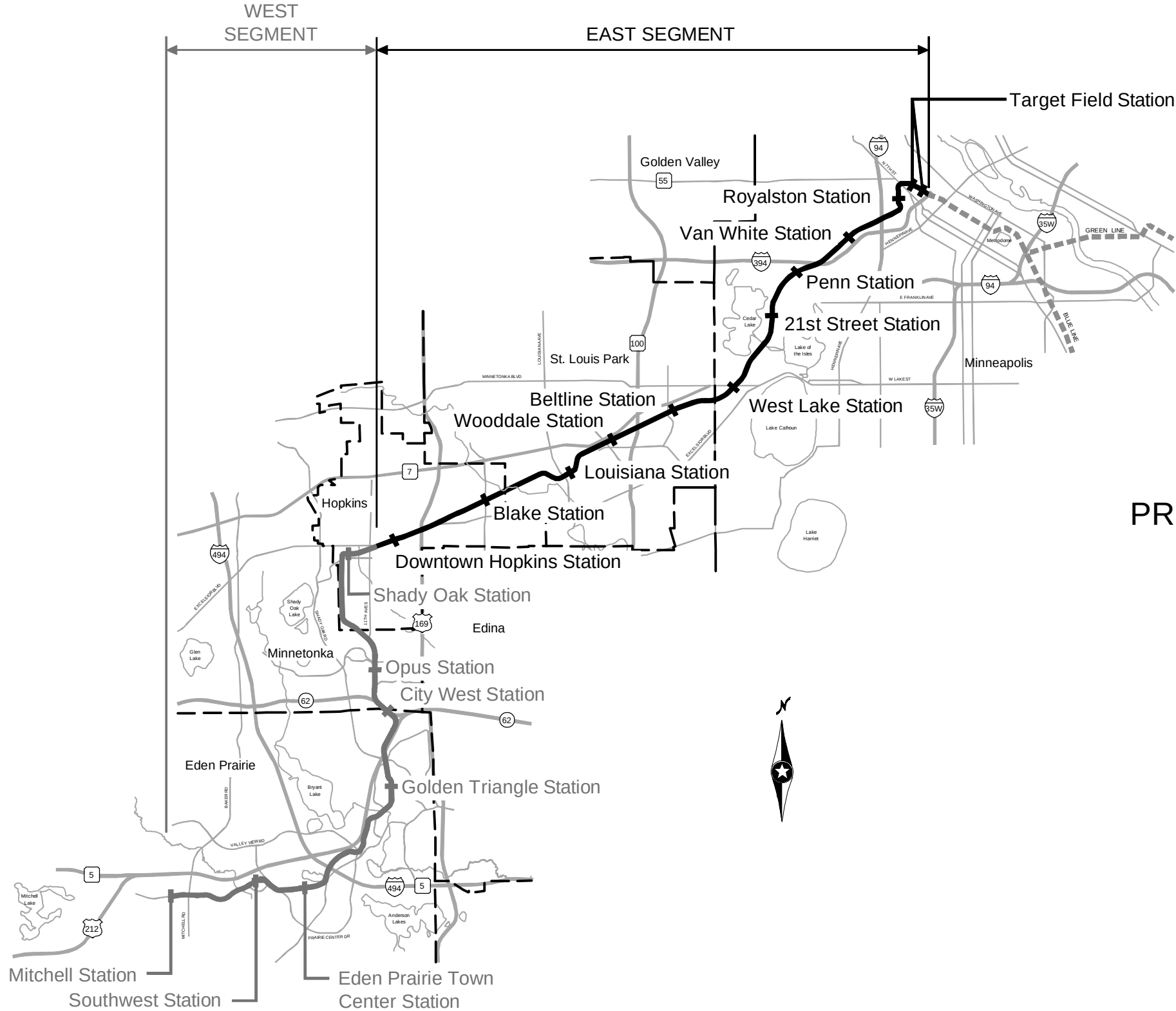




EAST - VOLUME 1
(CIVIL) - SEGMENT 3
PRELIMINARY ENGINEERING (SEPTEMBER 2014)

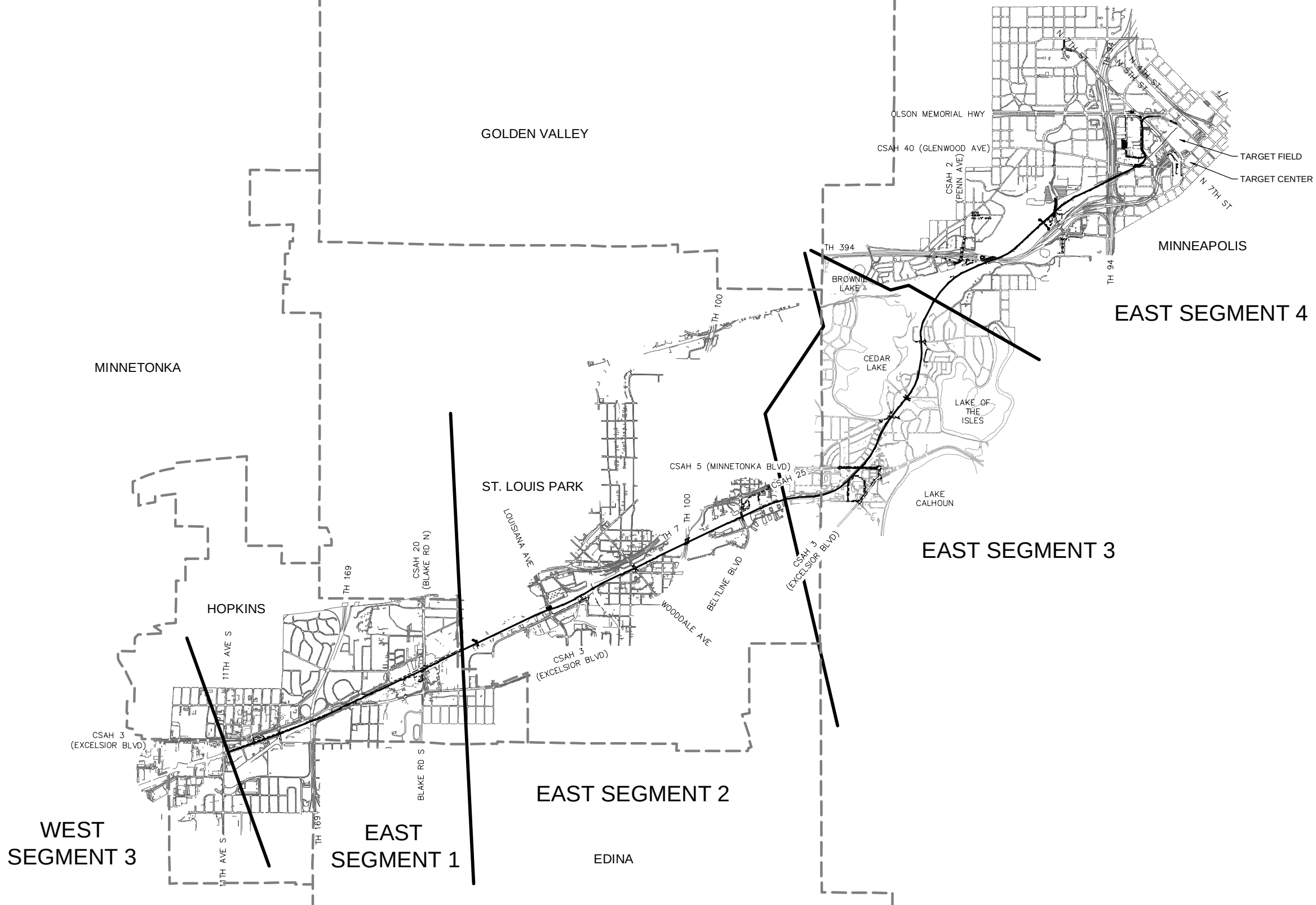


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PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
GENERAL
SEGMENT KEY MAP

DISCIPLINE: GENERAL

SHEET NAME:
E3-GEN-KEY-001

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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. 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 MFRA, INC.
3. HORIZONTAL POSITIONAL ACCURACY: USING THE NATIONAL STANDARD FOR SPATIAL DATA ACCURACY, THE DATA SET TESTED 0.14 FEET HORIZONTAL ACCURACY AT A 95% CONFIDENCE LEVEL.
4. VERTICAL POSITIONAL ACCURACY: USING THE NATIONAL STANDARD FOR SPATIAL DATA ACCURACY, THE DATA SET TESTED 0.10 FEET VERTICAL ACCURACY AT 95% CONFIDENCE LEVEL.

TOPOGRAPHIC SYMBOLS

- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- SANITARY CLEANOUT
- WATER MANHOLE
- WATER GATE VALVE MANHOLE
- WATER VALVE
- WATER METER
- CORP STOP
- HYDRANT
- ELECTRIC METER
- ELECTRIC TRANSFORMER
- ELECTRIC PANEL
- ELECTRIC MANHOLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- TRAFFIC SIGNAL
- LIGHT POLE
- HAND HOLE (STRUCTURE)
- CABLE TELEVISION
- COMMUNICATION STRUCTURE
- TELEPHONE STRUCTURE
- TELEPHONE MANHOLE
- FIBER OPTIC MANHOLE
- UTILITY POLE
- UTILITY POLE W/LIGHT
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- LIGHT POLE
- CAMERA
- MONITOR WELL
- BOLLARD
- SIGN
- FLAG POLE
- UNIDENTIFIED STRUCTURE
- EXISTING DIRECTIONAL LANE USE
- EXISTING SIGNALIZED INTERSECTION
- SURVEY CONTROL STATION

LINETYPES

- 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
- I

WATER
- SANITARY SEWER
- SANITARY FORCE MAIN
- STORM SEWER
- CURB AND GUTTER
- x

FENCE
- GUARDRAIL
- WALK
- BUILDING
- RIGHT-OF-WAY
- PROPERTY LINE
- CENTERLINE OF RAIL
- CENTERLINE OF TRAIL
- VEGETATION
- WATER BODY

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
CL	CENTERLINE
CP	CANADIAN PACIFIC
CPRAIL	CANADIAN PACIFIC RAILWAY
CSAH	COUNTY STATE AID HIGHWAY
EB	EAST BOUND
EX	EXISTING
HCRRRA	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

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

PRELIMINARY ENGINEERING

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
EXISTING CONDITIONS
NOTES AND LEGEND

DISCIPLINE: SURVEY

SHEET NAME: E3-SUR-NTS-001

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<u>SWLRT – SURVEY CONTROL STATIONS</u>				
Point #	Elevation	Northing	Easting	Description
50	925.20	147803.72	492997.59	NAIL IN WALK
51	924.63	147296.86	493041.40	1/2" PIPE W/ CAP
52	920.12	147457.54	493444.91	1/2" PIPE W/ CAP
53	918.88	149783.11	499410.13	SPIKE IN CONC.ISLAND
54	916.30	150249.30	499454.07	SPIKE IN WALK
55	914.34	150598.24	499375.94	SPIKE IN WALK
56	892.05	151747.10	504275.16	MAG NAIL IN BIT. ISLAND
57	893.52	152551.75	503890.55	NAIL IN CONC. ISLAND
58	912.16	153153.46	505103.84	1/2" PIPE W/ CAP
60	922.10	153902.36	506943.04	SPIKE IN WALK
61	914.44	153987.80	507459.25	TOP NUT HYDRANT
62	887.15	155207.09	511406.17	SPIKE IN WALK
63	888.82	155735.94	511126.66	MAG NAIL IN BIT. ISLAND
64	880.03	156199.11	511320.88	CP 64
65	874.88	156748.13	515073.56	TOP NUT HYDRANT
66	871.15	157066.04	515500.10	1/2" PIPE W/ CAP
67	900.57	157332.41	515573.29	MAG NAIL IN WALK
68	873.41	162065.52	517921.22	SPIKE IN CONC.
69	894.70	160820.23	517681.87	SPIKE IN CONC.
70	883.87	162053.75	518233.43	SPIKE IN CONC.

<u>SWLRT – SURVEY CONTROL STATIONS</u>				
Point #	Elevation	Northing	Easting	Description
150	866.11	160525.63	517639.90	MAG NAIL IN BIT. PATH
151	865.64	160775.49	517820.23	SPIKE
152	868.02	160196.77	517477.76	SPIKE IN BIT. PATH
153	823.10	168151.98	525117.22	MAG NAIL IN BIT. PATH
154	838.49	166512.10	522182.52	DRILL HOLE IN CONC.
155	841.33	166200.34	522480.63	DRILL HOLE IN CONC.
156	823.27	168187.84	525166.47	MAG NAIL IN BIT. PATH
157	822.30	168084.12	524994.65	MAG NAIL IN BIT. PATH
158	822.56	168015.53	524875.04	MAG NAIL IN BIT.
159	822.72	167933.08	524729.12	MAG NAIL IN BIT.
162	822.47	168430.42	525688.95	MAG NAIL IN BIT. PATH
163	822.94	168527.62	525863.31	MAG NAIL IN BIT. PATH
165	914.95	153502.80	505502.55	1/2" PIPE W/ CAP
167	899.33	151921.95	505886.04	1/2" PIPE W/ CAP
170	912.98	152946.50	505533.45	MAG NAIL IN BIT PATH
175	896.03	152982.35	505138.46	MAG NAIL IN BIT.
176	886.84	155760.74	511408.49	MAG NAIL IN BIT. PATH
177	887.43	156091.81	512264.50	MAG NAIL IN BIT. PATH
178	842.85	168825.29	526461.70	1/2" PIPE W/ CAP
179	885.66	156282.82	513324.58	MAG NAIL IN BIT. PATH

<u>SWLRT – SURVEY CONTROL STATIONS</u>				
Point #	Elevation	Northing	Easting	Description
71	883.87	164784.02	518990.60	1/2" PIPE W/ CAP
72	878.63	165010.99	519354.33	MAG NAIL IN CONC.
73	868.05	164981.51	519784.70	MAG NAIL IN PED BRIDGE
74	822.45	167691.23	523787.15	1/2" PIPE W/ CAP
76	819.93	167634.47	523653.72	IRON PIPE
77	849.53	168719.56	526300.32	1/2" PIPE W/ CAP
78	851.67	168845.25	526108.98	1/2" PIPE W/ CAP
79	837.08	168863.92	525748.91	MAG NAIL IN WALK
80	923.03	148003.36	495053.47	LARGE SPIKE
81	922.07	147981.12	495437.89	LARGE SPIKE
82	832.55	170339.14	525851.45	MAG NAIL IN WALK
83	828.36	170329.54	525453.40	SPIKE IN BACK OF CURB
84	844.15	168518.87	525610.67	SPIKE IN WALK
85	922.35	148080.97	495381.24	MAG NAIL IN BIT. PATH
86	874.55	157268.46	515433.01	MAG NAIL IN BIT PATH
87	864.02	161338.52	517727.72	MAG NAIL IN BIT. PATH
88	865.88	160917.15	517712.96	MAG NAIL IN BIT PATH
89	848.56	164900.15	519989.73	MAG NAIL IN BIT PATH
90	840.08	165195.52	520795.95	MAG NAIL IN BIT PATH
91	843.57	165063.04	520475.13	MAG NAIL IN BIT. PATH

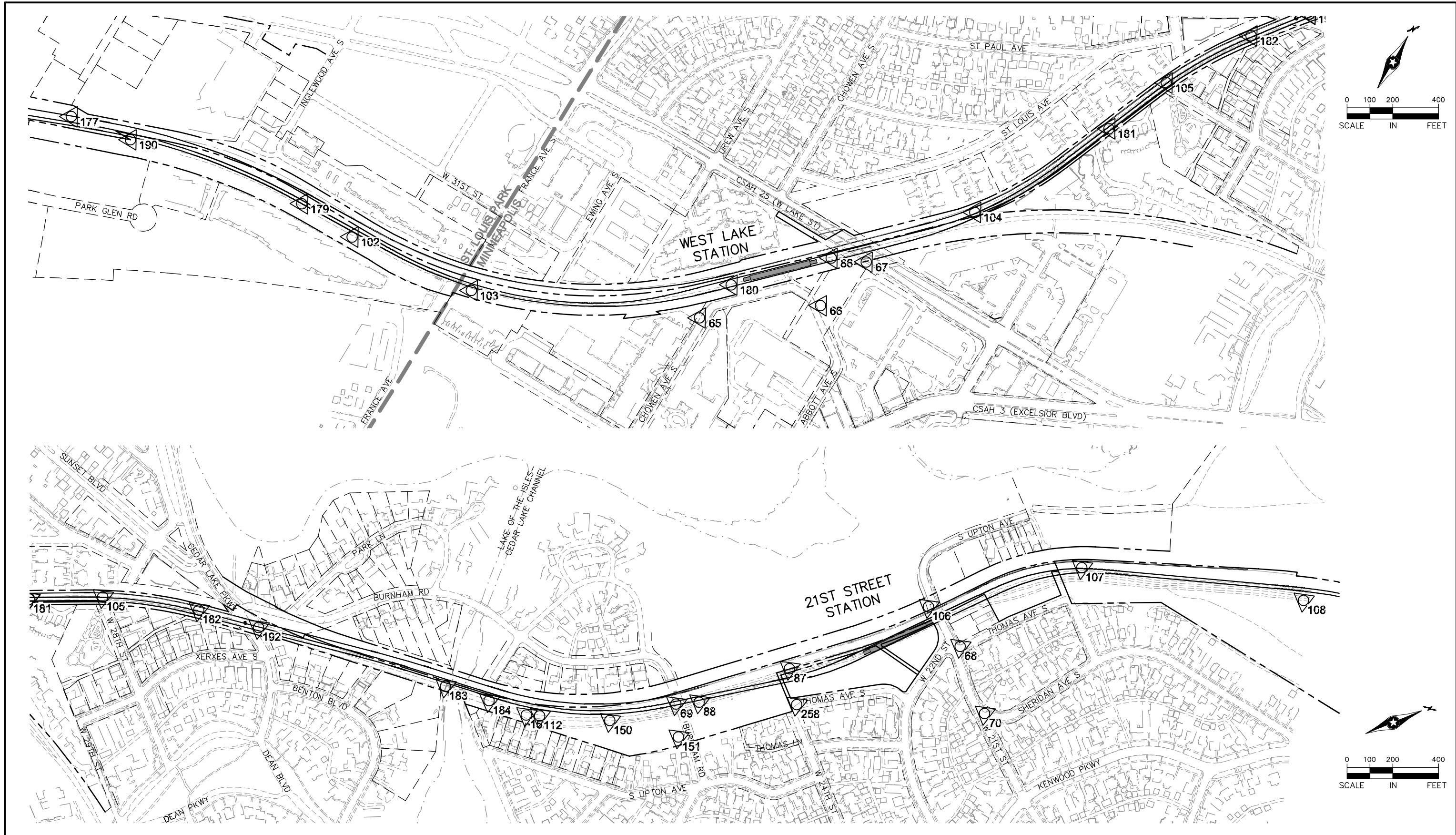
<u>SWLRT – SURVEY CONTROL STATIONS</u>				
Point #	Elevation	Northing	Easting	Description
180	875.87	156943.11	515118.61	MAG NAIL IN BIT. PATH
181	874.01	158378.12	516184.61	MAG NAIL IN BIT PATH
182	872.80	159045.47	516509.37	SPIKE
183	869.09	159916.74	517227.56	MAG NAIL IN BIT. PATH
184	867.99	160069.02	517359.05	MAG NAIL IN BIT. PATH
185	830.32	169979.72	525948.03	SPIKE
188	921.26	148272.10	495855.92	MAG NAIL IN BIT. PATH
190	887.63	156137.69	512537.72	ROD INSIDE 2" PIPE
192	872.56	159258.76	516679.66	MAG NAIL IN BIT. PATH
193	856.58	164153.67	518695.30	1/2" PIPE W/ CAP
254	827.47	170118.88	525333.75	1/2" PIPE W/CAP
255	826.29	169791.42	525397.27	1/2" PIPE W/CAP
256	831.56	170382.26	525636.60	1/2" PIPE W/CAP
257	842.02	168796.94	525927.78	1/2" PIPE W/CAP
258	869.92	161307.56	517884.90	1/2" PIPE W/CAP
259	874.83	165634.38	519336.38	1/2" PIPE W/CAP
260	807.50	168457.50	522736.13	1/2" PIPE W/CAP
261	808.88	168184.26	522715.29	1/2" PIPE W/CAP
262	815.45	169010.87	522690.77	1/2" PIPE W/CAP
263	814.97	169368.54	522785.88	1/2" PIPE W/CAP

<u>SWLRT – SURVEY CONTROL STATIONS</u>				
Point #	Elevation	Northing	Easting	Description
94	923.38	148101.27	495311.47	LARGE SPIKE
95	887.47	152190.79	504031.01	LARGE SPIKE
96	913.20	150917.04	501306.42	MAG NAIL IN BIT.
97	912.78	150966.60	501408.21	MAG NAIL IN BIT.
98	853.64	164593.72	519411.98	MAG NAIL IN BIT. PATH
99	920.01	148504.58	496237.41	MAG NAIL IN BIT.
100	921.79	148866.38	496673.90	MAG NAIL IN BIT. PATH
101	886.78	155648.11	511235.02	1/2" PIPE W/ CAP
102	883.42	156272.14	513588.70	1/2" PIPE W/ CAP
103	880.40	156338.34	514155.56	1/2" PIPE W/ CAP
104	871.62	157762.81	515869.76	1/2" PIPE W/ CAP
105	873.75	158678.79	516297.37	MAG NAIL IN BIT. PATH
106	866.40	162004.27	517707.75	1/2" PIPE W/ CAP
107	868.12	162688.55	517804.72	1/2" PIPE W/ CAP
108	861.02	163531.76	518305.19	SPIKE IN BIT. PATH
112	867.26	160249.76	517503.88	MAG NAIL IN BIT PATH
113	876.37	164973.60	519008.24	CUT CROSS IN CONC. ISLAND
115	880.49	165191.46	518300.44	1/2" PIPE W/CAP
116	880.52	165378.10	519337.76	MAG NAIL IN WALK
117	872.67	165140.44	518963.43	1/2" PIPE W/ CAP

<u>SWLRT – SURVEY CONTROL STATIONS</u>				
Point #	Elevation	Northing	Easting	Description
264	823.85	166431.61	522798.47	1/2" PIPE W/CAP
265	820.15	166071.49	523088.01	1/2" PIPE W/CAP
266	820.90	165962.80	523328.89	1/2" PIPE W/CAP
267	816.84	165949.34	523748.73	1/2" PIPE W/CAP

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**METROPOLITAN**
COUNCIL

**SOUTHWEST**
Green Line LRT Extension

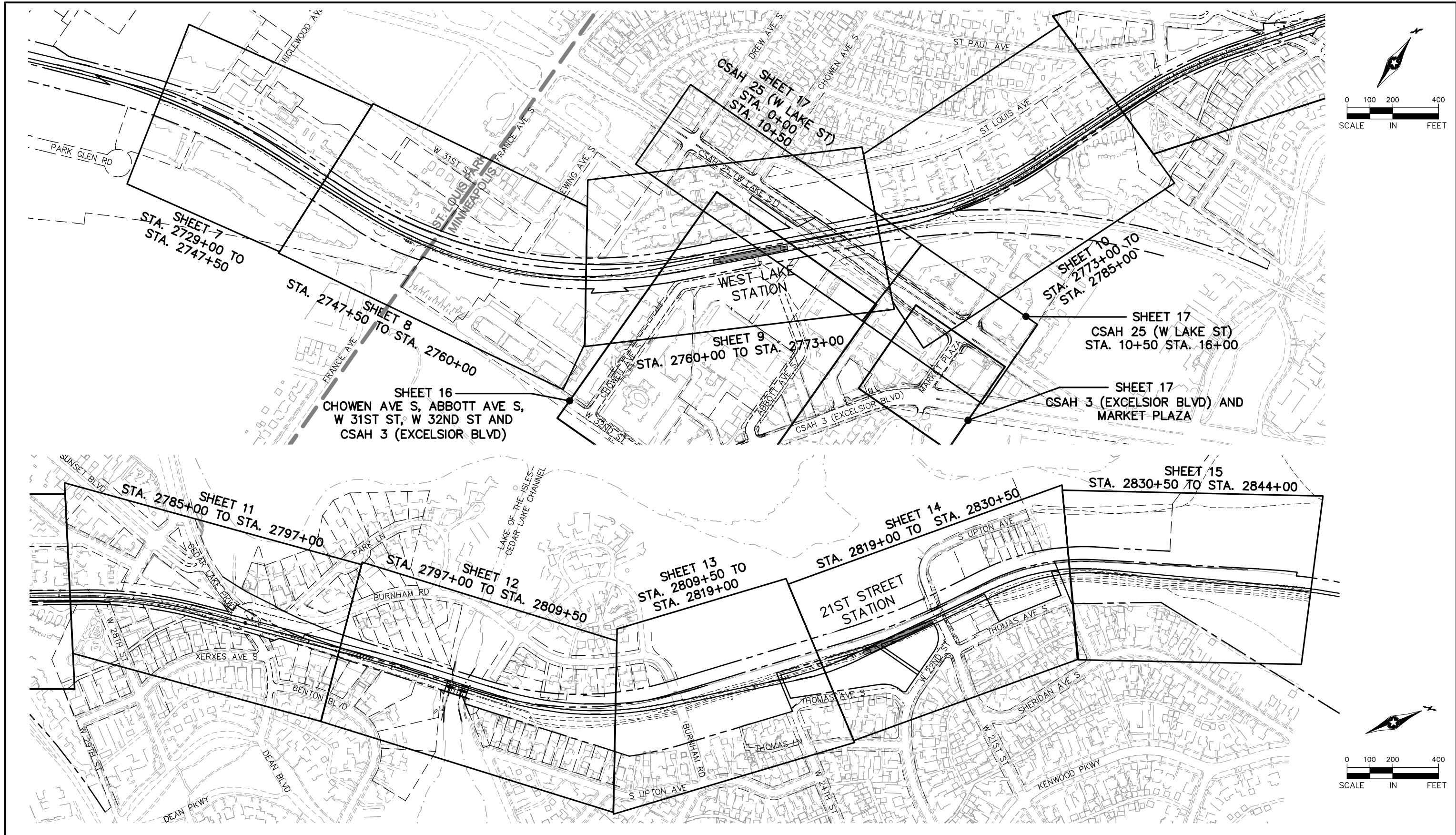
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
EXISTING CONDITIONS
CONTROL POINT PLAN

DISCIPLINE:
SURVEY

SHEET NAME:
E3-SUR-CTRL-001

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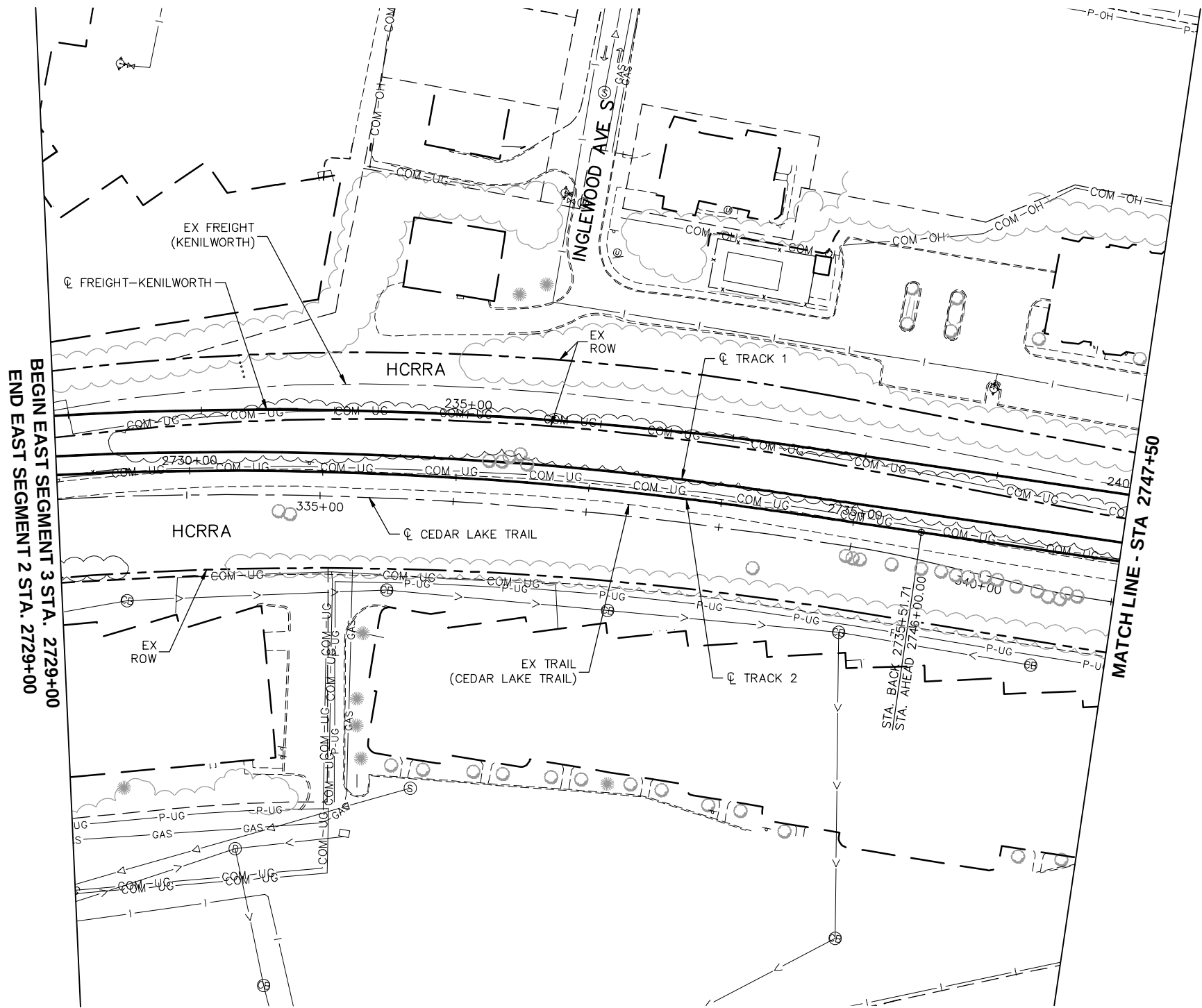
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EXISTING CONDITIONS
SHEET INDEX

DISCIPLINE: SURVEY

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METROPOLITAN
COUNCIL



SOUTHWEST
Green Line LRT Extension

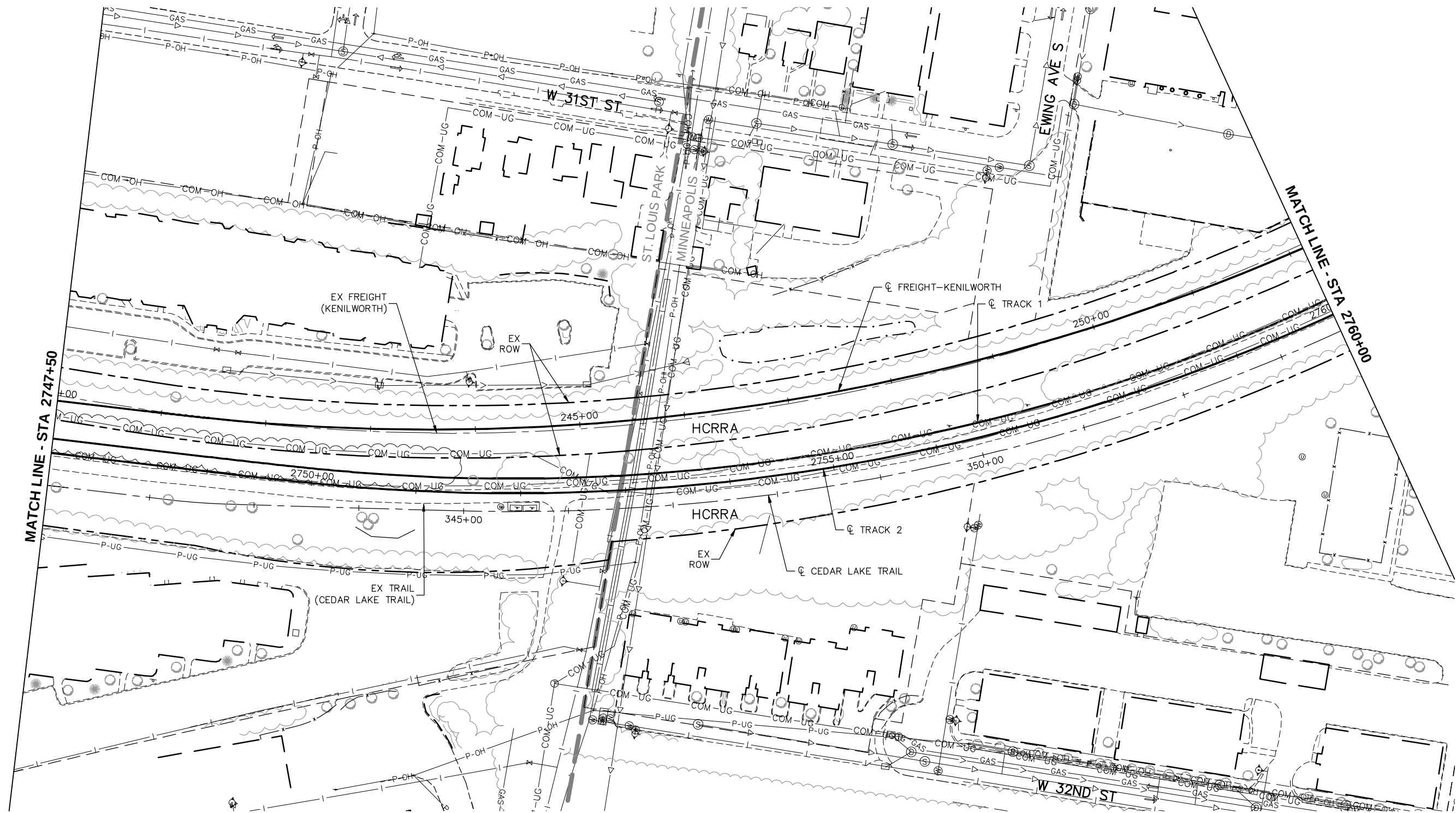
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EXISTING CONDITIONS
PLAN
STA 2729+00 TO STA 2747+50

DISCIPLINE: **SURVEY**

SHEET NAME: **E3-SUR-PLN-001**

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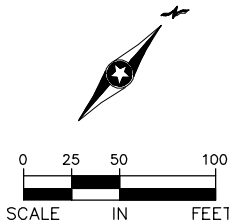
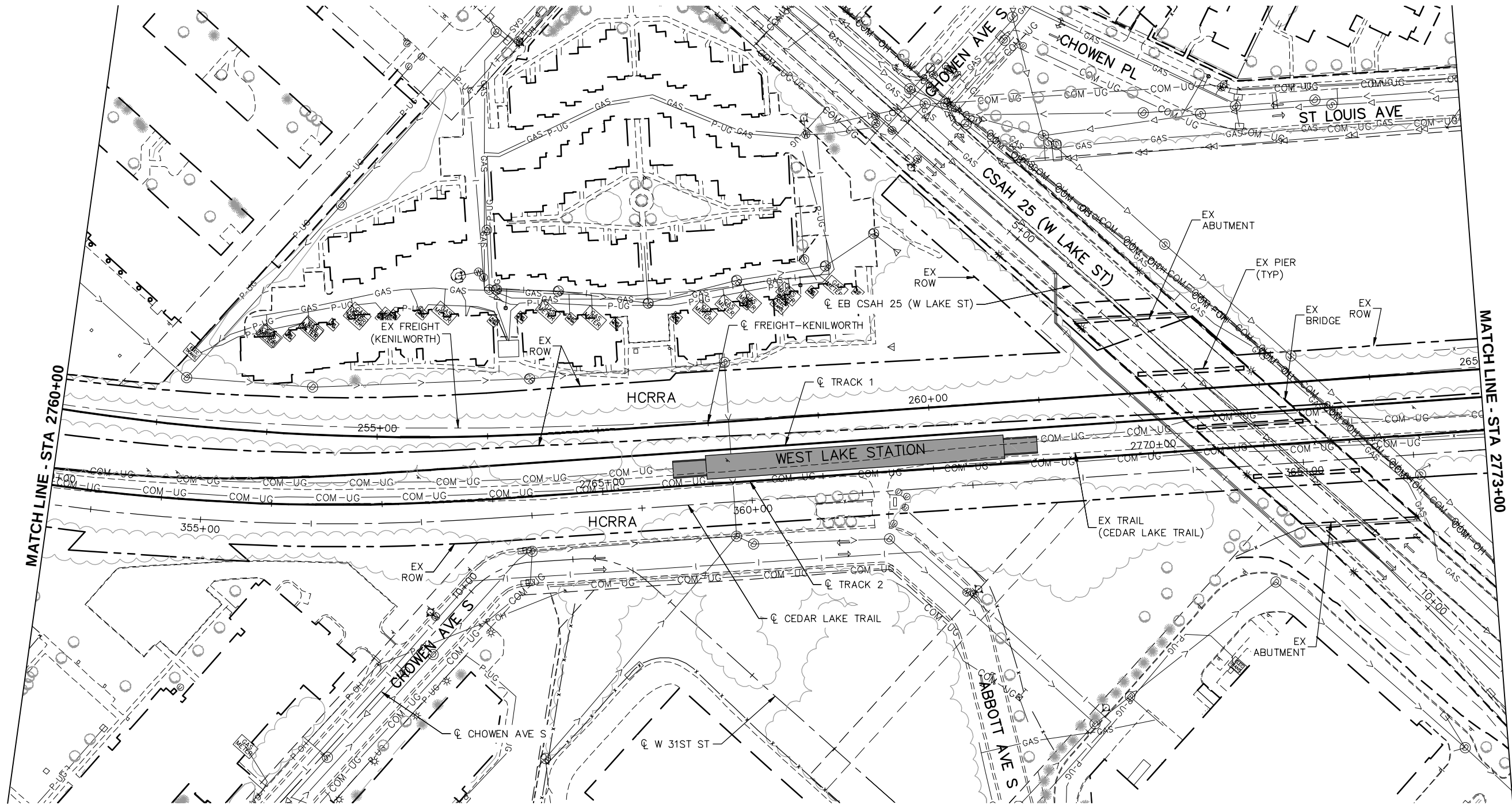
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EXISTING CONDITIONS
PLAN
STA 2747+50 TO STA 2760+00

DISCIPLINE: SURVEY

SHEET NAME: E3-SUR-PLN-002

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PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3

EXISTING CONDITIONS

PLAN

STA 2760+00 TO STA 2773+00

DISCIPLINE: **SURVEY**

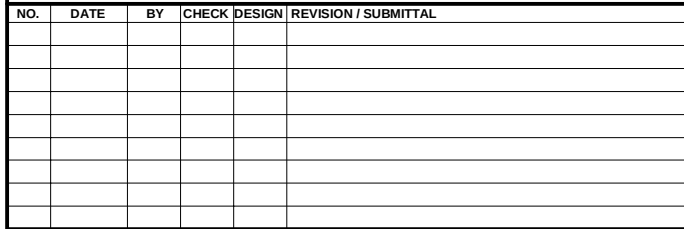
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PRELIMINARY ENGINEERING

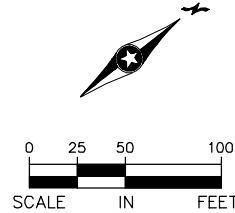
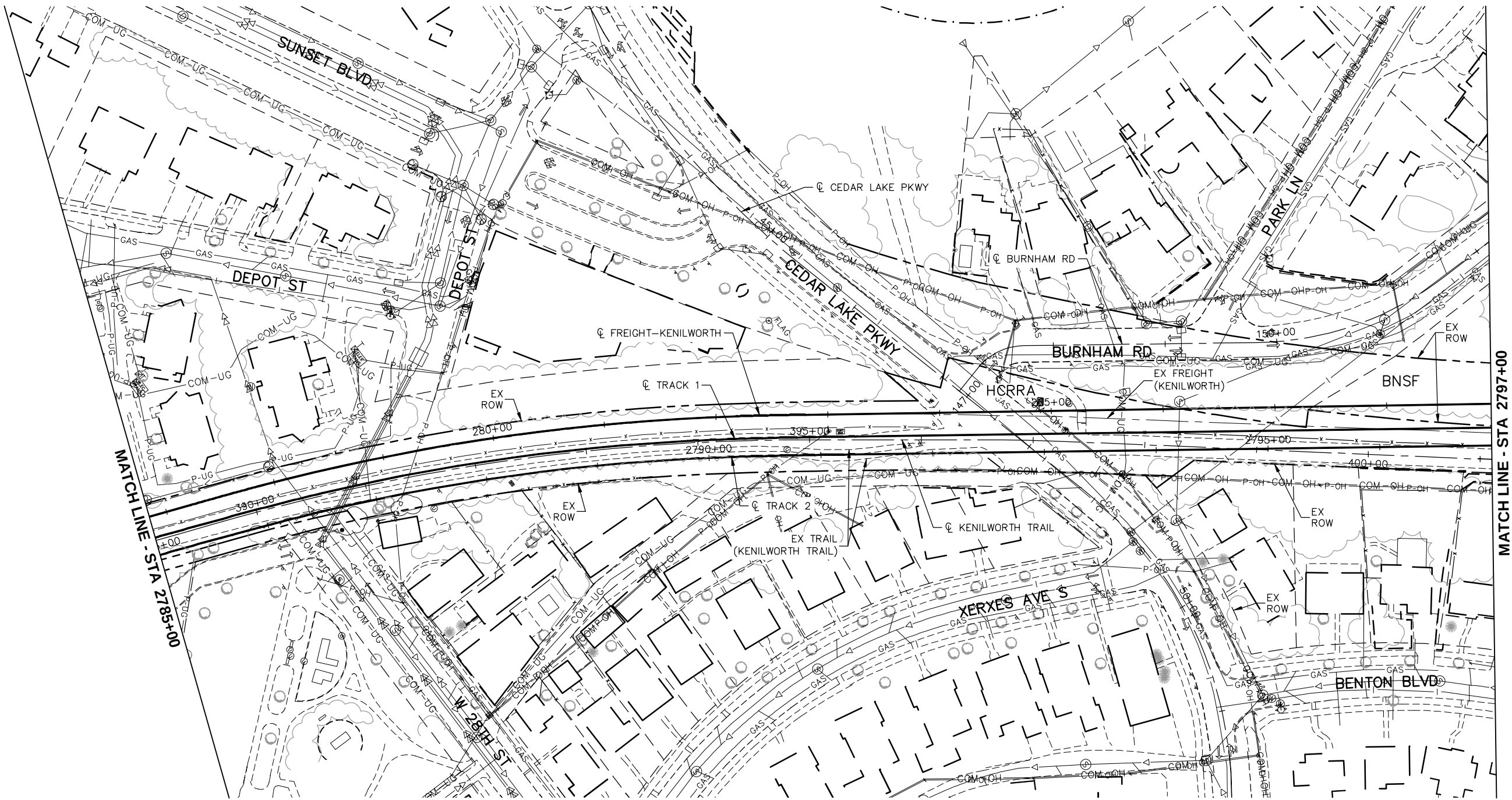


