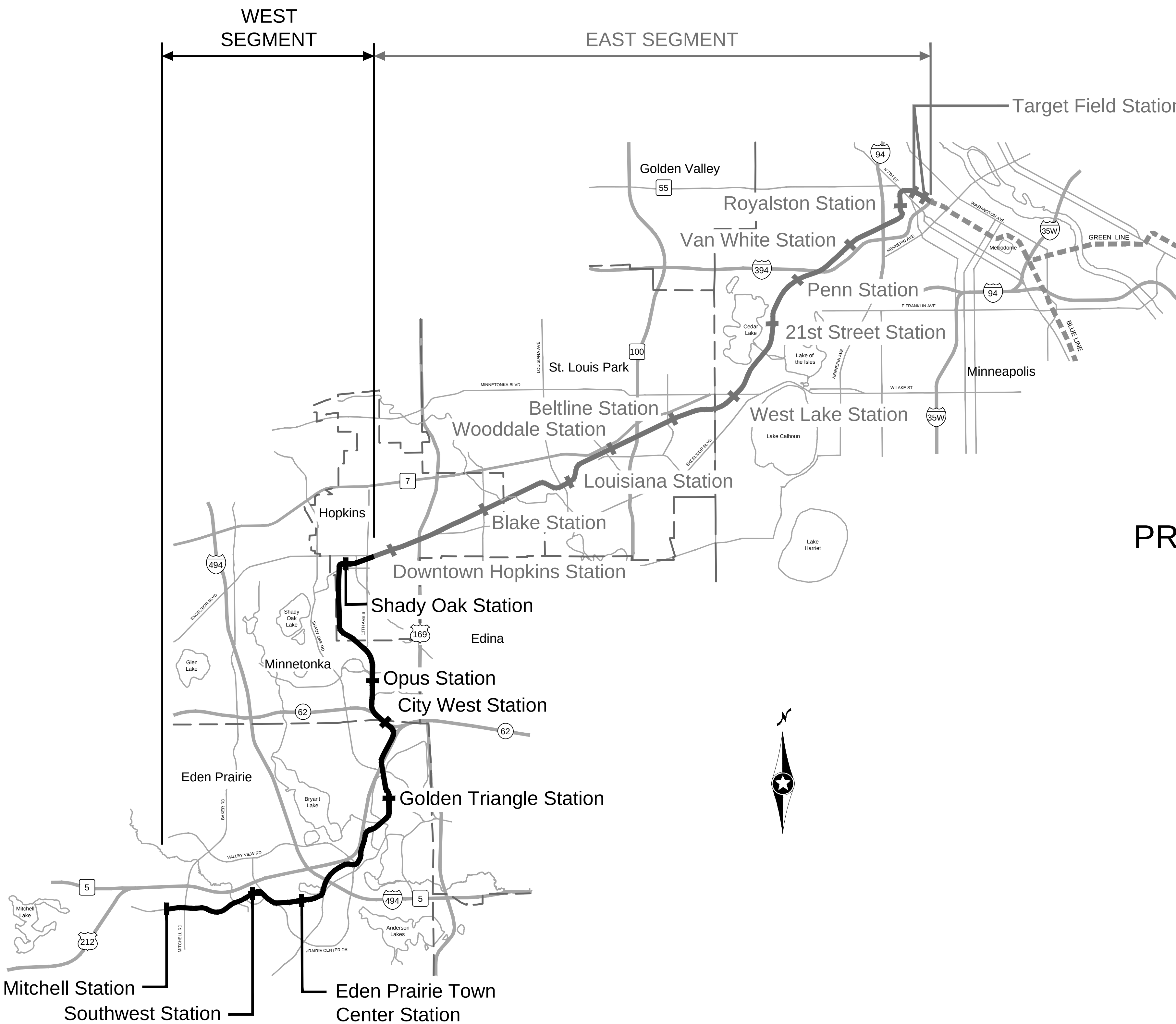

SOUTHWEST
Green Line LRT Extension

METROPOLITAN
COUNCIL

WEST - VOLUME 1
(CIVIL) - SEGMENT 1A

PRELIMINARY ENGINEERING (SEPTEMBER 2014)

AECOM

PRELIMINARY - NOT FOR CONSTRUCTION

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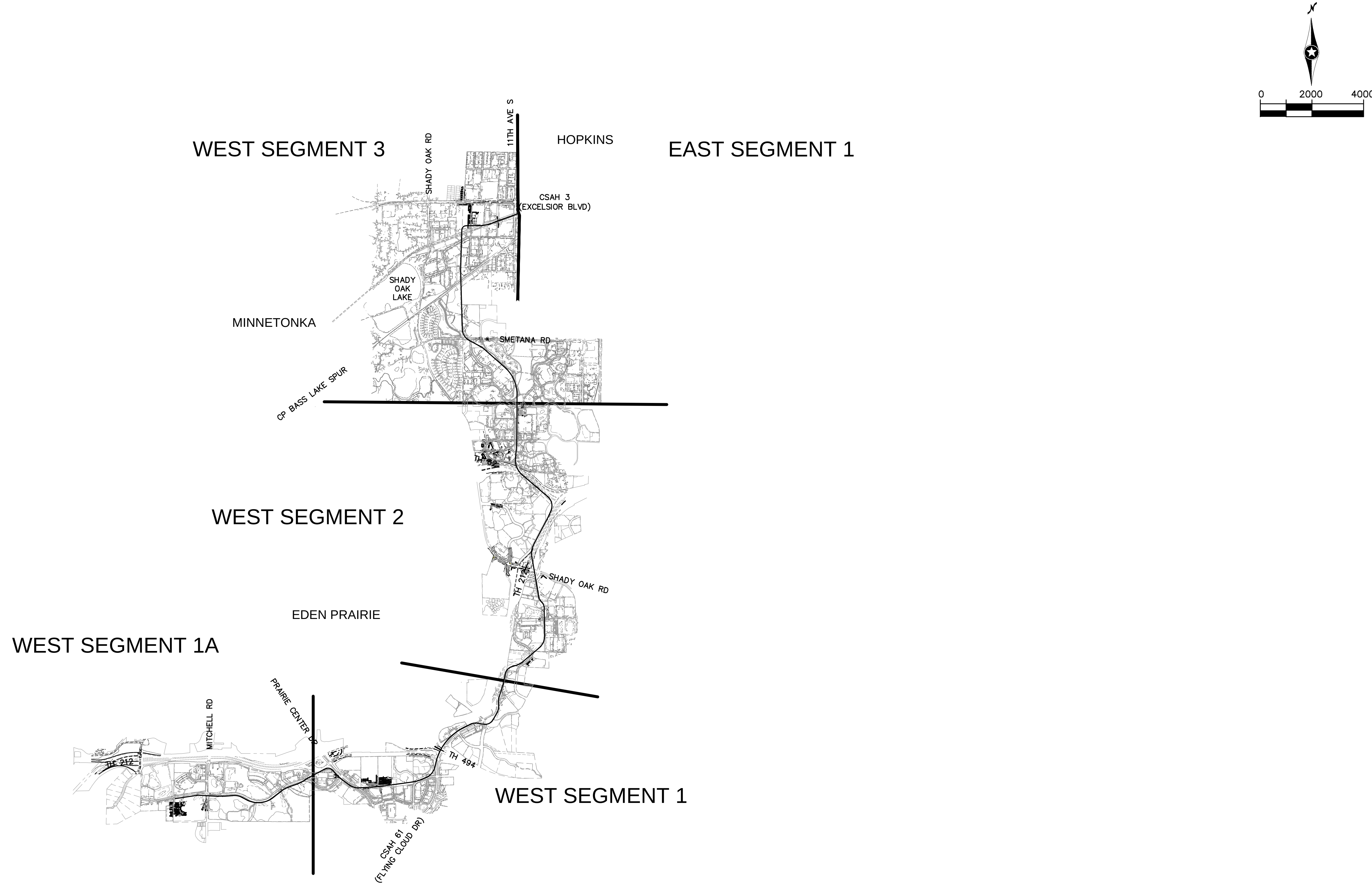

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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
GENERAL
SEGMENT KEY MAP

DISCIPLINE: **GENERAL**

SHEET NAME: **W1A-GEN-KEY-001**

SURVEY NOTES

1. THE HORIZONTAL DATUM OF THIS MAP IS BASED ON THE HENNEPIN COUNTY COORDINATE SYSTEM WHICH IS RELATED TO THE MINNESOTA STATE PLANE COORDINATE SYSTEM NAD 83 (2007) ADJUSTMENT SOUTH ZONE.
2. PROJECT VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
3. ALL COORDINATES AND ELEVATIONS SHOWN ARE IN U.S. SURVEY FEET.
4. THE PLANIMETRIC FEATURES SHOWN ON THIS MAP ARE AS PREPARED BY AERO-METRIC, INC. FROM AERIAL DATA AND IMAGERY COLLECTED IN APRIL 2012, AS SUPPLEMENTED BY FIELD SURVEYS COMPLETED BY RANI ENGINEERING, INC.
5. HORIZONTAL POSITIONAL ACCURACY: USING THE NATIONAL STANDARD FOR SPATIAL DATA ACCURACY, THE DATA SET TESTED 0.040 FEET HORIZONTAL ACCURACY AT A 95% CONFIDENCE LEVEL.
6. VERTICAL POSITIONAL ACCURACY: USING THE NATIONAL STANDARD FOR SPATIAL DATA ACCURACY, THE DATA SET TESTED 0.010 FEET VERTICAL ACCURACY AT 95% CONFIDENCE LEVEL.

TOPOGRAPHIC SYMBOLS

Symbol	Description
CB	CATCH BASIN
D	STORM MANHOLE
S	SANITARY MANHOLE
	SANITARY CLEANOUT
W	WATER MANHOLE
W	WATER GATE VALVE MANHOLE
	WATER VALVE
WAT METER	WATER METER
	CORP STOP
	HYDRANT
ELEC METER	ELECTRIC METER
ELEC TRANS	ELECTRIC TRANSFORMER
	ELECTRIC PANEL
E	ELECTRIC MANHOLE
E	ELECTRIC BOX
GAS	GAS VALVE
GAS METER	GAS METER
	TRAFFIC SIGNAL
	LIGHT POLE
	HAND HOLE (STRUCTURE)
CTV	CABLE TELEVISION
C	COMMUNICATION STRUCTURE
T	TELEPHONE STRUCTURE
T	TELEPHONE MANHOLE
FO	FIBER OPTIC MANHOLE
	UTILITY POLE
	UTILITY POLE W/LIGHT
	TREE (DECIDUOUS)
	TREE (CONIFEROUS)
	LIGHT POLE
CAMERA	CAMERA
	MONITOR WELL
	BOLLARD
	SIGN
FLAG	FLAG POLE
U	UNIDENTIFIED STRUCTURE
	EXISTING DIRECTIONAL LANE USE
	EXISTING SIGNALIZED INTERSECTION
	SURVEY CONTROL STATION
	WETLAND
	WATER PIV VALVE
	STORM SEWER FLARED END

LINETYPES

Linetype	Description
P-OH	OVERHEAD ELECTRIC
P-OH-TRAN	OVERHEAD ELECTRIC TRANSMISSION
P-UG	UNDERGROUND ELECTRIC
T-UG	UNDERGROUND TELEPHONE
COM-OH	OVERHEAD COMMUNICATION
COM-UG	UNDERGROUND COMMUNICATION
CABLE-OH	OVERHEAD CABLE TELEVISION
CATV	UNDERGROUND CABLE TELEVISION
FIB-OPT	UNDERGROUND FIBER OPTIC
FUEL-UG	UNDERGROUND FUEL
GAS	UNDERGROUND GAS
	ABANDONED UTILITY
	WATER
	SANITARY SEWER
	SANITARY FORCE MAIN
	STORM SEWER
	CURB AND GUTTER
	FENCE
	GUARDRAIL
	WALK
	BUILDING
	RIGHT-OF-WAY
	PROPERTY LINE
	CENTERLINE OF RAIL
	CENTERLINE OF TRAIL
	VEGETATION
	WATER BODY
TRAF	TRAFFIC CONTROL

TRAIL INDEX

ABBREVIATED NAME	FULL NAME/LOCATION
MN RIVER BLUFFS TRAIL	MINNESOTA RIVER BLUFFS LRT REGIONAL TRAIL/WEST OF EXCELSIOR
CEDAR LAKE TRAIL	CEDAR LAKE LRT REGIONAL TRAIL/EAST OF EXCELSIOR
TRAIL A	NOT USED
TRAIL B	NOT USED
TRAIL C	10' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO TYLER AVE.
TRAIL D	10' CONNECTOR TRAIL/BELTLINE STATION
KENILWORTH TRAIL	KENILWORTH TRAIL (MAIN)/W LAKE ST TO PENN STATION
TRAIL E	KENILWORTH TRAIL (SECONDARY)/W LAKE ST TO CEDAR LAKE PKWY
TRAIL F	KENILWORTH TRAIL (SECONDARY)/WEST OF PENN STATION
TRAIL F	NORTH CEDAR LAKE TRAIL (SECONDARY)/EAST OF PENN STATION
TRAIL G	KENILWORTH TRAIL (SECONDARY)/WEST OF PENN STATION
TRAIL G	NORTH CEDAR LAKE TRAIL (SECONDARY)/EAST OF PENN STATION
TRAIL H	10' CONNECTOR TRAIL/EAST OF PENN STATION TO KENWOOD PKWY
TRAIL I	NORTH CEDAR LAKE TRAIL (MAIN) ON BRIDGE OVER LIGHT RAIL
TRAIL J	NORTH CEDAR LAKE TRAIL (SECONDARY)/NORTHWEST OF PENN STATION
TRAIL K	NORTH CEDAR LAKE TRAIL (SECONDARY)/NORTHWEST OF PENN STATION
TRAIL L	20' CONNECTOR TRAIL/VAN WHITE STATION
TRAIL M	NORTH CEDAR LAKE TRAIL (SECONDARY)/EAST OF I-94
TRAIL N	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO EDGEBROOK DRIVE
TRAIL O	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO W. LAKE STREET
TRAIL P	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO LOUISIANA AVE.
TRAIL Q	10' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO T.H. 7 SERVICE ROAD

ABBREVIATIONS

AVE	AVENUE
BLVD	BOULEVARD
BNSF	BURLINGTON NORTHERN SANTA FE RAILWAY
℄	CENTERLINE
CP	CANADIAN PACIFIC
CPRAIL	CANADIAN PACIFIC RAILWAY
CSAH	COUNTY STATE AID HIGHWAY
EB	EAST BOUND
EX	EXISTING
HCRRA	HENNEPIN COUNTY REGIONAL RAILROAD AUTHORITY
MPLS	CITY OF MINNEAPOLIS
MPRB	MINNEAPOLIS PARK AND RECREATION BOARD
N	NORTH
NB	NORTH BOUND
OH	OVERHEAD
PKWY	PARKWAY
ROW	RIGHT OF WAY
S	SOUTH
SB	SOUTH BOUND
SCS	SURVEY CONTROL STATION
ST	STREET
STA	STATION
UG	UNDERGROUND
WB	WEST BOUND
RD	ROAD
LN	LANE
DR	DRIVE
TH	TRUNK HIGHWAY
CIR	CIRCLE

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AECOM RANI engineering

PRELIMINARY ENGINEERING

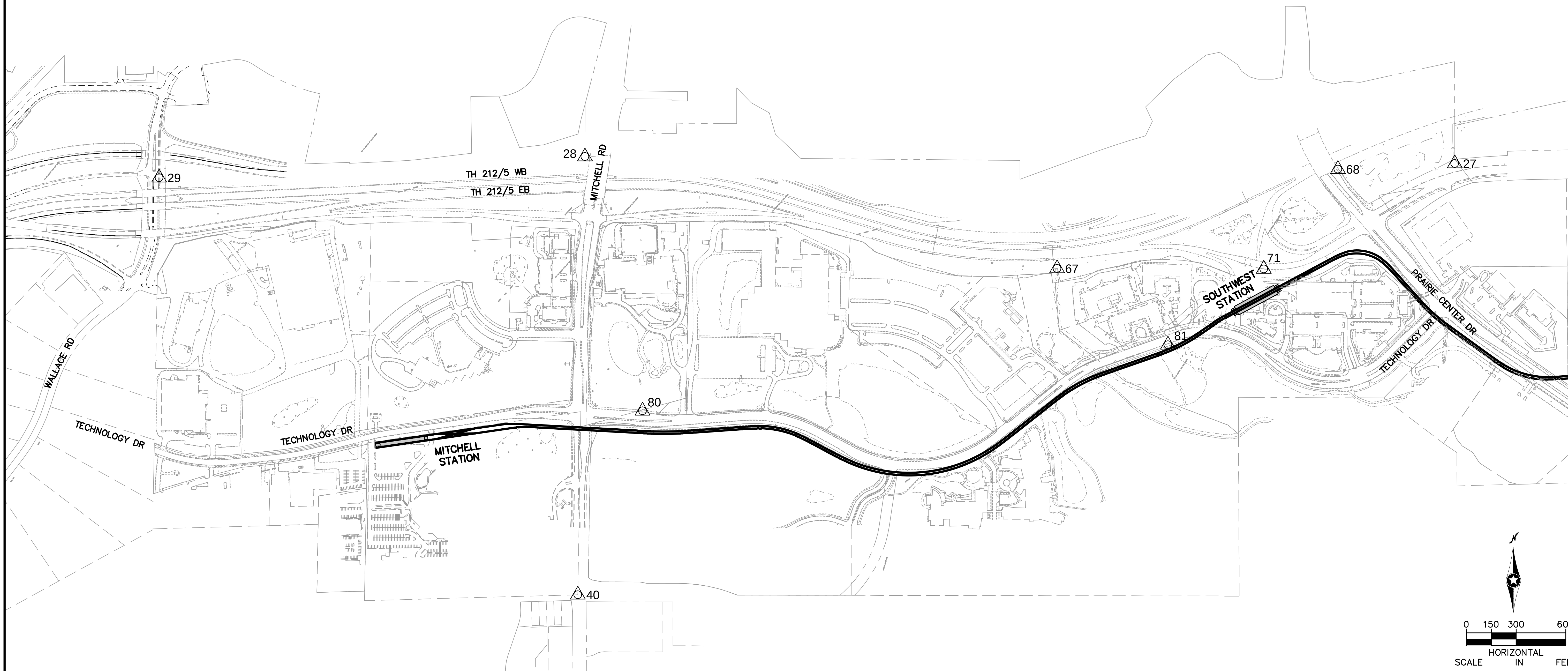
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
EXISTING CONDITIONS
NOTES AND LEGEND

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-NTS-001

SWLRT - SURVEY CONTROL STATIONS				
Point	Northing	Easting	Elevation	Description
27	125916.032	485363.341	837.921	CAST IRON MONUMENT
28	125957.773	480107.547	855.092	CAST IRON MONUMENT
29	125830.354	477534.029	847.820	CAST IRON MONUMENT
40	123311.132	480064.325	882.803	CAST IRON MONUMENT
67	125282.302	482960.233	829.542	CAST IRON MONUMENT
68	125882.158	484657.851	860.149	CAST IRON MONUMENT
71	125279.433	484209.263	853.413	CAST IRON MONUMENT
80	124422.311	480455.074	852.861	MAG NAIL
81	124821.120	483630.680	828.281	TOP NUT HYDRANT



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PRELIMINARY ENGINEERING

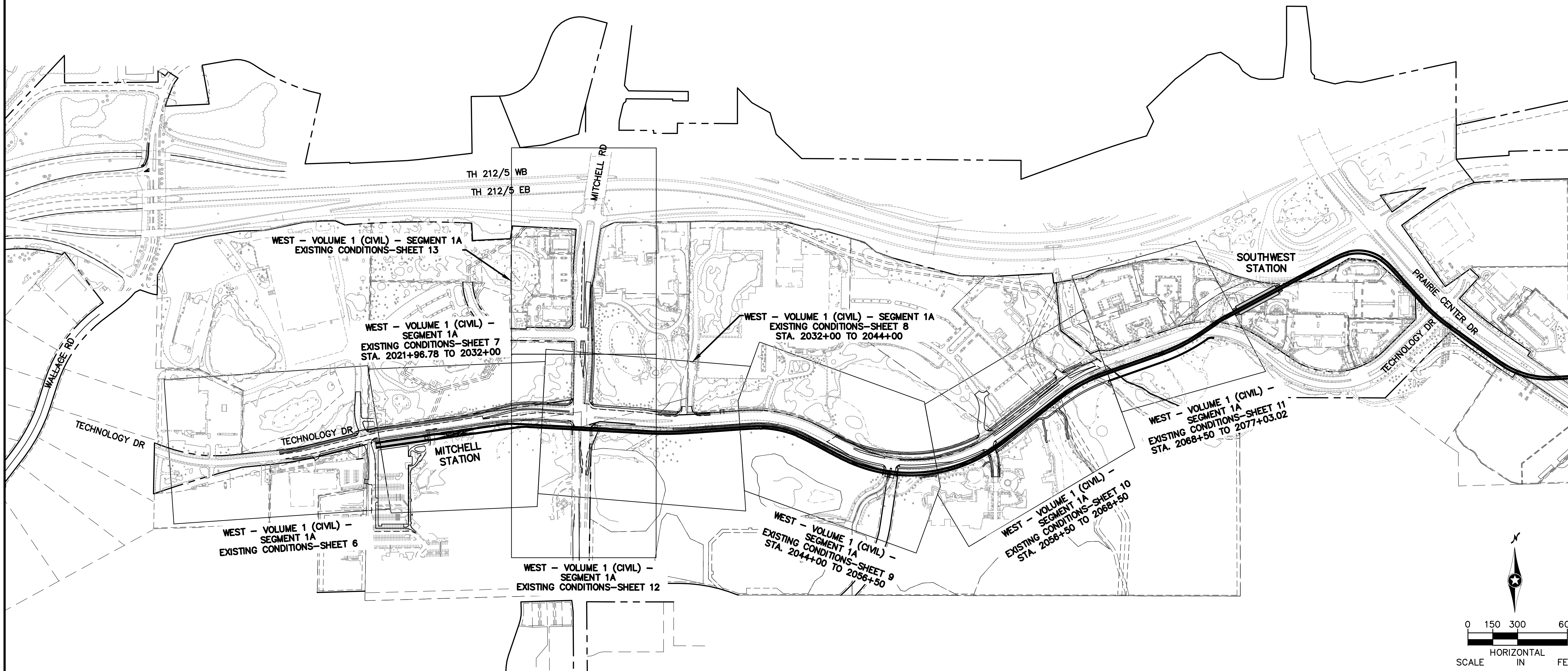
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
EXISTING CONDITIONS
CONTROL POINTS PLAN

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-CTRL-001



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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A EXISTING CONDITIONS SHEET INDEX

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-IDX-001

Jun, 27 2014 09:47 am V:\3200_pec-w\CAD\SEGMENT-W1A\LAYOUTS\W1A-SUR-PLN.dwg By: jschneider

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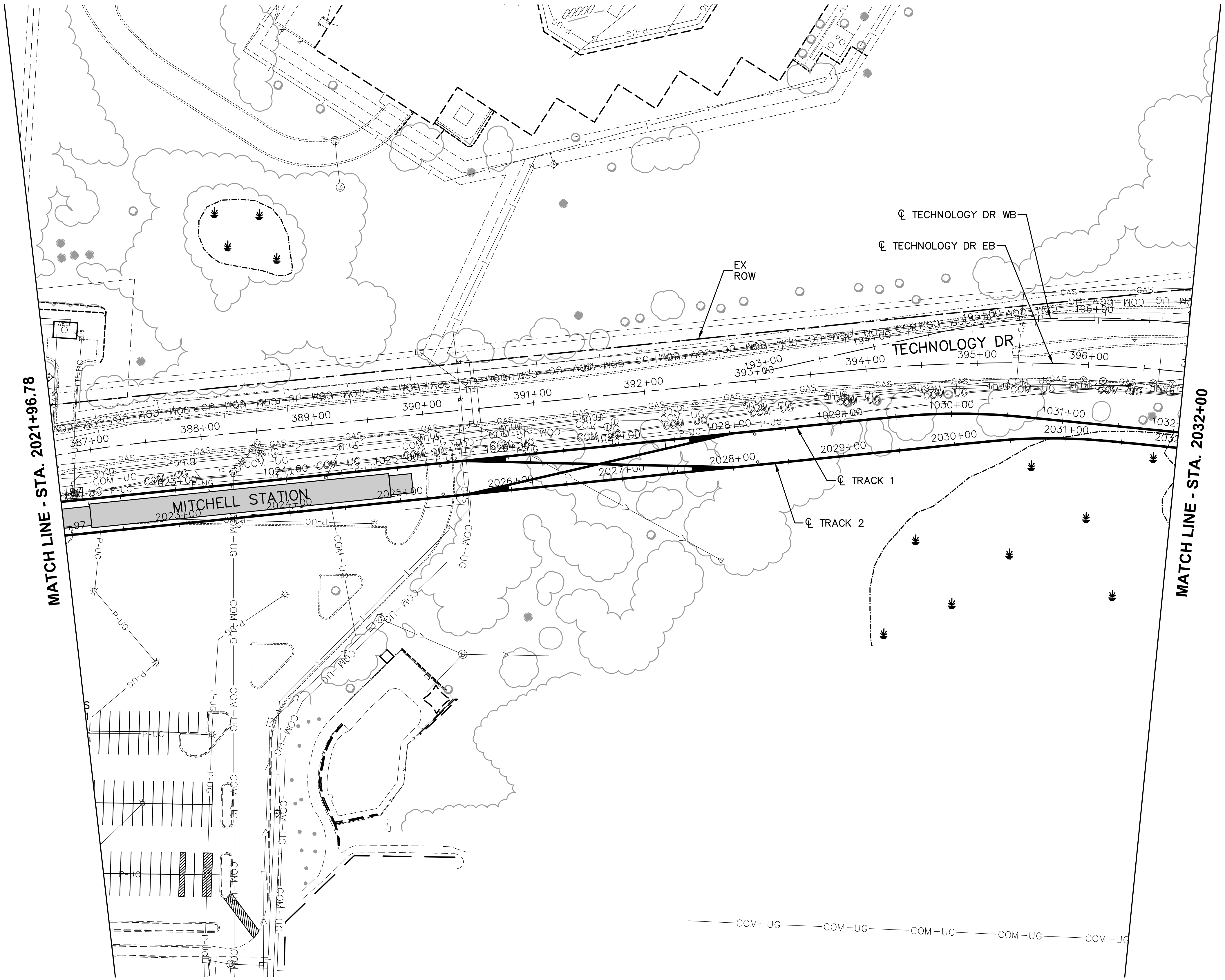
METROPOLITAN COUNCIL

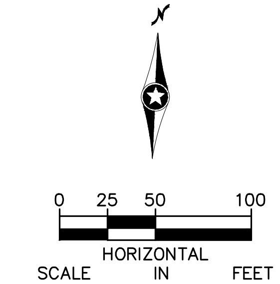
SOUTHWEST Green Line LRT

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
EXISTING CONDITIONS
PLAN

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-PLN-001





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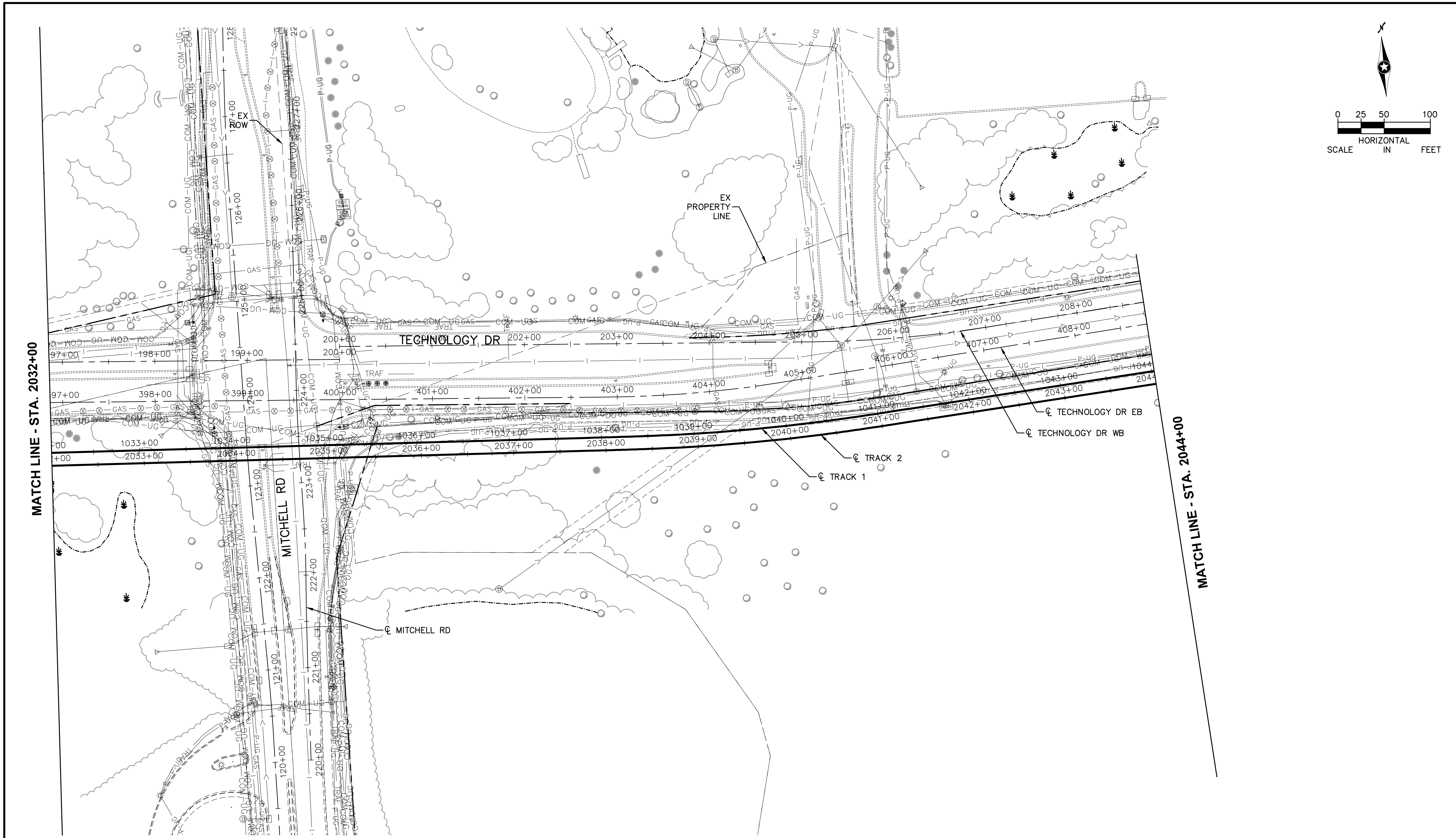
PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
EXISTING CONDITIONS
PLAN
STA. 2021+96.78 TO STA. 2032+00

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-PLN-002



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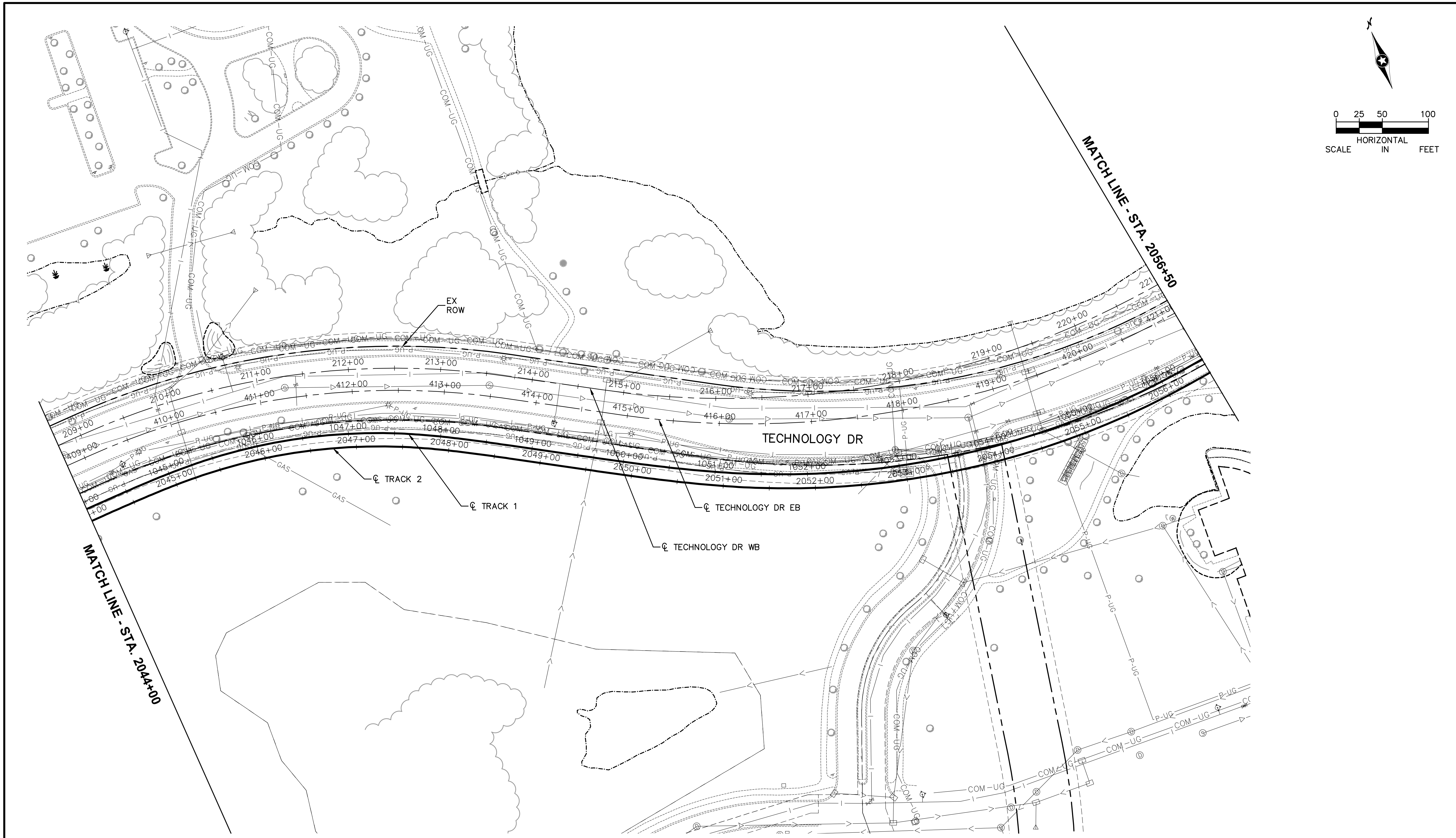
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
EXISTING CONDITIONS
PLAN
STA. 2032+00 TO STA. 2044+00

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-PLN-003

SHEET 8 OF 106



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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
EXISTING CONDITIONS
PLAN
STA. 2044+00 TO STA. 2056+50

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-PLN-004

SHEET 9 OF 106

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
EXISTING CONDITIONS
PLAN
STA. 2056+50 TO STA. 2068+50

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-PLN-005

SHEET 10 OF 106

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

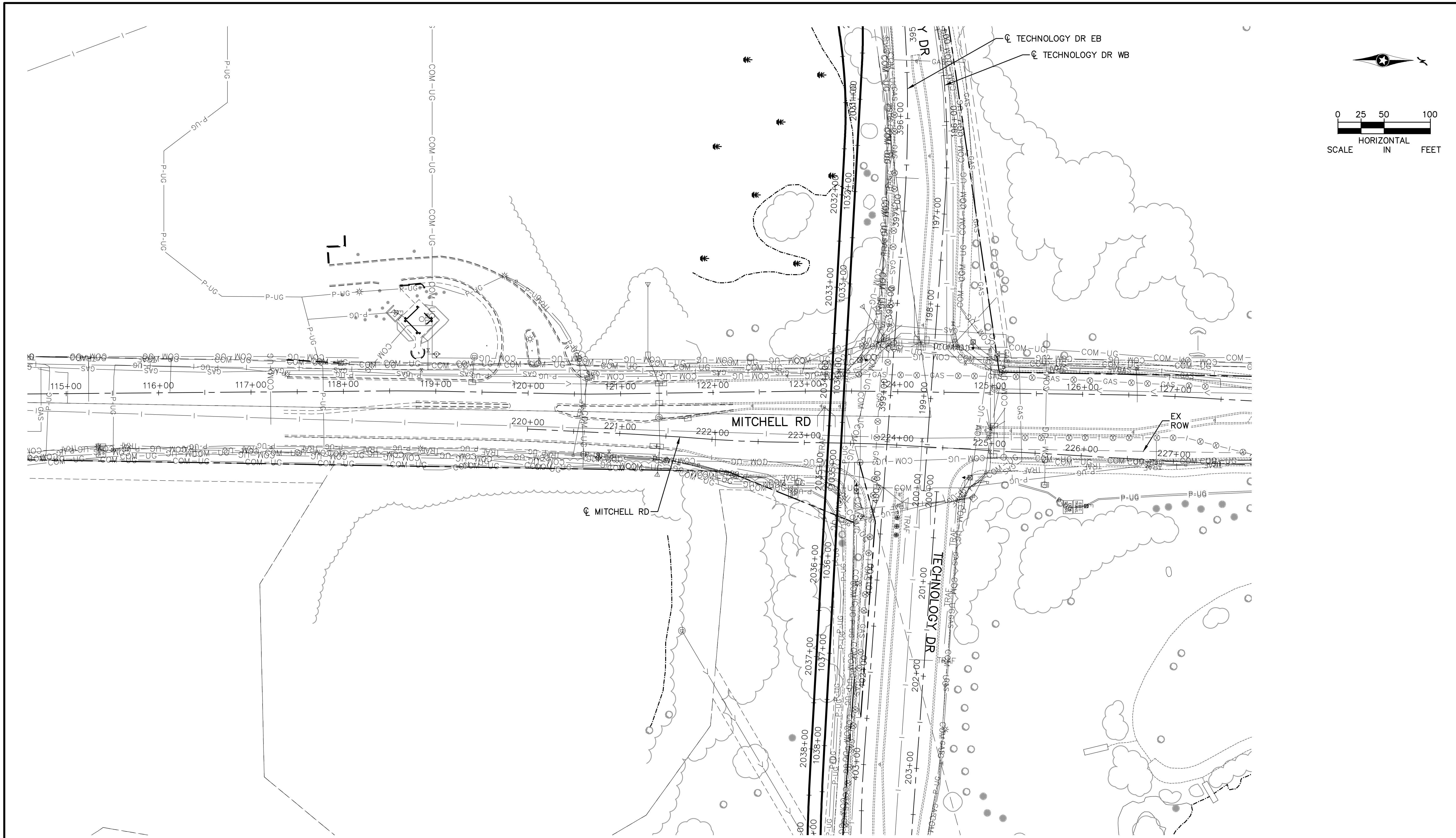
SOUTHWEST Green Line LRT

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
EXISTING CONDITIONS
PLAN
STA. 2068+50 TO STA. 2077+03.02

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-PLN-006

SHEET 11 OF 106



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A EXISTING CONDITIONS PLAN

DISCIPLINE: SURVEY

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A EXISTING CONDITIONS PLAN

DISCIPLINE: SURVEY

SHEET NAME: W1A-SUR-PLN-008

SHEET 13 OF 106

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TRACK LINETYPES

- TRACK ℄
- RETAINING WALL
- TUNNEL WALL
- ROADWAY ℄
- FENCE
- BALLAST CURB

TRACK SYMBOLS

- PROPOSED SIGNALIZED INTERSECTION
- EXISTING SIGNALIZED INTERSECTION
- PROPOSED DIRECTIONAL LANE USE
- EXISTING DIRECTIONAL LANE USE
- AUTOMATIC GATE
- RAIL TURNOUT
- RAIL CROSSOVER (DOUBLE)
- RAIL CROSSOVER (SINGLE)
- POINT OF SWITCH (PS)
- (W2-200) RAILROAD CURVE NUMBER

NOTE:
ALL TURNOUTS AND CROSSOVERS TO BE EQUIPPED WITH POWER SWITCH MACHINES AND SWITCH HEATERS

CIVIL LINETYPES

- ROADWAY ℄
- TRACK ℄
- CONCRETE CURB AND GUTTER
- TRAIL
- SIDEWALK
- DRIVEWAY
- BRIDGE
- RETAINING WALL
- TUNNEL WALL
- CROSSWALK
- STOP BAR
- MEDIAN NOSE
- SAWCUT
- FENCE
- LIMITS OF DISTURBANCE
- CONCRETE SIDEWALK JOINTING

CIVIL SYMBOLS

- ACCESSIBLE PEDESTRIAN CURB RAMP (DESIGN VARIES)
- PROPOSED SIGNALIZED INTERSECTION
- EXISTING SIGNALIZED INTERSECTION
- PROPOSED DIRECTIONAL LANE USE
- EXISTING DIRECTIONAL LANE USE
- AUTOMATIC GATE
- HANDICAP PARKING STALL
- TACTILE WARNING STRIP
- TPSS BUILDING (TPSS-SW-##)
- SIGNAL OR INTERMEDIATE OR PLATFORM OR XING OR TUNNEL HOUSE OR ANY COMBINATION OF THESE

ABBREVIATIONS

AD	ALGEBRAIC DIFFERENCE
AVE	AVENUE
BGN	BEGIN
BVCE	BEGINNING VERTICAL CURVE ELEVATION
BVCS	BEGINNING VERTICAL CURVE STATION
BLVD	BOULEVARD
BNSF	BURLINGTON NORTHERN SANTA FE RAILWAY
C&G	CURB AND GUTTER
℄	CENTERLINE
CP	CANADIAN PACIFIC
CPRAIL	CANADIAN PACIFIC RAILWAY
CS	CURVE TO SPIRAL
CSAH	COUNTY STATE AID HIGHWAY
DF	DIRECT FIXATION
DR	DRIVE
Ea	ACTUAL SUPERELEVATION (INCHES)
EB	EAST BOUND
ELEV	ELEVATION
Eu	UNBALANCED SUPERELEVATION (INCHES)
EVCE	ENDING VERTICAL CURVE ELEVATION
EVCS	ENDING VERTICAL CURVE STATION
EX	EXISTING
HCRRA	HENNEPIN COUNTY REGIONAL RAILROAD AUTHORITY
LH	LEFT HAND
Ls	SPIRAL LENGTH (FEET)
MPLS	CITY OF MINNEAPOLIS
MPRB	MINNEAPOLIS PARK AND RECREATION BOARD
N	NORTH
NB	NORTH BOUND
NO	NUMBER
OCS	OVERHEAD CONTACT SYSTEM
OH	OVERHEAD
PC	POINT OF CURVE
PE	PROPOSED EASEMENT
PITO	POINT OF INTERSECTION OF TURNOUT
PKWY	PARKWAY
POT	POINT ON TANGENT
PROP	PROPOSED
PS	POINT OF SWITCH
PT	POINT OF TANGENT
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS (FEET)
r	RATE OF CHANGE VERTICAL CURVE
RH	RIGHT HAND
ROW	RIGHT OF WAY
S	SOUTH
SB	SOUTH BOUND
SC	SPIRAL TO CURVE
SIG-COMM	SIGNAL COMMUNICATION
ST	STREET
ST	SPIRAL TO TANGENT
STA	STATION
TCE	TEMPORARY CONSTRUCTION EASEMENT
TOR	TOP OF RAIL
TPSS	TRACTION POWER SUBSTATION
TRK	TRACK
TS	TANGENT TO SPIRAL
UG	UNDERGROUND
V	DESIGN VELOCITY (MPH)
WB	WEST BOUND

TRAIL INDEX

ABBREVIATED NAME	FULL NAME/LOCATION
MN RIVER BLUFFS TRAIL	MINNESOTA RIVER BLUFFS LRT REGIONAL TRAIL/WEST OF EXCELSIOR
CEDAR LAKE TRAIL	CEDAR LAKE LRT REGIONAL TRAIL/EAST OF EXCELSIOR
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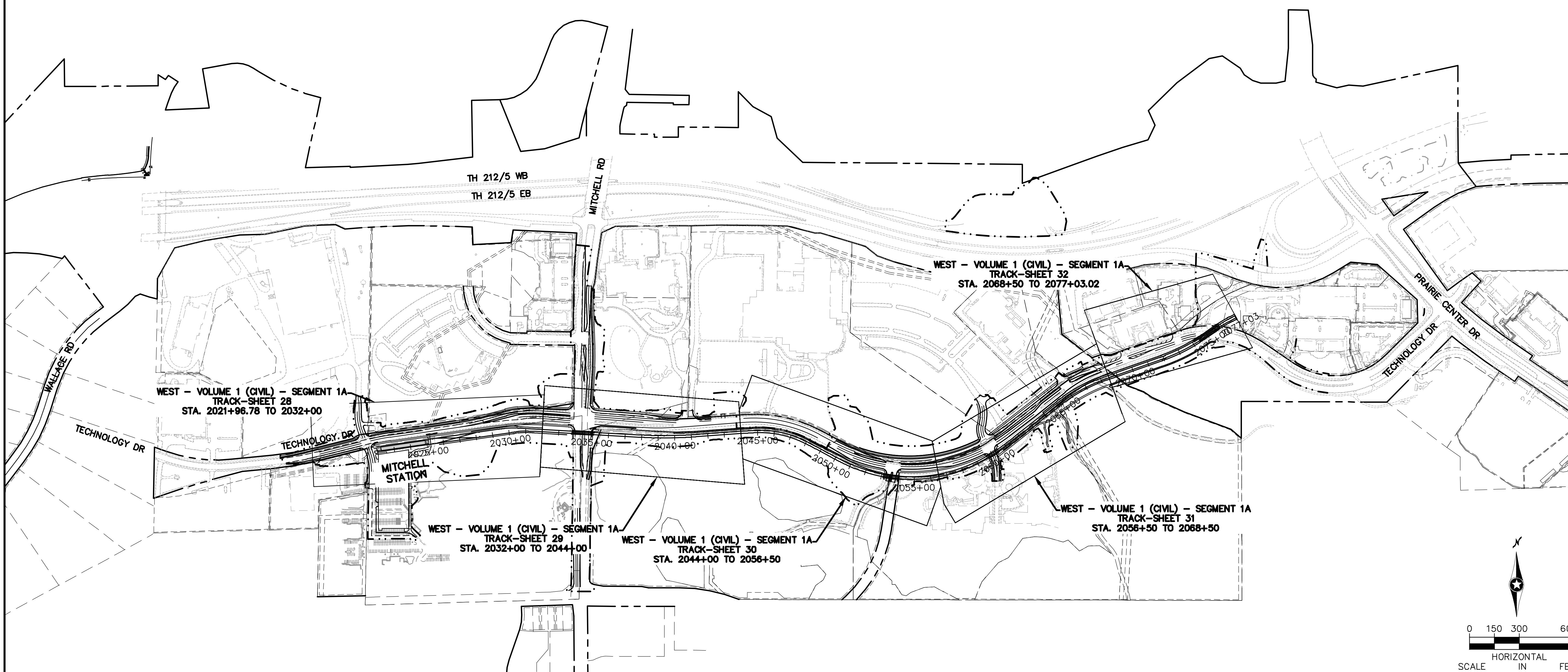
TRAIL D	10' CONNECTOR TRAIL/BELTLINE STATION
KENILWORTH TRAIL	KENILWORTH TRAIL (MAIN)/W LAKE ST TO PENN STATION
TRAIL E	KENILWORTH TRAIL (SECONDARY)/W LAKE ST TO CEDAR LAKE PKWY
TRAIL F	KENILWORTH TRAIL (SECONDARY)/WEST OF PENN STATION
TRAIL F	NORTH CEDAR LAKE TRAIL (SECONDARY)/EAST OF PENN STATION
TRAIL G	KENILWORTH TRAIL (SECONDARY)/WEST OF PENN STATION
TRAIL G	NORTH CEDAR LAKE TRAIL (SECONDARY)/EAST OF PENN STATION
TRAIL H	10' CONNECTOR TRAIL/EAST OF PENN STATION TO KENWOOD PKWY
TRAIL I	NORTH CEDAR LAKE TRAIL (MAIN) ON BRIDGE OVER LIGHT RAIL
TRAIL J	NORTH CEDAR LAKE TRAIL (SECONDARY)/NORTHWEST OF PENN STATION
TRAIL K	NORTH CEDAR LAKE TRAIL (SECONDARY)/NORTHWEST OF PENN STATION
TRAIL L	20' CONNECTOR TRAIL/VAN WHITE STATION
TRAIL M	NORTH CEDAR LAKE TRAIL (SECONDARY)/EAST OF I-94
TRAIL N	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO EDGEBROOK DRIVE
TRAIL O	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO W. LAKE STREET
TRAIL P	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO LOUISIANA AVE.
TRAIL Q	10' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO T.H. 7 SERVICE ROAD



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

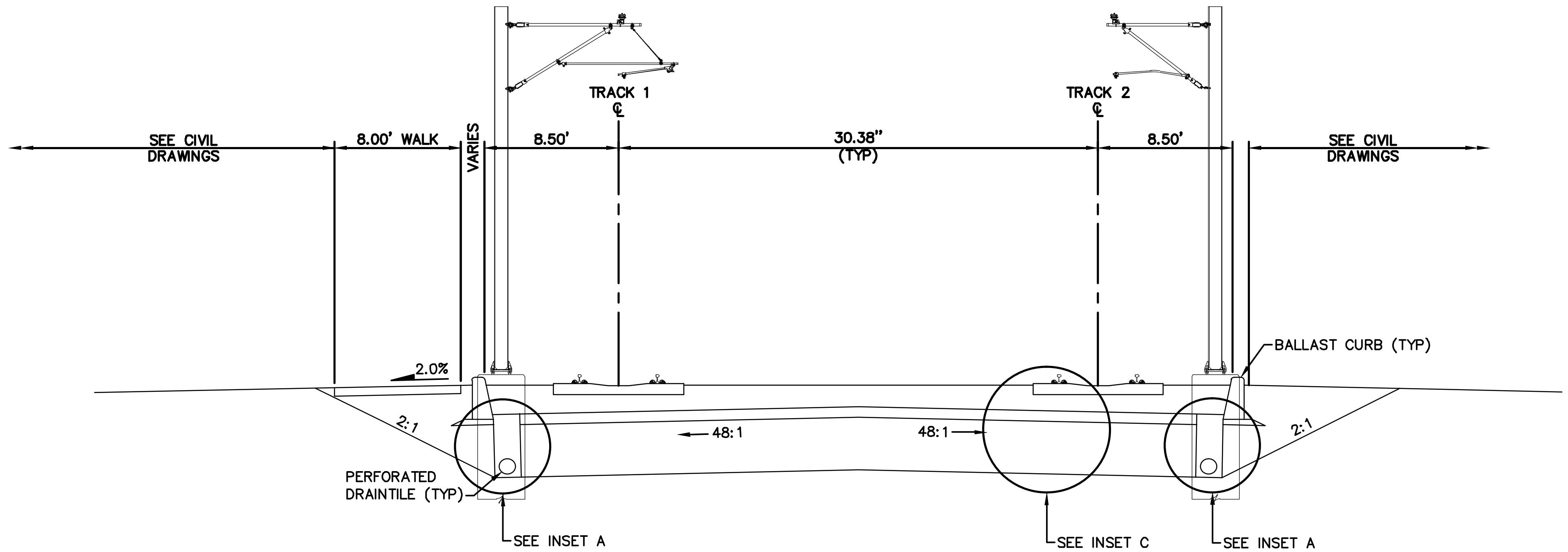
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
SHEET INDEX

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-IDX-001

NOTE:
1. FOR INSETS, SEE SHEET 25.
2. NO. 8 DOUBLE CROSSOVER FROM STA. 2025+39 TO STA. 2028+22 NOT DEPICTED.
3. FOR DUCTBANK CONFIGURATION, SEE SYSTEMS PLANS.



TYPICAL SECTION
STA. 2021+97 TO STA. 2022+22
STA. 2024+92 TO STA. 2025+75

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

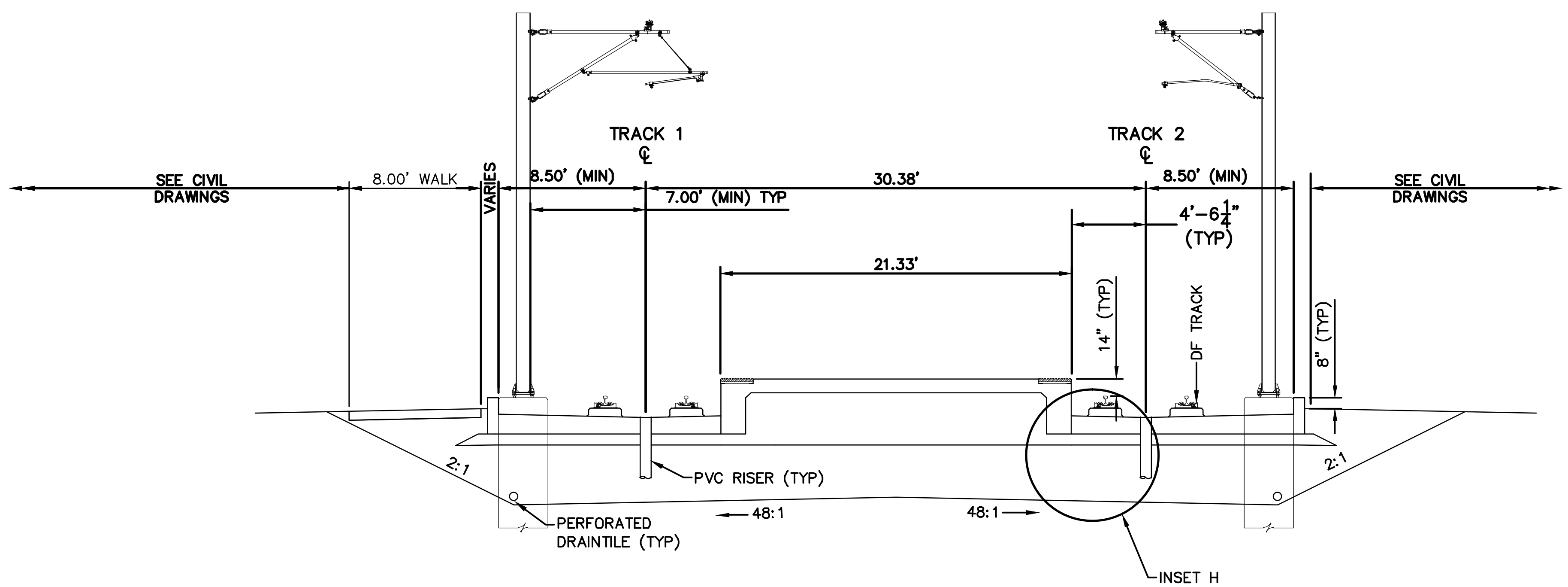
WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-TYP-001

Jun, 27 2014 09:13 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\TRACK\W1A-TRK-TYPC.dwg By: konenjj

NOTE:
1. DIRECT FIXATION TRACK THROUGH STATION.
2. FOR INSETS, SEE SHEET 25.
3. FOR DUCTBANK CONFIGURATION, SEE SYSTEMS PLANS.



TYPICAL SECTION – MITCHELL STATION
STA. 2022+22 TO STA. 2024+92

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

Jun, 27 2014 09:14 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\TRACK\W1A-TRK-TYPC.dwg By: konenjl

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

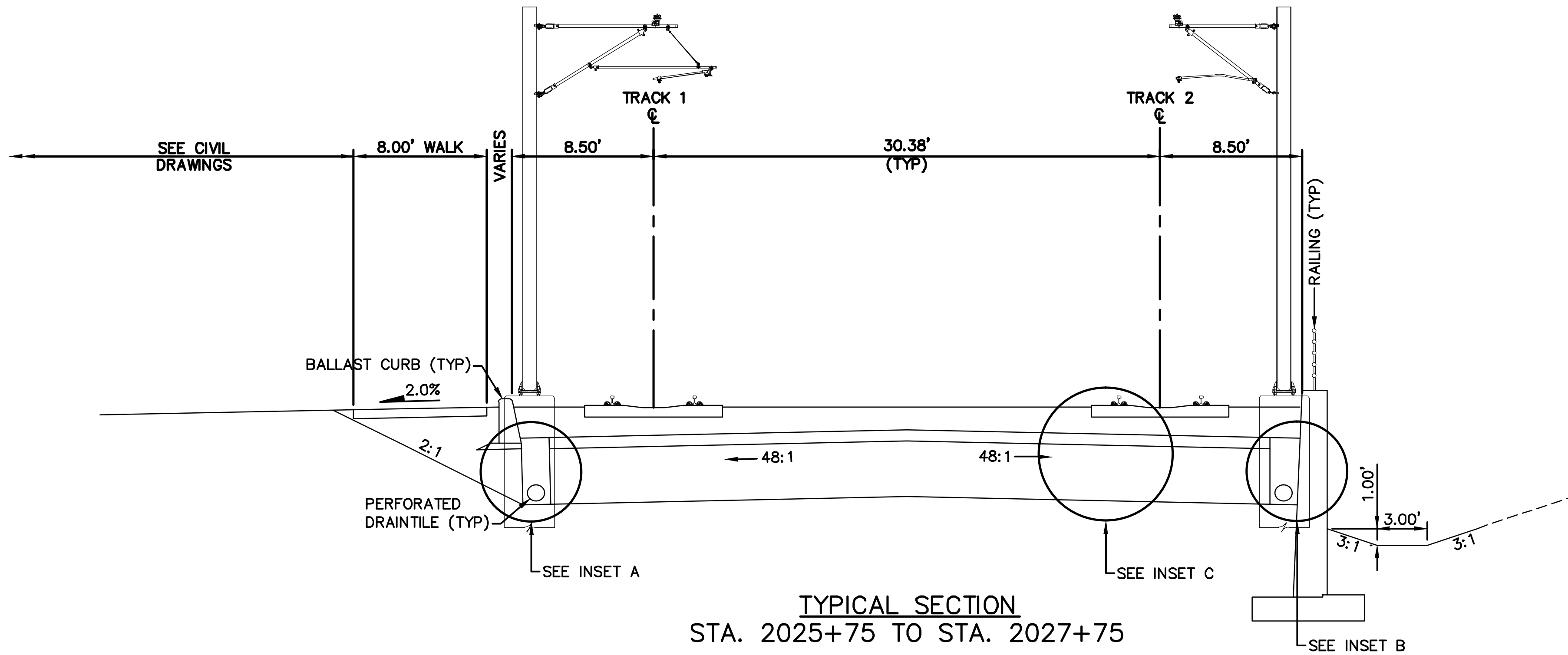
WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-TYP-002

SHEET 17 OF 106

NOTE:
1. FOR INSETS, SEE SHEET 25.
2. NO. 8 DOUBLE CROSSOVER FROM STA. 2025+39 TO STA. 2028+22 NOT DEPICTED.
3. FOR DUCTBANK CONFIGURATION, SEE SYSTEMS PLANS.



TYPICAL SECTION
STA. 2025+75 TO STA. 2027+75

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

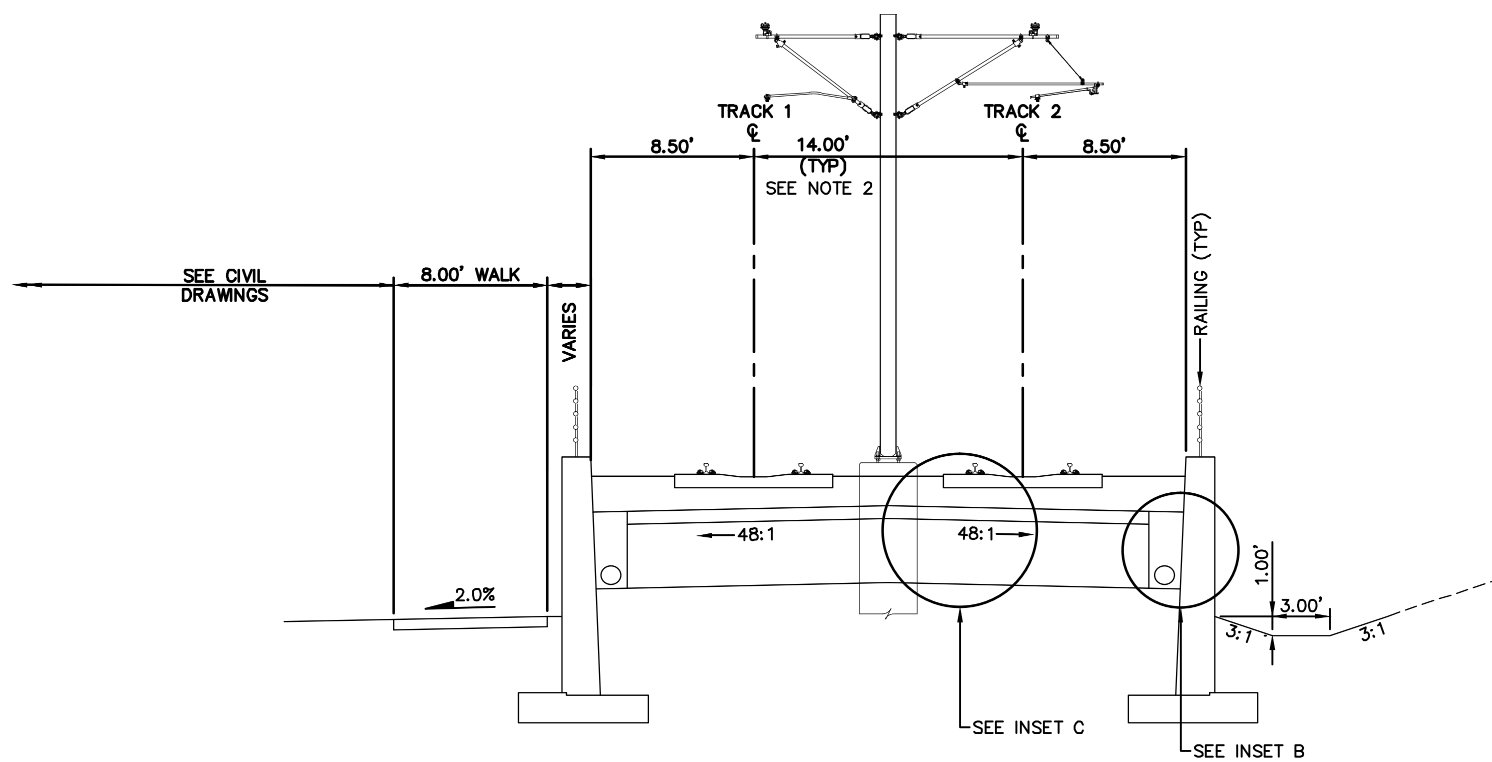
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-TYP-003

NOTE:
1. FOR INSETS, SEE SHEET 25.
2. TRACK CENTERS NARROW FROM 30.38' TO 14.00' BETWEEN STA. 2029+35 AND STA. 2031+56.
3. NO. 8 DOUBLE CROSSOVER FROM STA. 2025+39 TO STA. 2028+22 NOT DEPICTED.
4. FOR DUCTBANK CONFIGURATION, SEE SYSTEMS PLANS.



