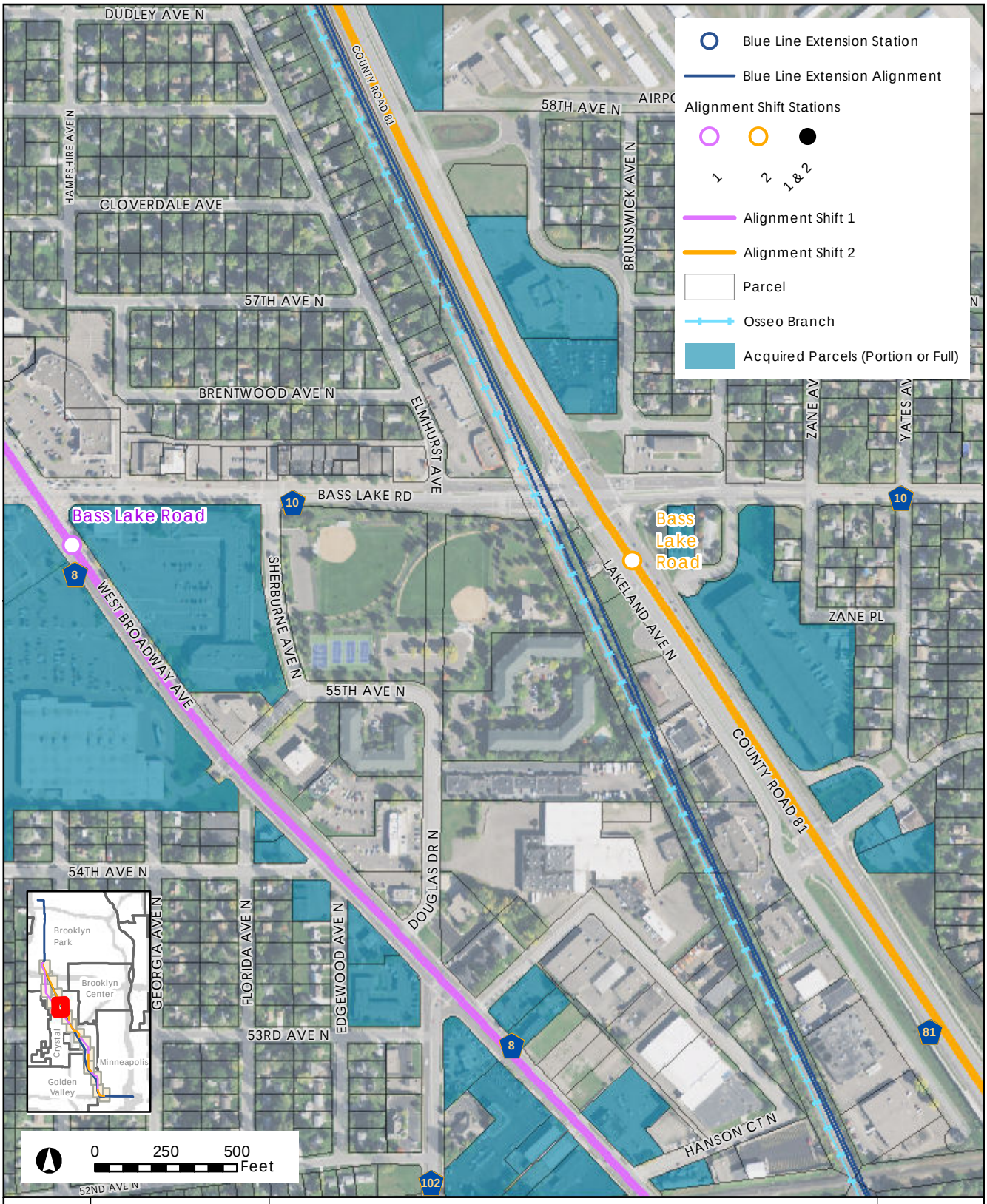

Projection: Hennepin County NAD83 FT
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Figure 2 - Alignment Shift Estimated Right-of-Way Impact