DISCIPLINE: **SURVEY**

SHEET NAME:	E3-SUR-PLN-004
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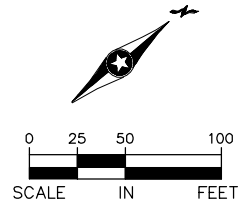
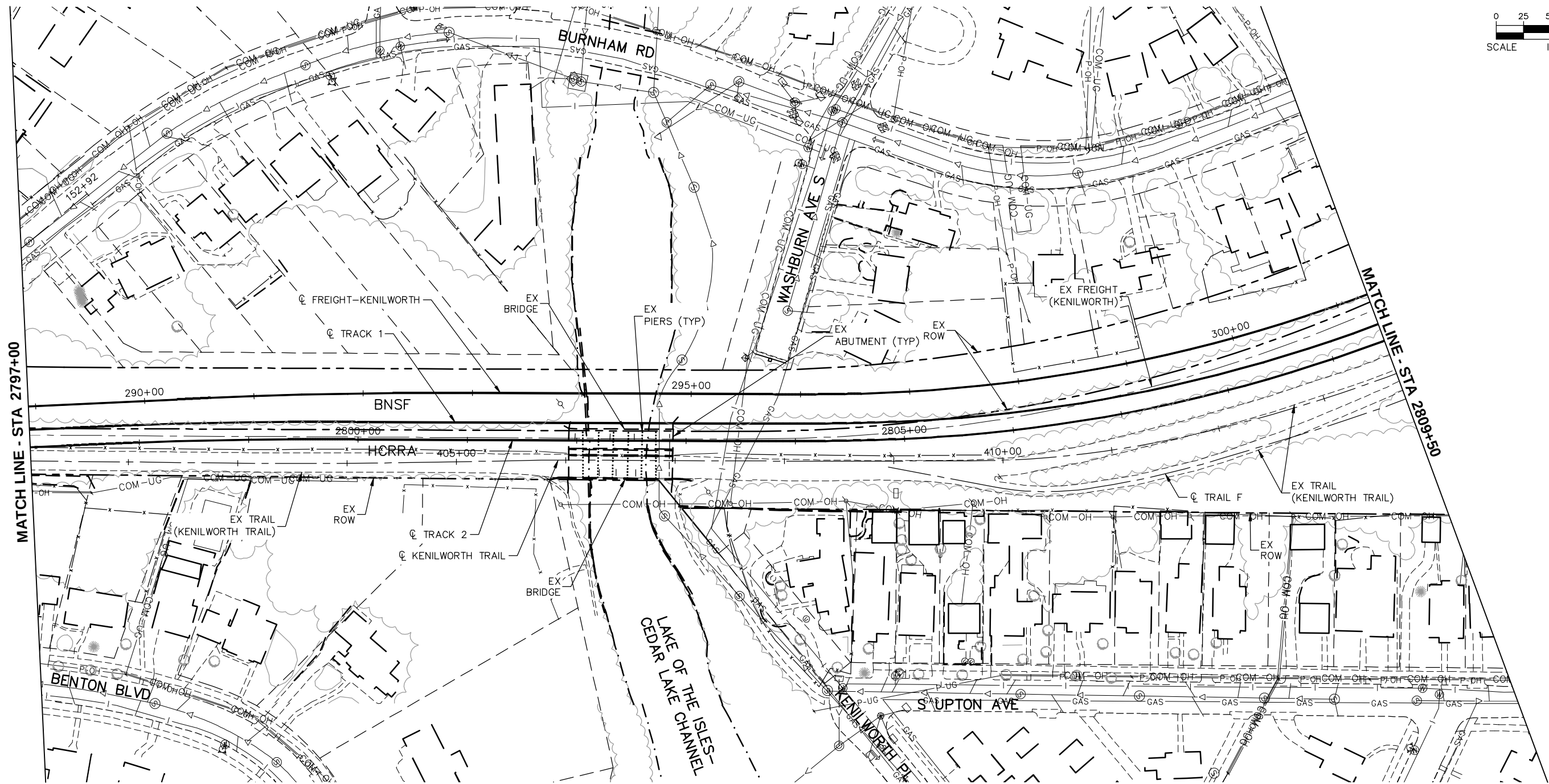
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EXISTING CONDITIONS
PLAN
STA 2785+00 TO STA 2797+00

DISCIPLINE: **SURVEY**

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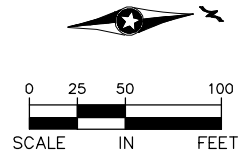
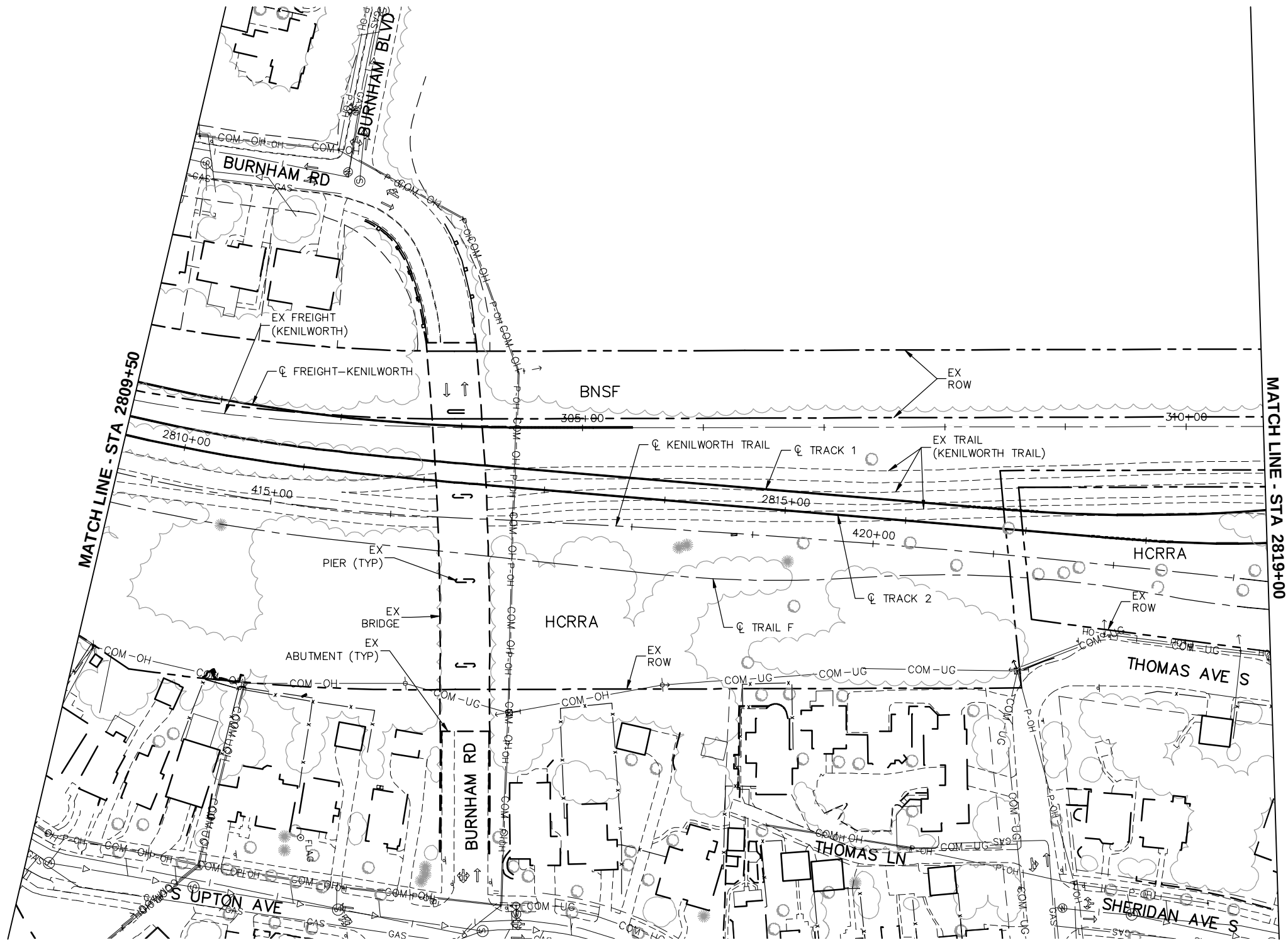
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
EXISTING CONDITIONS
PLAN
STA 2797+00 TO STA 2809+50

DISCIPLINE: SURVEY

SHEET NAME: E3-SUR-PLN-006

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PRELIMINARY ENGINEERING

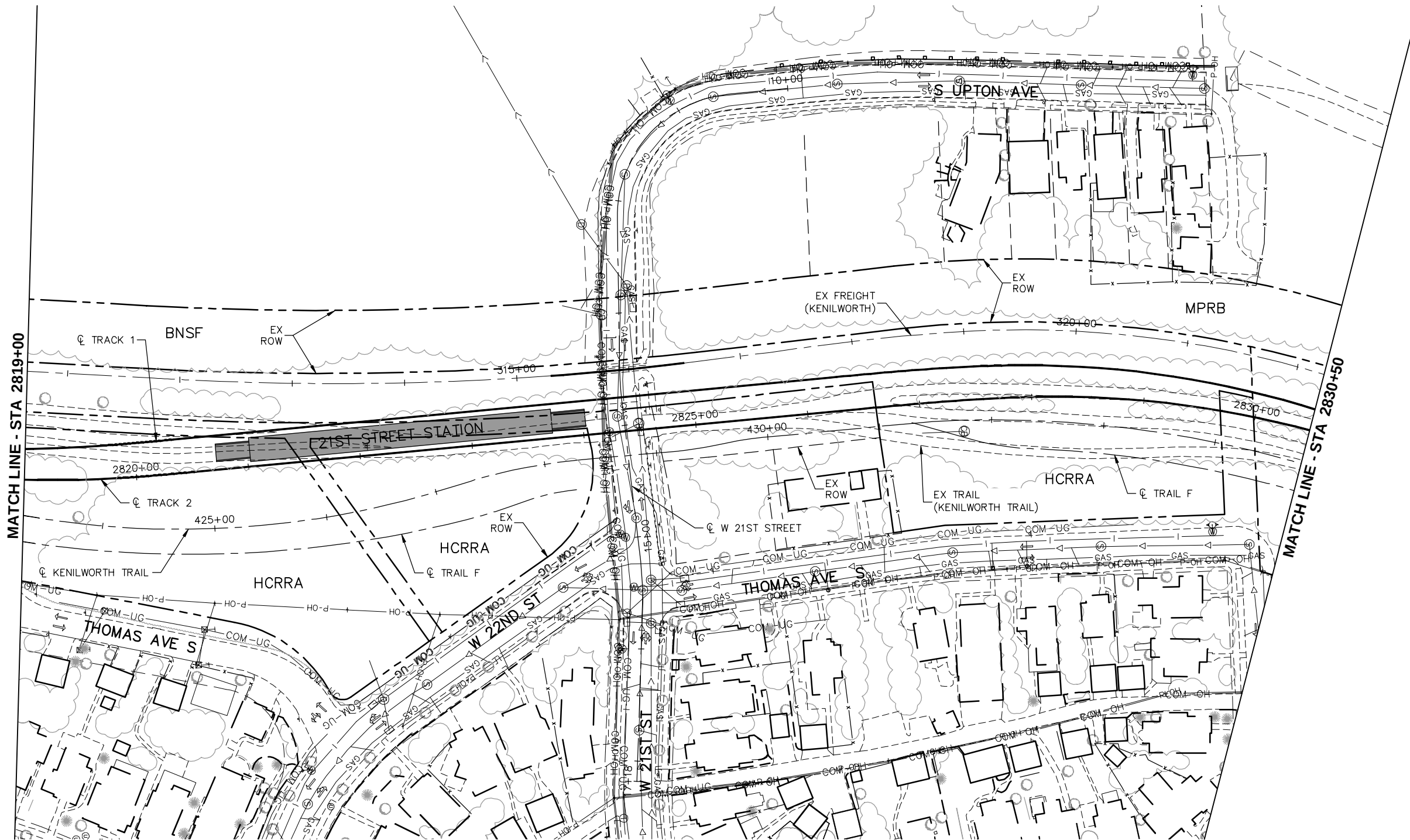
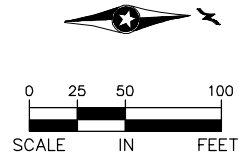


EAST - VOLUME 1 (CIVIL) - SEGMENT 3
EXISTING CONDITIONS
PLAN
STA 2809+50 TO STA 2819+00

DISCIPLINE: SURVEY	SHEET NAME: E3-SUR-PLN-007
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SHEET
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PRELIMINARY ENGINEERING

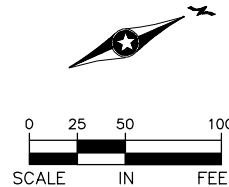
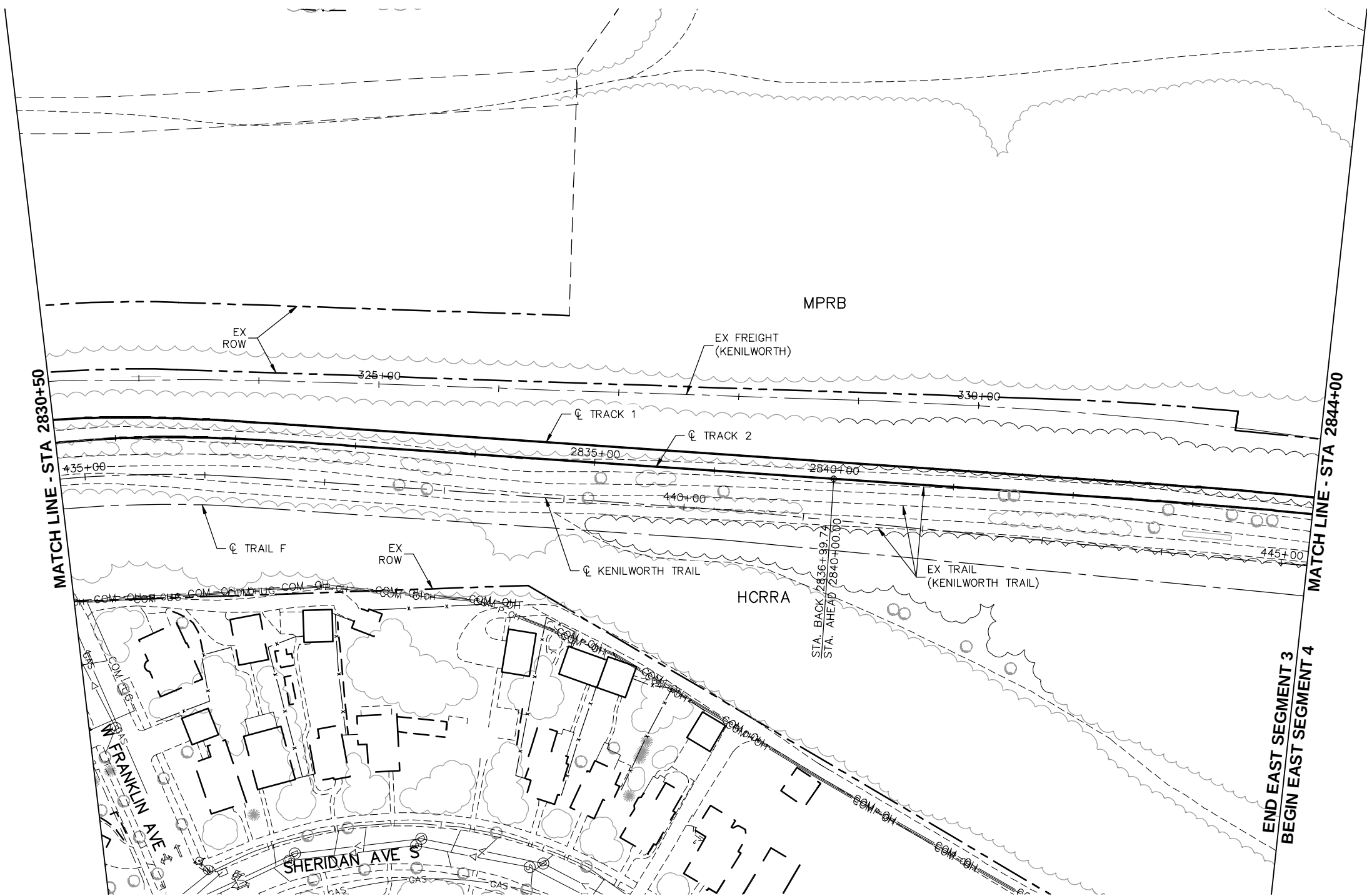


EAST - VOLUME 1 (CIVIL) - SEGMENT 3
EXISTING CONDITIONS
PLAN
STA 2819+00 TO STA 2830+50

DISCIPLINE: **SURVEY**

SHEET NAME: **E3-SUR-PLN-008**

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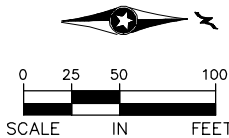
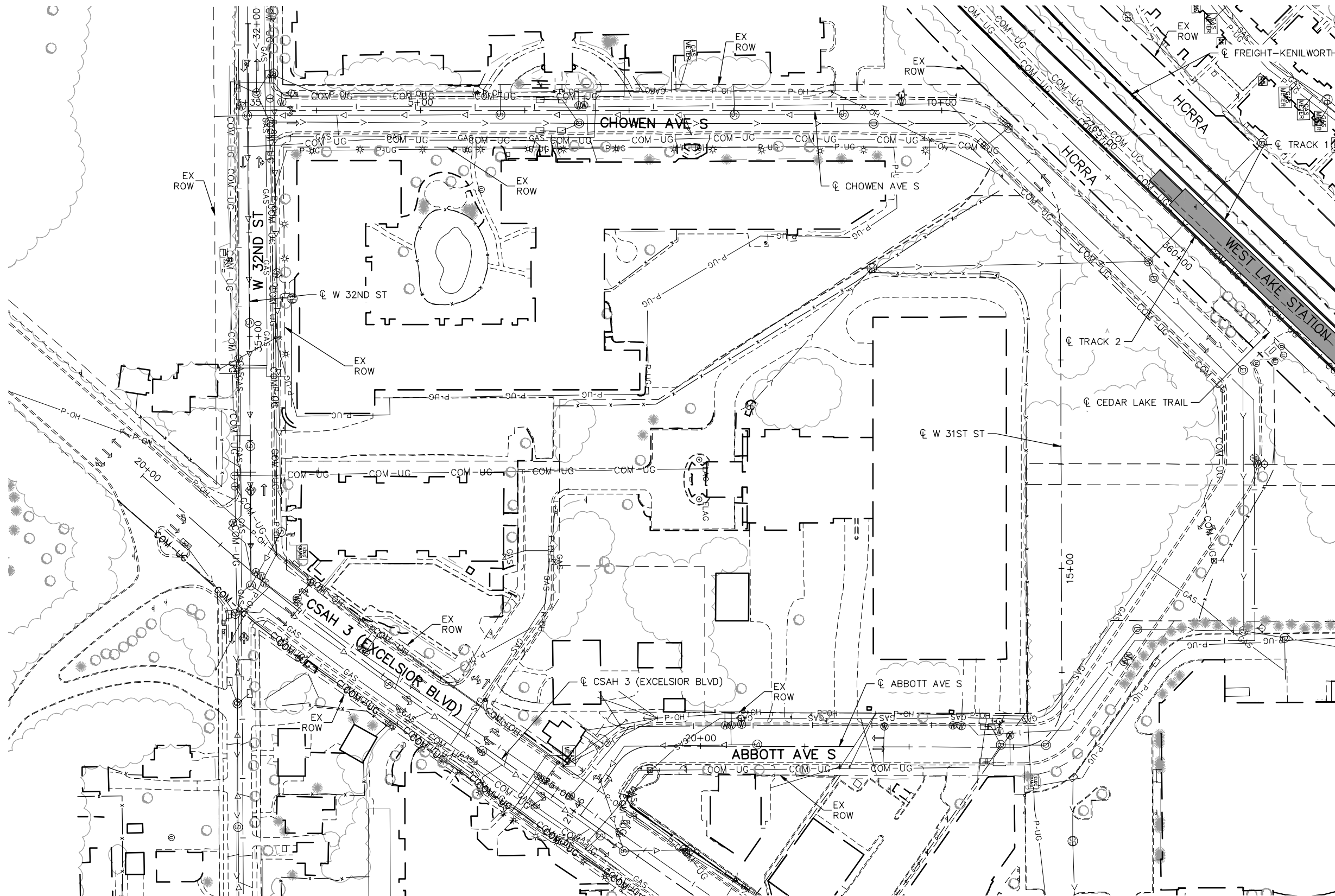
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
 EXISTING CONDITIONS
 PLAN
 STA 2830+50 TO STA 2844+00

DISCIPLINE: SURVEY

SHEET NAME: E3-SUR-PLN-009

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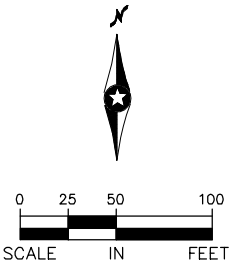
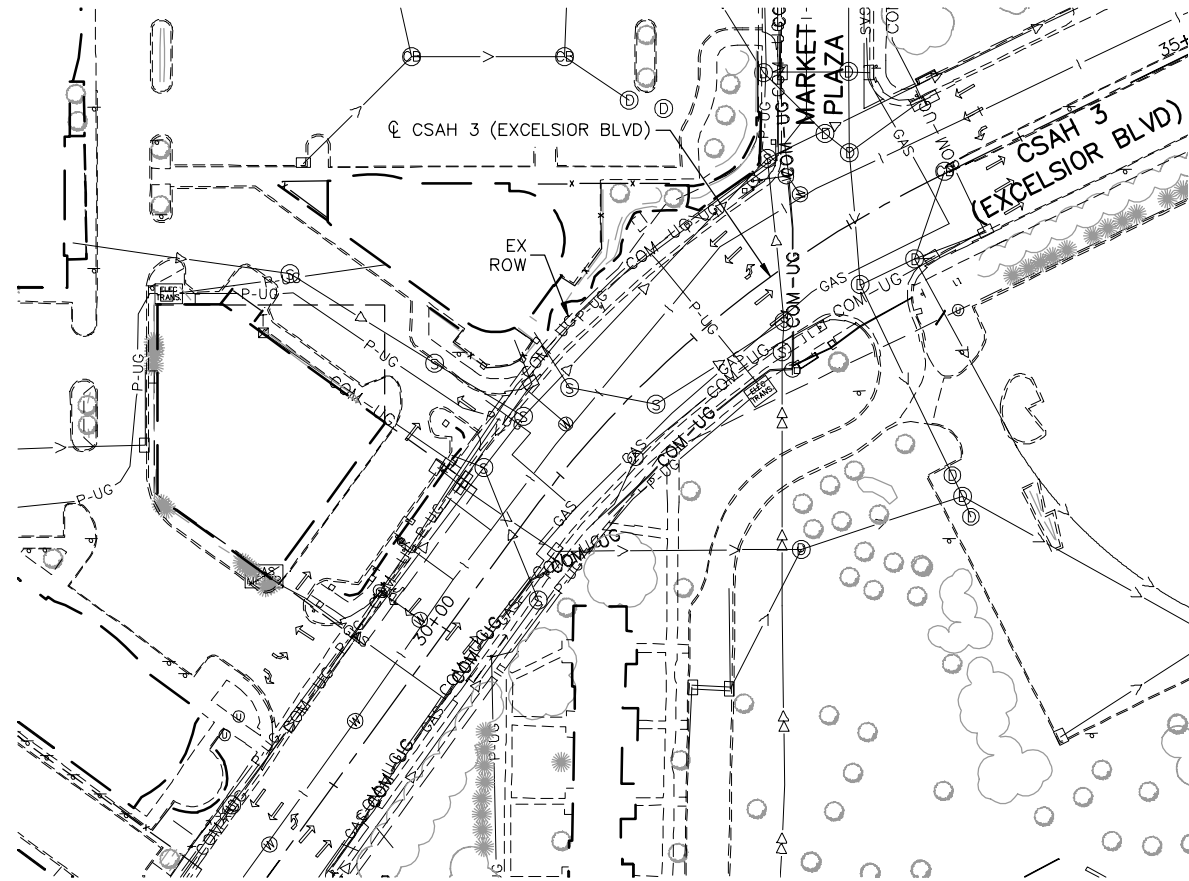
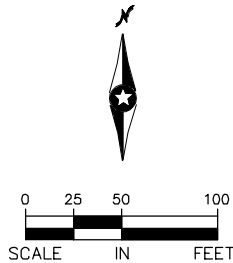
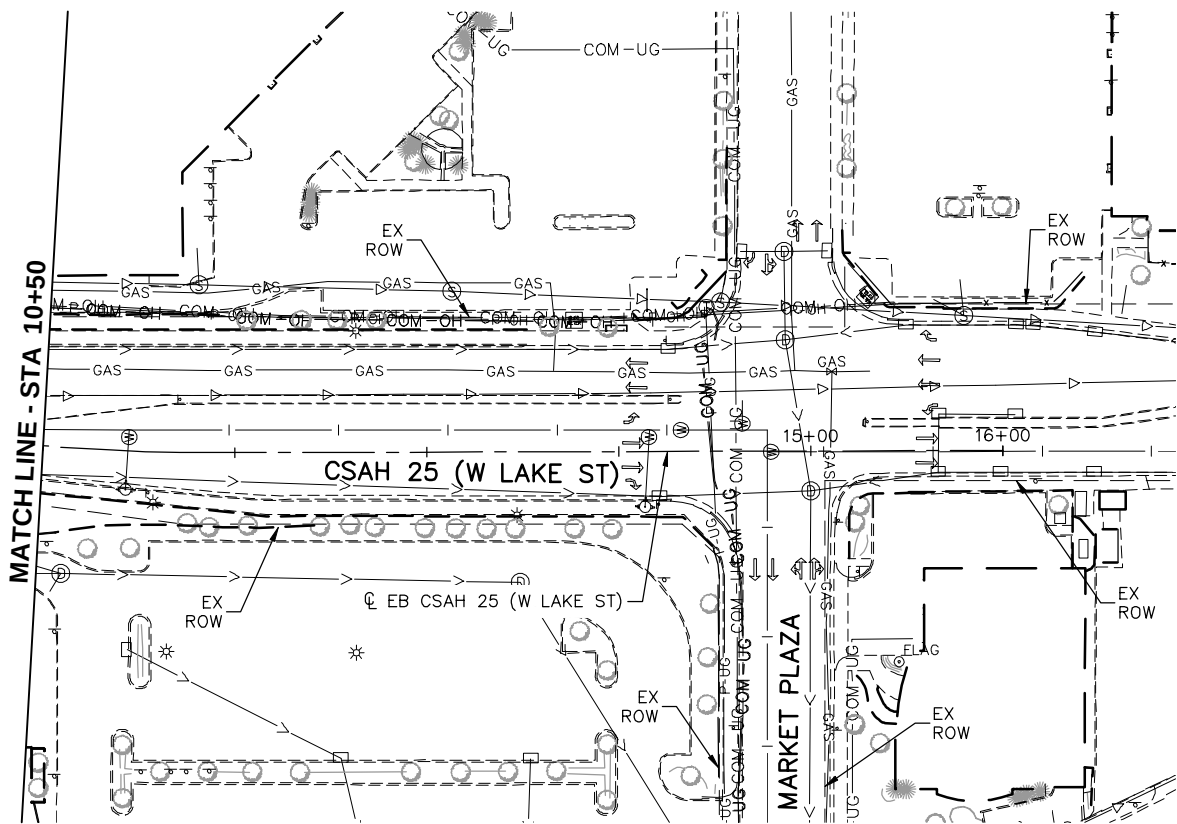
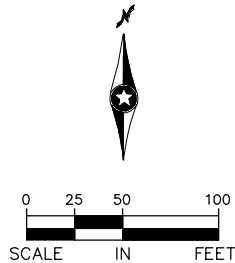
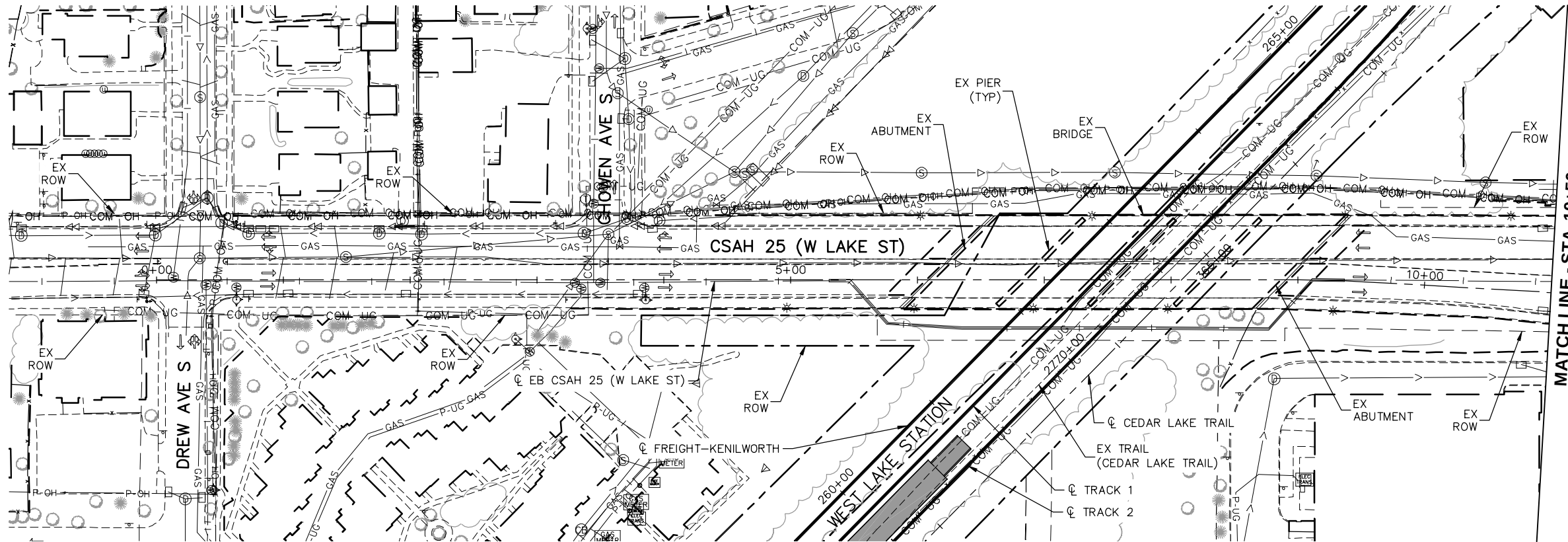
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
EXISTING CONDITIONS
CHOWEN AVE S, ABBOTT AVE S, W 31ST ST,
W 32ND ST AND CSAH 3 (EXCELSIOR BLVD)

DISCIPLINE: **SURVEY**

SHEET NAME: **E3-SUR-PLN - 010**

SHEET
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PRELIMINARY ENGINEERING



SOUTHWEST
Green Line LRT Extension



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
EXISTING CONDITIONS
CSAH 25 (W LAKE ST), CSAH 3 (EXCELSIOR
BLVD) AND MARKET PLAZA

DISCIPLINE:

SURVEY

SHEET NAME:

E3-SUR-PLN - 011

SHEET

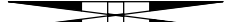
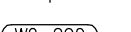
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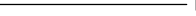
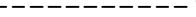
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Aug. 29 2014 07:52 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-NTS.dwg By: chris.bundlers

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)
	RAILROAD CURVE NUMBER
NOTE: ALL TURNOUTS AND CROSSOVERS TO BE EQUIPPED WITH POWER SWITCH MACHINES AND SWITCH HEATERS	

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

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

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

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PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3

TRACK AND CIVIL

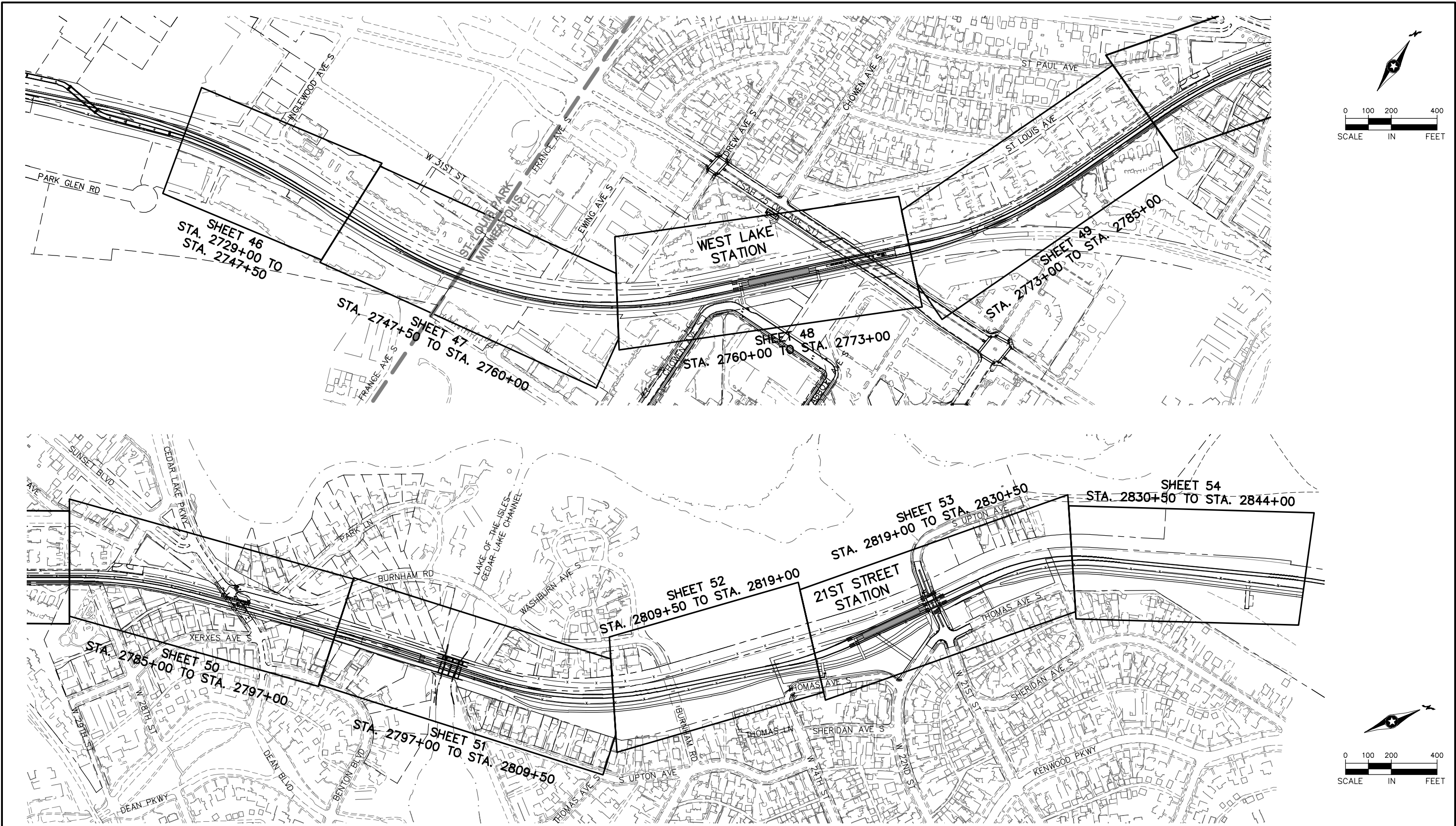
LEGEND AND ABBREVIATIONS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-NTS-001

SHEET 18 OF 126

Aug. 29 2014 07:53 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-IDX.dwg By: chrisbunders



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SYSTRA



METROPOLITAN
COUNCIL

PRELIMINARY ENGINEERING

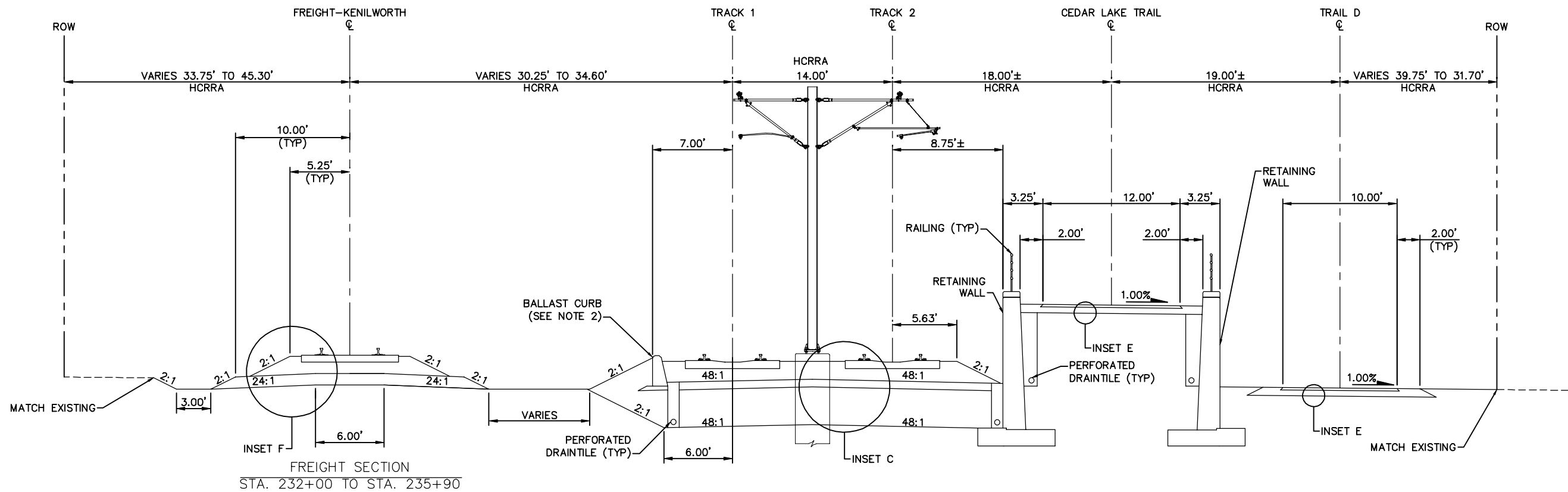


SOUTHWEST
Green Line LRT Extension



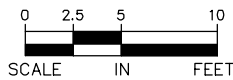
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TRACK			19
SHEET INDEX			OF
DISCIPLINE: TRACK			126
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Aug. 29 2014 07:53 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-TYP.dwg By: chris.bunders



TYPICAL SECTION
STA. 2729+00 TO STA. 2732+94

NOTE:
FOR INSETS, SEE EAST - VOLUME
1 (CIVIL) - SEGMENT 2 SHEET 41.
2. BALLAST CURB STA 2729+00
TO STA. 2731+00.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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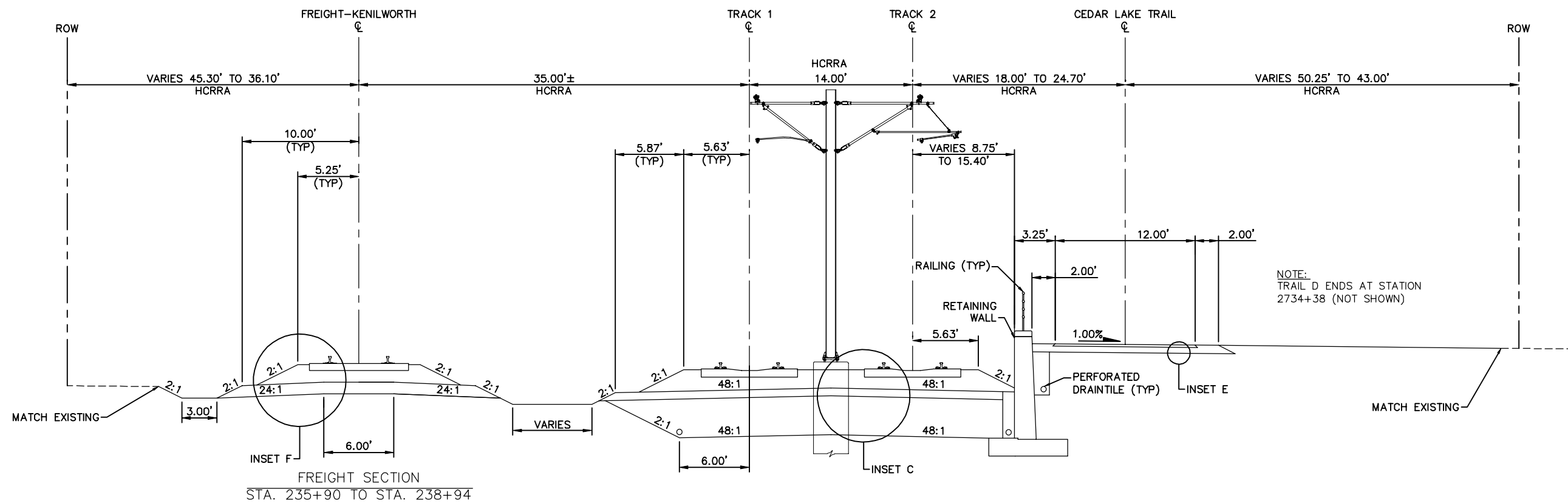
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TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-TYP - 001

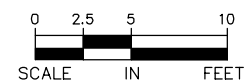
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Aug. 29 2014 07:54 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-TYP.dwg By: chris.bunders



TYPICAL SECTION
STA. 2732+94 TO STA. 2746+45

NOTE:
FOR INSETS, SEE EAST - VOLUME
1 (CIVIL) - SEGMENT 2 SHEET 41.