TYPICAL SECTION
STA. 2027+75 TO STA. 2032+00

0 2.5 5 10
HORIZONTAL SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

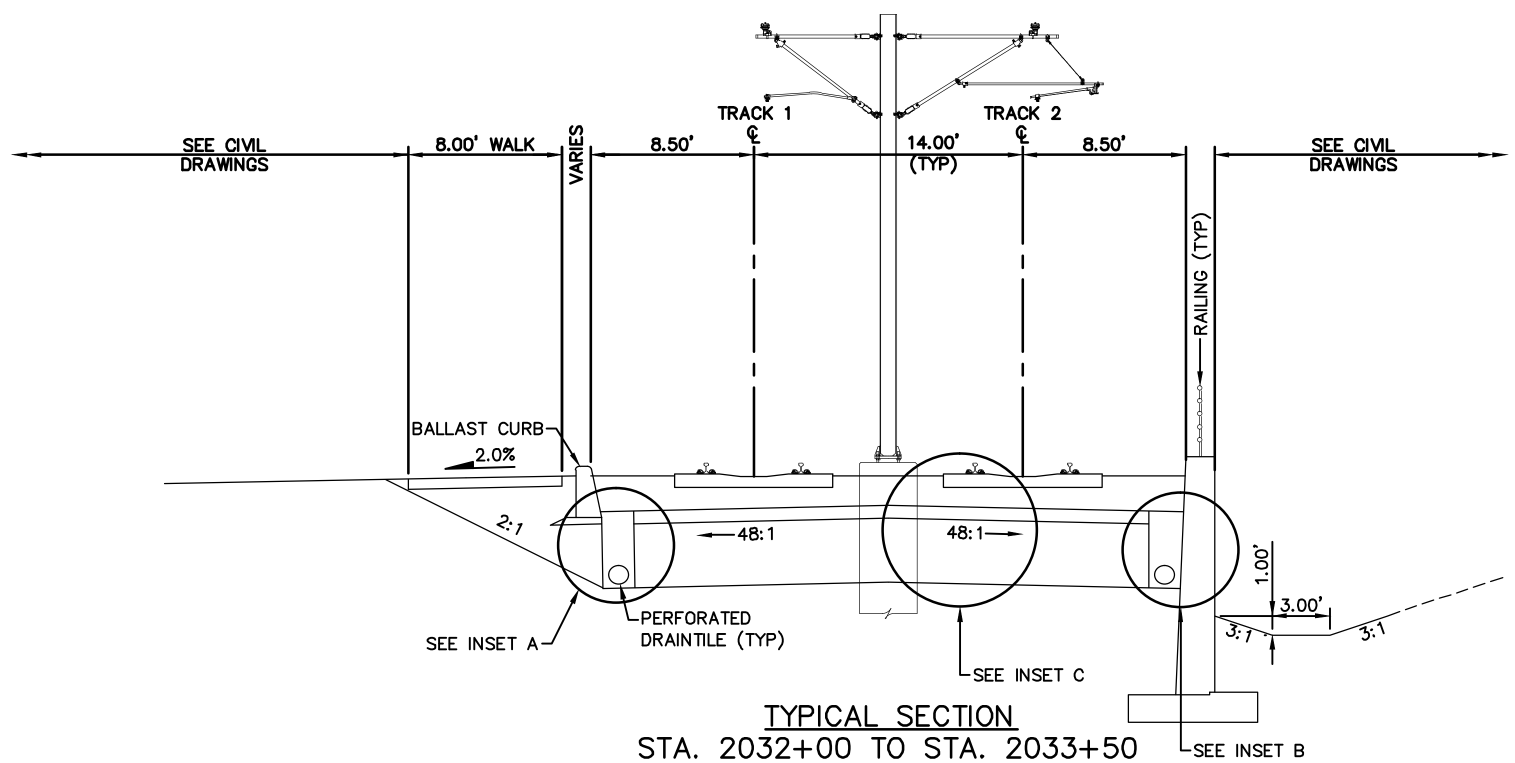
DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-TYP-004

SHEET 19 OF 106

Jun, 27 2014 09:14 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\TRACK\W1A-TRK-TYPC.dwg By: konenjj

NOTE:
1. FOR INSETS, SEE SHEET 25.
2. FOR DUCTBANK CONFIGURATION, SEE SYSTEMS PLANS.



TYPICAL SECTION
STA. 2032+00 TO STA. 2033+50

0 2.5 5 10
HORIZONTAL SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

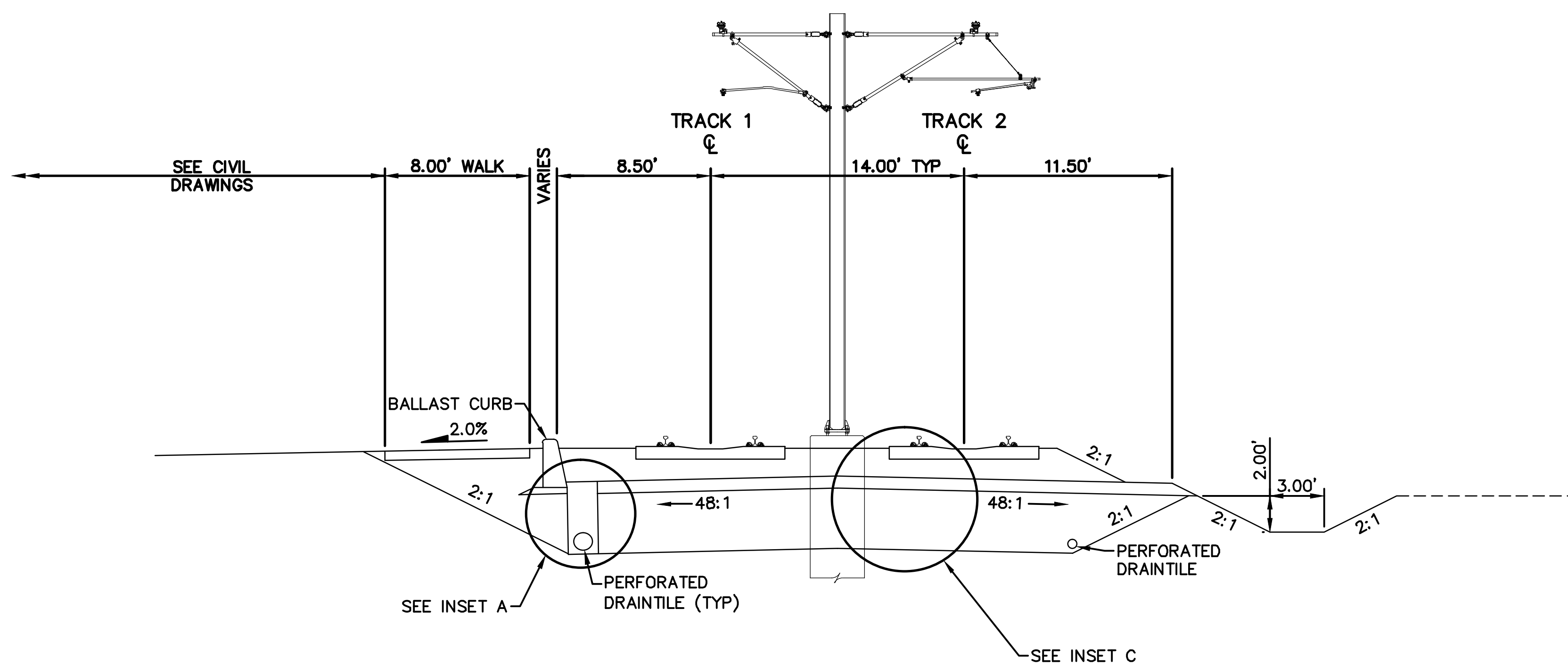
DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-TYP-005

SHEET 20 OF 106

Jun. 27 2014 09:14 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\TRACK\W1A-TRK-TYPC.dwg By: konenjl

NOTE:
1. LIMITS OF SECTION INCLUDE AT-GRADE CROSSINGS THAT ARE NOT DEPICTED.
2. FOR INSETS, SEE SHEET 25.
3. FOR DUCTBANK CONFIGURATION, SEE SYSTEMS PLANS.



TYPICAL SECTION
STA. 2033+50 TO STA. 2060+36

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

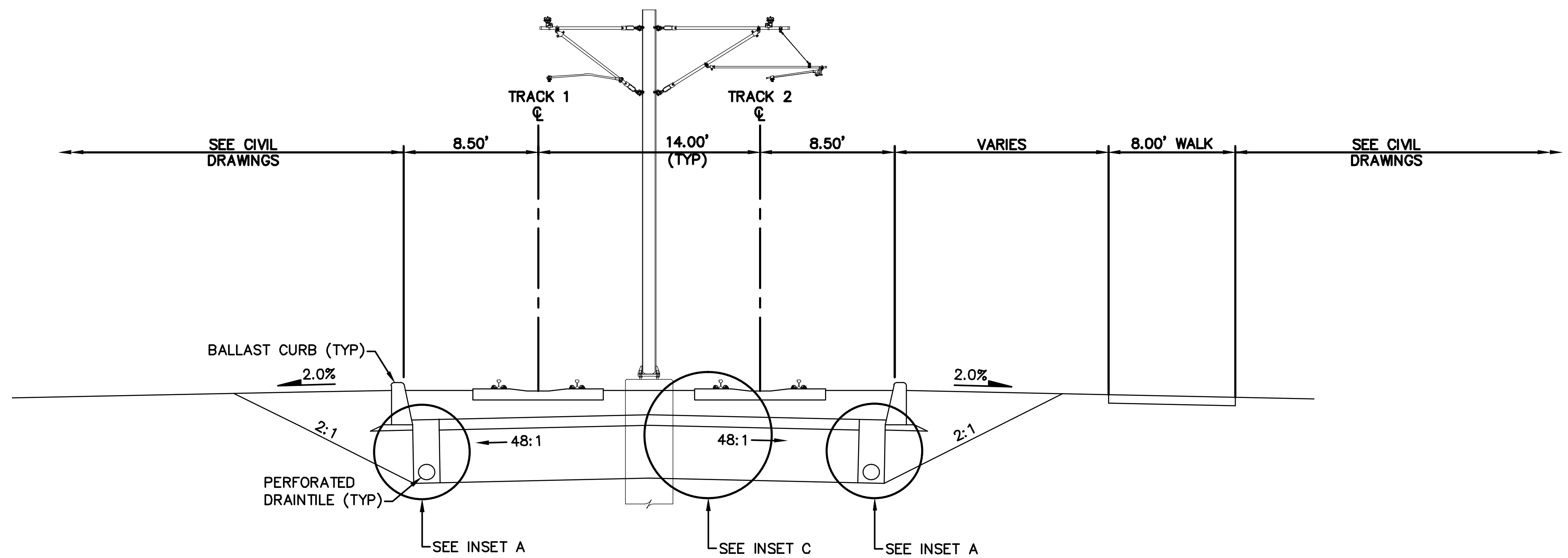
DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-TYP-006

SHEET 21 OF 106

Jun, 27 2014 09:15 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\TRACK\W1A-TRK-TYPC.dwg By: konenjl

NOTE:
1. FOR INSETS, SEE SHEET 25.
2. FOR DUCTBANK CONFIGURATION, SEE SYSTEMS PLANS.



TYPICAL SECTION
STA. 2060+36 TO STA. 2060+75

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HORIZONTAL
SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

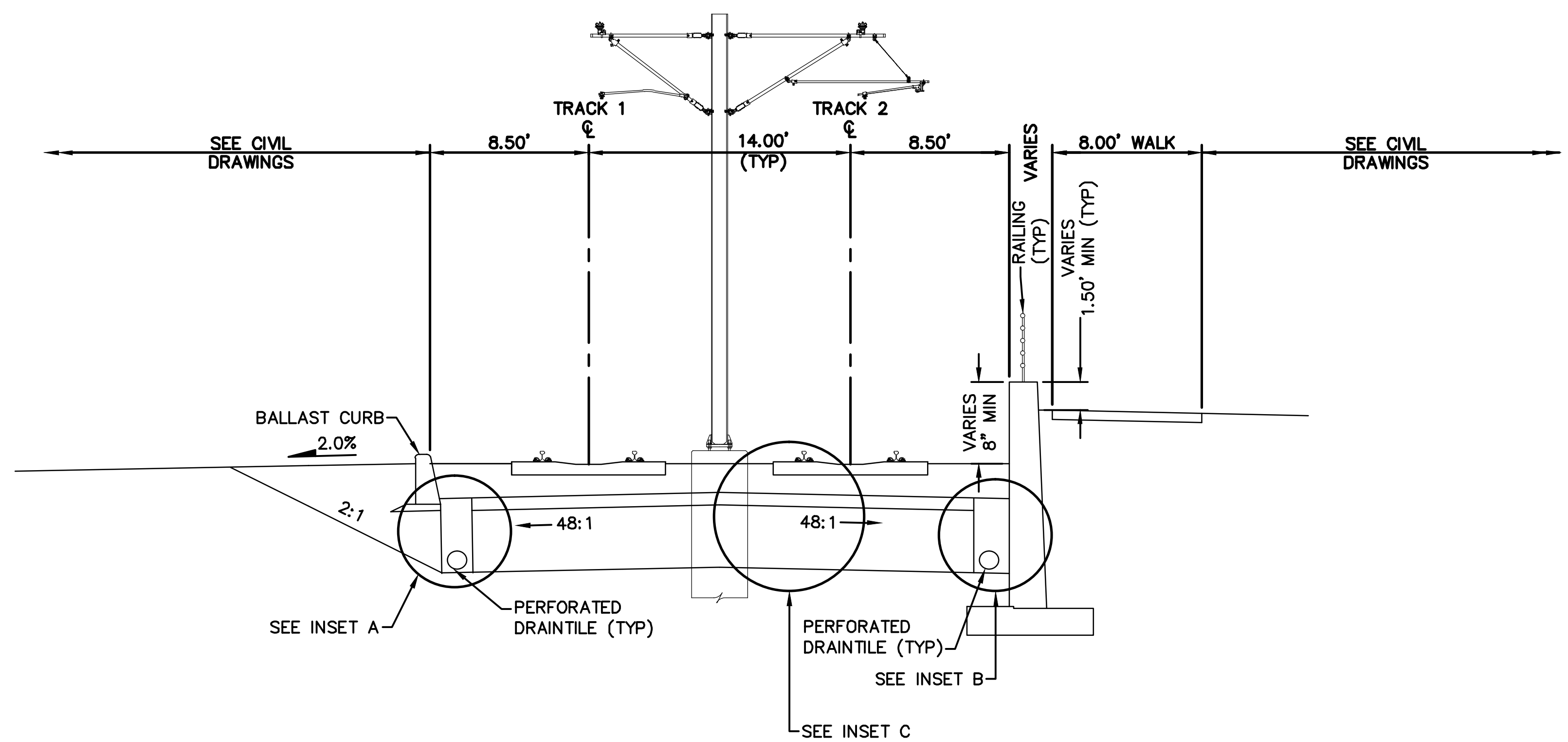
WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

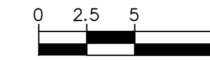
SHEET NAME: W1A-TRK-TYP-007

SHEET 22 OF 106

NOTE:
1. FOR INSETS, SEE SHEET 25.
2. FOR DUCTBANK CONFIGURATION, SEE SYSTEMS PLANS.



TYPICAL SECTION
STA. 2060+75 TO STA. 2064+00



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

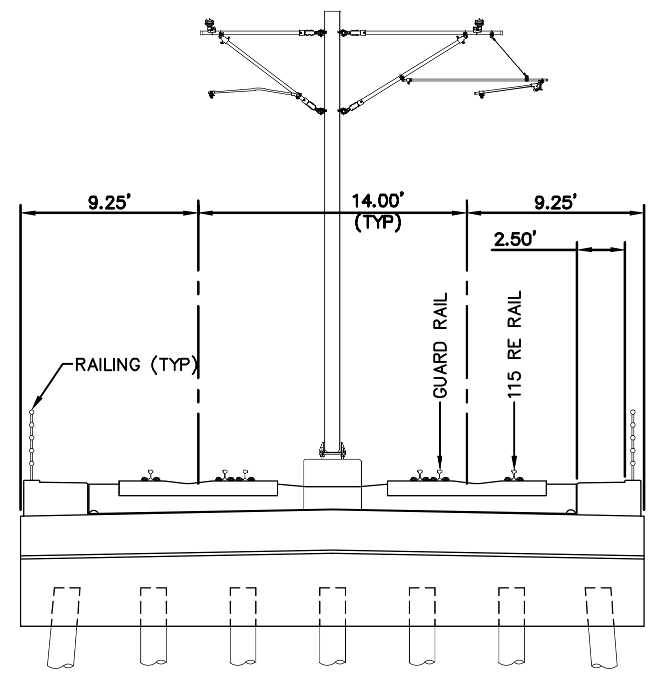
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-TYP-008

NOTE:
1. LIMITS OF SECTION INCLUDE AT-GRADE CROSSING NOT DEPICTED.
2. BOARDWALK LOCATED BETWEEN STA. 2064+00 AND STA. 2074+70 NOT DEPICTED.
3. FOR DUCTBANK CONFIGURATION, SEE SYSTEMS PLANS.



TYPICAL SECTION
STA. 2064+00 TO STA. 2077+03

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

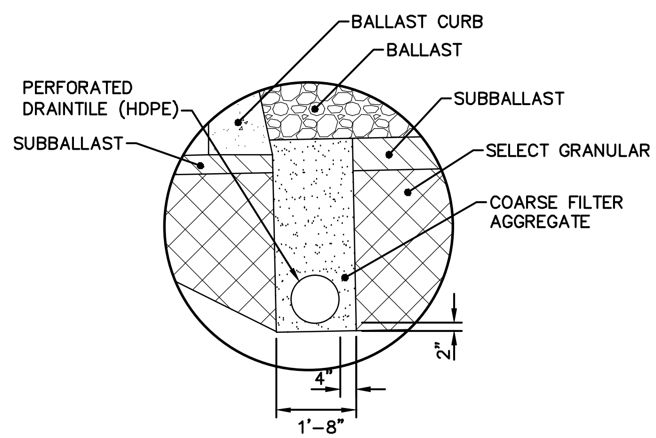
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

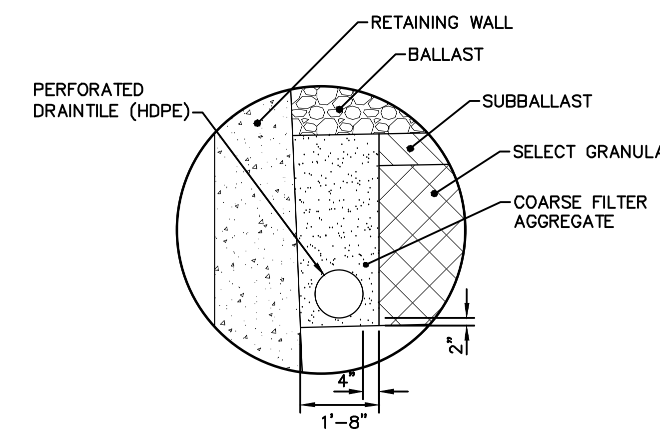
SHEET NAME: W1A-TRK-TYP-009

SHEET 24 OF 106



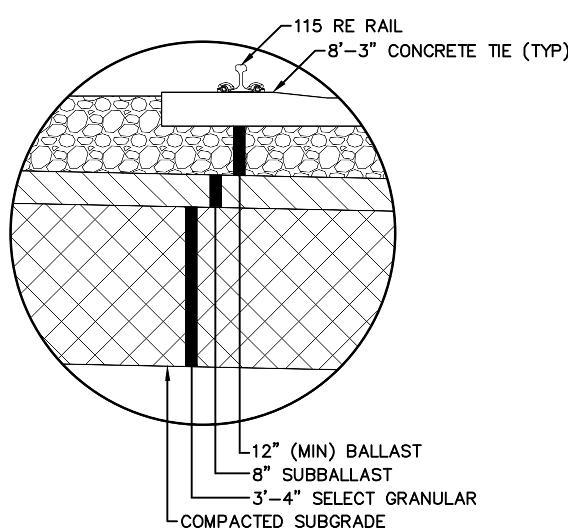
INSET A – BALLAST CURB INTERFACE

NOTE: LEFT SIDE DRAINAGE TRENCH ILLUSTRATED.
FOR RIGHT SIDE, MIRROR SECTION.

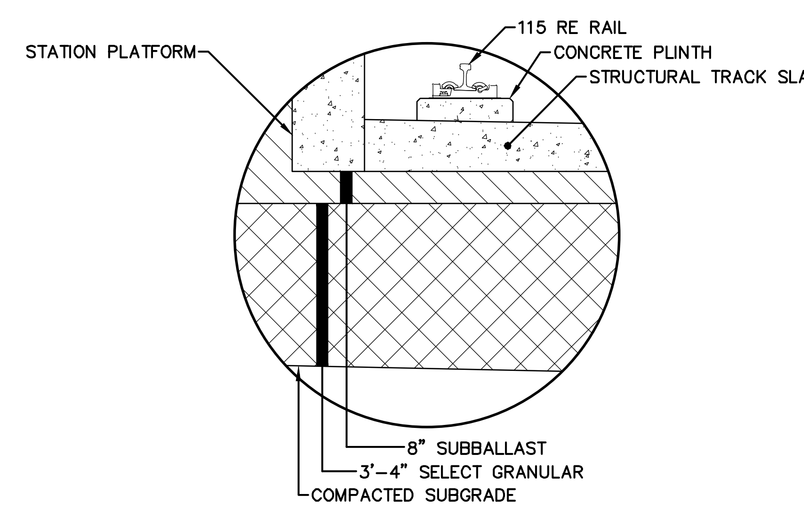


INSET B – RETAINING WALL INTERFACE

NOTE: LEFT SIDE DRAINAGE TRENCH ILLUSTRATED.
FOR RIGHT SIDE, MIRROR SECTION.



INSET C – TYPICAL BALLASTED TRACK



INSET H – TYPICAL DIRECT FIXATION INTERFACE
AT STATION PLATFORM

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PRELIMINARY ENGINEERING

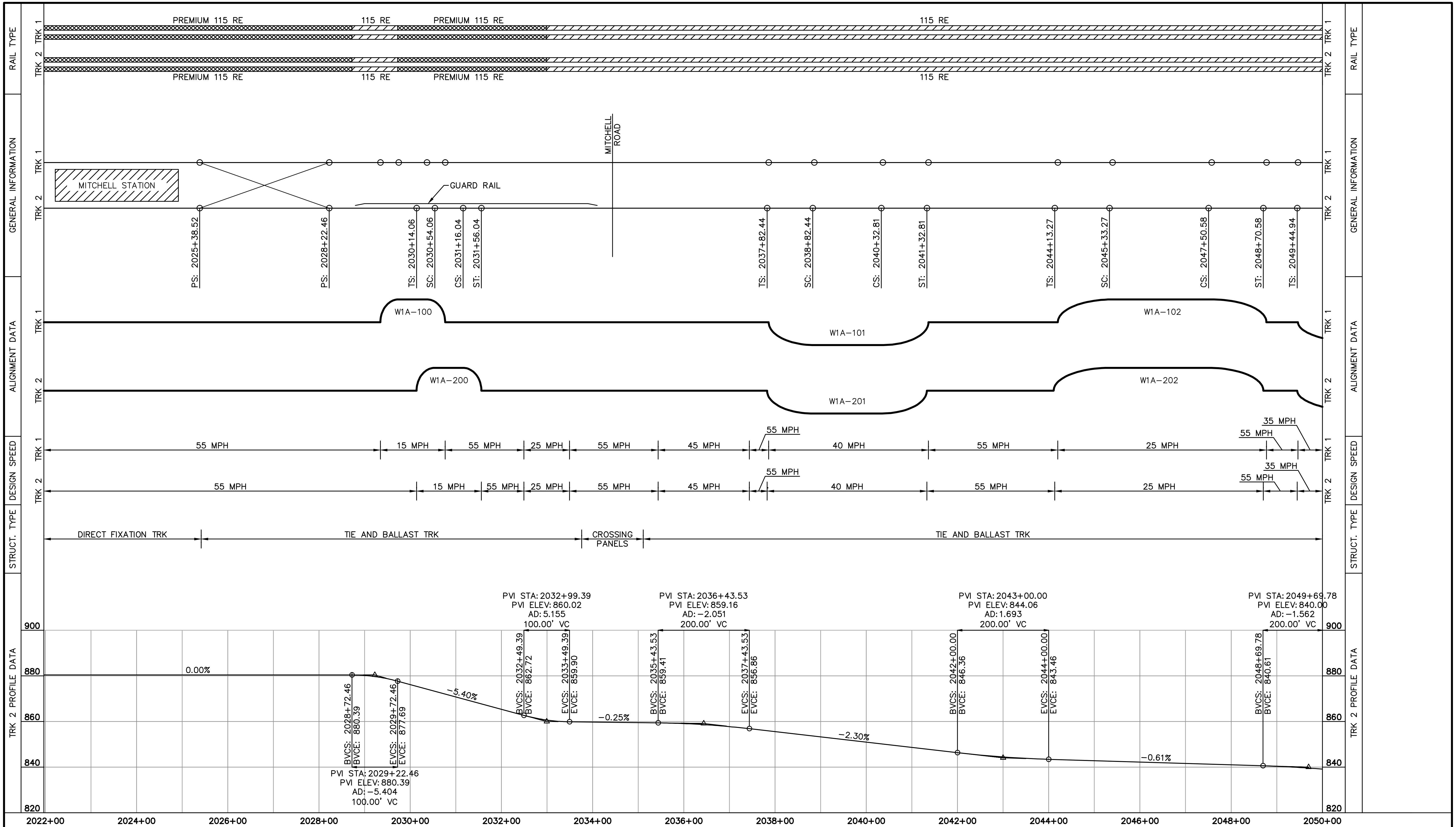
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
TYPICAL SECTIONS

DISCIPLINE: **TRACK**

SHEET NAME: **W1A-TRK-TYP-INS**



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

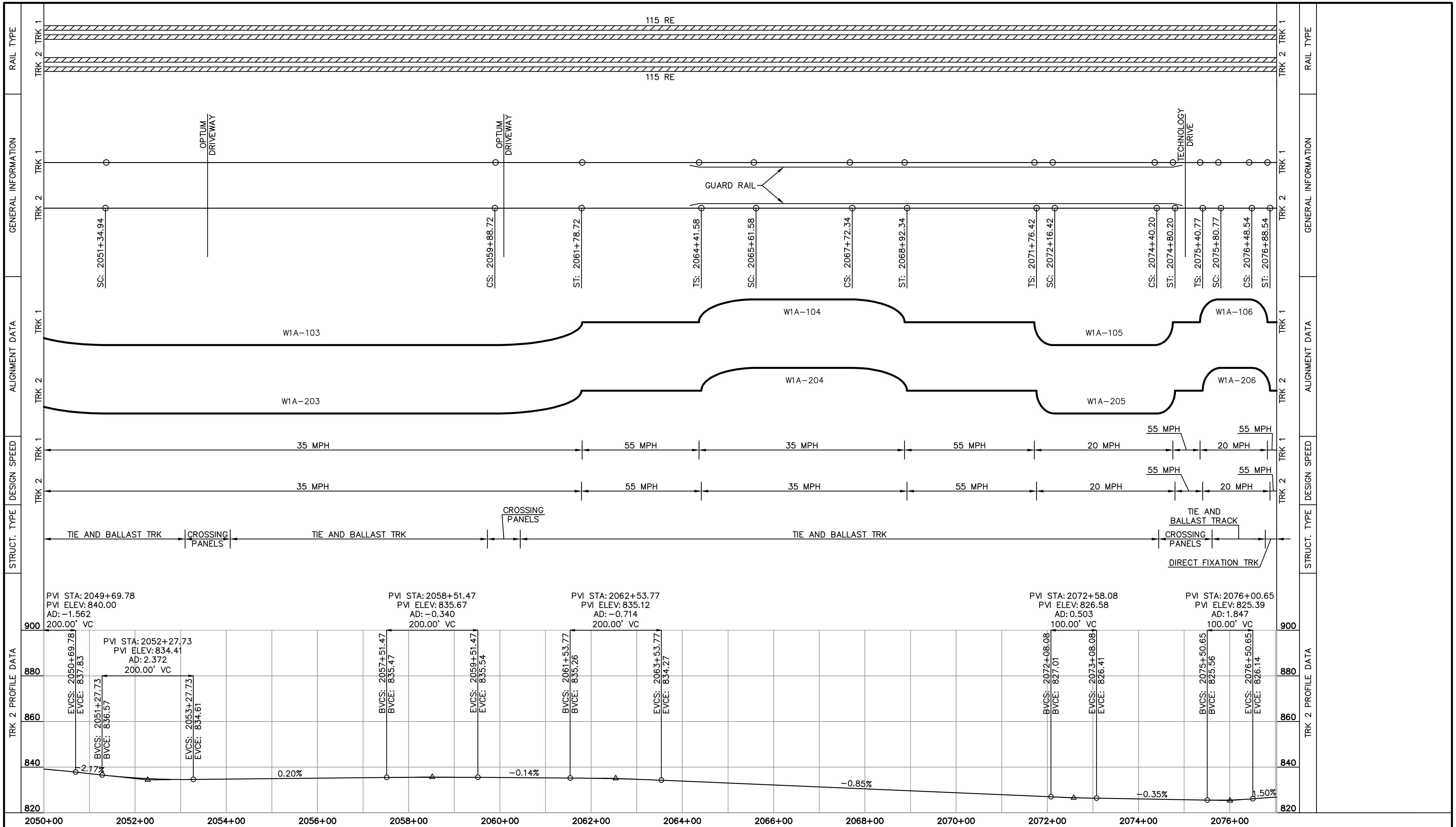
WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK CHARTS
STA. 2021+97 TO STA. 2050+00

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-CHRT-001

SHEET 26 OF 106

Aug. 27 2014 03:27 pm V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\TRACK\W1A-TRK-CHRT-EX.dwg By: MaurisakB



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

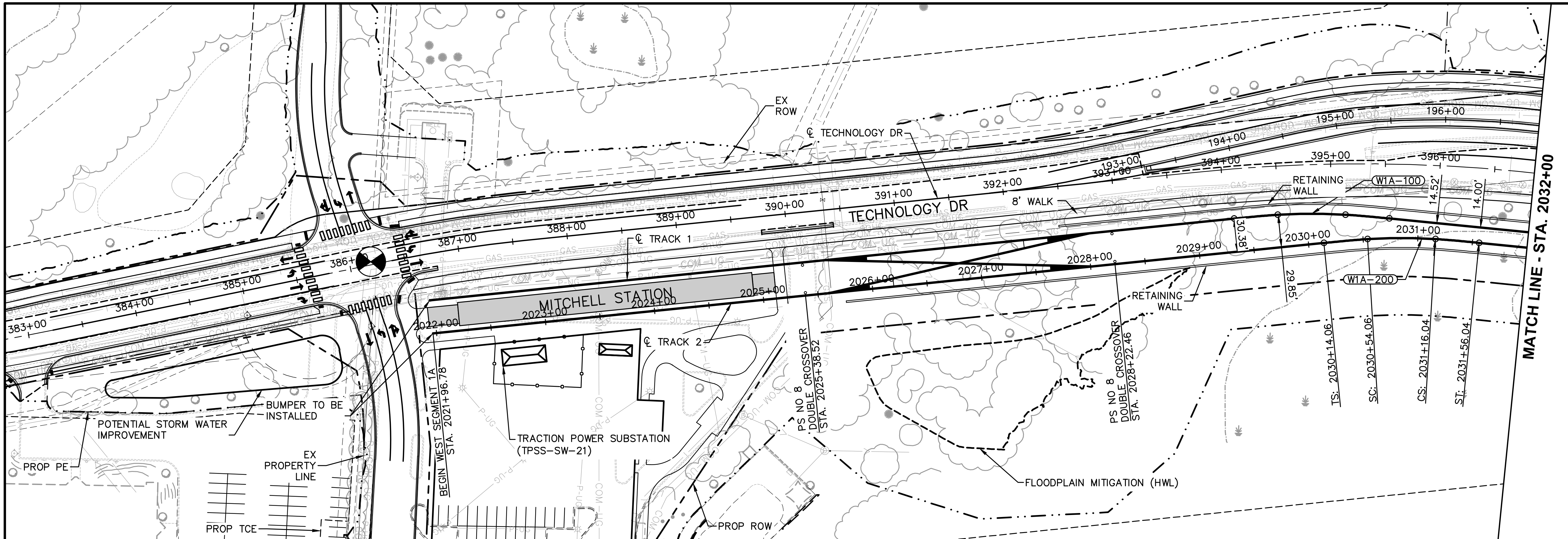
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK CHARTS
STA. 2050+00 TO STA. 2077+03

DISCIPLINE: TRACK

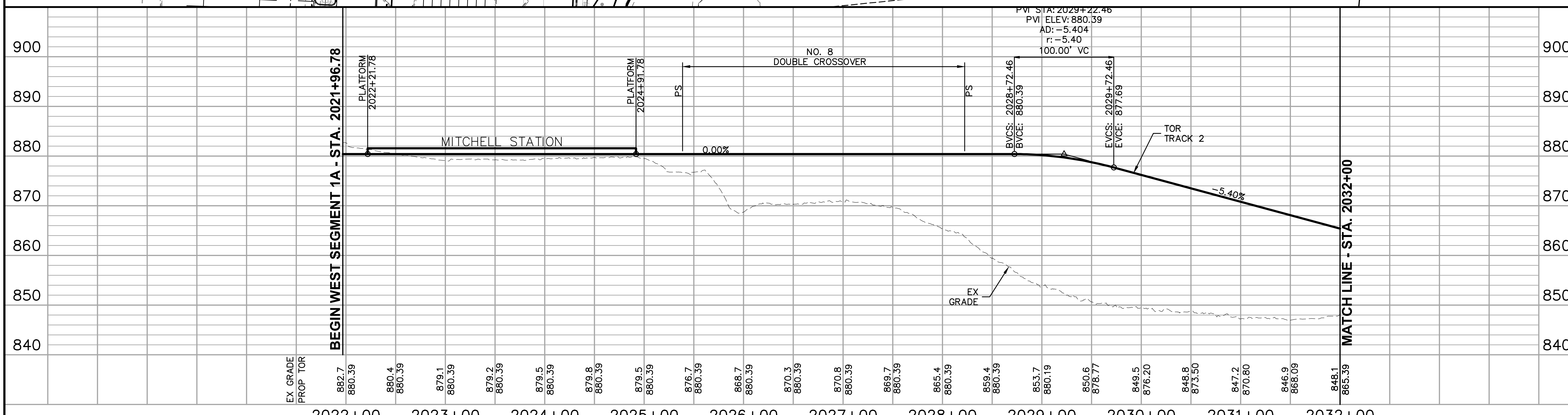
SHEET NAME: W1A-TRK-CHRT-002

SHEET 27 OF 106



CURVE NO. W1A-200
R = 510'
Lc = 61.97'
Ls = 40'
Ea = 0.5"
Eu = 1.25"
V = 15 MPH

CURVE NO. W1A-100
R = 510'
Lc = 61.97'
Ls = 40'
Ea = 0.5"
Eu = 1.25"
V = 15 MPH



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PRELIMINARY ENGINEERING

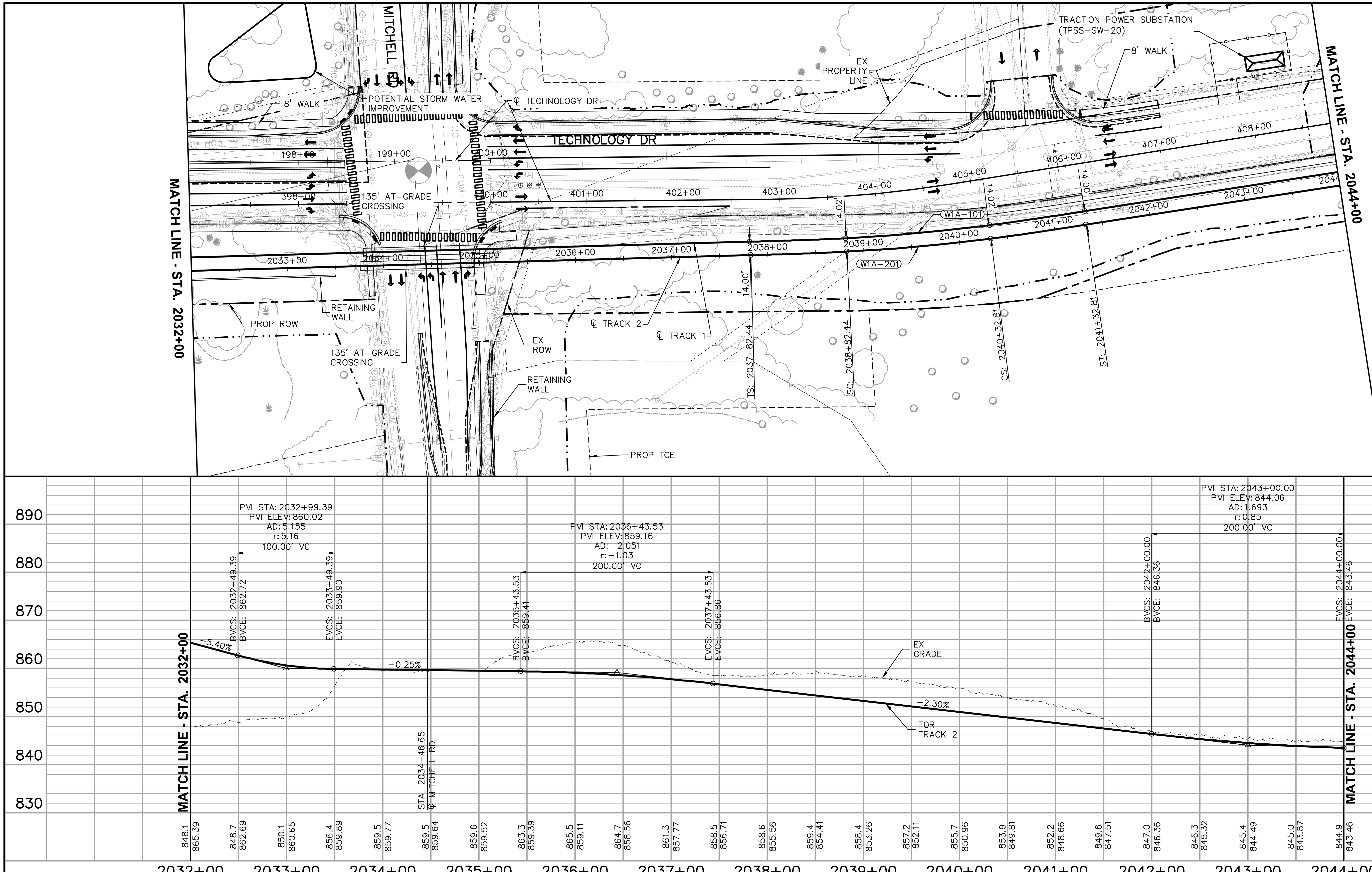
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
PLAN AND PROFILE
STA. 2021+96.78 TO STA. 2032+00

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-PPFL-001



CURVE NO. W1A-201
R = 2000'
Lc = 150.37'
Ls = 100'
Ea = 1.50"
Eu = 1.67"
V = 40 MPH

CURVE NO. W1A-101
R = 2000'
Lc = 150.37'
Ls = 100'
Ea = 1.50"
Eu = 1.67"
V = 40 MPH

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PRELIMINARY ENGINEERING

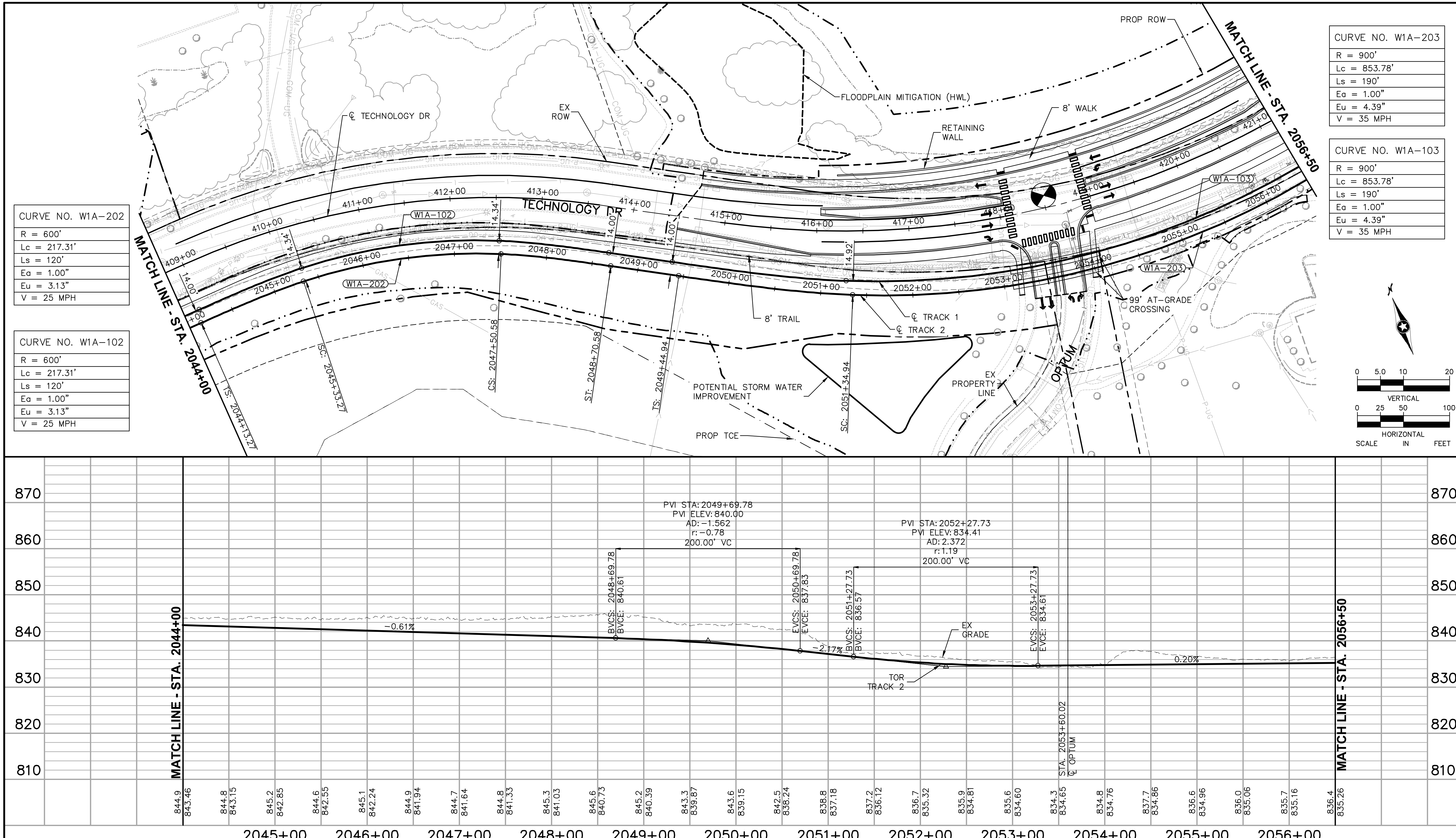
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
PLAN AND PROFILE
STA. 2032+00 TO STA. 2044+00

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-PPFL-002



CURVE NO. W1A-202
R = 600'
Lc = 217.31'
Ls = 120'
Ea = 1.00"
Eu = 3.13"
V = 25 MPH

CURVE NO. W1A-102
R = 600'
Lc = 217.31'
Ls = 120'
Ea = 1.00"
Eu = 3.13"
V = 25 MPH

CURVE NO. W1A-203
R = 900'
Lc = 853.78'
Ls = 190'
Ea = 1.00"
Eu = 4.39"
V = 35 MPH

CURVE NO. W1A-103
R = 900'
Lc = 853.78'
Ls = 190'
Ea = 1.00"
Eu = 4.39"
V = 35 MPH

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PRELIMINARY ENGINEERING

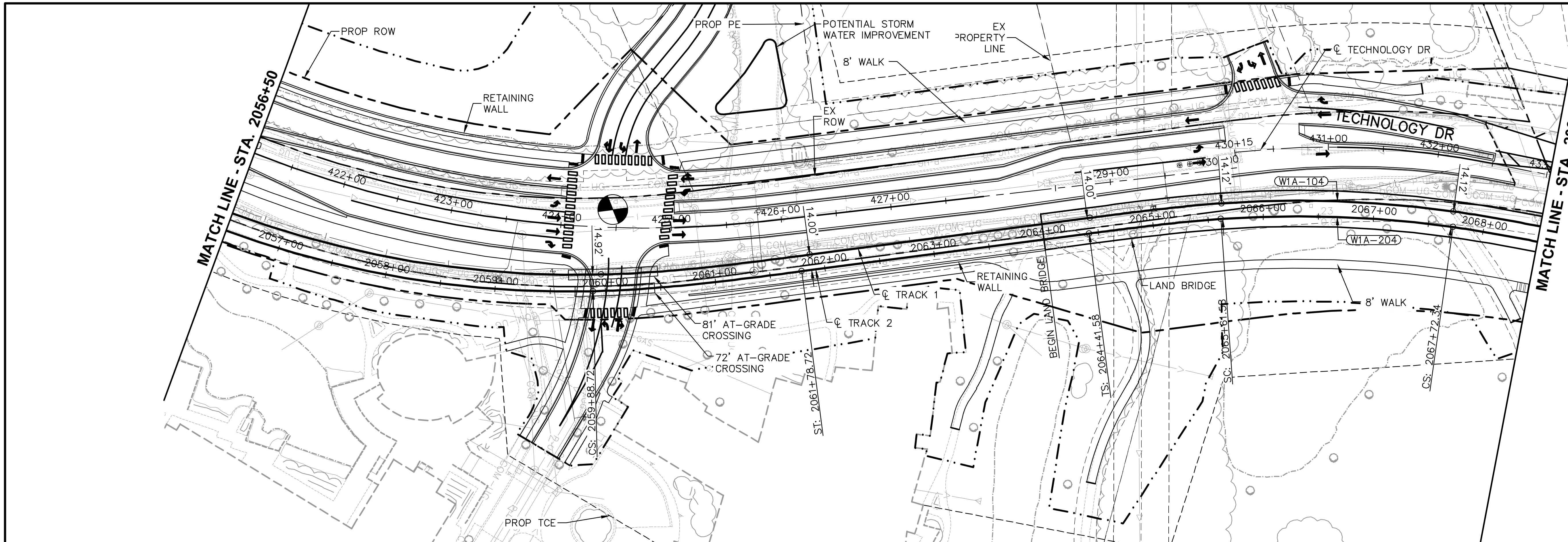
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
PLAN AND PROFILE
STA. 2044+00 TO STA. 2056+50

DISCIPLINE: TRACK

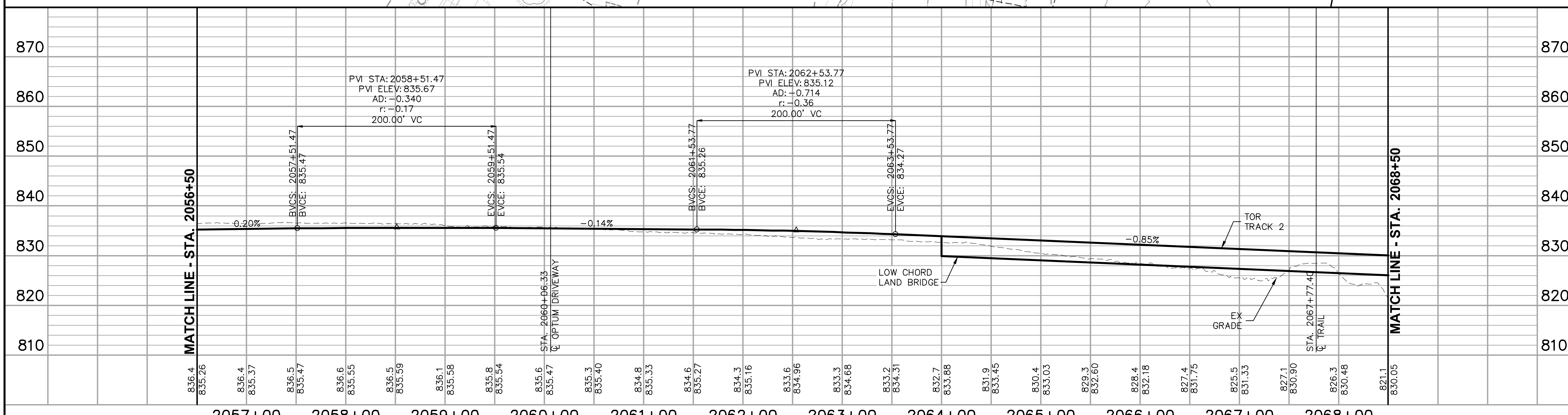
SHEET NAME: W1A-TRK-PPFL-003



CURVE NO. W1A-204
R = 1000'
Lc = 210.76'
Ls = 120'
Ea = 2.75"
Eu = 2.10"
V = 35 MPH

CURVE NO. W1A-104
R = 1000'
Lc = 210.76'
Ls = 120'
Ea = 2.75"
Eu = 2.10"
V = 35 MPH

SCALE IN FEET: VERTICAL 0 5.0 10 20; HORIZONTAL 0 25 50 100



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PRELIMINARY ENGINEERING

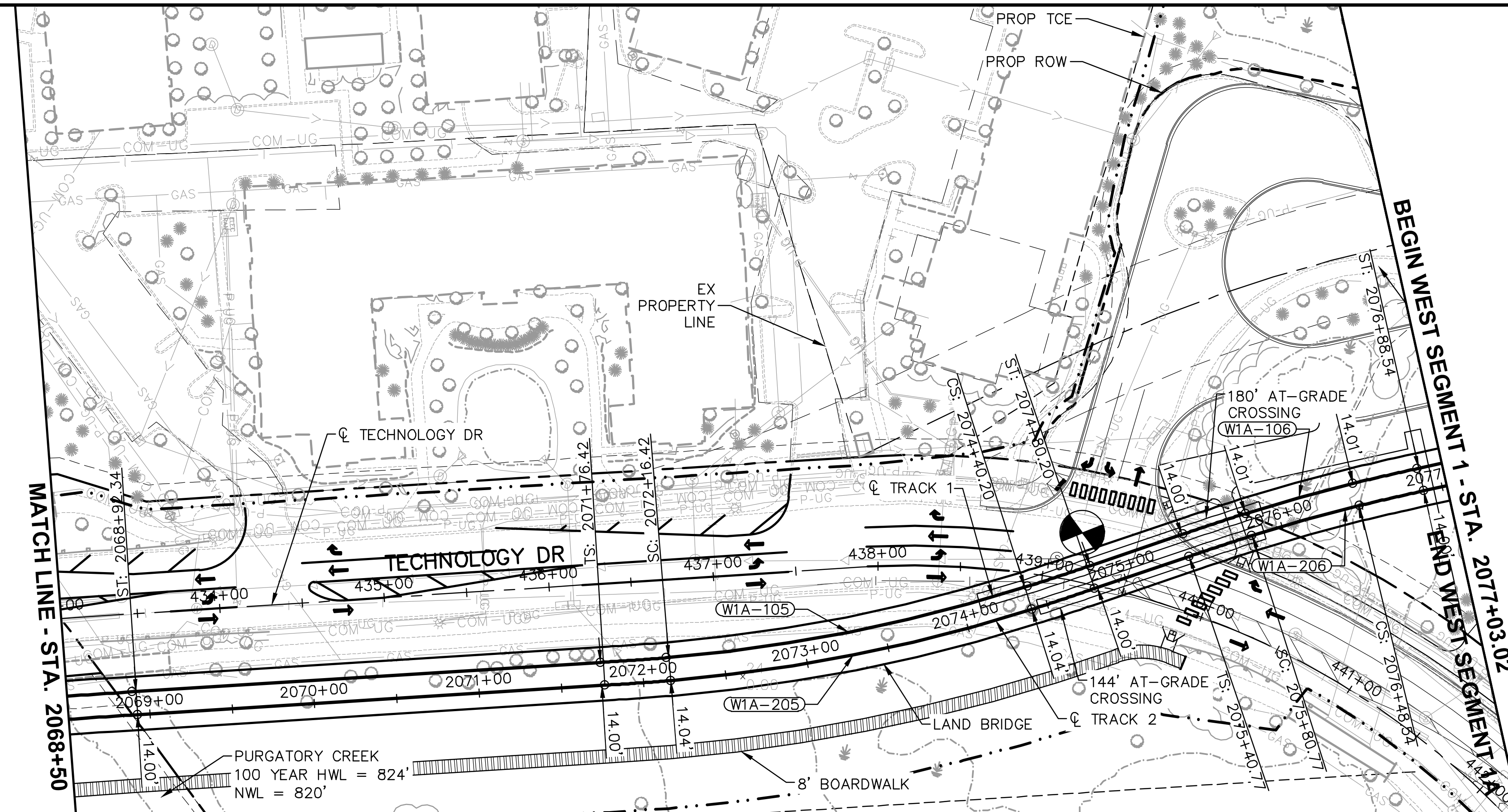
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
PLAN AND PROFILE
STA. 2056+50 TO STA. 2068+50

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-PPFL-004



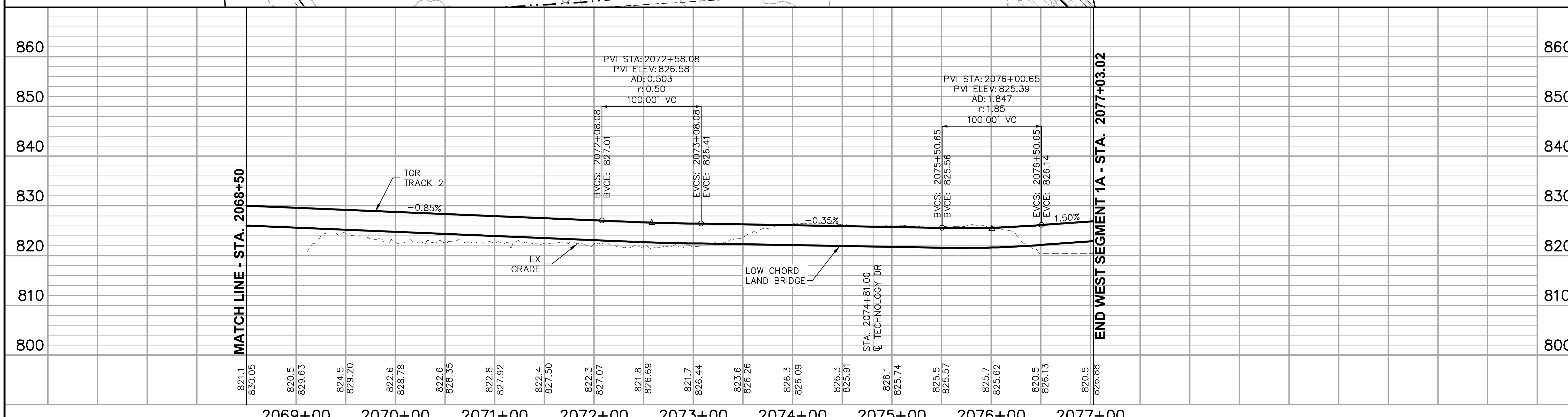
CURVE NO. W1A-205
R = 1000'
Lc = 223.78'
Ls = 40'
Ea = 0.50"
Eu = 1.08"
V = 20 MPH

CURVE NO. W1A-206
R = 1000'
Lc = 67.76'
Ls = 40'
Ea = 0.50"
Eu = 1.08"
V = 20 MPH

CURVE NO. W1A-105
R = 1000'
Lc = 223.78'
Ls = 40'
Ea = 0.50"
Eu = 1.08"
V = 20 MPH

CURVE NO. W1A-106
R = 1000'
Lc = 67.76'
Ls = 40'
Ea = 0.50"
Eu = 1.08"
V = 20 MPH

0 5.0 10 20
VERTICAL
0 25 50 100
HORIZONTAL
SCALE IN FEET



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PRELIMINARY ENGINEERING

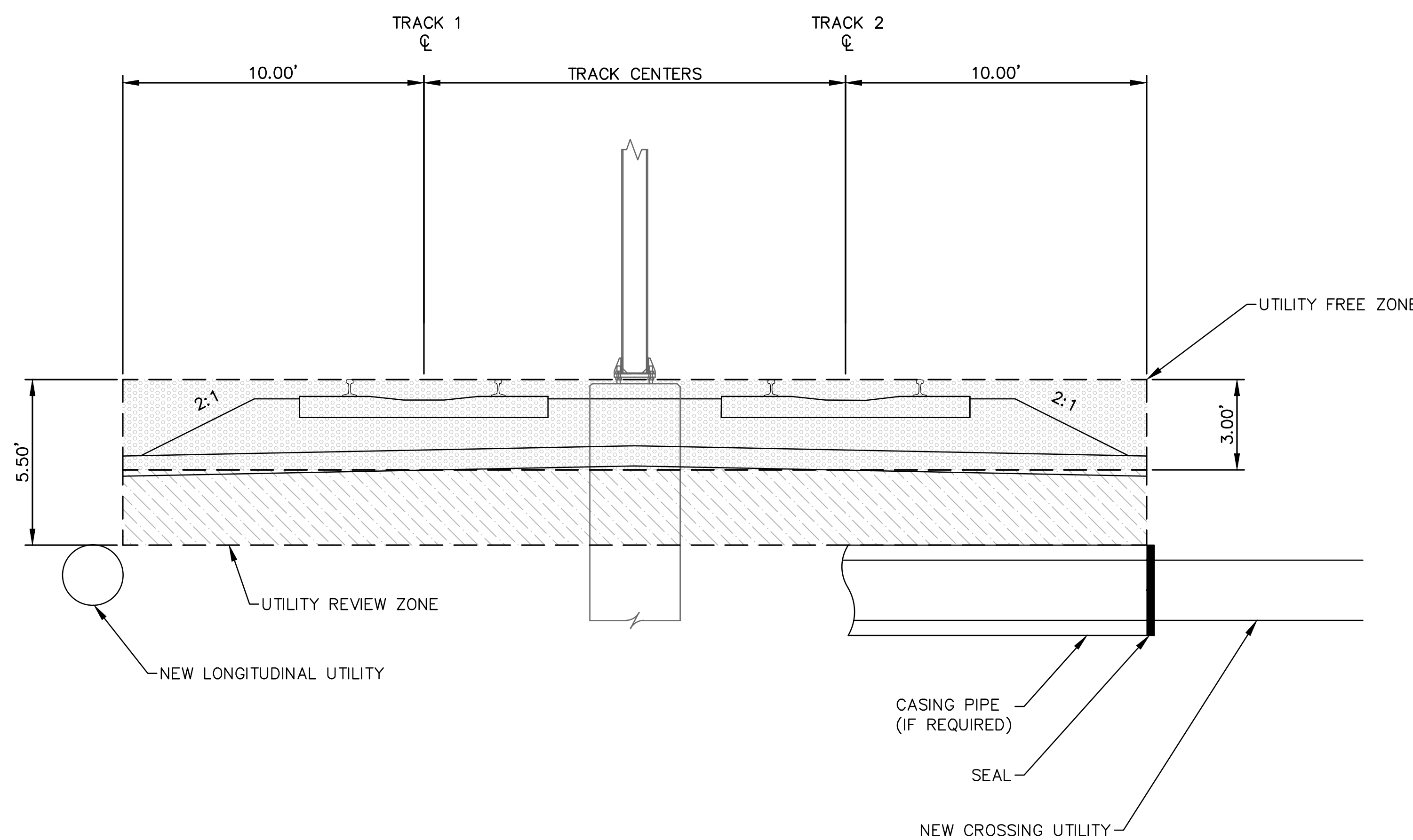
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
PLAN AND PROFILE
STA. 2068+50 TO STA. 2077+03.02

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-PPFL-005



UTILITY ZONES
BALLASTED TRACK

NOTES:

1. ADJUSTMENTS OF LIMITS REQUIRE METROPOLITAN COUNCIL APPROVAL.
2. UTILITIES SUSCEPTIBLE TO EFFECTS OF STRAY CURRENT SHOULD BE RELOCATED FROM UTILITY REVIEW ZONE OR APPROPRIATE MITIGATION MEASURES SHOULD BE TAKEN.