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METRO Blue Line Extension

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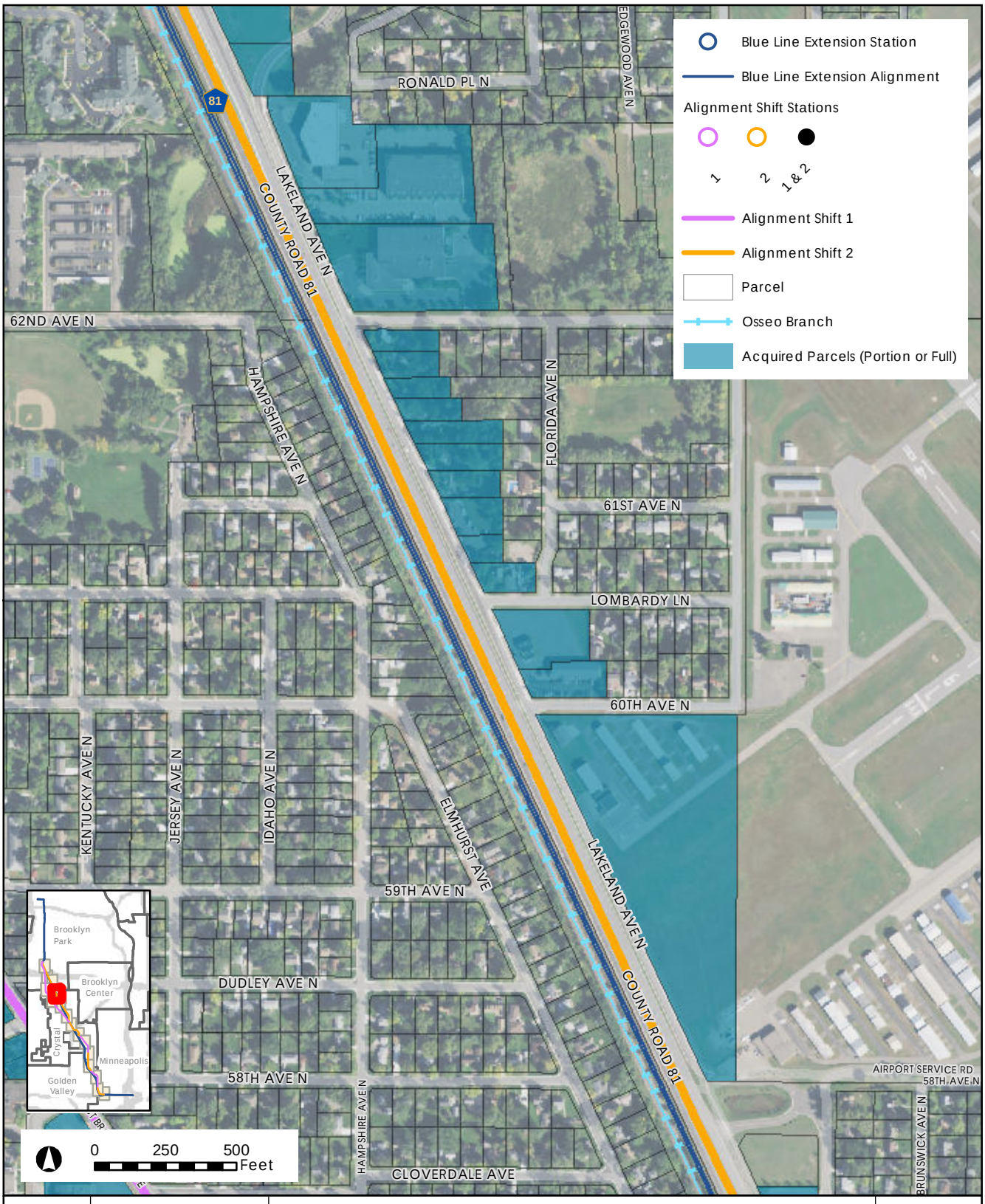