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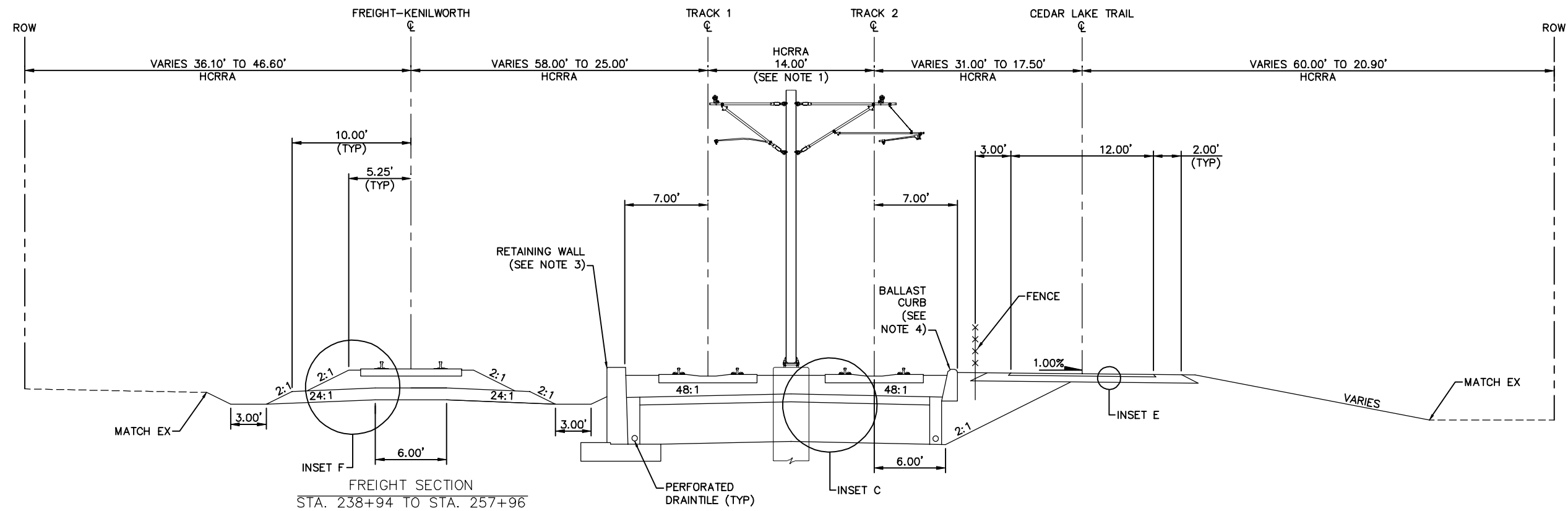
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-TYP - 002

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OF
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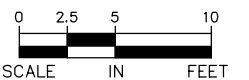
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TYPICAL SECTION
STA. 2746+45 TO STA. 2765+95

NOTE:

1. TRACK CENTERS WIDEN FROM 14.00' TO 30.38' BETWEEN STA. 2758+44 AND STA. 2765+95.
2. FOR INSET SEE EAST - VOLUME 1 (CIVIL) - SEGMENT 2, SHEET 41.
3. RETAINING WALL STA. 2762+42 TO STA. 2765+95.
4. BALLAST CURB STA. 2750+00 TO STA. 2765+45.



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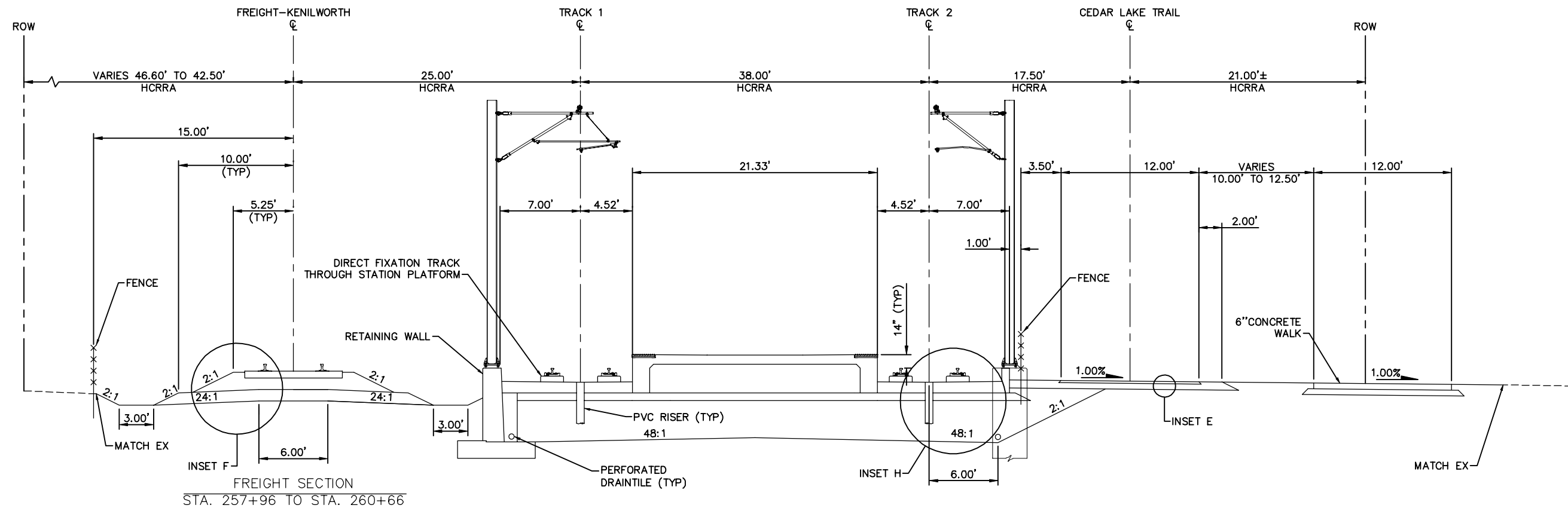
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TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

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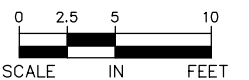
SHEET
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TYPICAL SECTION – WEST LAKE STATION
STA. 2765+95 TO STA. 2768+65

NOTE:
FOR INSETS, SEE EAST – VOLUME
1 (CIVIL) – SEGMENT 2 SHEET 41.



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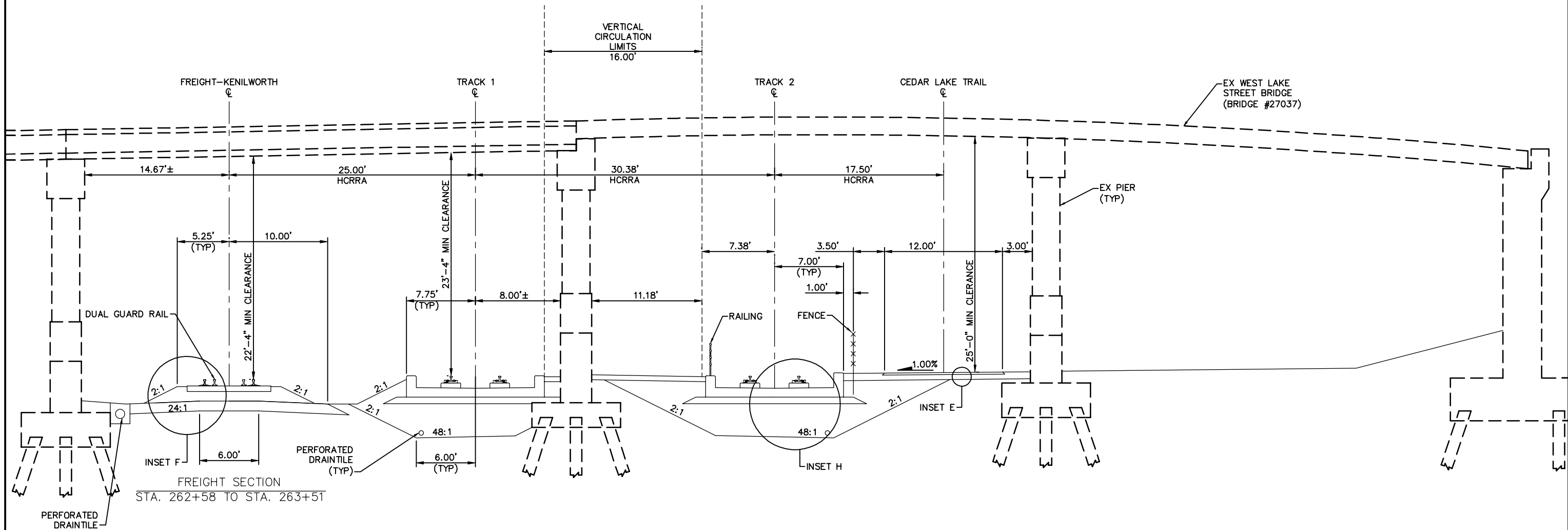
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

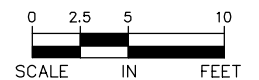
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126

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NOTES:
FOR INSETS, SEE EAST - VOLUME 1
(CIVIL) - SEGMENT 2 SHEET 41.



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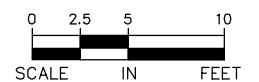
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-TYP - 006

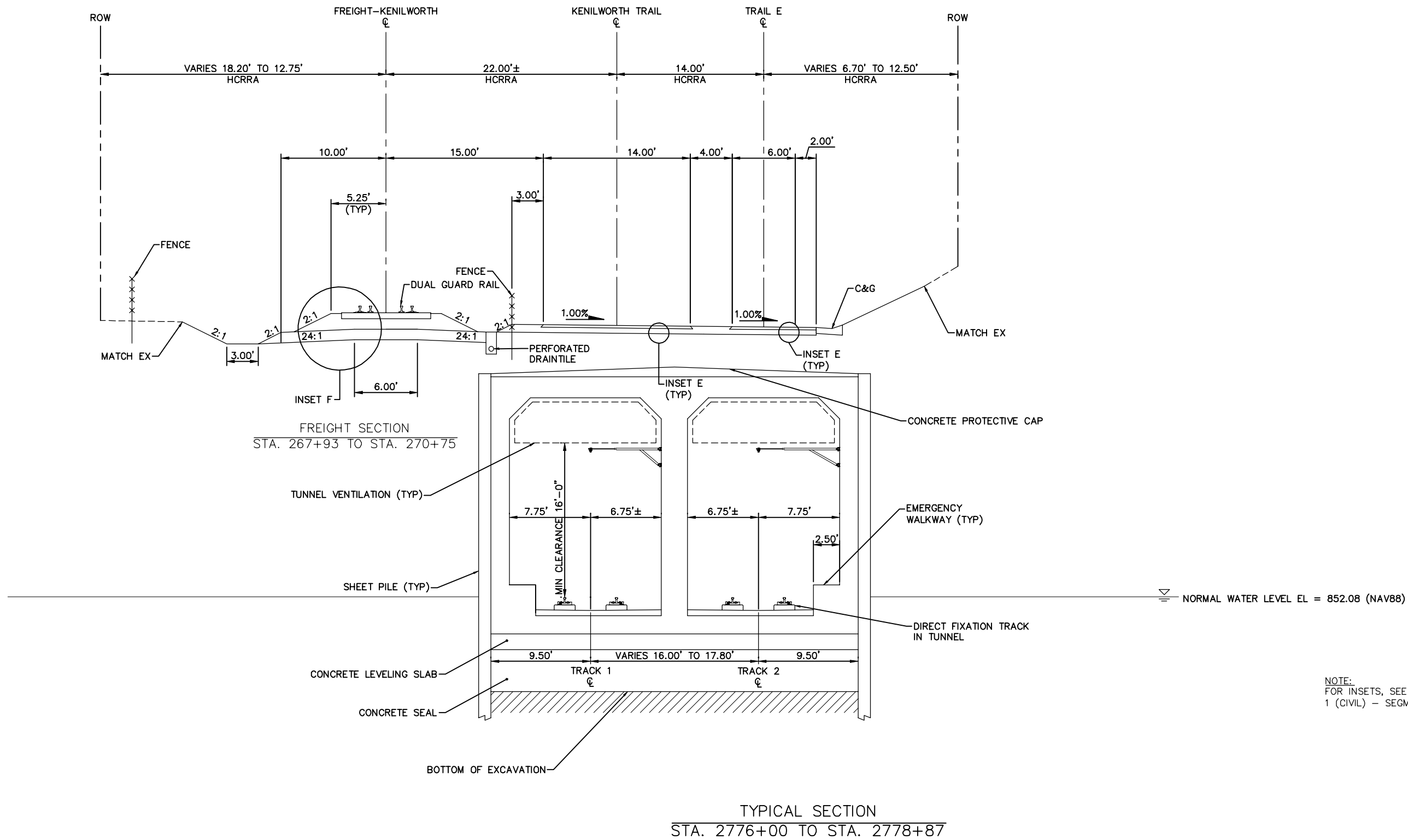
NOTES:

1. FOR INSETS, SEE EAST - VOLUME 1
(CIVIL) - SEGMENT 2 SHEET 41.
2. BRIDGE ENDS AT STA. 2771+62.



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PRELIMINARY ENGINEERING							DISCIPLINE: TRACK	SHEET NAME: E3-TRK-TYP - 007	

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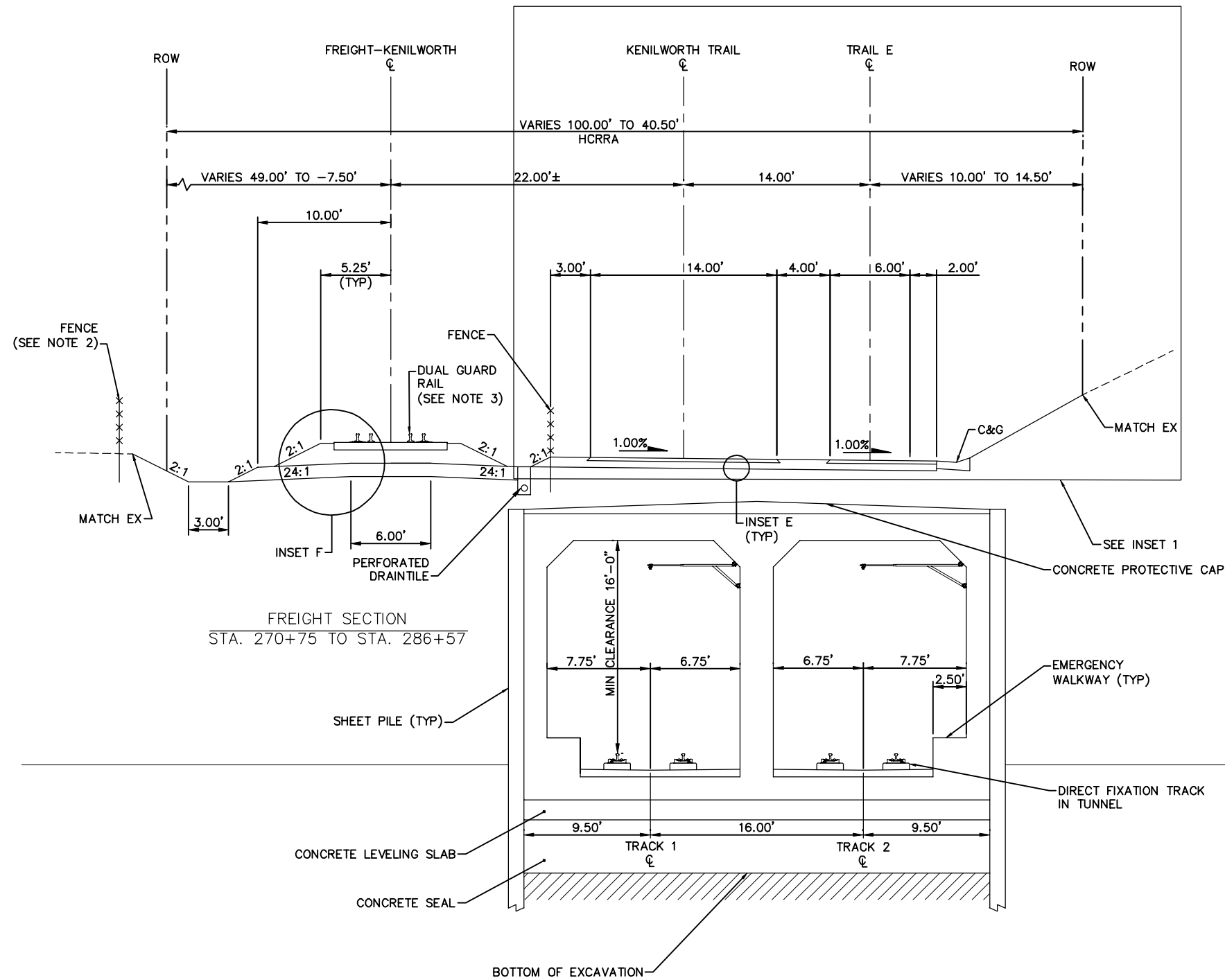
SOUTHWEST
Green Line LRT Extension

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

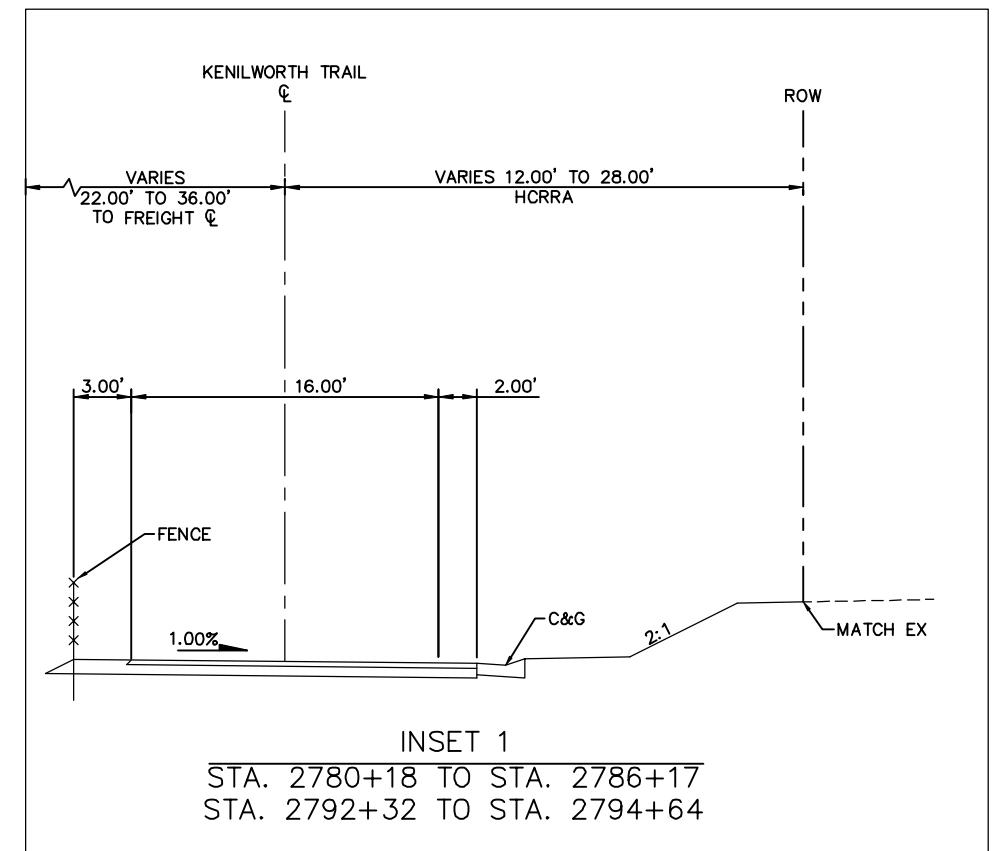
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FREIGHT SECTION
STA. 270+75 TO STA. 286+57

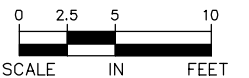
TYPICAL SECTION
STA. 2778+87 TO STA. 2794+64



INSET 1
STA. 2780+18 TO STA. 2786+17
STA. 2792+32 TO STA. 2794+64

▽ NORMAL WATER LEVEL EL = 852.08 (NAV88)

- NOTE:
1. FOR INSETS, SEE EAST - VOLUME 1 (CIVIL) - SEGMENT 2 SHEET 41.
 2. FENCE ENDS AT STATION 2787+09.
 3. DUAL GUARD RAIL FROM STA. 270+75 TO STA. 283+40 AND STA. 285+60 TO STA. 286+57.
 4. LIMITS OF SECTION INCLUDE A ROAD CROSSING THAT IS NOT DEPICTED.



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PRELIMINARY ENGINEERING



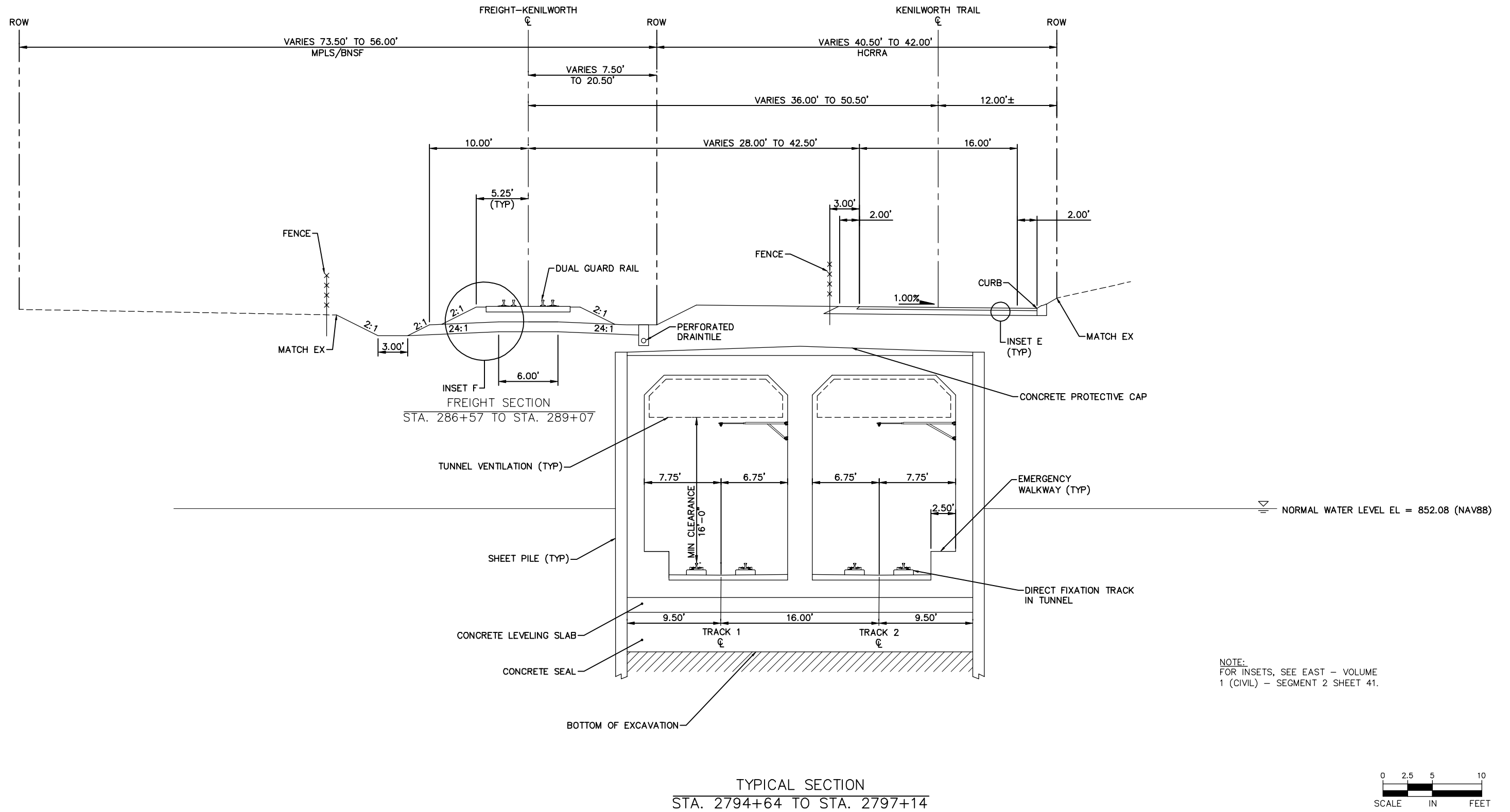
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-TYP - 010

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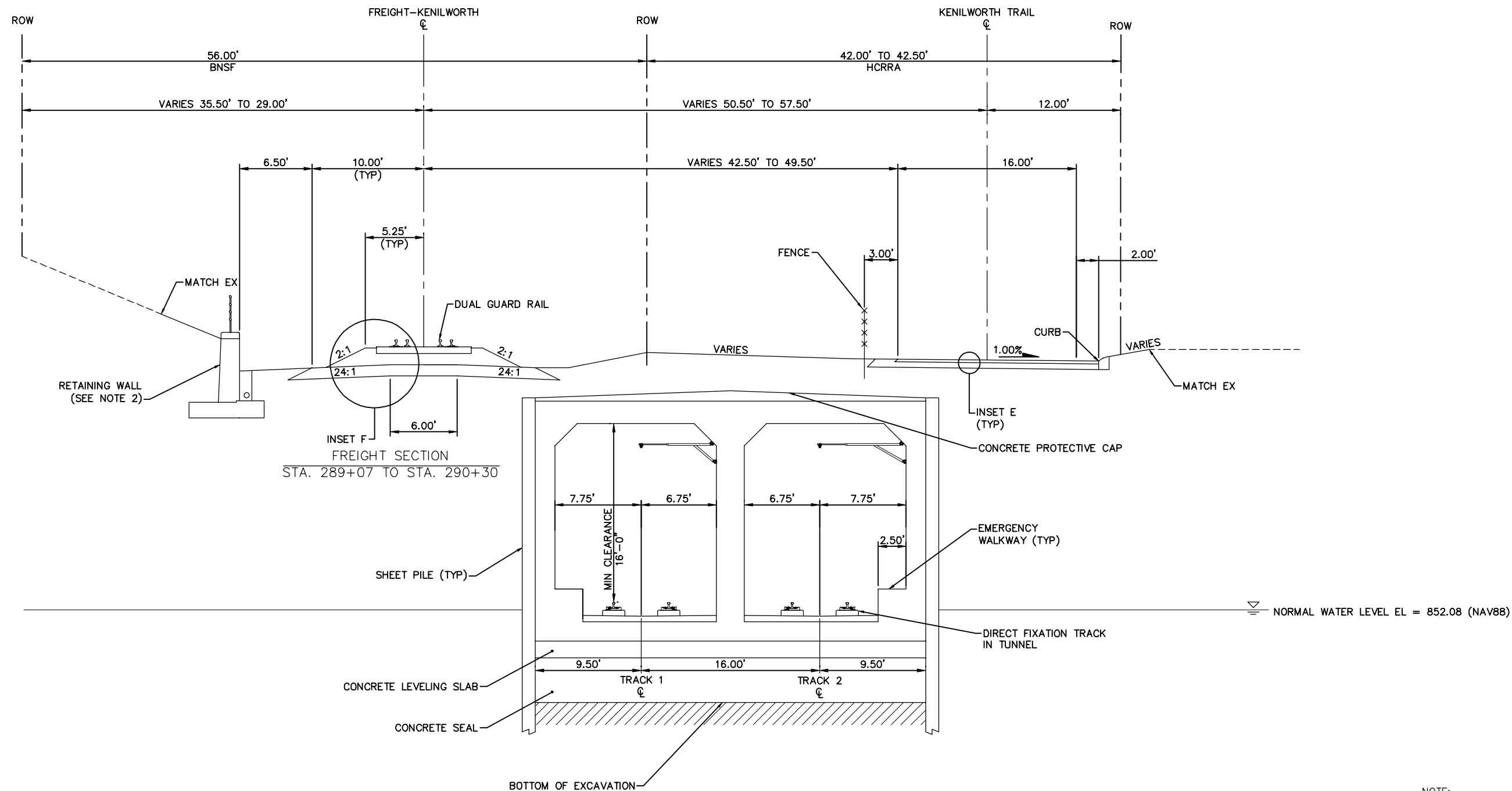


EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: **TRACK**

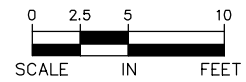
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TYPICAL SECTION
STA. 2797+14 TO STA. 2798+36

NOTE:
1. FOR INSETS, SEE EAST -
VOLUME 1 (CIVIL) - SEGMENT 2
SHEET 41.
2. RETAINING WALL STA. 2797+72
TO 2798+36.



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SOUTHWEST
Green Line LRT Extension

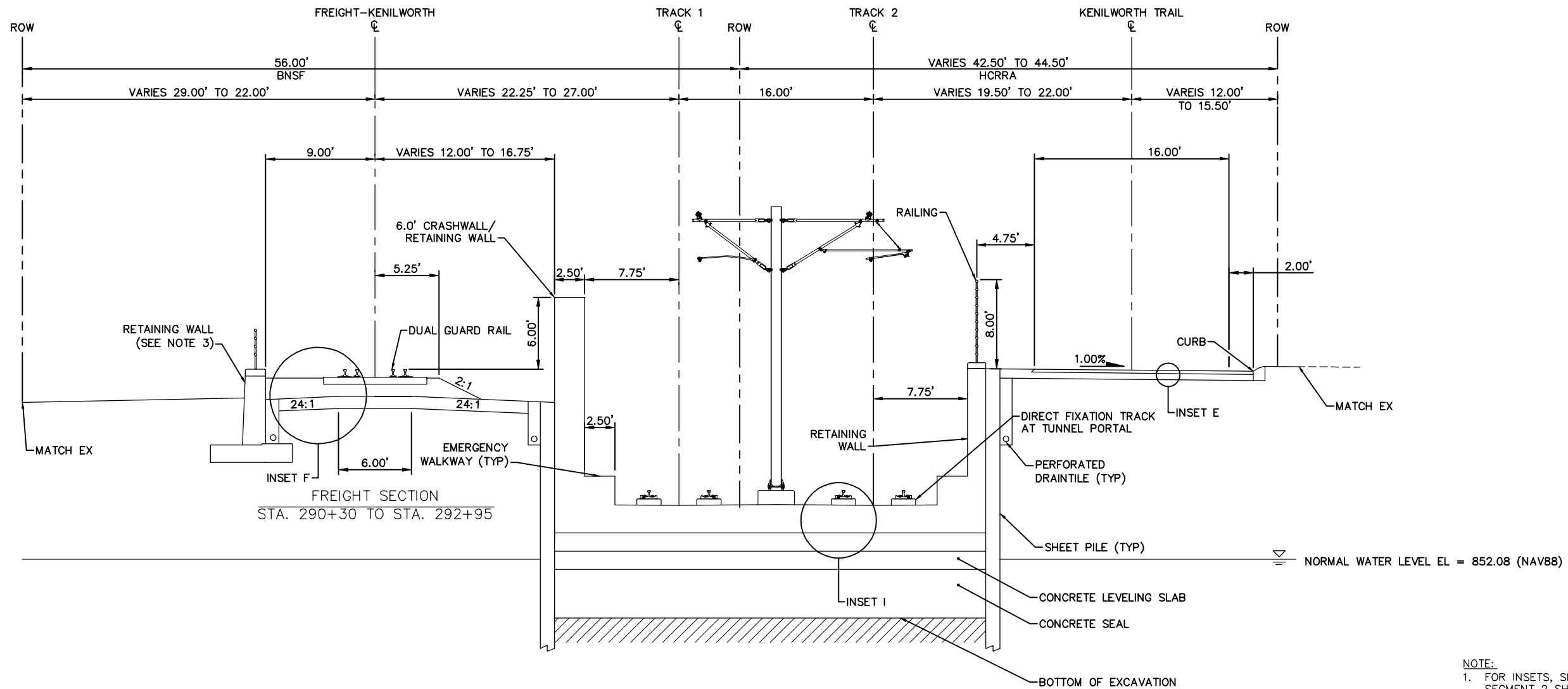
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-TYP - 012

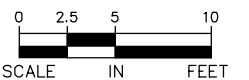
SHEET
31
OF
126

Aug. 29 2014 07:56 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-TYP.dwg By: chris.bunders



TYPICAL SECTION
STA. 2798+36 TO STA. 2801+00

- NOTE:
1. FOR INSETS, SEE EAST - VOLUME 1 (CIVIL) - SEGMENT 2 SHEET 41.
 2. CONCRETE LEVELING SLAB AND CONCRETE SEAL FROM STA. 2798+36 TO STA. 2799+50.
 3. RETAINING WALL STA. 2798+36 TO STA. 2798+61.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

PRELIMINARY ENGINEERING



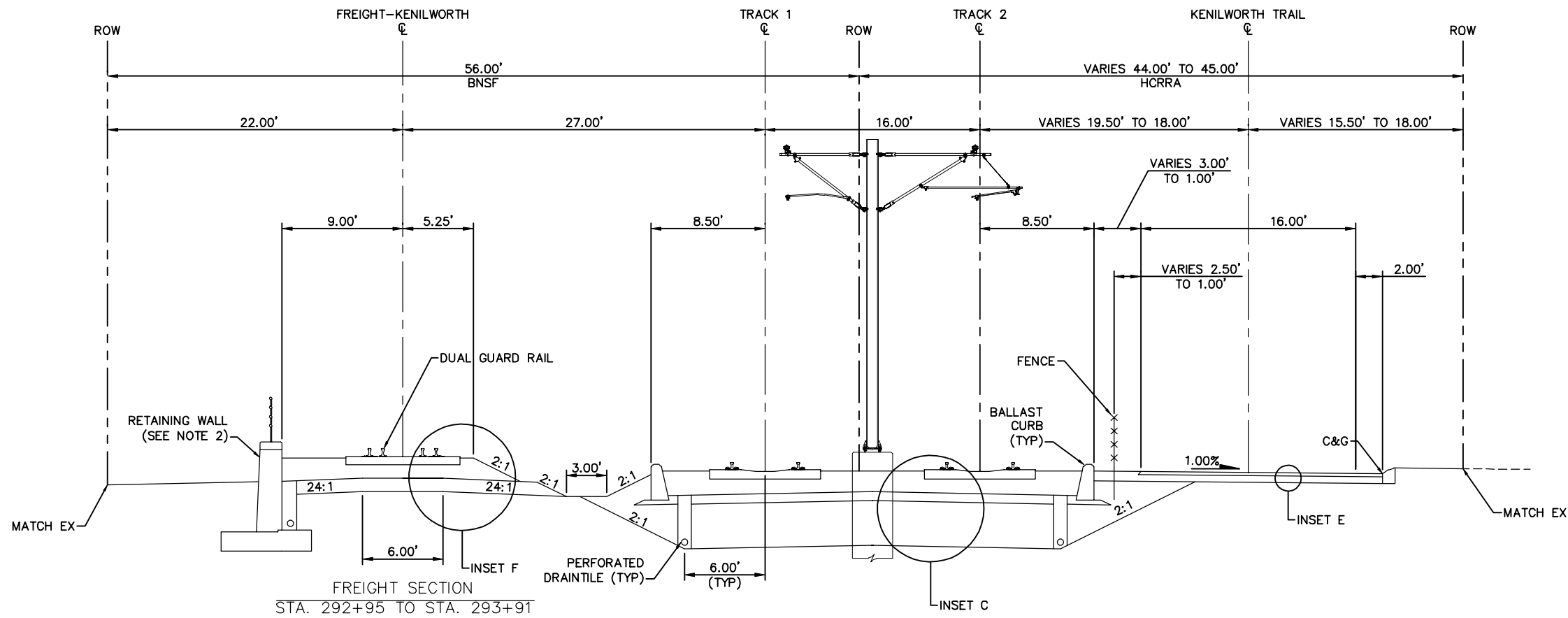
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-TYP - 013

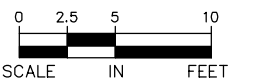
SHEET
32
OF
126

Aug. 29 2014 07:56 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-TYP.dwg By: chris.bundors



TYPICAL SECTION
STA. 2801+00 TO STA. 2801+96

- NOTE:
1. FOR INSETS, SEE EAST - VOLUME 1 (CIVIL) - SEGMENT 2 SHEET 41.
 2. RETAINING WALL ENDS AT STA. 2801+72.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING



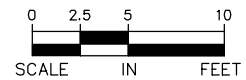
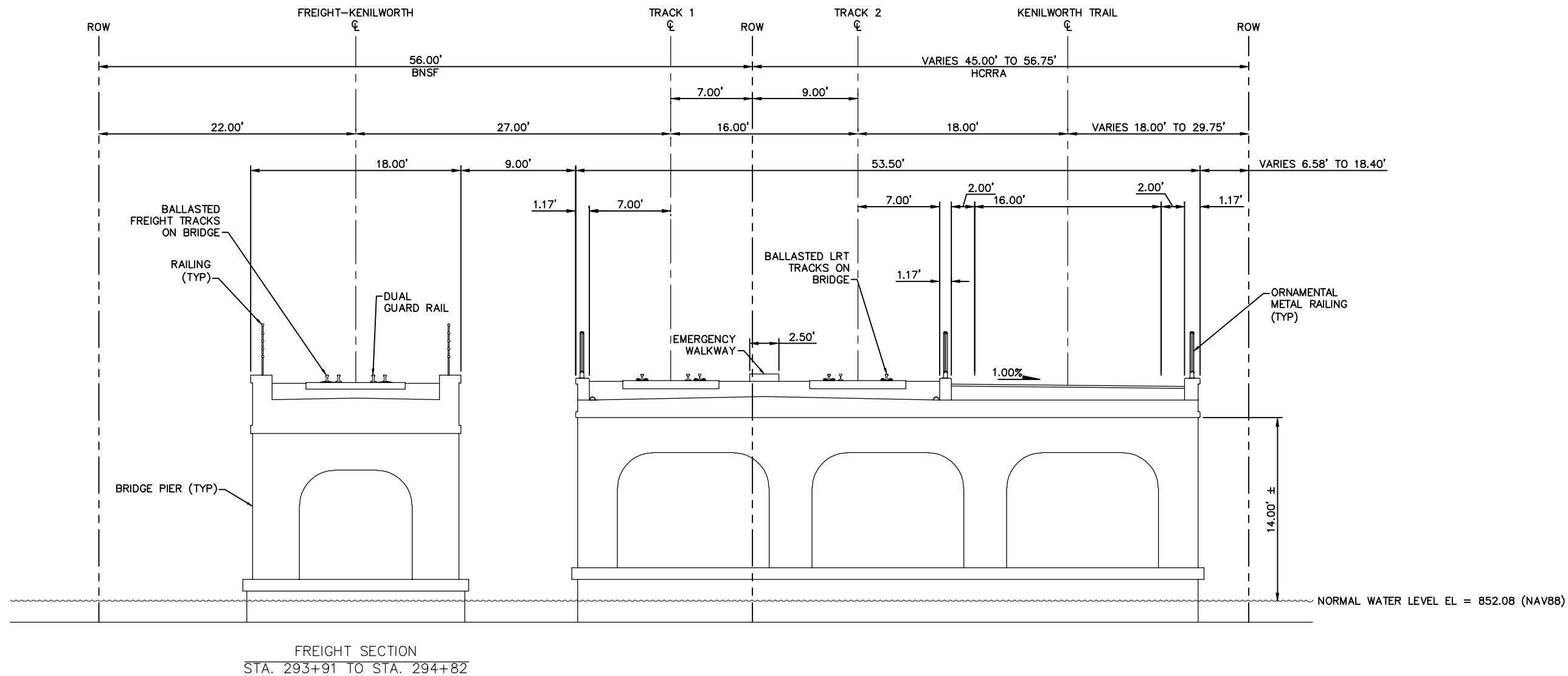
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-TYP - 014

SHEET
33
OF
126

Aug. 29 2014 07:56 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-TYP.dwg By: chris.bunders



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





PRELIMINARY ENGINEERING



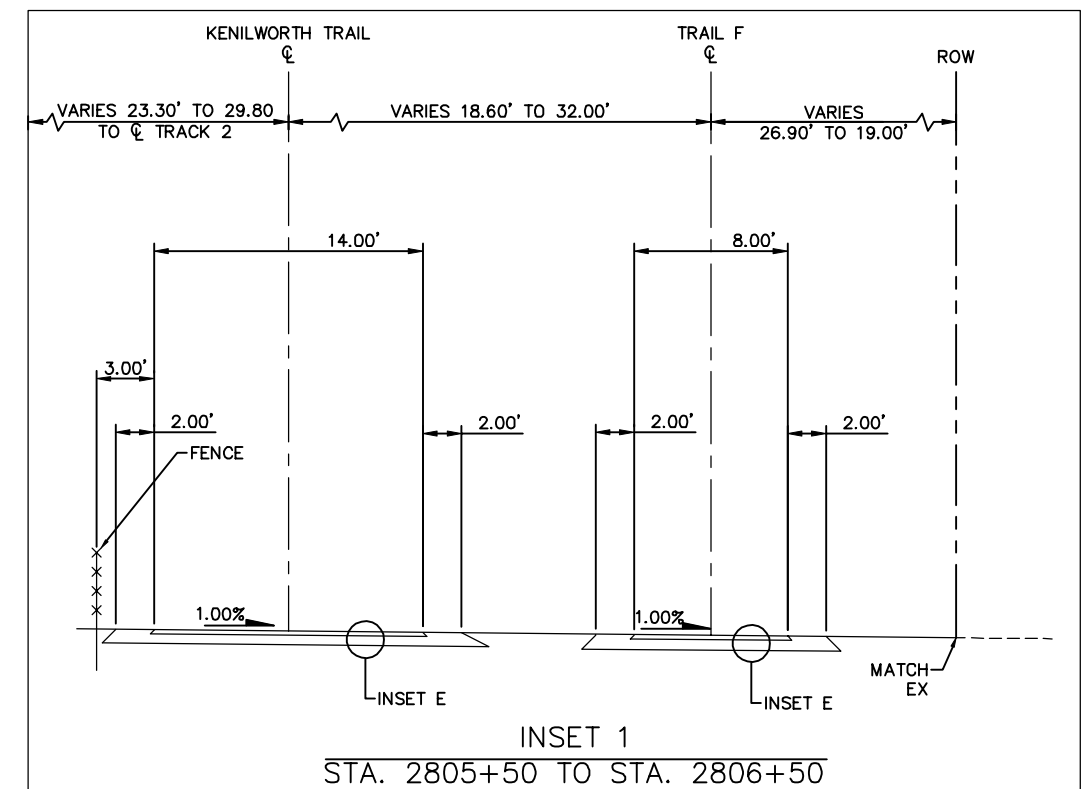
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE: **TRACK**

SHEET NAME: **E3-TRK-TYP - 015**

NOTE:

1. RETAINING WALL STA. 2804+30 TO STA. 2805+58.
2. RETAINING WALL STA. 2803+03 TO STA. 2806+50.
3. FOR INSETS, SEE EAST - VOLUME 1 (CIVIL) - SEGMENT 2 SHEET 41.

[illegible]

Kimley»»Horn



METROPOLITAN
COUNCIL



SOUTHWEST
Green Line LRT Extension

**EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS**

DISCIPLINE:	TRACK
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SHEET NAME:	E3-TRK-TYP - 016
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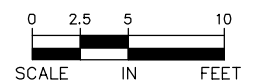
SHEET
35
OF
126

Plan view of the freight section of the Kenilworth Trail project, showing tracks, right-of-way, and various dimensions.