0 1.5 3 6

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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-DTL-001

SHEET 33 OF 106

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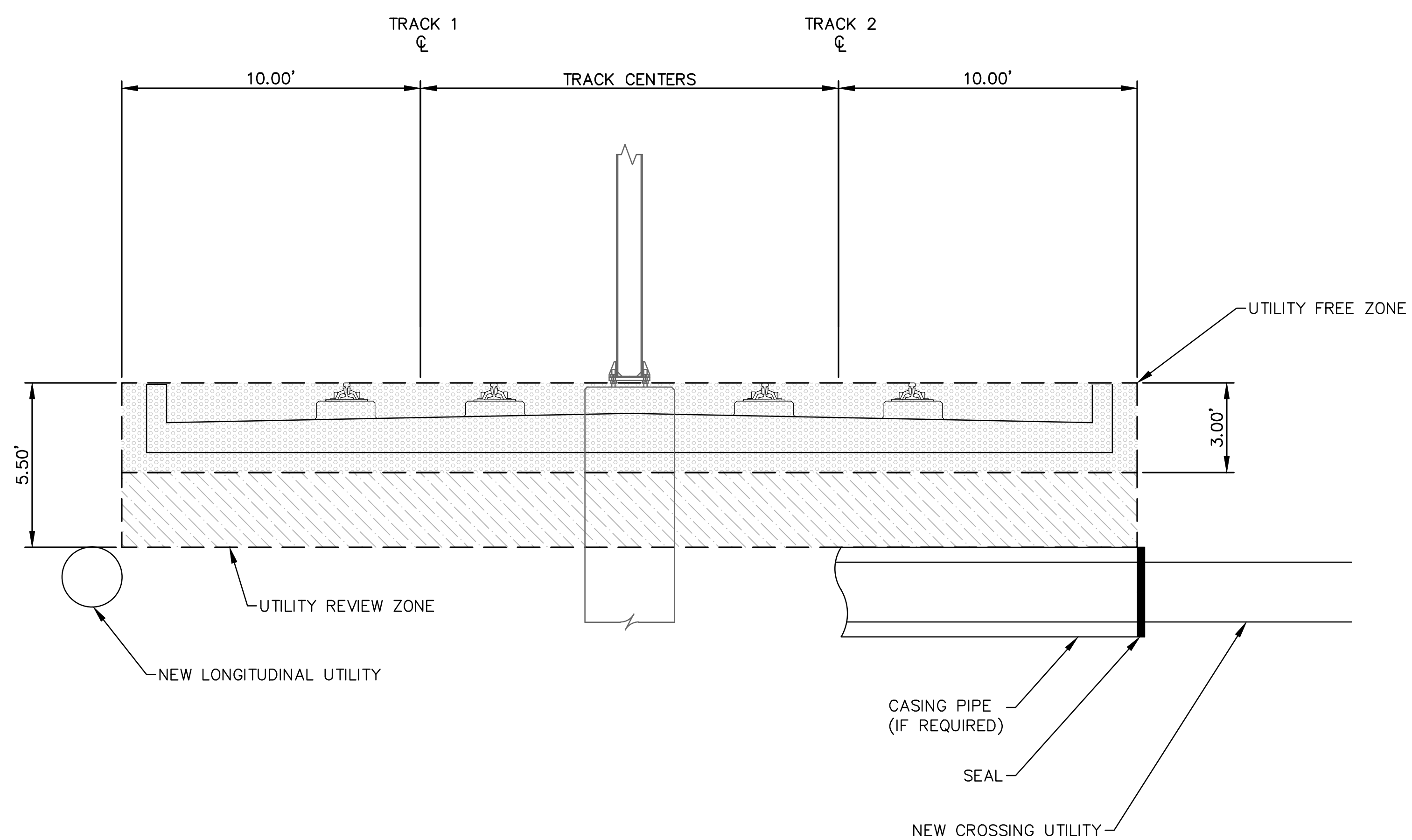

UTILITY ZONES
DIRECT FIXATION TRACK

NOTES:

1. ADJUSTMENTS OF LIMITS REQUIRE METROPOLITAN COUNCIL APPROVAL.
2. UTILITIES SUSCEPTIBLE TO EFFECTS OF STRAY CURRENT SHOULD BE RELOCATED FROM UTILITY REVIEW ZONE OR APPROPRIATE MITIGATION MEASURES SHOULD BE TAKEN.

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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

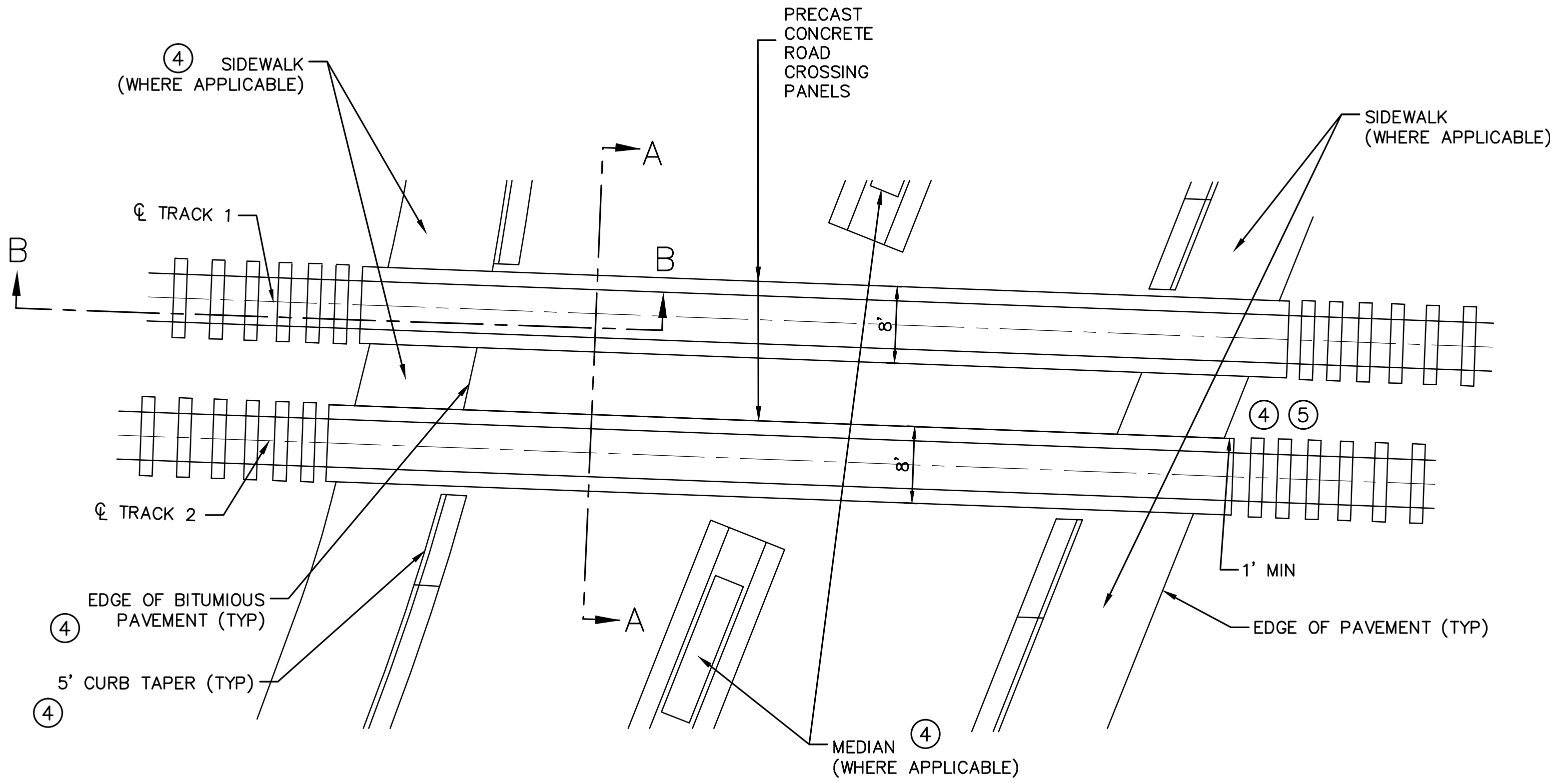
WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: TRACK

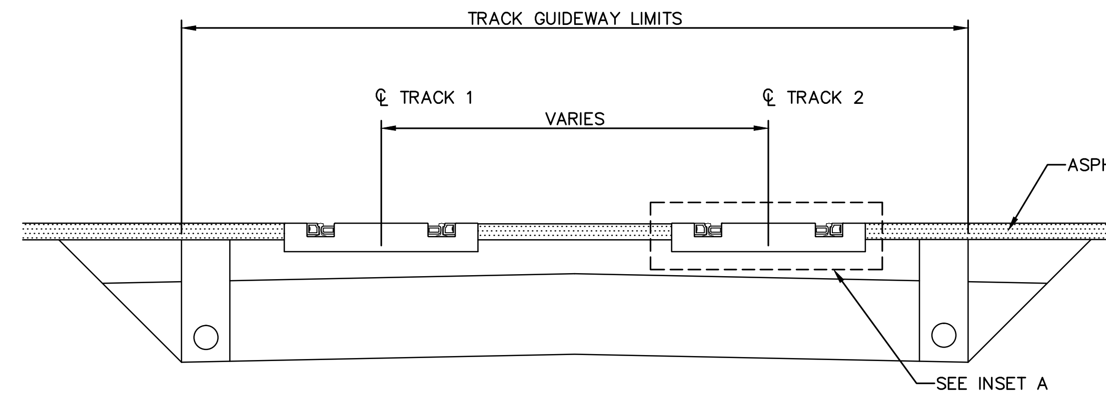
SHEET NAME: W1A-TRK-DTL-002

NOTES:

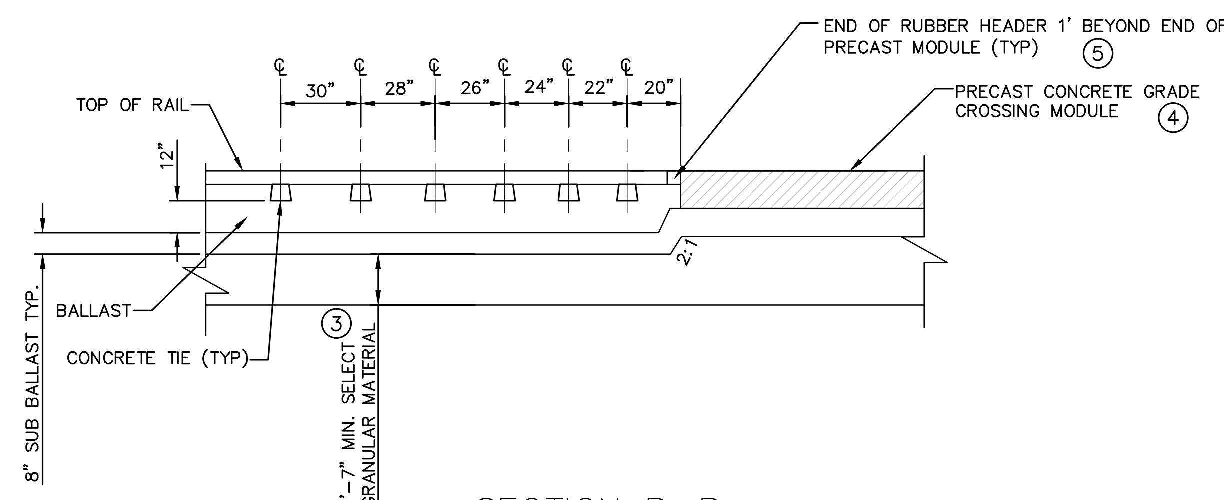
1. 6" HDPE PERFORATED SUB-DRAIN, WITH GEOTEXTILE SOCK.
2. 6" HDPE PERFORATED BALLAST DRAIN PIPE, WITH GEOTEXTILE SOCK CONNECT TO MAINLINE BALLAST DRAIN.
3. DEPTH OF EXCAVATION WILL VARY DEPENDING ON SOILS CONDITION AND COORDINATION WITH GEOTECHNICAL ENGINEER.
4. SEE CIVIL PLANS AND TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
5. WHERE SIDEWALK WILL NOT BE CONSTRUCTED, ROAD CROSSING PANELS SHALL EXTEND A MINIMUM OF 1' BEYOND THE BACK OF CURB, OR EDGE OF ROAD.



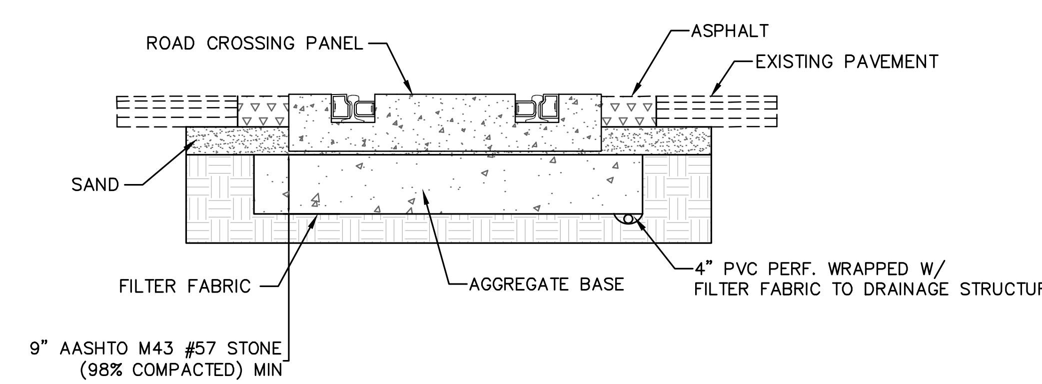
FULL DEPTH PRECAST GRADE CROSSING PANELS
PLAN VIEW



SECTION A–A



SECTION B–B



INSET A

PLATFORM TYPE ROAD CROSSING PANEL

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AECOM

PRELIMINARY ENGINEERING

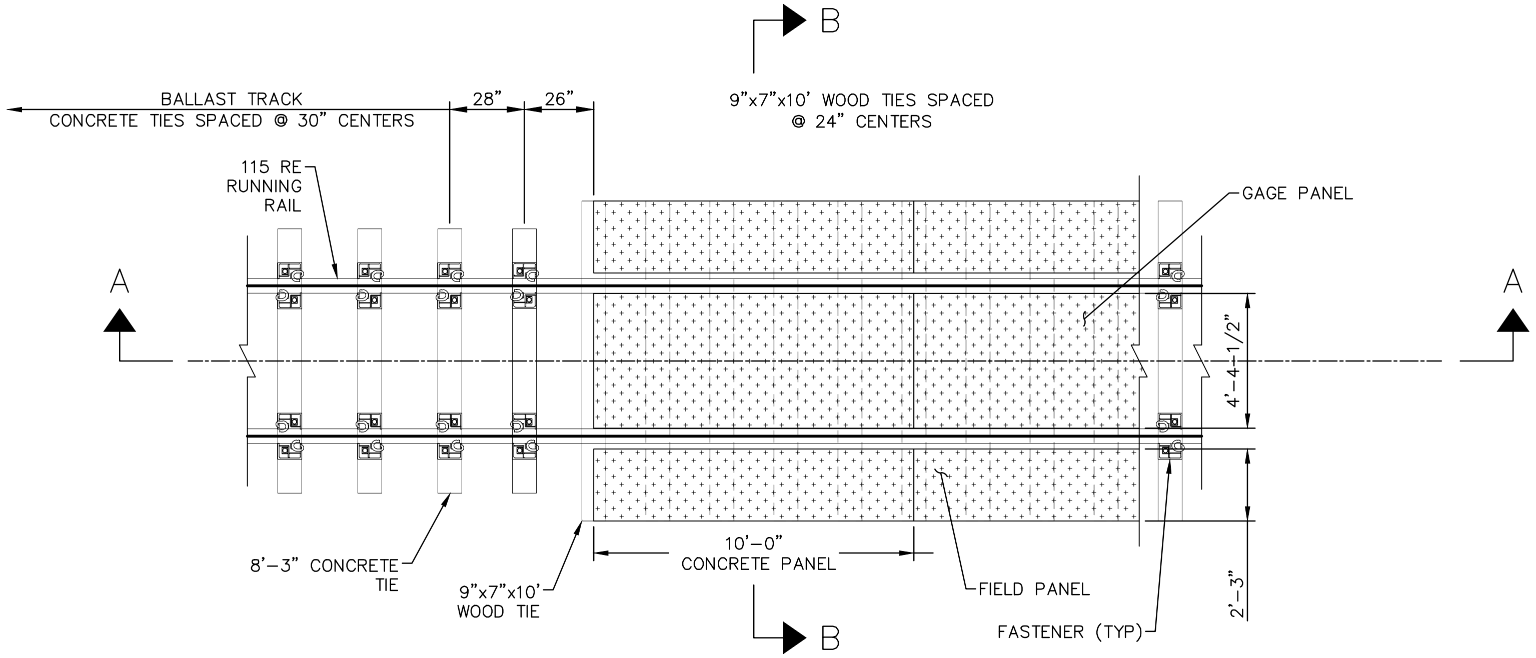
METROPOLITAN COUNCIL

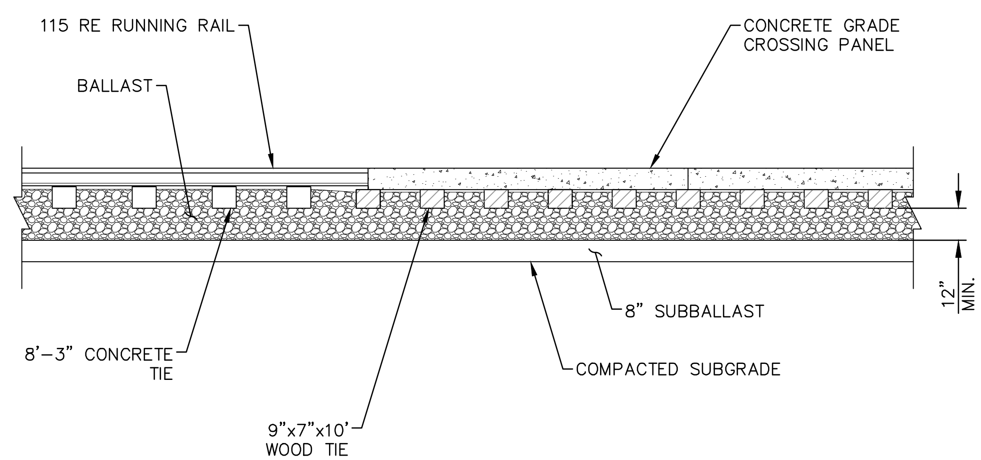
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

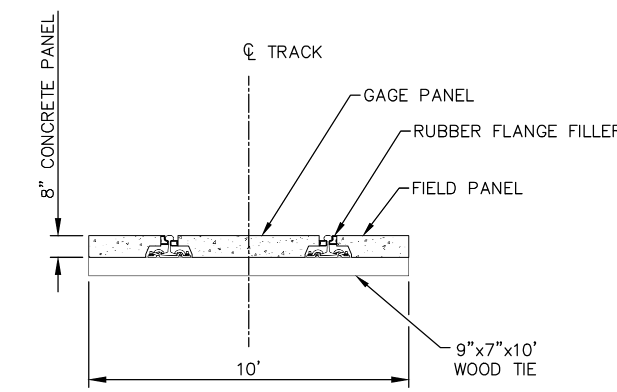
DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-DTL-003





SECTION A–A



SECTION B–B

NOTE:

1. DRAIN TILE NOT SHOWN FOR CLARITY.

ROAD CROSSING WITH CONCRETE PANEL ON 10' WOOD TIES
(NTS)

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AECOM

PRELIMINARY ENGINEERING

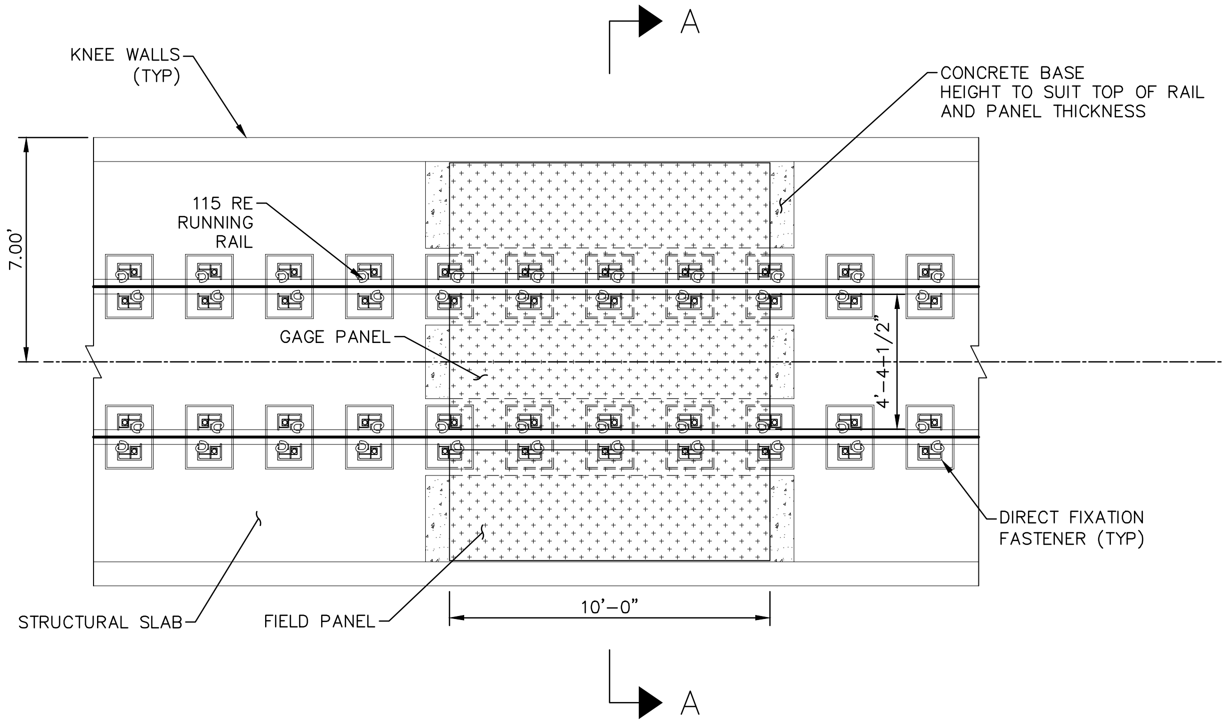
METROPOLITAN COUNCIL

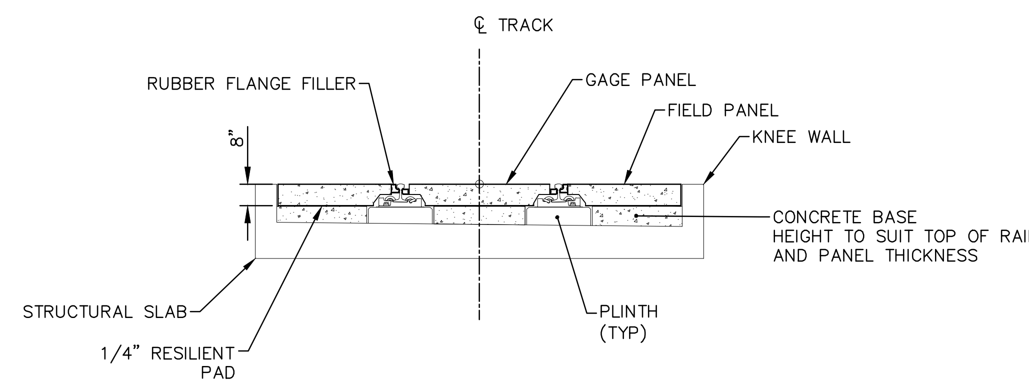
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: **TRACK**

SHEET NAME: **W1A-TRK-DTL-004**





SECTION A–A

PEDESTRIAN CROSSING PANEL AT DIRECT FIXATION
(NTS)

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PRELIMINARY ENGINEERING

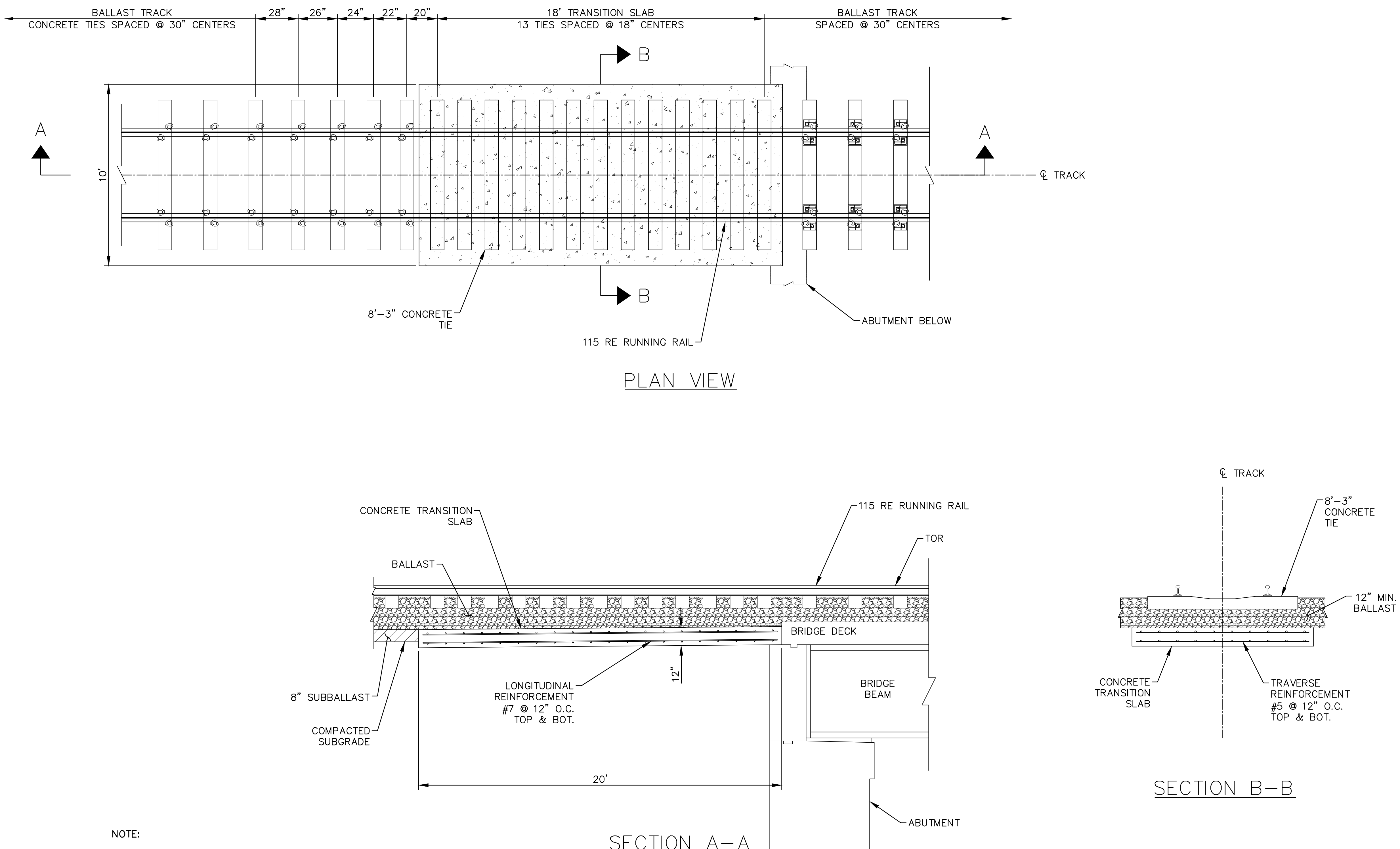
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: **TRACK**

SHEET NAME: **W1A-TRK-DTL-005**



NOTE:

1. DRAIN TILE NOT SHOWN FOR CLARITY.

BALLAST TRACK TRANSITION SLAB AT BALLASTED BRIDGE
(NTS)

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-DTL-006

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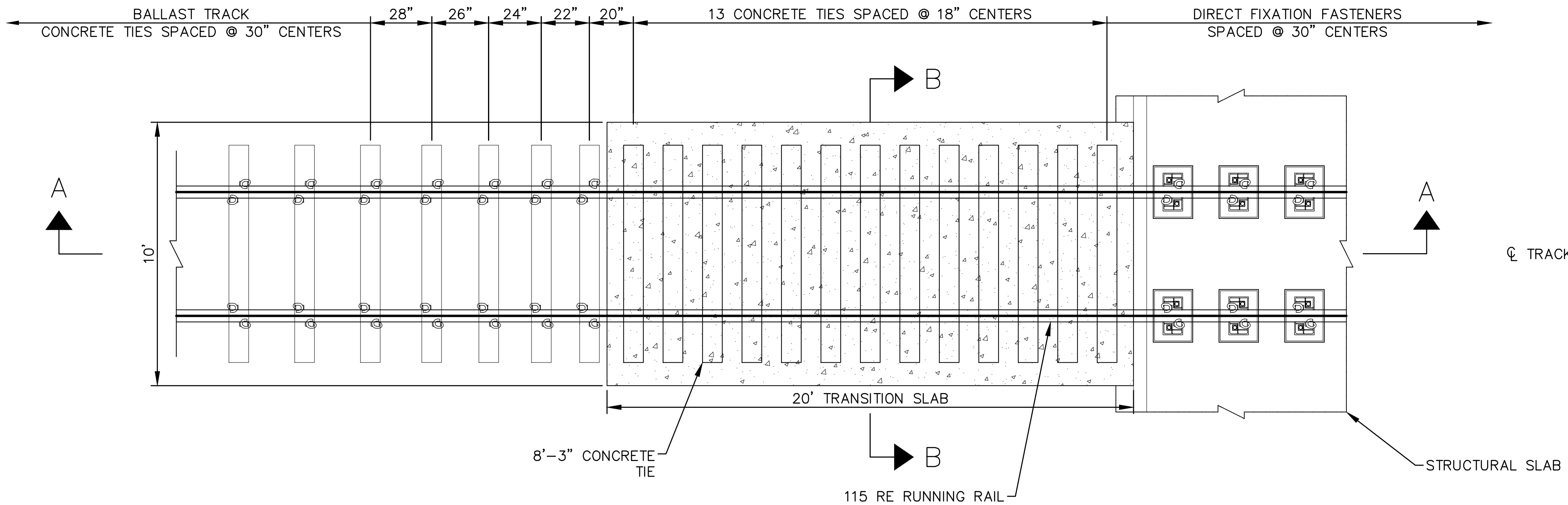
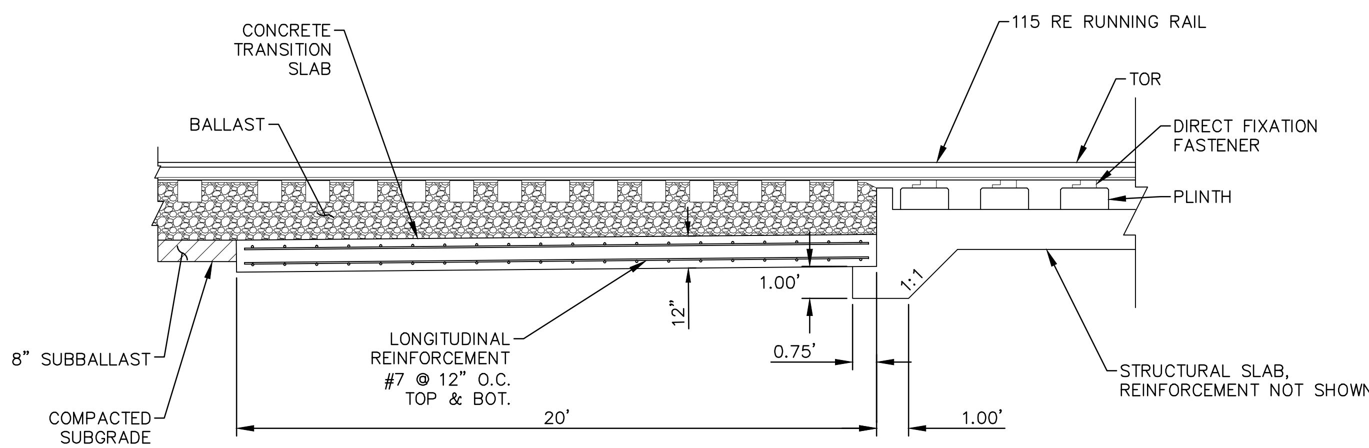
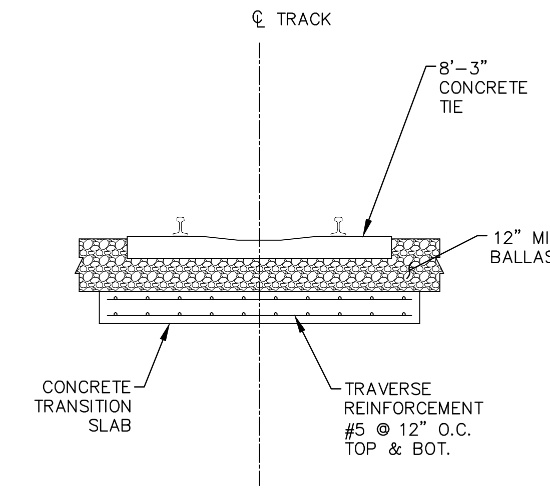


PLAN VIEW





SECTION B-B

NOTE:

1. DRAIN TILE NOT SHOWN FOR CLARITY.

SECTION A-A

BALLAST TRACK TRANSITION SLAB AT DIRECT FIXATION TRACK
(NTS)

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

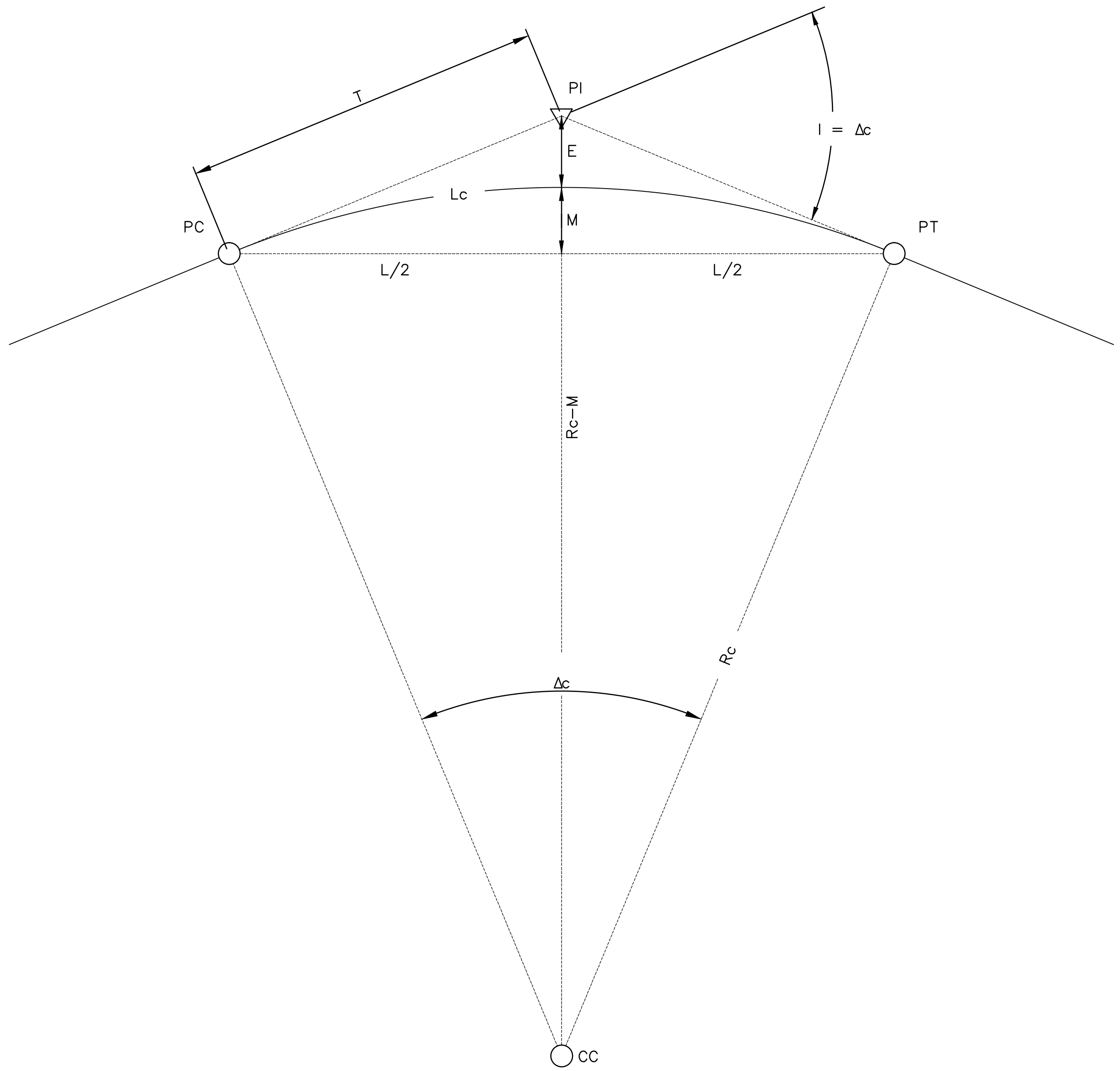
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: **TRACK**

SHEET NAME: **W1A-TRK-DTL-007**

SHEET 39 OF 106



SIMPLE CURVE DIAGRAM

DEFINITIONS

Dc = DEGREE OF CURVE IN ARC DEFINITION (DECIMAL DEGREES)
Rc = RADIUS OF CURVE (FEET)
Lc = LENGTH OF CURVE ALONG THE ARC (FEET)
Δc = CENTRAL ANGLE OF CURVE (DECIMAL DEGREES)
E = EXTERNAL DISTANCE (FEET)
T = TANGENT DISTANCE (FEET)
M = MIDDLE ORDINATE (FEET)
L = CHORD LENGTH (FEET)
I = DEFLECTION ANGLE (DECIMAL DEGREES)
PC = POINT OF CURVE
PT = POINT OF TANGENT
PI = POINT OF INTERSECTION
CC = CENTER OF CURVE

SIMPLE CURVE FORMULAS

$$\frac{Dc}{360^\circ} = \frac{100}{2\pi\, Rc}$$

$$Dc = \frac{5729.58'}{Rc}$$

$$Lc = \frac{\pi Rc \Delta c}{180}$$

$$T = Rc\ \mathrm{TAN}\ \tfrac{I}{2}$$

$$E = Rc\ \mathrm{SEC}\tfrac{I}{2} - Rc$$

$$M = Rc - Rc\ \mathrm{COS}\tfrac{I}{2}$$

$$L = 2\ Rc\ \mathrm{SIN}\tfrac{I}{2}$$

NOTE
THIS DRAWING IS APPLICABLE TO SIMPLE CURVES WITHOUT TRANSITION SPIRALS AND SHALL ONLY BE USED ON NON-REVENUE TRACK.

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-DTL-008

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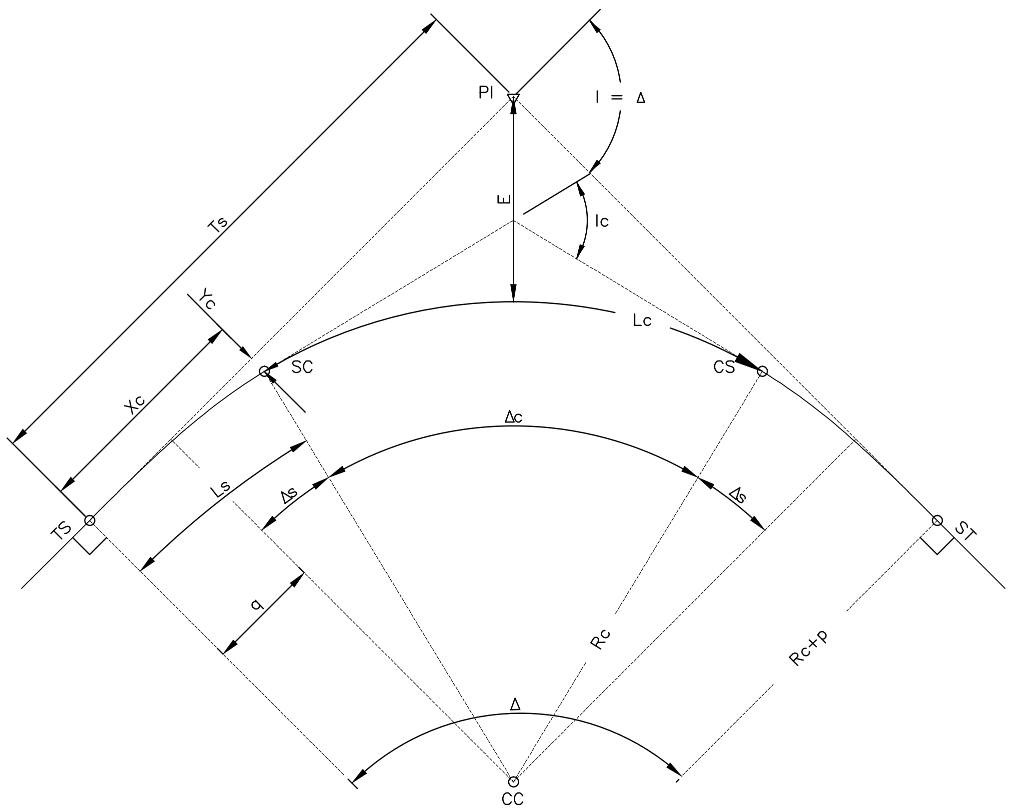
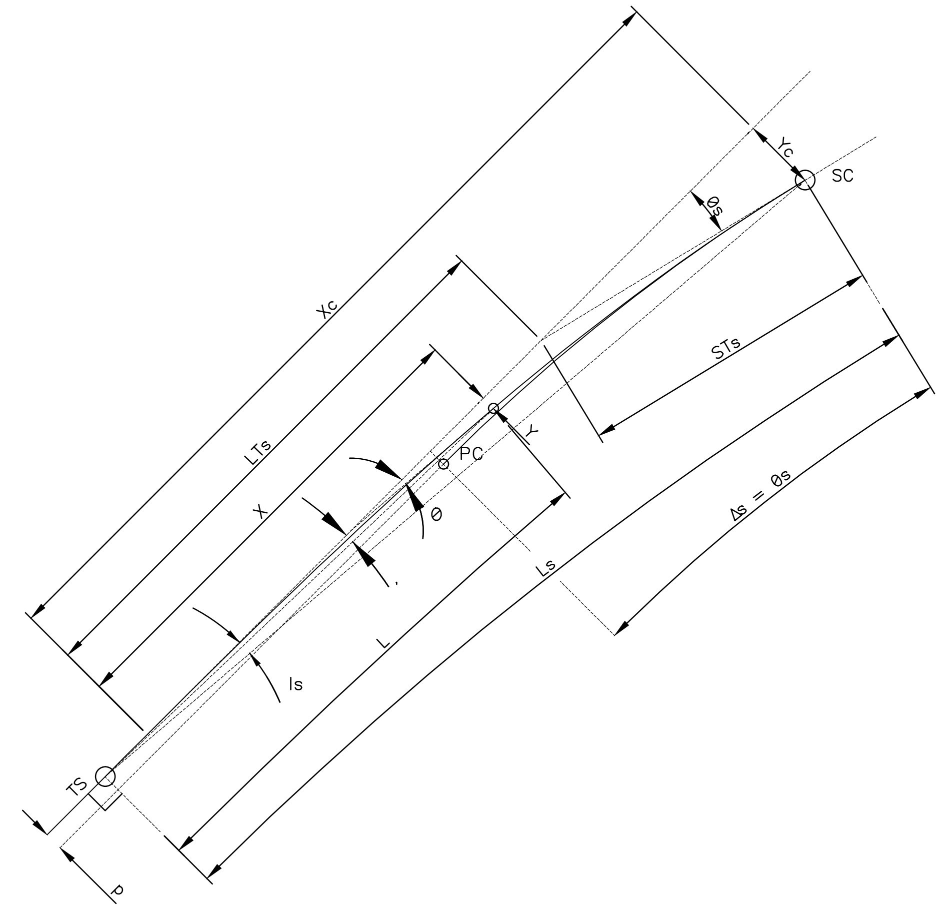


SPIRAL CURVE DIAGRAM



SPIRAL DIAGRAM

DEFINITIONS

Dc = DEGREE OF SIMPLE CURVE IN ARC DEFINITION (DEGREES)
Rc = RADIUS OF CURVE (FEET)
Δ = TOTAL CENTRAL ANGLE OF CURVE (DEGREES)
Δc = CENTRAL ANGLE OF SIMPLE CURVE (DEGREES)
Δs = CENTRAL ANGLE OF SPIRAL (RADIANS)
E = EXTERNAL DISTANCE OF THE SIMPLE CURVE (FEET)
Ts = TOTAL TANGENT DISTANCE (FEET)
Ls = LENGTH OF SPIRAL (FEET)
Lc = LENGTH OF THE SIMPLE CURVE ARC (FEET)
L = LENGTH FROM TS TO ANY POINT ALONG THE SPIRAL (FEET)
I = TOTAL DEFLECTION ANGLE (DEGREES)
Ic = DEFLECTION ANGLE OF THE SIMPLE CURVE (DEGREES)
Is = DEFLECTION ANGLE OF THE SPIRAL (DEGREES)
i = DEFLECTION ANGLE FROM TS TO ANY POINT ON THE SPIRAL
p = LENGTH OF THROW, OFFSET DISTANCE FROM TANGENT TO PC/PT
q = DISTANCE FROM TS/ST TO THE OFFSET TC/CT
Xc = DISTANCE ALONG TANGENT FROM TS/ST TO THE SC/CS (FEET)
Yc = OFFSET DISTANCE FROM TANGENT TO SC/CS (FEET)
X = DISTANCE ALONG TANGENT FROM TS/ST TO ANY POINT ON THE SPIRAL
Y = OFFSET DISTANCE FROM TANGENT TO ANY POINT ON THE SPIRAL
θs = SPIRAL ANGLE FROM TANGENT TO SC
θ = SPIRAL ANGLE FROM TANGENT TO ANY POINT ON THE SPIRAL
LTs = LONG TANGENT OF SPIRAL (FEET)
STs = SHORT TANGENT OF SPIRAL (FEET)
TS = POINT OF TANGENT TO SPIRAL CURVE
SC = POINT OF SPIRAL CURVE TO SIMPLE CURVE
CS = POINT OF SIMPLE CURVE TO SPIRAL CURVE
ST = POINT OF SPIRAL CURVE TO TANGENT
PC = POINT OF CURVE
PT = POINT OF TANGENT
PI = POINT OF INTERSECTION
CC = CENTER OF CURVE

FORMULAS

$$\Delta = \Delta c + 2\Delta s$$

$$\Delta s = \frac{Ls}{2Rc}$$

$$i = \frac{\theta}{3}$$

$$X = L - \frac{L^5}{40Rc^2 Ls^2}$$

$$Xc = Ls - \frac{Ls^3}{40Rc^2}$$

$$Y = \frac{L^3}{6RcLs}$$

$$Yc = \frac{Ls^2}{6Rc}$$

$$q = Xc - Rc\ SIN\Delta s$$

$$p = \tfrac{1}{4}Yc = \frac{Ls^2}{24Rc}$$

$$Ts = (Rc + p)\ TAN\tfrac{\Delta}{2} + q$$

$$E = \frac{Rc + p}{COS\frac{\Delta}{2}} - Rc$$

$$LTs = Xc - \frac{Yc}{TAN\Delta s}$$

$$STs = \frac{Yc}{SIN\Delta s}$$

$$\frac{Dc}{360^\circ} = \frac{100}{2\pi\ Rc}$$

$$Dc = \frac{5729.58'}{Rc}$$

$$Lc = \frac{\pi Rc \Delta c}{180}$$

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AECOM

PRELIMINARY ENGINEERING

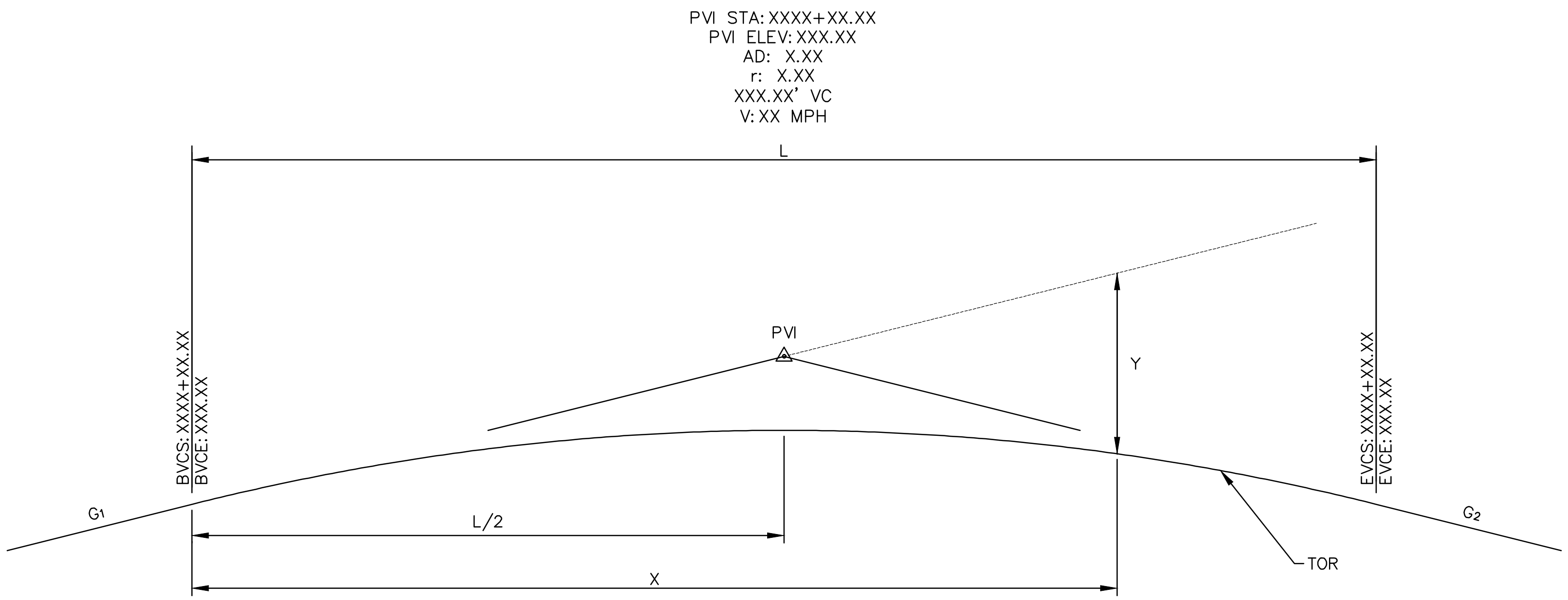
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

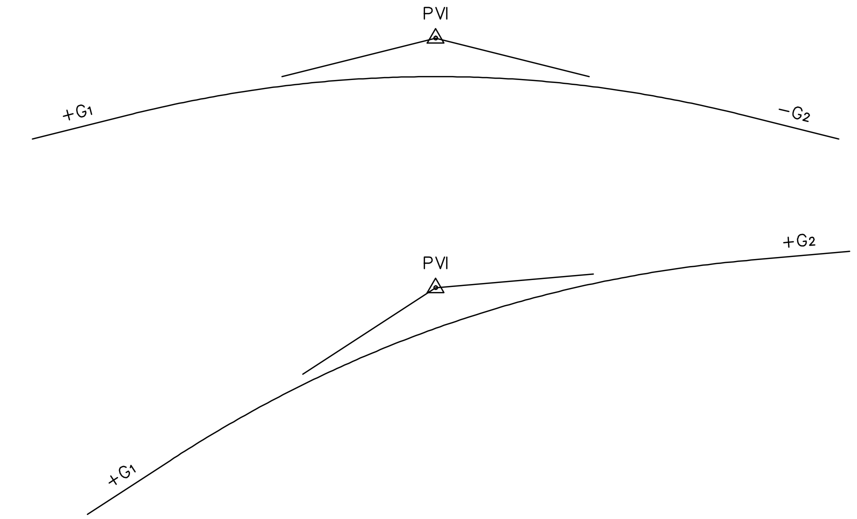
WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-DTL-009



STANDARD VERTICAL CURVE



CREST TYPE VERTICAL CURVES

DEFINITIONS

- G_1 = ENTRY GRADE %
- G_2 = DEPARTING GRADE %
- PVI = POINT OF VERTICAL INTERSECTION
- AD = ALGEBRAIC DIFFERENCE
- r = RATE OF CHANGE OF GRADE
- L = LENGTH OF VERTICAL CURVE
- V = DESIGN VELOCITY (MPH)
- BVCS = BEGIN VERTICAL CURVE STATION
- BVCE = BEGIN VERTICAL CURVE ELEVATION
- EVCS = END VERTICAL CURVE STATION
- EVCE = END VERTICAL CURVE ELEVATION
- X = HORIZONTAL DISTANCE FROM BVC
- Y = ELEVATION OF PARABOLA BELOW G_1
- Rv = EQUIVALENT RADIUS OF VERTICAL CURVE

FORMULAS

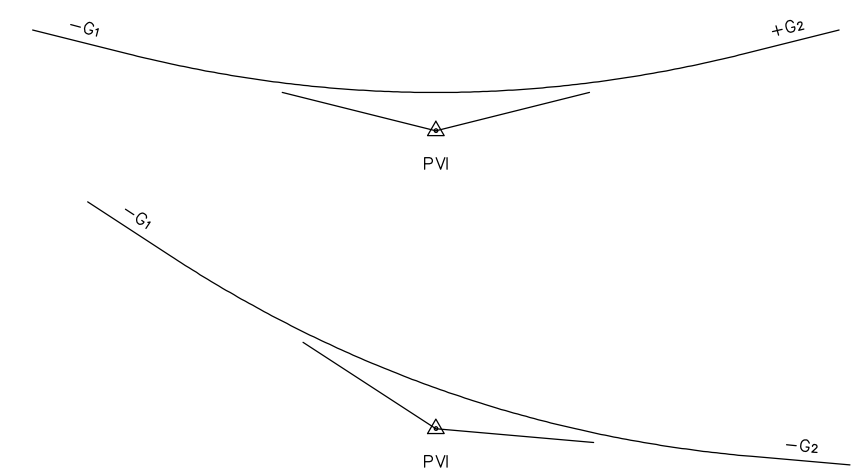
$$a = \frac{G_2 - G_1}{2L}$$

$$Y = BVCE + G_1 X + aX^2$$

$$AD = G_2 - G_1$$

$$r = \frac{100\ AD}{L}$$

$$R_v = \frac{L}{0.01\ AD}$$



VERTICAL CURVE GEOMETRY

SAG TYPE VERTICAL CURVES

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AECOM

PRELIMINARY ENGINEERING

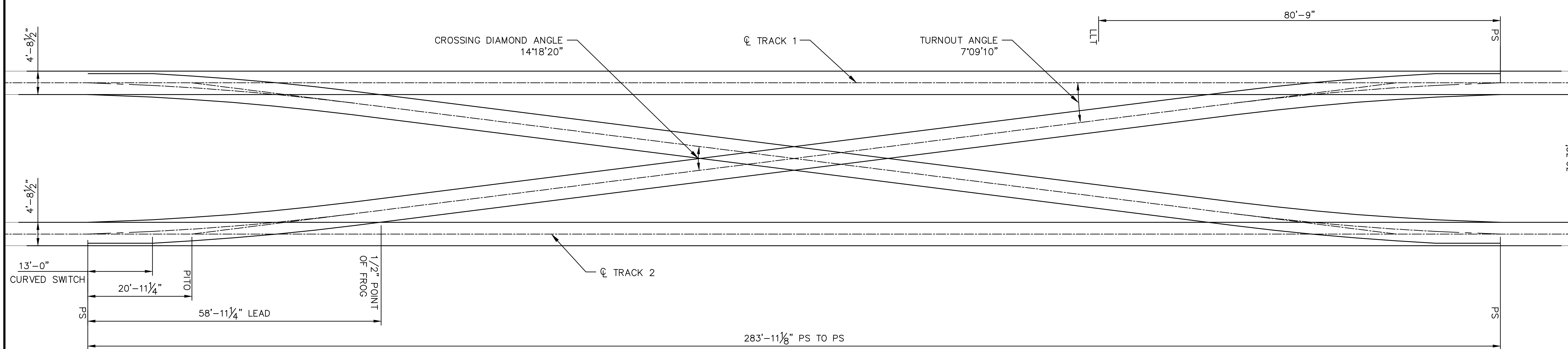
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: **TRACK**

SHEET NAME: **W1A-TRK-DTL-010**



NO 8 DOUBLE CROSS OVER GEOMETRY DETAIL
(30.38' TRACK CENTERS)

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AECOM

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

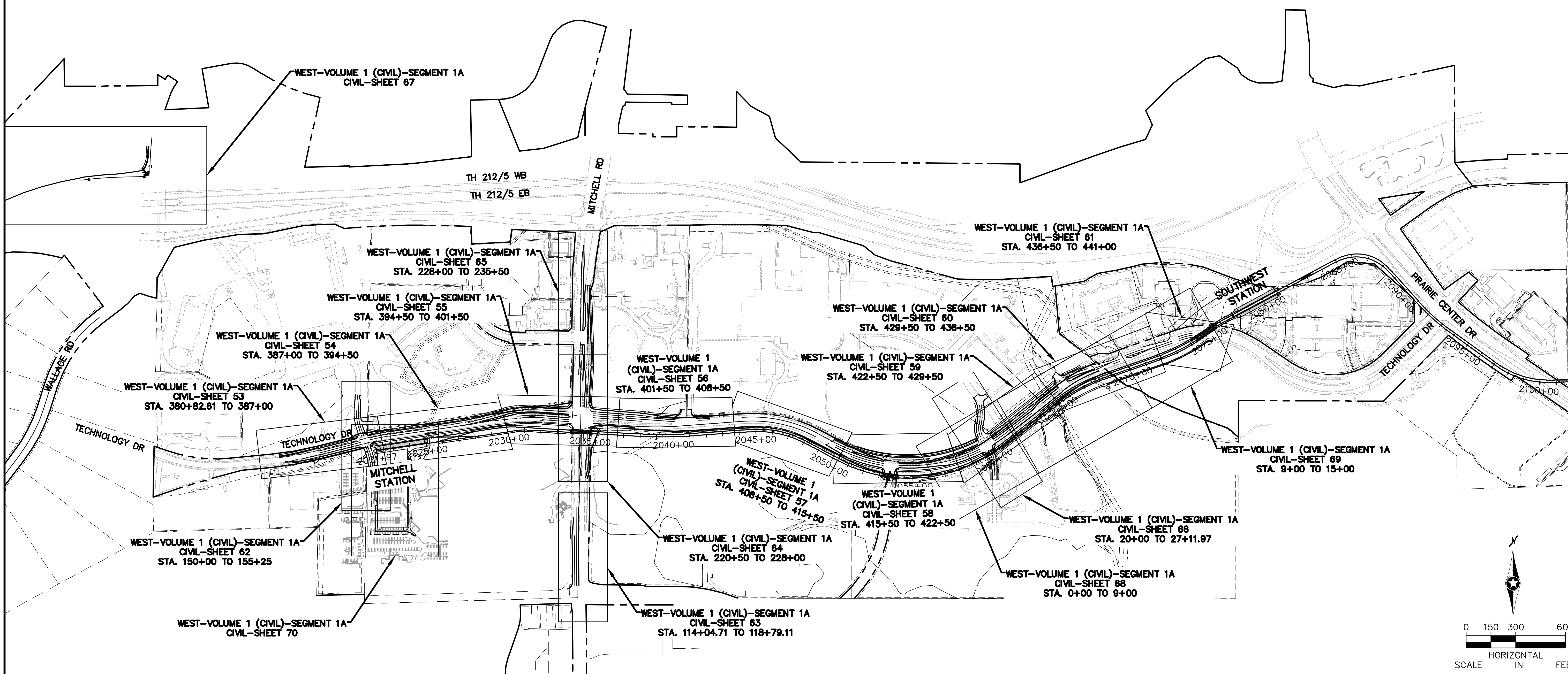
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME: W1A-TRK-DTL-011