Projection: Hennepin County NAD83 FT
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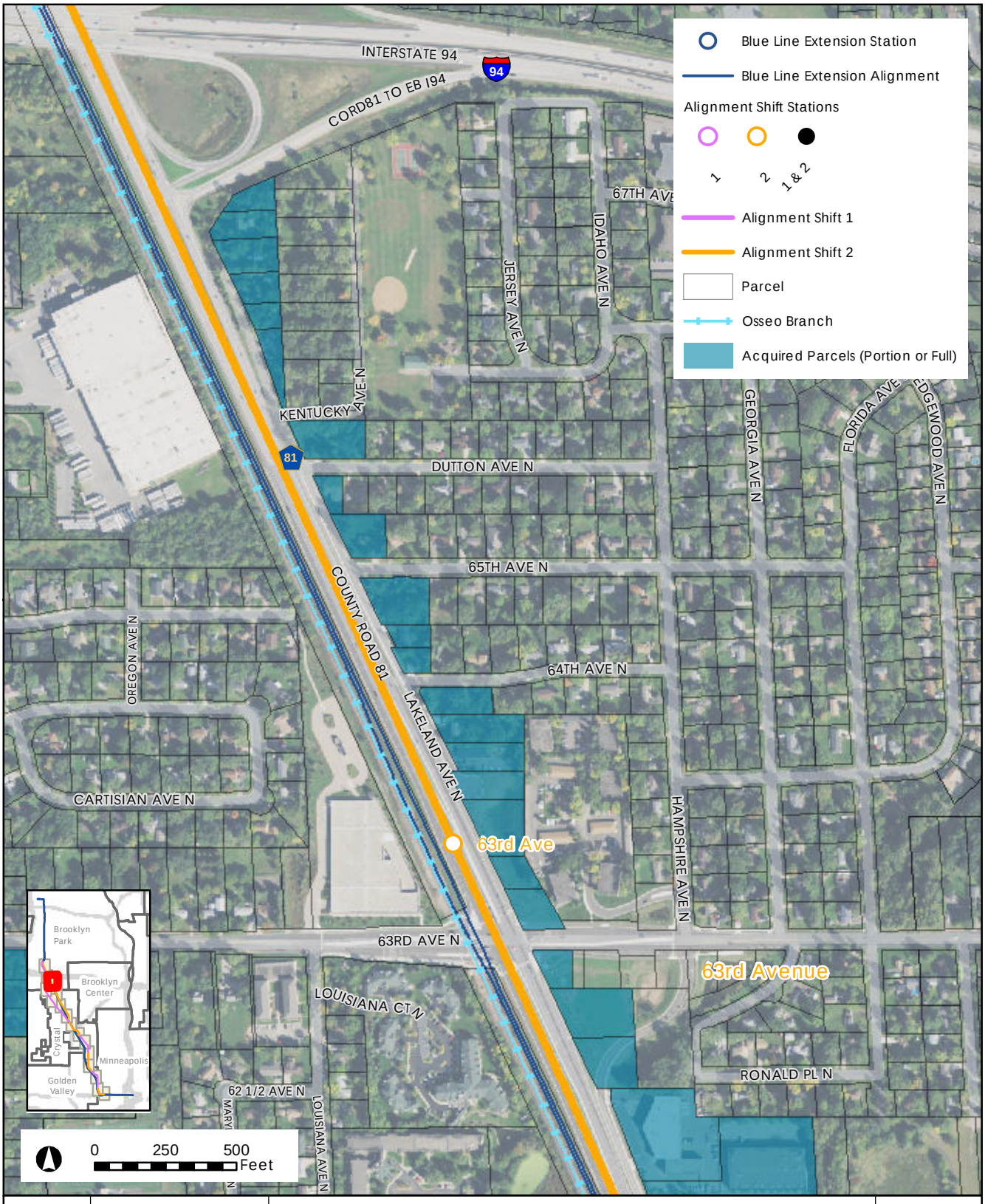