Key Features and Dimensions:

- Right-of-Way (ROW):** Indicated by dashed lines at the top and bottom.
- Freight Section:** STA. 298+39 TO STA. 303+76.
- Tracks:**
 - TRACK 1:** Centerline (CL) marked.
 - TRACK 2:** Centerline (CL) marked.
 - Freight-Kenilworth CL:** Centerline for the freight section.
 - Kenilworth Trail CL:** Centerline for the trail section.
 - Trail F CL:** Centerline for Trail F.
- Dimensions:**
 - 56.00' BNSF (from left ROW to Freight-Kenilworth CL)
 - VARIES 6.50' TO 30.00' HCRRA (between Freight-Kenilworth CL and TRACK 1)
 - 16.00' HCRRA (between TRACK 1 and TRACK 2)
 - 32.00'± HCRRA (between TRACK 2 and Kenilworth Trail CL)
 - VARIES 32.00' TO 25.00' HCRRA (between Kenilworth Trail CL and Trail F CL)
 - VARIES 19.00' TO 116.25' HCRRA (from Trail F CL to right ROW)
 - 10.00' (TYP) (from Freight-Kenilworth CL to TRACK 1)
 - 5.25' (TYP) (from Freight-Kenilworth CL to TRACK 1)
 - 5.87' (TYP) (from TRACK 1 to TRACK 2)
 - 5.63' (TYP) (from TRACK 1 to TRACK 2)
 - 11.50' (TYP) (from TRACK 2 to Kenilworth Trail CL)
 - 6.50' (from Kenilworth Trail CL to Trail F CL)
 - 14.00' (from Kenilworth Trail CL to Trail F CL)
 - VARIES 21.00' TO 14.00' (from Kenilworth Trail CL to Trail F CL)
 - 8.00' (from Trail F CL to right ROW)
 - 3.00' (from left ROW to Freight-Kenilworth CL)
 - 6.00' (from Freight-Kenilworth CL to TRACK 1)
 - 6.00' (TYP) (from TRACK 1 to TRACK 2)
 - 3.00' (from TRACK 2 to Kenilworth Trail CL)
 - 2.00' (from Kenilworth Trail CL to Trail F CL)
 - 2.00' (from Kenilworth Trail CL to Trail F CL)
 - 2.00' (from Kenilworth Trail CL to Trail F CL)
 - 2.00' (from Kenilworth Trail CL to Trail F CL)
 - 2.00' (from Kenilworth Trail CL to Trail F CL)
- Grading and Slopes:**
 - 2:1 (multiple locations)
 - 24:1 (multiple locations)
 - 48:1 (multiple locations)
 - 1.00% (multiple locations)
- Other Features:**
 - FENCE (multiple locations)
 - DUAL GUARD RAIL (near Freight-Kenilworth CL)
 - PERFORATED DRAINTILE (TYP) (near TRACK 2)
 - INSET F (near Freight-Kenilworth CL)
 - INSET C (near TRACK 2)
 - INSET E (near Kenilworth Trail CL)
 - INSET E (near Trail F CL)
 - MATCH EX (multiple locations)

NOTE:
FOR INSETS, SEE EAST - VOLUME 1
(CIVIL) - SEGMENT 2 SHEET 41.

[illegible]

METROPOLITAN
COUNCIL



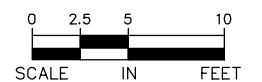
**EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS**

DISCIPLINE:	TRACK
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SHEET NAME:	E3-TRK-TYP - 017
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SHEET
36
OF
126

NOTE:
FOR INSETS, SEE EAST - VOLUME 1
(CIVIL) - SEGMENT 2 SHEET 41.



TYPICAL SECTION
STA. 2812+10 TO STA. 2812+51

[illegible]

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PRELIMINARY ENGINEERING



SOUTHWEST



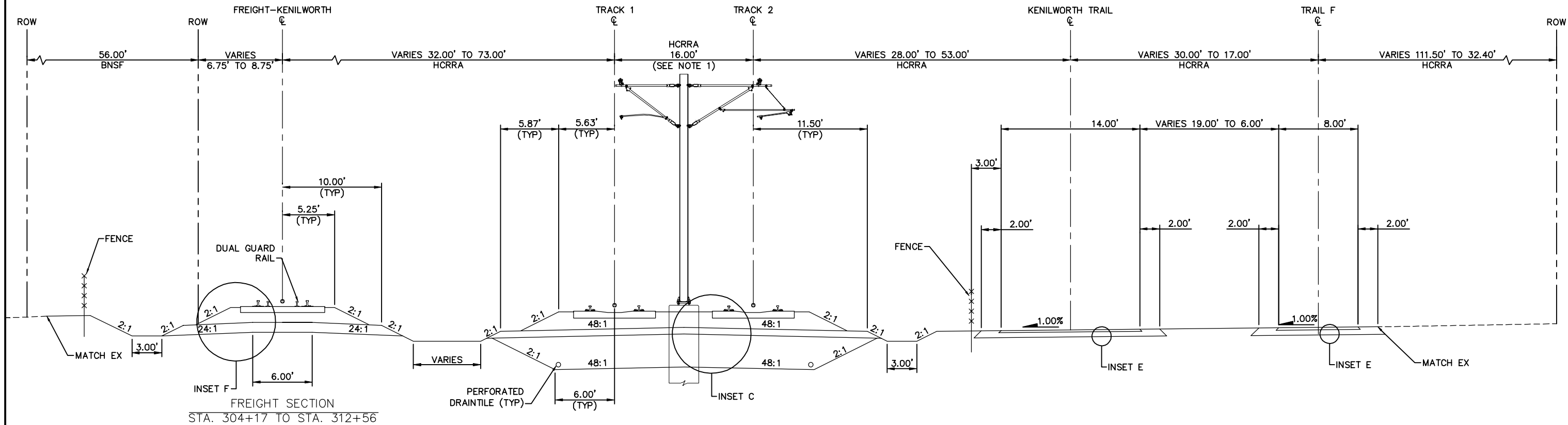
**EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS**

DISCIPLINE:	TRACK
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SHEET NAME:	E3-TRK-TYP - 018
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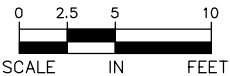
SHEET
37
OF
126

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TYPICAL SECTION
STA. 2812+51 TO STA. 2821+02

- NOTE:
1. TRACK CENTERS WIDEN FROM 16.00' TO 30.38' BETWEEN STA. 2816+49 AND 2820+54.
 2. FOR INSETS, SEE EAST - VOLUME 1 (CIVIL) - SEGMENT 2 SHEET 41.



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PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

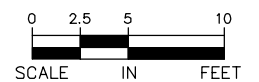
DISCIPLINE: TRACK

SHEET NAME: E3-TRK-TYP - 019

SHEET
38
OF
126

NOTE:

1. FOR INSETS, SEE EAST –
VOLUME 1 (CIVIL) – SEGMENT 2
SHEET 41.
2. DUAL GUARD RAIL FROM STA.
312+56 TO STA. 315+00.

[illegible]

Kimley»»Horn



METROPOLITAN
COUNCIL



SOUTHWEST
Green Line LRT Extension

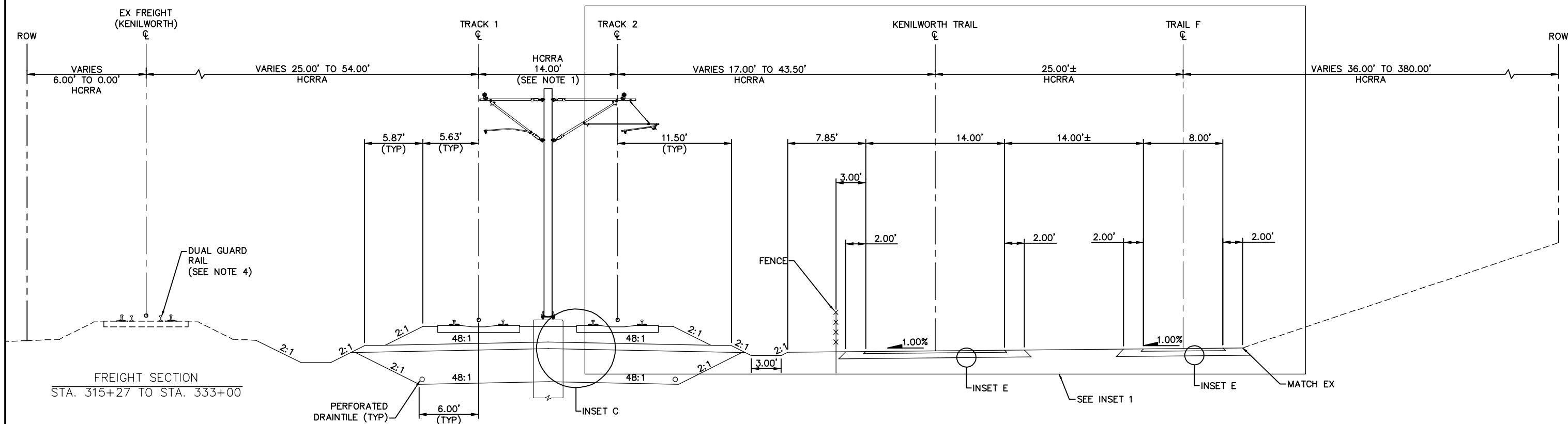
**EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS**

DISCIPLINE:	TRACK
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SHEET NAME:	E3-TRK-TYP - 020
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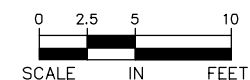
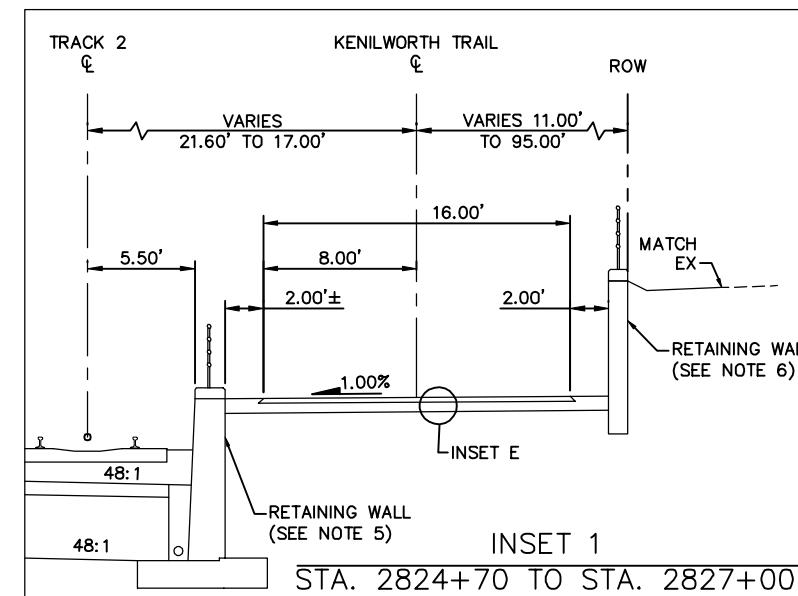
SHEET
39
OF
126

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TYPICAL SECTION
STA. 2823+72 TO STA. 2844+00

- NOTE:
1. TRACK CENTERS NARROW FROM 30.38' TO 14.00' BETWEEN STA. 2826+22 AND 2832+93.
 2. FOR INSETS, SEE EAST - VOLUME 1 (CIVIL) - SEGMENT 2 SHEET 41.
 3. LIMITS OF SECTION INCLUDE AT-GRADE CROSSINGS THAT ARE NOT DEPICTED.
 4. DUAL GUARD RAIL FROM STA. 316+80 TO STA. 324+60.
 5. RETAINING WALL FROM STA. 2825+00 TO STA. 2827+00.
 6. RETAINING WALL FROM STA. 2825+26 TO STA. 2825+91.



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PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
TYPICAL SECTIONS

DISCIPLINE:

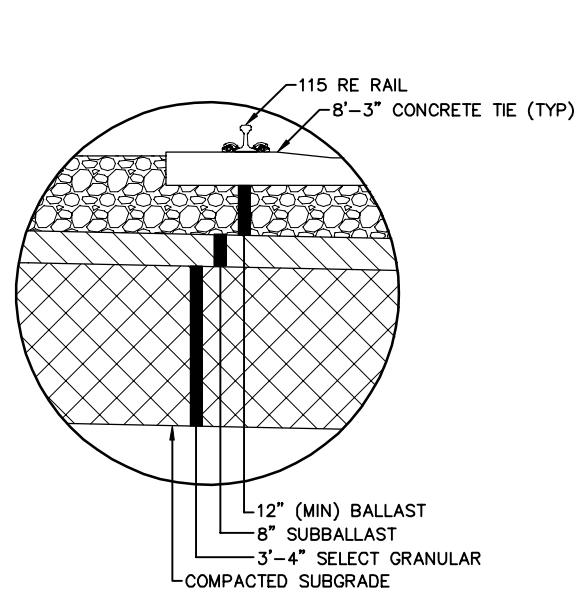
TRACK

SHEET NAME:

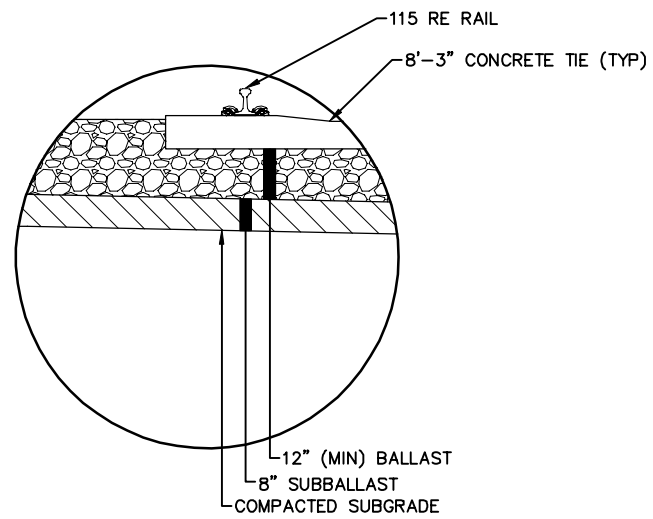
E3-TRK-TYP - 021

SHEET
40
OF
126

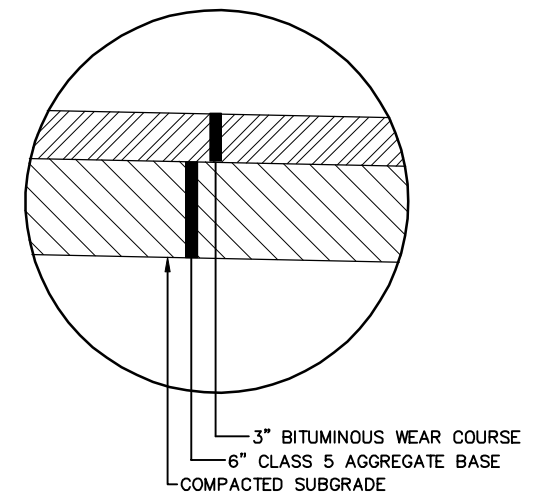
Aug. 29 2014 07:58 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-TYP.dwg By: chris.bunders



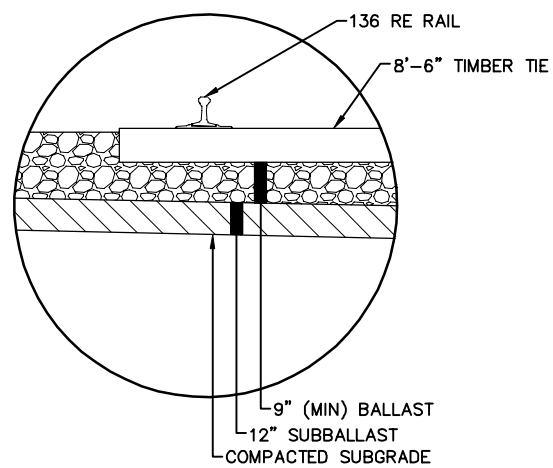
INSET C – TYPICAL BALLASTED TRACK



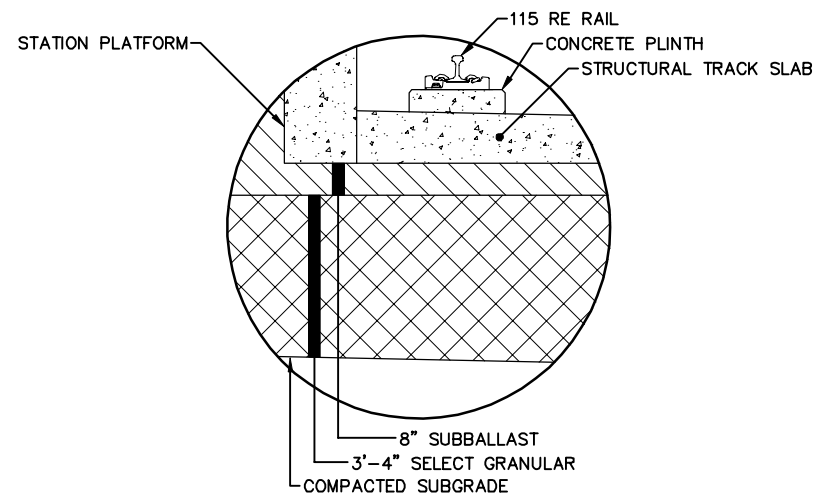
INSET D – TYPICAL LRT BALLASTED
TRACK ON EXISTING SUBGRADE



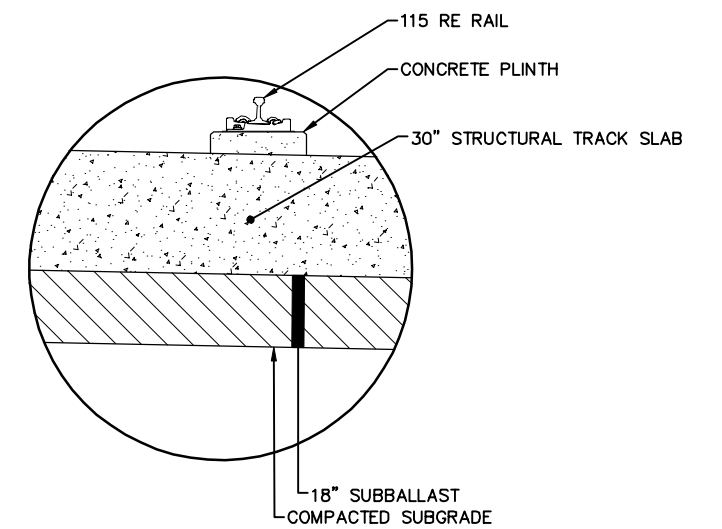
INSET E – TYPICAL TRAIL



INSET F – TYPICAL BALLASTED FREIGHT TRACK



INSET H – TYPICAL DIRECT FIXATION INTERFACE
AT STATION PLATFORM



INSET I – TYPICAL DIRECT FIXATION AT TUNNEL PORTAL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
INSETS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-TYP - 022

SHEET
41
OF
126

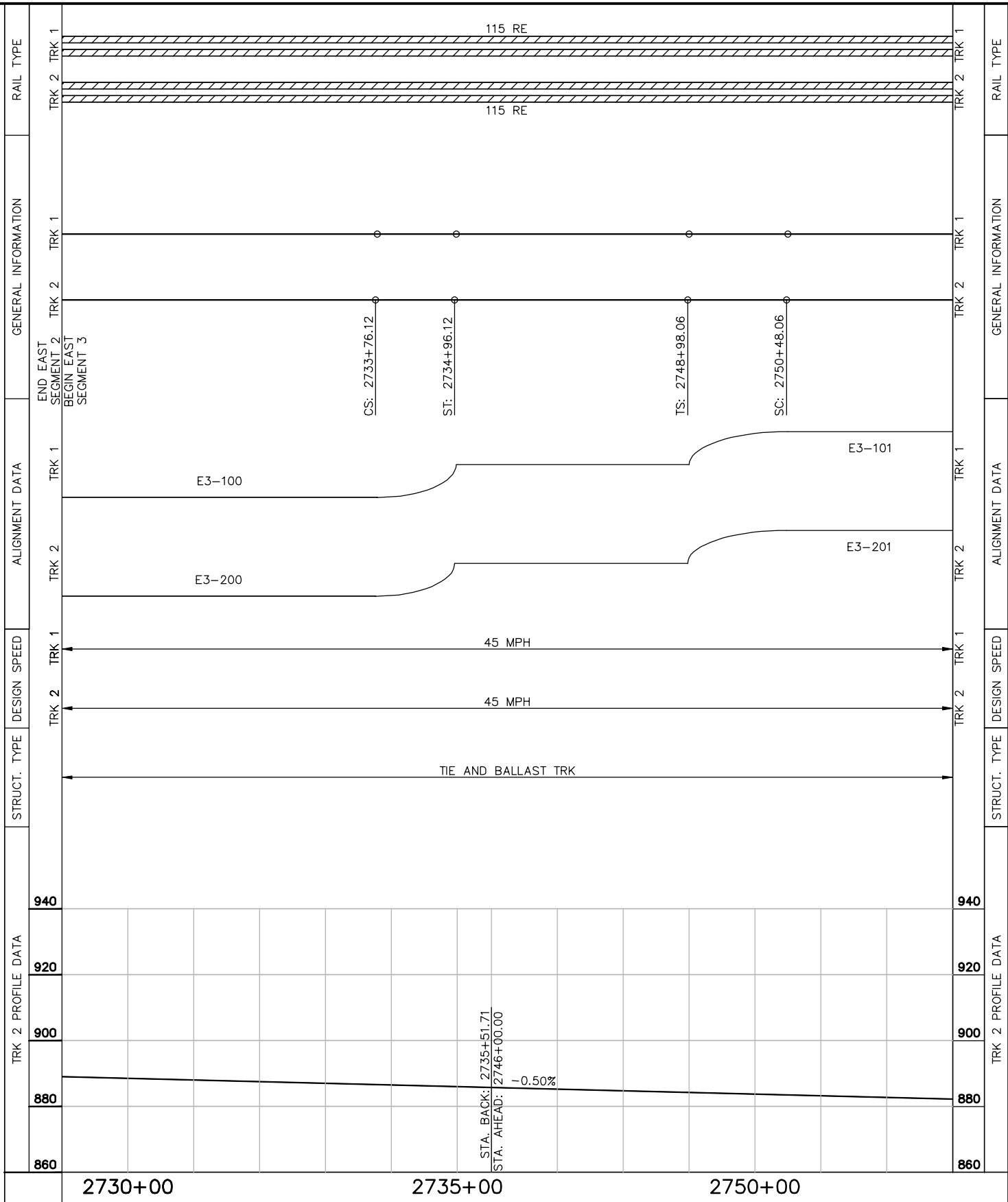
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Kimley»»Horn
SYSTRA
PRELIMINARY ENGINEERING

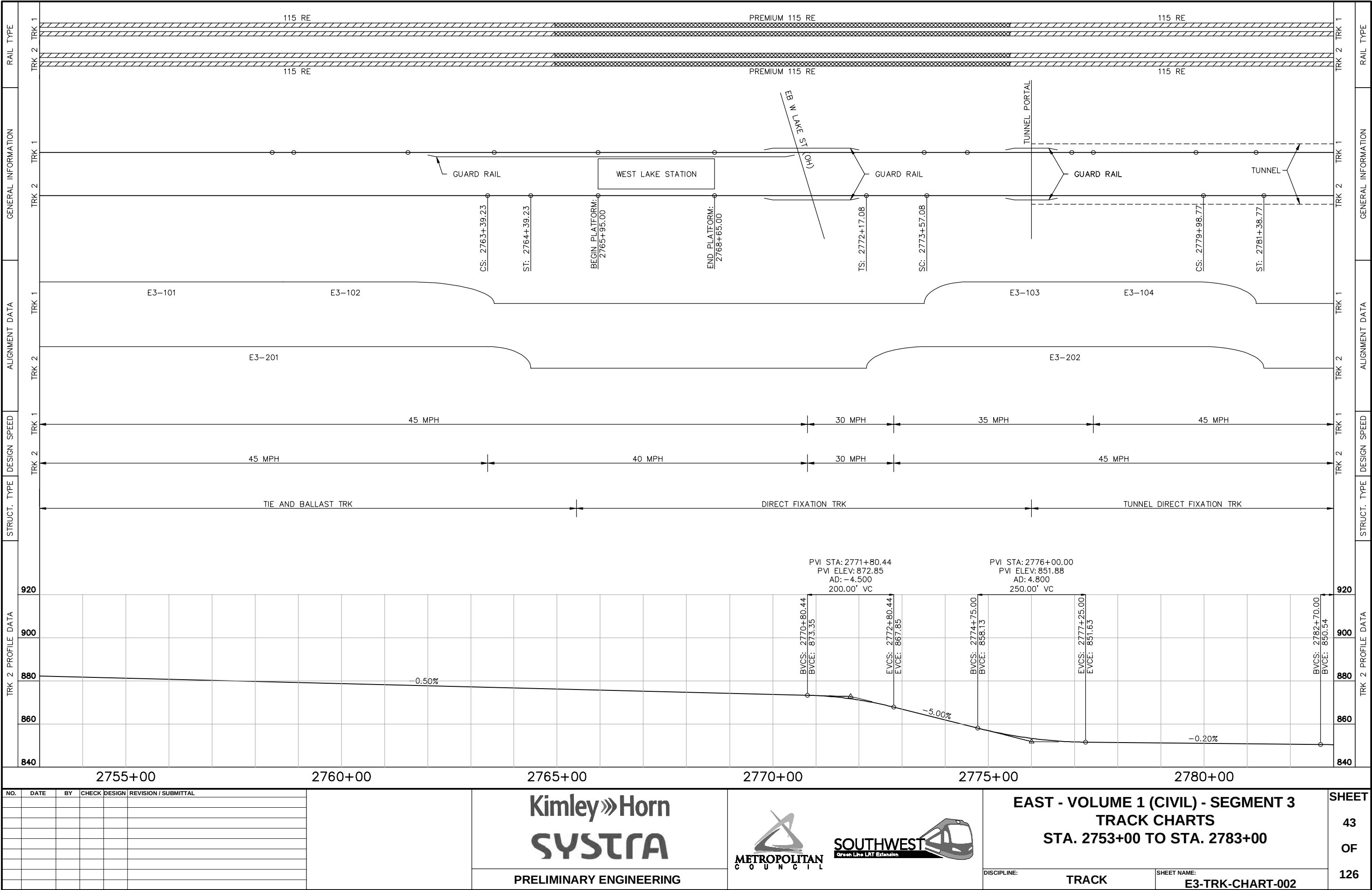


EAST - VOLUME 1 (CIVIL) - SEGMENT 3 TRACK CHARTS STA. 2729+00 TO STA. 2753+00	
DISCIPLINE: TRACK	SHEET NAME: E3-TRK-CHART-001

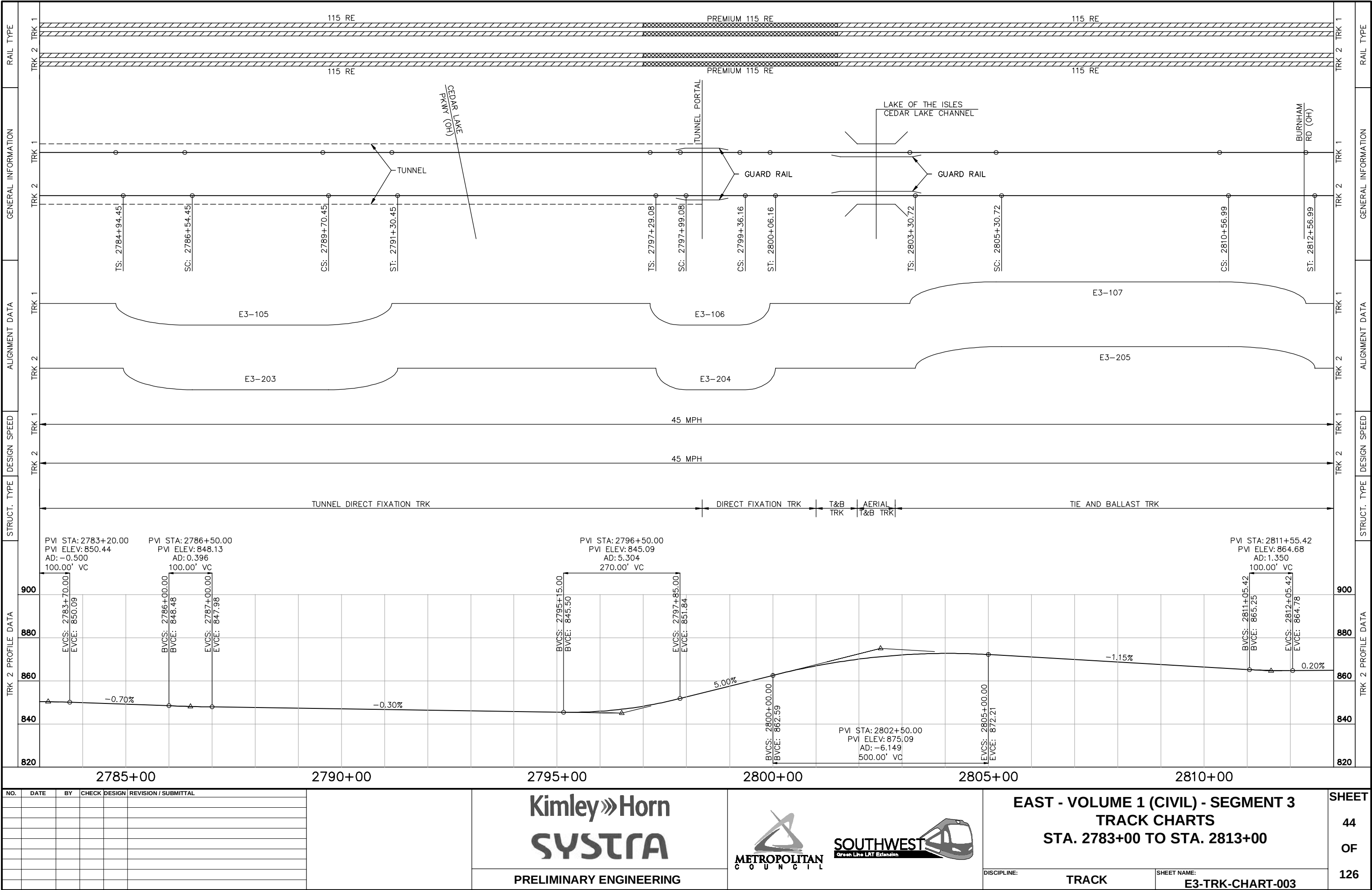
SHEET
42
OF
126



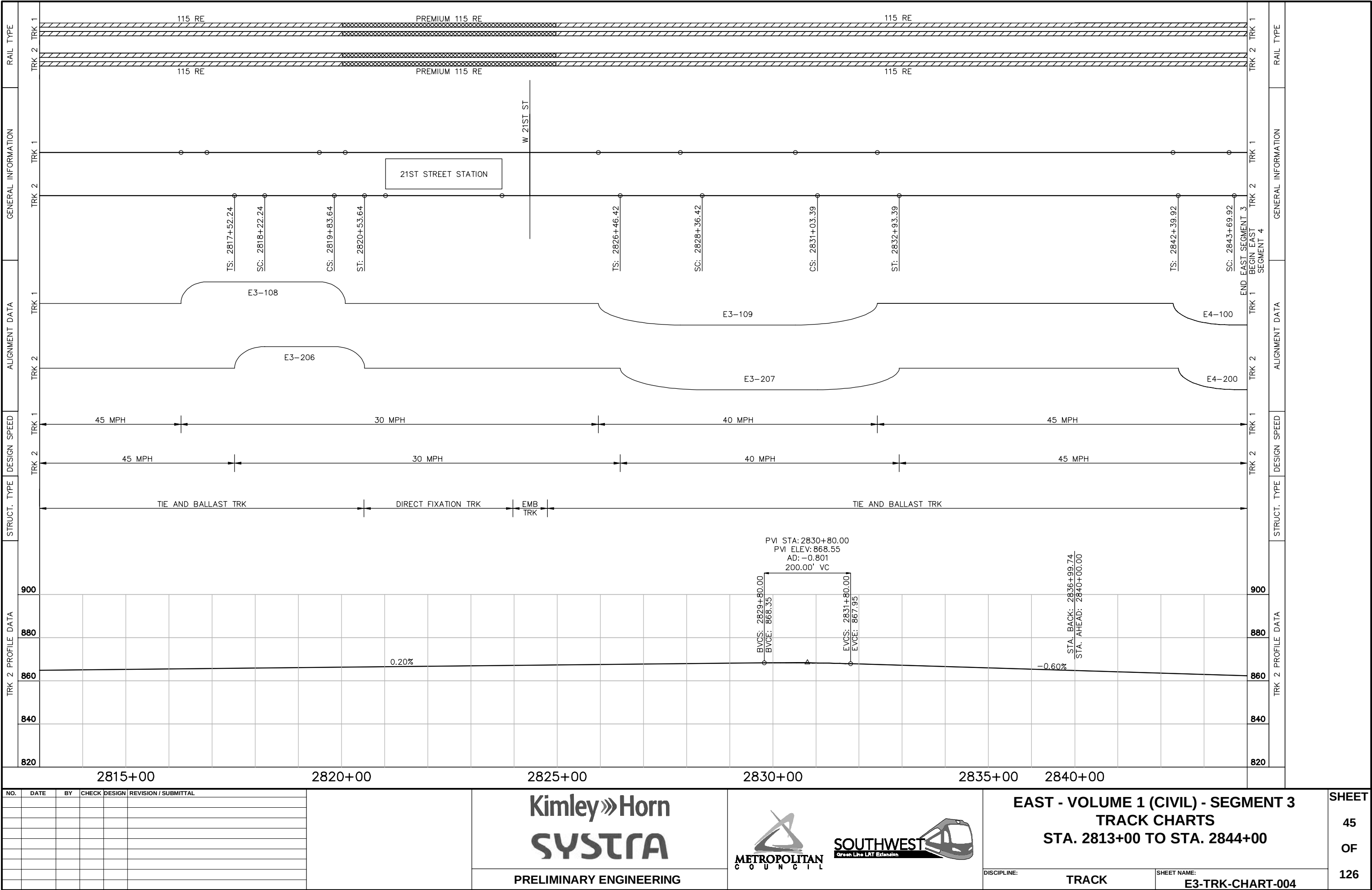
Aug. 29 2014 07:58 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-CHART.dwg By: chris.bunders



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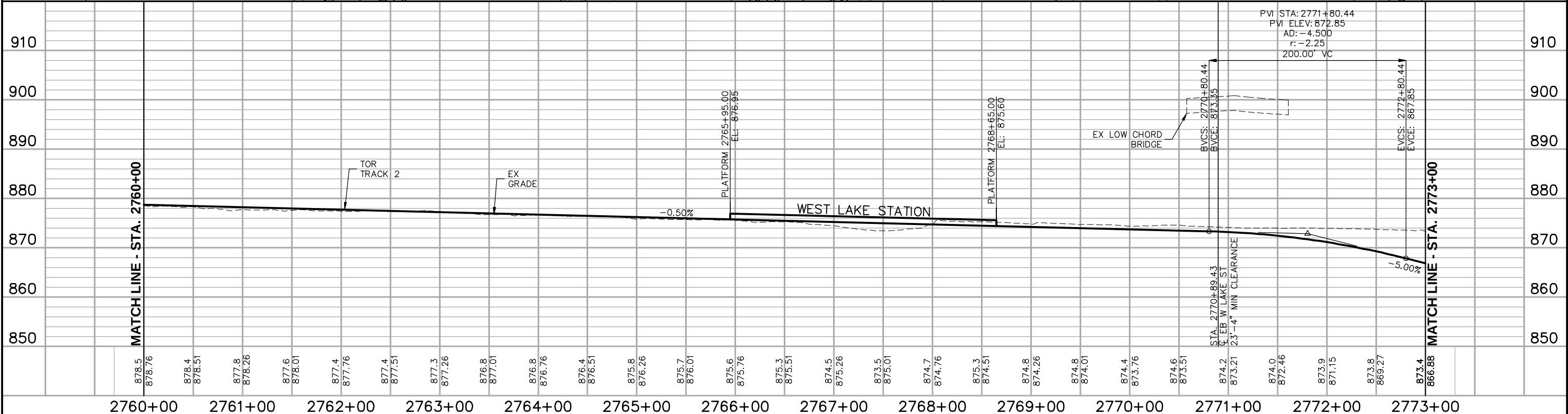
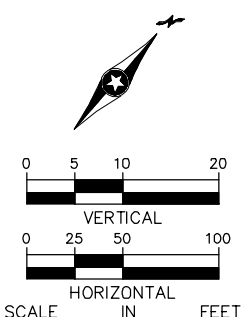
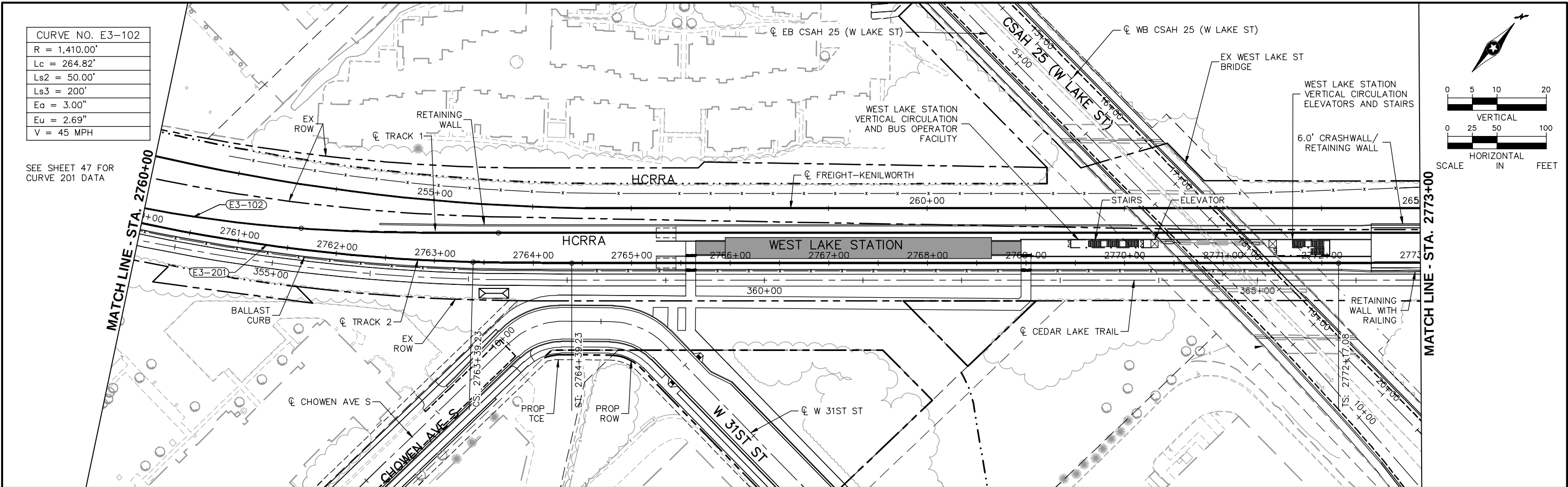


Aug. 29 2014 07:58 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-CHART.dwg By: chris.bunders



						2729+00	2730+00	2731+00	2732+00	2733+00	2734+00	2746+00	2747+00		
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL	Kimley»Horn SYSTRA			 METROPOLITAN C O U N C I L  SOUTHWEST Green Line LRT Extension			EAST - VOLUME 1 (CIVIL) - SEGMENT 3 TRACK PLAN AND PROFILE STA. 2729+00 TO STA. 2747+50		SHEET 46 OF 126	
PRELIMINARY ENGINEERING			DISCIPLINE: TRACK		SHEET NAME: E3-TRK-PPFL-001										

Aug. 29 2014 08:01 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-PPFL.dwg By: chris.bundors



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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SYSTRA

PRELIMINARY ENGINEERING

**METROPOLITAN**
COUNCIL

**SOUTHWEST**
Green Line LRT Extension

EAST - VOLUME 1 (CIVIL) - SEGMENT 3

TRACK

PLAN AND PROFILE

STA. 2760+00 TO STA. 2773+00

DISCIPLINE: **TRACK**

SHEET NAME: **E3-TRK-PPFL-003**

SHEET

48

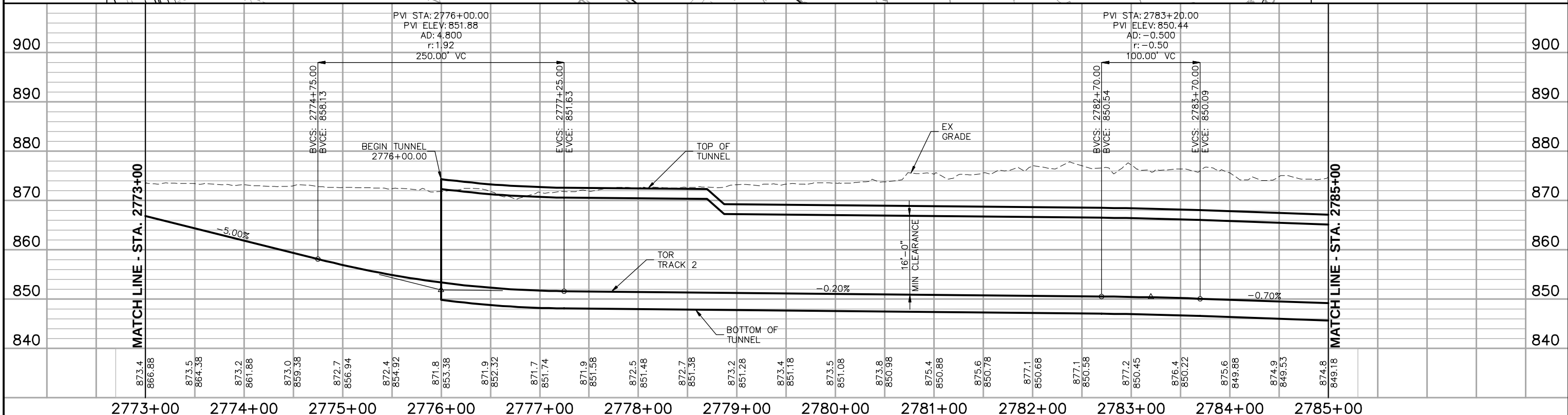
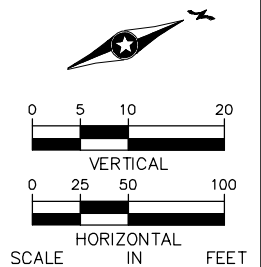
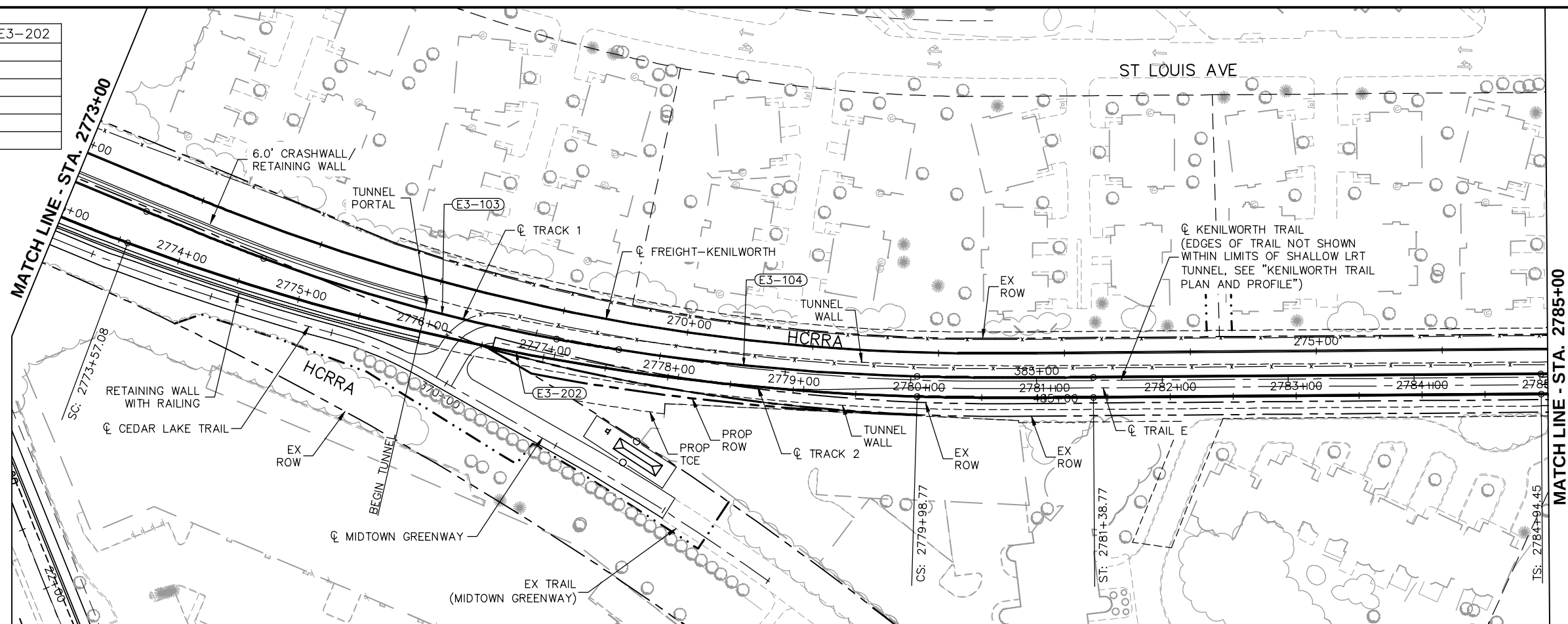
OF