Aug. 27 2014 05:00 pm V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\TRACK\W1A-TRK-DTL.dwg By: MaurisakB



Jun, 27 2014 10:59 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\CIVIL\W1A-CIV-IDX.dwg By: Boscha

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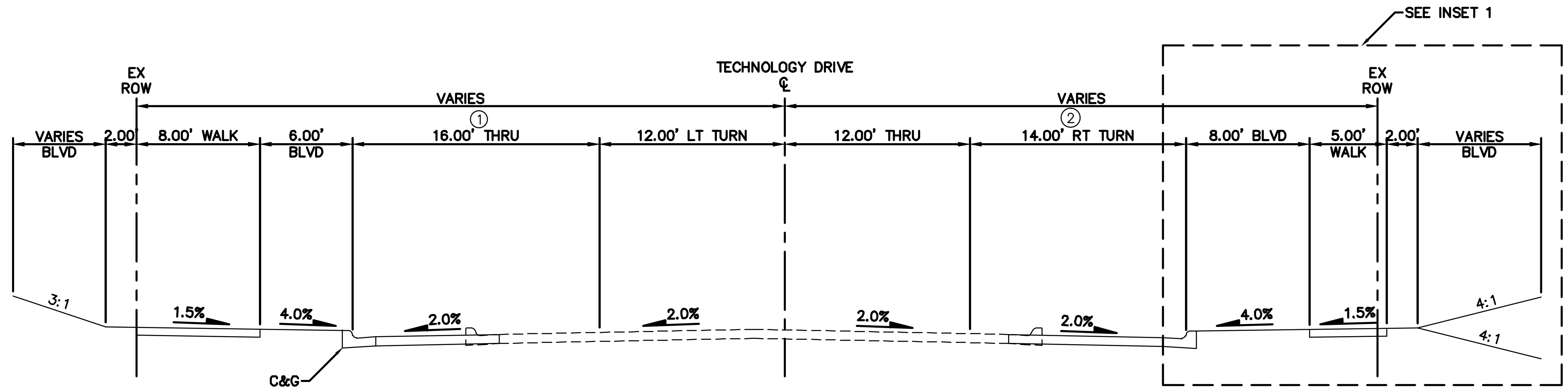
PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL | SOUTHWEST Green Line LRT Extension

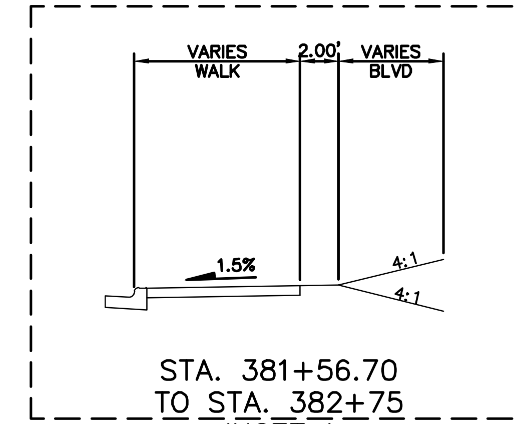
WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
CIVIL
SHEET INDEX

DISCIPLINE: CIVIL | SHEET NAME: W1A-CIV-IDX-001

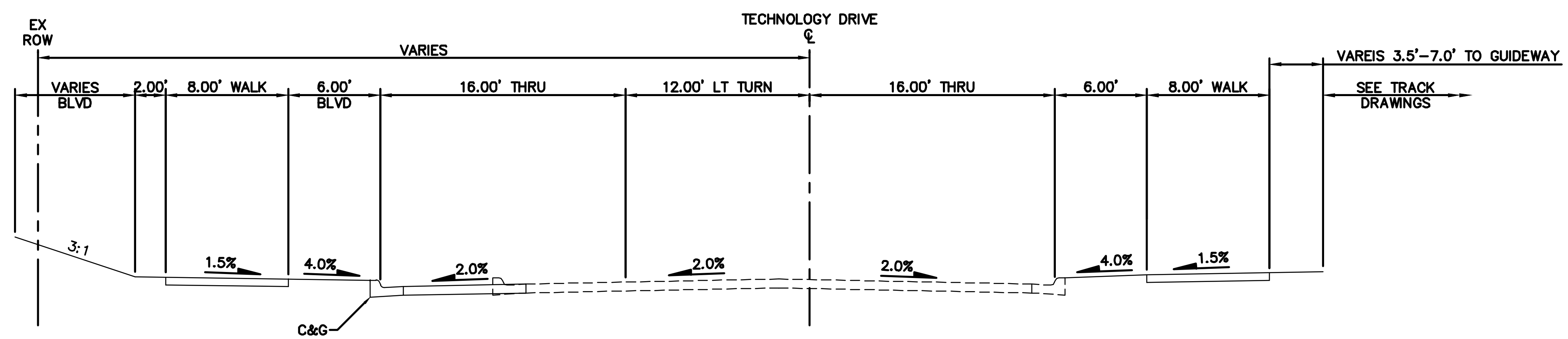
SPECIFIC NOTES:
1. THRU LANE TAPER FROM STA. 380+82.61 TO 383+22.67
2. RIGHT TURN LANE TAPER FROM STA. 381+14.51 TO STA. 382+32.11



TECHNOLOGY DRIVE
STA. 380+82.61 TO STA. 386+00.00



STA. 381+56.70
TO STA. 382+75
INSET 1



TECHNOLOGY DRIVE
STA. 386+00.00 TO STA. 392+00.00

0 2.5 5 10
HORIZONTAL SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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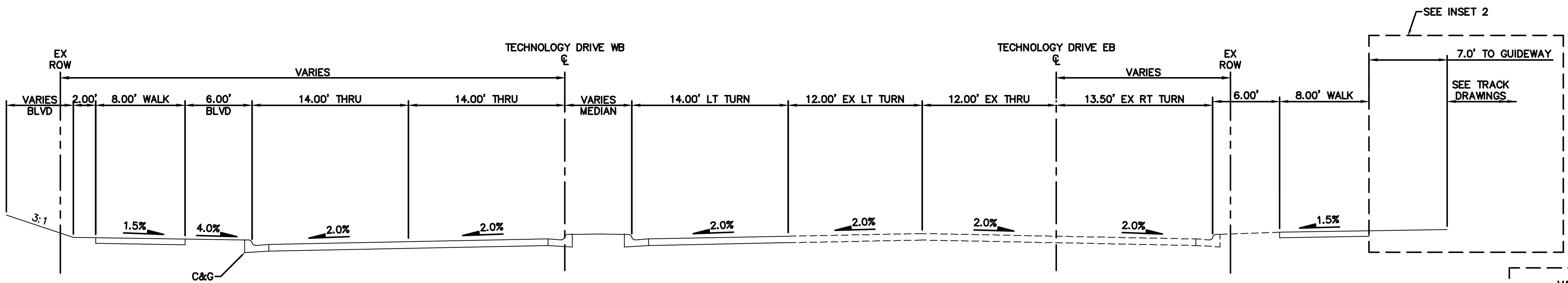
PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL | SOUTHWEST Green Line LRT Extension

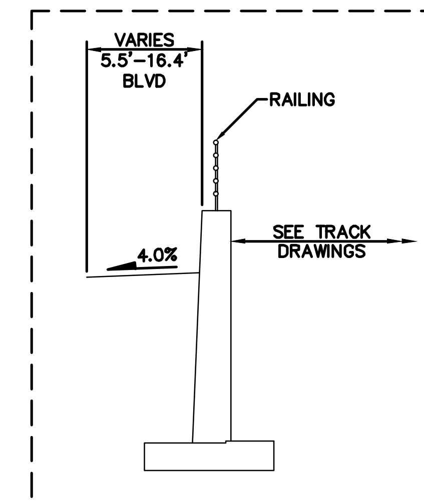
WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
CIVIL
TYPICAL SECTIONS
TECHNOLOGY DRIVE

DISCIPLINE: CIVIL
SHEET NAME: W1A-CIV-TYP-001

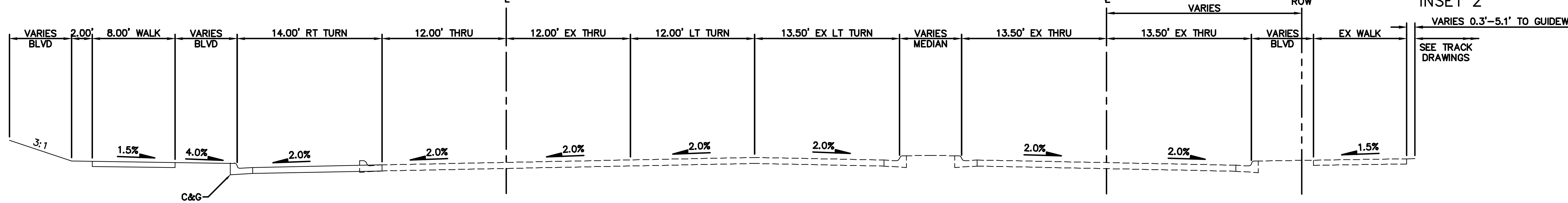
SHEET 45 OF 106



TECHNOLOGY DRIVE
STA. 392+00.00 TO EB STA. 400+00.00



STA. 392+47.43
TO STA. 396+86.61
INSET 2



TECHNOLOGY DRIVE
EB STA. 400+00.00 TO EB STA. 404+74.90

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

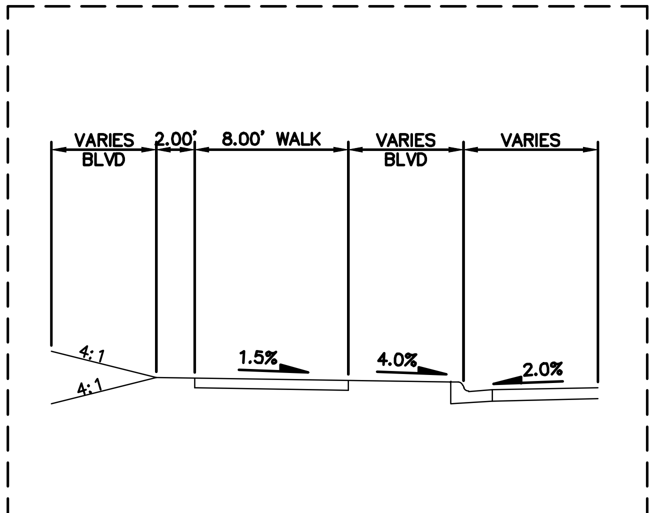
AECOM SRF Consulting Group, Inc.

PRELIMINARY ENGINEERING

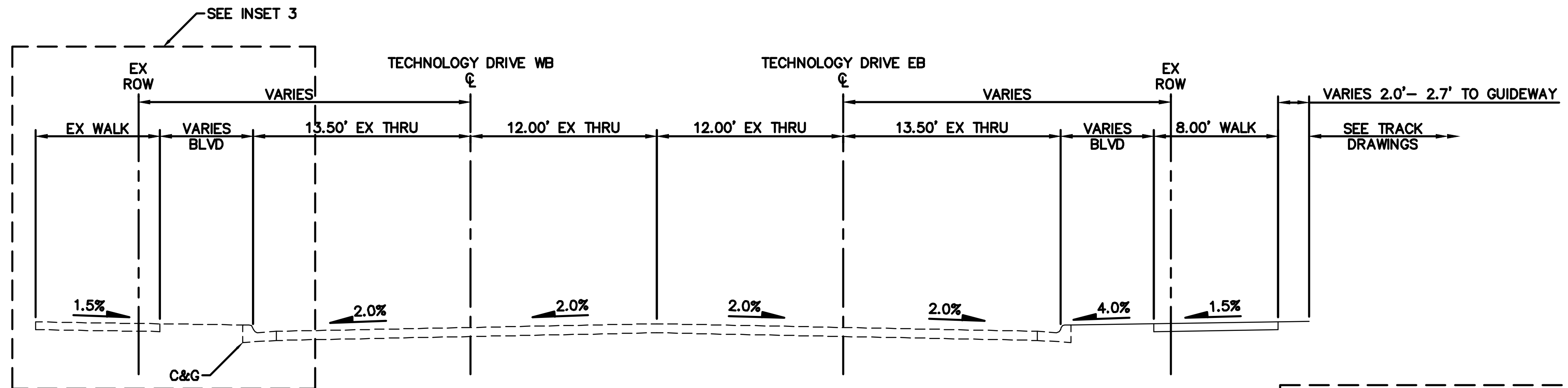
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
CIVIL
TYPICAL SECTIONS
TECHNOLOGY DRIVE

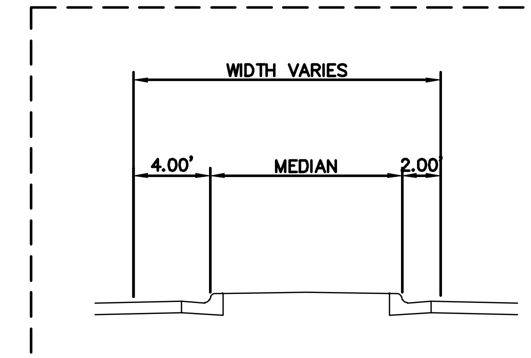
DISCIPLINE: CIVIL
SHEET NAME: W1A-CIV-TYP-002



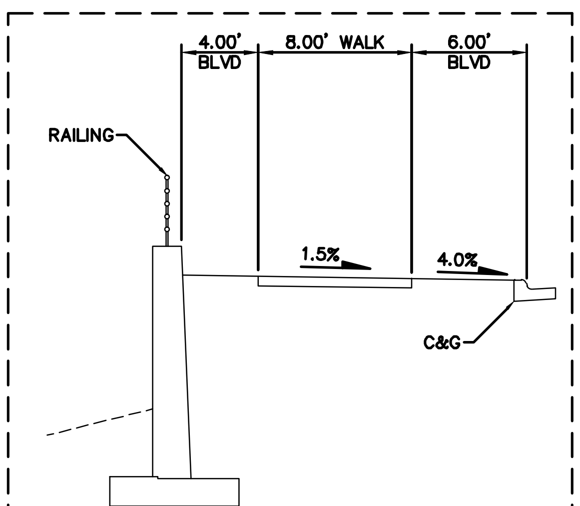
EB STA. 404+20.60
TO EB STA. 407+05.27
INSET 3



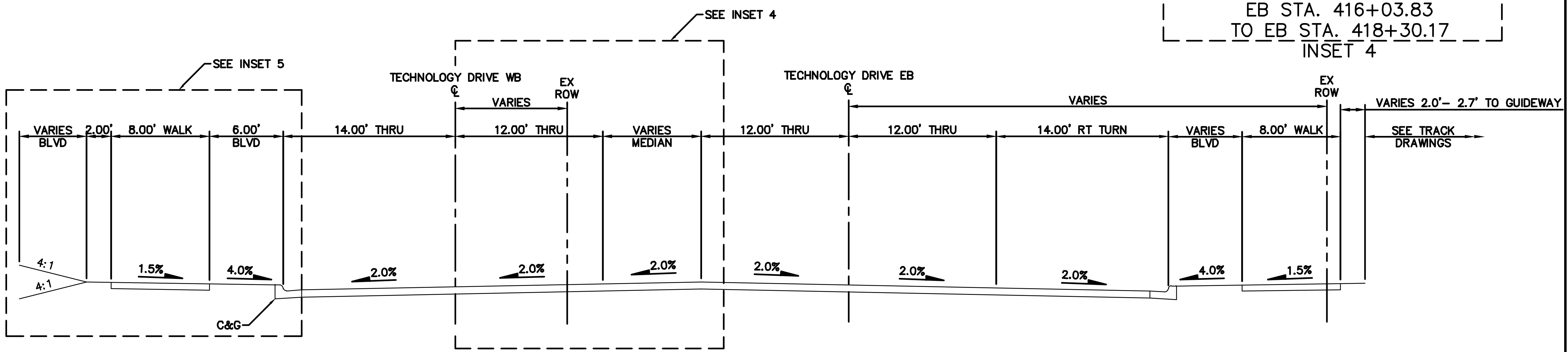
TECHNOLOGY DRIVE
EB STA. 404+74.90 TO EB STA. 414+69.21



EB STA. 416+03.83
TO EB STA. 418+30.17
INSET 4



EB STA. 416+21.66
TO EB STA. 424+20.45
INSET 5



TECHNOLOGY DRIVE
EB STA. 414+69.21 TO EB STA. 418+50.00

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

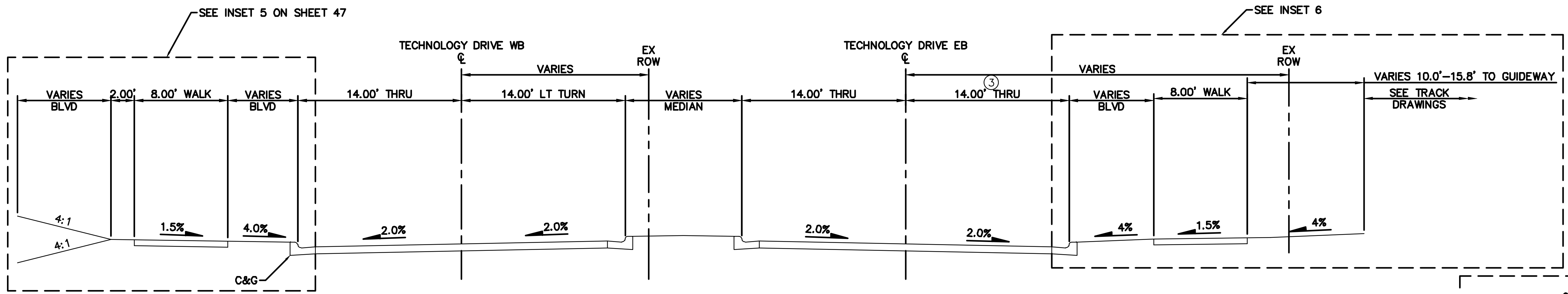
WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
CIVIL
TYPICAL SECTIONS
TECHNOLOGY DRIVE

DISCIPLINE: CIVIL
SHEET NAME: W1A-CIV-TYP-003

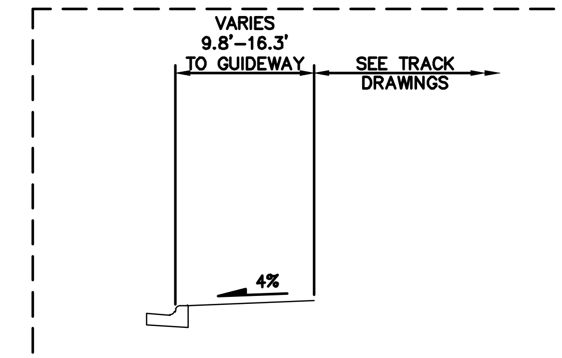
SHEET 47 OF 106

Aug. 27 2014 03:02 pm V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\CIVIL\W1A-CIV-TYP-001.dwg By: Boscha

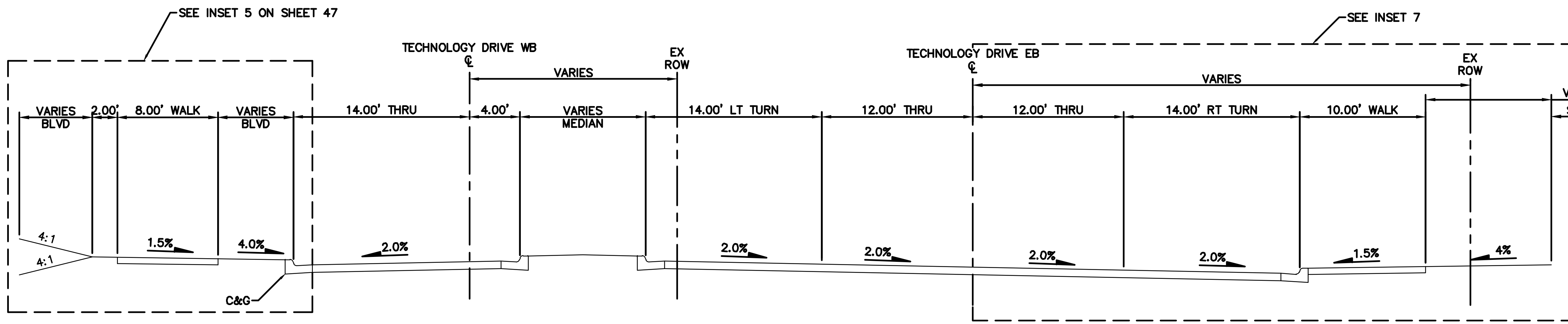
SPECIFIC NOTES:
3 WIDTH VARIES FROM STA. 427+84.39 TO STA. 428+58.48



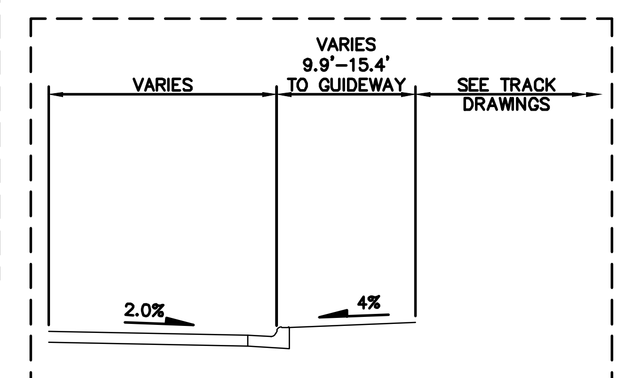
TECHNOLOGY DRIVE
EB STA. 418+50.00 TO EB STA. 422+04.20
EB STA. 424+50.00 TO EB STA. 428+58.48



EB STA. 424+50.00
TO EB STA. 428+58.48
INSET 6



TECHNOLOGY DRIVE
EB STA. 422+04.20 TO EB STA. 424+50.00
EB STA. 428+52.48 TO EB STA. 430+15.00



EB STA. 428+58.48
TO EB STA. 430+15.00
INSET 7

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

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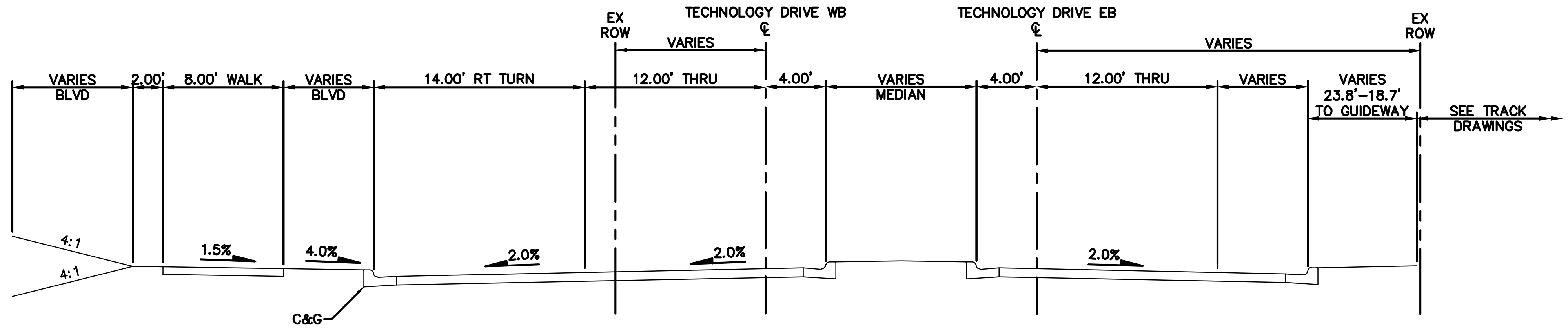
PRELIMINARY ENGINEERING

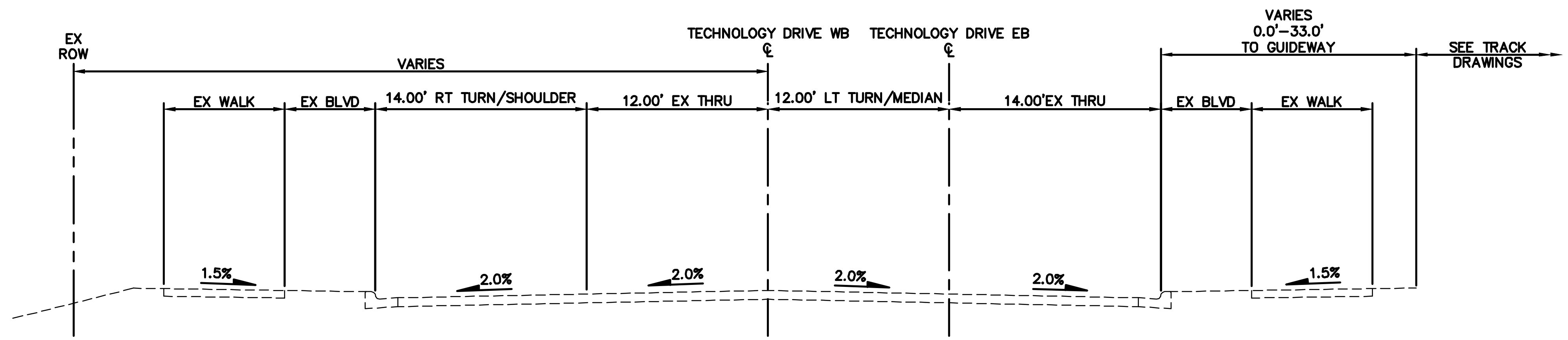
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
CIVIL
TYPICAL SECTIONS
TECHNOLOGY DRIVE

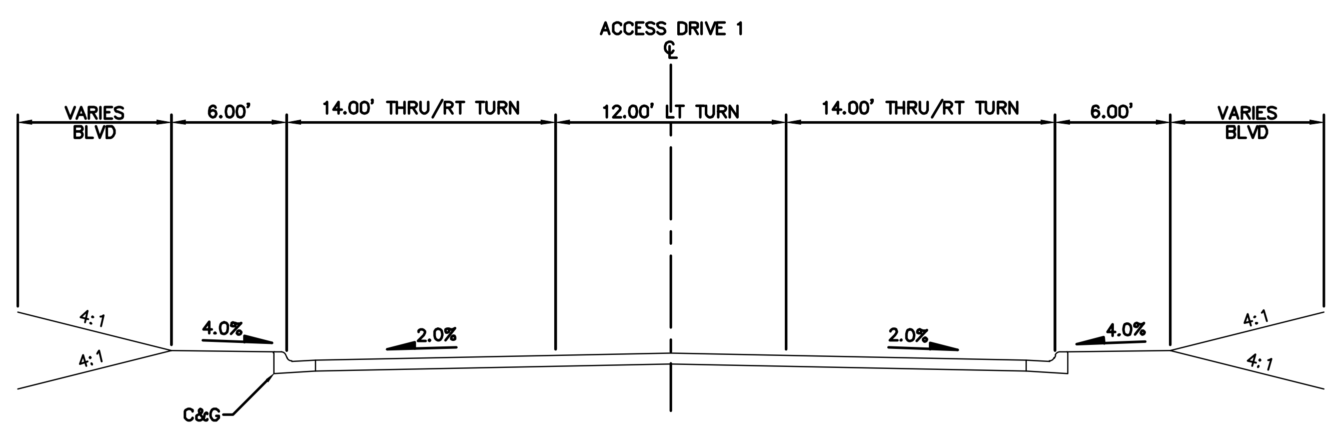
DISCIPLINE: CIVIL
SHEET NAME: W1A-CIV-TYP-004



TECHNOLOGY DRIVE
EB STA. 430+15.00 TO EB STA. 432+50.86



TECHNOLOGY DRIVE
EB STA. 432+50.86 TO EB STA. 441+00.00



ACCESS DRIVE 1
STA. 150+00.00 TO STA. 155+25.00

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
CIVIL
TYPICAL SECTIONS
TECHNOLOGY DRIVE & ACCESS DRIVE 1

DISCIPLINE: CIVIL
SHEET NAME: W1A-CIV-TYP-005

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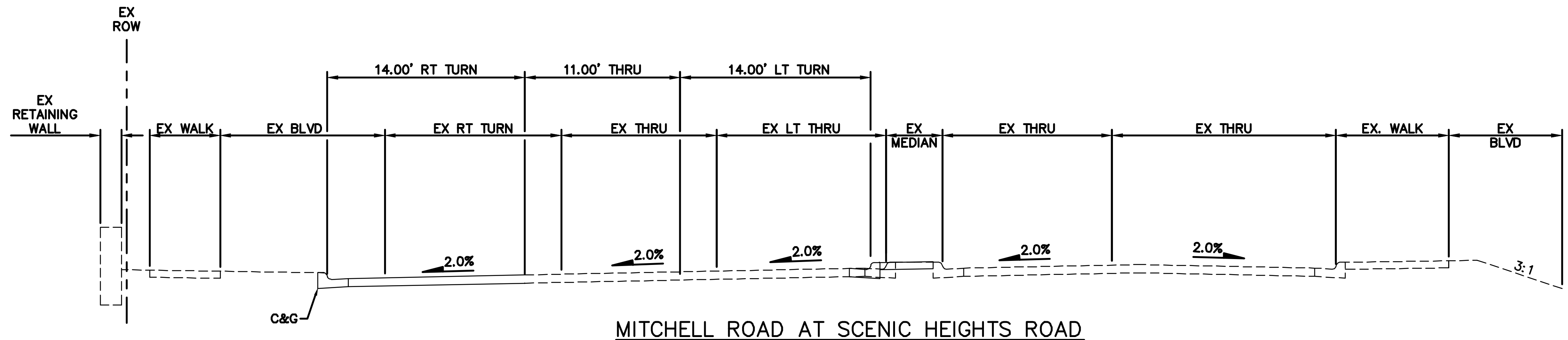
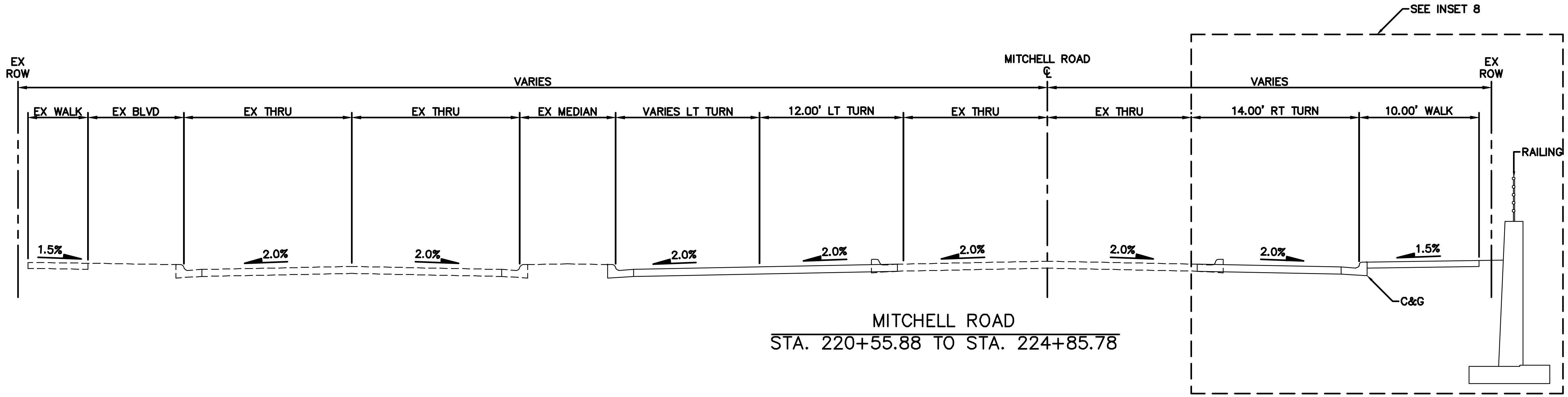
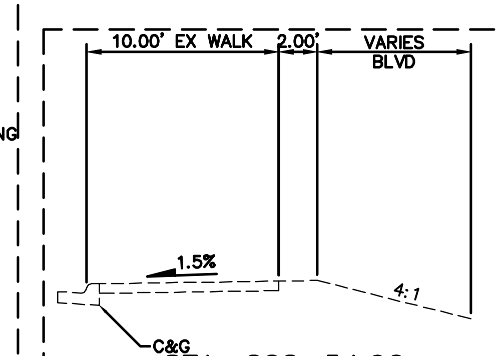


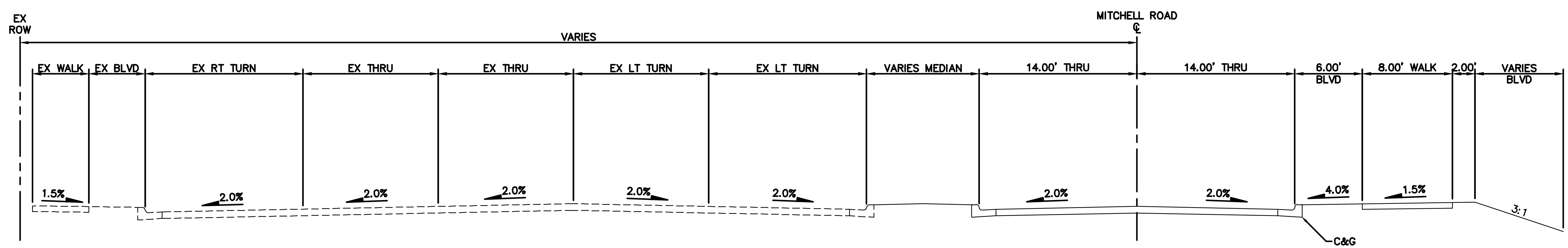
MITCHELL ROAD AT SCENIC HEIGHTS ROAD
STA. 114+04.71 TO STA. 118+79.11



MITCHELL ROAD
STA. 220+55.88 TO STA. 224+85.78



STA. 222+54.96
TO STA. 224+85.78
INSET 8



MITCHELL ROAD
STA. 224+85.78 TO STA. 226+63.27

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

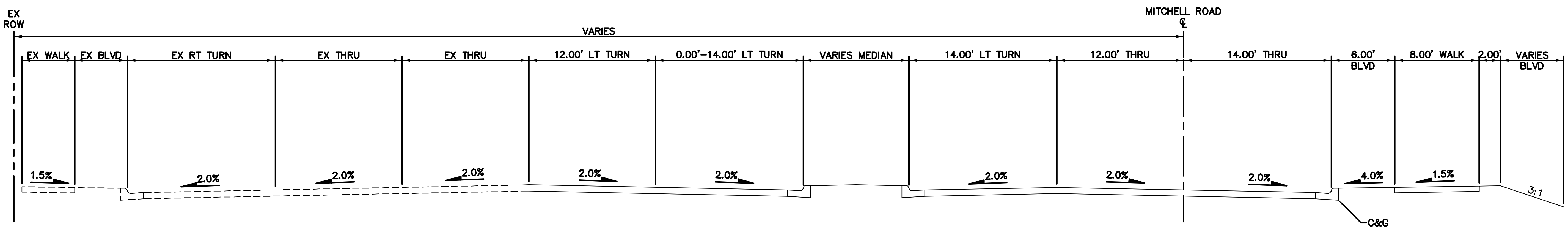
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
CIVIL
TYPICAL SECTIONS
MITCHELL ROAD

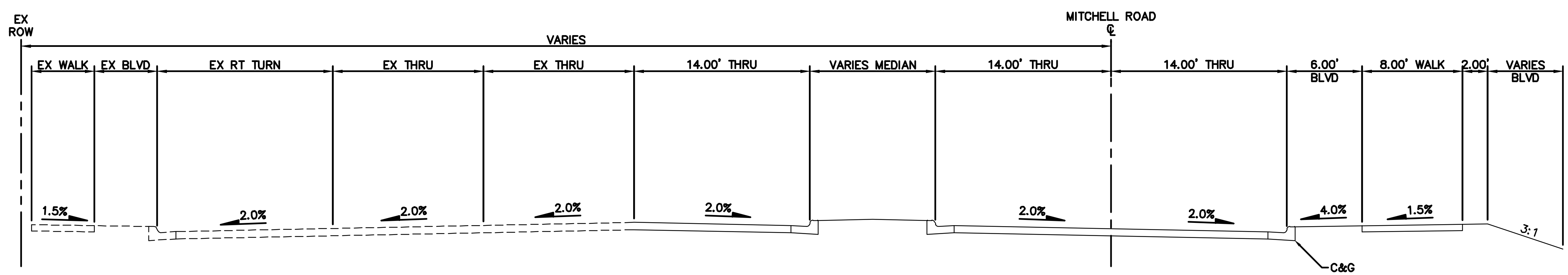
DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-TYP-006

SHEET 50 OF 106



MITCHELL ROAD
STA. 226+63.27 TO STA. 229+00.00



MITCHELL ROAD
STA. 229+00.00 TO STA. 234+57.50

0 2.5 5 10
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SCALE IN FEET

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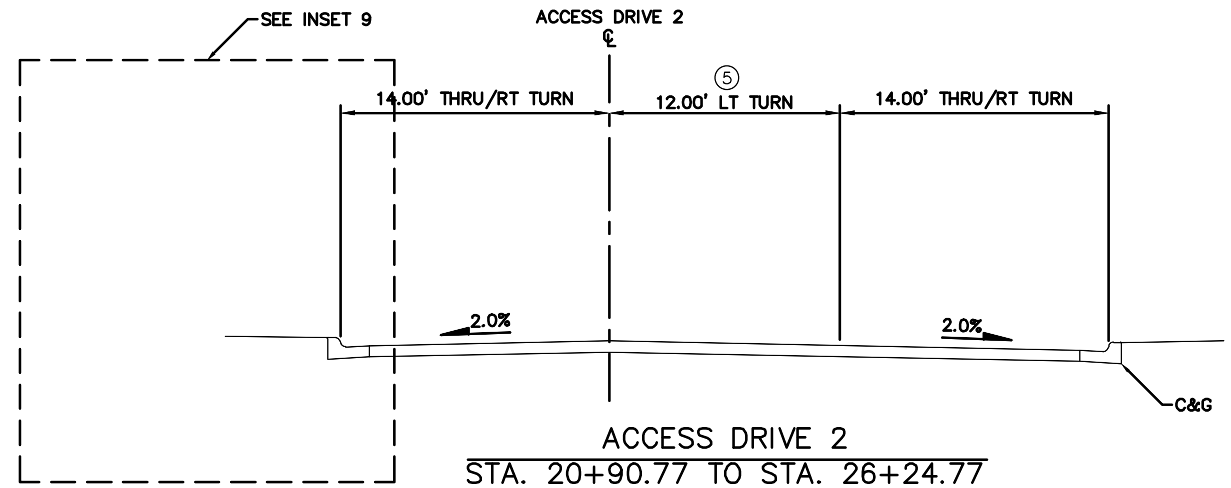
PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

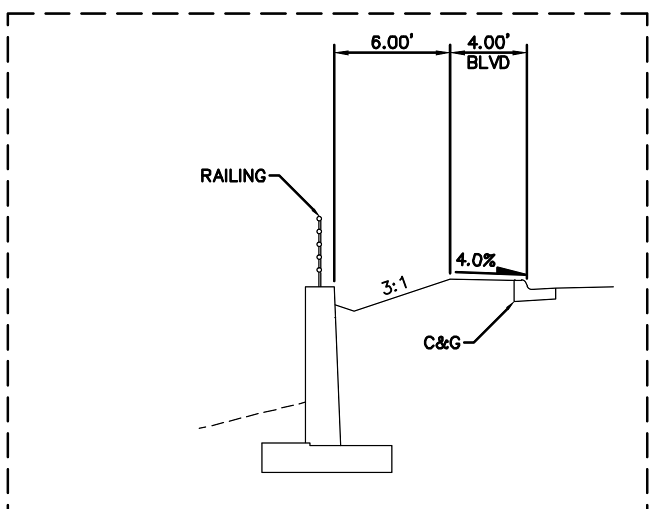
WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
CIVIL
TYPICAL SECTIONS
MITCHELL ROAD

DISCIPLINE: CIVIL
SHEET NAME: W1A-CIV-TYP-007

SPECIFIC NOTES:
(5) WIDTH VARIES FROM STA. 20+90.27 TO STA. 22+16.32



ACCESS DRIVE 2
STA. 20+90.77 TO STA. 26+24.77



STA. 23+80.95
TO STA. 25+87.42
INSET 9

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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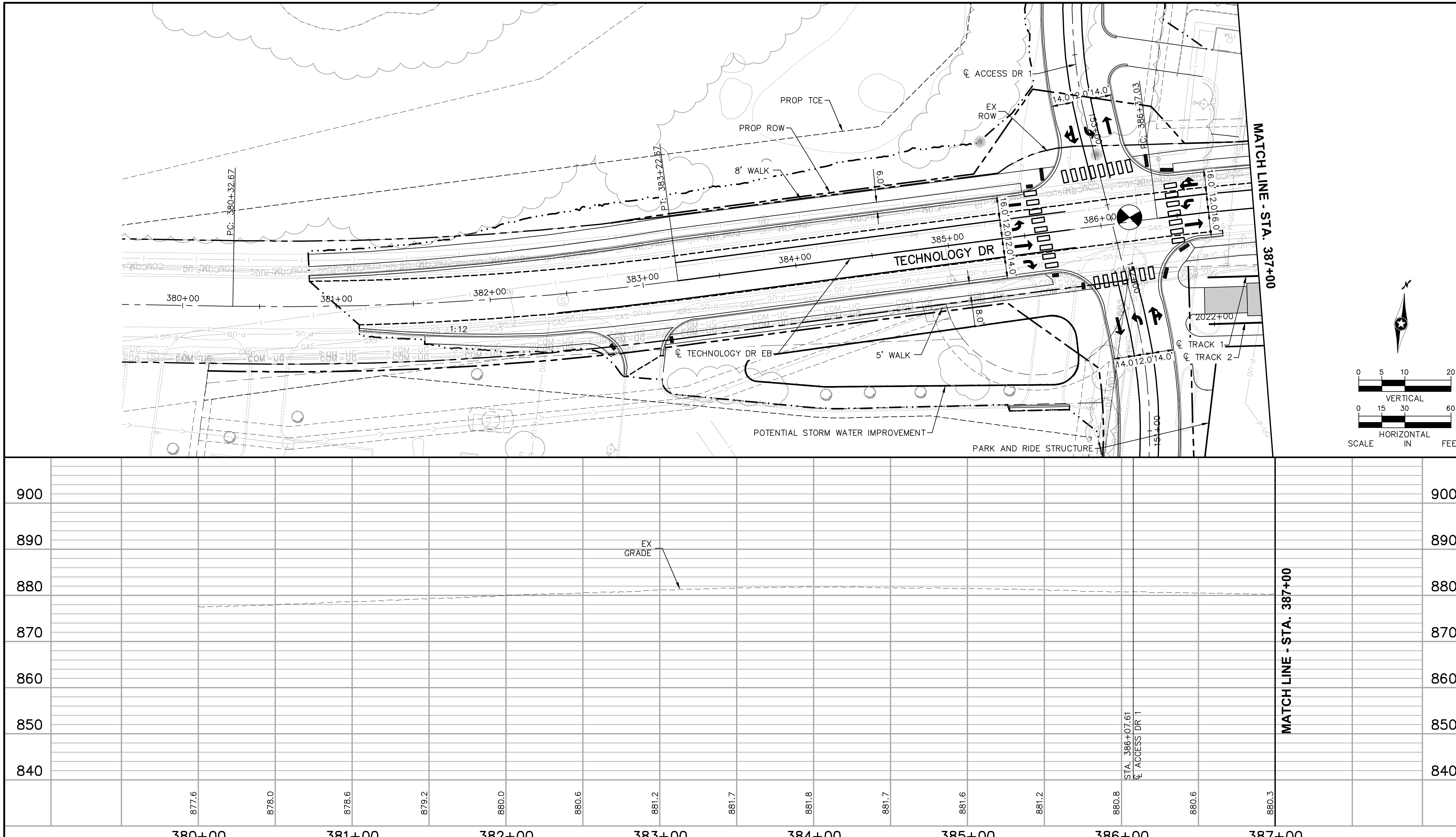
PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
CIVIL
TYPICAL SECTIONS
ACCESS DRIVE 2

DISCIPLINE: CIVIL
SHEET NAME: W1A-CIV-TYP-008



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PRELIMINARY ENGINEERING

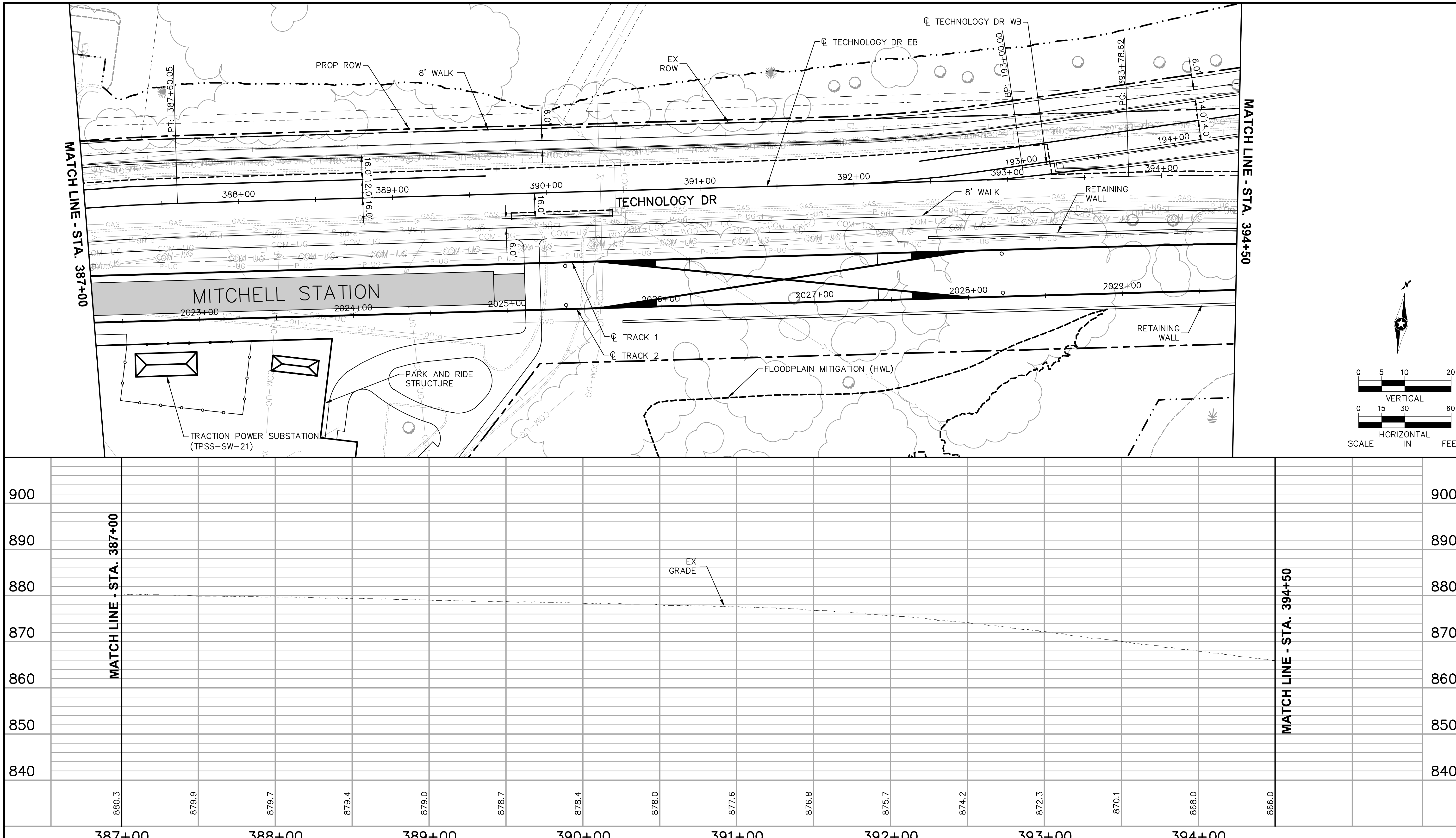
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE
PLAN AND PROFILE
STA. 380+82.61 TO STA. 387+00

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-001



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE
PLAN AND PROFILE
STA. 387+00 TO STA. 394+50

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-002

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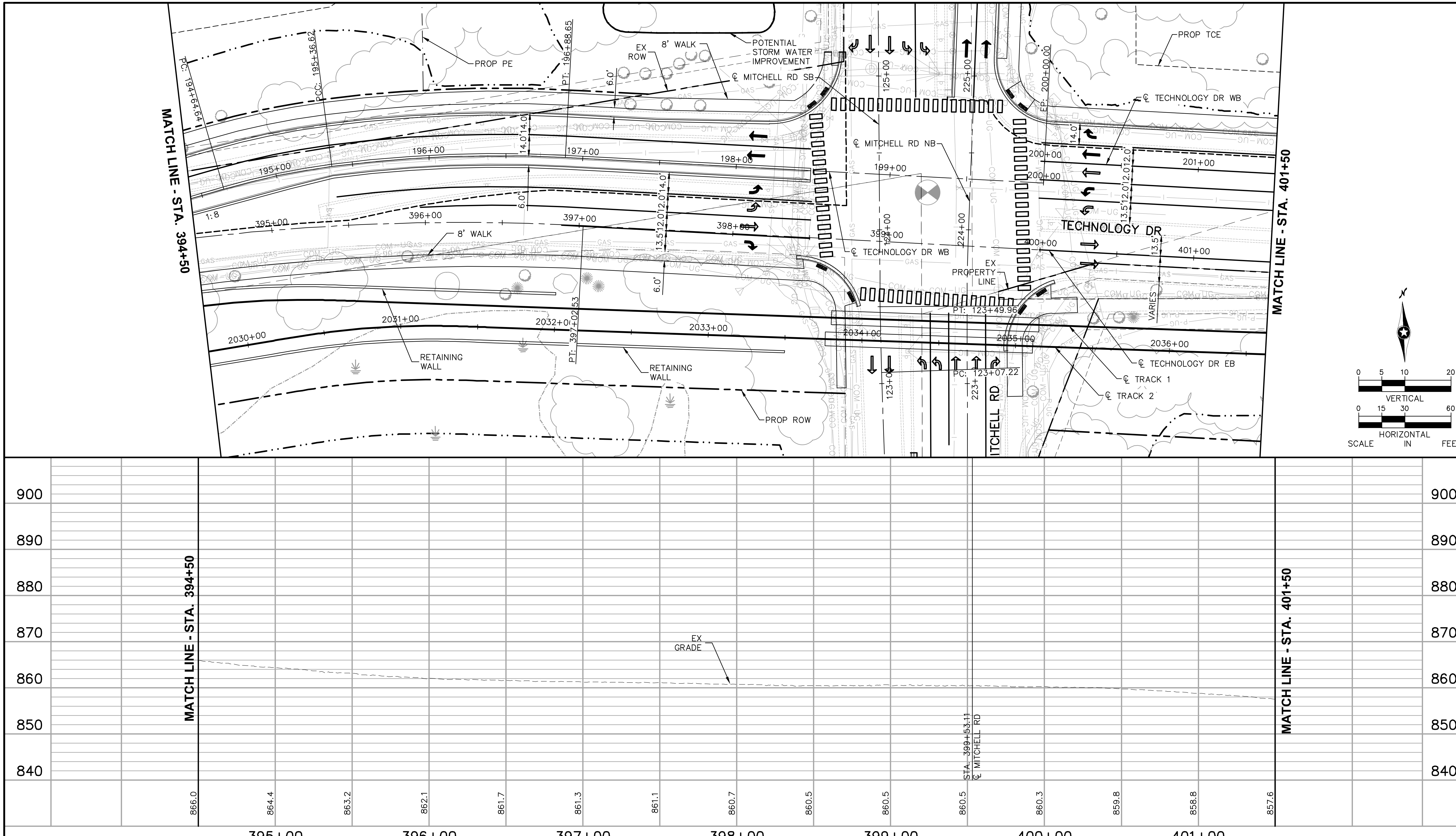

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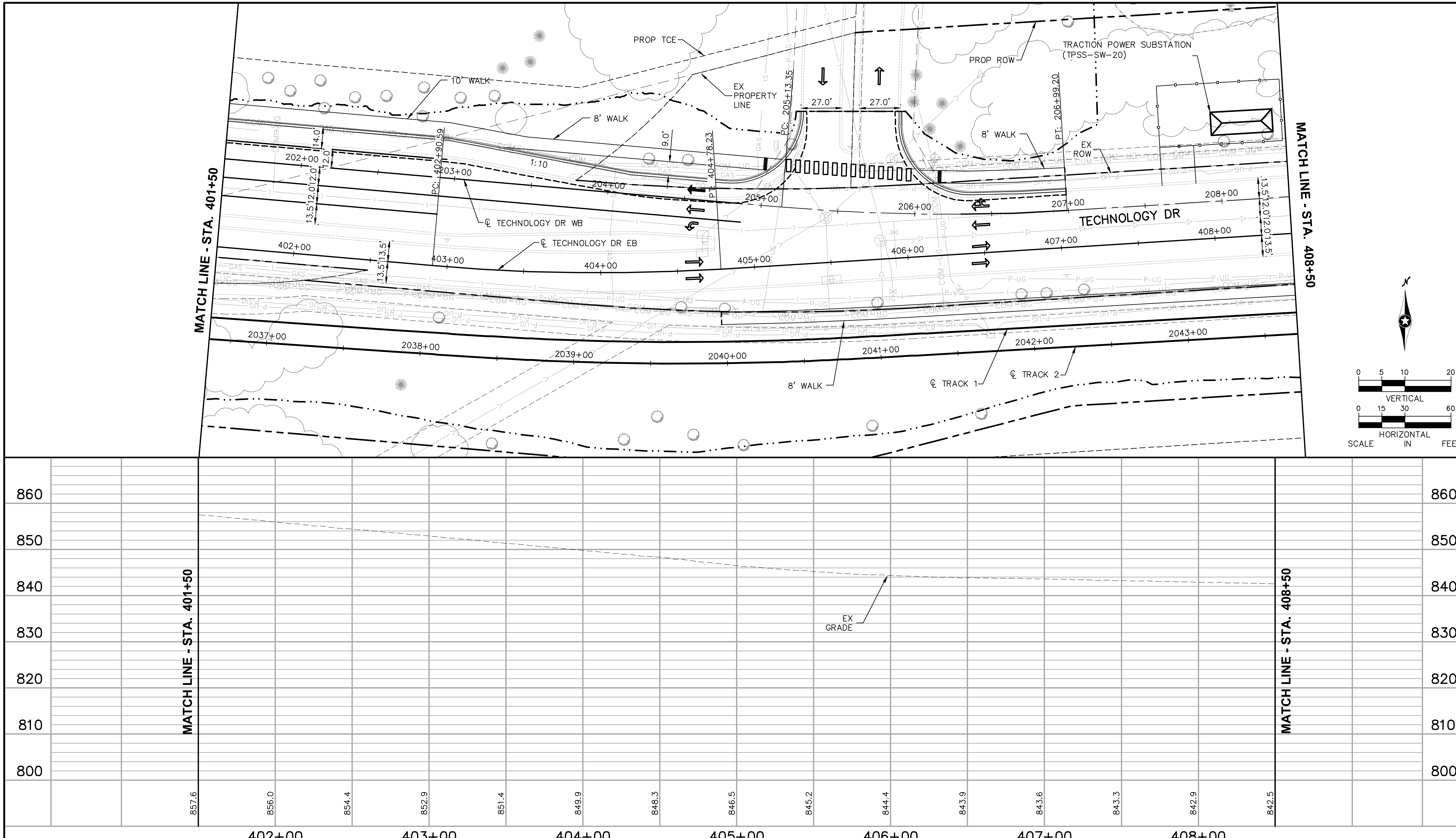
PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE
PLAN AND PROFILE
STA. 394+50 TO STA. 401+50

DISCIPLINE: CIVIL
SHEET NAME: W1A-CIV-PPFL-003



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

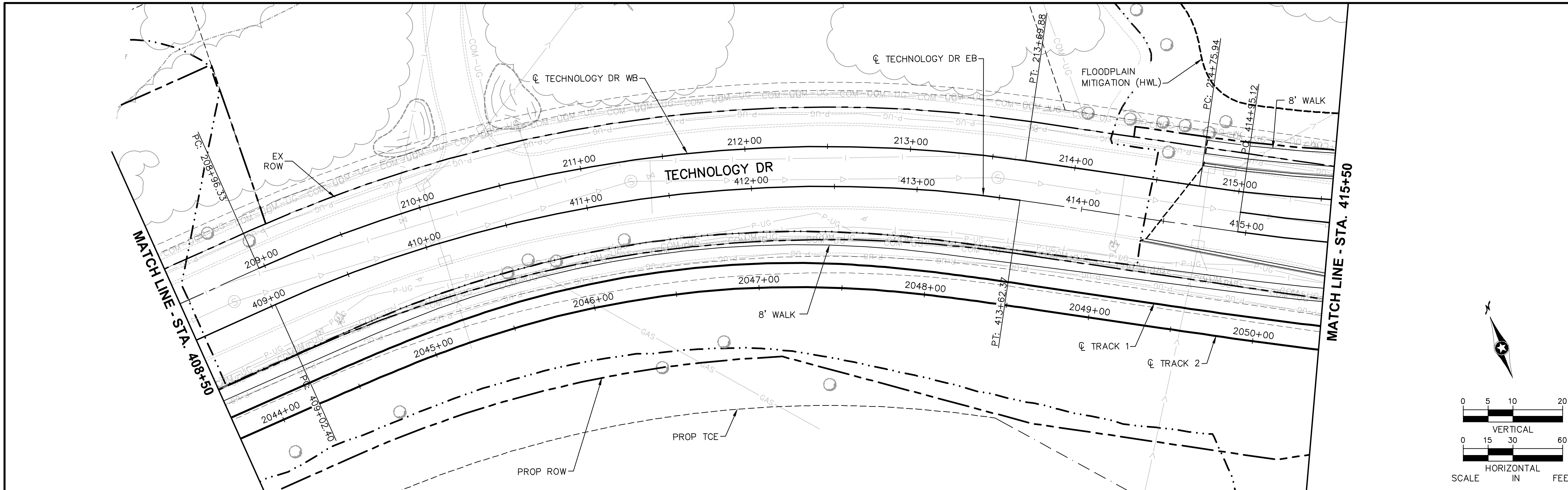
WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE
PLAN AND PROFILE
STA. 401+50 TO STA. 408+50

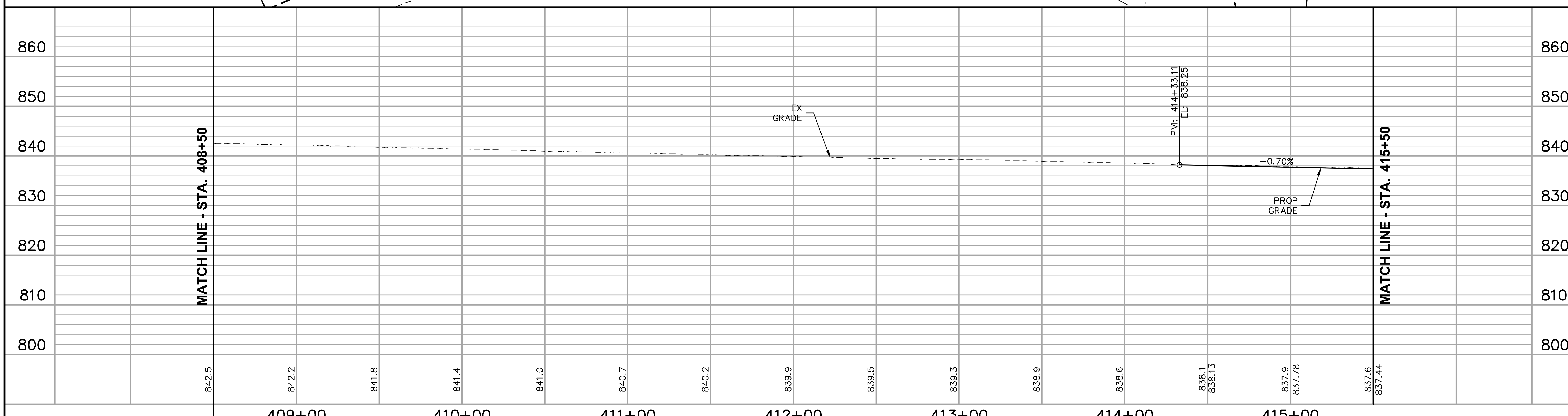
DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-004

SHEET 56 OF 106

Jul, 01 2014 01:20 pm V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\CIVIL\W1A-CIV-PPFL.dwg By: yangdk





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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE
PLAN AND PROFILE
STA. 408+50 TO STA. 415+50