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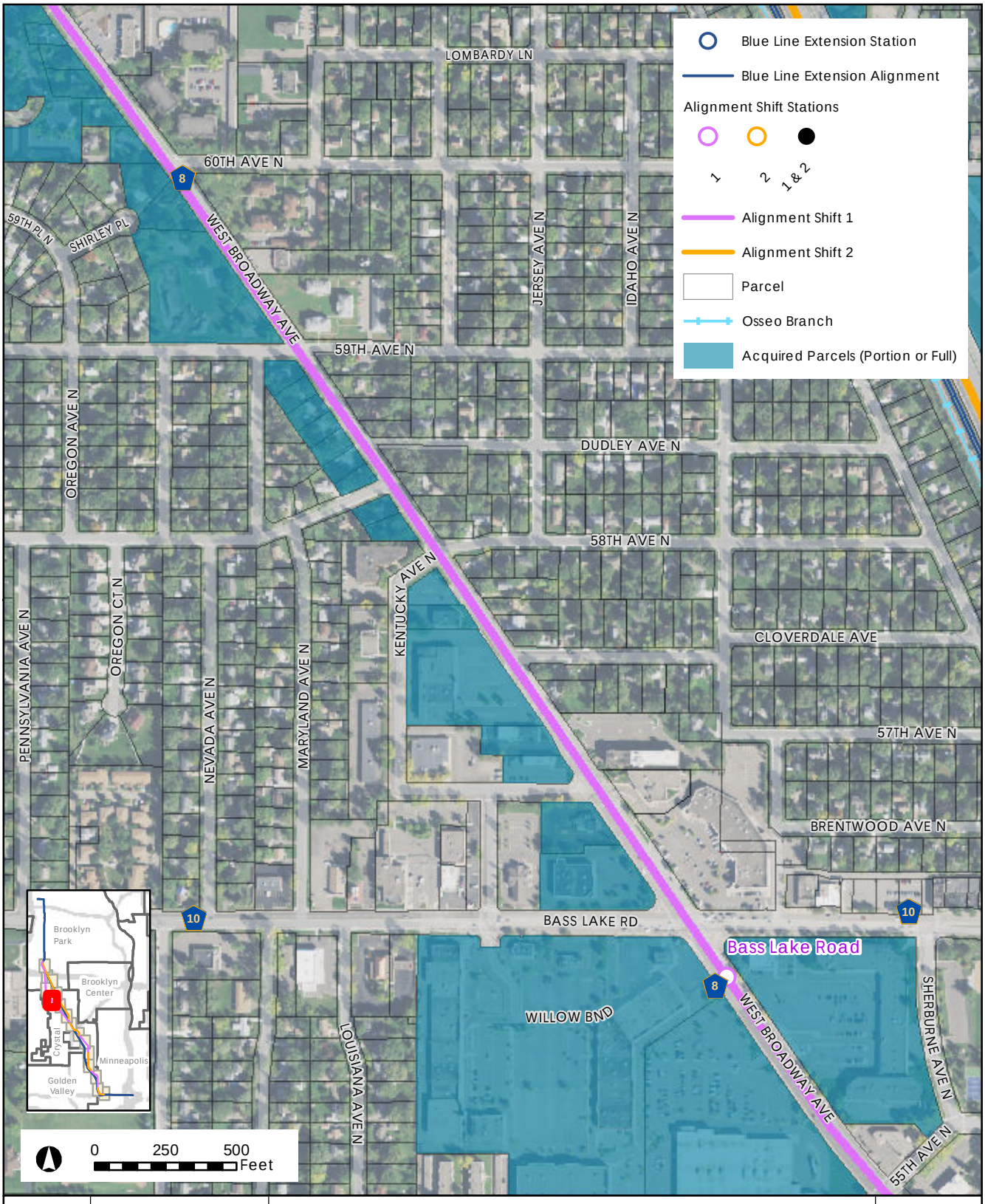

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Figure 2 - Alignment Shift Estimated Right-of-Way Impact