126

CURVE NO. E3-202
R = 1,956.00'
Lc = 641.69'
Ls = 140.00'
Ea = 2.25"
Eu = 1.85"
V = 45 MPH

CURVE NO. E3-103
R = 1,390.00'
Lc = 241.91'
Ls1 = 100.00'
Ls2 = 50.00'
Ea = 1.75"
Eu = 1.74"
V = 35 MPH

CURVE NO. E3-104
R = 1,940.00'
Lc = 237.99'
Ls2 = 50.00'
Ls3 = 140.00'
Ea = 2.25"
Eu = 1.88"
V = 45 MPH

[illegible]

Kimley»Horn
SYSTRA

PRELIMINARY ENGINEERING



**EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
PLAN AND PROFILE
STA. 2773+00 TO STA. 2785+00**

DISCIPLINE:

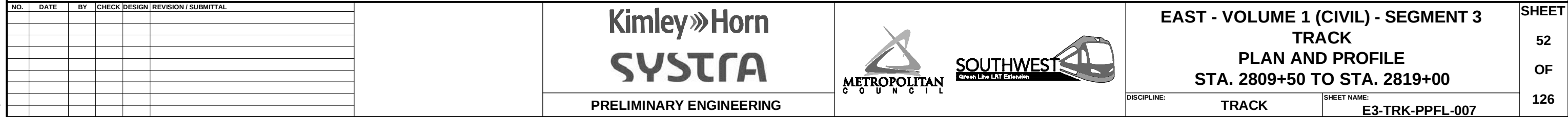
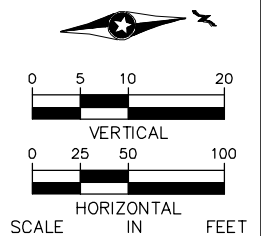
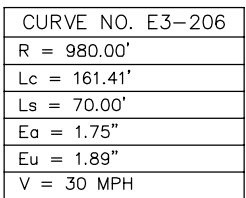
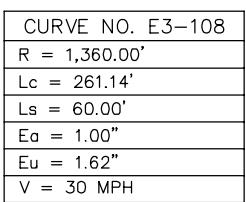
TRACK

SHEET NAME:

E3-TRK-PPFL-004

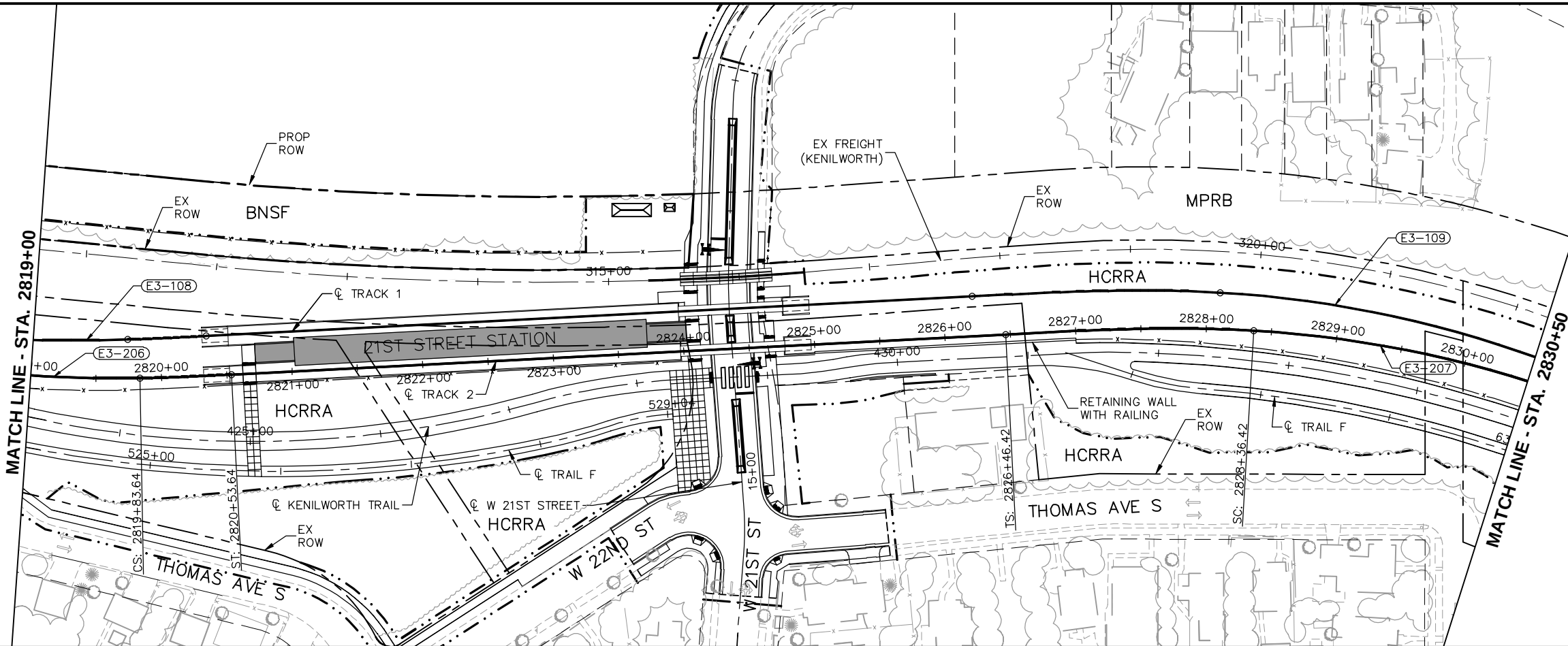
SHEET
49
OF
126

Aug, 29 2014 08:02 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-PPFL.dwg By: chris.bunders



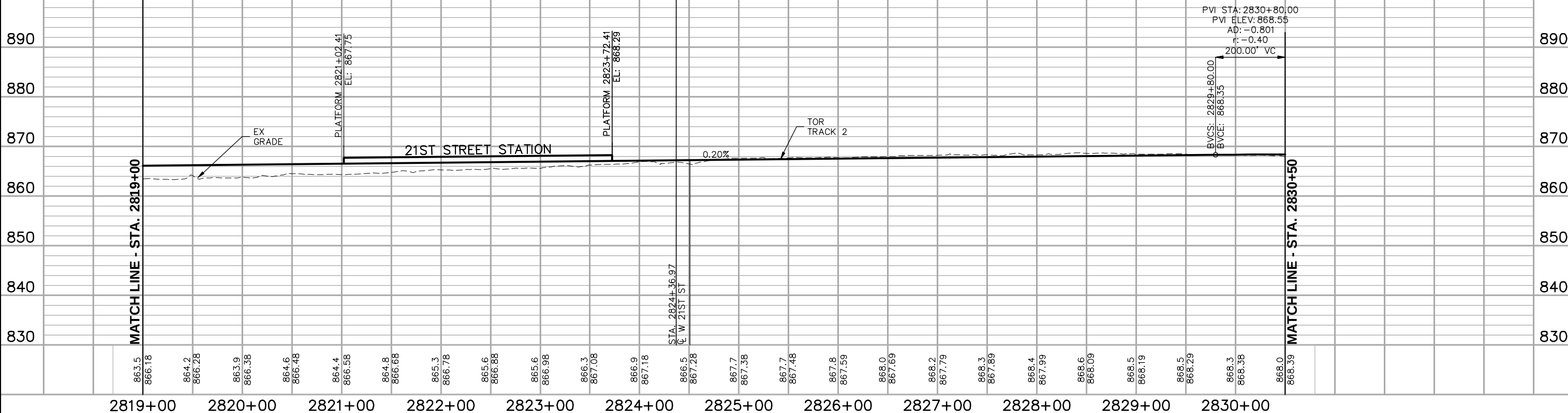
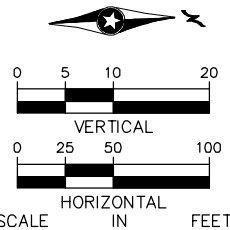
Aug. 29 2014 08:03 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-PPFL.dwg By: chris.bundors

SEE SHEET 52 FOR
CURVE 108 AND CURVE
206 DATA



CURVE NO. E3-109
R = 860.00'
Lc = 266.96'
Ls = 190.00'
Ea = 3.50"
Eu = 3.87"
V = 40 MPH

CURVE NO. E3-207
R = 860.00'
Lc = 266.96'
Ls = 190.00'
Ea = 3.50"
Eu = 3.87"
V = 40 MPH



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

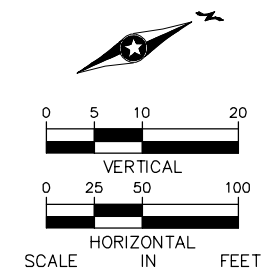
Kimley»Horn
SYSTRA
PRELIMINARY ENGINEERING

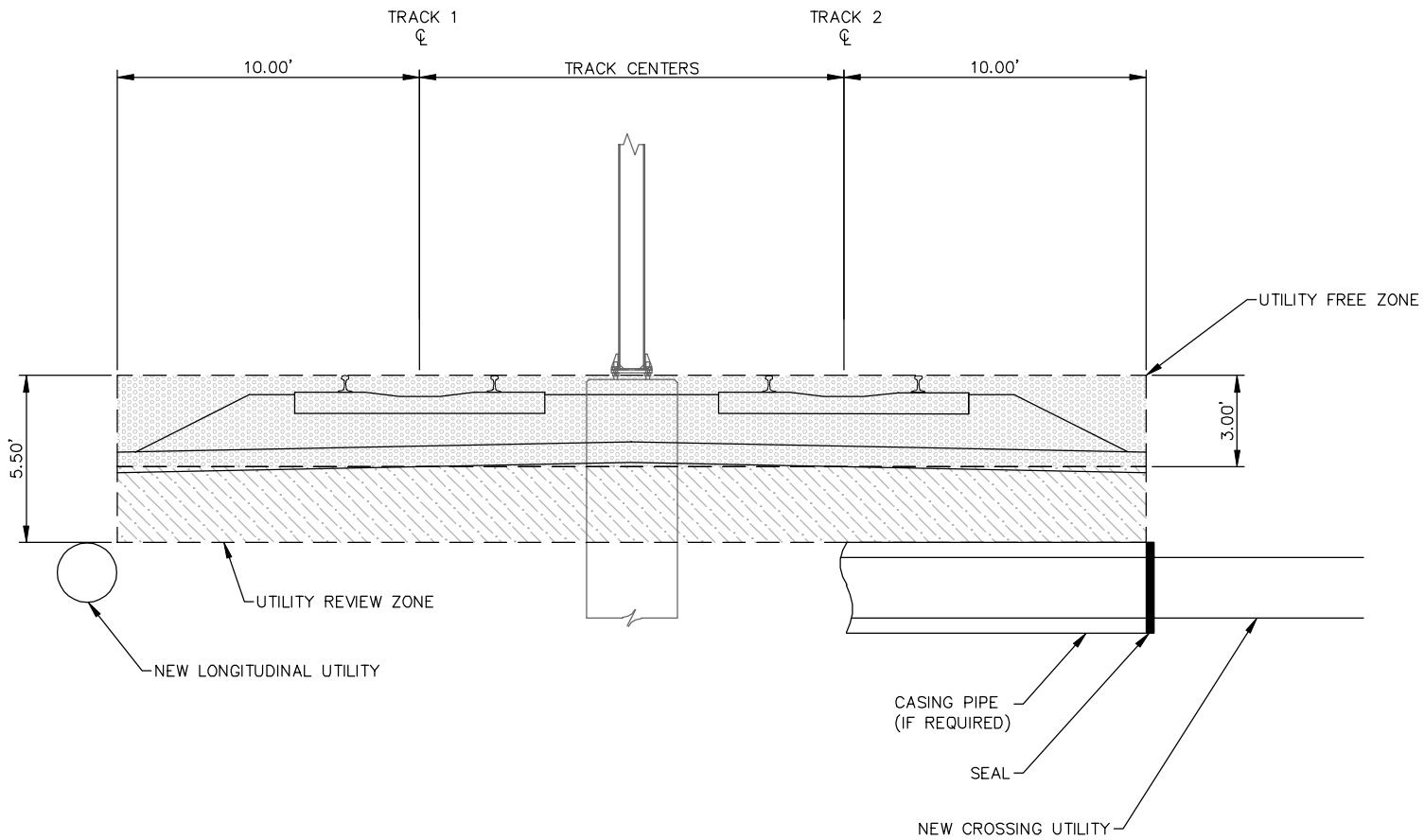
METROPOLITAN
COUNCIL
SOUTHWEST
Green Line LRT Extension

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
PLAN AND PROFILE
STA. 2819+00 TO STA. 2830+50
DISCIPLINE: **TRACK**
SHEET NAME: **E3-TRK-PPFL-008**

SHEET
53
OF
126

Aug, 29 2014 08:03 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-PPFL.dwg By: chris.bunders

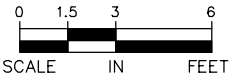




UTILITY ZONES
BALLASTED TRACK

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.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



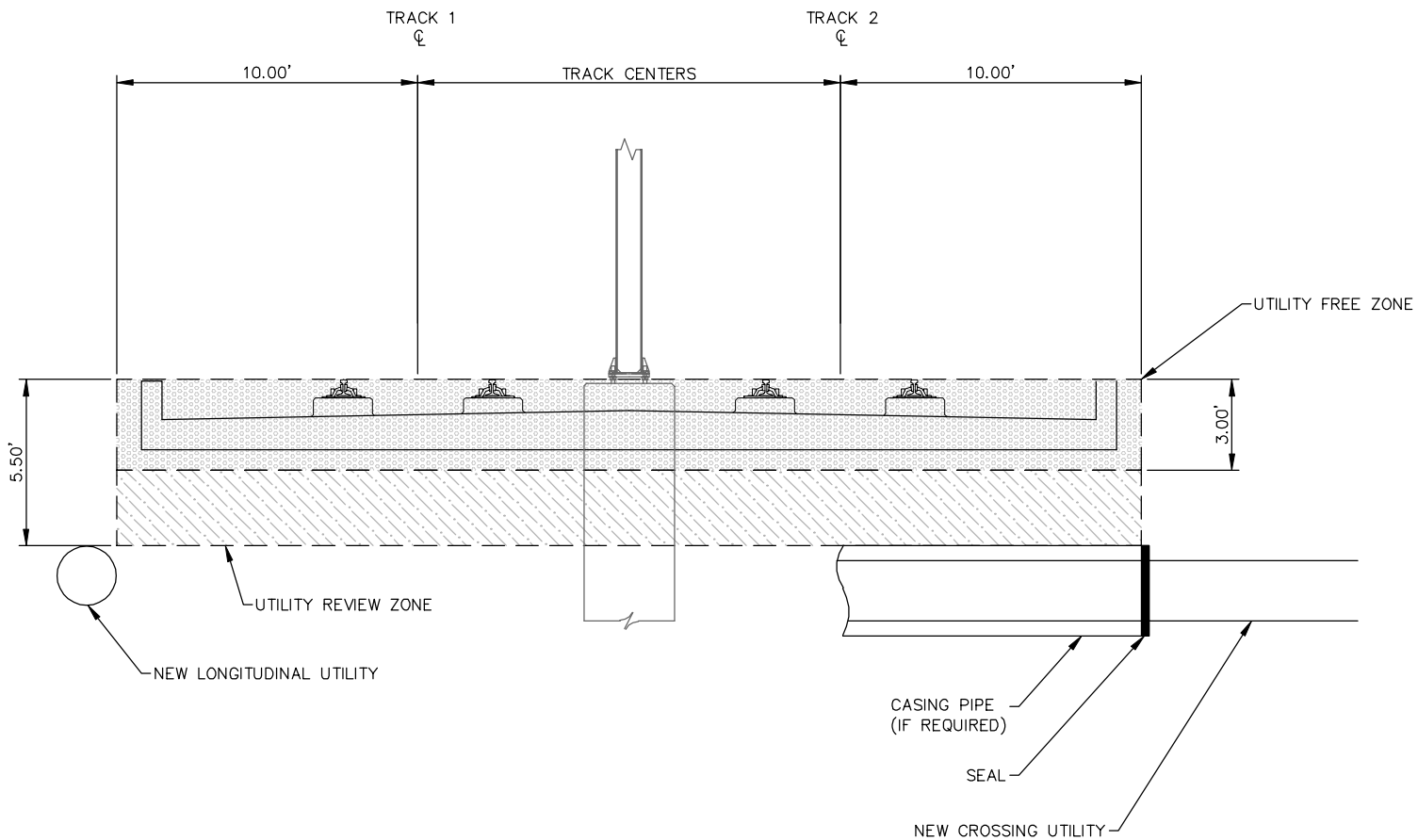
PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
DETAILS

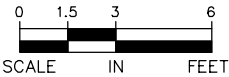
DISCIPLINE: TRACK

SHEET NAME:
E3-TRK-DTL - 101



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.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



PRELIMINARY ENGINEERING

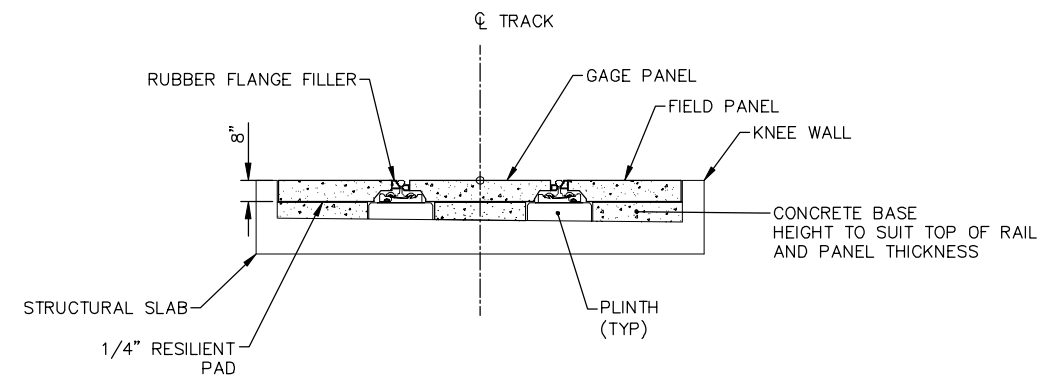
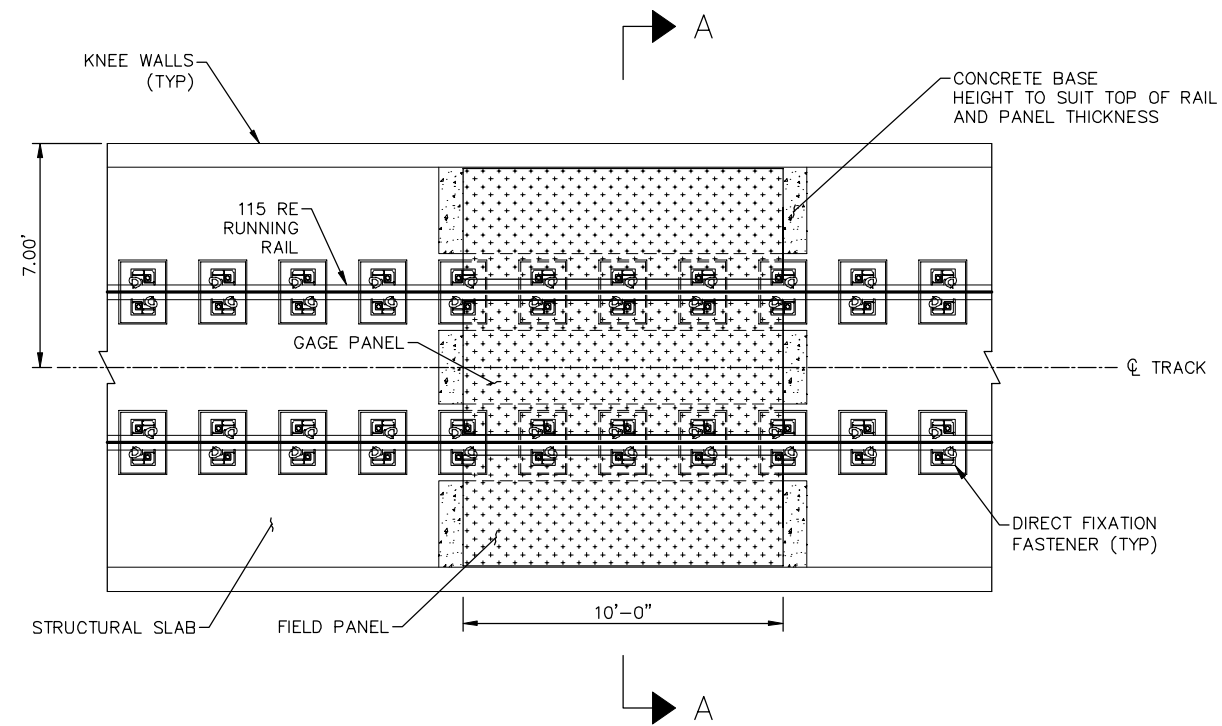


EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME:
E3-TRK-DTL - 102

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SECTION A-A

PEDESTRIAN CROSSING PANEL AT DIRECT FIXATION
(NTS)

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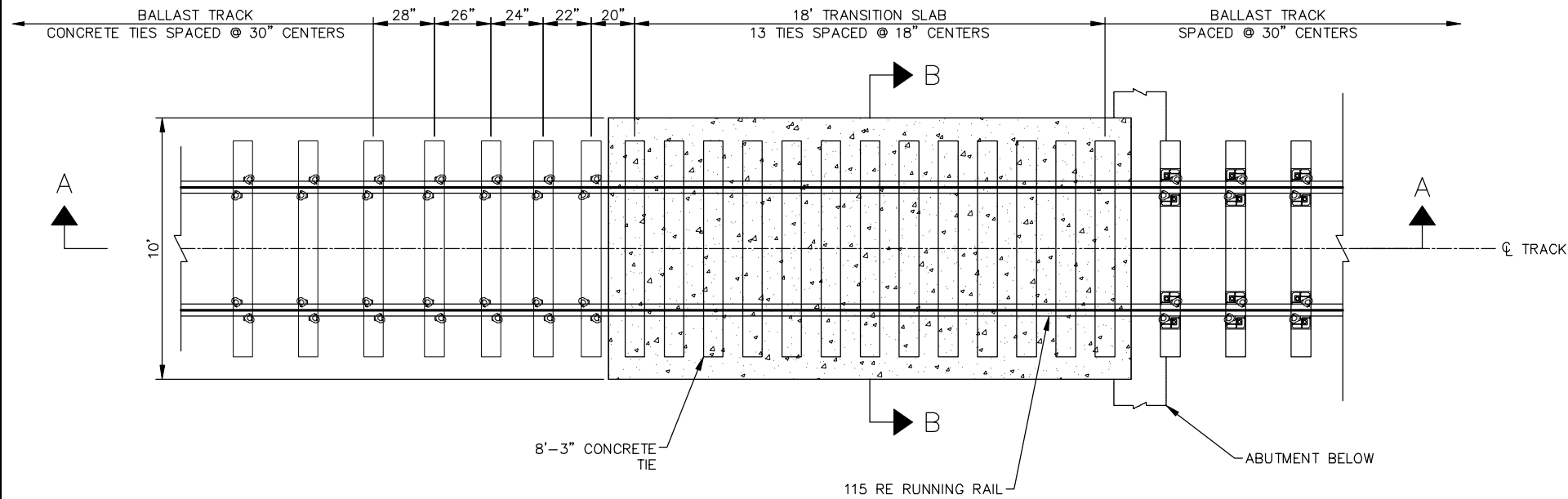
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
DETAILS

DISCIPLINE: **TRACK**

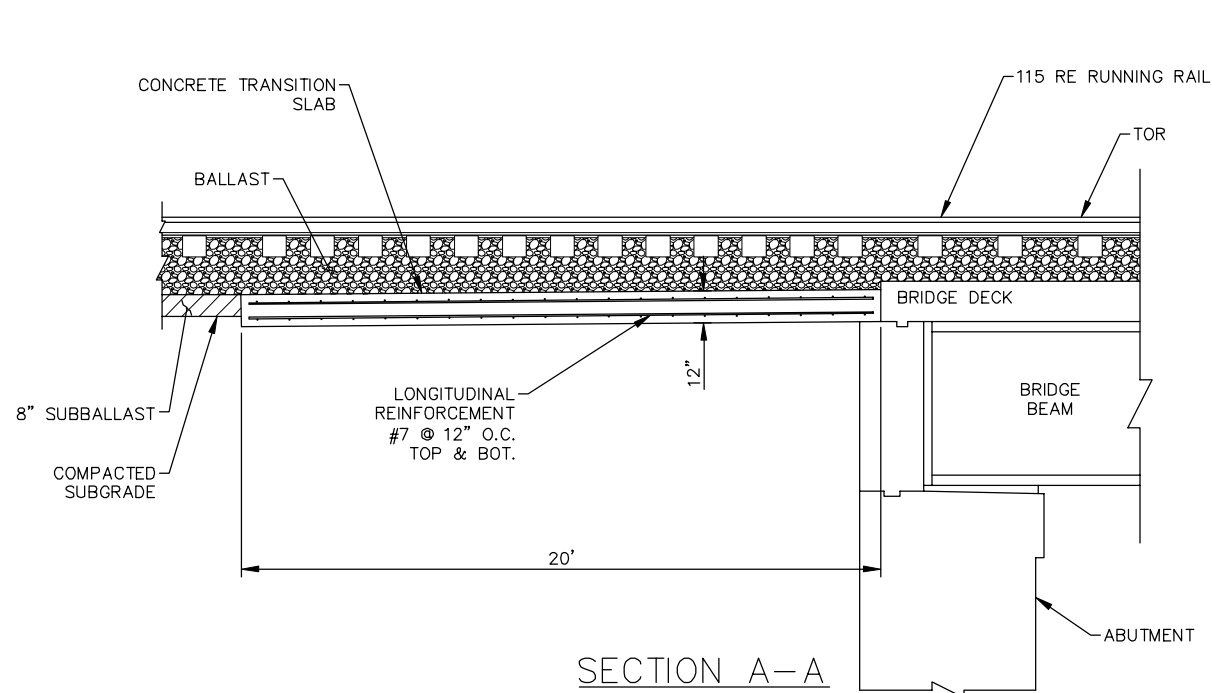
SHEET NAME:
E3-TRK-DTL - 203

SHEET
57
OF
126

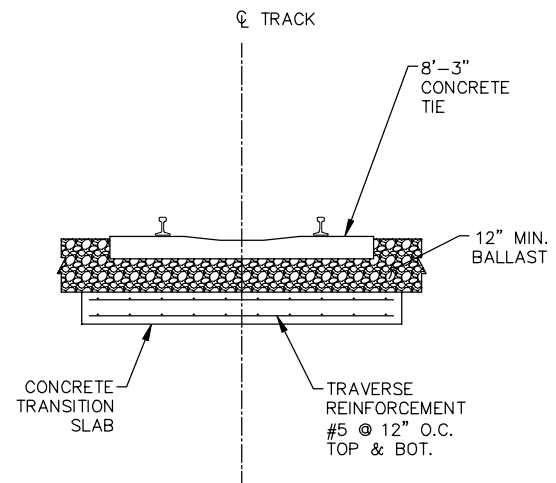
Aug. 29 2014 08:03 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRACK\E3-TRK-DTL.dwg By: chris.bunders



PLAN VIEW



SECTION A-A



SECTION B-B

NOTE:

1. DRAIN TILE NOT SHOWN FOR CLARITY.

BALLAST TRACK TRANSITION SLAB AT BALLASTED BRIDGE
(NTS)

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PRELIMINARY ENGINEERING



SOUTHWEST
Green Line LRT Extension



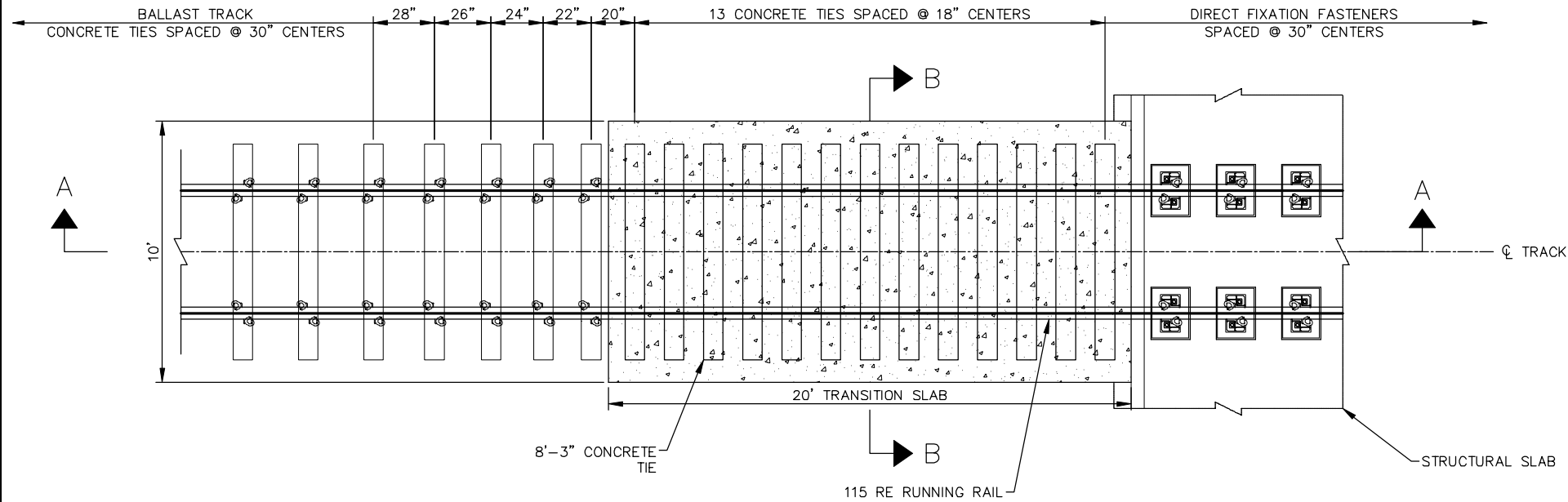
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
DETAILS

DISCIPLINE: TRACK

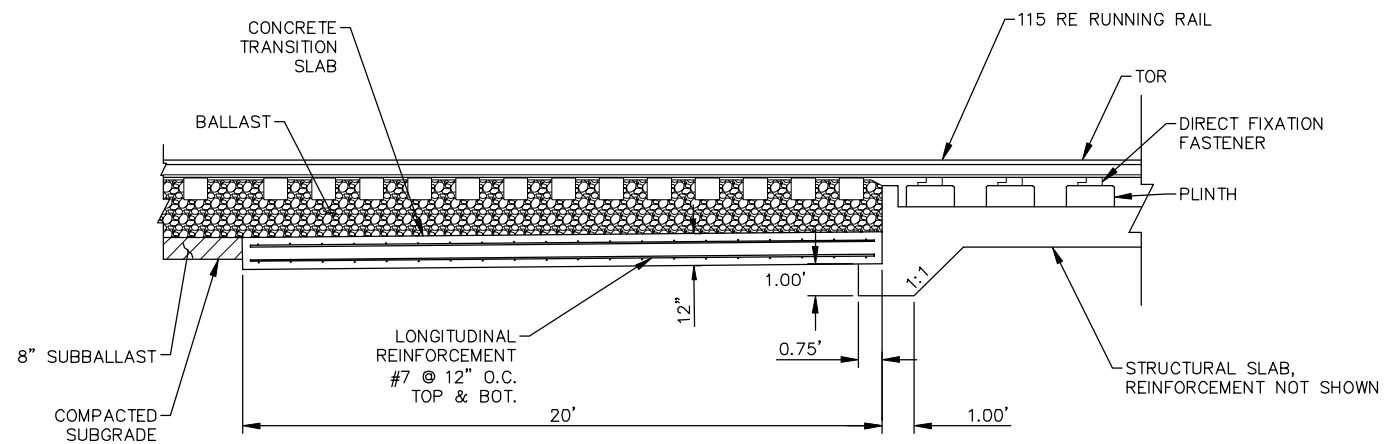
SHEET NAME: E3-TRK-DTL - 301

SHEET
58
OF
126

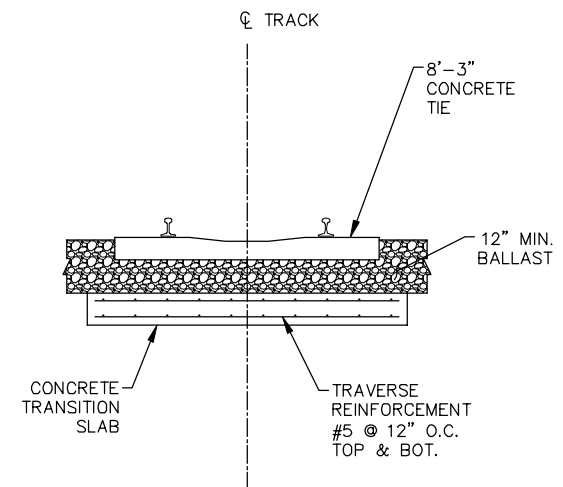
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PLAN VIEW



SECTION A-A



SECTION B-B

NOTE:

1. DRAIN TILE NOT SHOWN FOR CLARITY.

BALLAST TRACK TRANSITION SLAB AT DIRECT FIXATION TRACK
(NTS)

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PRELIMINARY ENGINEERING



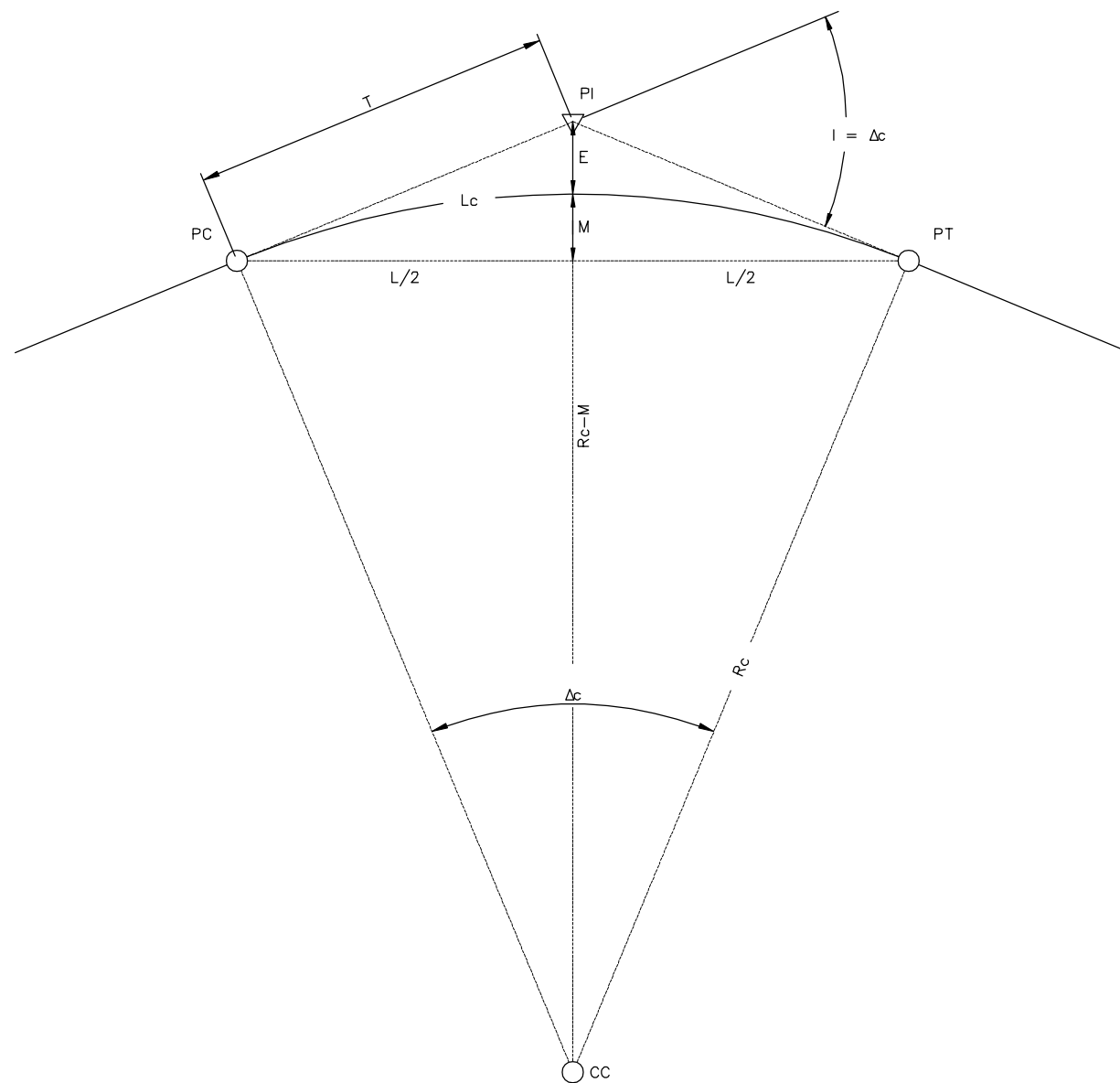
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME: E3-TRK-DTL - 303

SHEET
59
OF
126

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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

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

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

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

$$T = Rc \tan \frac{1}{2}$$

$$E = Rc \sec \frac{1}{2} - Rc$$

$$M = Rc - Rc \cos \frac{1}{2}$$

$$L = 2 Rc \sin \frac{1}{2}$$

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

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





PRELIMINARY ENGINEERING



**EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
DETAILS**

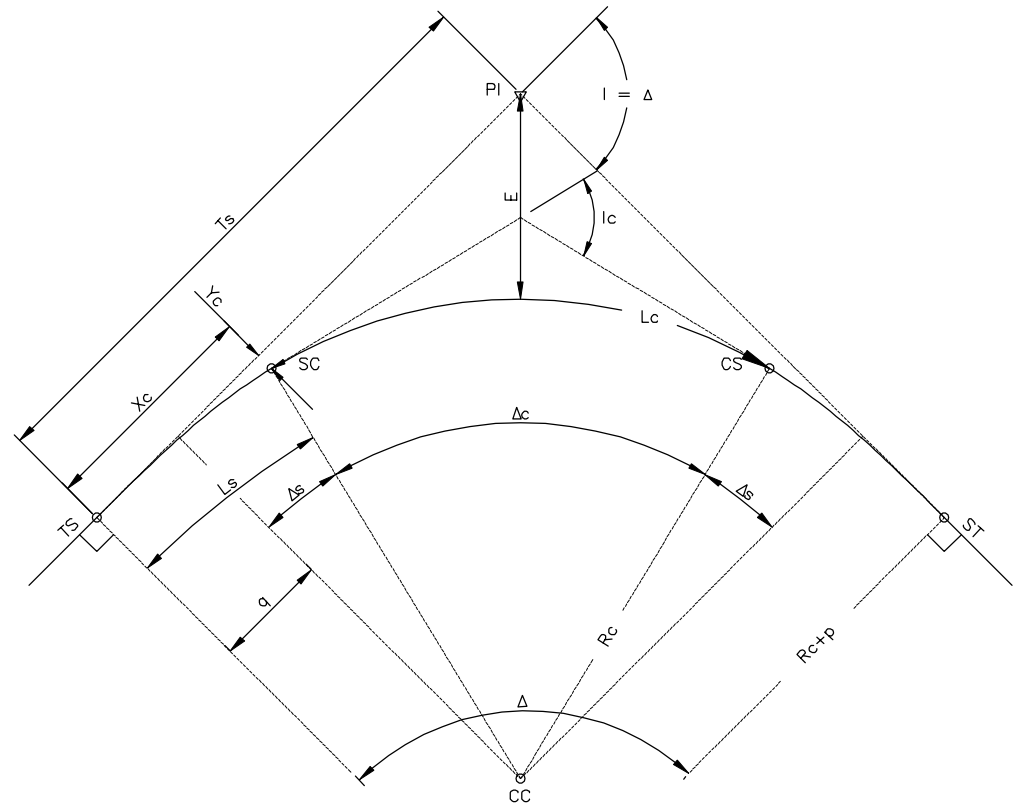
DISCIPLINE:

TRACK

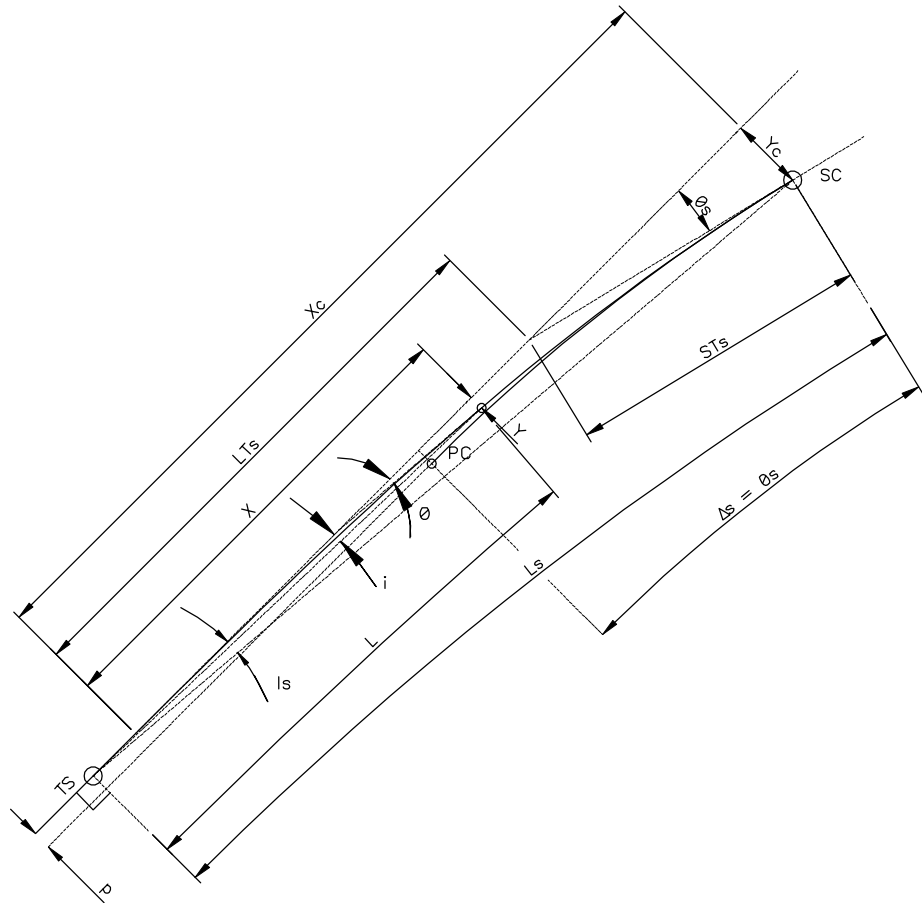
SHEET NAME:

E3-TRK-DTL - 401

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SPIRAL CURVE DIAGRAM



SPIRAL DIAGRAM

- DEFINITIONS**
- D_c = DEGREE OF SIMPLE CURVE IN ARC DEFINITION (DEGREES)
- R_c = RADIUS OF CURVE (FEET)
- Δ = TOTAL CENTRAL ANGLE OF CURVE (DEGREES)
- Δ_c = CENTRAL ANGLE OF SIMPLE CURVE (DEGREES)
- Δ_s = CENTRAL ANGLE OF SPIRAL (RADIAN)
- E = EXTERNAL DISTANCE OF THE SIMPLE CURVE (FEET)
- T_s = TOTAL TANGENT DISTANCE (FEET)
- L_s = LENGTH OF SPIRAL (FEET)
- L_c = LENGTH OF THE SIMPLE CURVE ARC (FEET)
- L = LENGTH FROM TS TO ANY POINT ALONG THE SPIRAL (FEET)
- I = TOTAL DEFLECTION ANGLE (DEGREES)
- i_c = DEFLECTION ANGLE OF THE SIMPLE CURVE (DEGREES)
- i_s = 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
- X_c = DISTANCE ALONG TANGENT FROM TS/ST TO THE SC/CS (FEET)
- Y_c = 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
- θ_s = SPIRAL ANGLE FROM TANGENT TO SC
- θ = SPIRAL ANGLE FROM TANGENT TO ANY POINT ON THE SPIRAL
- L_{Ts} = LONG TANGENT OF SPIRAL (FEET)
- ST_s = 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

$$\begin{aligned} \Delta &= \Delta_c + 2\Delta_s \\ \Delta_s &= \frac{L_s}{2R_c} \\ i &= \frac{\theta}{3} \\ X &= L - \frac{L^5}{40R_c^2 L_s^2} \\ X_c &= L_s - \frac{L_s^3}{40R_c^2} \\ Y &= \frac{L^3}{6R_c L_s} \\ Y_c &= \frac{L_s^2}{6R_c} \\ q &= X_c - R_c \sin \Delta_s \\ p &= \frac{1}{4} Y_c = \frac{L_s^2}{24R_c} \\ Ts &= (R_c + p) \tan \frac{\Delta}{2} + q \\ E &= \frac{R_c + p}{\cos \frac{\Delta}{2}} - R_c \\ LT_s &= X_c - \frac{Y_c}{\tan \Delta_s} \\ ST_s &= \frac{Y_c}{\sin \Delta_s} \\ \frac{D_c}{360^\circ} &= \frac{100}{2\pi R_c} \\ D_c &= \frac{5729.58'}{R_c} \\ L_c &= \frac{\pi R_c \Delta_c}{180} \end{aligned}$$

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PRELIMINARY ENGINEERING



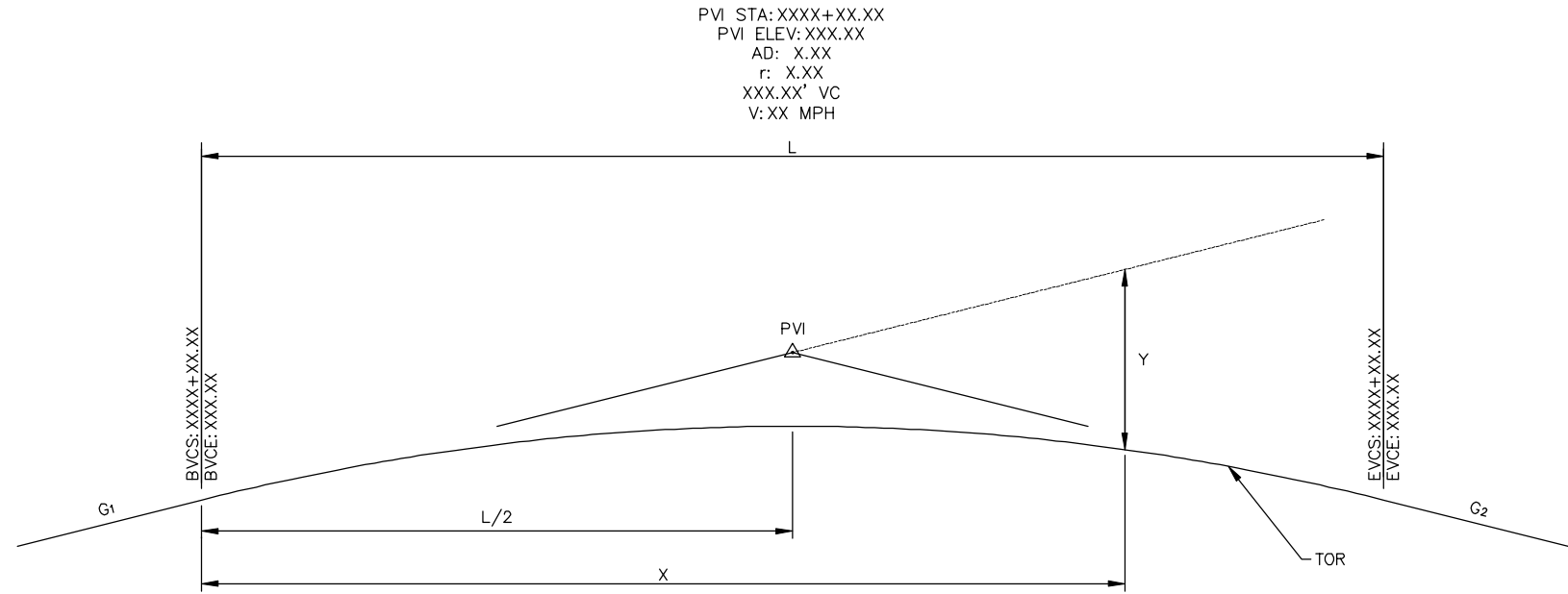
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME:
E3-TRK-DTL - 402

SHEET
61
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126

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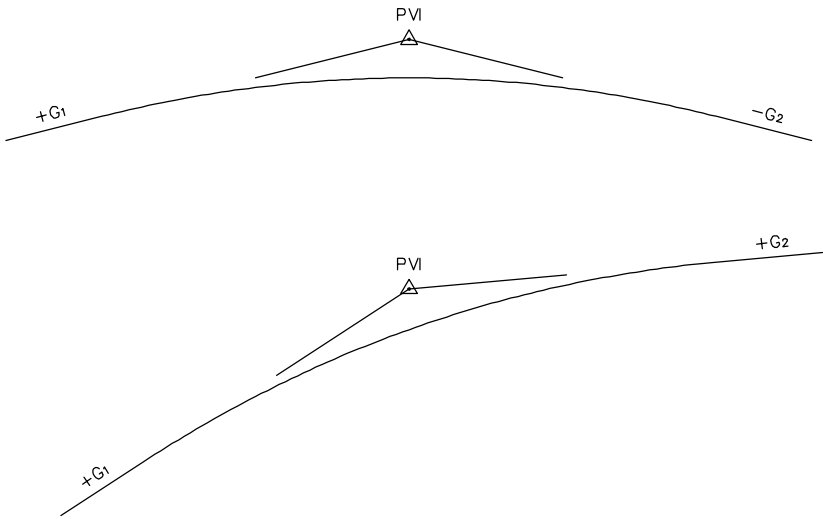


STANDARD VERTICAL CURVE

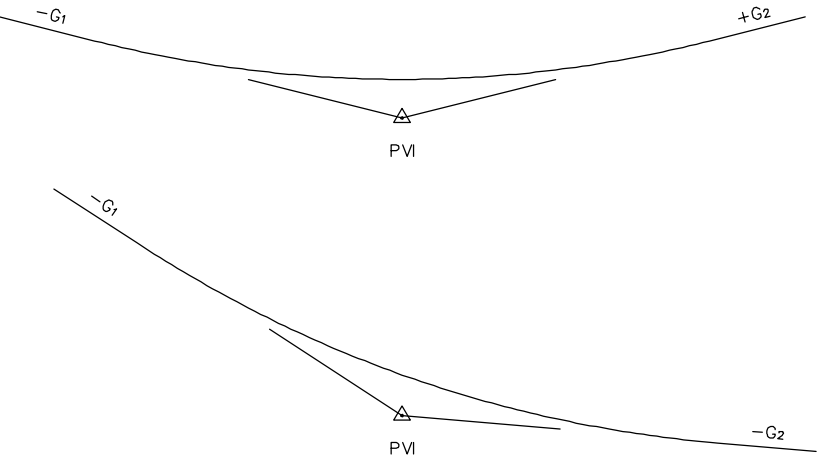
DEFINITIONS
G₁ = ENTRY GRADE %
G₂ = DEPARTING GRADE %
PVI = POINT OF VERTICAL INTERSECTION
AD = ALGEBRAIC DIFFERENCE
r = RATE OF CHANGE OF GRADE
L = LENGTH OF VERTICAL CURVE
V = DESIGN VELOCITY (MPH)
BVCS = BEGIN VERTICAL CURVE STATION
BVCE = BEGIN VERTICAL CURVE ELEVATION
EVCS = END VERTICAL CURVE STATION
EVCE = END VERTICAL CURVE ELEVATION
X = HORIZONTAL DISTANCE FROM BVC
Y = ELEVATION OF PARABOLA BELOW G₁
R_v = EQUIVALENT RADIUS OF VERTICAL CURVE

FORMULAS
 $a = \frac{G_2 - G_1}{2L}$
 $Y = BVCE + G_1X + aX^2$
 $AD = G_2 - G_1$
 $r = \frac{100 \text{ AD}}{L}$
 $R_v = \frac{L}{0.01 \text{ AD}}$

VERTICAL CURVE GEOMETRY



CREST TYPE VERTICAL CURVES



SAG TYPE VERTICAL CURVES

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PRELIMINARY ENGINEERING



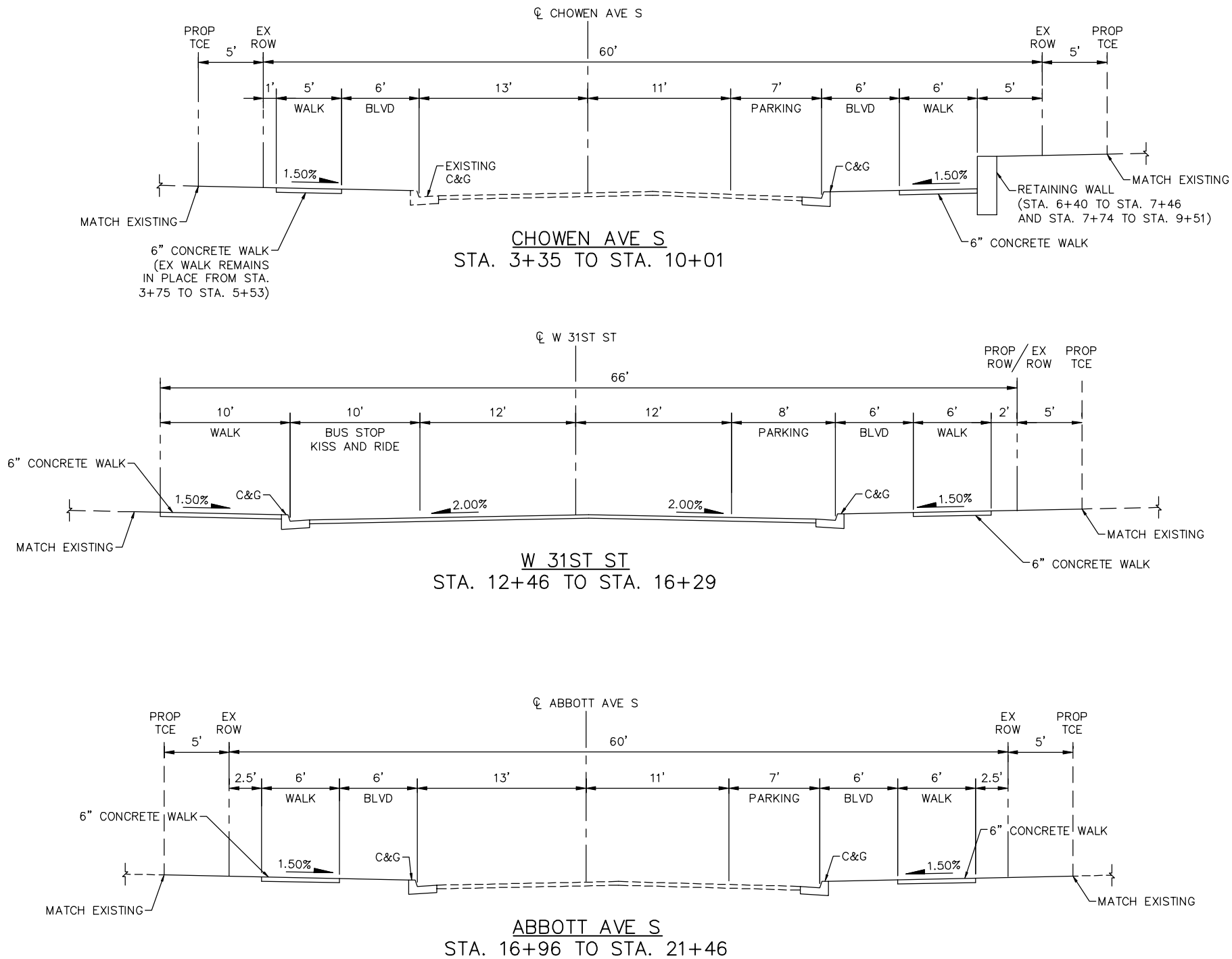
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
TRACK
DETAILS

DISCIPLINE: TRACK

SHEET NAME:
E3-TRK-DTL - 403

SHEET
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126

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PRELIMINARY ENGINEERING



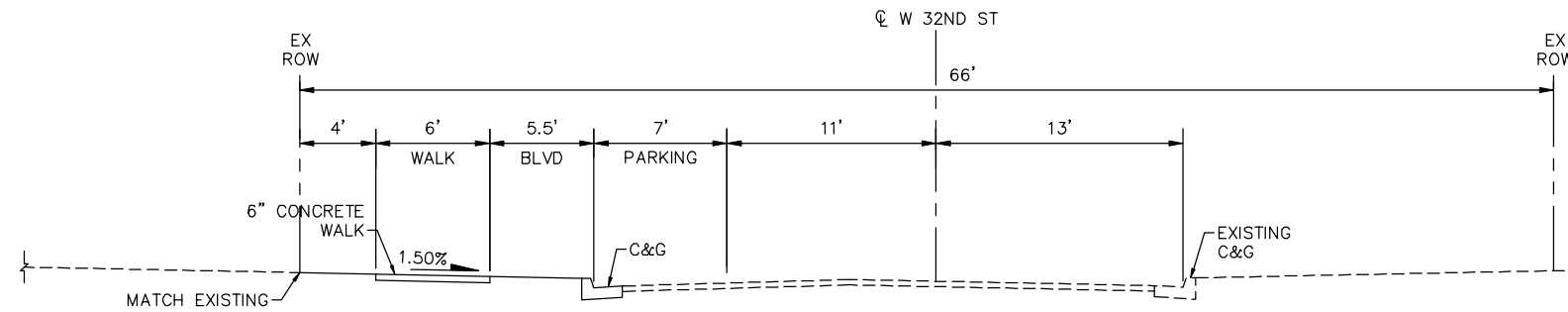
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
CIVIL
TYPICAL SECTIONS

DISCIPLINE: CIVIL

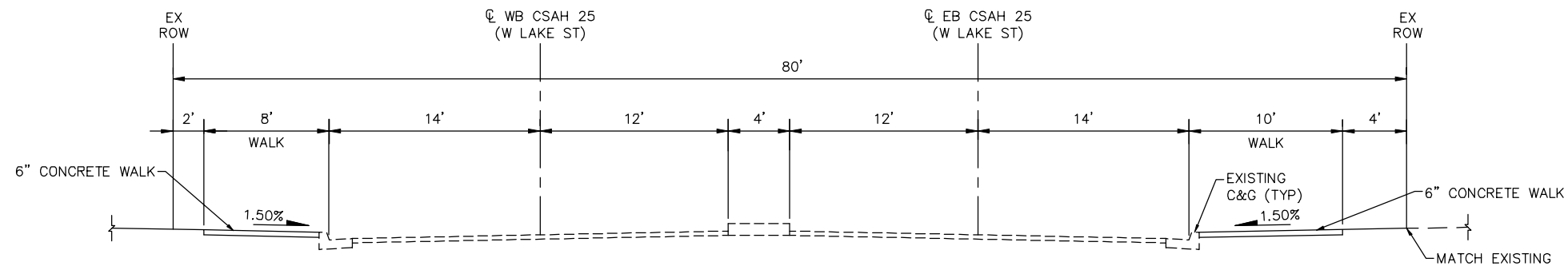
SHEET NAME: E3-CIV-TYP - 001

SHEET
64
OF
126

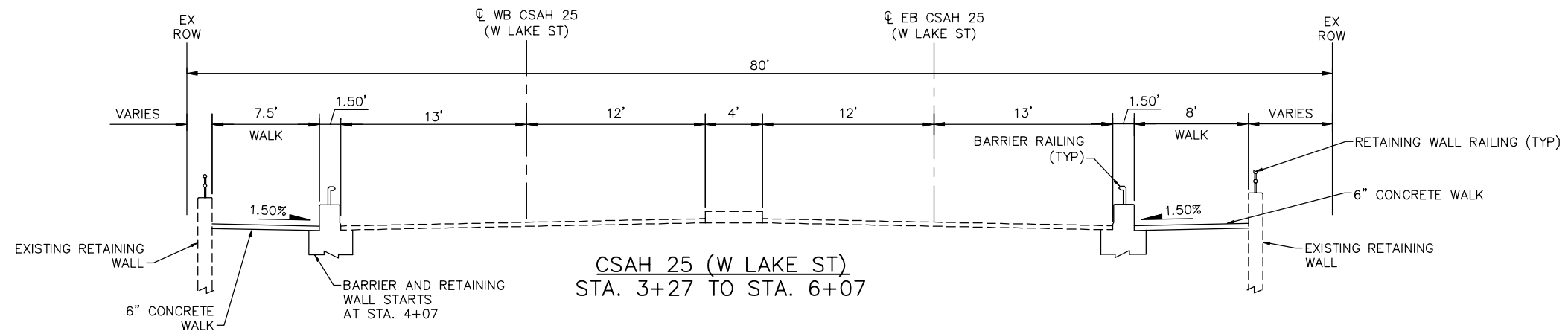
Aug. 29 2014 08:28 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\CIVIL\E3-CIV-TYP.dwg By: chris.bunders



W 32ND ST
STA. 32+00 TO STA. 37+31



CSAH 25 (W LAKE ST)
STA. 0+00 TO STA. 3+27



CSAH 25 (W LAKE ST)
STA. 3+27 TO STA. 6+07

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PRELIMINARY ENGINEERING



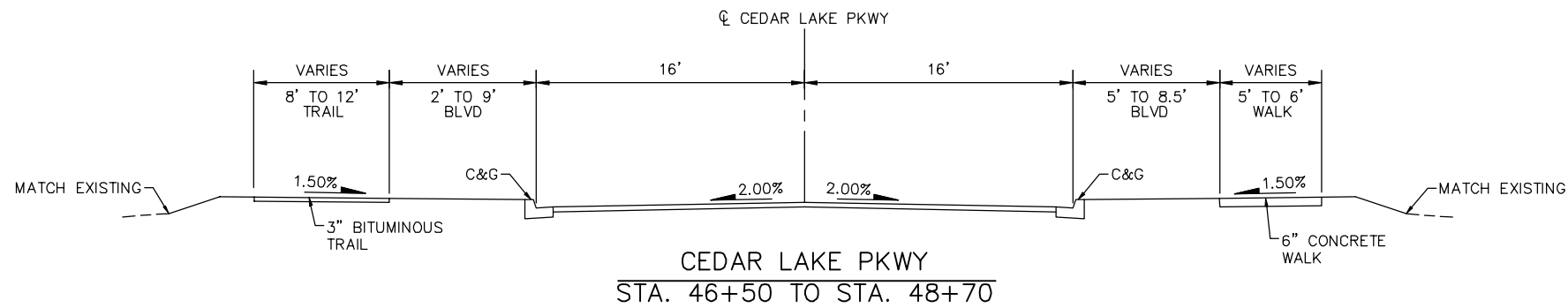
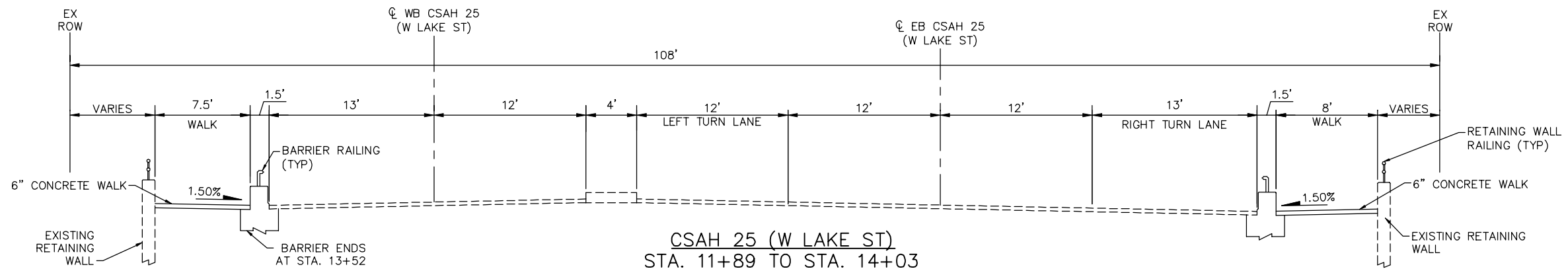
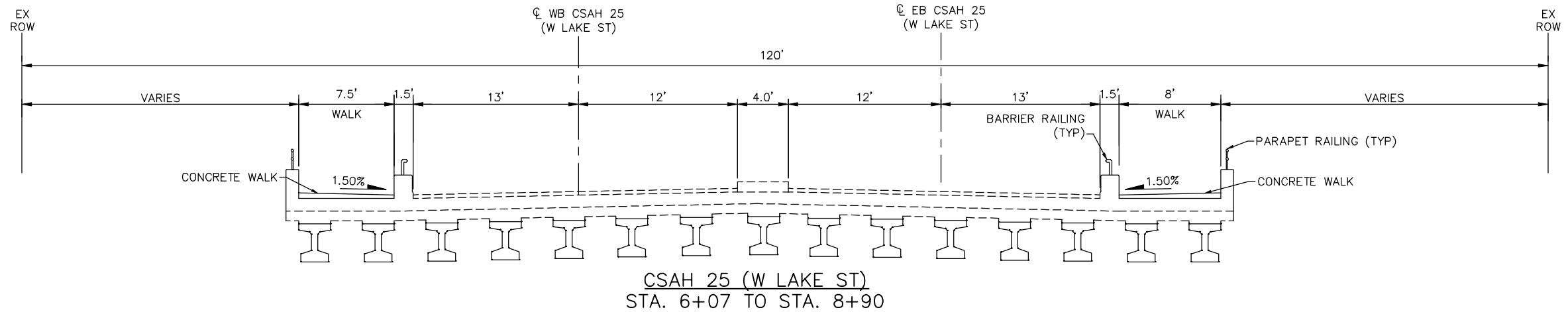
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
CIVIL
TYPICAL SECTIONS

DISCIPLINE: CIVIL

SHEET NAME: E3-CIV-TYP - 002

SHEET
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126

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PRELIMINARY ENGINEERING



SOUTHWEST
Green Line LRT Extension



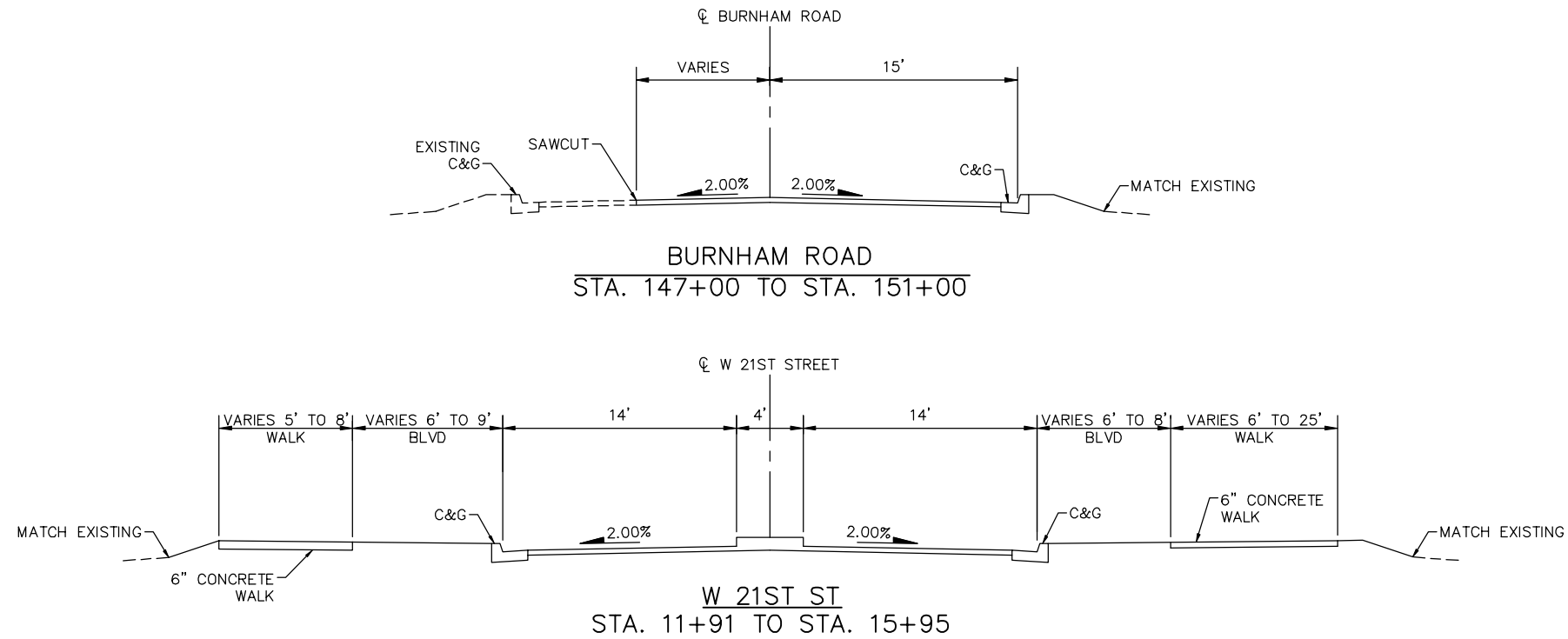
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
CIVIL
TYPICAL SECTIONS

DISCIPLINE: CIVIL

SHEET NAME: E3-CIV-TYP - 003

SHEET
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OF
126

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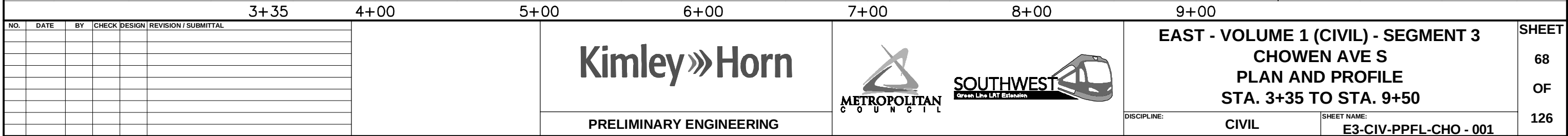
PRELIMINARY ENGINEERING



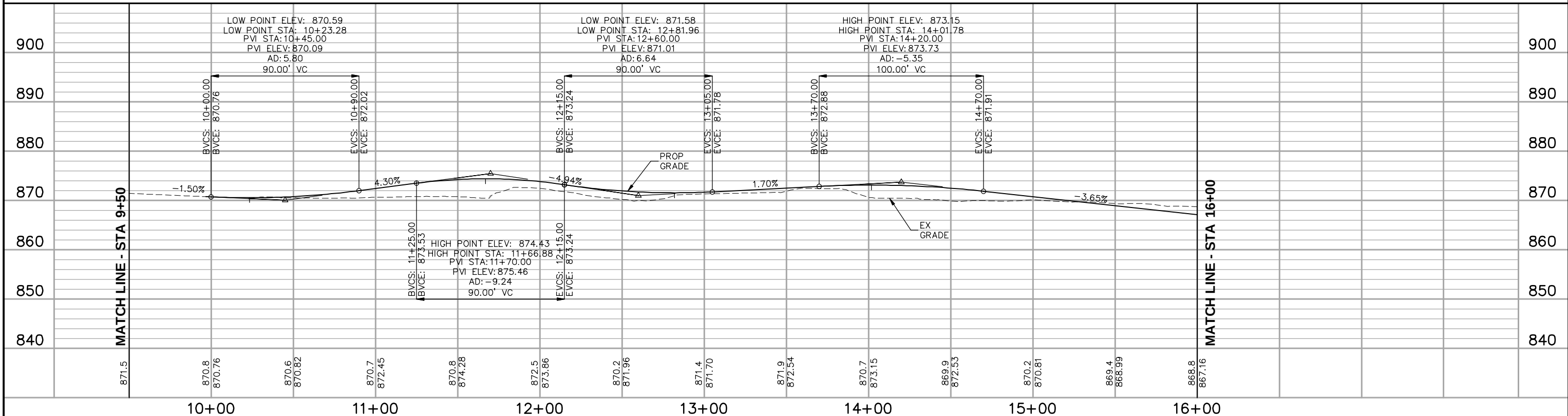
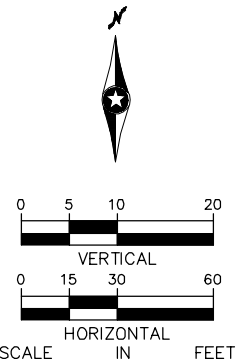
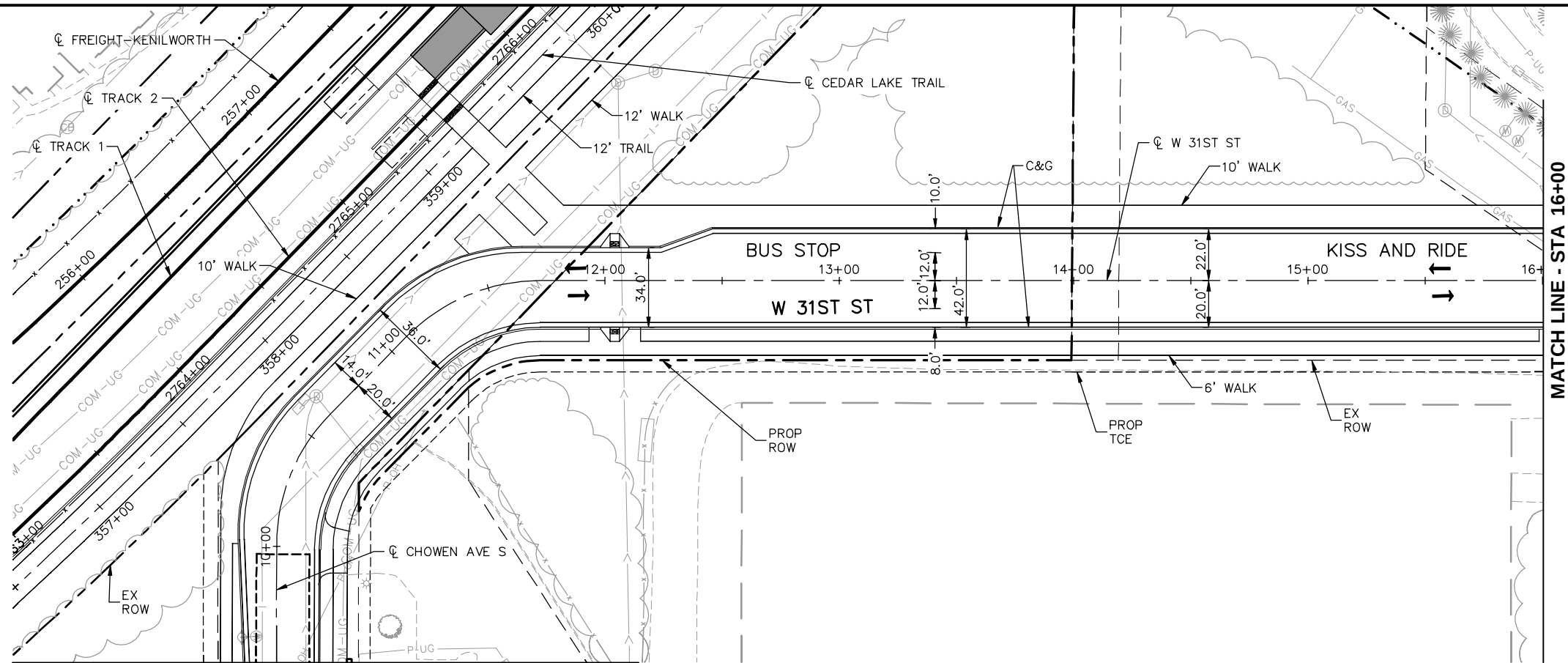
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CIVIL
TYPICAL SECTIONS

DISCIPLINE: CIVIL

SHEET NAME: E3-CIV-TYP - 004



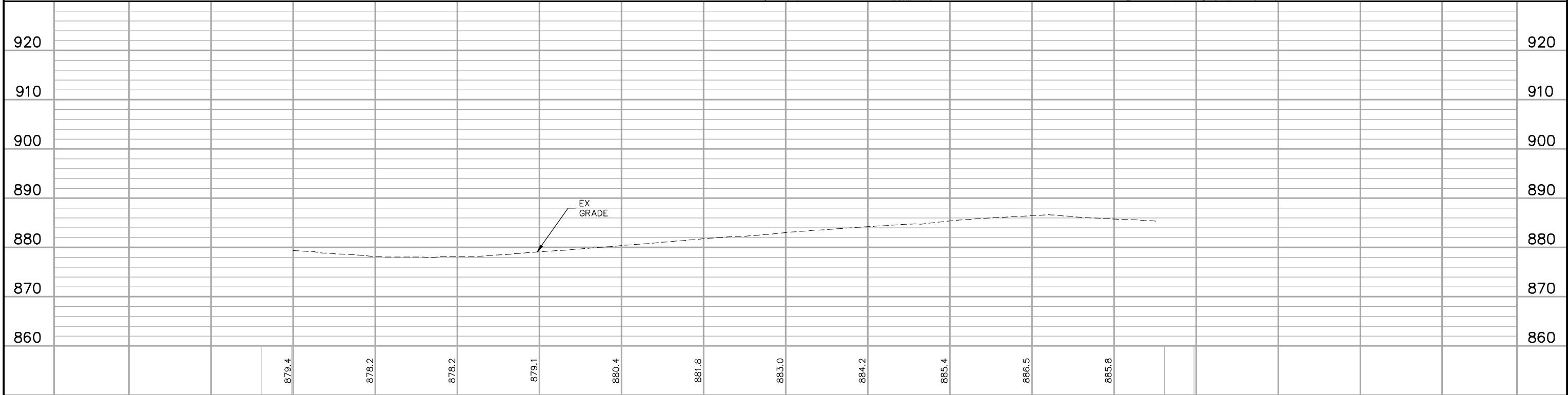
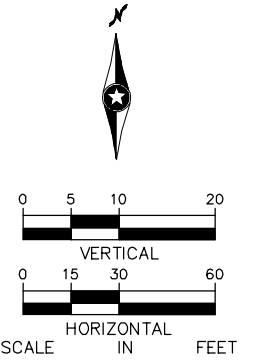
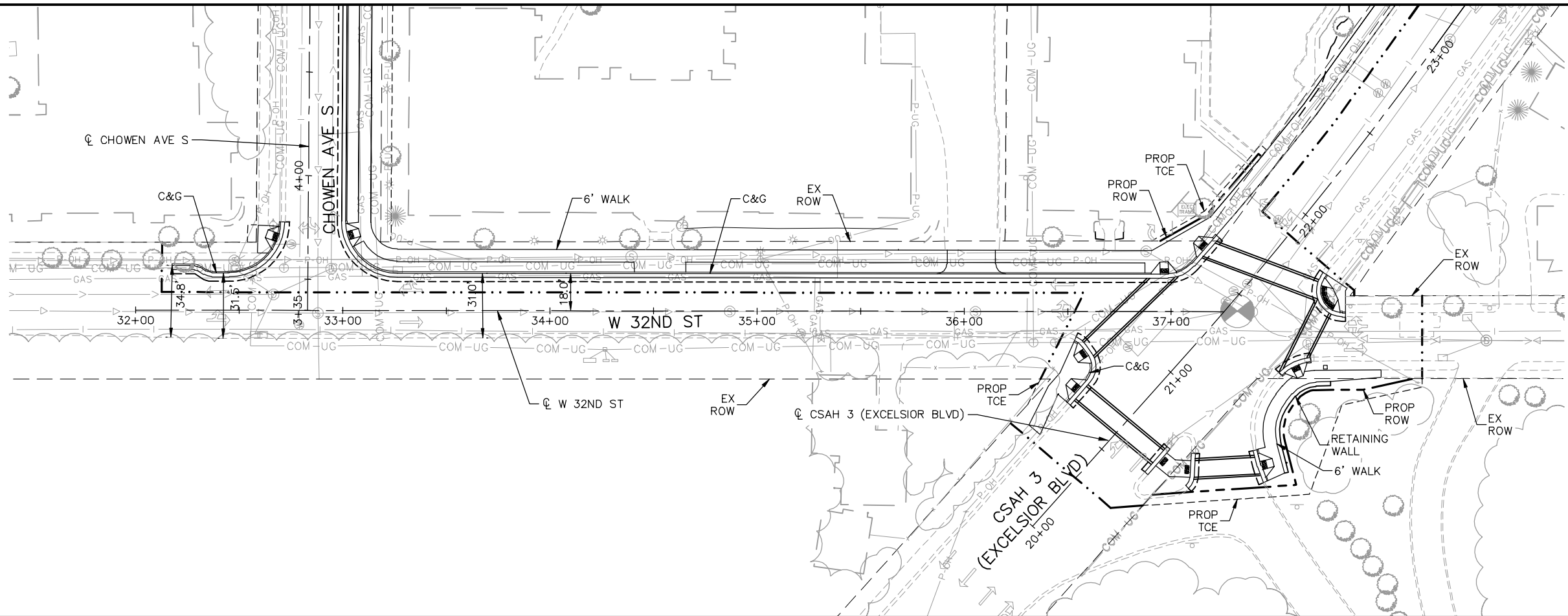
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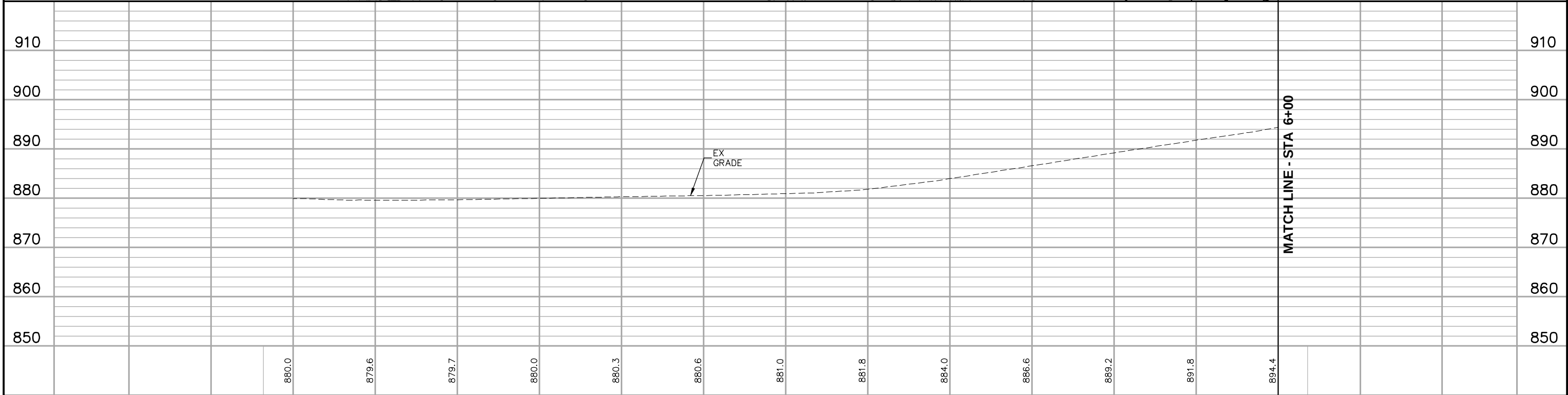
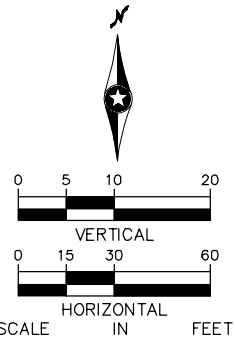
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn	METROPOLITAN C O U N C I L	SOUTHWEST Green Line LAT Extension	EAST - VOLUME 1 (CIVIL) - SEGMENT 3 CHOWEN AVE S / W 31ST ST PLAN AND PROFILE STA. 9+50 TO STA. 16+00	SHEET 69 OF 126
PRELIMINARY ENGINEERING			DISCIPLINE: CIVIL	SHEET NAME: E3-CIV-PPFL-CHO - 002

Aug. 29 2014 08:31 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\CIVIL\E3-CIV-PPFL-32ND.dwg By: chris.bunders