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-005

SHEET 57 OF 106

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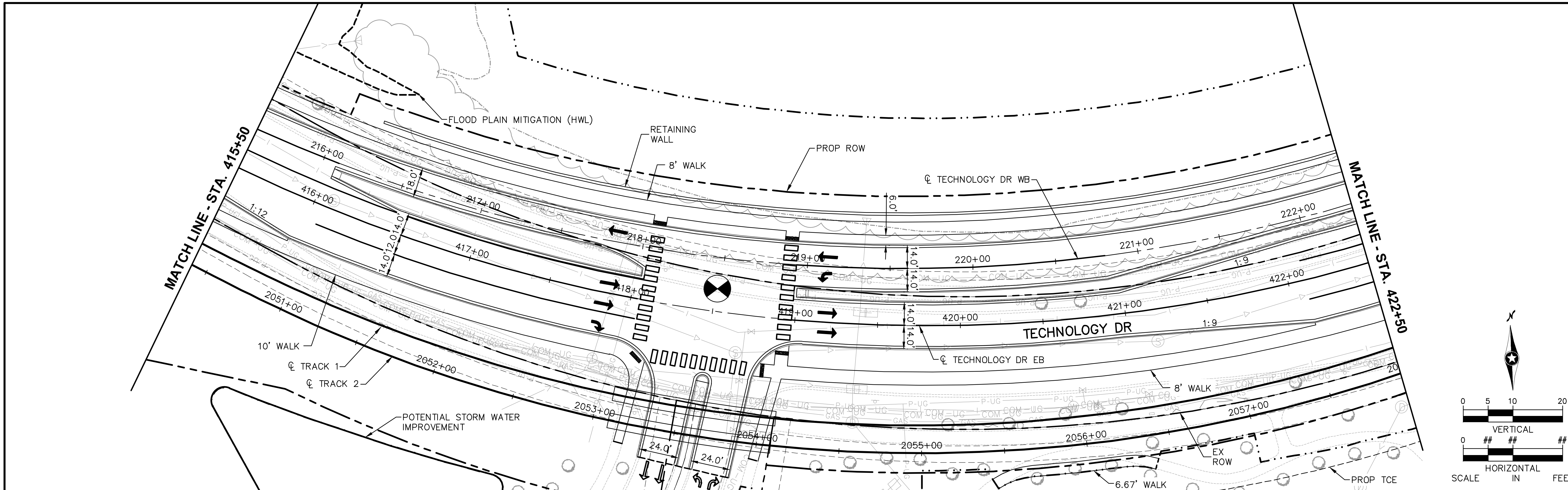

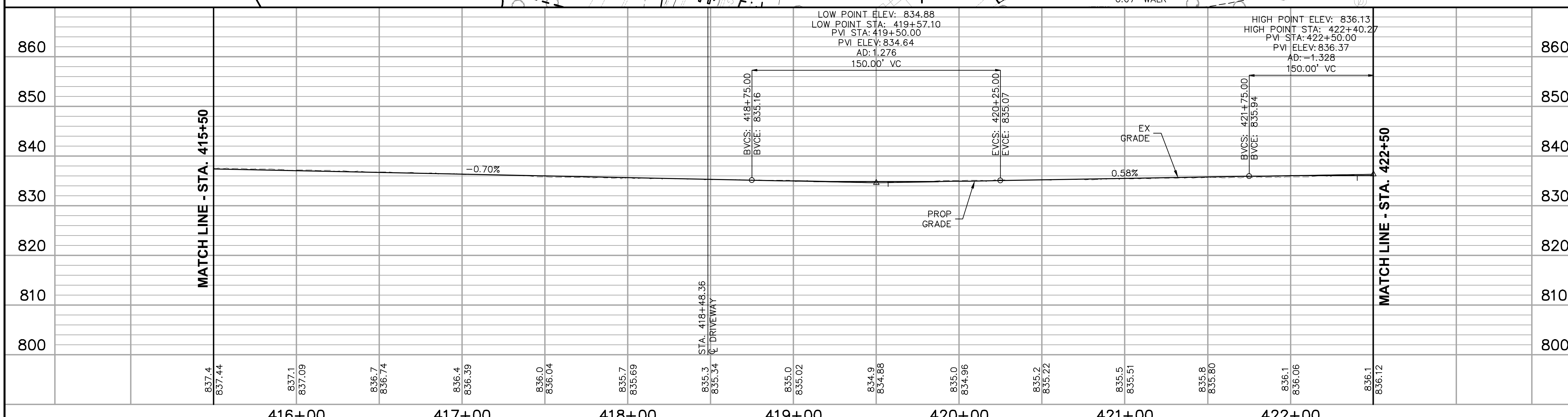

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE
PLAN AND PROFILE
STA. 415+50 TO STA. 422+50

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-006

SHEET 58 OF 106

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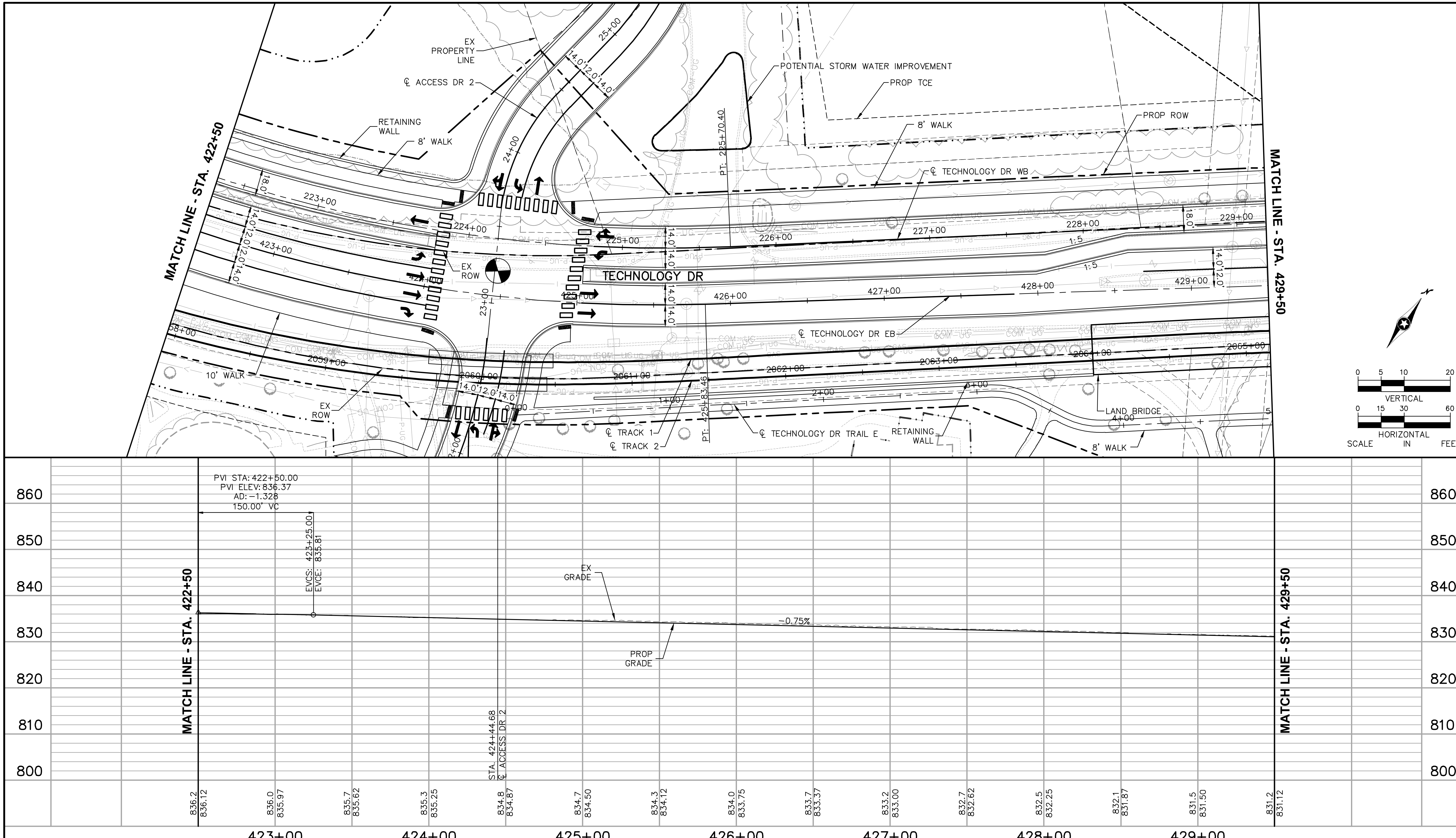

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METROPOLITAN COUNCIL

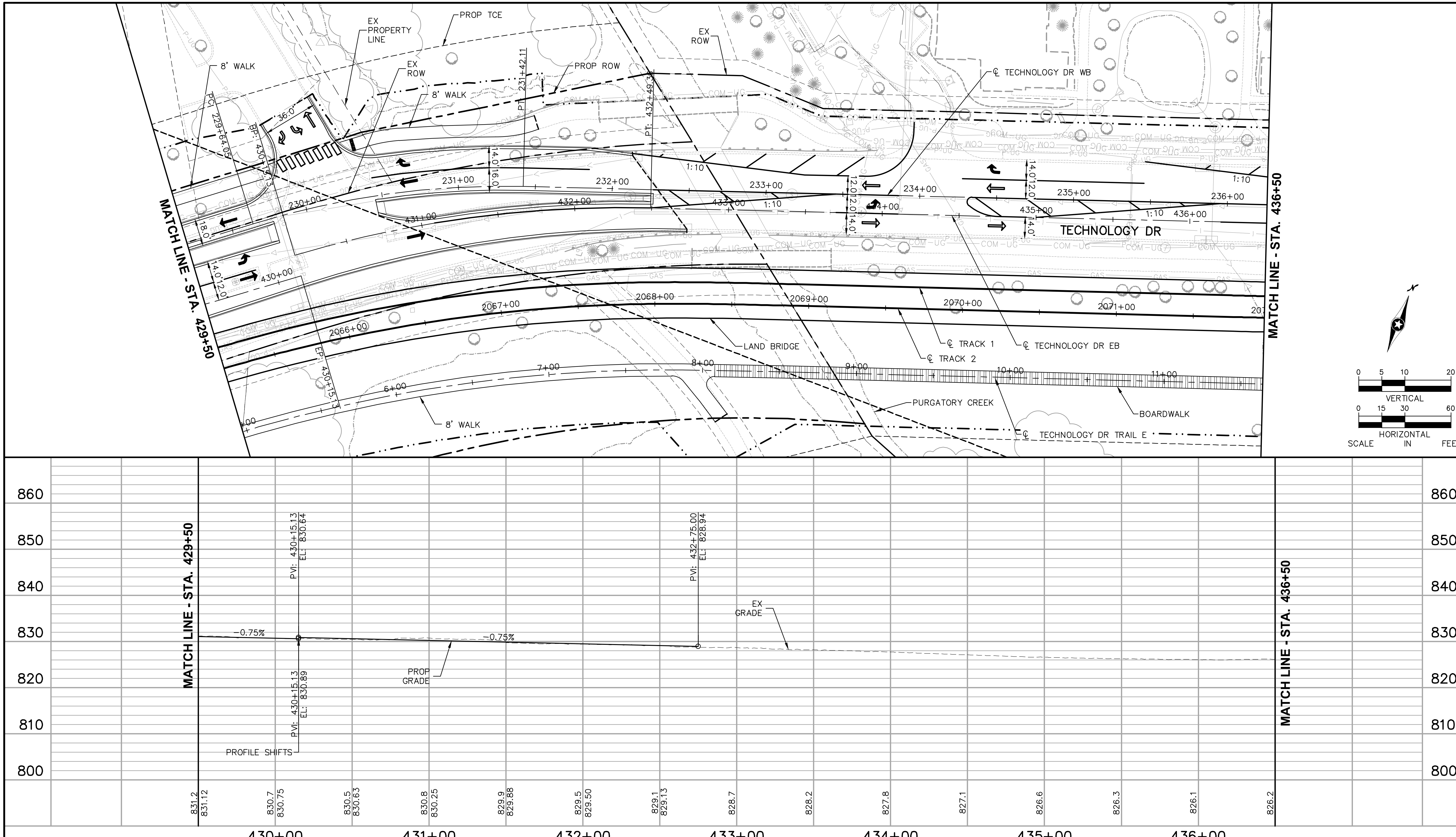
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE
PLAN AND PROFILE
STA. 422+50 TO STA. 429+50

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-007

SHEET 59 OF 106



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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

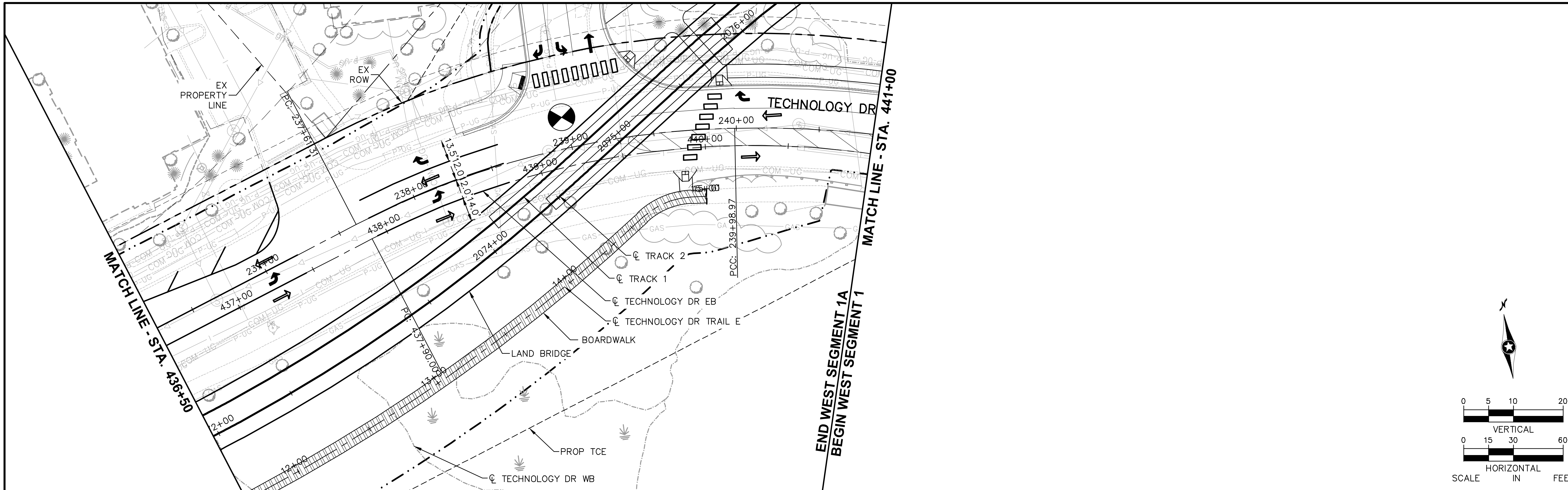
SOUTHWEST Green Line LRT Extension

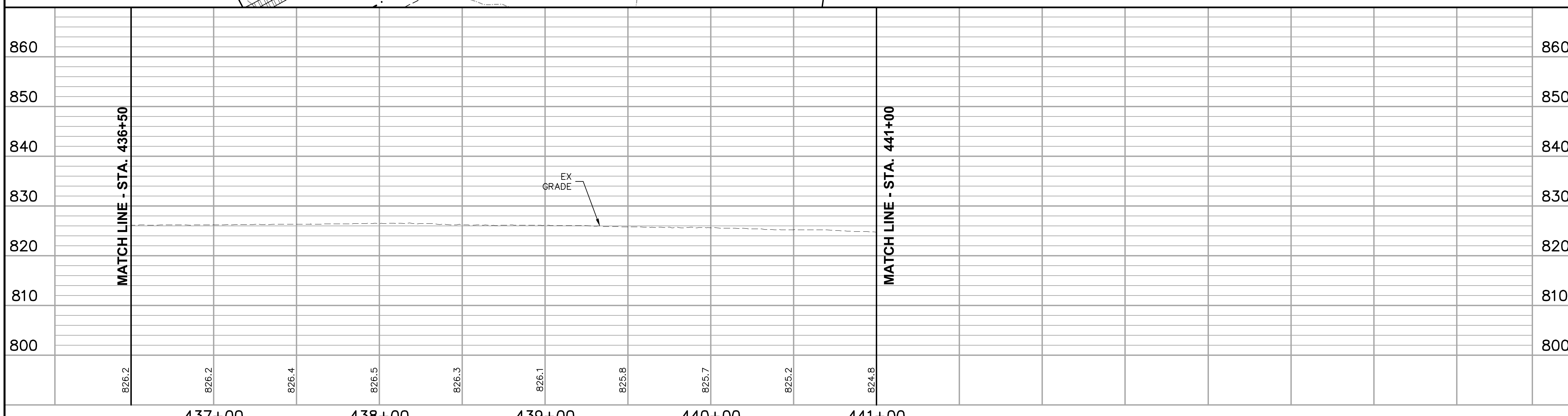
WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE
PLAN AND PROFILE
STA. 429+50 TO STA. 436+50

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-008

SHEET 60 OF 106





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METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE
PLAN AND PROFILE
STA. 436+50 TO STA. 441+00

DISCIPLINE: CIVIL

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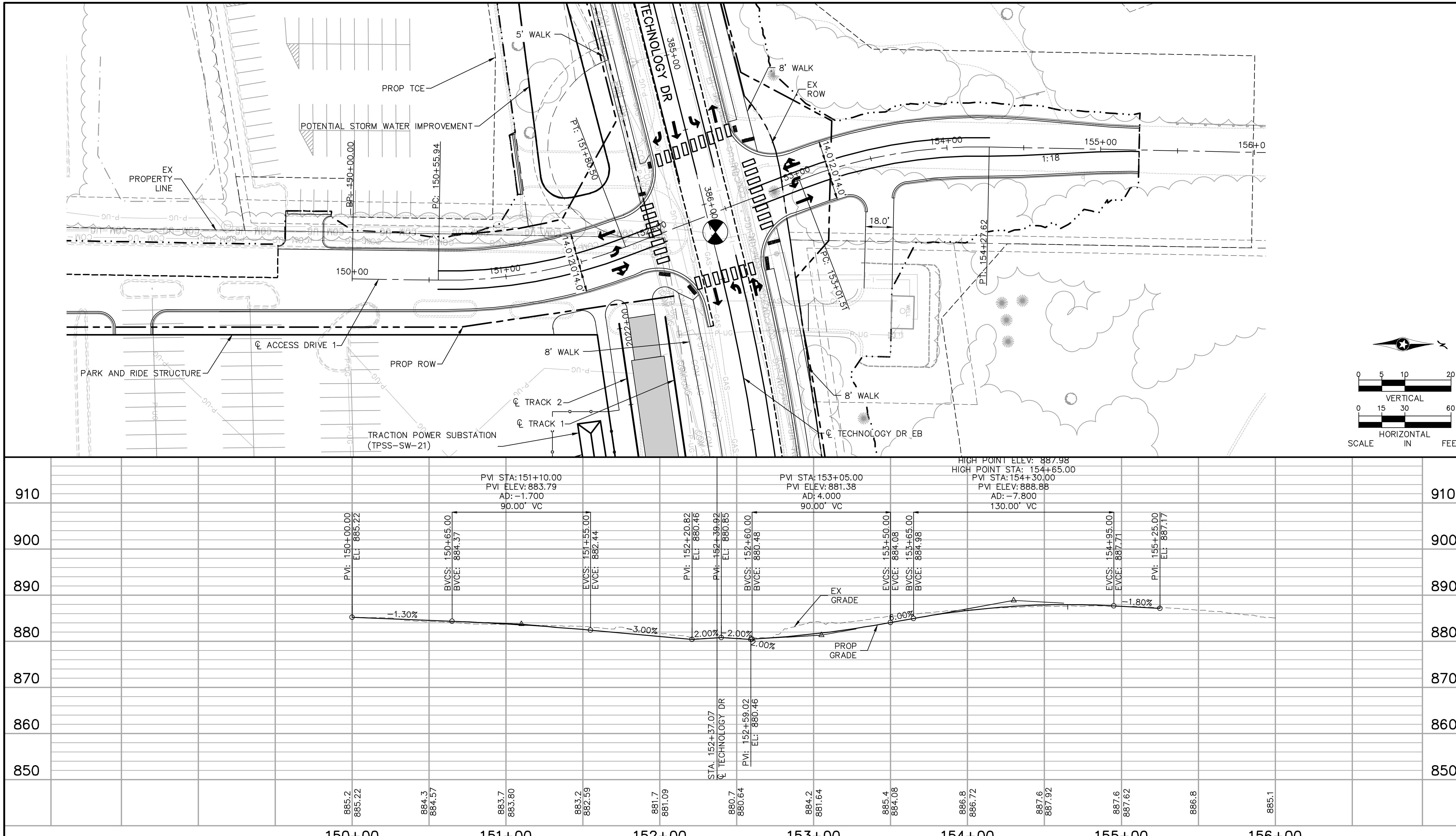

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
ACCESS DRIVE 1
PLAN AND PROFILE
STA. 150+00 TO STA. 155+25

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-010

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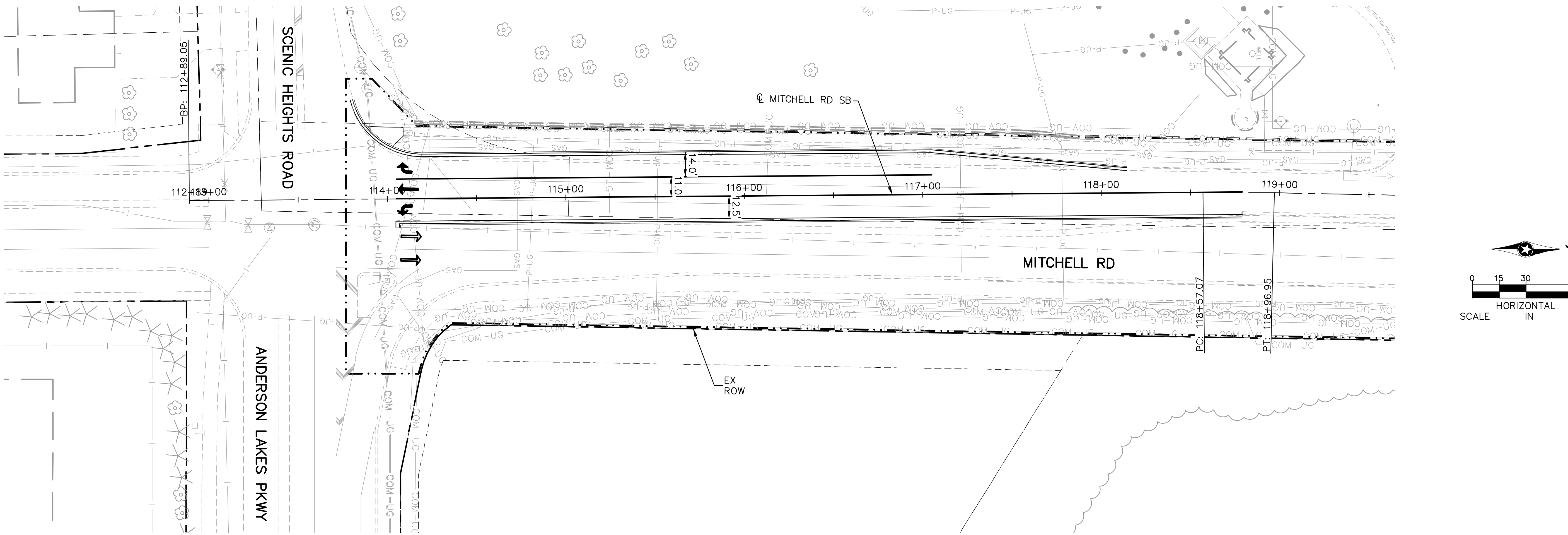

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METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
MITCHELL ROAD
PLAN AND PROFILE
STA. 114+04.71 TO STA. 118+79.11

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-011A

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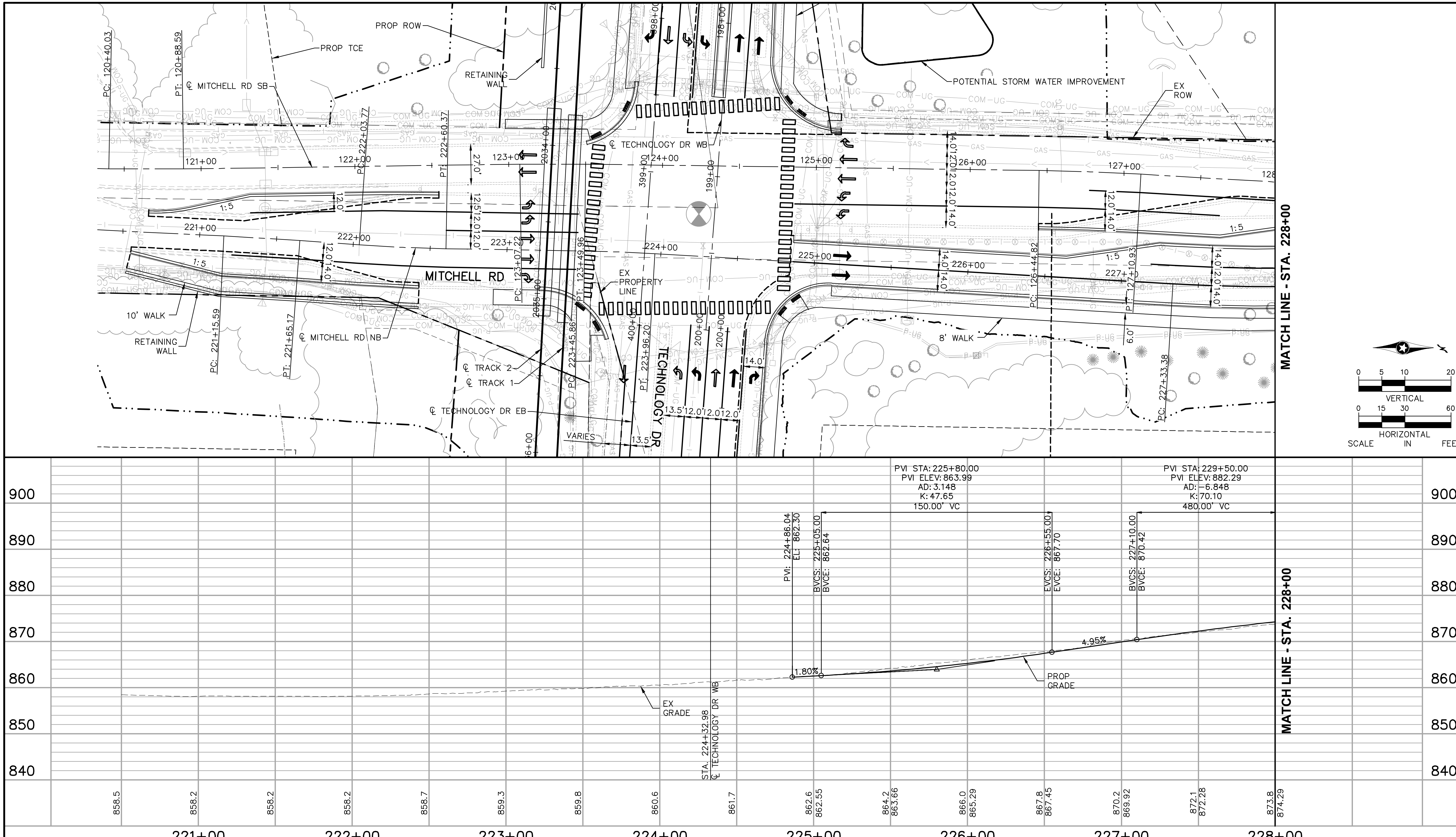

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
MITCHELL ROAD
PLAN AND PROFILE
STA. 220+50 TO STA. 228+00

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-011

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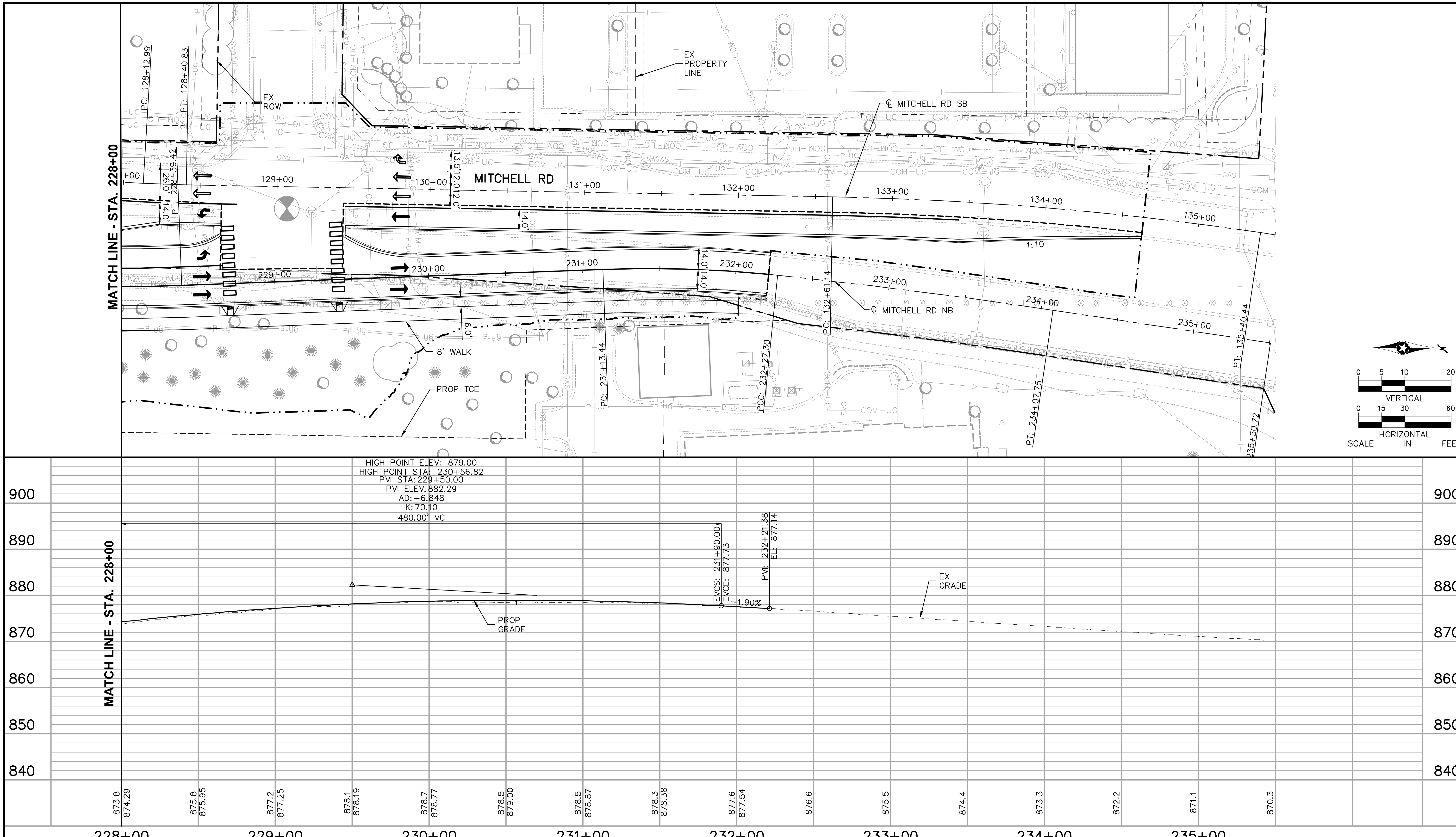

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
MITCHELL ROAD
PLAN AND PROFILE
STA. 228+00 TO STA. 235+50

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-012

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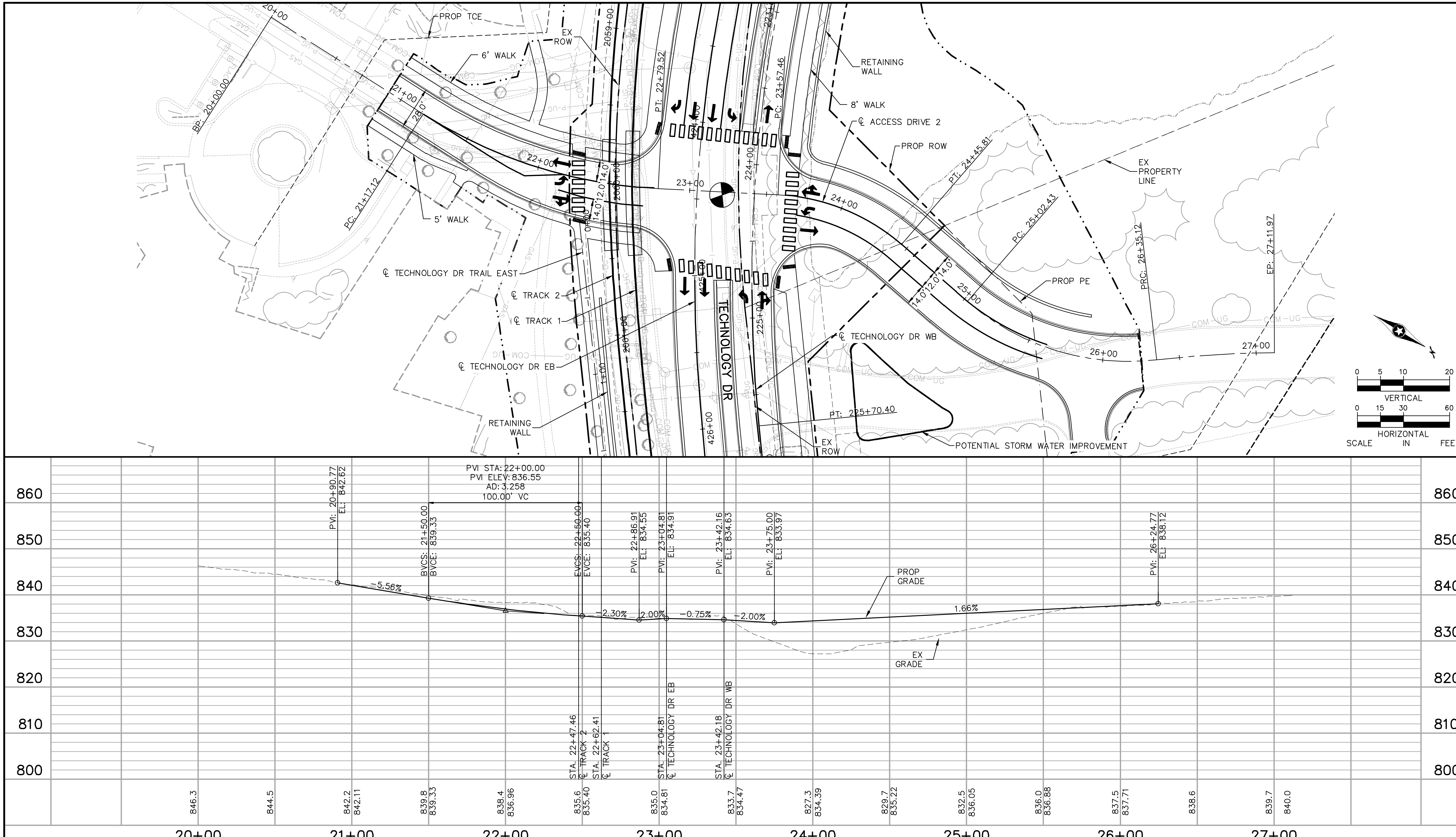

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
ACCESS DRIVE 2
PLAN AND PROFILE
STA. 20+00 TO STA. 27+11.97

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PPFL-013

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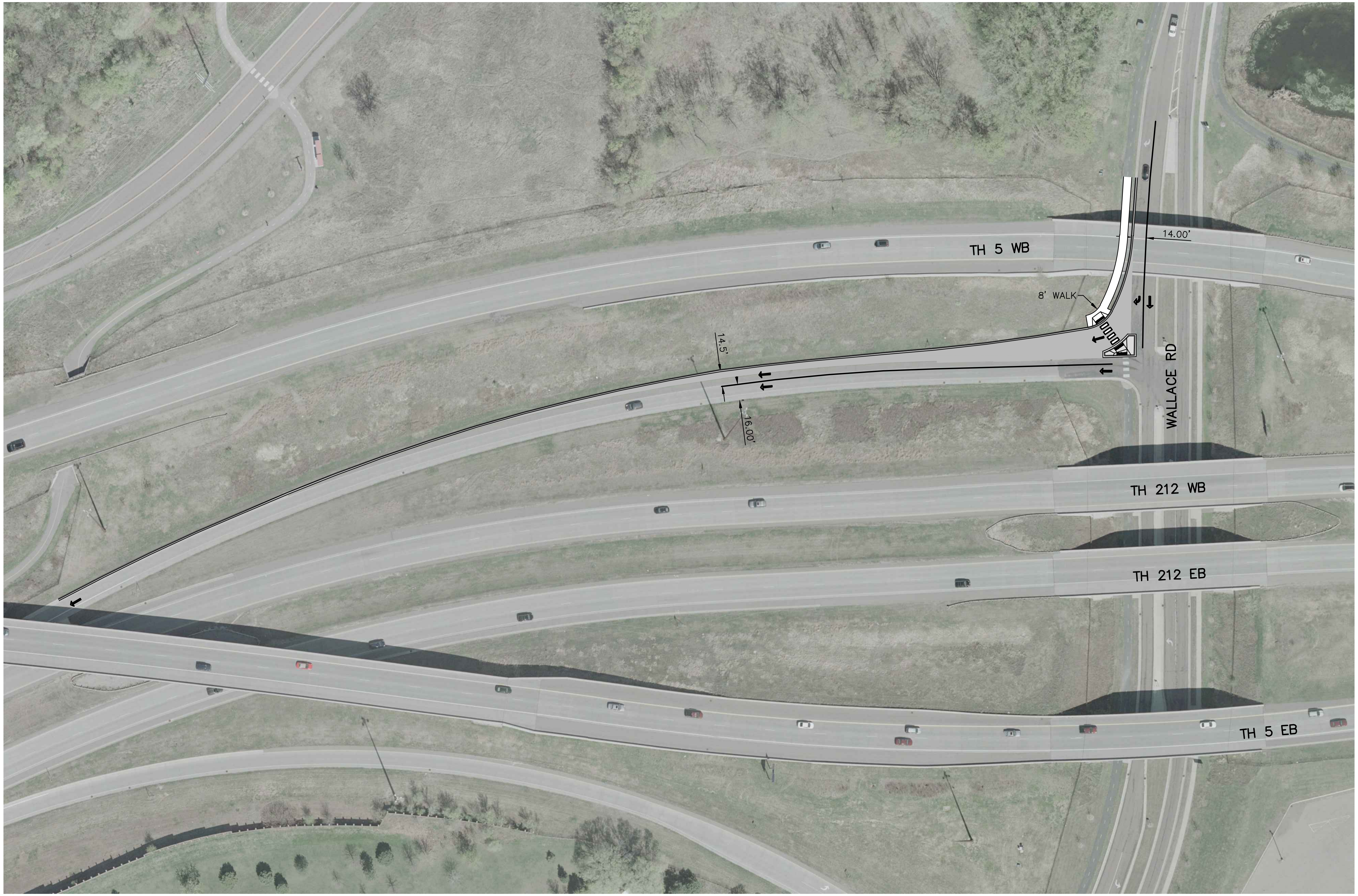

0 25 50 100
HORIZONTAL
SCALE IN FEET

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
WALLACE ROAD AT TH 212
PLAN VIEW

DISCIPLINE: CIVIL

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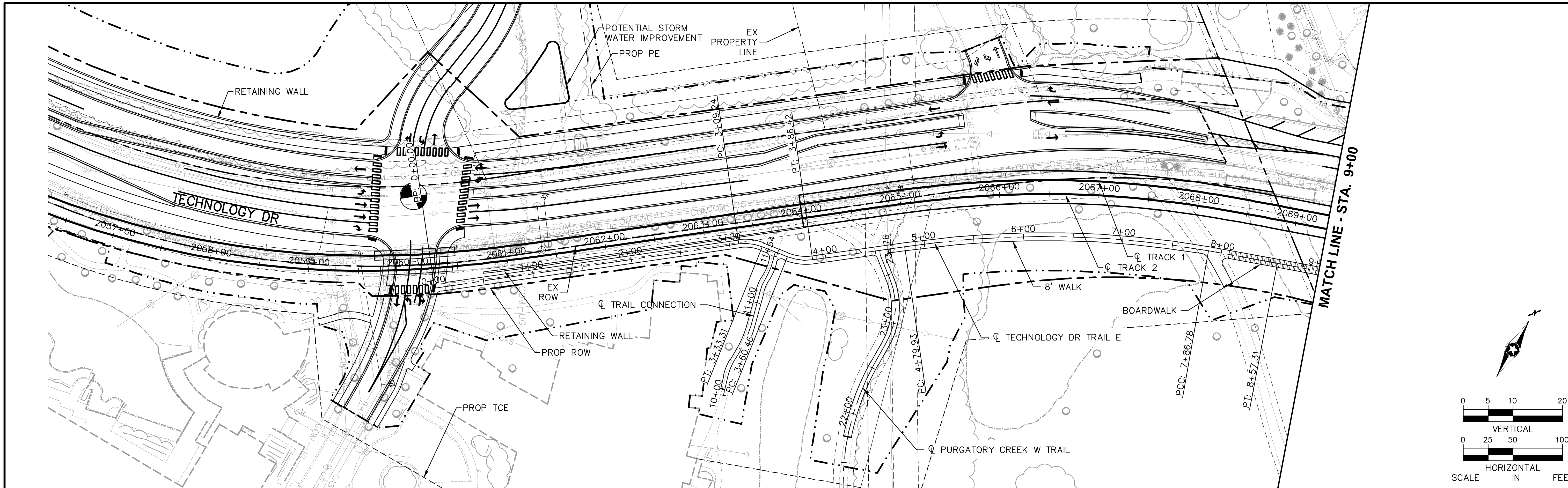

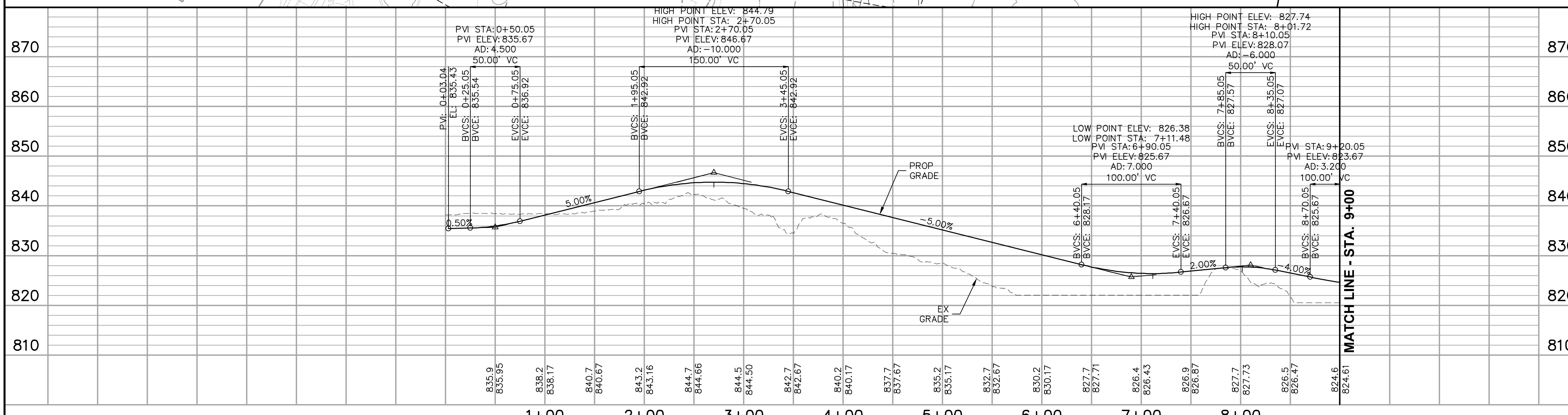

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METROPOLITAN COUNCIL

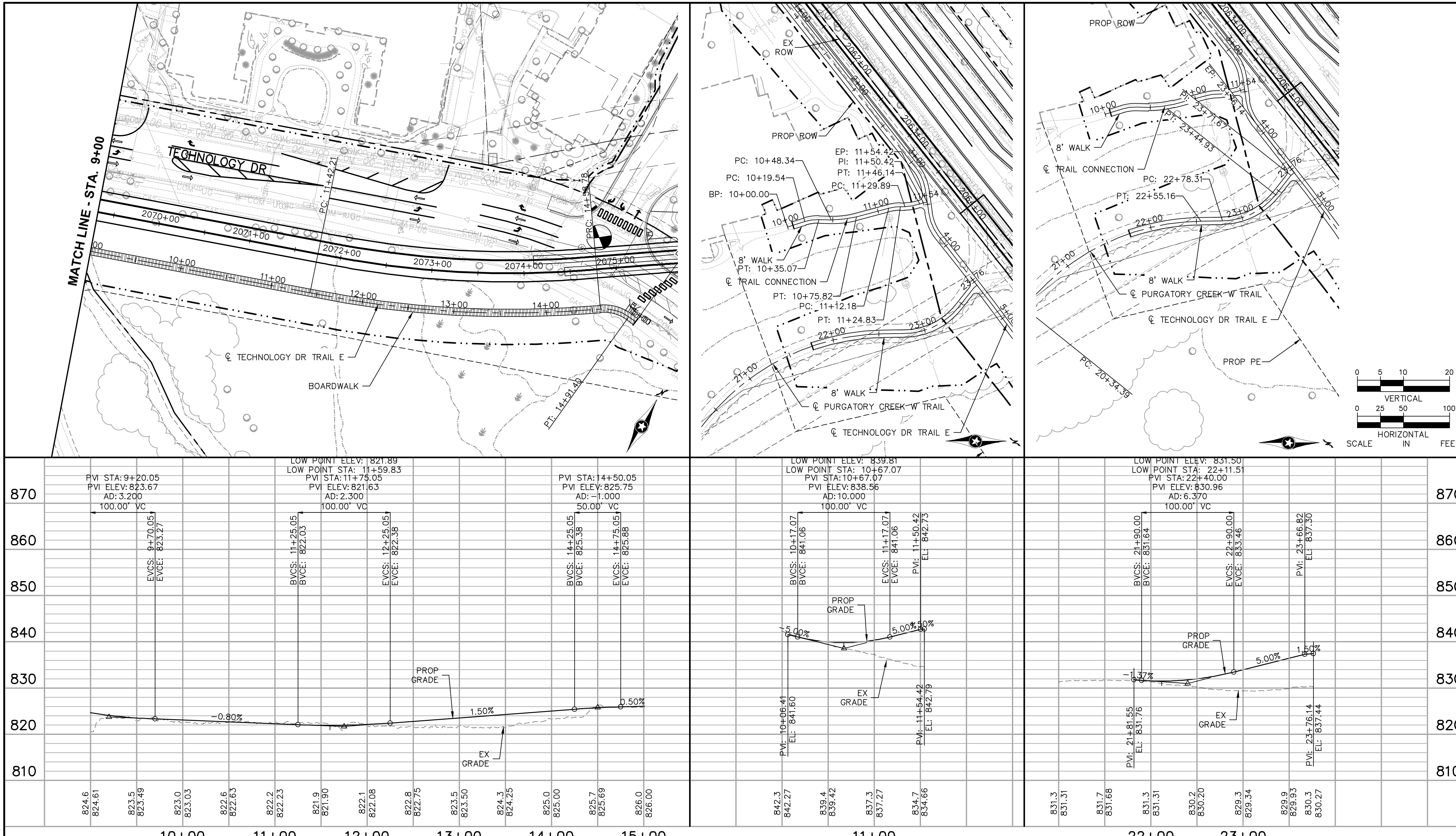
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECHNOLOGY DRIVE TRAIL E
PLAN AND PROFILE
STA. 0+00 TO STA. 9+00

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-TRL-001

SHEET 68 OF 106



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METROPOLITAN COUNCIL

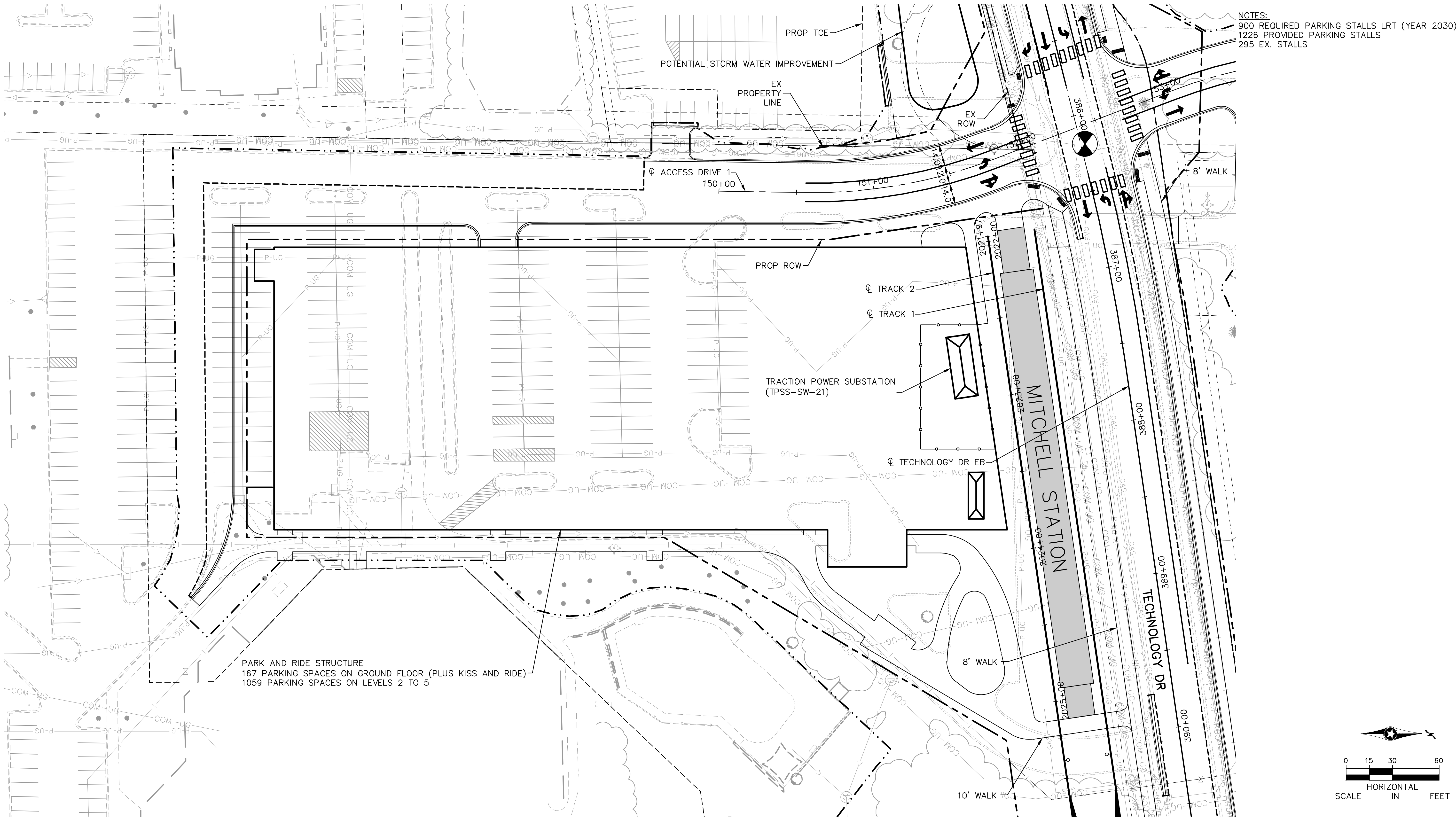
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TECH. DR TRL E; PURGATORY CREEK W TRL
PLAN AND PROFILE
STA. 9+00 TO STA. 15+00

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-TRL-002

NOTES:
900 REQUIRED PARKING STALLS LRT (YEAR 2030)
1226 PROVIDED PARKING STALLS
295 EX. STALLS



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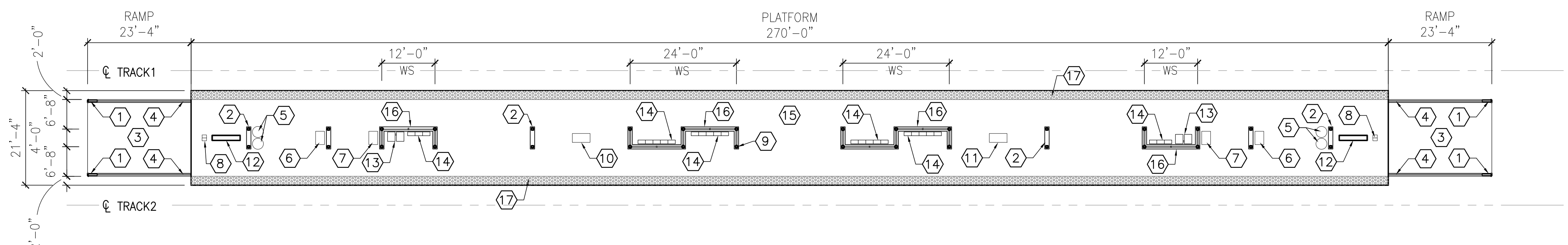
METROPOLITAN COUNCIL | SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
MITCHELL STATION
PARK AND RIDE SITE PLAN

DISCIPLINE: CIVIL

SHEET NAME: W1A-CIV-PRK-001



1 CENTER PLATFORM AT MITCHELL STATION

SCALE: 1"=30'-0"

0 7.5 15 30
SCALE

KEYNOTES

(NOT ALL NOTES MAY APPLY TO THIS SHEET)

1	ENTRY SIGN
2	LIGHT MOUNTED TO STRUCTURE
3	ACCESS RAMP
4	HAND RAIL
5	TRASH/RECYCLING RECEPTACLE, BLAST CONTROLLING TYPE
6	TICKET VENDING MACHINE
7	FUTURE TICKET VENDING MACHINE
8	STORED VALUE VALIDATOR
9	EMERGENCY CALL BOX
10	COMMUNICATION CABINET
11	ELECTRICAL CABINET
12	INFORMATION KIOSK WITH TRANSIT INFO AND ADVERTISING
13	BENCH
14	LEANING RAIL
15	CONCRETE PLATFORM
16	SHELTER: WINDSCREEN,LIGHT,HEATERS WITH CANOPY ABOVE
17	DETECTABLE WARNING AT BOARDING EDGE

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METROPOLITAN COUNCIL

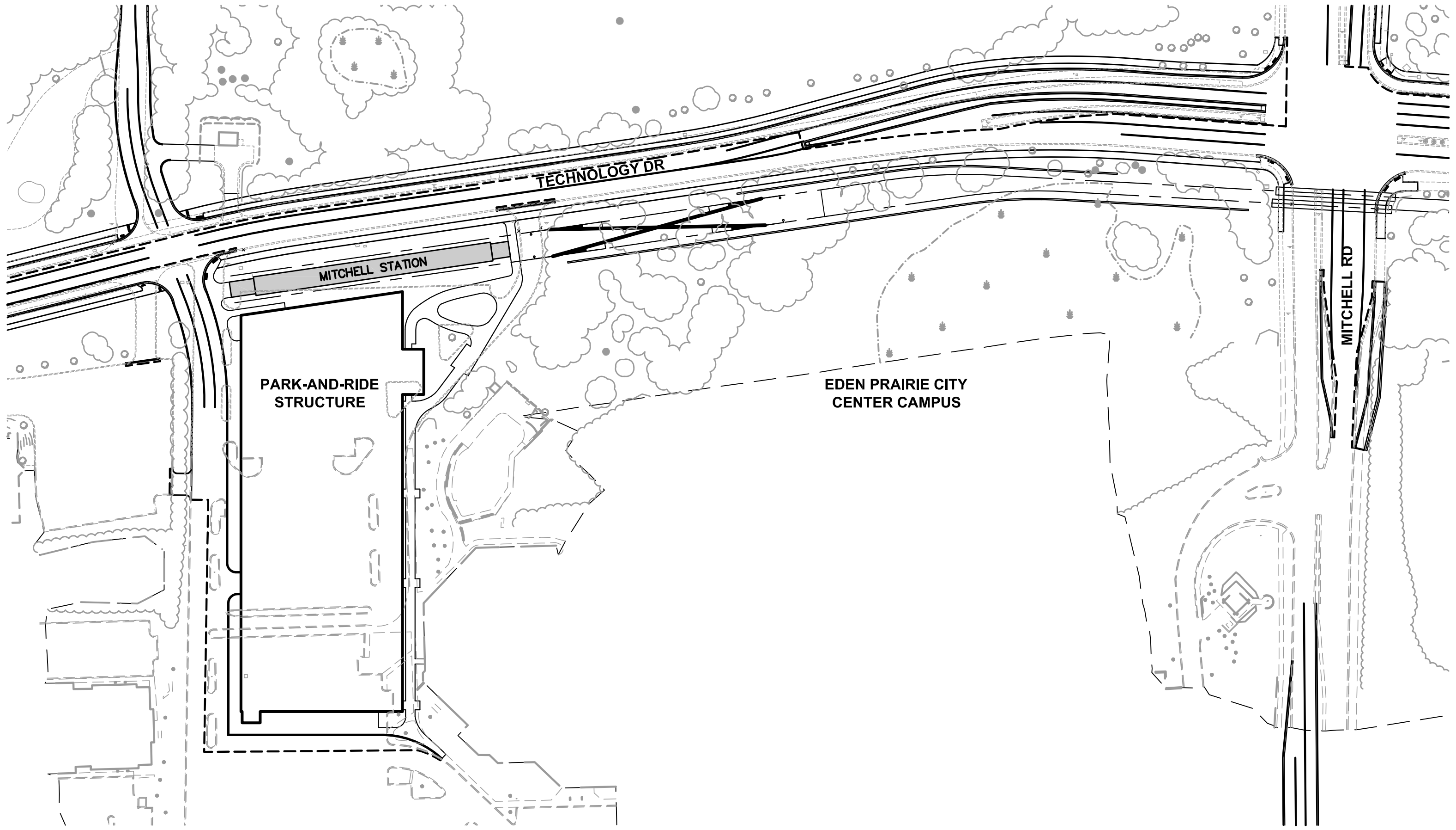
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
PLATFORM LAYOUT
MITCHELL STATION

DISCIPLINE: ARCHITECTURE

SHEET NAME: W1A-ARC-STA-PLN

MITCHELL STATION PARK & RIDE



1 SITE PLAN
SCALE: 1"=200'-0"

0 50 100 200
SCALE

TRUE NORTH

PRELIMINARY CODE ANALYSIS

APPLICABLE CODES:
2007 MINNESOTA STATE BUILDING CODE
NFPA 130: STANDARD FOR FIXED GUIDEWAY TRANSIT AND PASSENGER RAIL

OCCUPANCY GROUP (SECTION 302):
STORAGE, S-2 (OPEN PARKING STRUCTURE)

TYPE OF CONSTRUCITON (SECTION 602, TABLE 601):
TYPE II-B

ALLOWABLE HEIGHTS AND AREAS (SECTION 406.3.5):
UNLIMITED IF OPEN ON ALL 4 SIDES PROVIDED OPENINGS MEET REQUIREMENTS IN 406.3.3.1 AND UNDER 75' TOTAL HEIGHT.

FIRE RESISTIVE REQUIREMENTS (TABLE 601):
CONSTRUCTION TYPE II-B

STRUCTURAL FRAME	0 HR
EXTERIOR BEARING WALLS	0 HR
INTERIOR BEARING WALLS	0 HR
EXTERIOR NON-BEARING WALLS	0 HR
INTERIOR NON-BEARING WALLS	0 HR
FLOOR CONSTRUCTION	0 HR
ROOF CONSTRUCTION	0 HR

MXED USE/OCCUPANCY (SECTION 508)
ACCESSORY USE AREAS (508.3.1): NO FIRE BARRIER IS REQUIRED BETWEEN AREAS OCCUPYING 10% OR LESS THAN THE TOTAL FLOOR AREA OF THE BUILDING.