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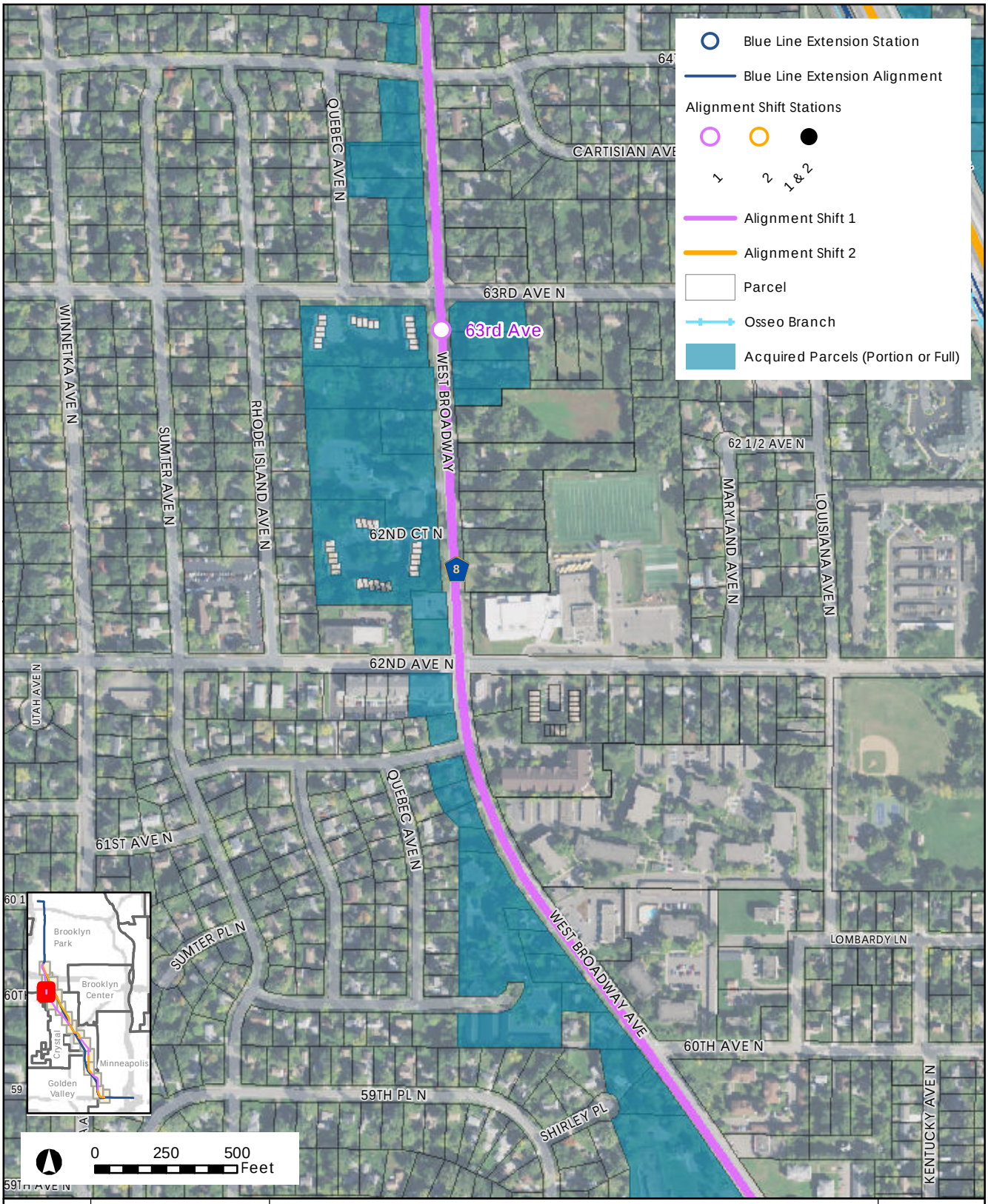

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Figure 