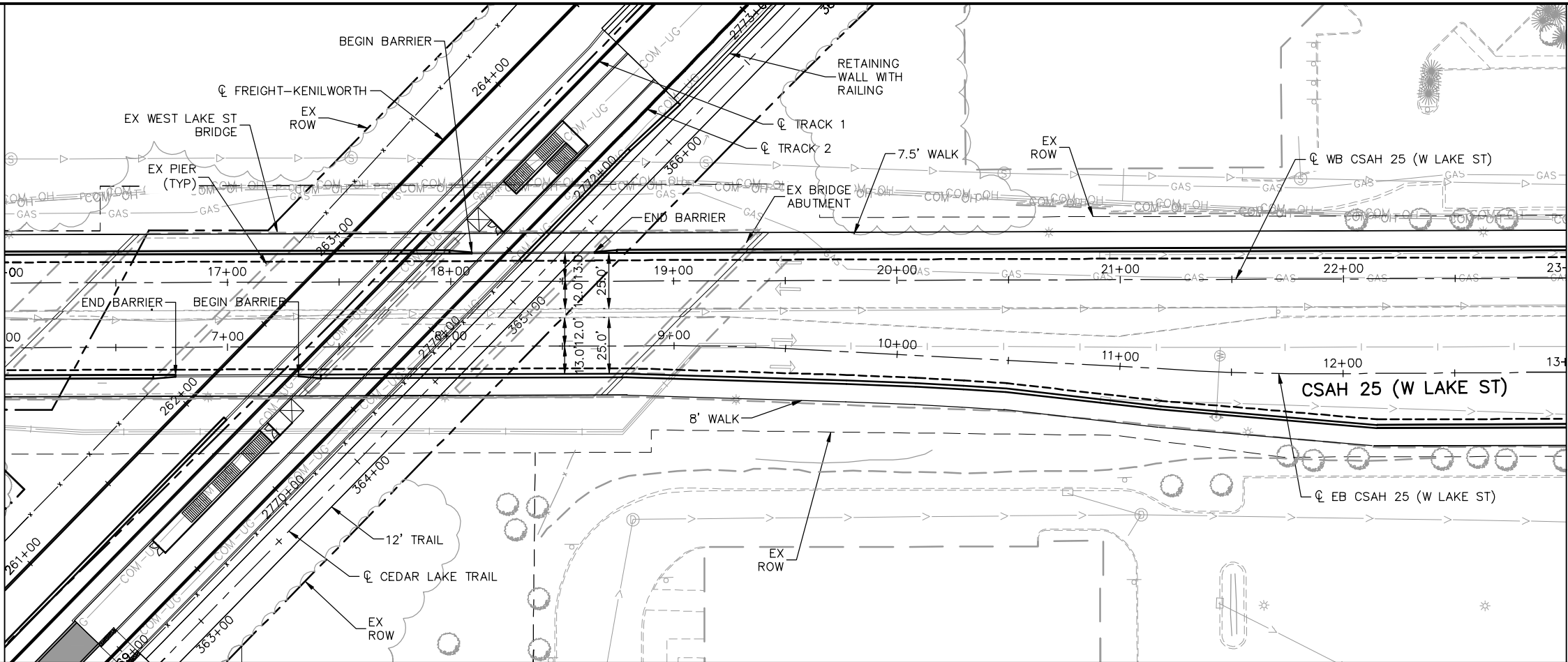
32+00						33+00	34+00	35+00	36+00	37+00	EAST - VOLUME 1 (CIVIL) - SEGMENT 3	SHEET	
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL	Kimley»Horn					W 32ND ST	71	
						PRELIMINARY ENGINEERING					PLAN AND PROFILE	OF	
					STA 32+00 TO STA 37+30.90 <td colspan="1">126</td>						126		
					DISCIPLINE:						CIVIL	SHEET NAME:	E3-CIV-PPFL-32ND - 001



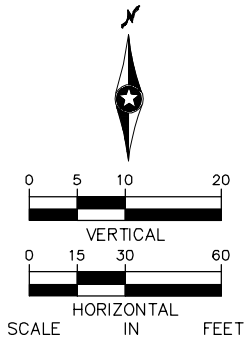
0+00						1+00	2+00	3+00	4+00	5+00	6+00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL	 PRELIMINARY ENGINEERING					EAST - VOLUME 1 (CIVIL) - SEGMENT 3 CSAH 25 (W LAKE ST) PLAN AND PROFILE STA. 0+00 TO STA. 6+00		SHEET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

Aug. 29 2014 08:33 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\CIVIL\E3-CIV-PPFL-WLK.dwg By: chris.bunders

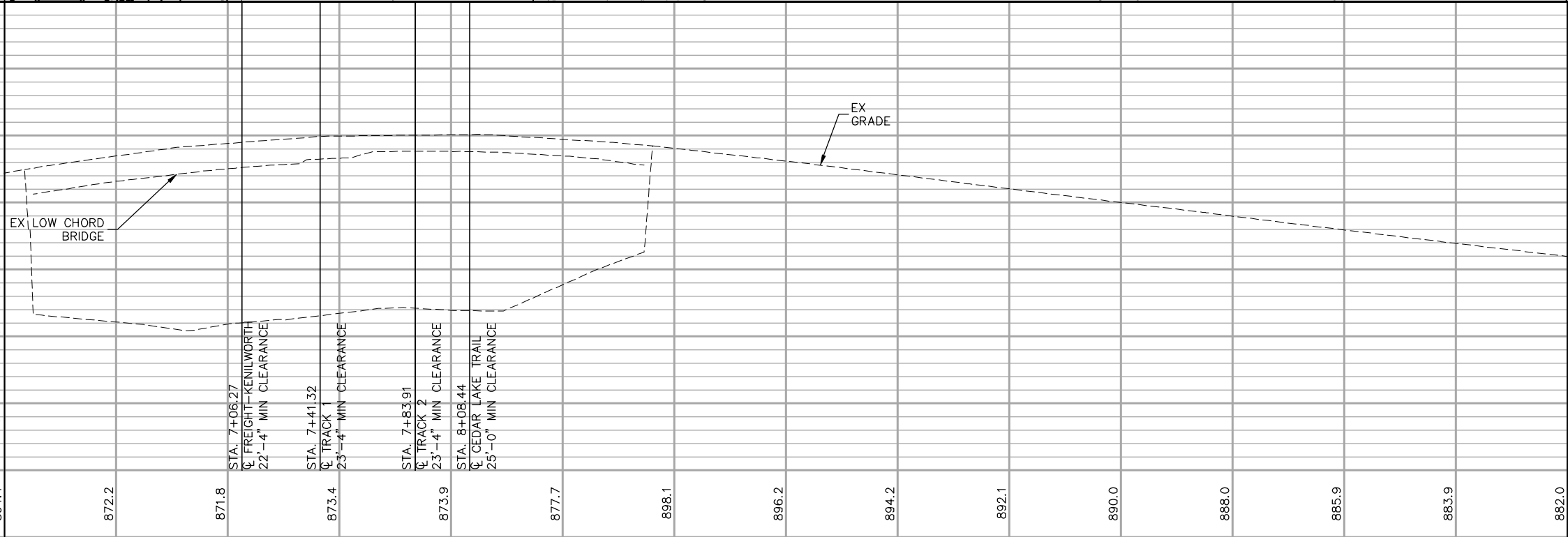
MATCH LINE - STA 6+00



MATCH LINE - STA 13+00



MATCH LINE - STA 6+00



MATCH LINE - STA 13+00

6+00

7+00

8+00

9+00

10+00

11+00

12+00

13+00

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

PRELIMINARY ENGINEERING



SOUTHWEST



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
CSAH 25 (W LAKE ST)
PLAN AND PROFILE
STA. 6+00 TO STA. 13+00

DISCIPLINE:

CIVIL

SHEET NAME:

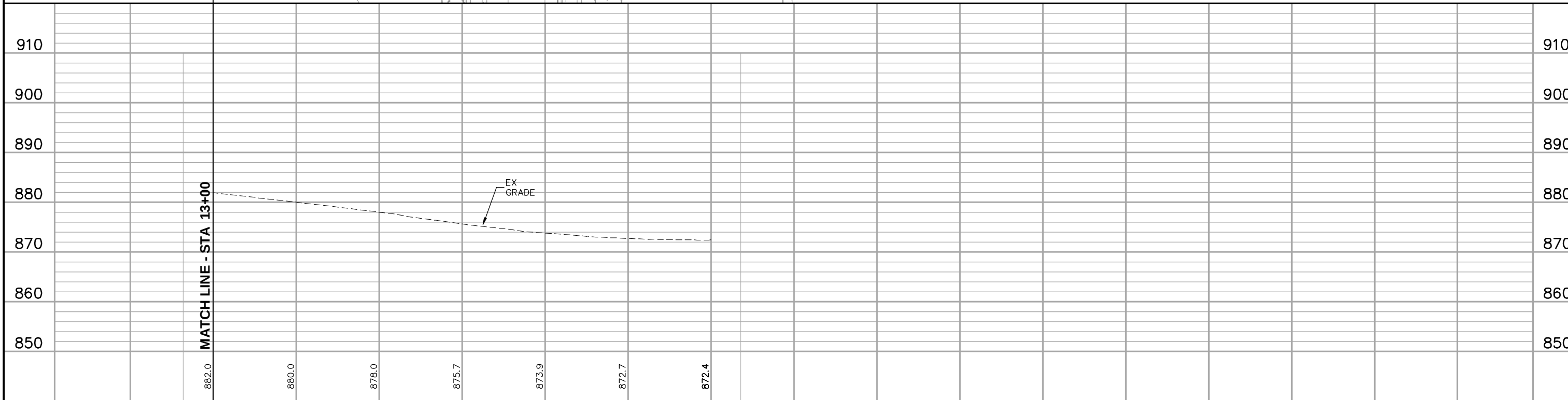
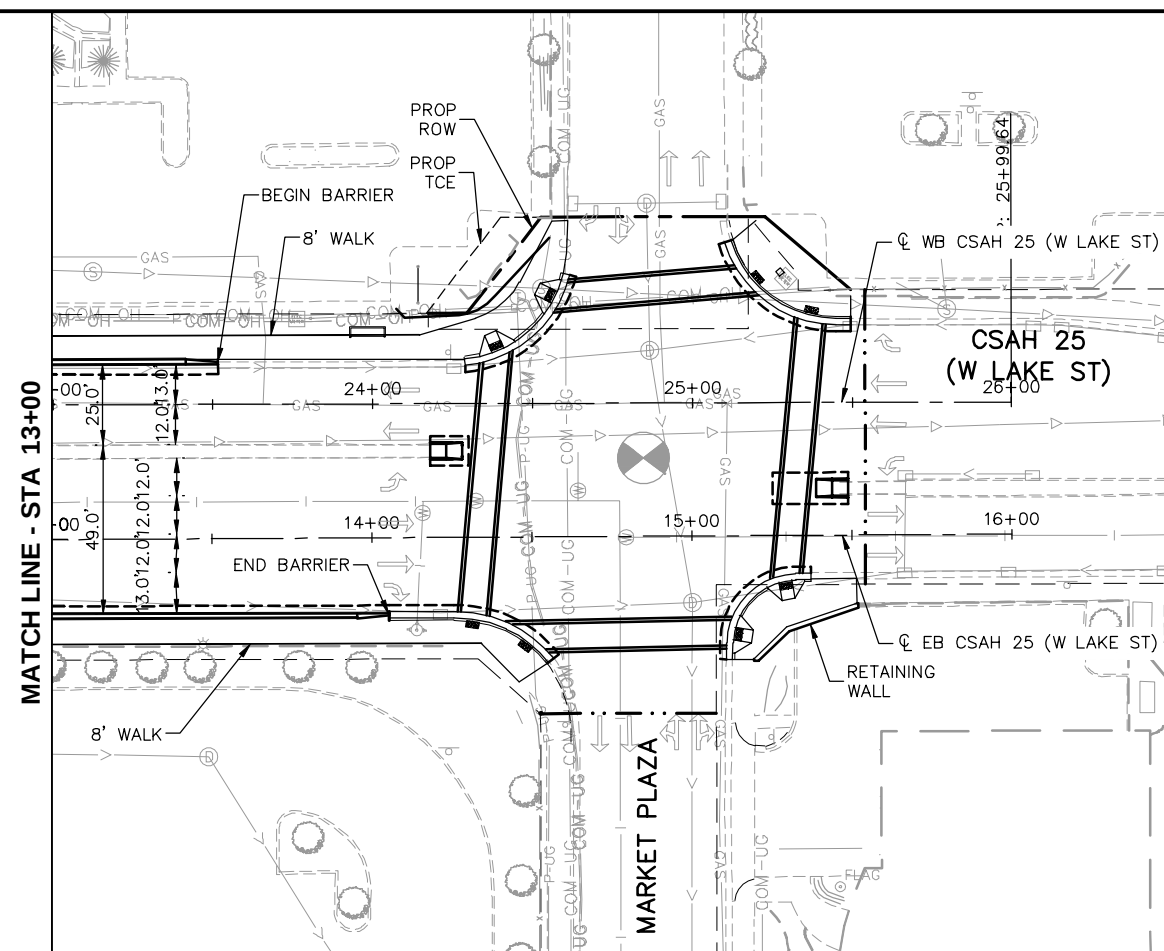
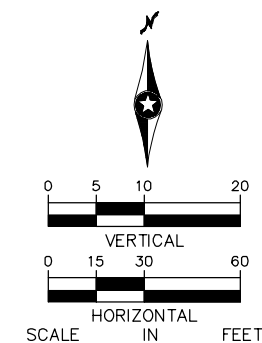
E3-CIV-PPFL-WLK - 002

SHEET

73

OF

126



13+00

14+00

15+00

16+00

[illegible]

Kimley»»Horn

PRELIMINARY ENGINEERING



**EAST - VOLUME 1 (CIVIL) - SEGMENT 3
CSAH 25 (W LAKE ST)
PLAN AND PROFILE
STA. 13+00 TO STA. 16+00**

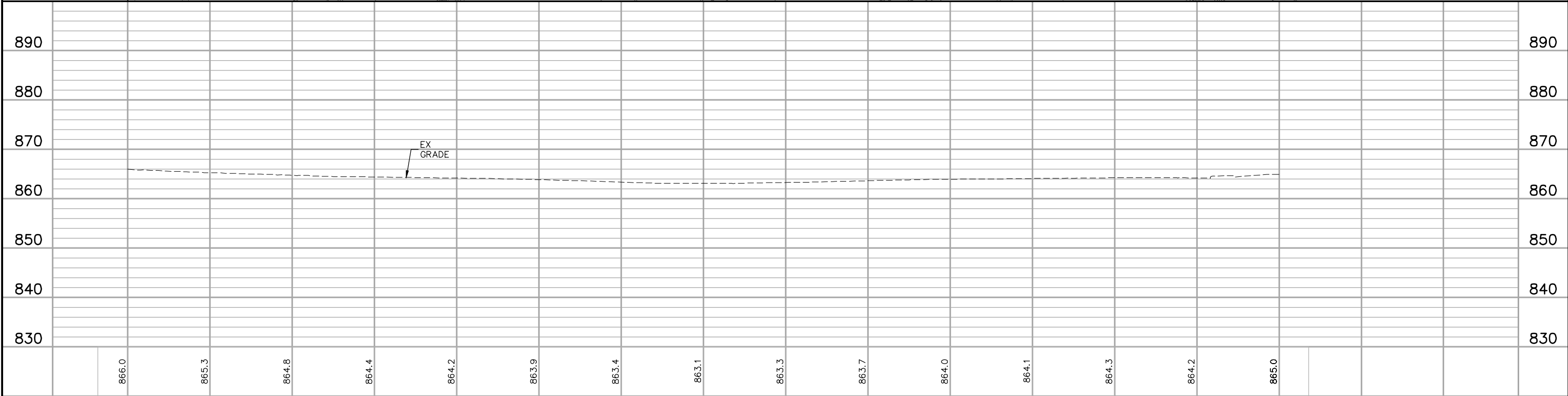
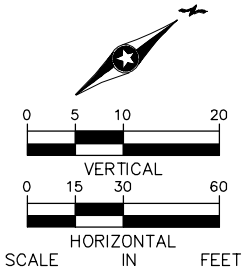
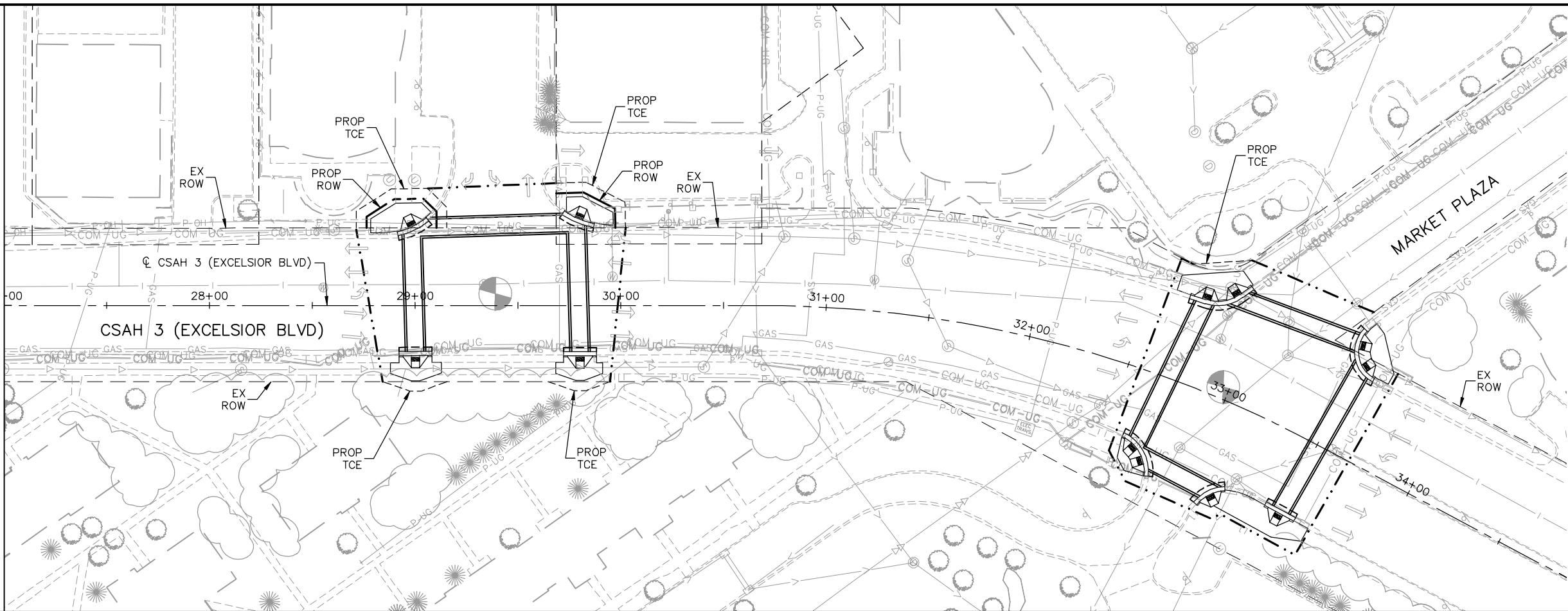
DISCIPLINE: **CIVIL**

SHEET NAME:	E3-CIV-PPFL-WLK - 003
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SHEET
74
OF
126

Aug. 29 2014 08:35 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\CIVIL\E3-CIV-PPFL-EXC.dwg By: chris.bunders

MATCH LINE - STA. 27+00

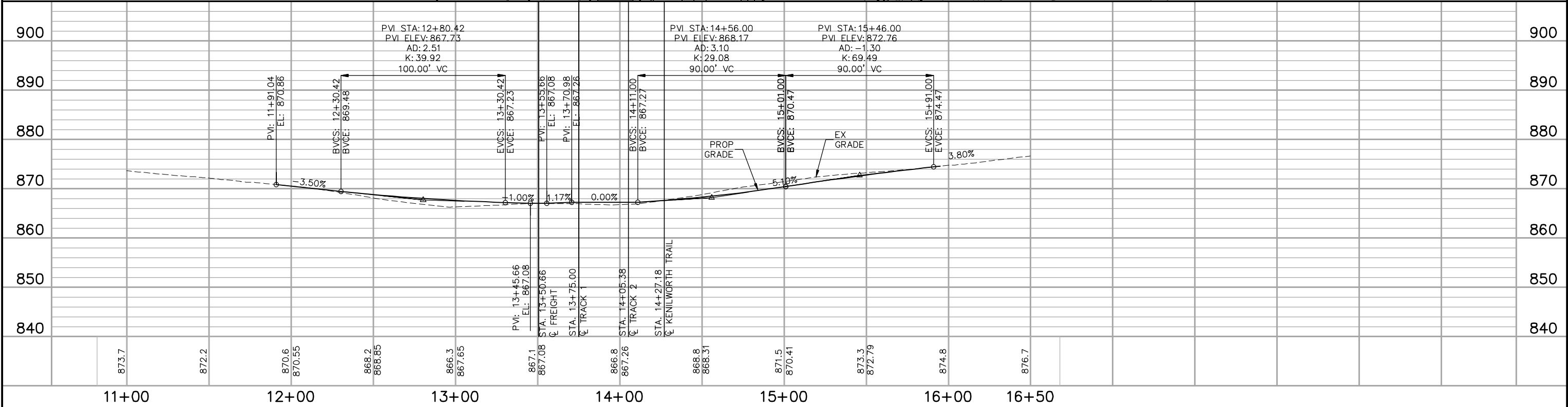
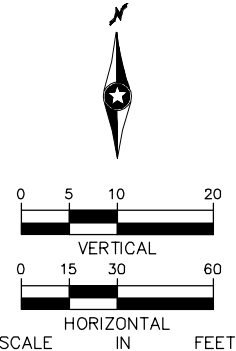
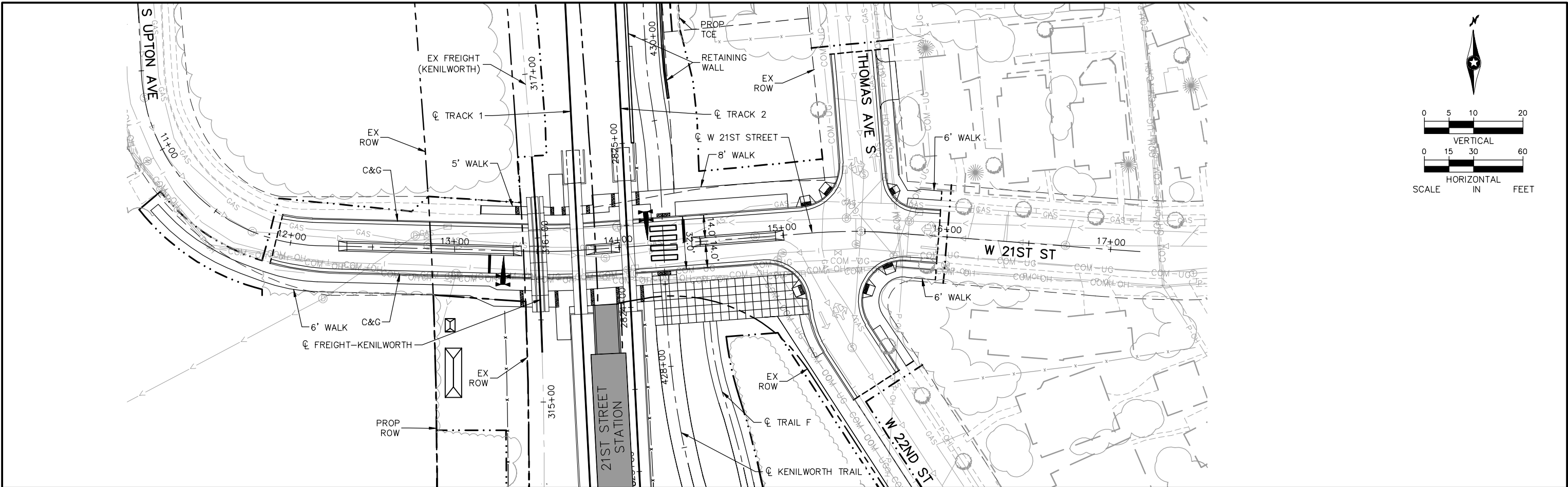


NO.						27+0028+0029+0030+0031+0032+0033+0034+00										830840850860870880890			
DATE	BY	CHECK	DESIGN	REVISION	SUBMITTAL														

27+00		28+00		29+00		30+00		31+00		32+00		33+00		34+00	
866.0		865.3		864.8		864.4		864.2		863.9		863.4		863.1	
863.3		863.7		864.0		864.1		864.3		864.2		865.0			

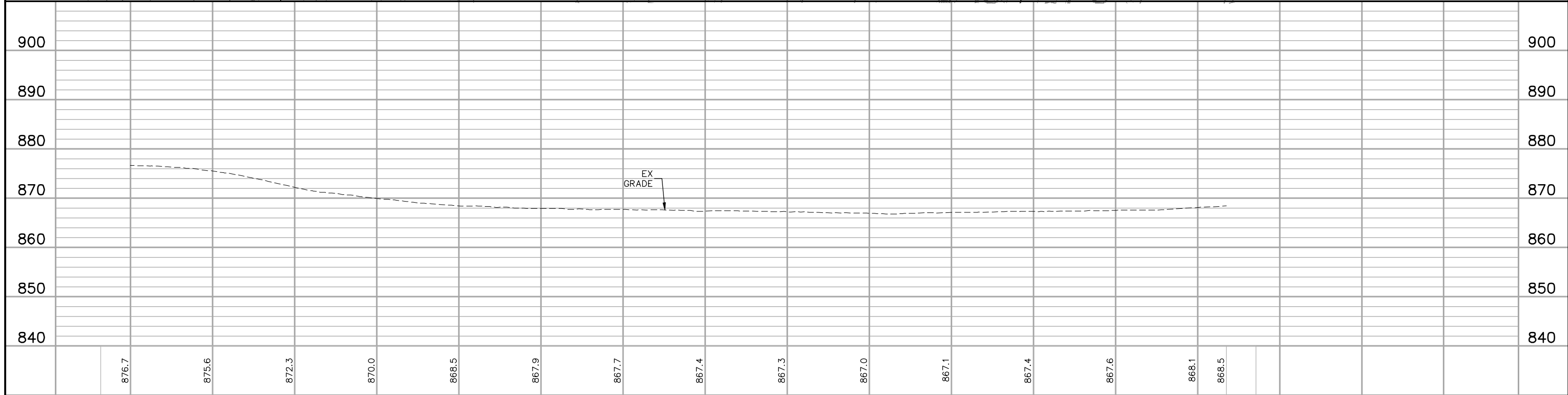
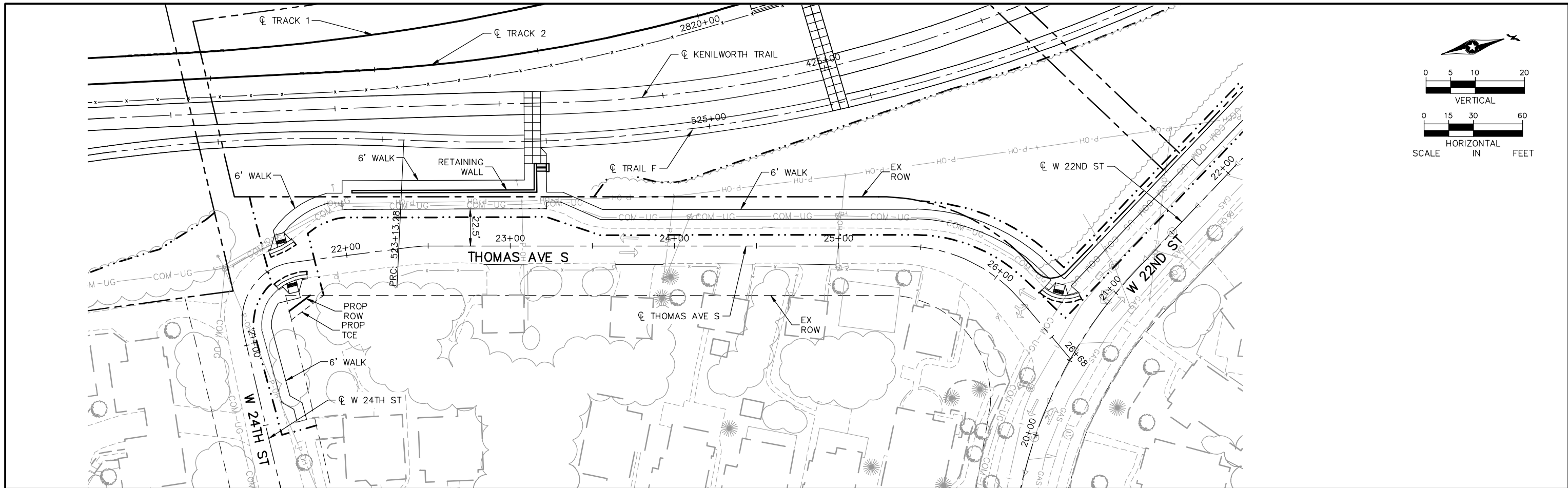
Kimley»Horn		METROPOLITAN COUNCIL		SOUTHWEST Green Line LRT Extension		EAST - VOLUME 1 (CIVIL) - SEGMENT 3 CSAH 3 (EXCELSIOR BLVD) PLAN AND PROFILE STA. 27+00 TO STA. 34+00		SHEET 76 OF 126	
PRELIMINARY ENGINEERING						DISCIPLINE: CIVIL		SHEET NAME: E3-CIV-PPFL-EXC - 002	

Aug. 29 2014 08:37 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\CIVIL\E3-CIV-PPFL-21ST.dwg By: chris.bunders



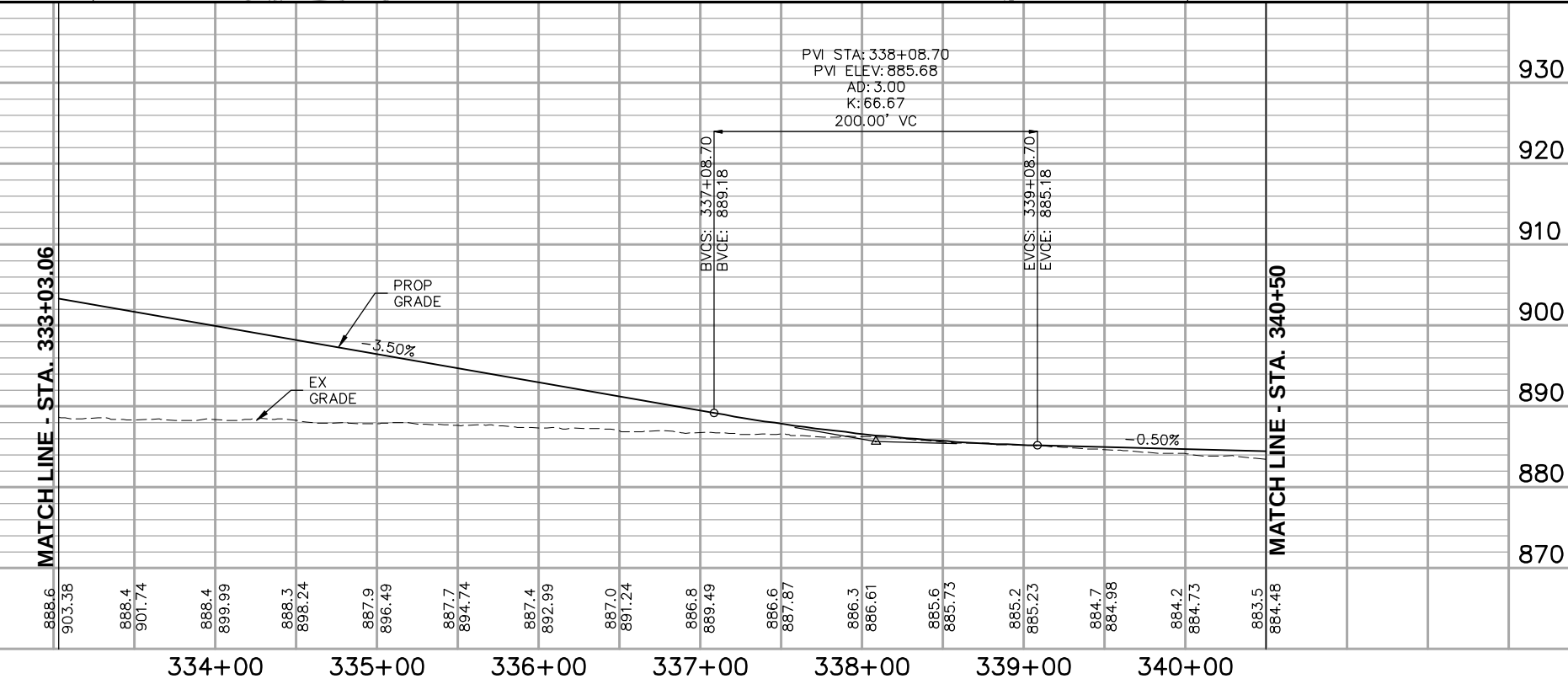
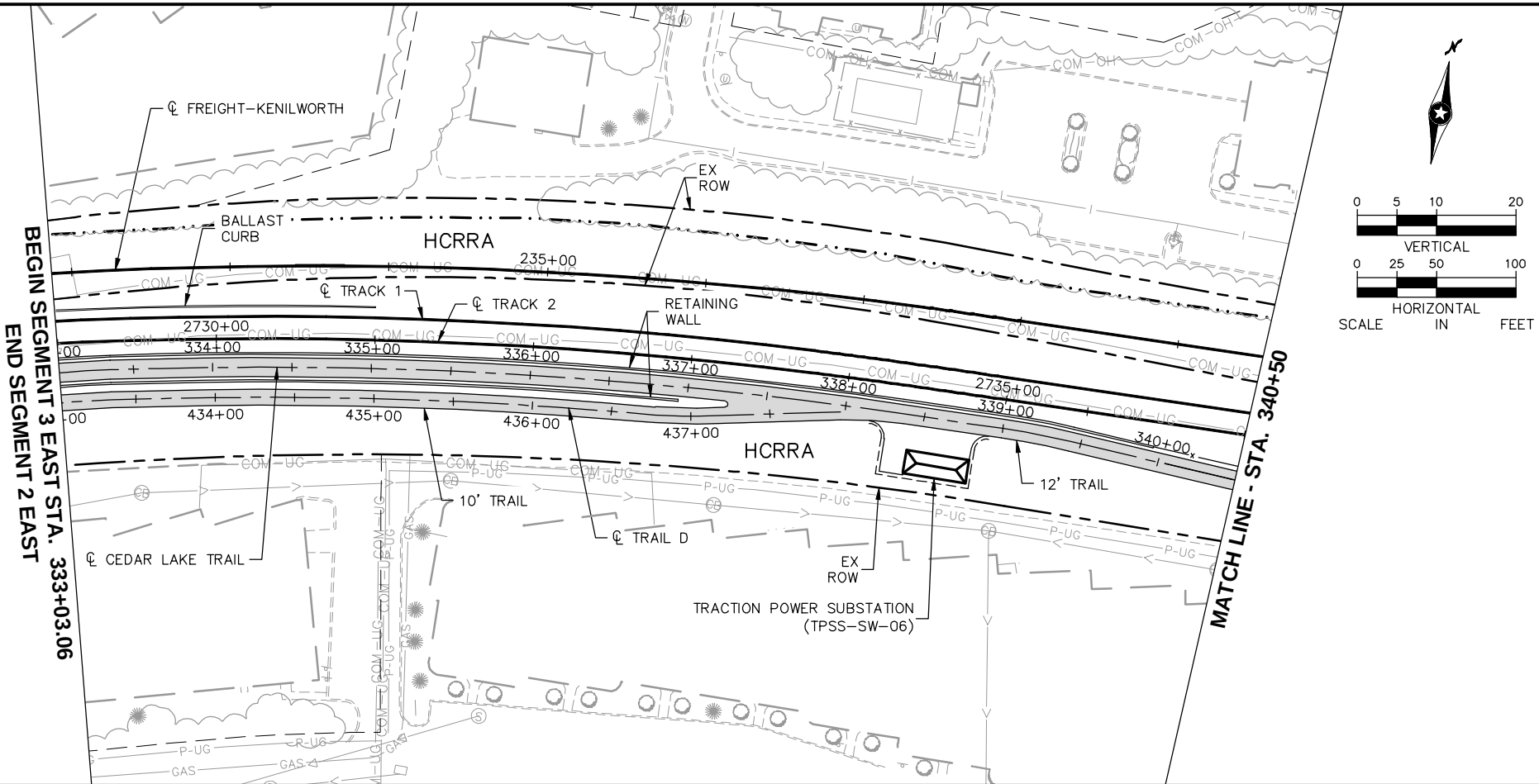
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn	 METROPOLITAN C O U N C I L	 SOUTHWEST Green Line LRT Extension	EAST - VOLUME 1 (CIVIL) - SEGMENT 3		SHEET 78 OF 126
			W 21ST ST		
PRELIMINARY ENGINEERING			PLAN AND PROFILE		STA. 11+00 TO STA. 16+50
			DISCIPLINE: CIVIL		
			SHEET NAME: E3-CIV-PPFL-21ST - 001		



20+00						21+00						22+00						23+00						24+00						25+00						26+00							
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL							Kimley»Horn						 						EAST - VOLUME 1 (CIVIL) - SEGMENT 3 W 24TH ST/THOMAS AVE S PLAN AND PROFILE STA. 20+00 TO STA. 26+67.59												SHEET 79 OF 126							
						PRELIMINARY ENGINEERING												DISCIPLINE: CIVIL						SHEET NAME: E3-CIV-PPFL-22ND - 001																			

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

PRELIMINARY ENGINEERING

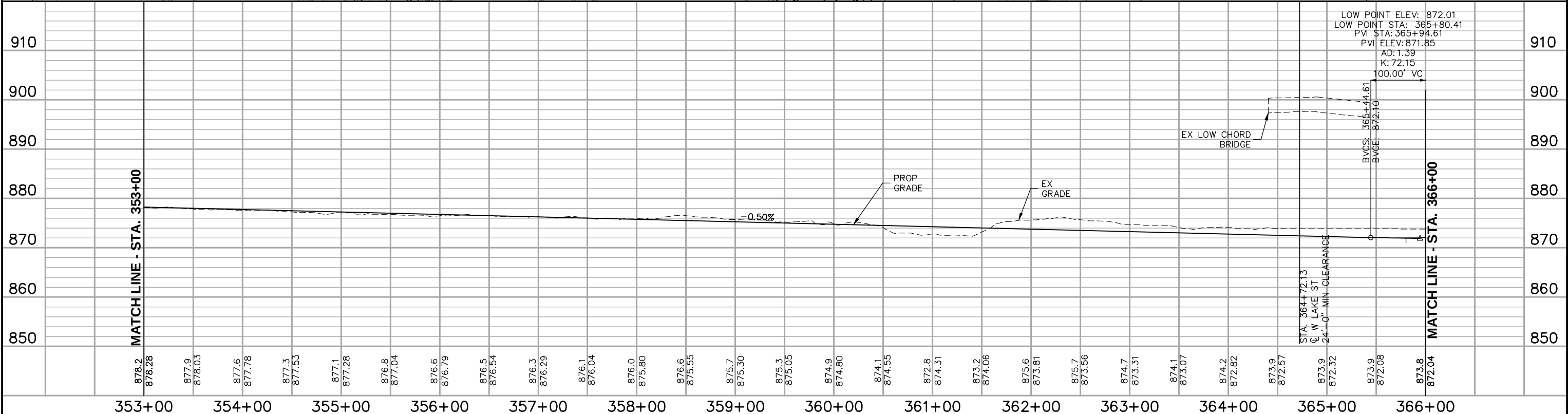
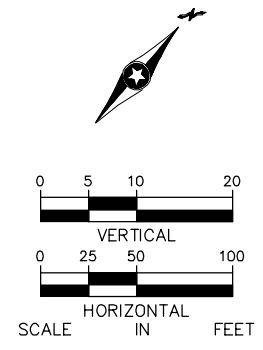
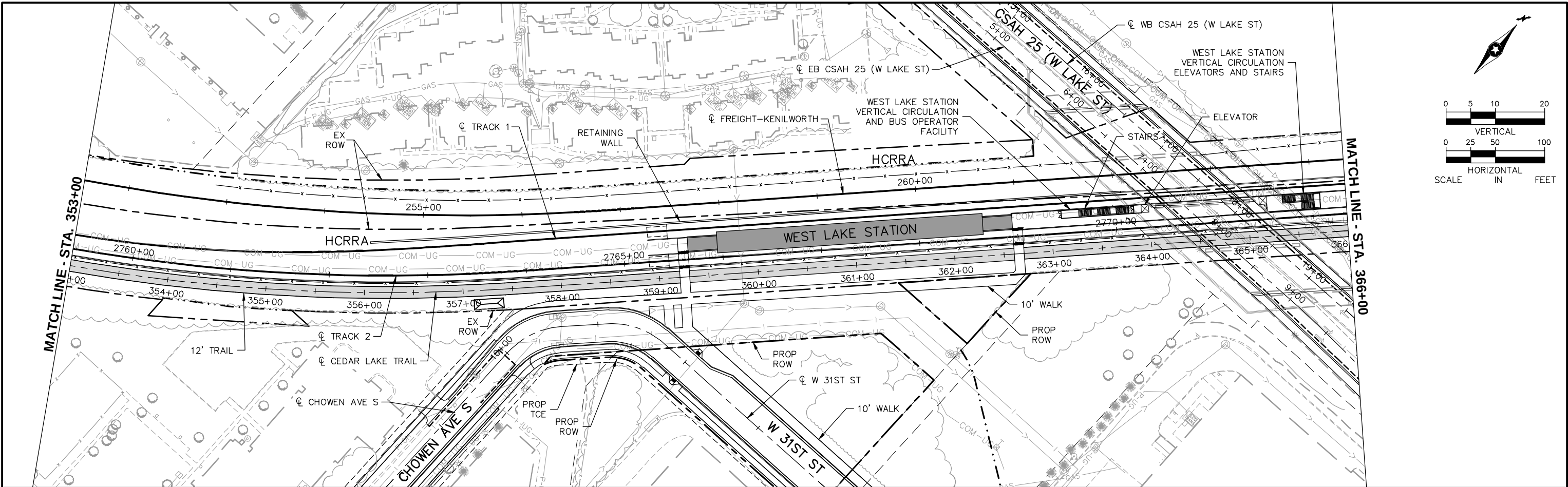
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
CEDAR LAKE TRAIL
PLAN AND PROFILE
STA. 333+03.06 TO STA. 340+50