FIRE SEPARATION DISTANCE (SECTION 406.3.7, TABLES 601, 602)

GREATER THAN OR EQUAL TO 10'-0" = 0 HR

EXTERIOR WALL OPENING PROTECTION (TABLE 704.8)
NO LIMIT ON EXTERIOR OPENINGS BASED ON SEPARATION DISTANCE

OCCUPANT LOAD (TABLE 1004.1.1)
PARKING GARAGE: 200 SF/OCCUPANT
1st-4th LEVEL: 85360 SF /200 SF/OCC = 427 OCC x 4 = 1708 OCC
5th LEVEL: 78860 SF /200 SF/OCC = 395 OCC

TOTAL 2103 OCCUPANTS

MEANS OF EGRESS (CHAPTER 10):
EGRESS WIDTH (TABLE 1005.1)

STAIRS	.3" PER OCC
OTHER EGRESS COMPONENTS	.2" PER OCC

427 OCC. x .3" = 129"/12 = 10'-9"

48" MIN STAIR WIDTH PER 1007.3

EXIT ACCESS TRAVEL DISTANCE (TABLE 1016.1):
MAX TRAVEL DISTANCE ALLOWABLE = 300'. ACTUAL = 288'

EXCEPTION 1: TRAVEL DISTANCE IN OPEN PARKING GARAGES PERMITTED TO BE MEASURED TO CLOSEST RISER OF OPEN STAIR

MIN. REQUIRED EXITS (TABLE 1019.1):
FOR LESS THAN 500 OCC/LEVEL 2 EXITS PER LEVEL REQUIRED.
ACTUAL = 2

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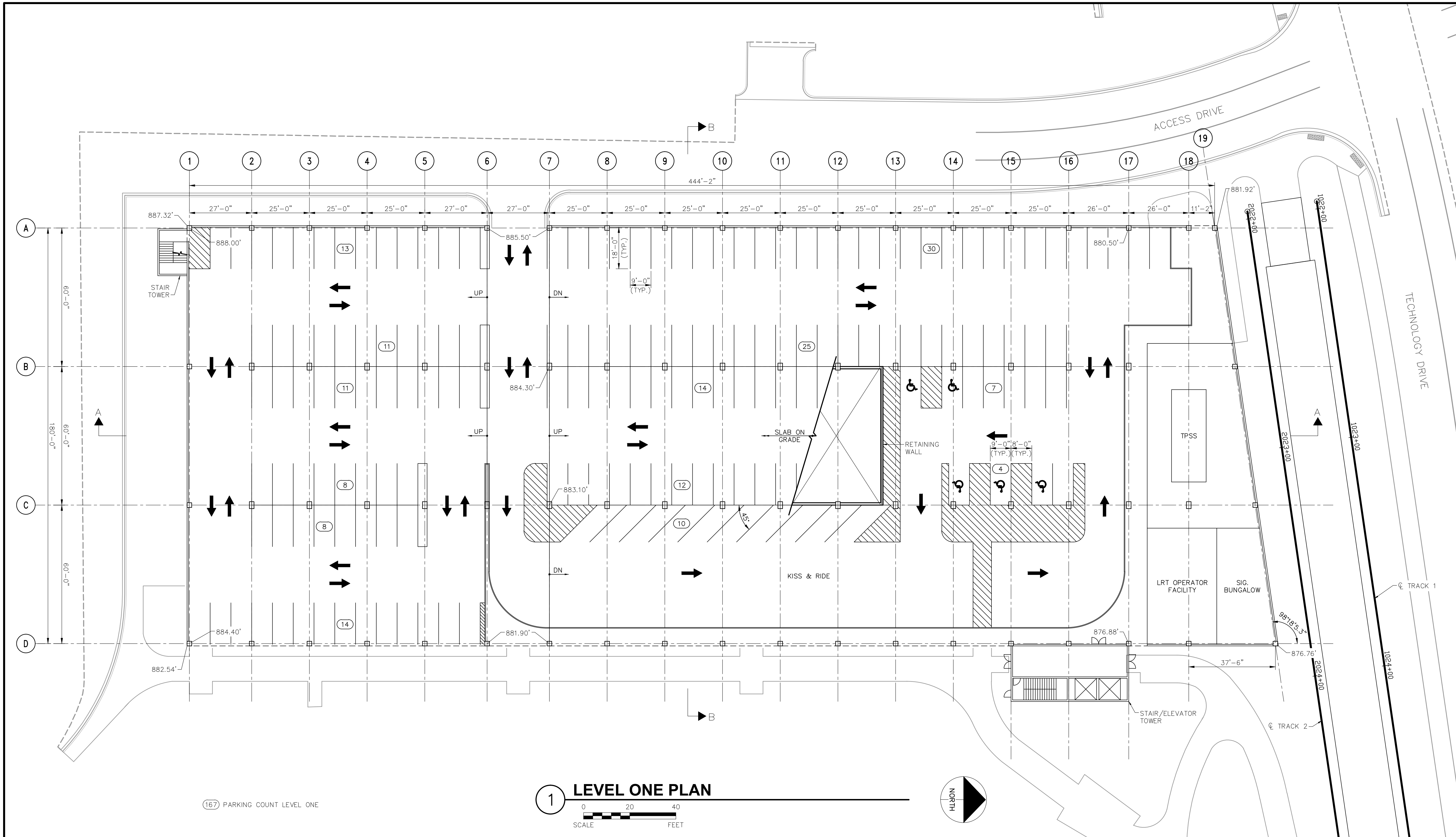
METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE STRUCTURE
CODE ANALYSIS

DISCIPLINE: ARCHITECTURE

SHEET NAME: W1A-MPR-ARC-PLN



1 LEVEL ONE PLAN

SCALE 0 20 40 FEET

(167) PARKING COUNT LEVEL ONE

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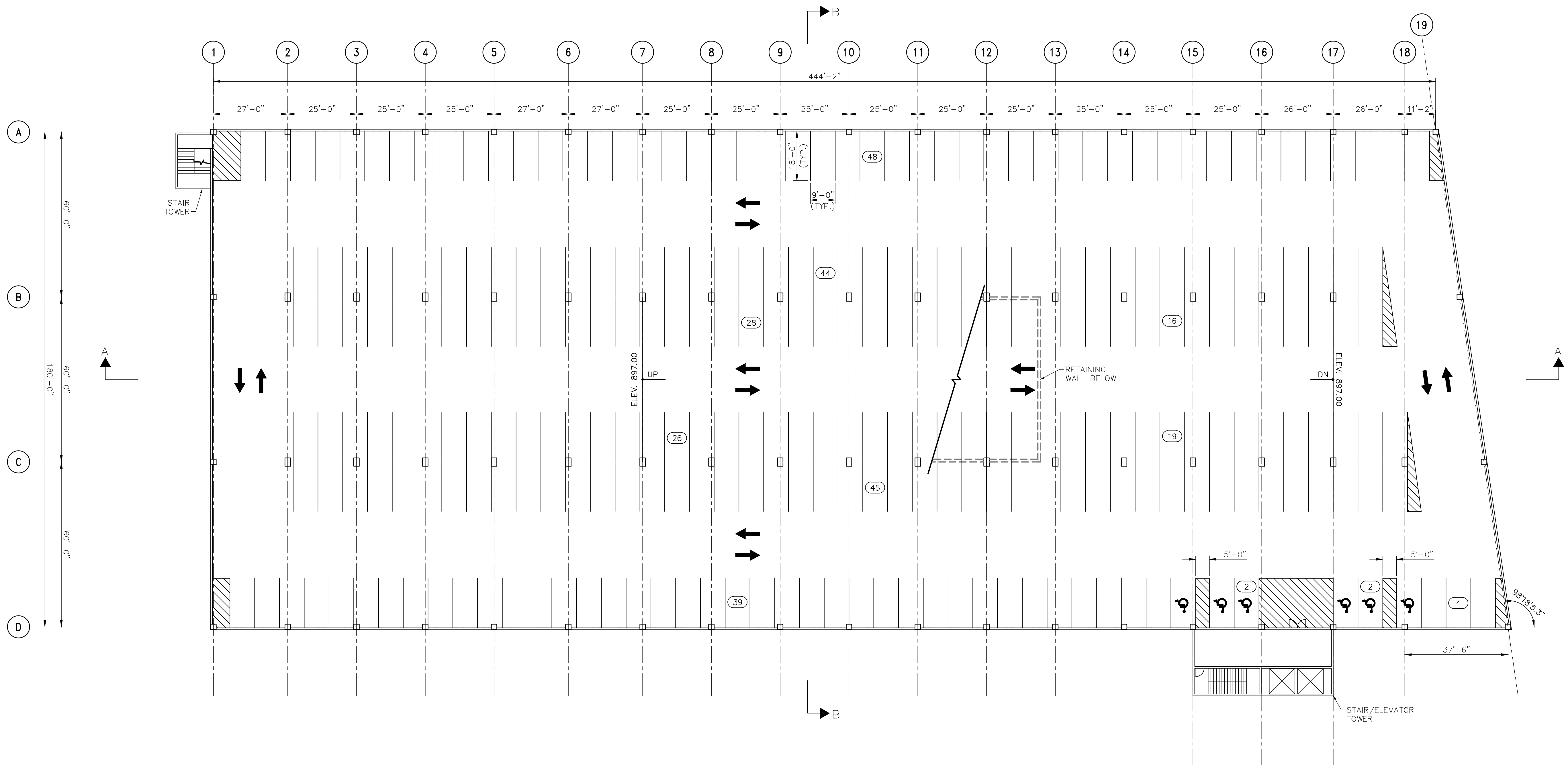
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE STRUCTURE
LEVEL ONE PLAN

DISCIPLINE: STRUCTURES

SHEET NAME: W1A-STU-MPR-001



1 **LEVEL TWO PLAN**

0 20 40
SCALE FEET

NORTH

(273) PARKING COUNT LEVEL TWO

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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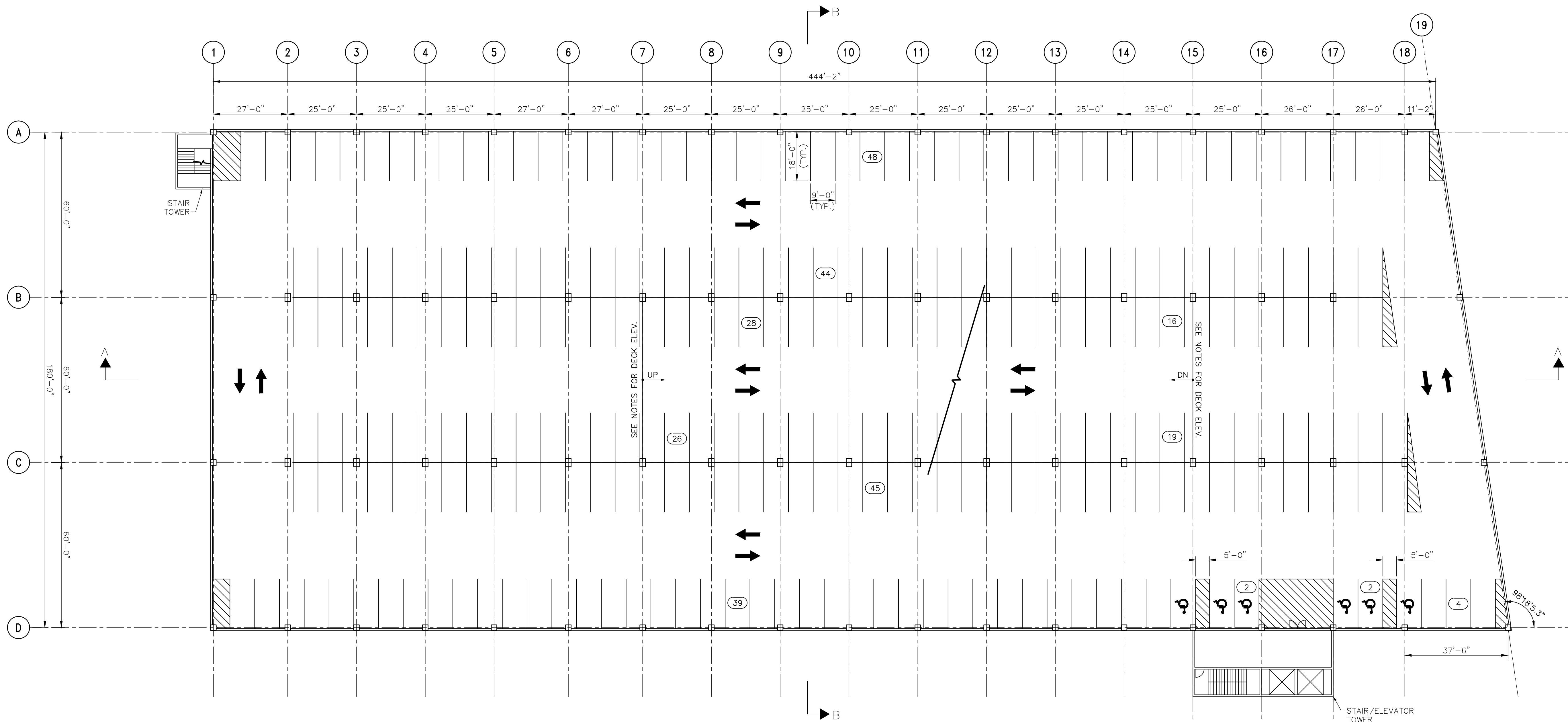
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE STRUCTURE
LEVEL TWO PLAN

DISCIPLINE: **STRUCTURES**

SHEET NAME: **W1A-STU-MPR-002**



NOTES:

1. LEVEL THREE ELEV. 907.00
2. LEVEL FOUR ELEV. 917.00

(273) PARKING COUNT LEVEL THREE

(273) PARKING COUNT LEVEL FOUR

1 LEVEL THREE/FOUR PLAN

SCALE 0 20 40 FEET

NORTH

Jun. 27 2014 12:34 pm H:\Projects\7984\3200_PEC-W\CAD\ARCH\02 MPR\STRC\W1A-STU-MPR-STRIP003.dwg By: ahauser

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PRELIMINARY ENGINEERING

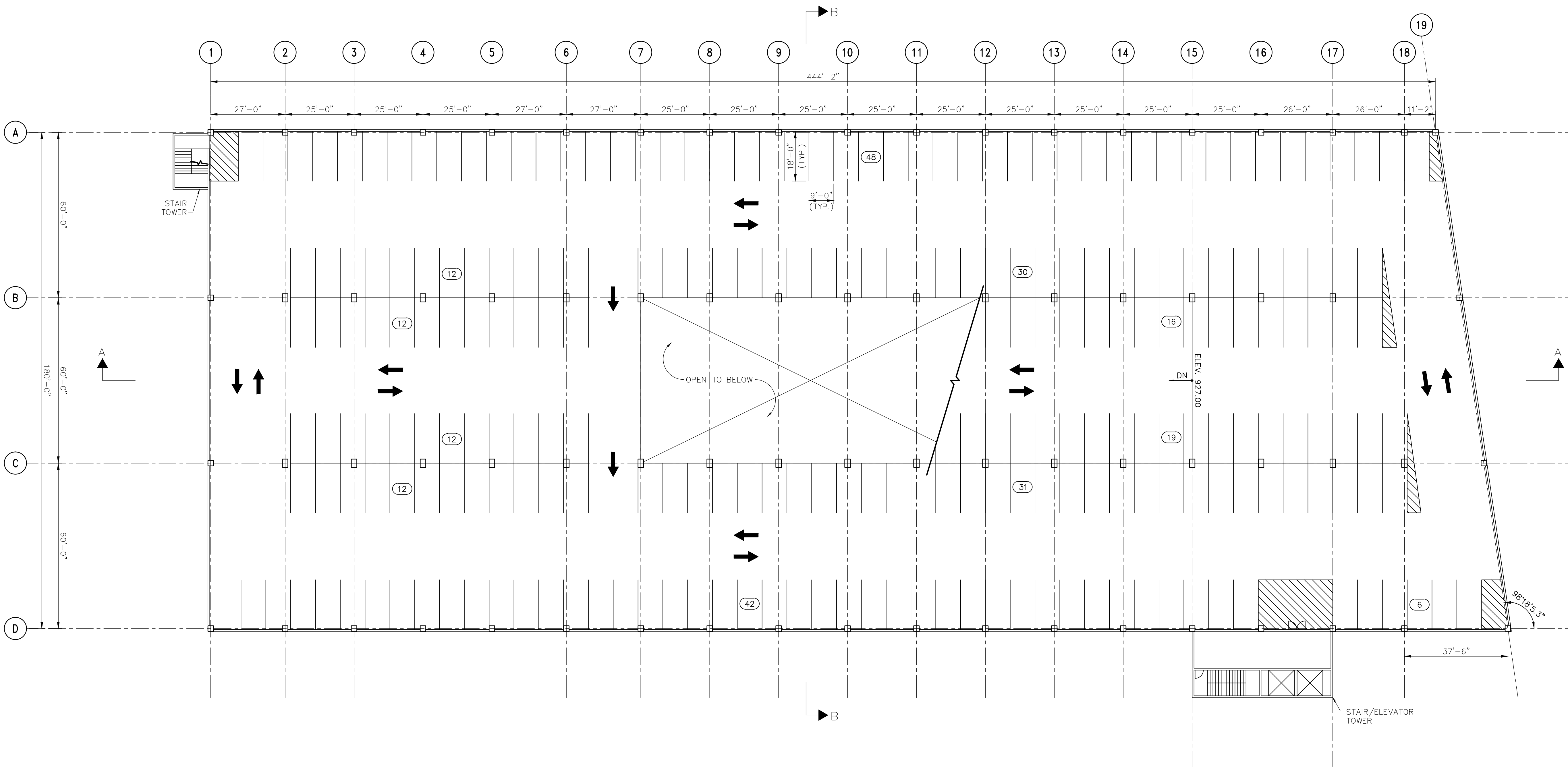
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE STRUCTURE
LEVEL THREE/FOUR PLAN

DISCIPLINE: STRUCTURES

SHEET NAME: W1A-STU-MPR-003



(240) PARKING COUNT LEVEL FIVE

1 LEVEL FIVE PLAN

0 20 40
SCALE FEET

NORTH

Jun. 27 2014 12:35 pm H:\Projects\7984\3200_PEC-W\CAD\ARCH\02 MPR\STRC\W1A-STU-MPR-STRIP005.dwg By: ahauser

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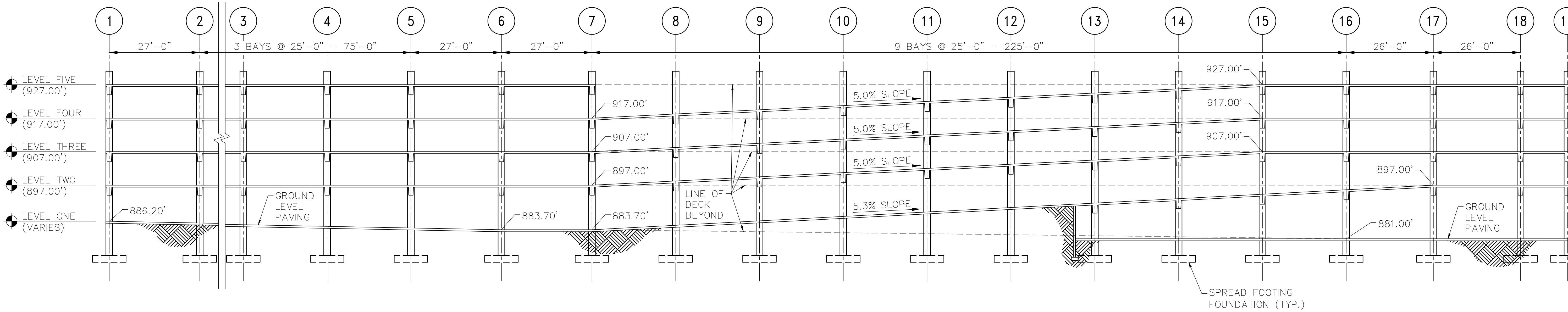
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE STRUCTURE
LEVEL FIVE PLAN

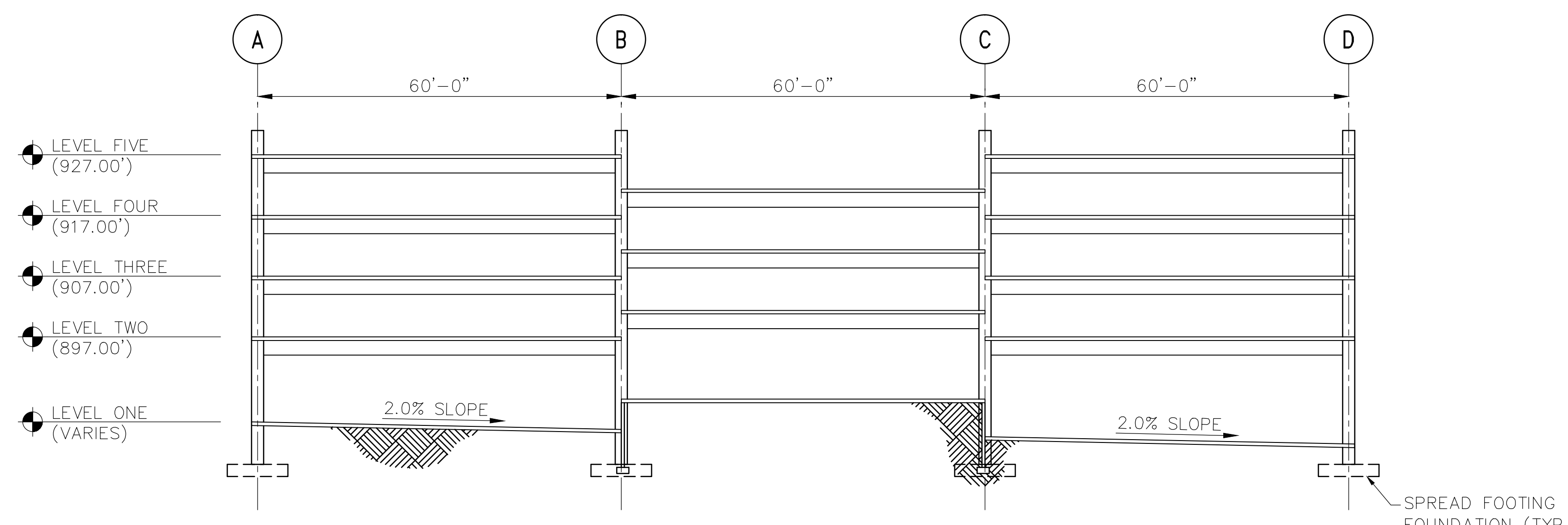
DISCIPLINE: STRUCTURES

SHEET NAME: W1A-STU-MPR-004



1 **RAMP SECTION A-A**

0 15 30
SCALE FEET



2 **RAMP SECTION B-B**

0 15 30
SCALE FEET

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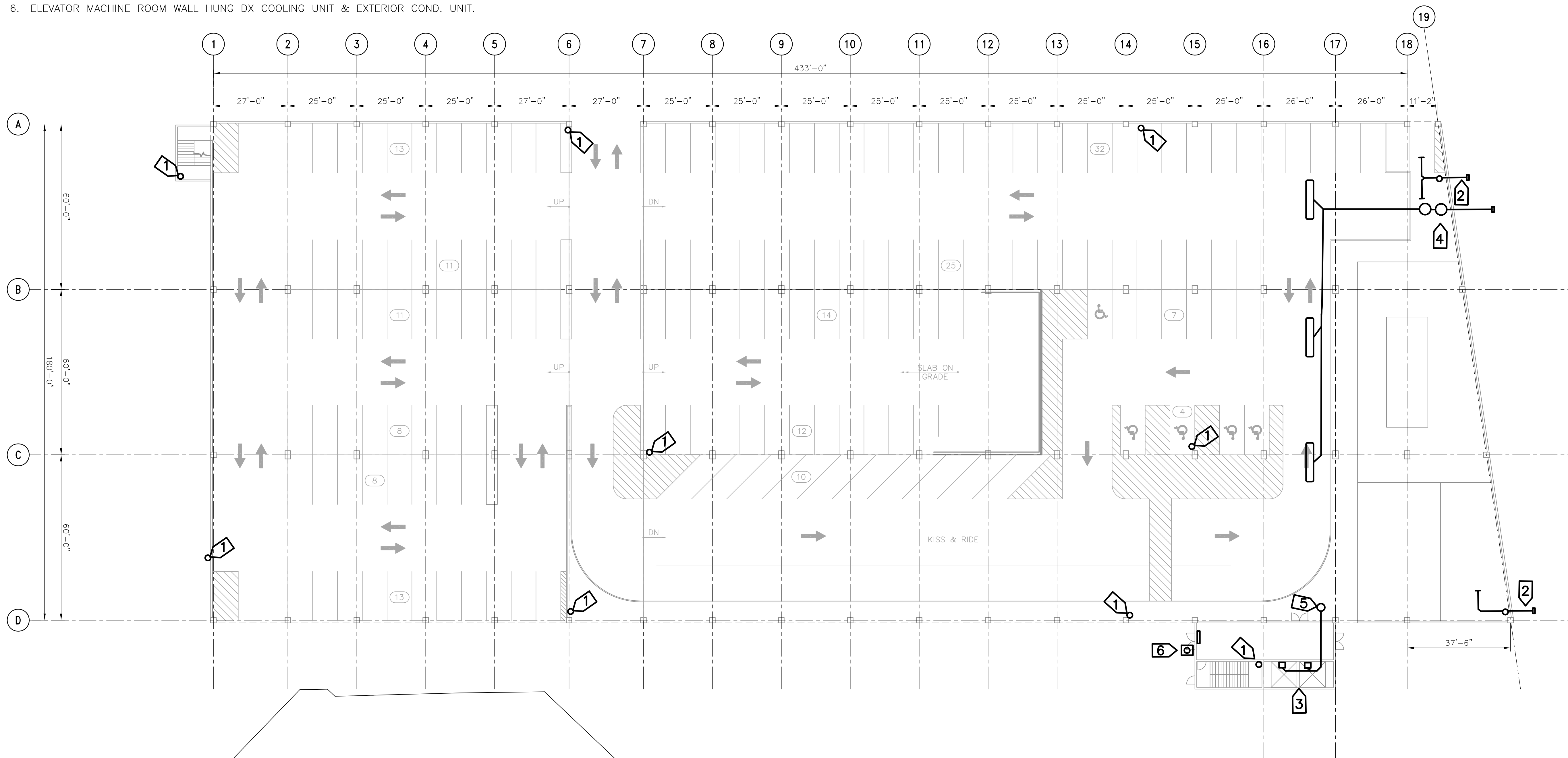
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE STRUCTURE
TYPICAL SECTIONS

DISCIPLINE: **STRUCTURES**
SHEET NAME: **W1A-STU-MPR-005**

GENERAL NOTES: XX

1. DRY STANDPIPES WITH $2\frac{1}{2}$" HOSE CONN. AT EACH LEVEL.
2. 15" STORM SEWER FOR UPPER LEVEL TERMINATE 5'-0" BEYOND BUILDING. CONT. BY CIVIL
3. PROVIDE ELEVATOR HOISTWAY RELIEF OPENINGS AT TOP WITH MOTORIZED DAMPERS.
4. UNDERFLOOR SAN. SEWER CONN. TO TRENCH DRAIN,PIPE TO SANDTRAP & FLAMMABLE WASTE TRAP. TERMINATE 5'-0" BEYOND BUILDING. ALL LEVELS EXCEPT UPPER LEVEL.
5. ELEVATOR PIT DRAINS PIPED TO SUMP & PUMP. DISCHARGE PIPING BY CIVIL.
6. ELEVATOR MACHINE ROOM WALL HUNG DX COOLING UNIT & EXTERIOR COND. UNIT.



1 FIRST LEVEL PLAN
SCALE: 1/16"=1'-0"

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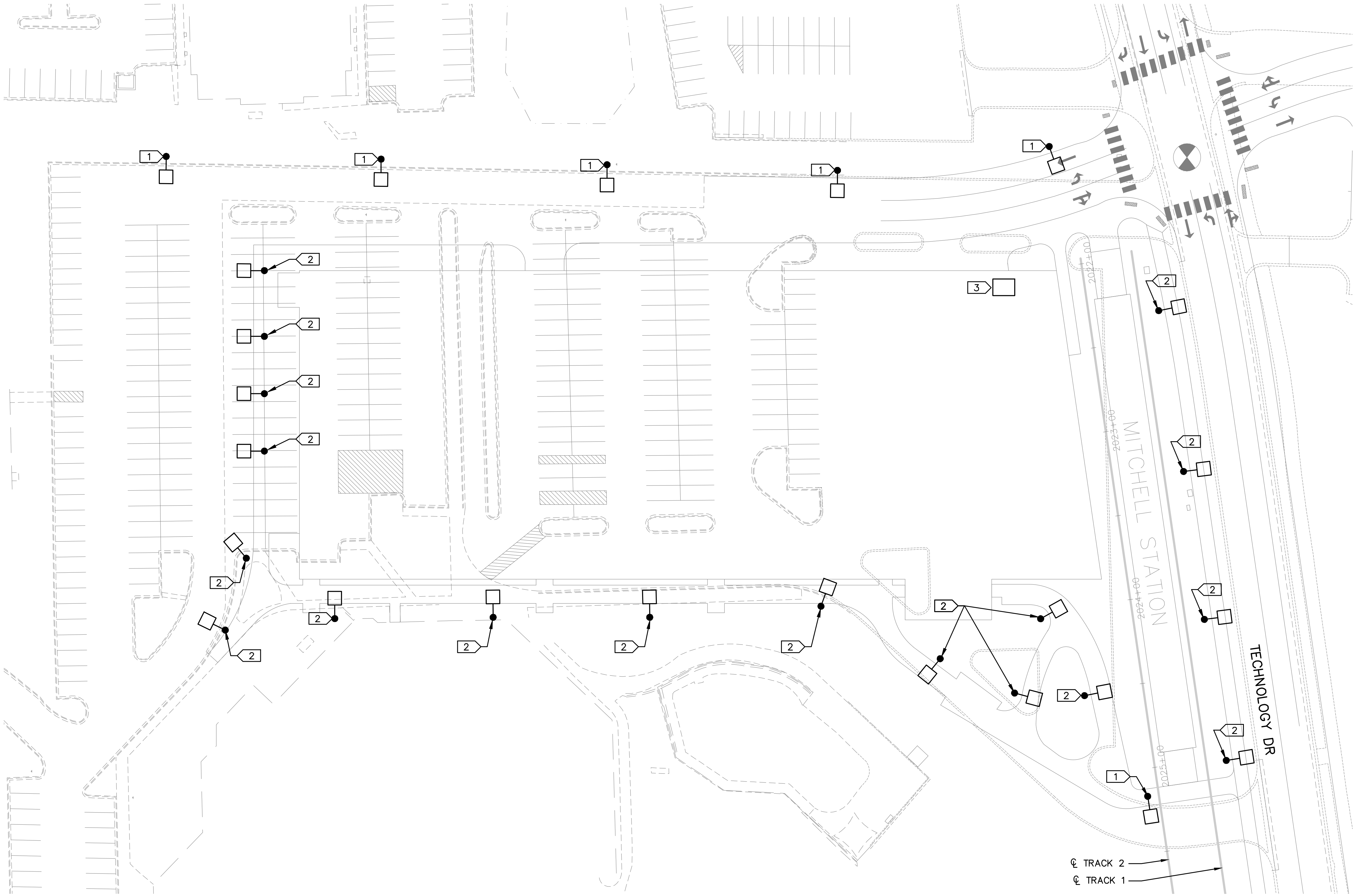
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
MITCHELL STATION
PARK& RIDE STRUCTURE
MECHANICAL/PLUMBING PLAN

DISCIPLINE: MECHANICAL

SHEET NAME: W1A-MPR-MEC



KEYNOTES:

1. SINGLE POLE MOUNTED LUMINAIRE. LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 15,530 LUMENS, MOUNTED AT 30'.
2. SINGLE POLE MOUNTED LUMINAIRE. LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 15,530 LUMENS, MOUNTED AT 20'.
3. ELECTRICAL EQUIPMENT LOCATED IN THE MITCHELL PARKING RAMP.

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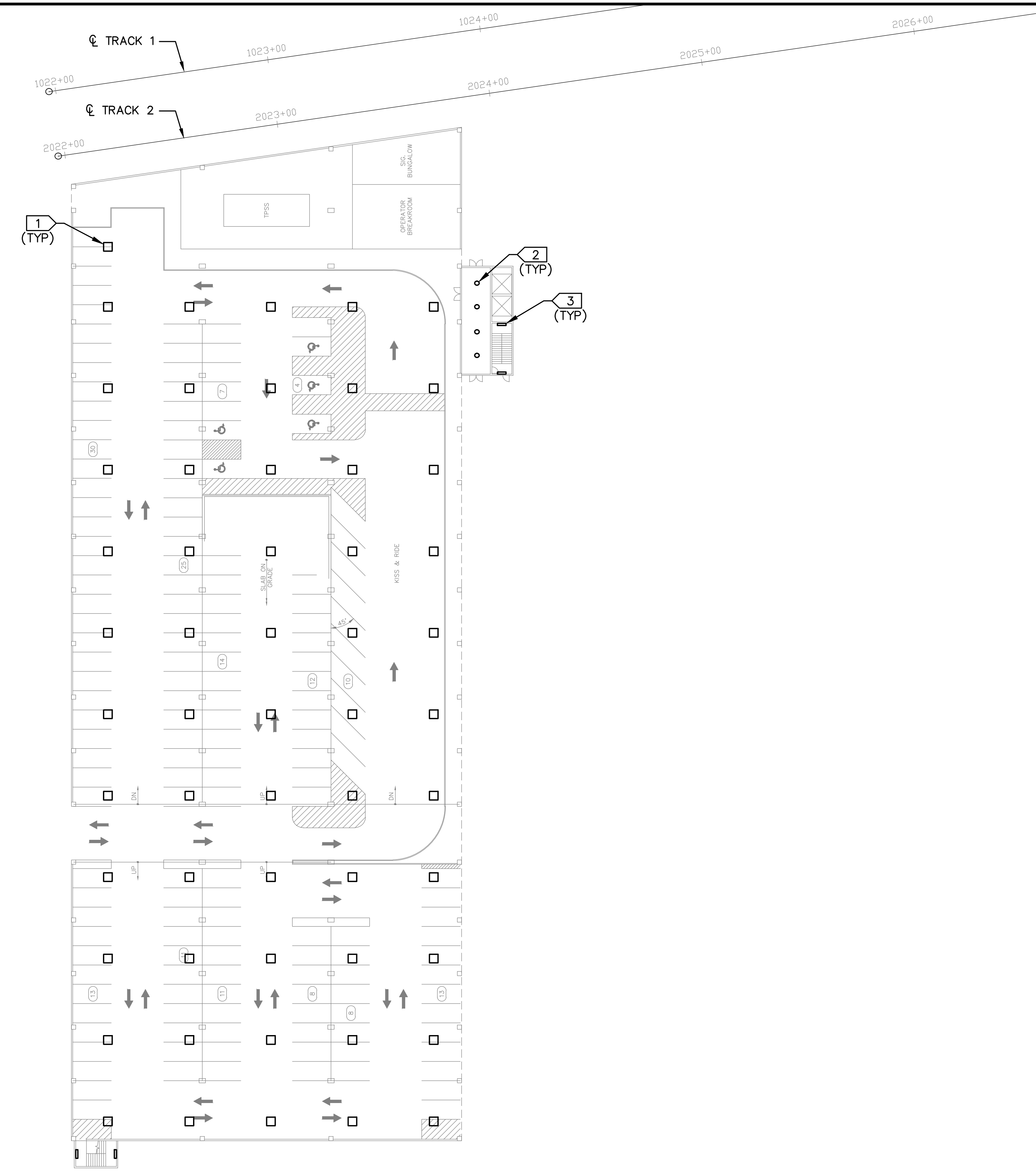
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE
SITE LIGHTING PLAN

DISCIPLINE: ELECTRICAL
SHEET NAME: W1A-ELE-PRK-001



KEYNOTES:

1. CEILING MOUNTED PARKING GARAGE LUMINAIRE. LED, 8,000 LUMENS, 4000K COLOR TEMPERATURE.
2. 6" LED RECESSED CAN LUMINAIRES.
3. WALL MOUNTED LED 1X4 LINEAR LUMINAIRE.

GENERAL NOTE:

1. GROUND FLOOR OF PARKING RAMP.

0 15 30 60
HORIZONTAL
SCALE IN FEET

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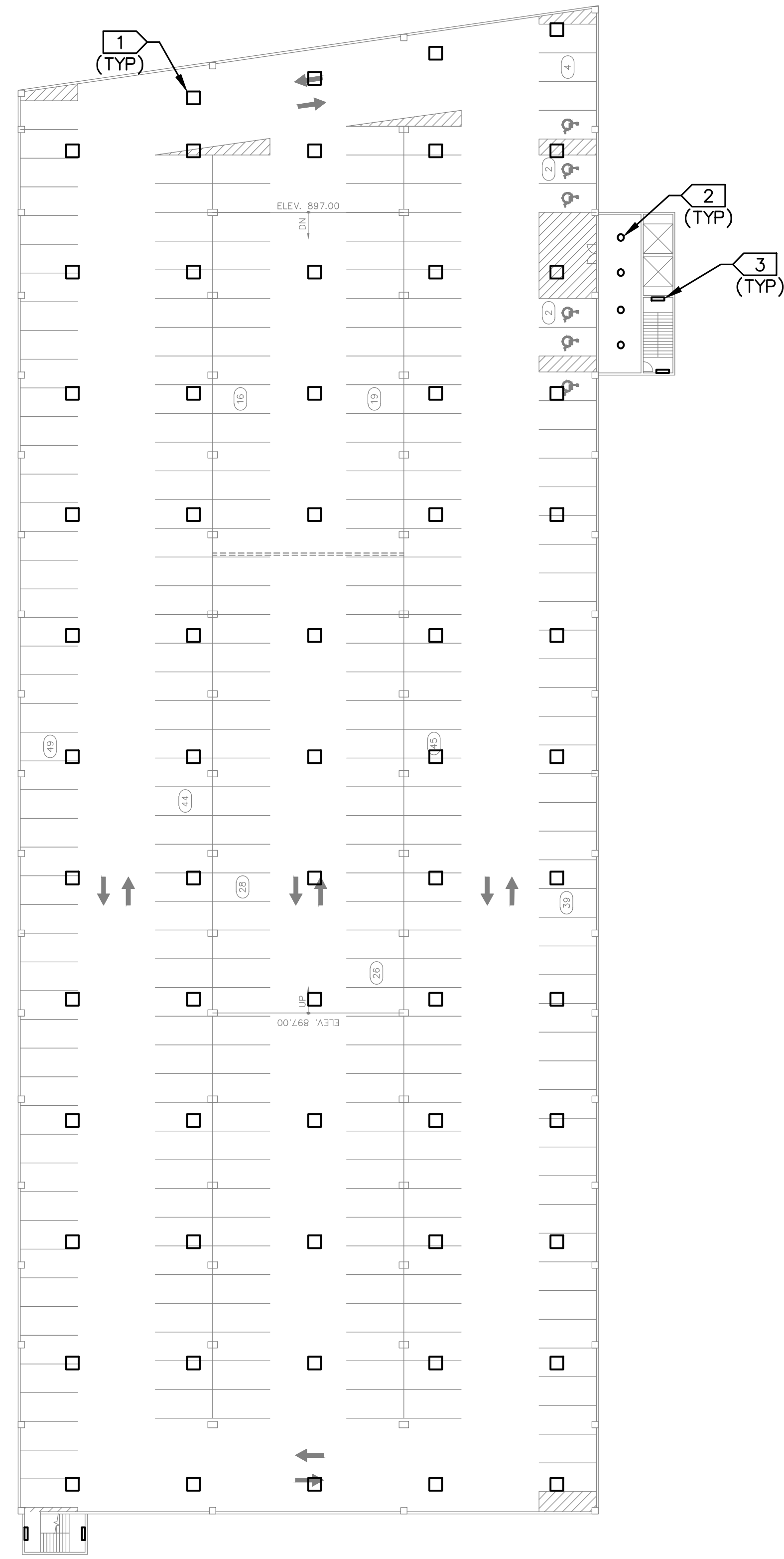
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE STRUCTURE
LIGHTING PLAN 1 OF 3

DISCIPLINE: ELECTRICAL
SHEET NAME: W1A-ELE-RMP-001

SHEET 80 OF 106

Jun. 26 2014 09:28 am V:\3200_pec-w\CAD\SEGMENT-W1A\SHEET\ELECTRICAL\W1A-ELE-RMP-001.dwg By: Adam

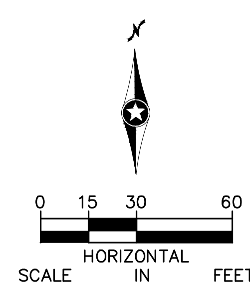


KEYNOTES:

1. CEILING MOUNTED PARKING GARAGE LUMINAIRE. LED, 8,000 LUMENS, 4000K COLOR TEMPERATURE.
2. 6" LED RECESSED CAN LUMINAIRES.
3. WALL MOUNTED LED 1X4 LINEAR LUMINAIRE.

GENERAL NOTE:

1. DECK 2 ELEVATION AT 897.00 SHOWN. SAME FOR DECKS 3 AT ELEV 907.00 AND DECK 4 AT ELEV 917.00.



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METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE STRUCTURE
LIGHTING PLAN 2 OF 3

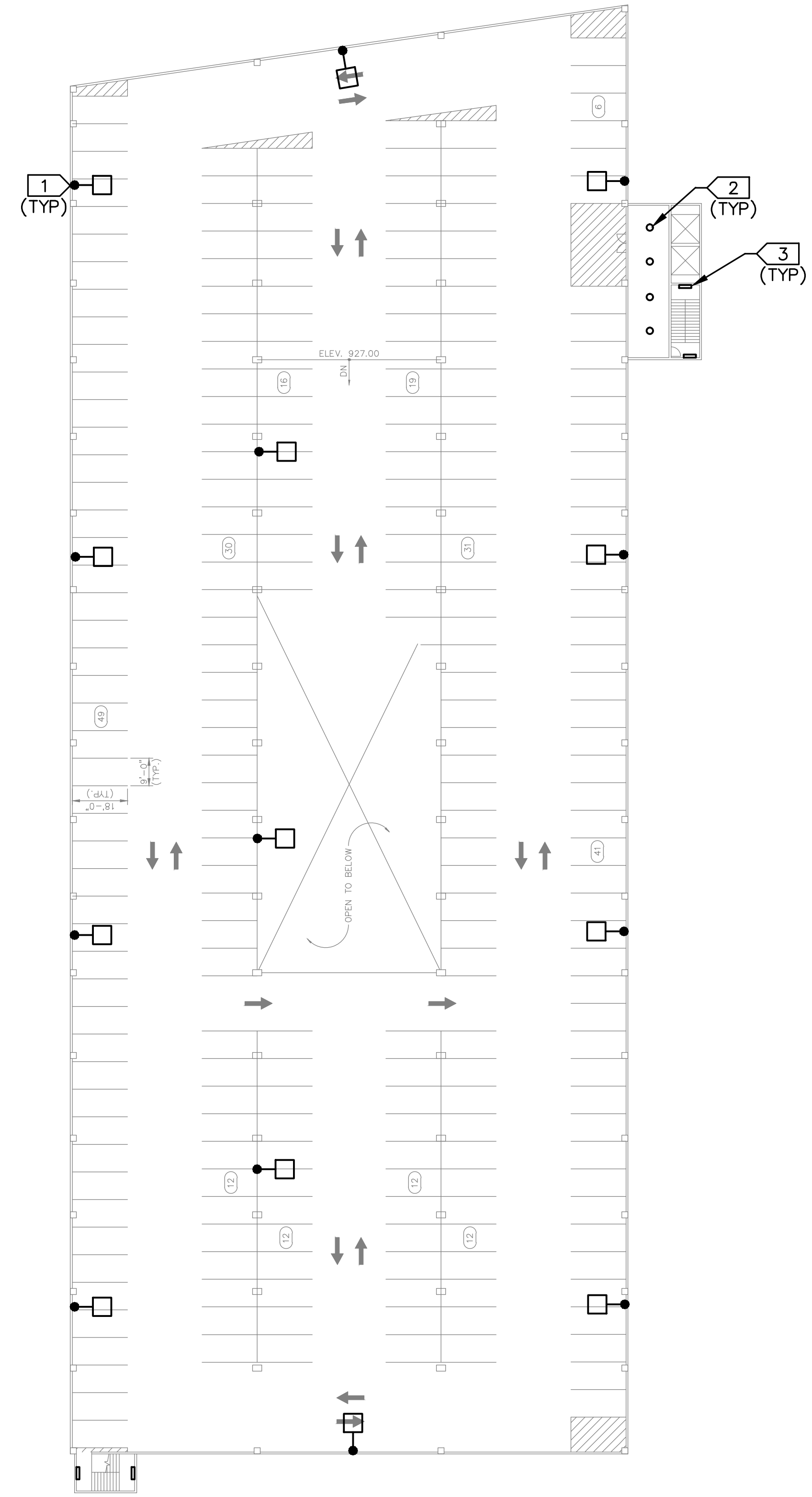
DISCIPLINE: ELECTRICAL

SHEET NAME: W1A-ELE-RMP-002

SHEET 81 OF 106

KEYNOTES:

1. SINGLE POLE MOUNTED LUMINAIRE. LED, TYPE 4 DISTRIBUTION, 4000K COLOR TEMPERATURE, 24,000 LUMENS, MOUNTED AT 30'.
2. 6" LED RECESSED CAN LUMINAIRES.
3. WALL MOUNTED LED 1X4 LINEAR LUMINAIRE.



0 15 30 60
HORIZONTAL
SCALE IN FEET

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METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST - VOLUME 1 (CIVIL) - SEGMENT 1A
MITCHELL STATION
PARK & RIDE STRUCTURE
LIGHTING PLAN 3 OF 3

DISCIPLINE: ELECTRICAL
SHEET NAME: W1A-ELE-RMP-003

SHEET 82 OF 106

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LEGEND

PROPOSED UTILITY LINE TYPES

——I——	WATER MAIN
——▶——	SANITARY SEWER
——▶▶——	SANITARY SEWER FORCE MAIN
——COM-UG——	FIBER OPTIC COMMUNICATION

PROPOSED UTILITY SYMBOLS

Ⓦ	WATER MANHOLE
⋈	WATER VALVE
⯐	WATER HYDRANT
Ⓢ	SANITARY SEWER MANHOLE

SANITARY AND WATER PLAN CONSTRUCTION NOTES

1. CONNECT TO EXISTING WATER MAIN. VERIFY EXISTING WATER MAIN SIZE AND LOCATION. PROVIDE FITTINGS, PIPE COUPLING (ISOLATING COUPLING WHERE REQUIRED-SEE CORROSION CONTROL PLANS) AND MECHANICAL THRUST RESTRAINT AT THE FITTINGS, COUPLING AND ACROSS COUPLING.
2. 8" GATE VALVE AND VALVE BOX.
3. 6" GATE VALVE, VALVE BOX, HYDRANT AND DIP LEAD.
4. COORDINATE WITH CITY FOR SERVICE CONNECTIONS.
5. 6" GATE VALVE, VALVE MANHOLE, HYDRANT AND DIP LEAD
6. CONSTRUCT MANHOLE OVER EXISTING SEWER.
7. RECONSTRUCT MANHOLE AS NECESSARY TO MATCH PROPOSED GRADE.
8. CONSTRUCT WATER SERVICE. SEE TABULATION OF WATER SERVICES IN THE EXISTING UTILITY TABULATIONS FOR PROPOSED SIZE AND MATERIAL. PROVIDE ADAPTORS AND FITTINGS AS NECESSARY TO MAKE CONNECTION TO EXISTING SERVICE. REFER TO CORROSION CONTROL PLANS FOR CORROSION CONTROL NOTES. CONTRACTOR SHALL TAP MAIN FOR ALL SERVICES. VERIFY EXISTING WATER SERVICE SIZE AND LOCATION.
9. CONNECT TO EXISTING WATER SERVICE. VERIFY EXISTING WATER SERVICE SIZE AND LOCATION. PROVIDE FITTINGS, PIPE COUPLING (ISOLATING COUPLING WHERE REQUIRED-SEE CORROSION CONTROL PLANS) AND MECHANICAL THRUST RESTRAINT AT THE FITTINGS, COUPLING AND ACROSS COUPLING. CONSTRUCT WATER SERVICES 4" AND LARGER WITH MECHANICAL JOINT DIP. PROVIDE MECHANICAL THRUST RESTRAINT FOR ALL JOINTS. INSTALL WITH A CAP AND OUTLET AT THE END OF THE SERVICE OF SUFFICIENT SIZE TO ALLOW FOR FLUSHING AND TESTING OF THE SERVICE LINE. ALL SERVICES WILL BE SUBJECT TO THE SAME TESTING AS THE WATER MAIN. AFTER SUCCESSFUL COMPLETION OF TESTING, REMOVE CAP AND CONNECT TO EXISTING SERVICE PIPE. CONNECTION TO EXISTING PIPE WILL BE VISUALLY INSPECTED UNDER CITY OPERATING PRESSURE PRIOR TO BURYING. COORDINATE TESTING AND INSPECTION WITH CAR (COUNCIL AUTHORIZED REPRESENTATIVE) AND CITY INSPECTOR.
10. SEE TYPICAL PIPE CASING INSTALLATION DETAIL.
11. PROTECT SEWER IN PLACE.
12. STATION WATER SERVICE. SEE STATION MECHANICAL PLANS FOR CONTINUATION AND DETAIL. COORDINATE WITH CAR (COUNCIL AUTHORIZED REPRESENTATIVE) FOR LOCATION OF CURB STOP.
13. PROVIDE AND INSTALL MECHANICAL THRUST RESTRAINT FOR ALL JOINTS.
14. CONCRETE PIERS FOR PIPE CROSSING. SEE DETAIL.
15. INSULATE WATER MAIN.
16. SEWER CONSTRUCTION JOINT. SEE DETAIL.
17. SEE JOINING DISSIMILAR PIPE DETAIL.
18. CONSTRUCT WATER SERVICE TRACK CROSSING PER TYPICAL WATER SERVICE TRACK CROSSING FOR 2" COPPER SERVICE OR SMALLER DETAIL.
19. NOT USED
20. RECONSTRUCT SEWER SERVICE PER RECONNECTION OF HOUSE SERVICES DETAIL. COORDINATE WITH PROPERTY OWNER TO MINIMIZE INTERRUPTION OF SERVICE. COORDINATE WITH LOCATION AND ELEVATION OF PUBLIC AND PRIVATE UTILITIES AND PROPOSED RELOCATION OF PUBLIC AND PRIVATE UTILITIES.
21. NOT USED

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
NOTES AND LEGEND

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-NTS-001

UTILITY CONTACTS

UTILITY: ARVIG COMMUNICATIONS SYSTEMS
CONTACT: PATRICK LYNCH
PHONE: (320) 256-0271
MOBILE: (320) 492-8763
ADDRESS: 224 MAIN STREET EAST
MELROSE, MINNESOTA 56352

UTILITY: AT & T
CONTACT: JERRY STREETER
PHONE: (612) 344-3327
MOBILE: (612) 248-8674
ADDRESS: 420 3RD AVE. S., 9TH FLOOR
MINNEAPOLIS, MINNESOTA 55415

UTILITY: CENTERPOINT ENERGY
CONTACT: ANDREW BALGOBIN
PHONE: (612) 321-5426
MOBILE:
ADDRESS: 700 WEST LINDEN AVENUE
MINNEAPOLIS, MINNESOTA 55403

UTILITY: CENTURYLINK
CONTACT: BRANDON ELVERUM
PHONE: (651) 250-3996
MOBILE:
ADDRESS: 390 COMMERCE DRIVE, ROOM #104
WOODBURY, MINNSOTA 55125

UTILITY: CENTURYLINK
CONTACT: KATHY HOGGARTH
PHONE: (651) 312-5306
MOBILE:
ADDRESS: 425 MONROE ST.
ANOKA, MINNESOTA 55303

UTILITY: CENTURYLINK - LITECORE/KMC
CONTACT: KYLE TOSTENSON
PHONE: (318) 417-2768
MOBILE:
ADDRESS: 100 CENTURYLINK DRIVE
MONROE, LA 71203

UTILITY: CITY OF EDEN PRAIRIE
CONTACT: ROBERT ELLIS
PHONE: (952) 949-8310
MOBILE:
ADDRESS: CITY CENTER
8080 MITCHELL ROAD
EDEN PRAIRIE, MINNESOTA 55344

UTILITY: CITY OF HOPKINS
CONTACT: NATE STANLEY
PHONE: (952) 548-6356
MOBILE: (952) 292-6872
ADDRESS: 1010 1ST ST. S.
HOPKINS, MINNESOTA 55343

UTILITY: CITY OF MINNETONKA
CONTACT: WILL MANCHESTER
PHONE: (952) 939-8232
MOBILE:
ADDRESS: MINNETONKA CITY HALL
14600 MINNETONKA BLVD.
MINNETONKA, MINNESOTA 55345

UTILITY: COMCAST CABLE
CONTACT: TOM NIEDZIELSKI
PHONE: (651) 493-5407
MOBILE: (612) 490-7750
ADDRESS: 2621 FAIRVIEW AVE. NORTH
ROSEVILLE, MINNESOTA 55113

UTILITY: ENVENTIS
CONTACT: JONI MCGABE
PHONE: (507) 387-1770
MOBILE: (507) 317-1411
ADDRESS: 2730 3RD AVENUE
PO BOX 3288
MANKATO, MN 56002-3288

UTILITY: HENNEPIN COUNTY
CONTACT: KRISTY MORTER
PHONE: (612) 596-0384
MOBILE:
ADDRESS: HENNEPIN COUNTY
TRANSPORTATION DEPARTMENT, DESIGN DIVISION
1600 PRAIRIE DRIVE
MEDINA, MN 55340

UTILITY: HOPKINS PUBLIC SCHOOLS
CONTACT: JOHN WETTER
PHONE: (952) 988-5373
MOBILE:
ADDRESS: EDUCATIONAL TECHNOLOGY, MEDIA & INFORMATION SERVICES
HOPKINS DISTRICT 270
1001 HIGHWAY 7
HOPKINS, MINNESOTA 55305

UTILITY: METROPOLITAN COUNCIL, ENVIRONMENTAL SERVICES
CONTACT: ADAM GORDON
PHONE: (651) 602-4508
MOBILE:
ADDRESS: 3565 KENNEBEC DRIVE
EAGAN, MINNESOTA 55122

UTILITY: METRO TRANSIT
CONTACT: BOJAN MISIC
PHONE: (612) 373-3874
MOBILE: (619) 549-7620
ADDRESS: SOUTHWEST LRT PROJECT OFFICE
PARK PLACE WEST
6465 WAYZATA BOULEVARD, SUITE 500
ST. LOUIS PARK, MN 55426

UTILITY: MNDOT
CONTACT: MIKE MANNING
PHONE: (612) 373-3809
MOBILE: (651) 775-0227
ADDRESS: SOUTHWEST LRT PROJECT OFFICE
PARK PLACE WEST
6465 WAYZATA BOULEVARD, SUITE 500
ST. LOUIS PARK, MN 55426

UTILITY: SBA COMMUNICATIONS CORPORATION
CONTACT: SUSAN HART
PHONE: (919) 803-3427 X 105
MOBILE: (919) 625-2286
ADDRESS: SBA COMMUNICATIONS CORPORATION
5640 DILLARD DRIVE
SUITE 101
CARY, NC 27518

UTILITY: SPRINT COMMUNICATIONS COMPANY, LP
CONTACT: DAN HILLIARD
PHONE: (651) 772-6714
MOBILE: (612) 414-2089
ADDRESS: 849 EARL STREET
ST. PAUL, MINNESOTA 55106

UTILITY: TDS TELECOM
CONTACT: MICHAEL RITCHIE
PHONE: (608) 664-4461
MOBILE:
ADDRESS: 525 JUNCTION ROAD
MADISON, WISCONSIN 53717

UTILITY: TELECOM TRANSPORT MANAGEMENT, INC.
CONTACT: DAVE SMITH
PHONE: (612) 309-8422
MOBILE:
ADDRESS: 6844 WASHINGTON AVE.
EDEN PRAIRIE, MN 55344

UTILITY: TW TELECOM, INCORPORATED
CONTACT: BOB STRONG
PHONE: (952) 351-2353
MOBILE: (612) 805-6827
ADDRESS: 5480 FELTL ROAD
MINNETONKA, MINNESOTA 55343-7982

UTILITY: VERIZON COMMUNICATIONS
CONTACT: STEPHEN BONCZKOWSKI
PHONE: (630) 395-6161
MOBILE: (630) 327-6959
ADDRESS: 501 63RD ST.
DOWNERS GROVE, ILLINOIS 60516

UTILITY: WINDSTREAM
CONTACT: ERIC BECKER
PHONE:
MOBILE: (612) 790-4110
ADDRESS: 2996 CENTRE POINT DR.
ROSEVILLE, MINNESOTA 55113

UTILITY: XCEL ENERGY - TRANSMISSION
CONTACT: BRUCE ZEMKE
PHONE: (612) 330-7815
MOBILE: (651) 214-2620
ADDRESS: 414 NICOLLET MALL, (MP 8)
MINNEAPOLIS, MINNESOTA 55401

UTILITY: XCEL ENERGY - DISTRIBUTION
CONTACT: MORGAN IMPOLA
PHONE: (952) 829-4538
MOBILE: (612) 876-5447
ADDRESS: 5309 WEST 70TH STREET
EDINA, MINNESOTA 55439

UTILITY: XO COMMUNICATIONS
CONTACT: ED PARKER
PHONE: (602) 324-6488
MOBILE:
ADDRESS: 3930 E. WATKINS SUITE 200
PHOENIX, ARIZONA 85034

UTILITY: ZAYO FIBER SOLUTIONS
CONTACT: JACK JELINEK
PHONE: (952) 230-4288
MOBILE: (715) 245-0491
ADDRESS: 2300 BERKSHIRE LN N.
SUITE 4
PLYMOUTH, MN 55441

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PRELIMINARY ENGINEERING

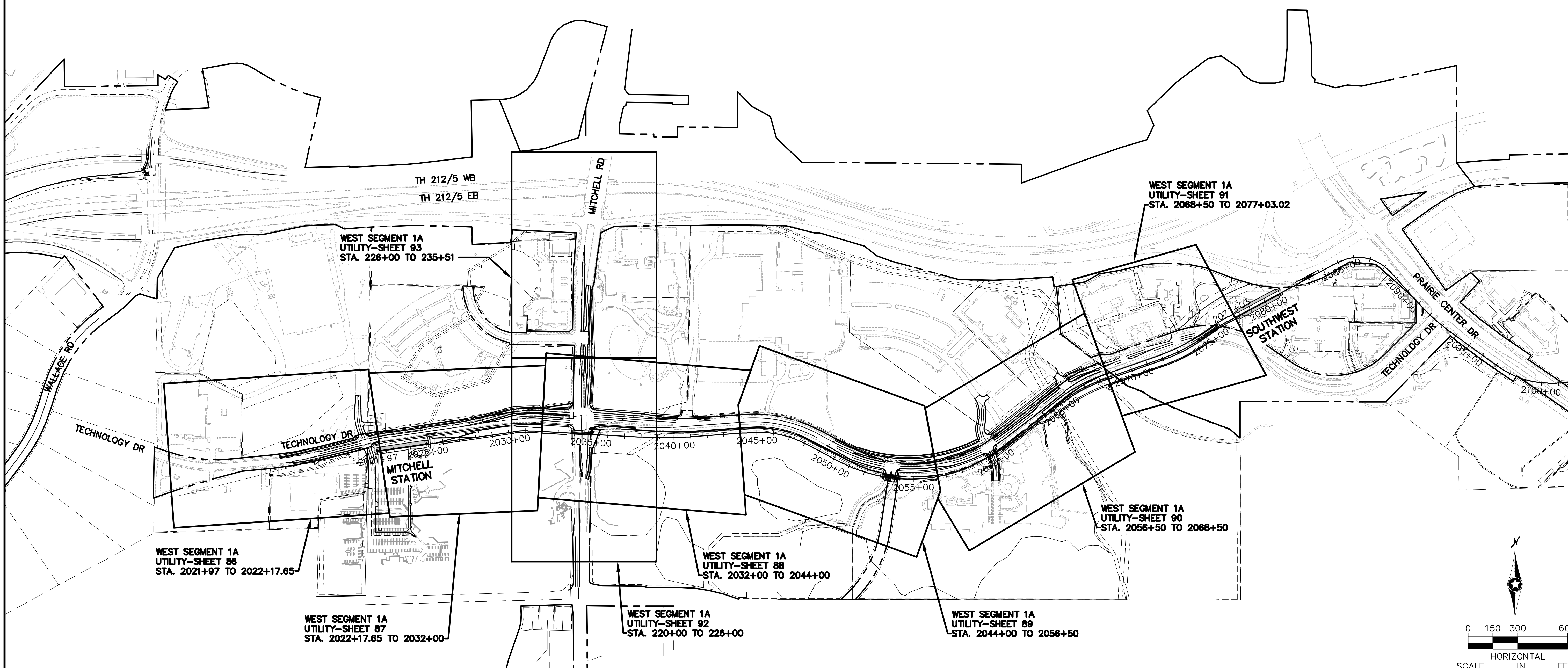
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
CONTACTS

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-CNTC-001



Aug. 27 2014 07:51 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\UTILITIES\W1A-UTL-IDX.dwg By: lnewman

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

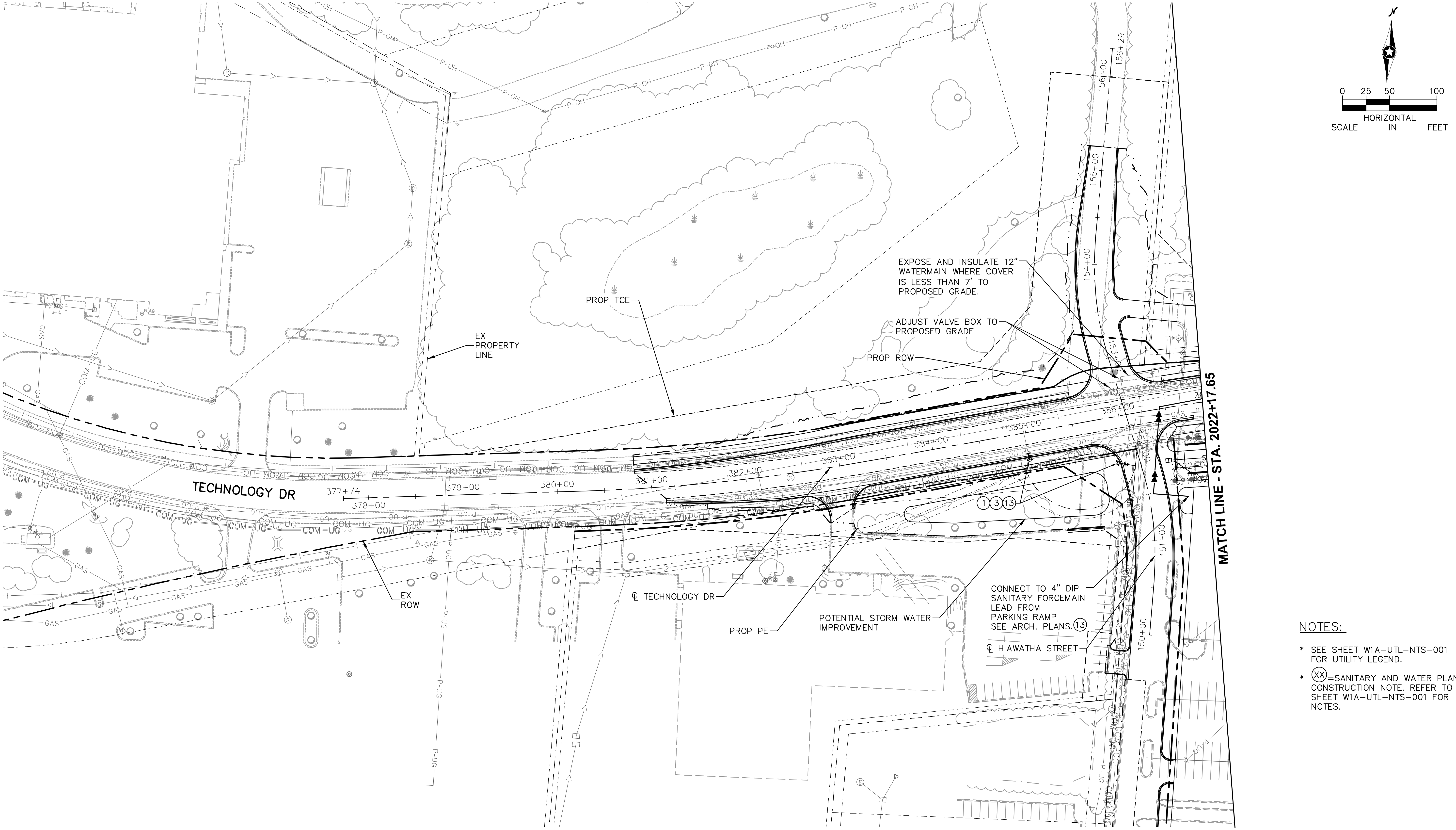
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
SHEET INDEX

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-IDX-001

SHEET 85 OF 106



NOTES:

* SEE SHEET W1A-UTL-NTS-001 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W1A-UTL-NTS-001 FOR NOTES.