2 - Alignment Shift Estimated Right-of-Way Impact

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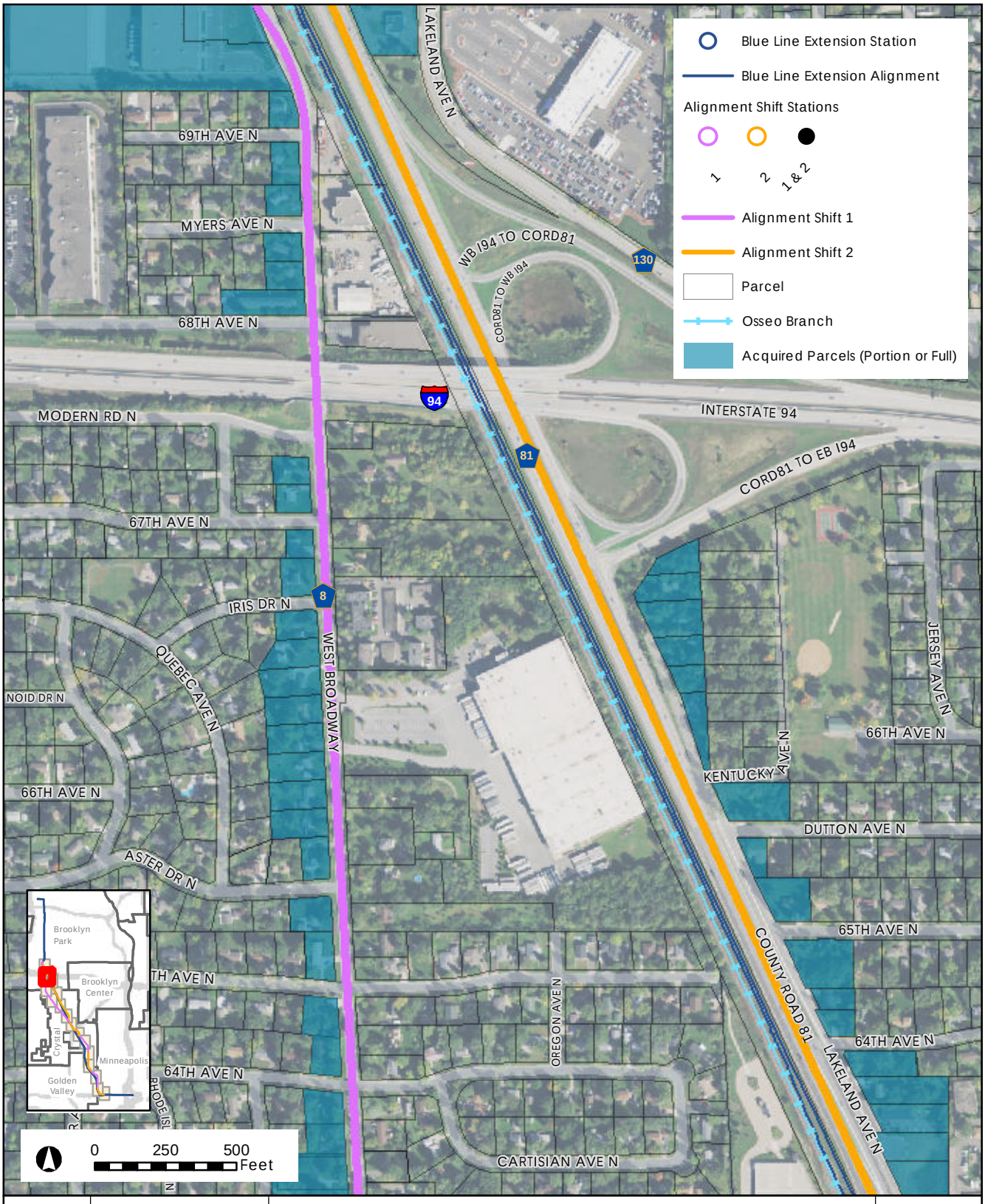