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL — SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A UTILITY PLAN STA. 2021+97 TO STA. 2022+17.65

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-PLN-001

SHEET 86 OF 106

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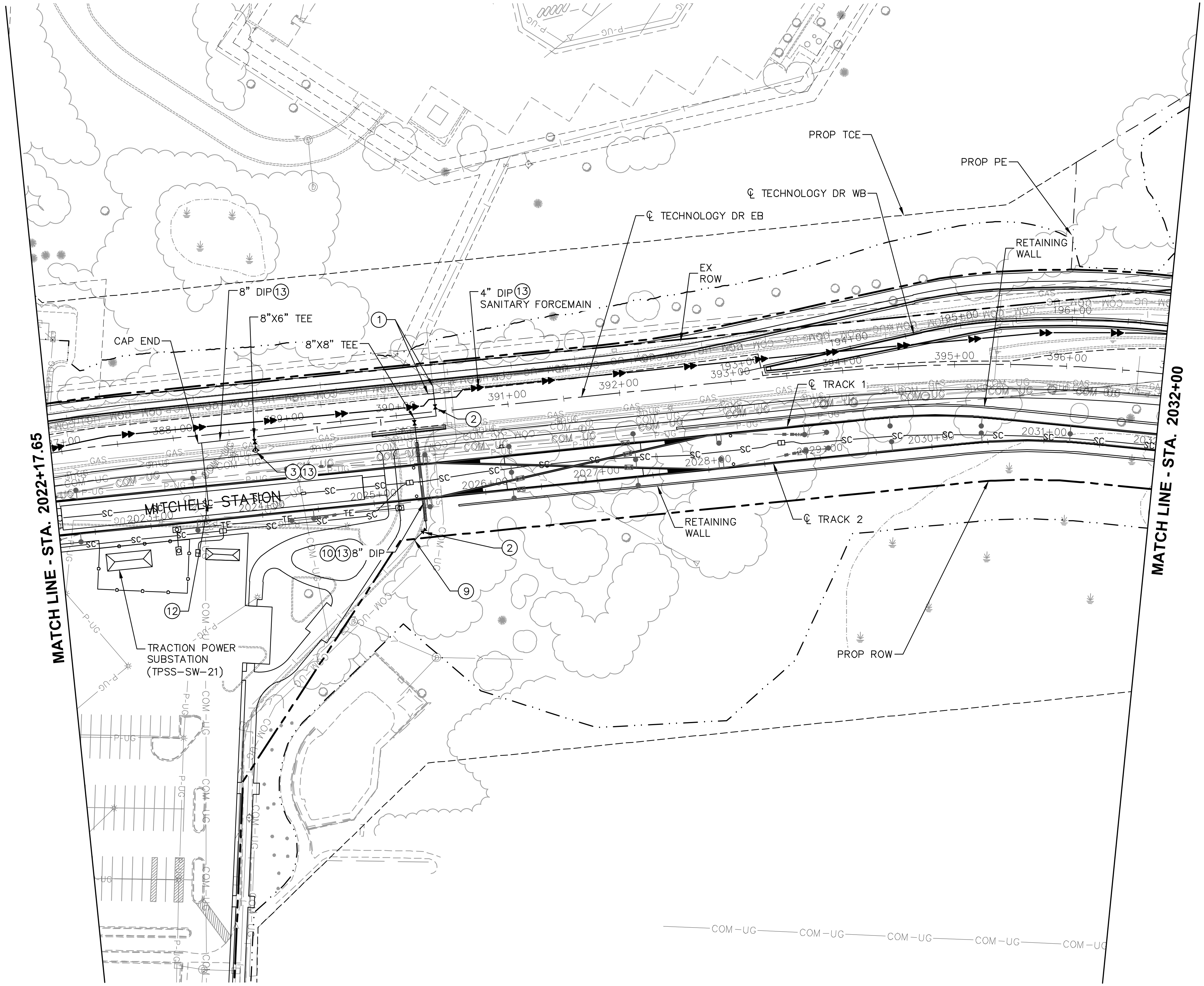

NOTES:

* SEE SHEET W1A-UTL-NTS-001 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W1A-UTL-NTS-001 FOR NOTES.

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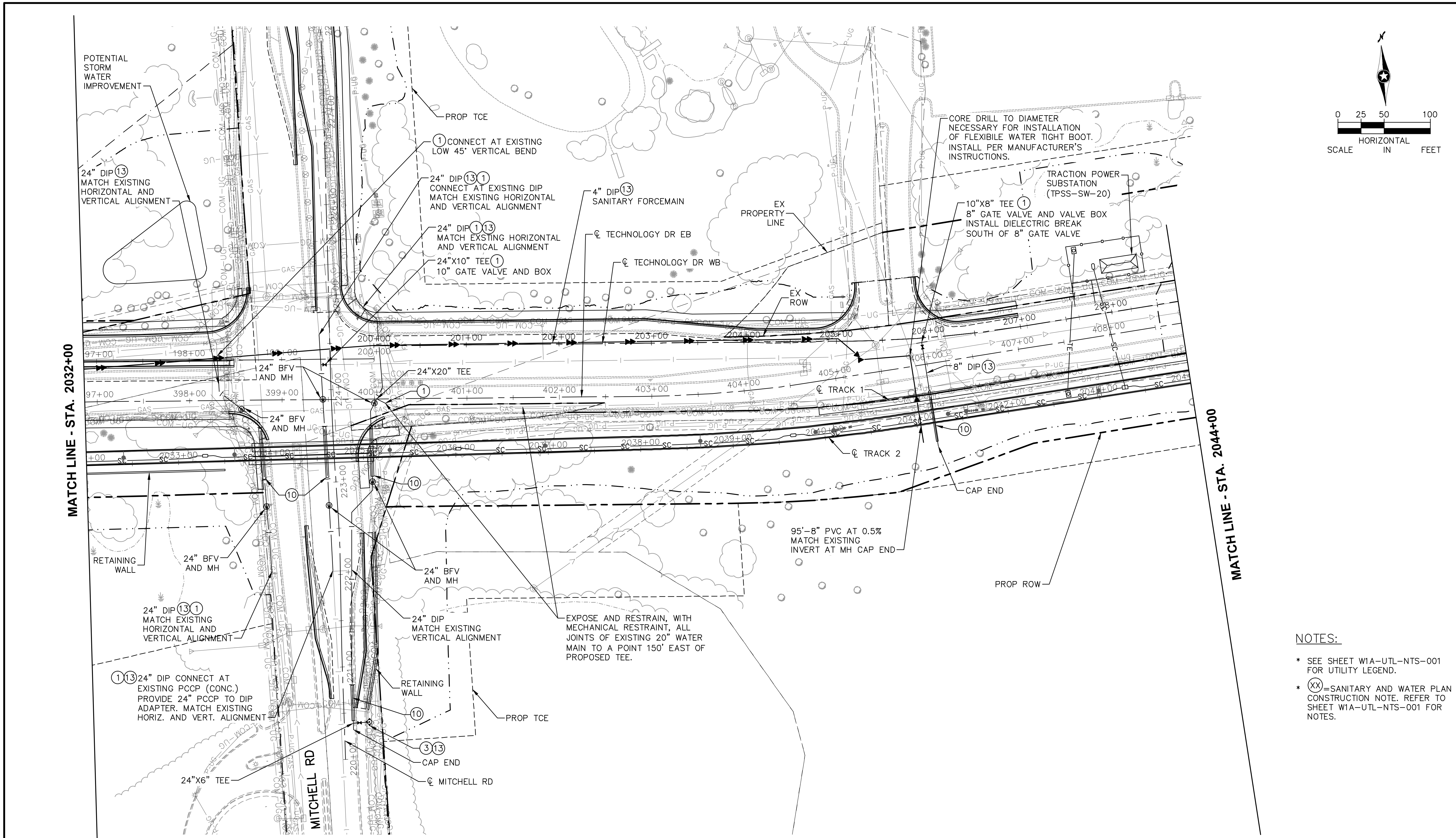
PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
PLAN
STA. 2022+17.65 TO STA. 2032+00

DISCIPLINE: UTILITY
SHEET NAME: W1A-UTL-PLN-002



NOTES:

* SEE SHEET W1A-UTL-NTS-001 FOR UTILITY LEGEND.
* XX =SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W1A-UTL-NTS-001 FOR NOTES.

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METROPOLITAN COUNCIL

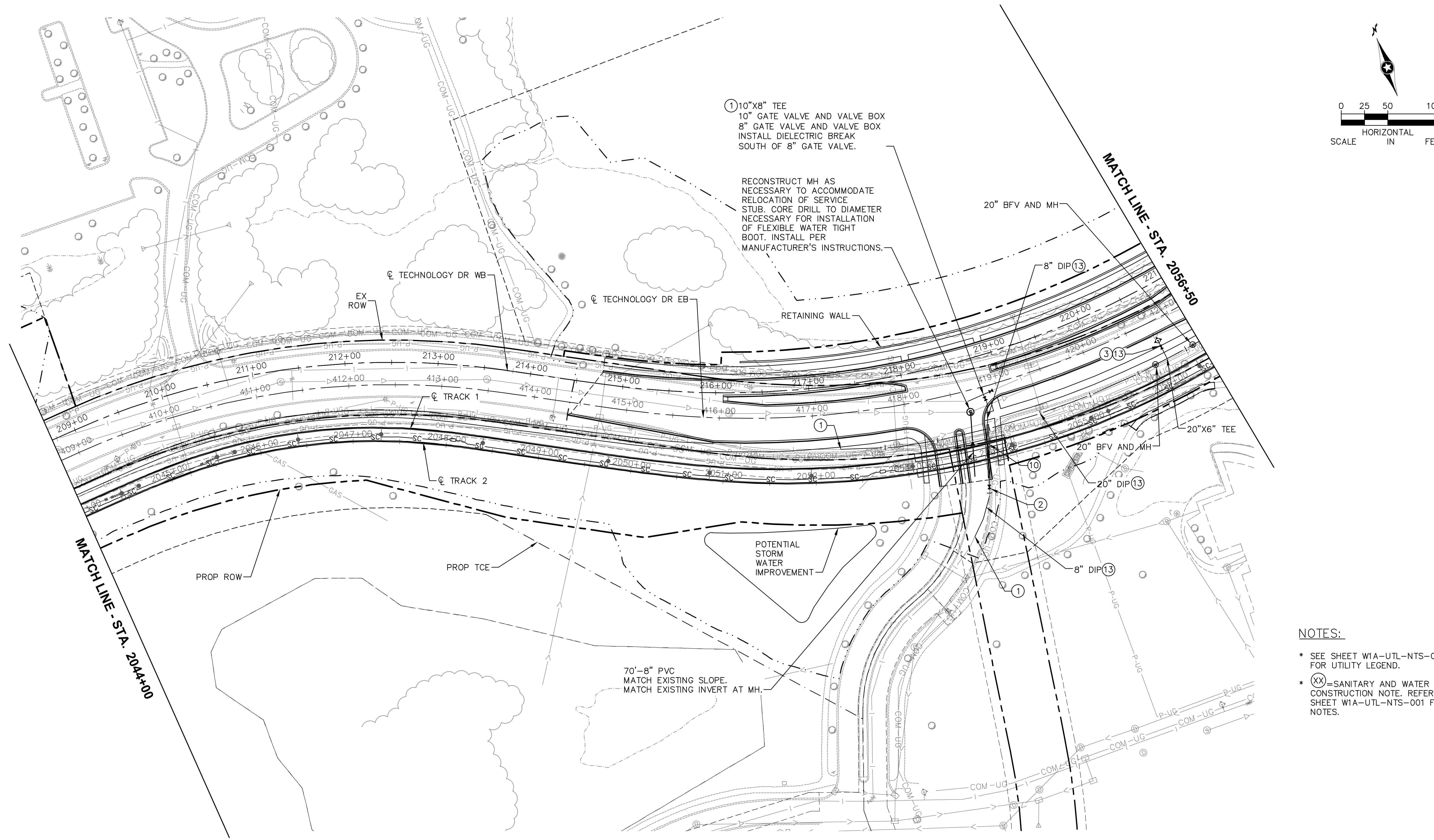
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
PLAN
STA. 2032+00 TO STA. 2044+00

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-PLN-003

SHEET 88 OF 106



NOTES:

* SEE SHEET W1A-UTL-NTS-001 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W1A-UTL-NTS-001 FOR NOTES.

Aug. 27 2014 07:54 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\UTILITIES\W1A-UTL-PLN.dwg By: lnewman

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING

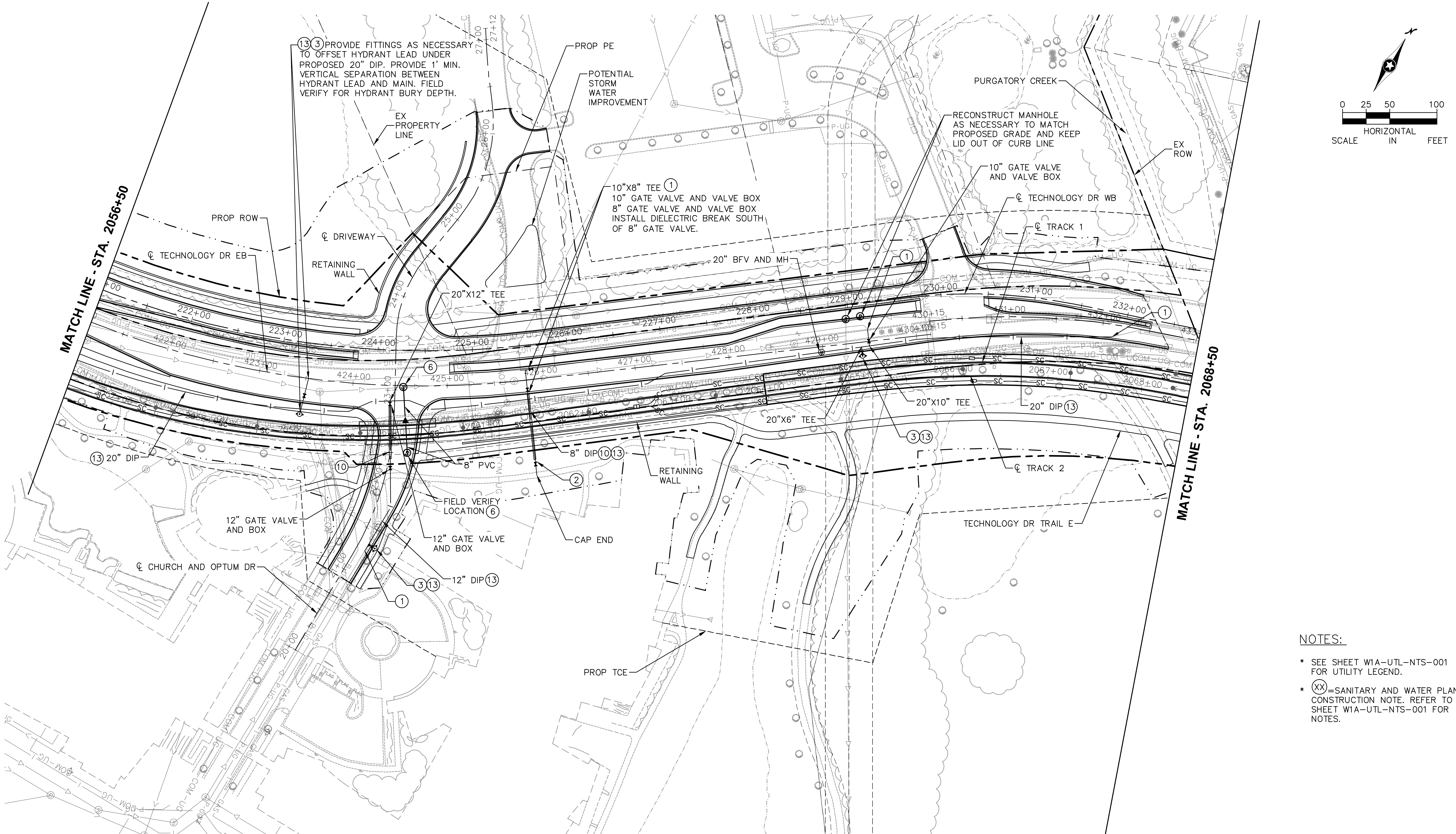
METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
PLAN
STA. 2044+00 TO STA. 2056+50

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-PLN-004



NOTES:

* SEE SHEET W1A-UTL-NTS-001 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W1A-UTL-NTS-001 FOR NOTES.

Aug. 27 2014 07:55 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\UTILITIES\W1A-UTL-PLN.dwg By: lnewman

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM pce

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

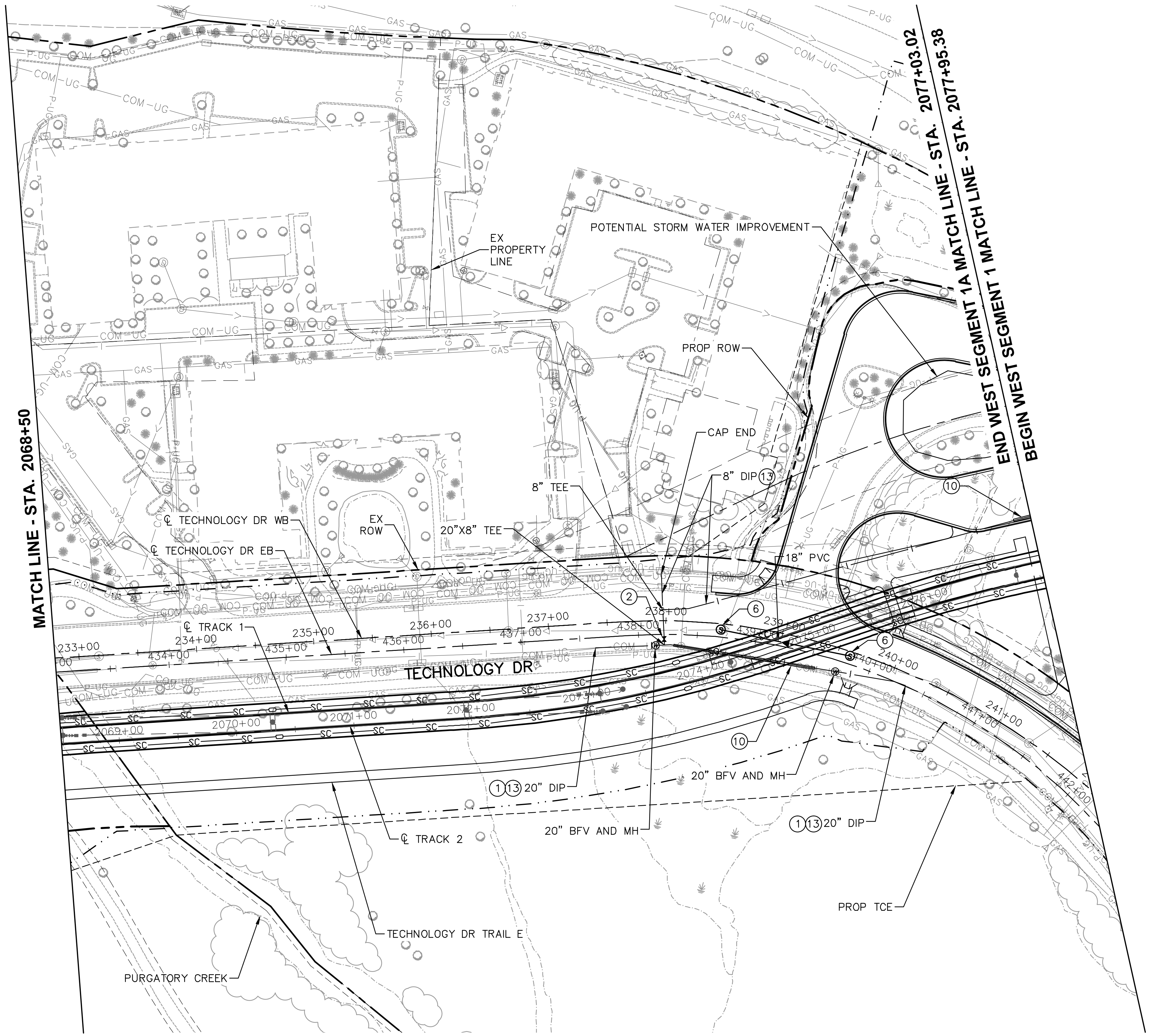
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
PLAN
STA. 2056+50 TO STA. 2068+50

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-PLN-005

SHEET 90 OF 106



0 25 50 100

HORIZONTAL SCALE IN FEET

NOTES:

* SEE SHEET W1A-UTL-NTS-001 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W1A-UTL-NTS-001 FOR NOTES.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM pce

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

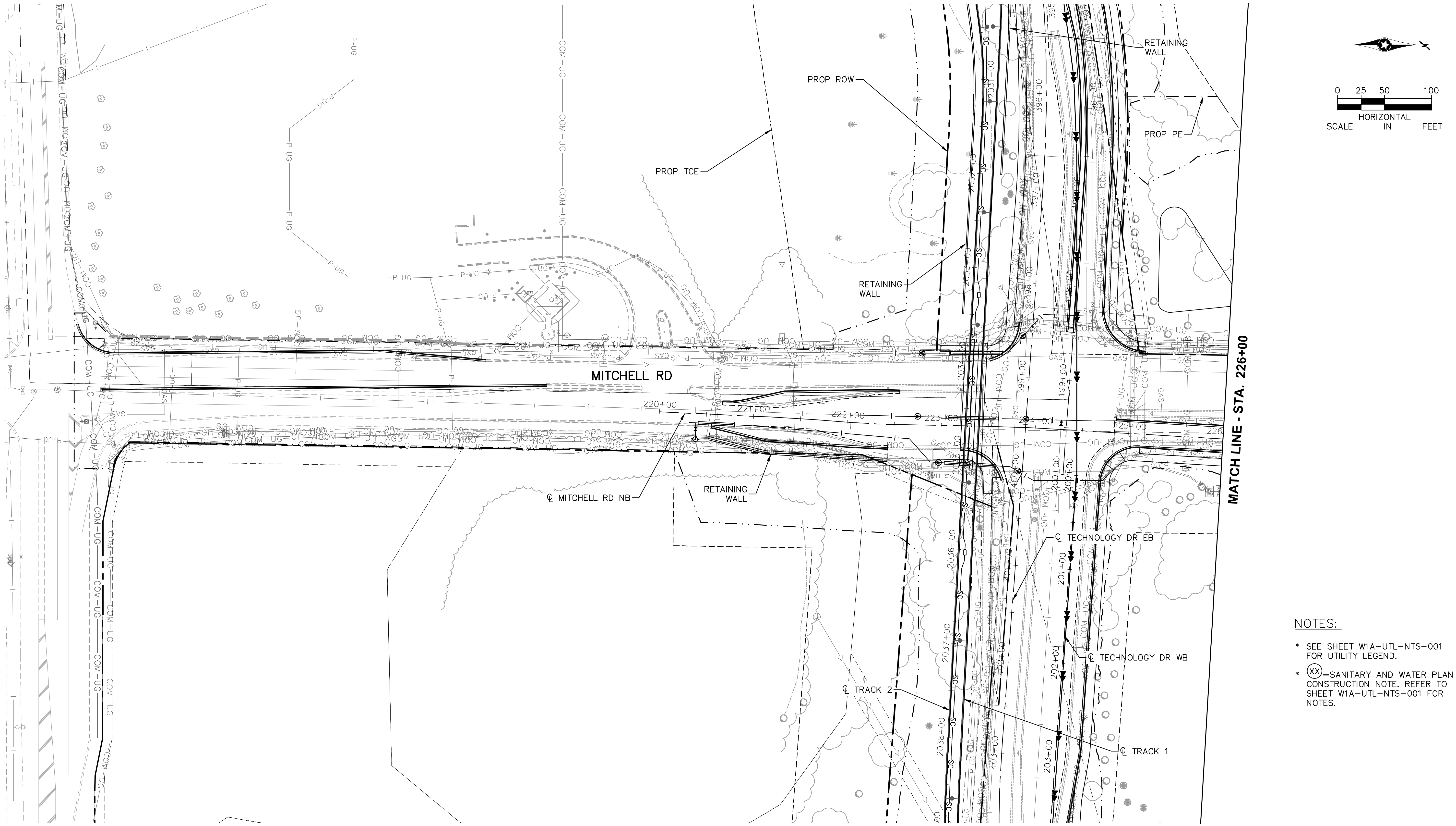
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
PLAN
STA. 2068+50 TO STA. 2077+03.02

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-PLN-006

SHEET 91 OF 106



NOTES:

* SEE SHEET W1A-UTL-NTS-001 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W1A-UTL-NTS-001 FOR NOTES.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

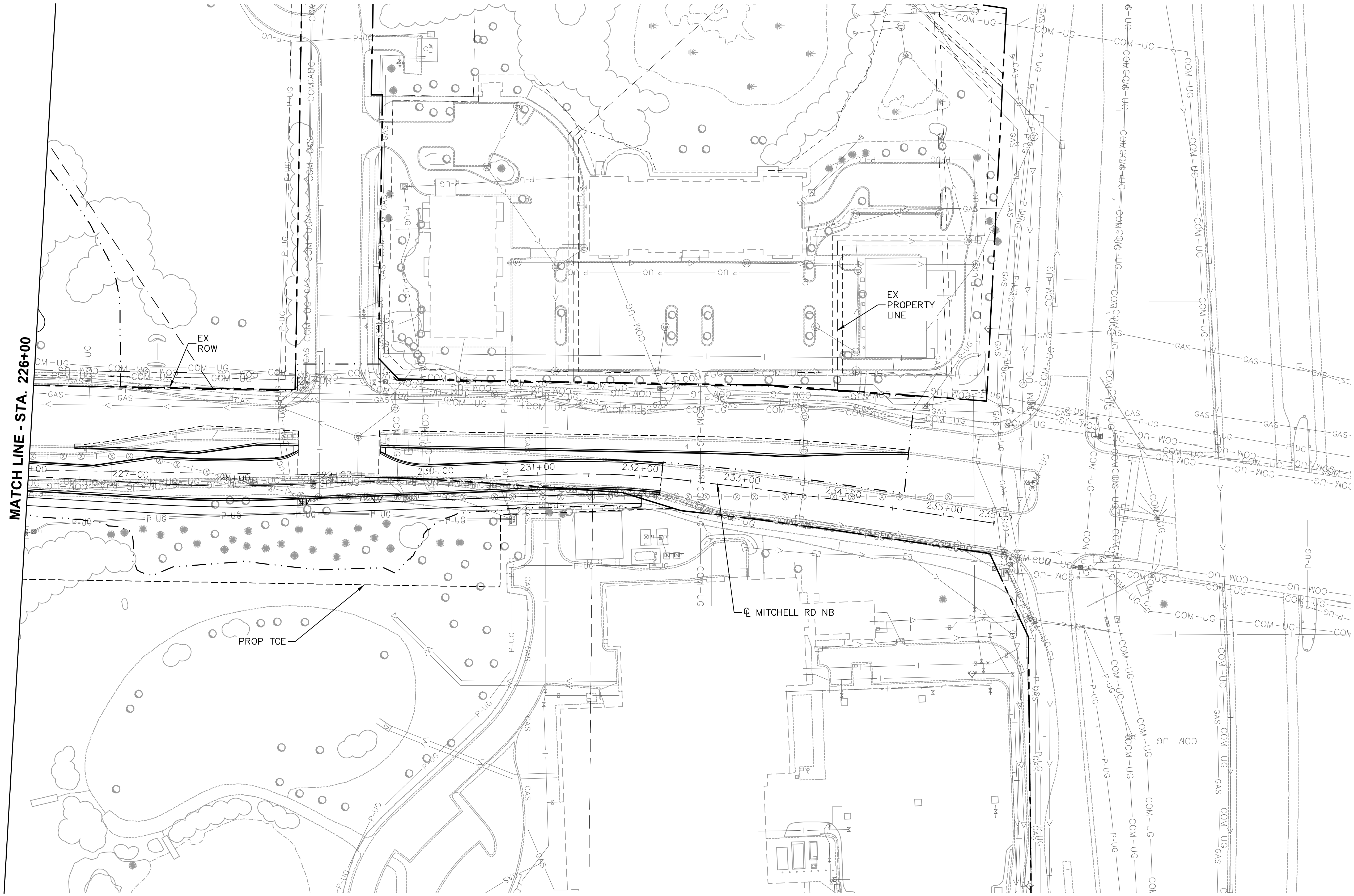
WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
PLAN
STA. 220+00 TO STA. 226+00

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-PLN-007

SHEET 92 OF 106

Jun, 27 2014 07:53 am V:\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\UTILITIES\W1A-UTL-PLN.dwg By: Depuydrd



0 25 50 100
HORIZONTAL
SCALE IN FEET

NOTES:

* SEE SHEET W1A-UTL-NTS-001 FOR UTILITY LEGEND.
* (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET W1A-UTL-NTS-001 FOR NOTES.

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL) - SEGMENT 1A
UTILITY
PLAN
STA. 226+00 TO STA. 235+51

DISCIPLINE: UTILITY

SHEET NAME: W1A-UTL-PLN-008

TRAFFIC LEGEND

INPLACE

- PUSHBUTTON PEDESTAL
- LUMINAIRE
- SIG. POLE W/ MAST ARM
- SIGNAL PEDESTAL
- SIGNAL FACE
- TRAFFIC SIGNAL EQUIPMENT PAD
- PEDESTRIAN INDICATION
- PUSHBUTTON
- EVP CONFIRMATORY LIGHT
- EVP DETECTOR
- EVP DETECTOR AND CONFIRMATORY LIGHT

FURNISH & INSTALL

- PUSHBUTTON PEDESTAL
- LUMINAIRE
- SIG. POLE W/ MAST ARM
- SIGNAL PEDESTAL
- SIGNAL FACE
- TRAFFIC SIGNAL EQUIPMENT PAD
- PEDESTRIAN INDICATION
- PUSHBUTTON
- EVP CONFIRMATORY LIGHT
- EVP DETECTOR
- EVP DETECTOR AND CONFIRMATORY LIGHT
- AUTOMATIC GATE
- BLANK OUT SIGN
- POWER POLE

EQUIPMENT LABELS

3	SIGNAL BASE NO.
3-2	SIGNAL HEAD NO./FLASHER HEAD NO.
A	CONTROLLER CABINET
CAC	CONTROLLER CABINET
B	SIGNAL SERVICE CABINET
SP	SIGNAL SERVICE CABINET
SA	PEDESTAL
MA	MAST ARM SIGNAL POLE WITH OPTIONAL LUMINAIRE SHAFT EXTENSION AS NOTED
MA	MAST ARM SIGNAL POLE UPRIGHT ONLY (NO MAST ARM) WITH OPTIONAL LUMINAIRE SHAFT EXTENSION AS NOTED

INPLACE EQUIPMENT LABELS

A	INPLACE CONTROLLER CABINET
CAC	INPLACE CONTROLLER CABINET
B	INPLACE SIGNAL SERVICE CABINET
SP	INPLACE SIGNAL SERVICE CABINET
MA	INPLACE MAST ARM
SA	INPLACE PEDESTAL
3-2	INPLACE SIGNAL HEAD NO./FLASHER HEAD NO.

ABBREVIATIONS

2-1	SIGNAL HEAD NUMBER
EVP	EMERGENCY VEHICLE PRE-EMPTION
FYA	FLASHING YELLOW ARROW
GRN	GREEN INDICATION
GR. RD.	GROUND ROD
INP	INPLACE
INS. GR.	INSULATED GROUND
LED	LIGHT EMITTING DIODE
LUM	LUMINAIRE
P1-1 (e.g.)	PEDESTRIAN HEAD (PHASE 1, NO. 1)
PB2-1 (e.g.)	PUSH BUTTON (PHASE 2, NO. 1)
PED	PEDESTRIAN
SOP	SOURCE OF POWER
STA	STATION
WLK	WALK INDICATION
YEL	YELLOW INDICATION
RED	RED INDICATION
CAC	CONTROLLER AND CABINET
SP	SERVICE PANEL
Ø2	SIGNAL PHASE NUMBER

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

PRELIMINARY ENGINEERING

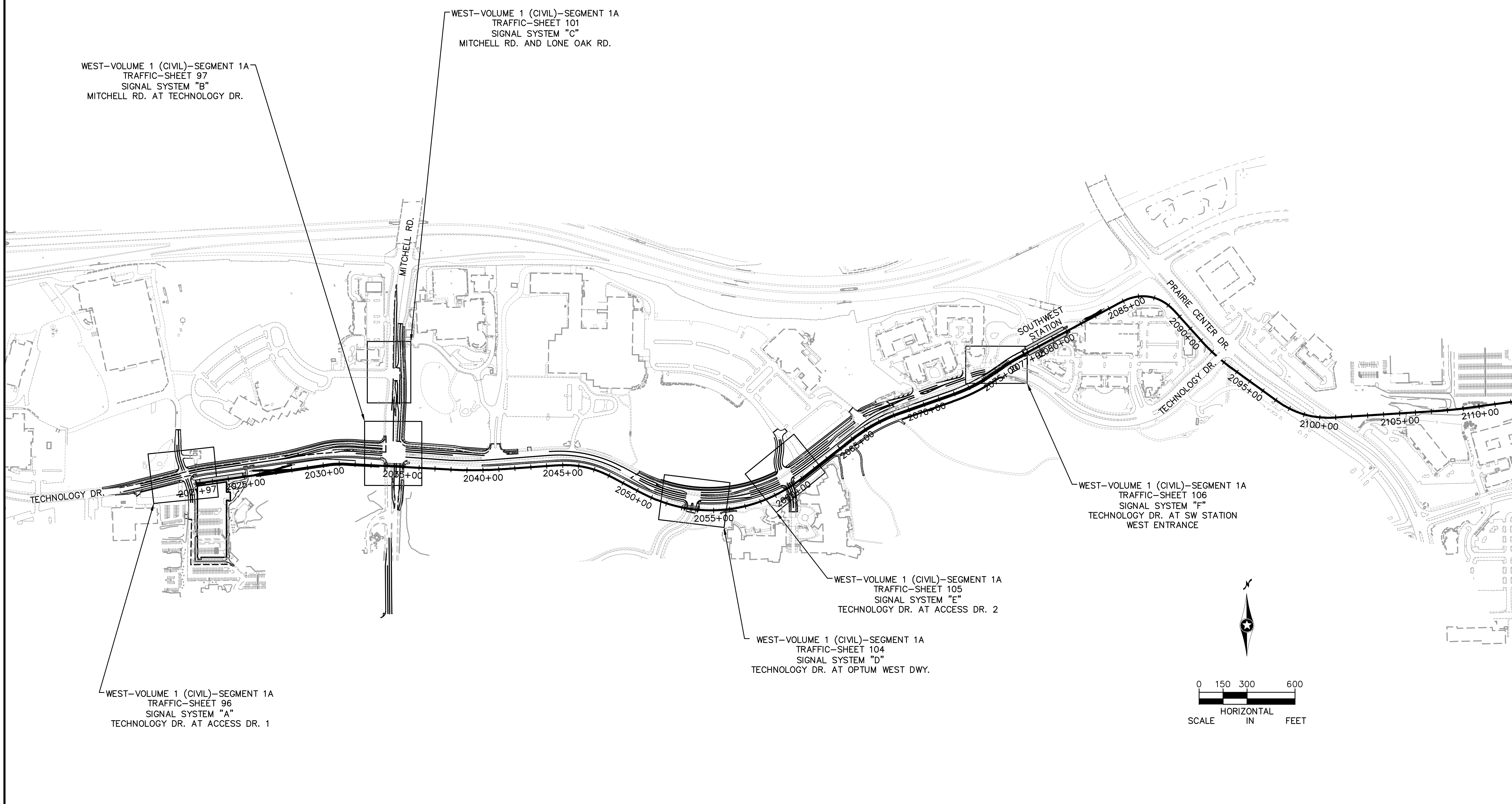
METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A

TRAFFIC SIGNAL PLANS - TRAFFIC LEGEND ABBREVIATIONS AND SYMBOLS

DISCIPLINE: TRAFFIC

SHEET NAME: W1A-TFC-SIG-003-01



Aug. 28 2014 08:56 am H:\Projects\7984\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\W1A-TFC-SIG-IDX.dwg By: bbetts

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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TRAFFIC
TRAFFIC SIGNAL PLANS-SHEET INDEX

DISCIPLINE: TRAFFIC

SHEET NAME: W1A-TFC-SIG-IDX

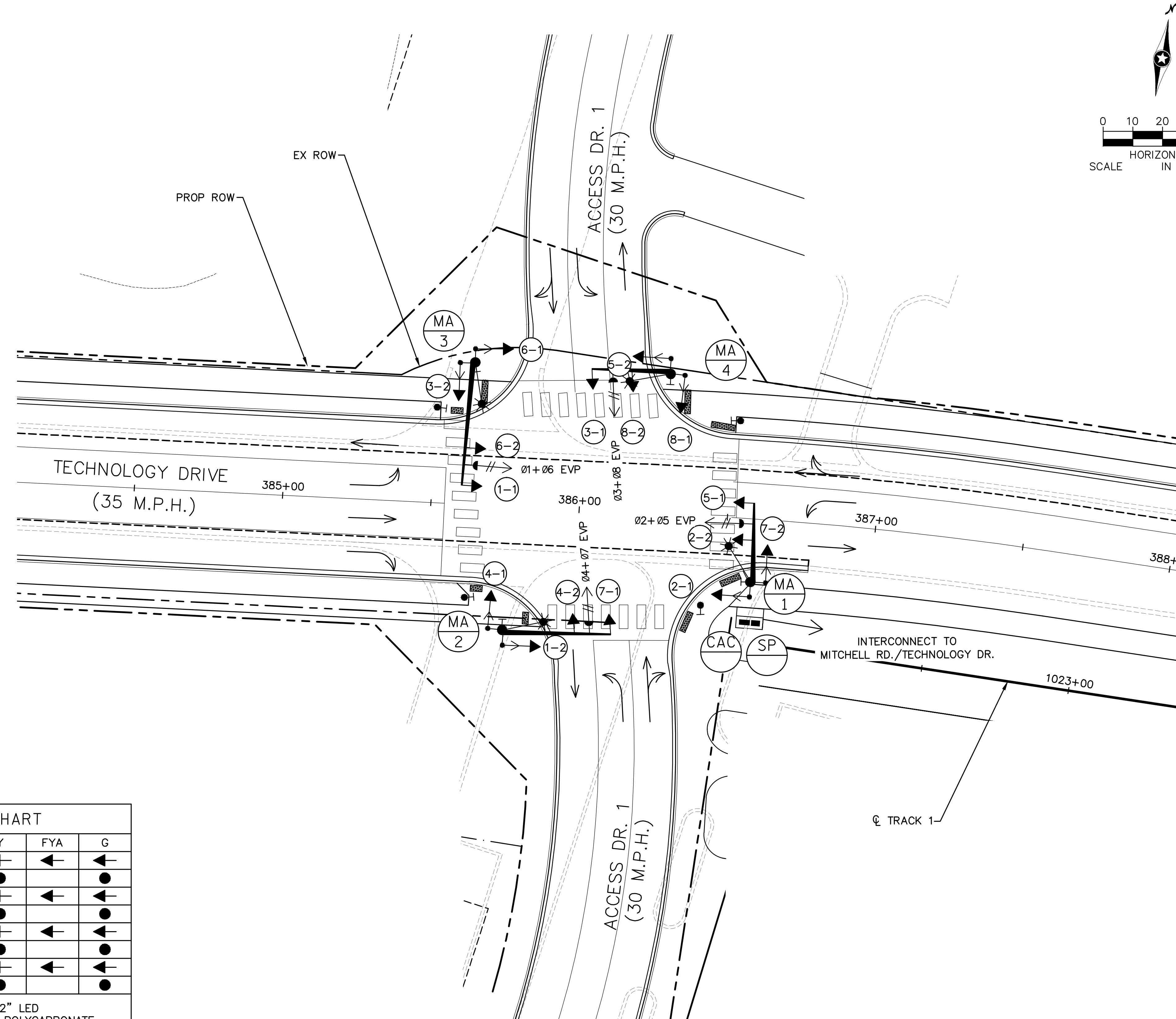
SHEET 95 OF 106

NOTES:

1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNT DOWN TIMERS.
2. (CAC) – CONTROLLER CABINET

   (SP) – SIGNAL SERVICE CABINET

   EQUIPMENT PAD LOCATION SUBJECT TO SOP LOCATING IN FINAL DESIGN.
3. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.

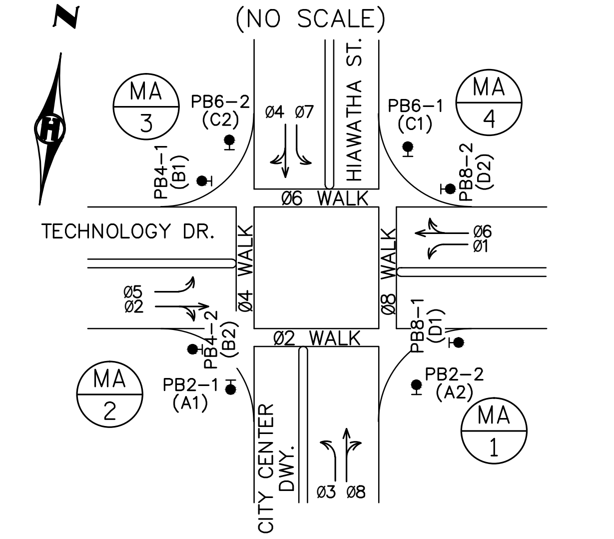


SIGNAL SYSTEM OPERATION

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- PHASES 2 AND 6 ARE ON VEHICLE SOFT RECALL.
- PHASES 1, 3, 5, & 7 ARE FLASHING YELLOW ARROW BY TIME OF DAY.

APS ADDRESS LABELING:
PHASE 2 = A
PHASE 4 = B
PHASE 6 = C
PHASE 8 = D

CONTROLLER PHASING LAYOUT
(NO SCALE)



SIGNAL HEAD CHART

FACE	R	Y	FYA	G
1-1,1-2	←	←	←	←
2-1,2-2	●	●		●
3-1,3-2	←	←	←	←
4-1,4-2	●	●		●
5-1,5-2	←	←	←	←
6-1,6-2	●	●		●
7-1,7-2	←	←	←	←
8-1,8-2	●	●		●

- ALL SIGNAL INDICATIONS SHALL BE 12" LED
- ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
- FYA DENOTES FLASHING YELLOW ARROW

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A

TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "A"

TECHNOLOGY DR. AT ACCESS DR. 1

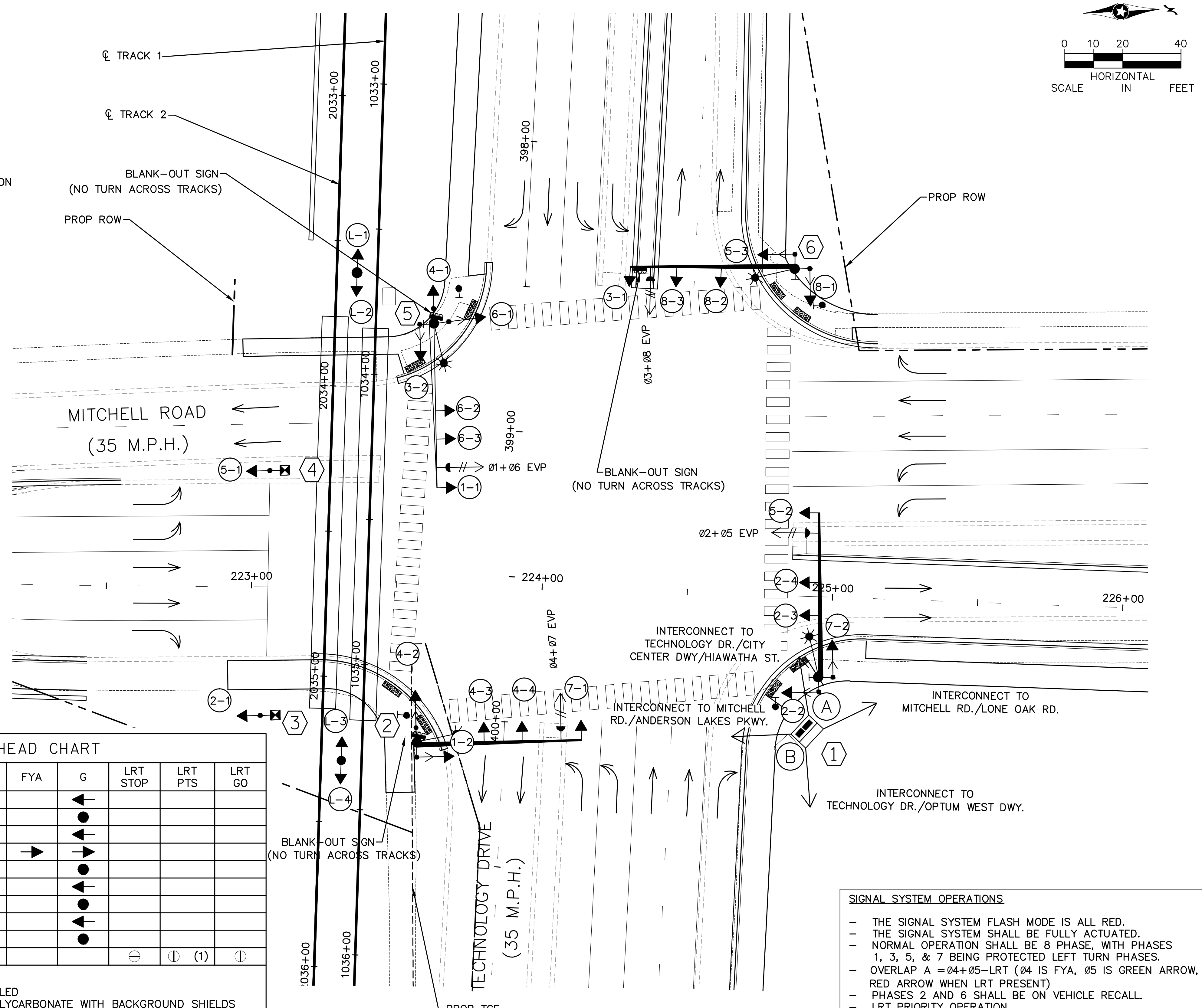
DISCIPLINE: **TRAFFIC**

SHEET NAME: **W1A-TRF-SIG-001-01**

Aug. 28 2014 08:57 am H:\Projects\7984\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\W1A-TFC-SIG-001.dwg By: bbetts

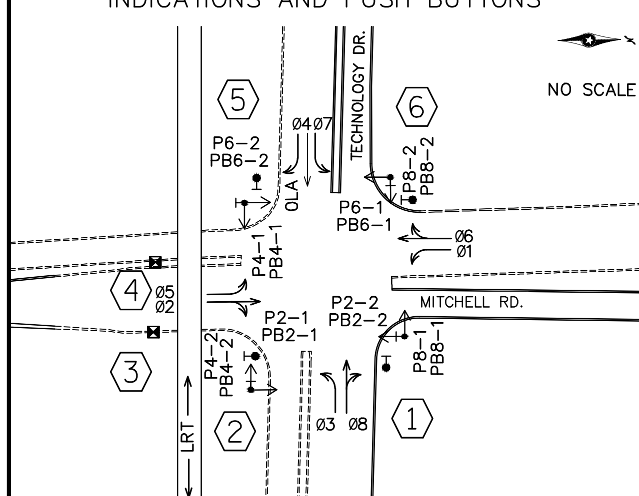
NOTES:

1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNT DOWN TIMERS.
2. INTERCONNECT TO RAIL SIGNAL HOUSE TO BE ADDED ONCE RAIL SIGNAL HOUSE LOCATION IS DETERMINED. CONNECTION TO RAIL SIGNAL HOUSE TO PROVIDE LRT PRIORITY.
3. (A) – CONTROLLER CABINET
   (B) – SIGNAL SERVICE CABINET
   EQUIPMENT PAD LOCATION SUBJECT TO SOP LOCATING IN FINAL DESIGN.
4. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

NO SCALE



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL HEAD CHART

FACE	R	Y	FYA	G	LRT STOP	LRT PTS	LRT GO
1-1,1-2	←	←		←			
2-1,2-2,2-3,2-4	●	●		●			
3-1,3-2	←	←		←			
4-1,4-2	→	→	→	→			
4-3,4-4	●	●		●			
5-1,5-2,5-3	←	←		←			
6-1,6-2,6-3	●	●		●			
7-1,7-2	←	←		←			
8-1,8-2,8-3	●	●		●			
L-1,L-2,L-3,L-4					⊖	⦶ (1)	⦶

(1) FLASHING LRT GO SIGNAL
–ALL SIGNAL INDICATIONS SHALL BE 12" LED
–ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
–FYA DENOTES FLASHING YELLOW ARROW DENOTES FLASHING YELLOW ARROW

SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- THE SIGNAL SYSTEM SHALL BE FULLY ACTUATED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1, 3, 5, & 7 BEING PROTECTED LEFT TURN PHASES.
- OVERLAP A = Ø4+ Ø5–LRT (Ø4 IS FYA, Ø5 IS GREEN ARROW, RED ARROW WHEN LRT PRESENT)
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.
- LRT PRIORITY OPERATION

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "B"
MITCHELL RD. AT TECHNOLOGY DR.

DISCIPLINE: TRAFFIC

SHEET NAME: W1A-TRF-SIG-001-02

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SIGNAL INDICATIONS

ALL SIGNAL INDICATIONS SHALL BE 12"
ALL INDICATIONS SHALL BE L.E.D.

FACE	R	Y	G	RLTA	YLTA	GLTA
1-1, 1-2				←	←	←
2-1, 2-2	●	●	●			
4-1, 4-2	●	●	●			
4-3, 4-4	●	●	●		←	←
5-1, 5-2				←	←	←
6-1, 6-2	●	●	●			
8-1, 8-2	●	●	●			
8-3, 8-4	●	●	●		←	←

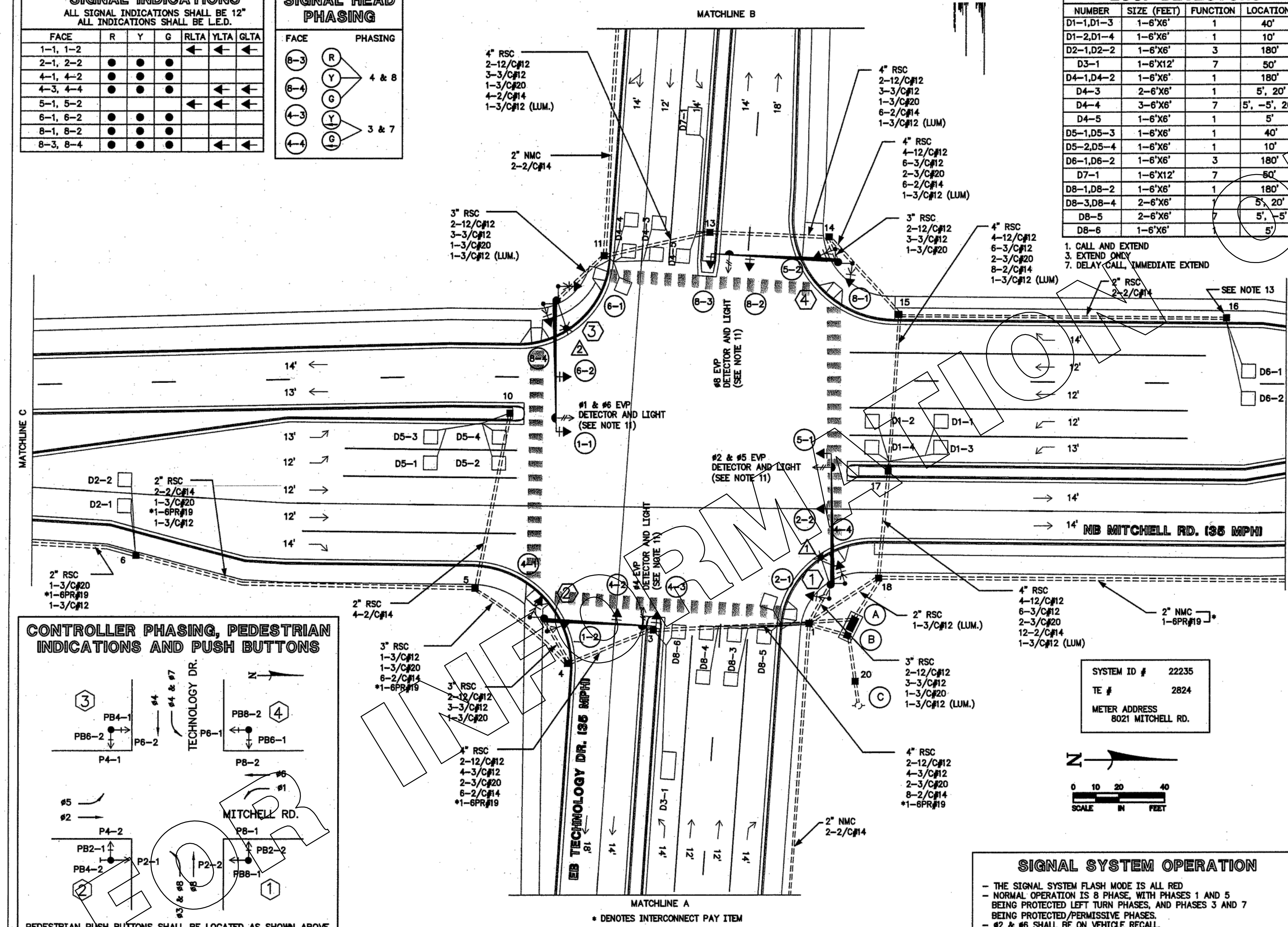
SIGNAL HEAD PHASING

FACE		PHASING
8-3, 8-4, 4-3, 4-4	R, Y, G	4 & 8
	Y, G	3 & 7

LOOP DETECTORS

NUMBER	SIZE (FEET)	FUNCTION	LOCATION
D1-1,D1-3	1-6'X6'	1	40'
D1-2,D1-4	1-6'X6'	1	10'
D2-1,D2-2	1-6'X6'	3	180'
D3-1	1-6'X12'	7	50'
D4-1,D4-2	1-6'X6'	1	180'
D4-3	2-6'X6'	1	5', 20'
D4-4	3-6'X6'	7	5', -5', 20
D4-5	1-6'X6'	1	5'
D5-1,D5-3	1-6'X6'	1	40'
D5-2,D5-4	1-6'X6'	1	10'
D6-1,D6-2	1-6'X6'	3	180'
D7-1	1-6'X12'	7	50'
D8-1,D8-2	1-6'X6'	1	180'
D8-3,D8-4	2-6'X6'	1	5', 20'
D8-5	2-6'X6'	7	5', -5'
D8-6	1-6'X6'	1	5'

1. CALL AND EXTEND
3. EXTEND ONLY
7. DELAY CALL, IMMEDIATE EXTEND



SYSTEM ID #	22235
TE #	2824
METER ADDRESS	8021 MITCHELL RD.

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES, AND PHASES 3 AND 7 BEING PROTECTED/PERMISSIVE PHASES.
- #2 & #6 SHALL BE ON VEHICLE RECALL.

Technology Drive Improvements

OWNER: CITY OF EDEN PRAIRIE
8080 MITCHELL ROAD
EDEN PRAIRIE, MN 55344-2230

INTERSECTION LAYOUT (1 OF 2)
MITCHELL RD. & TECHNOLOGY DR.

RECORD DRAWINGS
MARCH 10, 2008

PROJECT: TECHNOLOGY DRIVE IMPROVEMENTS
Eden Prairie, MN
I.C. 00-5508

LANDFORM MINNEAPOLIS • PHOENIX

URS

FILE NAME 81TECHSI01.DWG
PROJECT NO. AD004004

81 SHEET OF 114 TOTAL

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "B"

MITCHELL RD. AT TECHNOLOGY DR.
FOR INFORMATION ONLY

DISCIPLINE: TRAFFIC
SHEET NAME: W1A-TRF-SIG-002-01

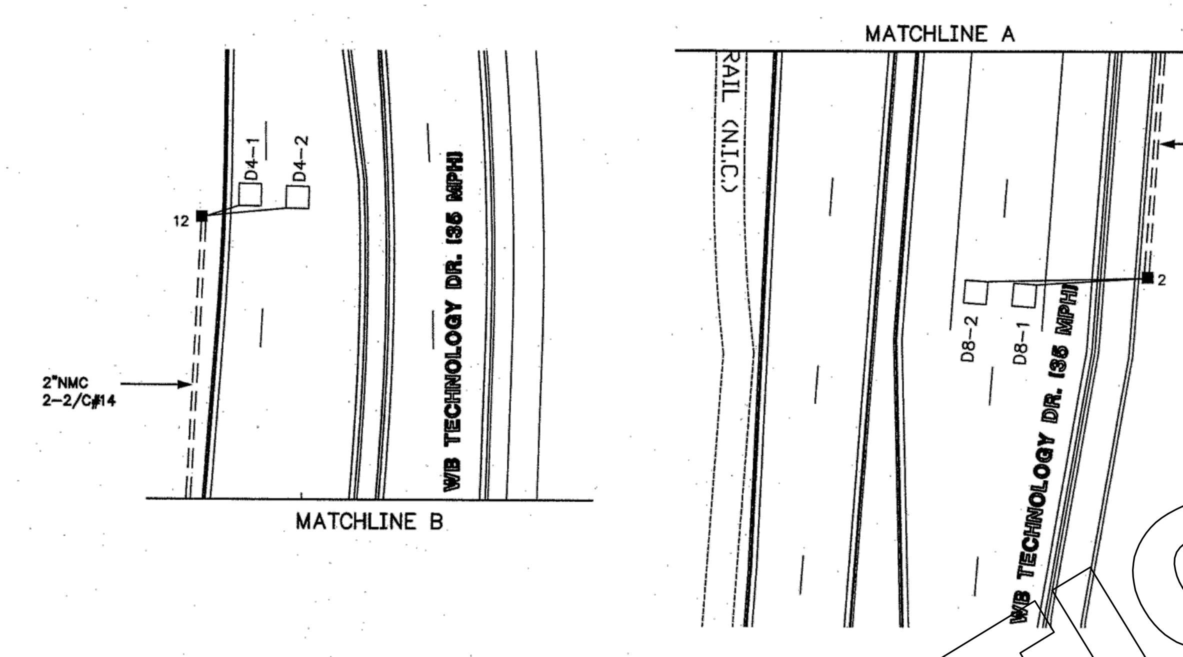
1 PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAVIT AT 350°)
2-ONE WAY SIGNALS OVERHEAD (0' AND 24' FROM END OF MAST ARM)
1-TYPE 10B POLE MOUNTED AT 90°
1-TYPE 10B POLE MOUNTED AT 180°
INSTALL SALVAGED 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (#2 & #5) MOUNTED 6' FROM END OF MAST ARM (SEE NOTE 10)
1 LUMINAIRE-250 WATTS HPS
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
TYPE D SIGN PANEL OVERHEAD (D-1)
EXTEND INTO HH-1:
3"RSC
2-12/C#12
3-3/C#12
1-3/C#12 (LUM.)
1-3/C#20

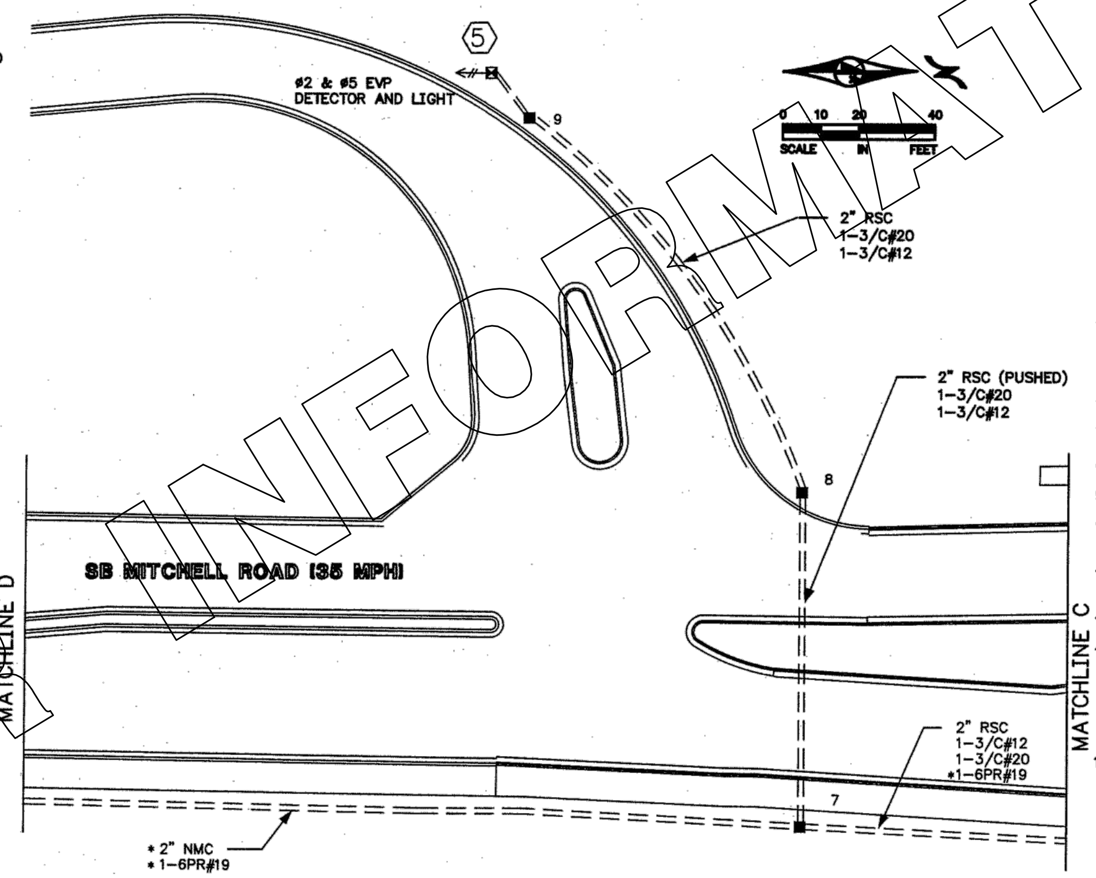
2 PA100 POLE FOUNDATION
TYPE PA100-A-50
2-ONE WAY SIGNALS OVERHEAD (0' AND 18' FROM END OF MAST ARM)
1-TYPE 10B POLE MOUNTED AT 90°
1-TYPE 10B POLE MOUNTED AT 180°
INSTALL SALVAGED 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (#4 & #7) MOUNTED 6' FROM END OF MAST ARM (SEE NOTE 10)
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
1-"LEFT TURN YIELD ON GREEN" SIGN (R10-12) OVERHEAD NEXT TO HEAD 4-3
TYPE D SIGN PANEL OVERHEAD (D-2)
EXTEND INTO HH-4:
3"RSC
2-12/C#12
3-3/C#12
1-3/C#20

3 PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAVIT AT 350°)
2-ONE WAY SIGNALS OVERHEAD (0' AND 24' FROM END OF MAST ARM)
1-TYPE 10B POLE MOUNTED AT 90°
1-TYPE 10B POLE MOUNTED AT 180°
INSTALL SALVAGED 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (#1 & #6) MOUNTED 6' FROM END OF MAST ARM (SEE NOTE 10)
2 LUMINAIRE-250 WATTS HPS
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
TYPE D SIGN PANEL OVERHEAD (D-1)
EXTEND INTO HH-11:
3"RSC
2-12/C#12
3-3/C#12
1-3/C#20
1-3/C#12 (LUM.)

4 PA100 POLE FOUNDATION
TYPE PA100-A-55
2-ONE WAY SIGNALS OVERHEAD (0' AND 18' FROM END OF MAST ARM)
1-TYPE 10B POLE MOUNTED AT 90°
1-TYPE 10B POLE MOUNTED AT 180°
INSTALL SALVAGED 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (#3 & #8) MOUNTED 6' FROM END OF MAST ARM (SEE NOTE 10)
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
1-"LEFT TURN YIELD ON GREEN" SIGN (R10-12) OVERHEAD NEXT TO HEAD 8-3
TYPE D SIGN PANEL OVERHEAD (D-2)
EXTEND INTO HH-15:
3"RSC
2-12/C#12
3-3/C#12
1-3/C#20

5 PEDESTAL FOUNDATION
8' PEDESTAL POLE AND BASE
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (#2 & #5)
EXTEND INTO HH-9:
2" RSC
1-3/C#20
1-3/C#12





A EQUIPMENT PAD (SEE DETAIL) AND CONTROLLER CABINET (FURNISHED BY MnDOT)
EXTEND TO HH-1:
4" RSC
4-12/C#12
7-3/C#12
3-3/C#20
13-2/C#14
*1-6PR#19
EXTEND TO HH-18:
4"RSC
4-12/C#12
6-3/C#12
2-3/C#20
12-2/C#14
*1-6PR#19
EXTEND 3" RSC STUB OUT OF CABINET (THREAD AND CAP BOTH ENDS)

B SIGNAL SERVICE CABINET (SEE DETAIL)
EXTEND INTO CONTROLLER CABINET:
2"RSC
2-1/C#6
1-1/C#6 INS. GR.
EXTEND INTO HH-1:
2"RSC
2-3/C#12 (LUM)
EXTEND INTO HH-20:
2" RSC
3-1/C#2

C SOURCE OF POWER
XCEL ENERGY
EXTEND INTO HH-20:
2" RSC
3-1/C#2

* DENOTES INTERCONNECT PAY ITEM

SYSTEM ID #	22235
TE #	2824
METER ADDRESS 8021 MITCHELL RD.	

NOTES:
1.) ALL ITEMS IN THESE SIGNAL PLANS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
2.) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
3.) EXACT LOCATION OF HANDHOLES, POLES, PEDESTALS, AND CABINET SHALL BE DETERMINED BY ENGINEER IN THE FIELD. MnDOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW THESE LOCATIONS PRIOR TO INSTALLATION.
4.) EACH PEDESTRIAN SIGNAL FACE SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION AND SHALL BE ILLUMINATED WITH LED UNITS. SEE SPECIAL PROVISIONS.
5.) FOR MASTARM MOUNTED TYPE "D" AND TYPE "C" SIGNS, SEE SHEET NO. 60.
6.) USE TRUSS STYLE MAST ARM AS SHOWN IN MnDOT STANDARD PLATE NO. 8123E.
7.) HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS PER MnDOT STANDARD PLATE 8114A. SEE SPECIAL PROVISIONS.
8.) ALL LOOP DETECTORS SHALL BE PREFORMED NMC LOOP DETECTORS. SEE DETAIL SHEET 57.
9.) ALL ITEMS OF THE TEMPORARY SIGNAL SYSTEM SHALL BE REMOVED AND SALVAGED WHERE DIRECTED BY THE ENGINEER.
10.) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE INSTALLED 6' FROM END OF MAST ARM ON EACH POLE.
11.) ALL EVP EQUIPMENT (DETECTOR, CONFIRMATORY LIGHT, AND PHASE SELECTORS) SALVAGED FROM TEMPORARY SIGNAL SYSTEM SHALL BE REINSTALLED AT LOCATIONS INDICATED ON PLANS.
12.) ALL VEHICLE INDICATIONS SHALL BE ILLUMINATED USING LED UNITS.
13.) A DISCONNECTED END OF A 6PR#19 IS COILED INPLACE IN AN INPLACE HH 12. (SEE EXISTING INTERSECTION LAYOUT FOR LOCATION OF INPLACE HH 12). THE INPLACE 6PR#19 SHALL BE REMOVED AND SALVAGED BACK TO I-HH 5. UPON COMPLETION OF CONDUIT INSTALLATION. THE SALVAGED 6PR#19 SHALL BE REINSTALLED TO THE NEW CONTROLLER CABINET AS SHOWN IN THE PLANS.
14.) THE SIGNAL EQUIPMENT SHALL BE PAINTED FOREST GREEN. SEE SPECIAL PROVISIONS. THE CONTROLLER CABINET AND SERVICE CABINET SHALL NOT BE PAINTED. THE BACK OF SIGNAL HEADS SHALL NOT BE PAINTED.

Technology Drive Improvements

OWNER:
CITY OF EDEN PRAIRIE
8080 MITCHELL ROAD
EDEN PRAIRIE, MN 55344-2230

EDEN PRAIRIE

CIVIL SHEET INDEX

INTERSECTION LAYOUT
(2 OF 2)
MITCHELL RD. & TECHNOLOGY DR.

REVISION HISTORY

PROJECT MANAGER REVIEW

CERTIFICATION

RECORD DRAWINGS
MARCH 10, 2008

PROJECT:
TECHNOLOGY DRIVE IMPROVEMENTS
Eden Prairie, MN
I.C. 00-5508

LANDFORM
MINNEAPOLIS • PHOENIX

URS

FILE NAME 82TECHSI02.DWG
PROJECT NO. AD004004

82 OF 114
SHEET TOTAL

PLOT DATE: Mar 05, 2008 5:30pm DISK FILE NAME: (15.06) R:\42401\42401002\PLAN-SHT\Final Plans\82techsi02.dwg

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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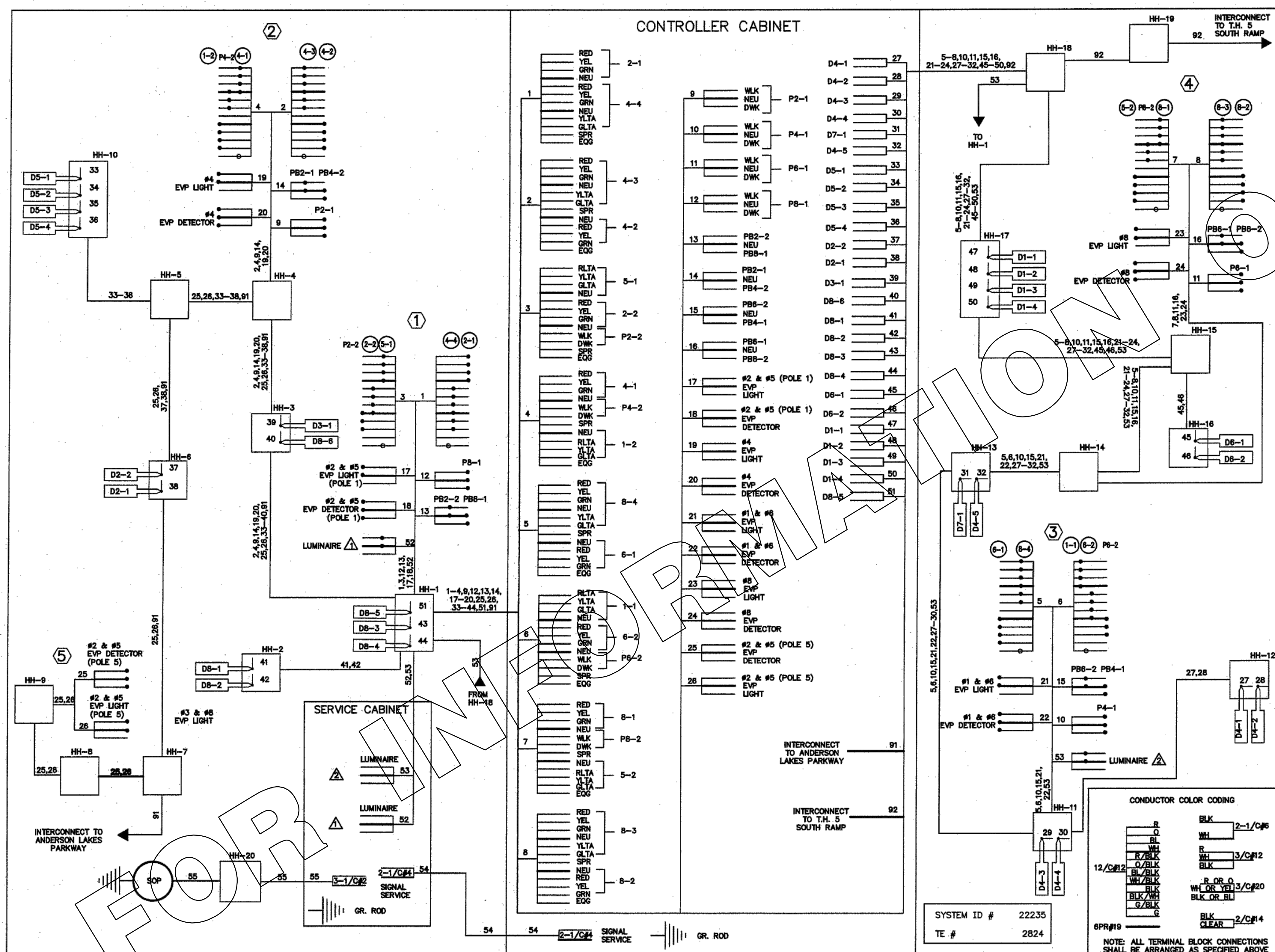
SRF Consulting Group, Inc.
PRELIMINARY ENGINEERING
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "B"

MITCHELL RD. AT TECHNOLOGY DR.
FOR INFORMATION ONLY

DISCIPLINE: TRAFFIC
SHEET NAME: W1A-TRF-SIG-002-02



Technology Drive Improvements

OWNER:
CITY OF EDEN PRAIRIE
8080 MITCHELL ROAD
EDEN PRAIRIE, MN 55344-2230

CIVIL SHEET INDEX

FIELD WIRING DIAGRAM
MITCHELL RD. & TECHNOLOGY DR.

REVISION HISTORY

PROJECT MANAGER REVIEW

CERTIFICATION

Daryl J. Taavola

RECORD DRAWINGS
MARCH 10, 2008

PROJECT:
TECHNOLOGY DRIVE IMPROVEMENTS
Eden Prairie, MN
I.C. 00-5508

LANDFORM
MINNEAPOLIS · PHOENIX

URS

FILE NAME 83TECHSI03.DWG
PROJECT NO. AD004004

83 SHEET OF 114 TOTAL

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "B"

MITCHELL RD. AT TECHNOLOGY DR.
FOR INFORMATION ONLY

DISCIPLINE: TRAFFIC

SHEET NAME: W1A-TRF-SIG-002-03

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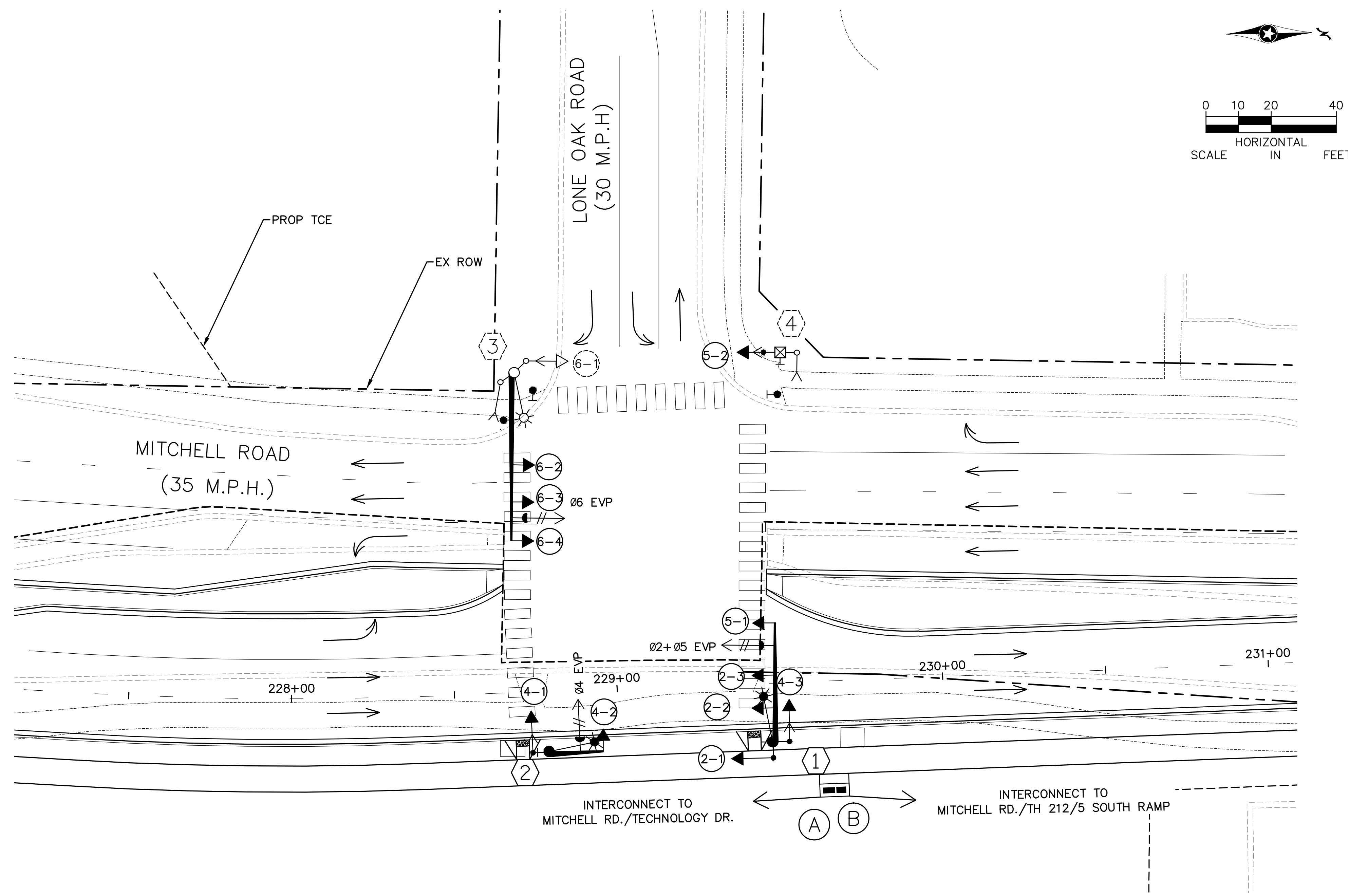
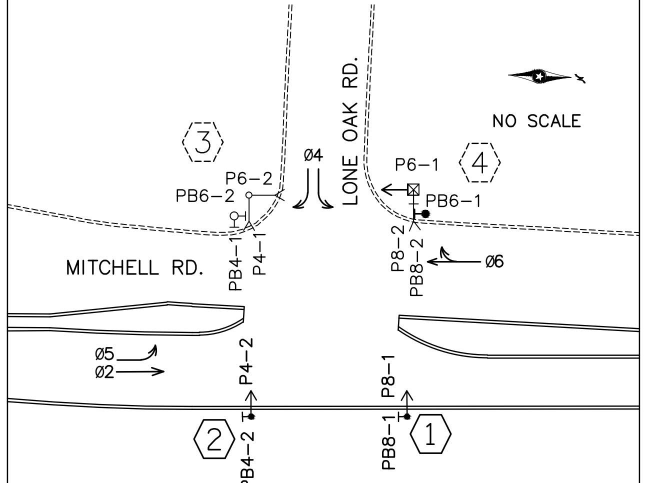
NOTES:
1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNT DOWN TIMERS.
2. (A) – CONTROLLER CABINET
   (B) – SIGNAL SERVICE CABINET
   EQUIPMENT PAD LOCATION SUBJECT TO SOP LOCATING IN FINAL DESIGN.
3. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL HEAD CHART

FACE	R	Y	FYA	G
2-1,2-2,2-3	●	●		●
4-1,4-2,4-3	●	●		●
5-1,5-2	←	←	←	←
6-1	○	○		○
6-2,6-3,6-4	●	●		●

–ALL SIGNAL INDICATIONS SHALL BE 12" LED
–ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
–FYA DENOTES FLASHING YELLOW ARROW

SIGNAL SYSTEM OPERATIONS

– THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
– THE SIGNAL SYSTEM SHALL BE FULLY ACTUATED.
– NORMAL OPERATION SHALL BE 5 PHASE, WITH PHASE 5 BEING FLASHING YELLOW ARROW BY TIME OF DAY.
– PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

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METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A

TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "C"

MITCHELL RD. AT LONE OAK RD.

DISCIPLINE: TRAFFIC
SHEET NAME: W1A-TRF-SIG-001-03

NOTES:
1) SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS, LED COUNTDOWN PEDESTRIAN INDICATIONS, LED VEHICLE INDICATIONS, SIGNAL SERVICE CABINET AND PAINTING OF SIGNAL SYSTEM.
2) EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED BY THE ENGINEER.
3) A 3/4 INCH HALF COUPLING, 3/4 INCH PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE MOUNTED 6' FROM THE END OF EACH MAST ARM UNLESS NOTED OTHERWISE.
4) FOR TYPE "C" AND "D" SIGNS, SEE DETAIL SHEETS. ALL MAST ARM-MOUNTED TYPE "C" AND "D" SIGNS ARE TO BE INCLUDED IN THE SIGNAL SYSTEM PAY ITEM.
5) ALL LOOP DETECTORS SHALL BE IN NMC (SEE NMC LOOP DETECTOR DETAILS).
6) HANDHOLES SHALL BE PVC TYPE WITH METAL FRAME AND COVER.
7) PAVEMENT MARKING PLANS ARE DONE BY OTHERS.
8) THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION.
9) ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE (SEE SPECIAL PROVISIONS).
10) * INDICATES ITEMS TO BE INCLUDED IN THE INTERCONNECT PAY ITEM.
11) ALL CONDUIT SHALL BE NMC-SCHEDULE 80 AND CARRY 1-1/C#6 INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
12) CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
13) ALL SIGNAL HARDWARE IS TO BE FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE.
14) THE CONTRACTOR AFTER REMOVING INPLACE WIRE SHALL SPLICE AND COUPLE INPLACE CONDUIT INTO NEW HH-2 AND HH-9.
15) ALL SIGNAL POLES, MAST ARMS, BRACKETING SHALL BE PAINTED DARK GREEN. SEE SPECIAL PROVISIONS.
16) PEDESTRIAN CURB RAMPS FURNISHED AND INSTALLED BY OTHERS.
17) 17' MEDIAN EXTENSION SHALL BE CONSTRUCTED BY OTHERS.
18) THE CURB WORK FOR THE PROPOSED RIGHT TURN LANE SHALL BE CONSTRUCTED BY OTHERS.

LED SIGNAL INDICATIONS

FACE	R	Y	G	RTA	YTA	GTA
2-1,2-2	●	●	●			
2-3,2-4	●	●	●		←	←
4-1,4-2,4-3	●	●	●			
6-1,6-2	●	●	●			

-ALL VEHICLE SIGNAL INDICATIONS SHALL BE 12"
-EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD

NMC DETECTOR CHART

DESIGNATION	NO. & SIZE	LOCATION
D2-1,D2-2	1-6'X6'	180'
D4-1	3-6'X6'	-4',5',20'
D4-2	2-6'X6'	5',20'
D5-1	2-6'X6'	20',50'
D5-2	2-6'X6'	5',35'
D6-1,D6-2	1-6'X6'	180'

-LOCATION: DISTANCE FROM CROSSWALK IN FEET

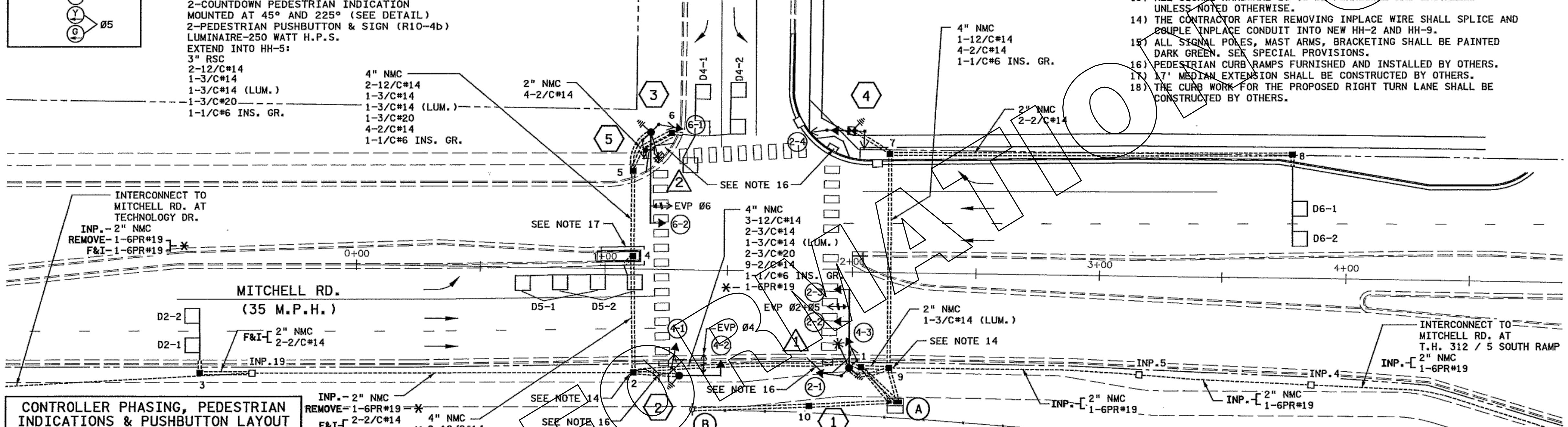
SIGNAL HEAD PHASING

FACE: 2-3, 2-4 — R, Y, G — Ø2; Y, G — Ø5

3) PA90 POLE FOUNDATION (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
TYPE PA90-A-35-D40-9 (DAVIT AT 350°)
1-ONE-WAY SIGNAL OVERHEAD (0' FROM END OF MAST ARM)
ONE-WAY EVP DETECTOR & CONFIRMATORY LIGHT (PHASE 6)
TYPE D SIGN-SEE SIGNING DETAIL SHEET
1-POLE MOUNTED ONE-WAY SIGNAL AT 225°
2-COUNTDOWN PEDESTRIAN INDICATION MOUNTED AT 45° AND 225° (SEE DETAIL)
2-PEDESTRIAN PUSHBUTTON & SIGN (R10-4b)
LUMINAIRE-250 WATT H.P.S.
EXTEND INTO HH-5:
3" RSC
2-12/C#14
1-3/C#14
1-3/C#14 (LUM.)
1-3/C#20
1-1/C#6 INS. GR.

5) PUSH BUTTON STATION FOUNDATION
PEDESTRIAN PUSH BUTTON STATION
2-PEDESTRIAN PUSH BUTTON AND SIGN
EXTEND INTO HH-6:
2" NMC
2-2/C#14

4) PEDESTAL POLE FOUNDATION (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
1-13' PEDESTAL POLE AND BASE (SEE DETAIL)
1-ONE WAY SIGNAL (SEE DETAIL)
2-COUNTDOWN PEDESTRIAN INDICATION (SEE DETAIL)
2-PEDESTRIAN PUSHBUTTON & SIGN (R10-4b)
EXTEND INTO HH-7:
3" RSC
1-12/C#14
1-3/C#14
2-2/C#14
1-1/C#6 INS. GR.



1) PA90 POLE FOUNDATION (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
TYPE PA90-A-30-D40-9 (DAVIT AT 350°)
2-ONE-WAY SIGNALS OVERHEAD (0' AND 12' FROM END OF MAST ARM)
ONE-WAY EVP DETECTOR & CONFIRMATORY LIGHT (PHASE 2 & 5)
TYPE D SIGN-SEE SIGNING DETAIL SHEET
1-SIGN (R10-12) ADJACENT TO SIGNAL INDICATION 2-3
2-POLE MOUNTED ONE-WAY SIGNALS AT 45° AND 225°
1-COUNTDOWN PEDESTRIAN INDICATION MOUNTED AT 45° (SEE DETAIL)
1-PEDESTRIAN PUSHBUTTON & SIGN (R10-4b)
LUMINAIRE-250 WATT H.P.S.
EXTEND INTO HH-9:
3" RSC
2-12/C#14
1-3/C#14
1-3/C#14 (LUM.)
1-3/C#20
1-2/C#14
2-1/C#6 INS. GR.

2) PA85 POLE FOUNDATION (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
TYPE PA85-A-15
1-ONE-WAY SIGNAL OVERHEAD (0' FROM END OF MAST ARM)
ONE-WAY EVP DETECTOR & CONFIRMATORY LIGHT (PHASE 4)
TYPE D SIGN-SEE SIGNING DETAIL SHEET
1-POLE MOUNTED ONE-WAY SIGNAL AT 225°
1-COUNTDOWN PEDESTRIAN INDICATION MOUNTED AT 225° (SEE DETAIL)
1-PEDESTRIAN PUSHBUTTON & SIGN (R10-4b)
EXTEND INTO HH-2:
3" RSC
1-12/C#14
1-3/C#14
1-3/C#20
1-2/C#14
2-1/C#6 INS. GR.

A) EQUIPMENT PAD - SEE DETAIL
CONTROLLER & CABINET (STATE FURNISHED)
SIGNAL SERVICE CABINET (STATE FURNISHED)
EXTEND 4" RSC INTO HH-1:
3-12/C#14
2-3/C#14
2-3/C#20
9-2/C#14
1-1/C#6 INS. GR.
*-1-6PR#19
EXTEND 4" RSC INTO HH-9:
3-12/C#14
1-3/C#14
1-3/C#20
4-2/C#14
1-1/C#6 INS. GR.
*-1-6PR#19

2" & 3" RSC STUBBED OUT (CAP BOTH ENDS)
3/4" PVC STUBBED OUT (CAP BOTH ENDS)
2" RSC TO SERVICE CABINET
2-1/C#6
1-1/C#6 INS. GR.
SERVICE CABINET TO SOP (VIA HH-10):
2" RSC
3-1/C#2
SERVICE CABINET TO HH-1:
2" RSC
2-3/C#14 (LUM.)

B) SOURCE OF POWER
POLE MOUNTED TRANSFORMER BY XCEL ENERGY
APPROX. LOCATION (SEE NOTE 8)
2" RSC TO HH-10 WITH:
3-1/C#2

CONTROLLER PHASING, PEDESTRIAN INDICATIONS & PUSHBUTTON LAYOUT

NO SCALE

PED. PB. SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL OPERATION NOTES

- NORMAL OPERATION IS 4 PHASE
- FLASH MODE SHALL BE ALL RED
- Ø5 SHALL BE PROTECTED/PERMISSIVE LEFT TURN
- Ø2 & Ø6 SHALL BE ON VEHICLE RECALL

SYSTEM ID #38406
TE #4314
MASTER ID #22267
LOCATED AT C.S.A.H. 60 (MITCHELL RD.) & MARTIN DR.
METER ADDRESS
7975 MITCHELL RD.

RECORD DRAWING

CONTRACTOR:
B.E.C., Inc.
7625 Dahlgren Road
Chaska, MN 55318

NO	DATE	BY	CKD	APPR	REVISION
1	5/8/07	DR	ASP	ASP	F & I PUSHBUTTON STATION (POLE 5)
2	8/3/07	DR	ASP	ASP	RECORD DRAWING

...\5737Asbt\SD\Plan\5737_ILA.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota.
Print Name: BRIAN D. HOLT
Date 9/6/06 License # 21428

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: ADRIAN S. POTTER
Date 9/6/06 License # 42785

CITY PROJECT NO. 06-5675

DRAWN BY R. W. SMITH
DESIGNED BY R. W. SMITH
CHECKED BY A. POTTER
COMM. NO. 0065737

SRF CONSULTING GROUP, INC.

CITY OF EDEN PRAIRIE
INTERSECTION LAYOUT
MITCHELL RD. AT LONE OAK RD.

SHEET 8 OF 17

FOR INFORMATION ONLY

Jun. 27 2014 07:58 am H:\Projects\7984\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\W1A-TFC-SIG-002.dwg By: bbetts

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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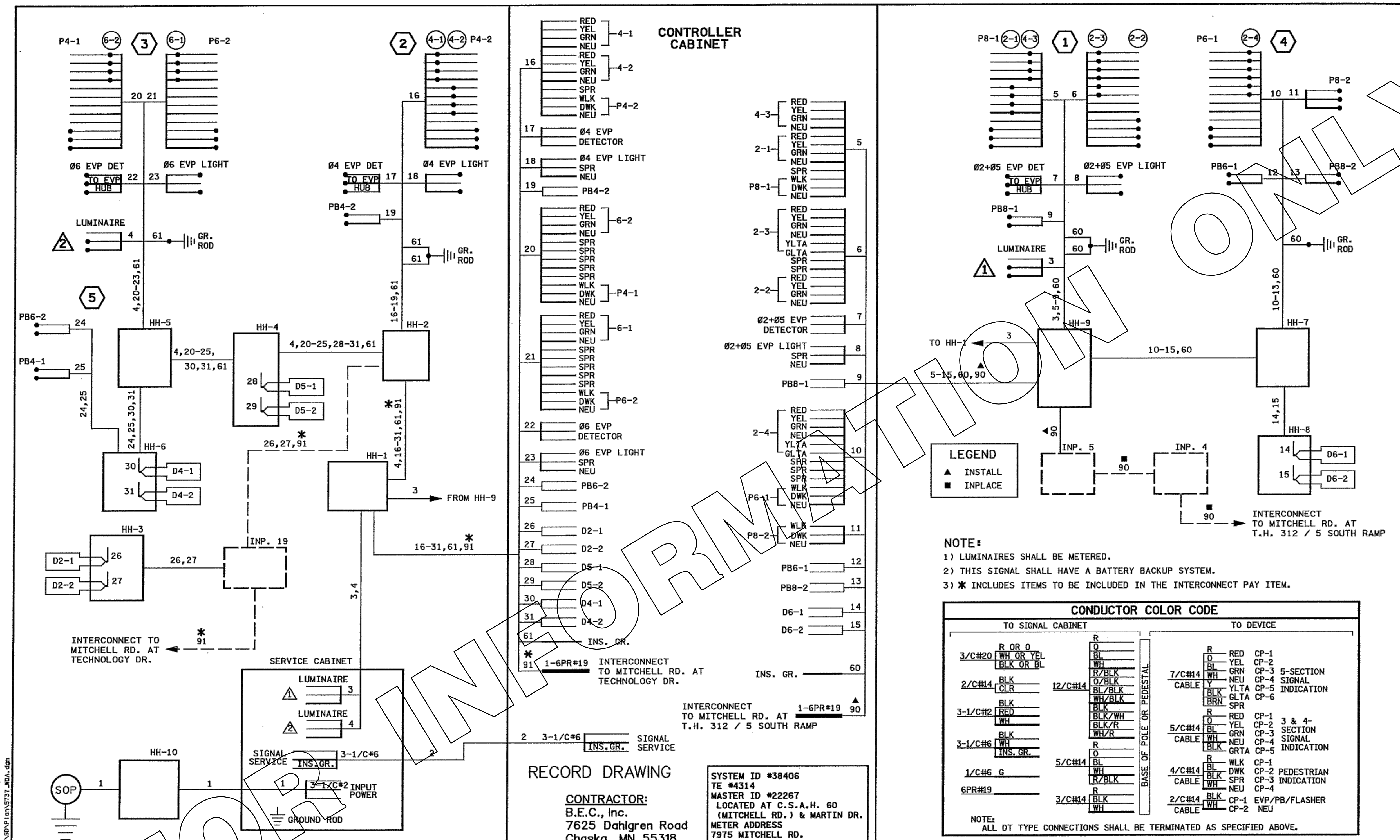
SRF Consulting Group, Inc.
PRELIMINARY ENGINEERING
METROPOLITAN COUNCIL
SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "C"

MITCHELL RD. AT LONE OAK RD.
FOR INFORMATION ONLY

DISCIPLINE: TRAFFIC
SHEET NAME: W1A-TRF-SIG-002-04

SHEET 102 OF 106



NOTE:
1) LUMINAIRES SHALL BE METERED.
2) THIS SIGNAL SHALL HAVE A BATTERY BACKUP SYSTEM.
3) * INCLUDES ITEMS TO BE INCLUDED IN THE INTERCONNECT PAY ITEM.

CONDUCTOR COLOR CODE

TO SIGNAL CABINET / TO DEVICE

Cable	Conductors	Device
3/C#20	R OR O, WH OR YEL, BLK OR BL	
2/C#14	BLK, CLR	
3-1/C#2	BLK, RED, WH	
3-1/C#6	BLK, WH, INS. GR.	
1/C#6	G	
6PR#19		
12/C#14	R, O, BL, WH, R/BLK, O/BLK, BL/BLK, WH/BLK, BLK, BLK/WH, BLK/R, WH/R	
5/C#14	R, O, BL, WH, R/BLK	
3/C#14	R, BLK, WH	
7/C#14 CABLE	R, O, BL, WH, Y, BLK, BRN	RED CP-1, YEL CP-2, GRN CP-3, NEU CP-4, YLTA CP-5, GLTA CP-6, SPR — 5-SECTION SIGNAL INDICATION
5/C#14 CABLE	R, O, BL, WH, BLK	RED CP-1, YEL CP-2, GRN CP-3, NEU CP-4, GRTA CP-5 — 3 & 4-SECTION SIGNAL INDICATION
4/C#14 CABLE	R, BL, BLK, WH	WLK CP-1, DWK CP-2, SPR CP-3, NEU CP-4 — PEDESTRIAN INDICATION
2/C#14 CABLE	BLK, WH	CP-1 EVP/PB/FLASHER, CP-2 NEU

BASE OF POLE OR PEDESTAL

NOTE:
ALL DT TYPE CONNECTIONS SHALL BE TERMINATED AS SPECIFIED ABOVE.

NO	DATE	BY	CKD	APPR	REVISION
1	8/3/07	DR	ASP	ASP	RECORD DRAWING

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota.
Print Name: BRIAN D. HOLT
Date 9/6/06 License # 21428

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: ADRIAN S. POTTER
Date 9/6/06 License # 42785

CITY PROJECT NO. 06-5675

DRAWN BY R. W. SMITH
DESIGNED BY R. W. SMITH
CHECKED BY A. POTTER
COMM. NO. 0065737

SRF CONSULTING GROUP, INC.

CITY OF EDEN PRAIRIE
FIELD WIRING DIAGRAM
MITCHELL RD. AT LONE OAK RD.

SHEET 9 OF 17

FOR INFORMATION ONLY

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PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A
TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "C"

MITCHELL RD. AT LONE OAK RD.
FOR INFORMATION ONLY

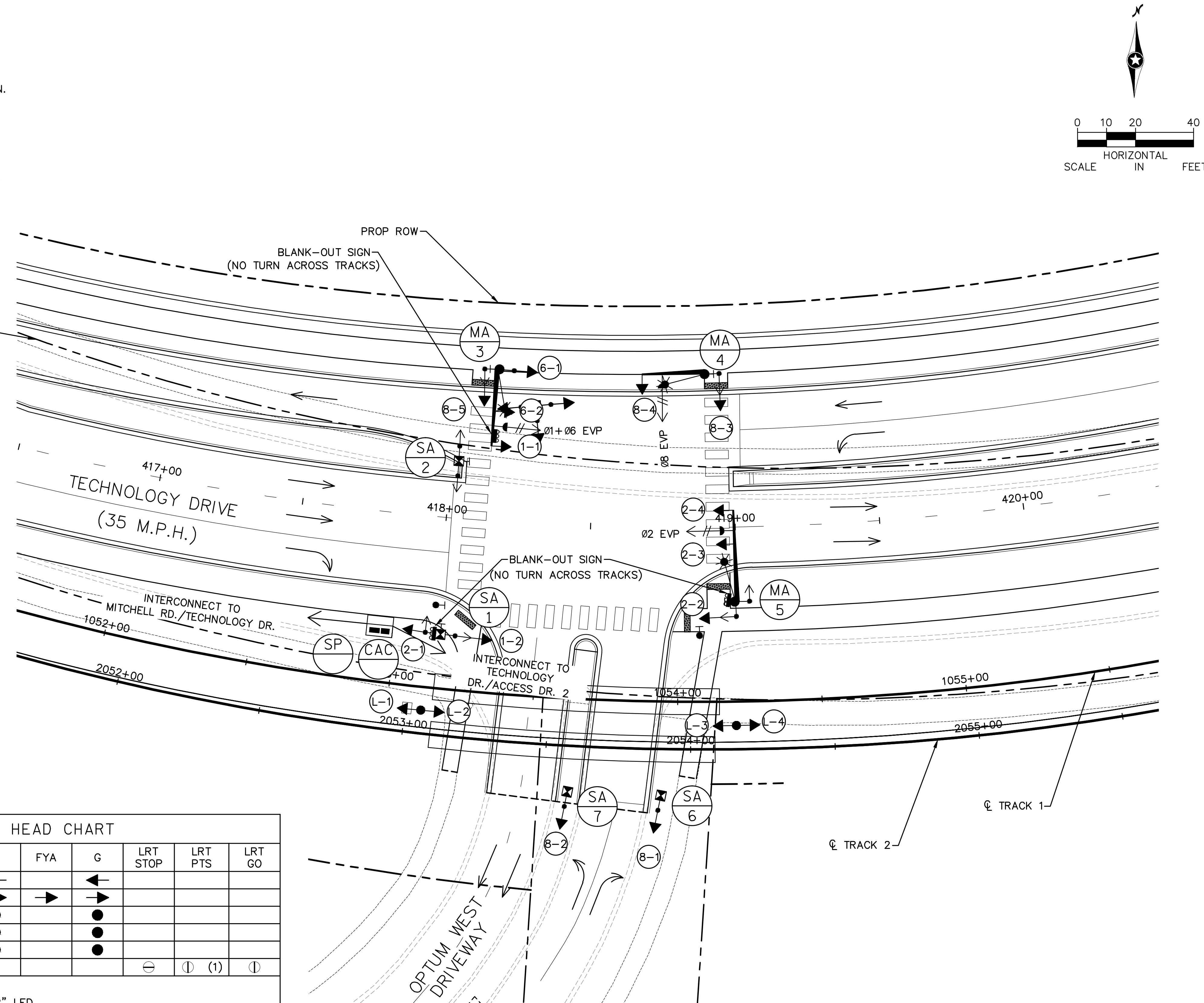
DISCIPLINE: TRAFFIC
SHEET NAME: W1A-TRF-SIG-002-05

NOTES:

1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNT DOWN TIMERS.
2. INTERCONNECT TO RAIL SIGNAL HOUSE TO BE ADDED ONCE RAIL SIGNAL HOUSE LOCATION IS DETERMINED. CONNECTION TO SIGNAL HOUSE TO PROVIDE LRT PREEMPTION.
3. CAC – CONTROLLER CABINET

   SP – SIGNAL SERVICE CABINET

   EQUIPMENT PAD LOCATION SUBJECT TO SOP LOCATING IN FINAL DESIGN.
4. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.

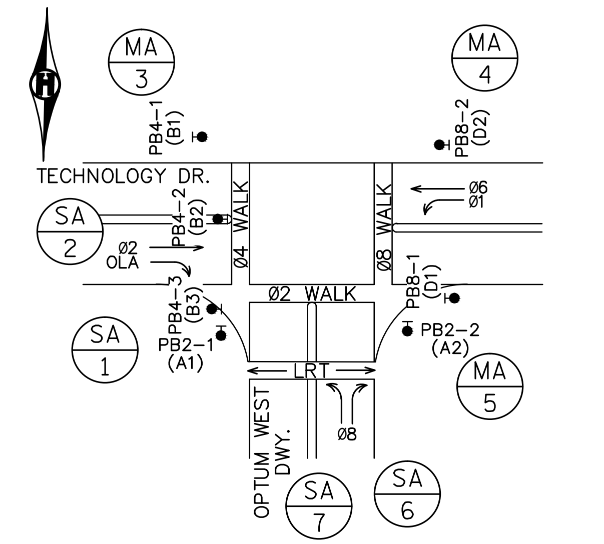


SIGNAL SYSTEM OPERATION

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- PHASES 2 AND 6 ARE ON VEHICLE SOFT RECALL.
- PHASE 1 IS A PROTECTED LEFT TURN PHASE.
- OVERLAP A = Ø2+Ø3 (Ø2 IS FYA, Ø3 IS GREEN ARROW). RED ARROW WHEN LRT IS PRESENT.
- LRT PREEMPTION WITHOUT TRACK CLEARANCE.

  APS ADDRESS LABELING:
  PHASE 2 = A
  PHASE 4 = B
  PHASE 8 = D

CONTROLLER PHASING LAYOUT
(NO SCALE)



SIGNAL HEAD CHART

FACE	R	Y	FYA	G	LRT STOP	LRT PTS	LRT GO
1-1,1-2	←	←		←			
2-1,2-2	→	→	→	→			
2-3,2-4	●	●		●			
6-1, 6-2	●	●		●			
8-1,8-2,8-3,8-4,8-5	●	●		●			
L-1,L-2,L-3,L-4					⊖	⦶ (1)	⦶

(1) FLASHING LRT GO SIGNAL
-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
-FYA DENOTES FLASHING YELLOW ARROW

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A

TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "D"

TECHNOLOGY DR. AT OPTUM WEST DWY.

DISCIPLINE: TRAFFIC

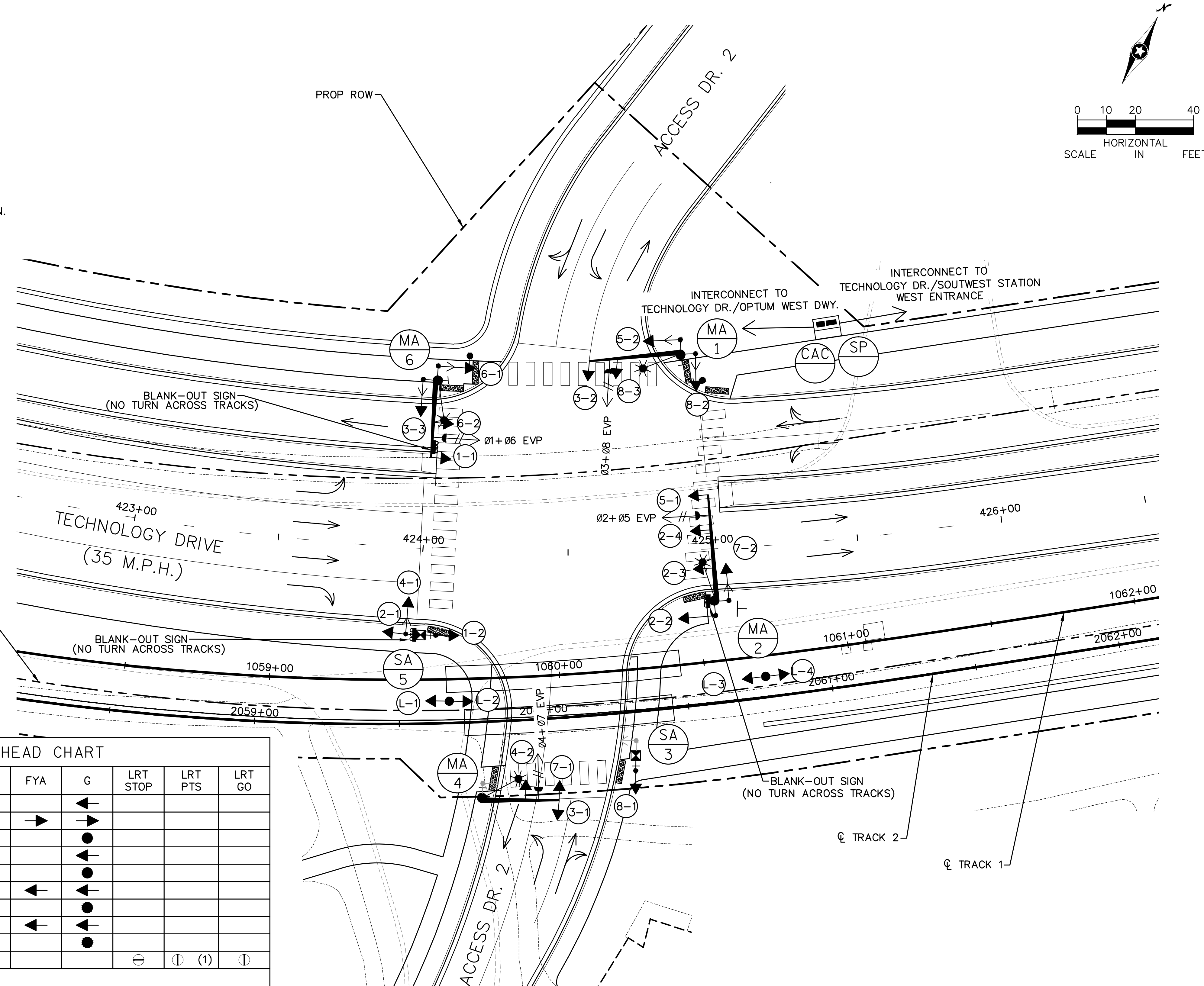
SHEET NAME: W1A-TRF-SIG-001-04

NOTES:

1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNT DOWN TIMERS.
2. INTERCONNECT TO RAIL SIGNAL HOUSE TO BE ADDED ONCE RAIL SIGNAL HOUSE LOCATION IS DETERMINED. CONNECTION TO SIGNAL HOUSE TO PROVIDE LRT PREEMPTION.
3. (CAC) – CONTROLLER CABINET

   (SP) – SIGNAL SERVICE CABINET

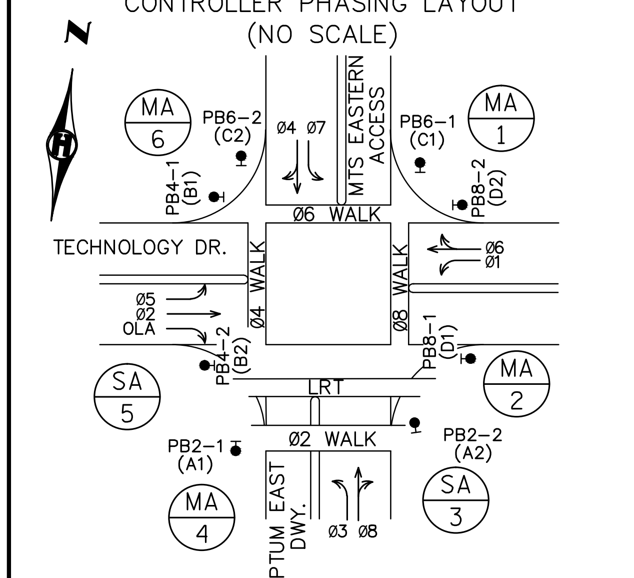
   EQUIPMENT PAD LOCATION SUBJECT TO SOP LOCATING IN FINAL DESIGN.
4. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.



SIGNAL SYSTEM OPERATION

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- PHASES 2 AND 6 ARE ON VEHICLE SOFT RECALL.
- PHASES 1 & 3 ARE PROTECTED LEFT TURN PHASES AND PHASES 5 & 7 ARE FLASHING YELLOW ARROW BY TIME OF DAY.
- OVERLAP A = Ø2+Ø3 (Ø2 IS FYA, Ø3 IS GREEN ARROW). RED ARROW WHEN LRT IS PRESENT.
- LRT PREEMPTION WITHOUT TRACK CLEARANCE.
  APS ADDRESS LABELING:
  PHASE 2 = A
  PHASE 4 = B
  PHASE 6 = C
  PHASE 8 = D

CONTROLLER PHASING LAYOUT
(NO SCALE)



SIGNAL HEAD CHART

FACE	R	Y	FYA	G	LRT STOP	LRT PTS	LRT GO
1-1,1-2	←	←		←			
2-1,2-2	→	→	→	→			
2-3,2-4	●	●		●			
3-1,3-2,3-3	←	←		←			
4-1,4-2	●	●		●			
5-1,5-2	←	←	←	←			
6-1,6-2	●	●		●			
7-1,7-2	←	←	←	←			
8-1,8-2,8-3	●	●		●			
L-1,L-2,L-3,L-4					⊖	⦶ (1)	⦶

(1) FLASHING LRT GO SIGNAL
- ALL SIGNAL INDICATIONS SHALL BE 12" LED
- ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
- FYA DENOTES FLASHING YELLOW ARROW

Aug. 28 2014 09:02 am H:\Projects\7984\3200_PEC-W\CAD\SEGMENT-W1A\SHEET\W1A-TFC-SIG-001.dwg By: bbetts

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM

SRF Consulting Group, Inc.

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A

TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "E"

TECHNOLOGY DR. AT ACCESS DR. 2

DISCIPLINE: TRAFFIC

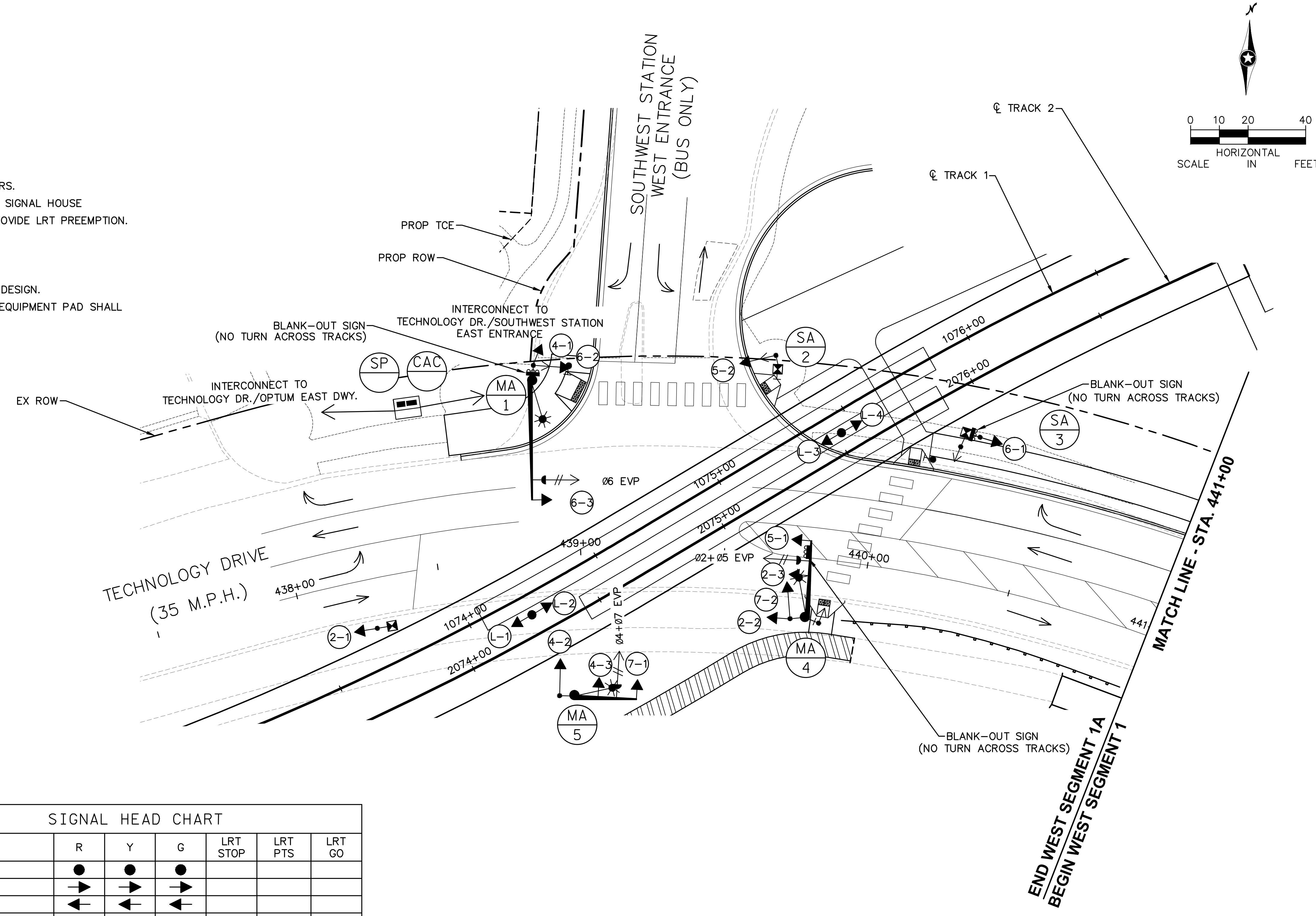
SHEET NAME: W1A-TRF-SIG-001-05

NOTES:

1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNT DOWN TIMERS.
2. INTERCONNECT TO RAIL SIGNAL HOUSE TO BE ADDED ONCE RAIL SIGNAL HOUSE LOCATION IS DETERMINED. CONNECTION TO SIGNAL HOUSE TO PROVIDE LRT PREEMPTION.
3. (CAC) – CONTROLLER CABINET

   (SP) – SIGNAL SERVICE CABINET

   EQUIPMENT PAD LOCATION SUBJECT TO SOP LOCATING IN FINAL DESIGN.
4. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.

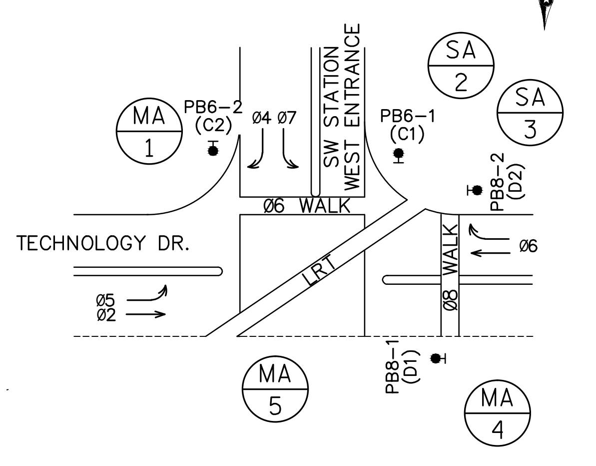


SIGNAL SYSTEM OPERATION

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- PHASES 2 AND 6 ARE ON VEHICLE SOFT RECALL.
- PHASES 5 & 7 ARE PROTECTED LEFT TURN PHASES.
- LRT PREEMPTION WITHOUT TRACK CLEARANCE.

APS ADDRESS LABELING:
PHASE 6 = C
PHASE 8 = D

CONTROLLER PHASING LAYOUT
(NO SCALE)



SIGNAL HEAD CHART

FACE	R	Y	G	LRT STOP	LRT PTS	LRT GO
2-1,2-2,2-3	●	●	●			
4-1,4-2,4-3	→	→	→			
5-1,5-2	←	←	←			
6-1,6-2,6-3	●	●	●			
7-1,7-2	←	←	←			
L-1,L-2,L-3,L-4				⊖	⦶ (1)	⦶

(1) FLASHING LRT GO SIGNAL
-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

PRELIMINARY ENGINEERING

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

WEST-VOLUME 1 (CIVIL)-SEGMENT 1A

TRAFFIC SIGNAL PLANS-SIGNAL SYSTEM "F" TECHNOLOGY DR. AT SW STATION WEST ENTRANCE

DISCIPLINE: TRAFFIC

SHEET NAME: W1A-TRF-SIG-001-06

SHEET 106 OF 106