Projection: Hennepin County NAD83 FT
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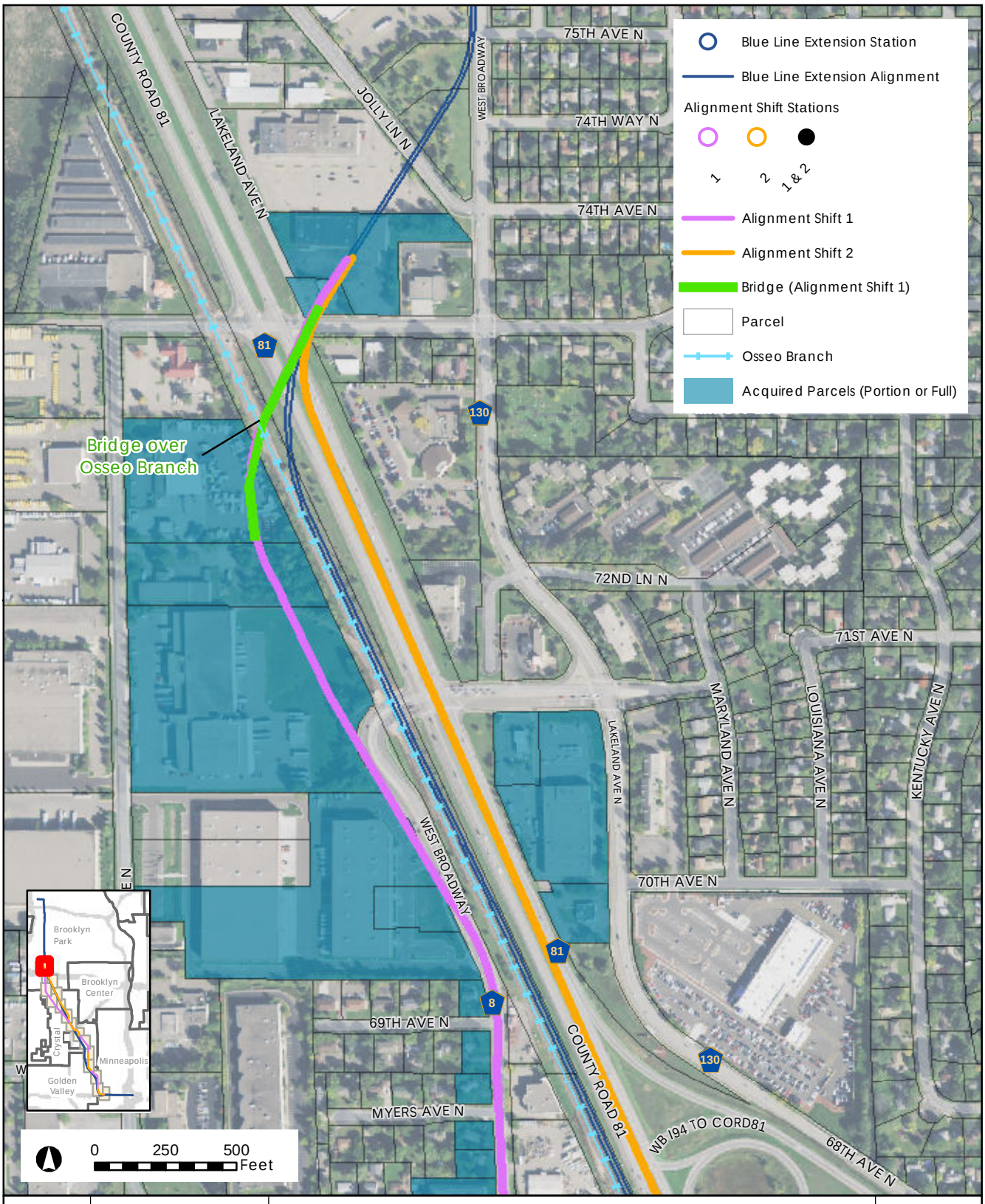

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