DISCIPLINE: **CIVIL**

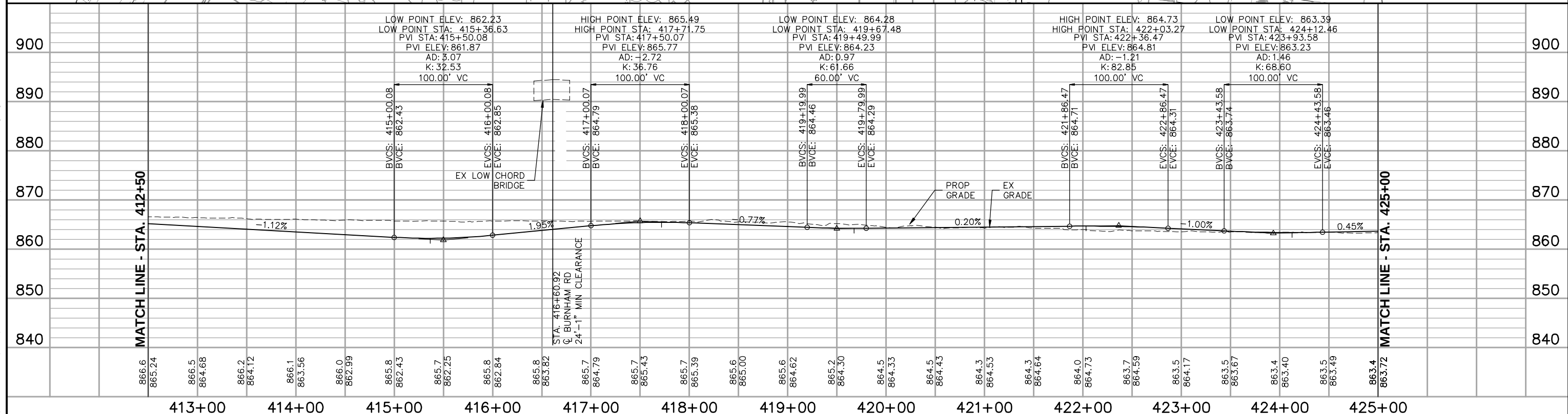
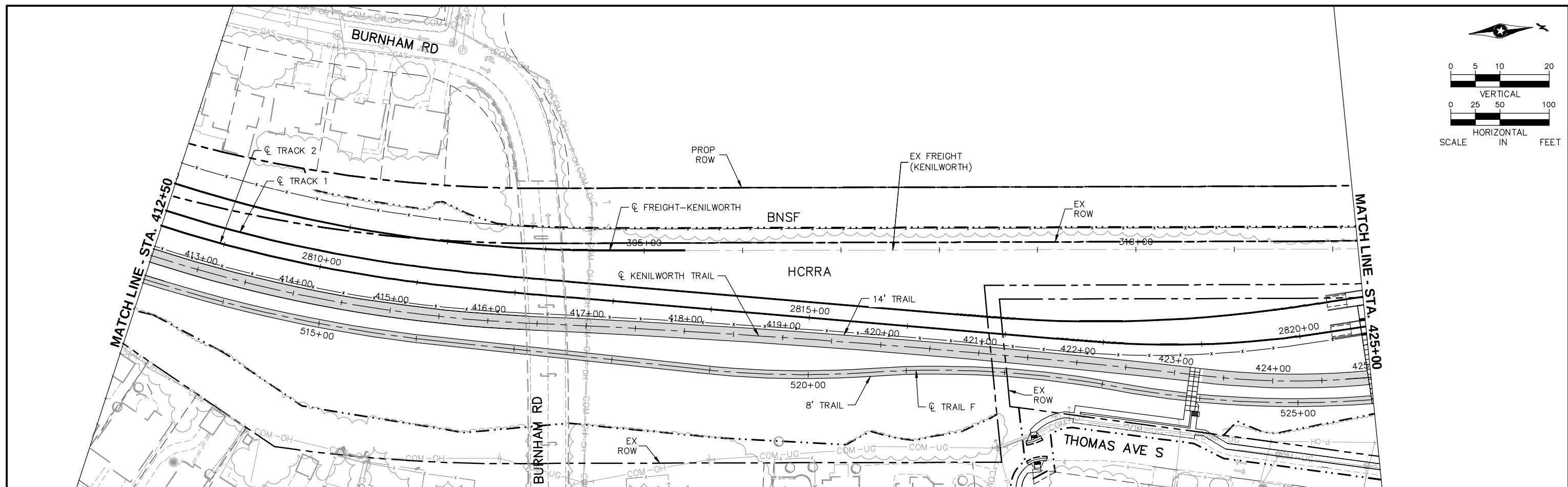
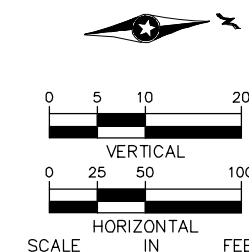
SHEET NAME: **E3-TRL-PPFL-001**

SHEET
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OF
126

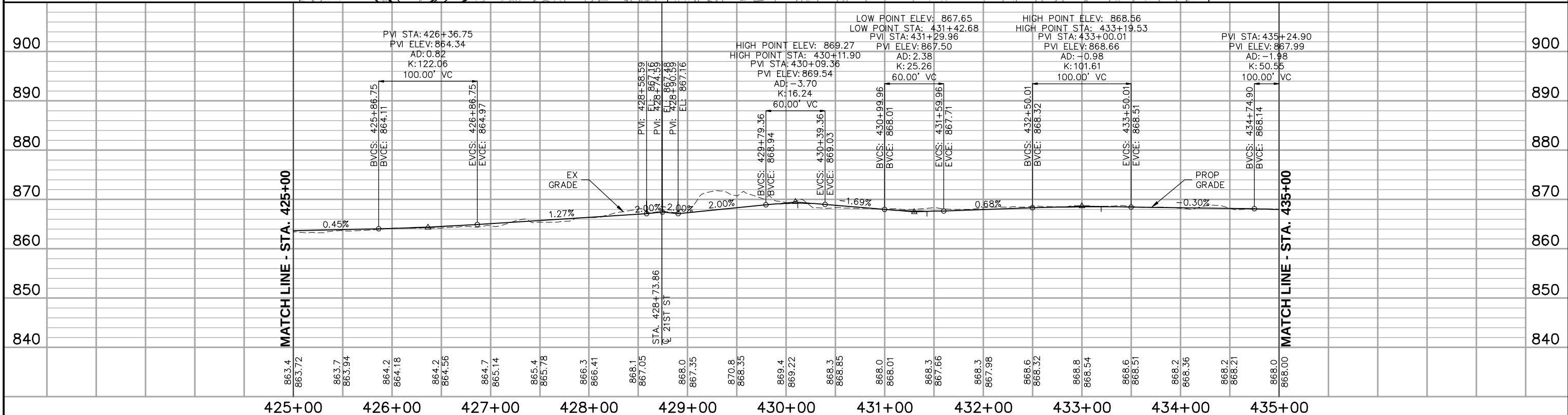
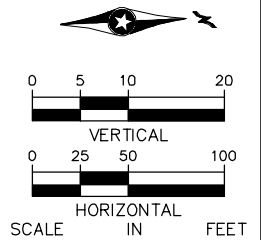
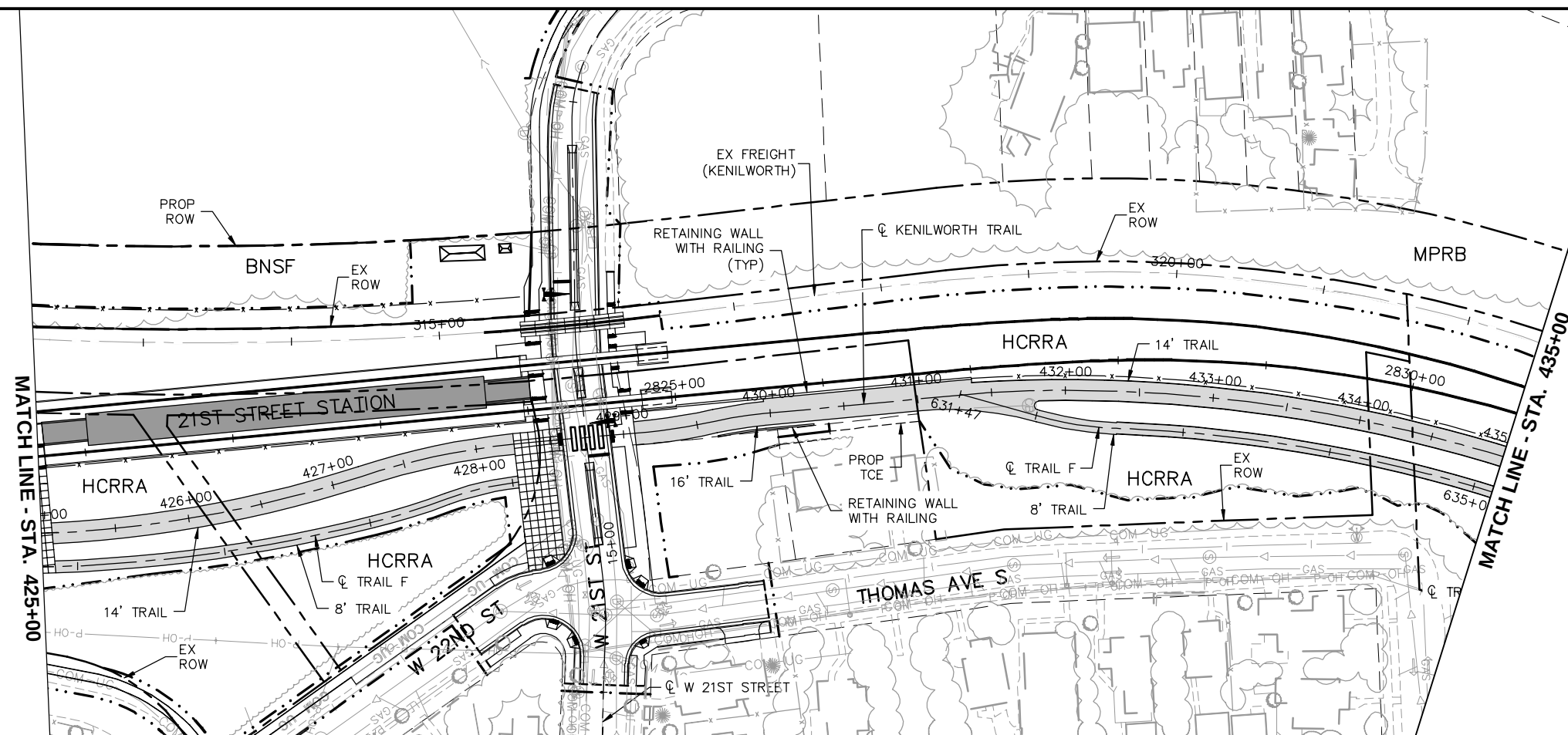
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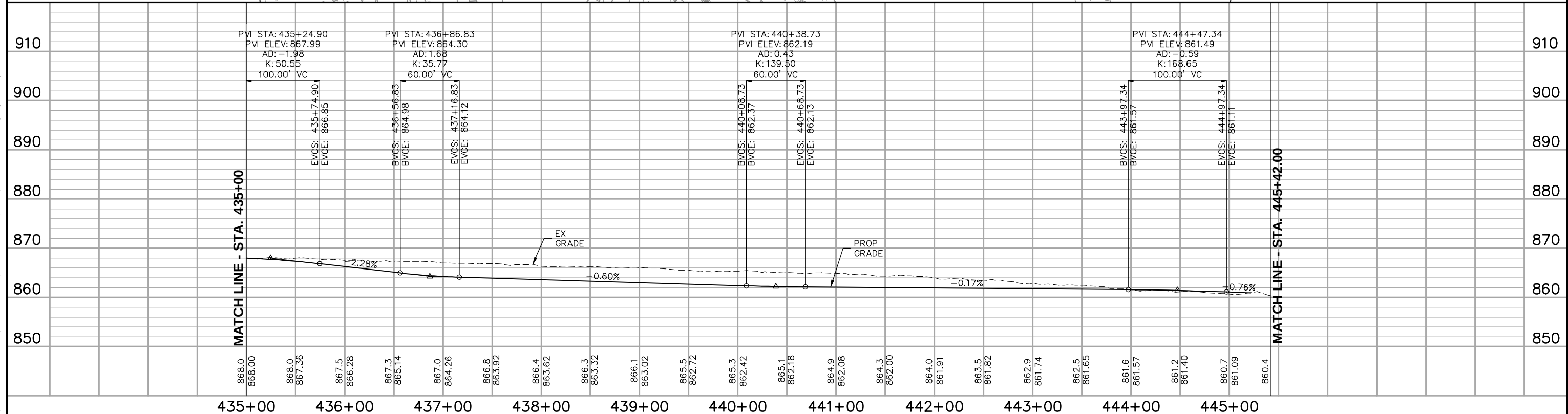
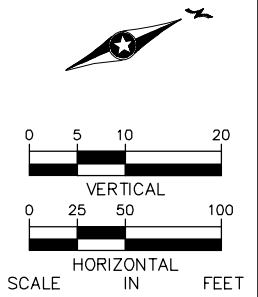
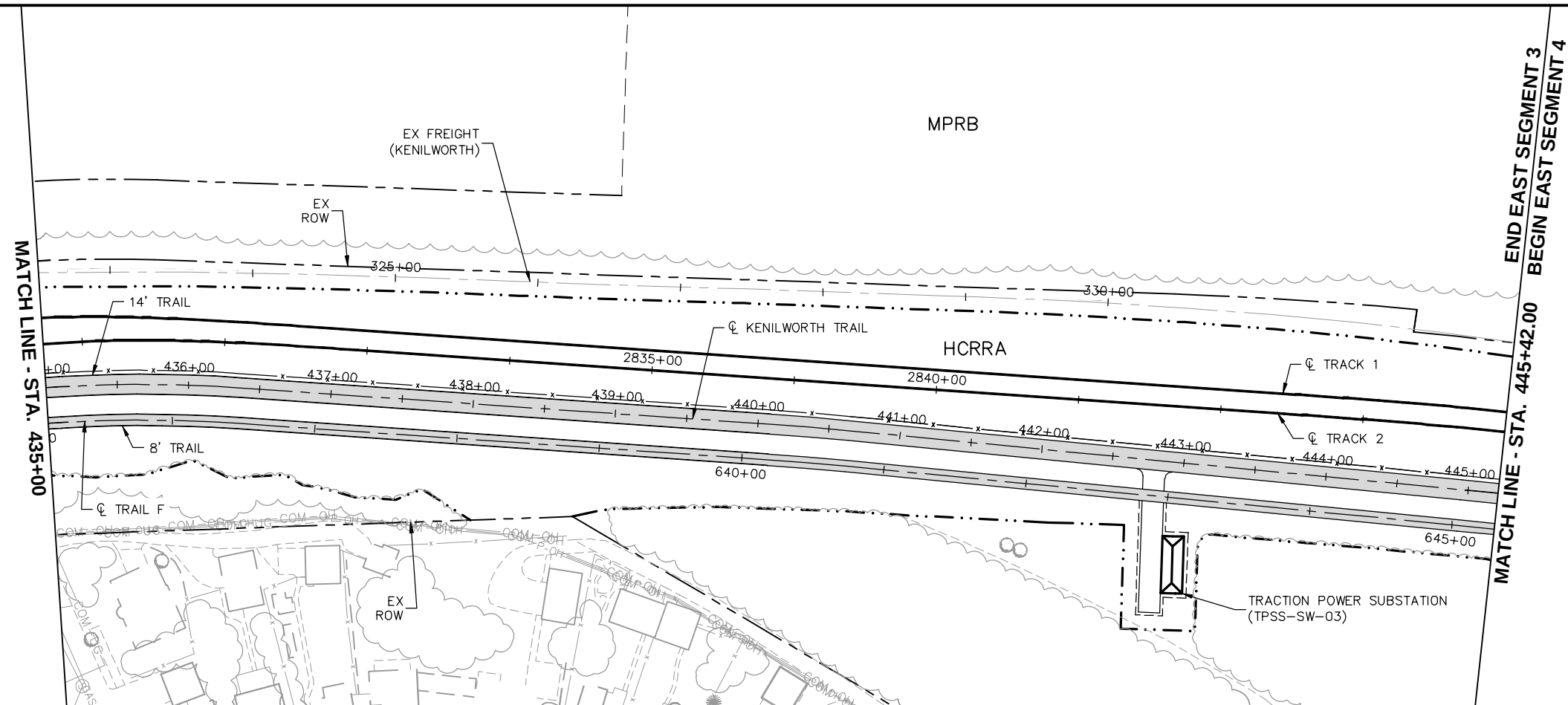
NO.						353+00354+00355+00356+00357+00358+00359+00360+00361+00362+00363+00364+00365+00366+00										EAST - VOLUME 1 (CIVIL) - SEGMENT 3 CEDAR LAKE TRAIL PLAN AND PROFILE STA. 353+00 TO STA. 366+00		SHEET 83 OF 126	
DATE																			
BY																			
CHECK																			
DESIGN																			
REVISION / SUBMITTAL																			



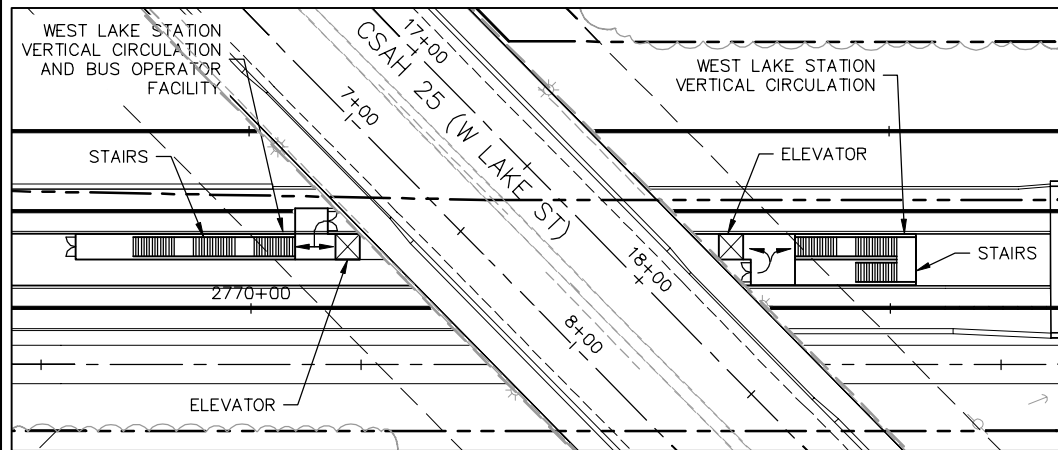
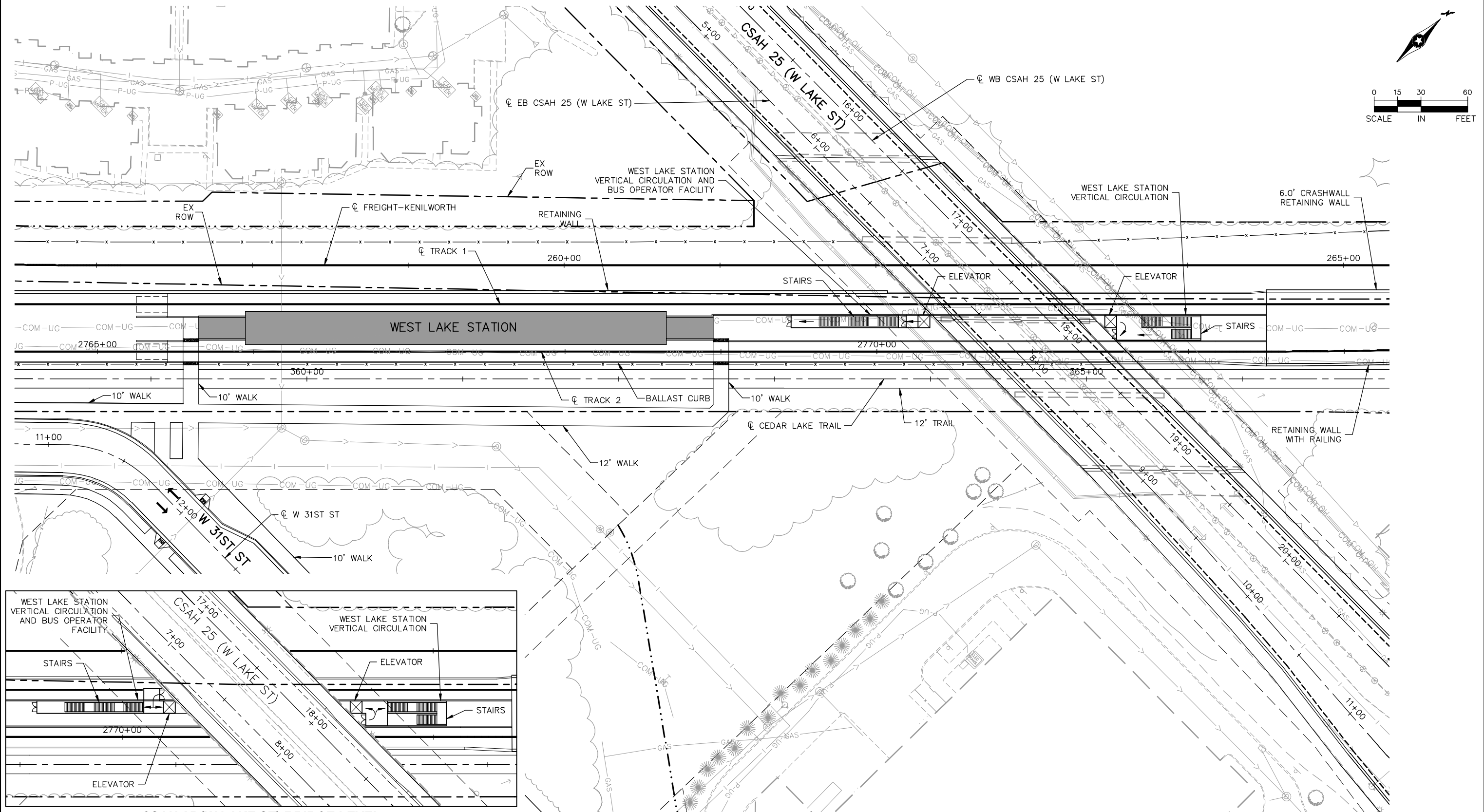
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							87		
							OF		
							126		
PRELIMINARY ENGINEERING						DISCIPLINE: CIVIL	SHEET NAME: E3-TRL-PPFL-007		



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL	 	EAST - VOLUME 1 (CIVIL) - SEGMENT 3 KENILWORTH TRAIL PLAN AND PROFILE STA. 425+00 TO STA. 435+00		SHEET 88 OF 126
PRELIMINARY ENGINEERING							DISCIPLINE: CIVIL	SHEET NAME: E3-TRL-PPFL-008	

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CSAH 25 (W LAKE ST) BRIDGE LEVEL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING



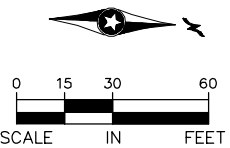
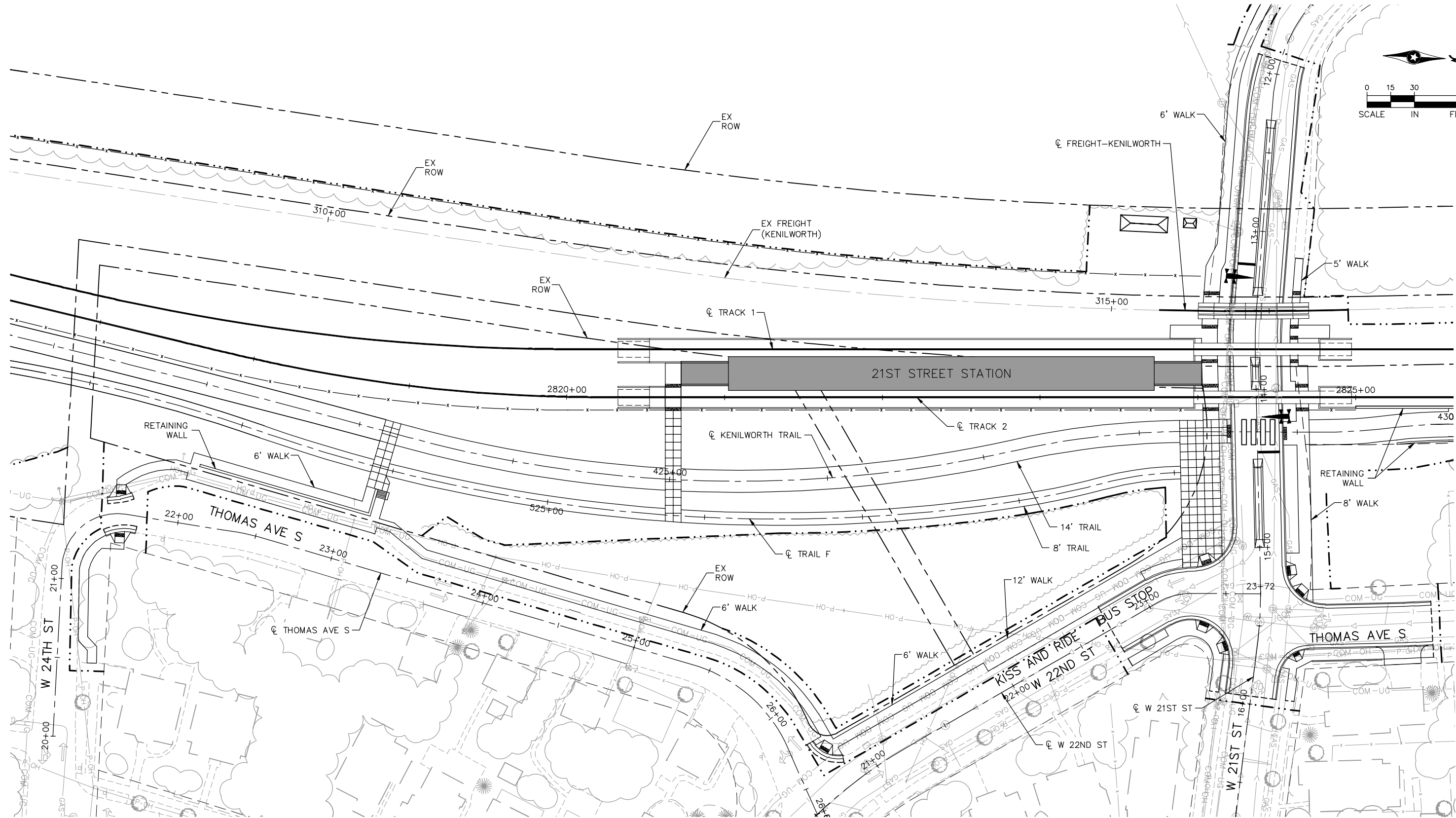
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SITE PLAN
WEST LAKE STATION

DISCIPLINE: CIVIL

SHEET NAME: E3-CIV-PLN-001

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

PRELIMINARY ENGINEERING

DISCIPLINE: CIVIL

EAST - VOLUME 1 (CIVIL) - SEGMENT 3

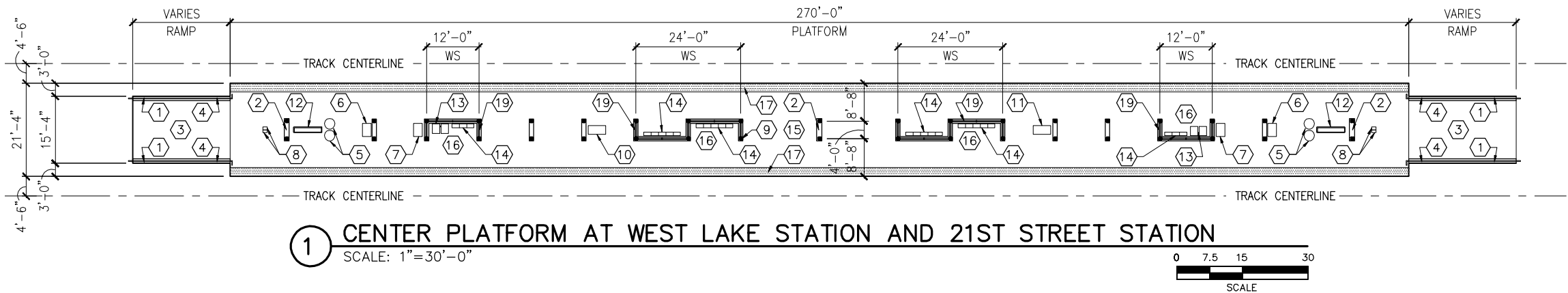
SITE PLAN

21ST STREET STATION

SHEET NAME: E3-CIV-PLN-002

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OF
126

Aug. 29 2014 09:42 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\ARCH\E3-ARC-PLN-1.dwg By: tracy.fosmo



1 CENTER PLATFORM AT WEST LAKE STATION AND 21ST STREET STATION
SCALE: 1"=30'-0"

KEYNOTES

NOTE: ALL KEYNOTES MAY NOT BE USED

1	ENTRY SIGN
2	LIGHT MOUNTED TO STRUCTURE
3	ACCESS RAMP - 5% MAX
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/BENCH
15	CONCRETE PLATFORM
16	SHELTER: WINDSCREEN,LIGHT,HEATERS WITH CANOPY ABOVE
17	DETECTABLE WARNING AT BOARDING EDGE
18	GUARD RAIL AND SAFETY SCREEN
19	ALUMINUM & GLASS FRAMING SYSTEM
20	CONCRETE WALL
21	POTENTIAL FUTURE ELEVATOR

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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miller dunwiddie
ARCHITECTURE

PRELIMINARY ENGINEERING



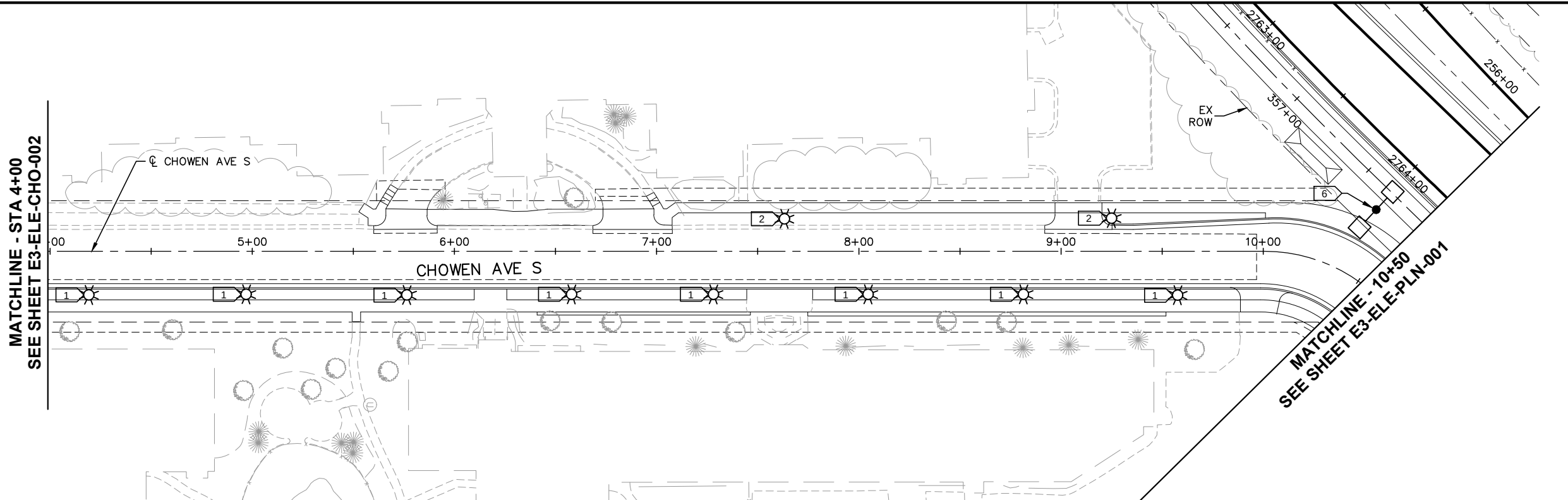
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
PLATFORM LAYOUTS
WEST LAKE STATION AND
21ST STREET STATION

DISCIPLINE: **ARCHITECTURE**

SHEET NAME: **E3-ARC-PLN-1**

SHEET
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OF
126

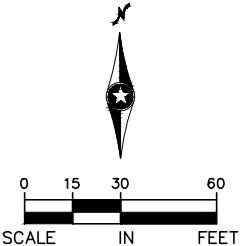
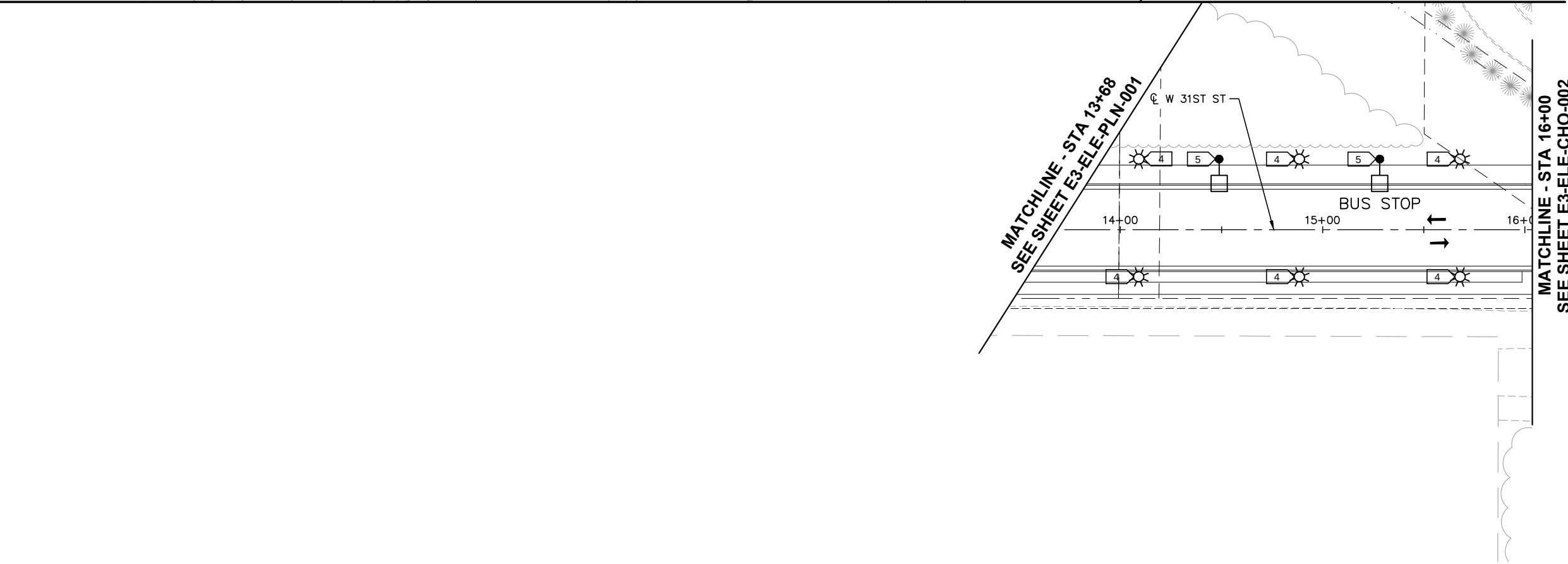
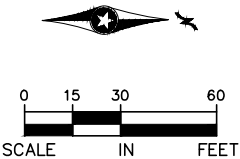
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KEYNOTES:

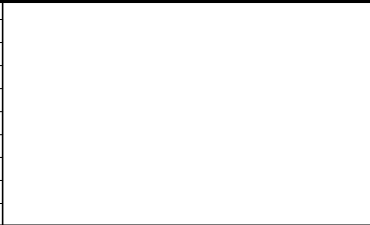


1. POST TOP MOUNTED LUMINAIRE, LED, TYPE 5 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,183 LUMENS, MOUNTED @15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
2. POST TOP MOUNTED LUMINAIRE, LED, TYPE 2 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,427 LUMENS, MOUNTED @ 15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
3. NOT USED.
4. POST TOP MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,736 LUMENS, MOUNTED @ 15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
5. NOT USED.
6. DOUBLE POLE MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,858 LUMENS EACH, MOUNTED @ 15'.



LIGHTING SHOWN IS DIAGRAMMATIC. TYPE AND LOCATION OF LIGHTING WILL BE DETERMINED DURING ADVANCED DESIGN.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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METROPOLITAN COUNCIL

SOUTHWEST
Green Line LRT Extension

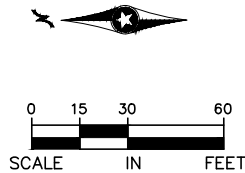
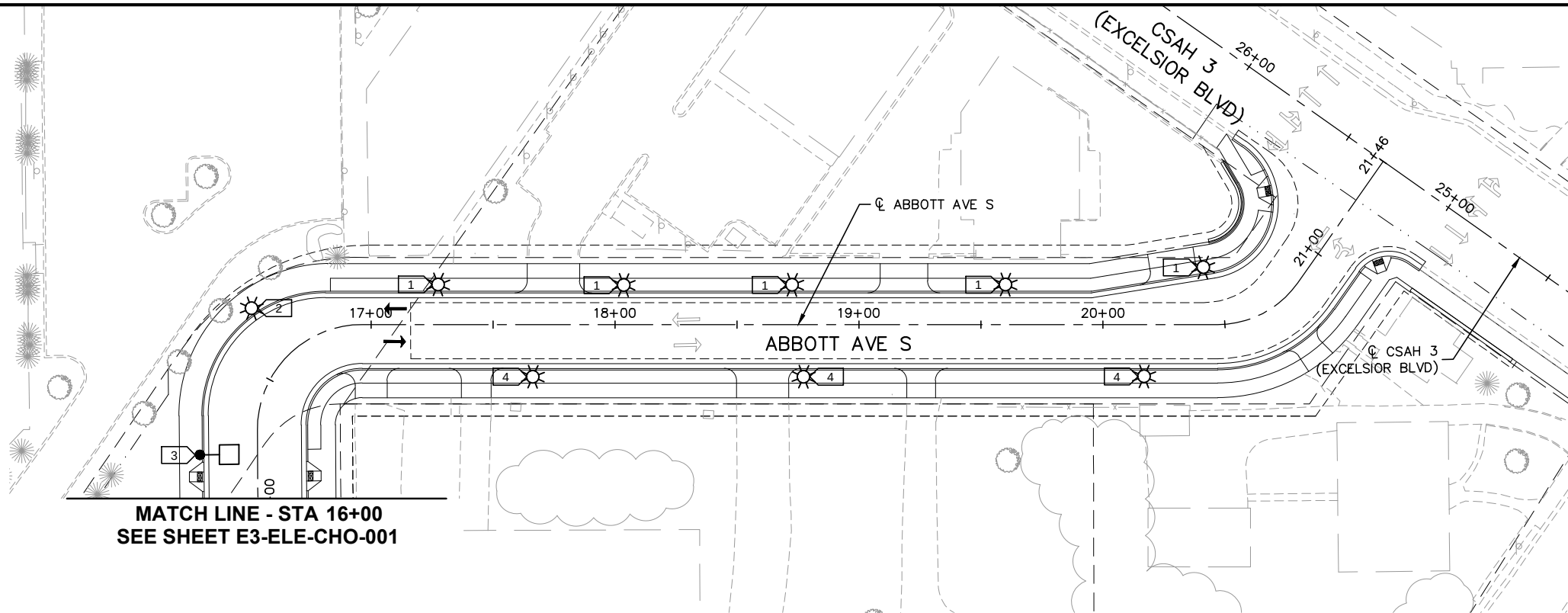
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
ELECTRICAL SITE PLAN
CHOWEN AVE S
STA. 3+35 TO STA. 16+00

DISCIPLINE: **ELECTRICAL**

SHEET NAME: **E3-ELE-CHO - 001**

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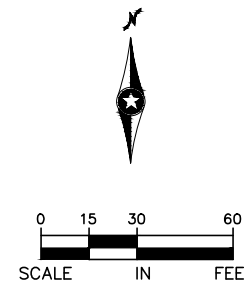
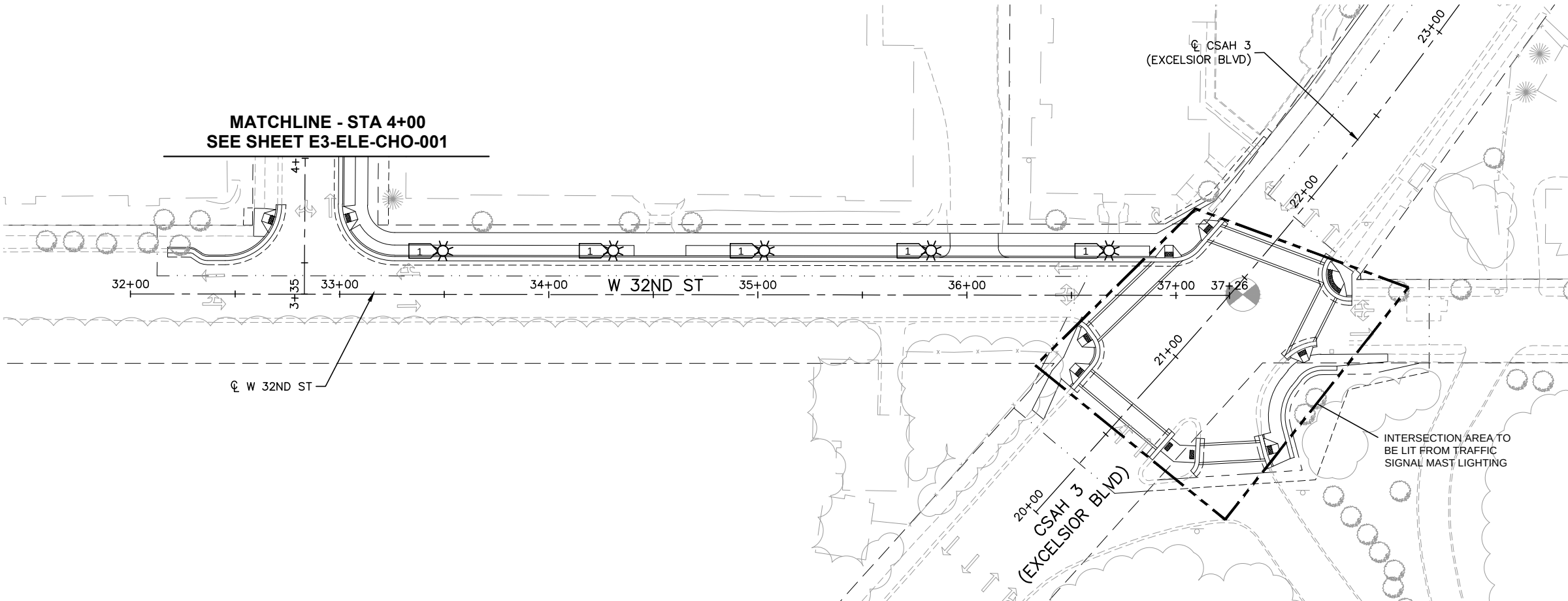
Aug. 28 2014 01:07 pm V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\ELECTRICAL\E3-ELE-CHO.dwg By: Fergtk



KEYNOTES:



1. POST TOP MOUNTED LUMINAIRE, LED, TYPE 5
DISTRIBUTION, COOL WHITE COLOR
TEMPERATURE, 5,183 LUMENS, MOUNTED @15'.
(EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
2. POST TOP MOUNTED LUMINAIRE, LED, TYPE 4
DISTRIBUTION, COOL WHITE COLOR
TEMPERATURE, 5,736 LUMENS, MOUNTED @ 15'.
(EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
3. SINGLE POLE MOUNTED LUMINAIRE, LED, TYPE 4
DISTRIBUTION, COOL WHITE COLOR
TEMPERATURE, 15,529 LUMENS, MOUNTED @ 20'.
4. POST TOP MOUNTED LUMINAIRE, LED, TYPE 2
DISTRIBUTION, COOL WHITE COLOR
TEMPERATURE, 5,427 LUMENS, MOUNTED @ 15'.
(EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).



LIGHTING SHOWN IS DIAGRAMMATIC. TYPE
AND LOCATION OF LIGHTING WILL BE
DETERMINED DURING ADVANCED DESIGN.

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EAST - VOLUME 1 (CIVIL) - SEGMENT 3
ELECTRICAL SITE PLAN
ABBOTT AVE S AND
W 32ND ST

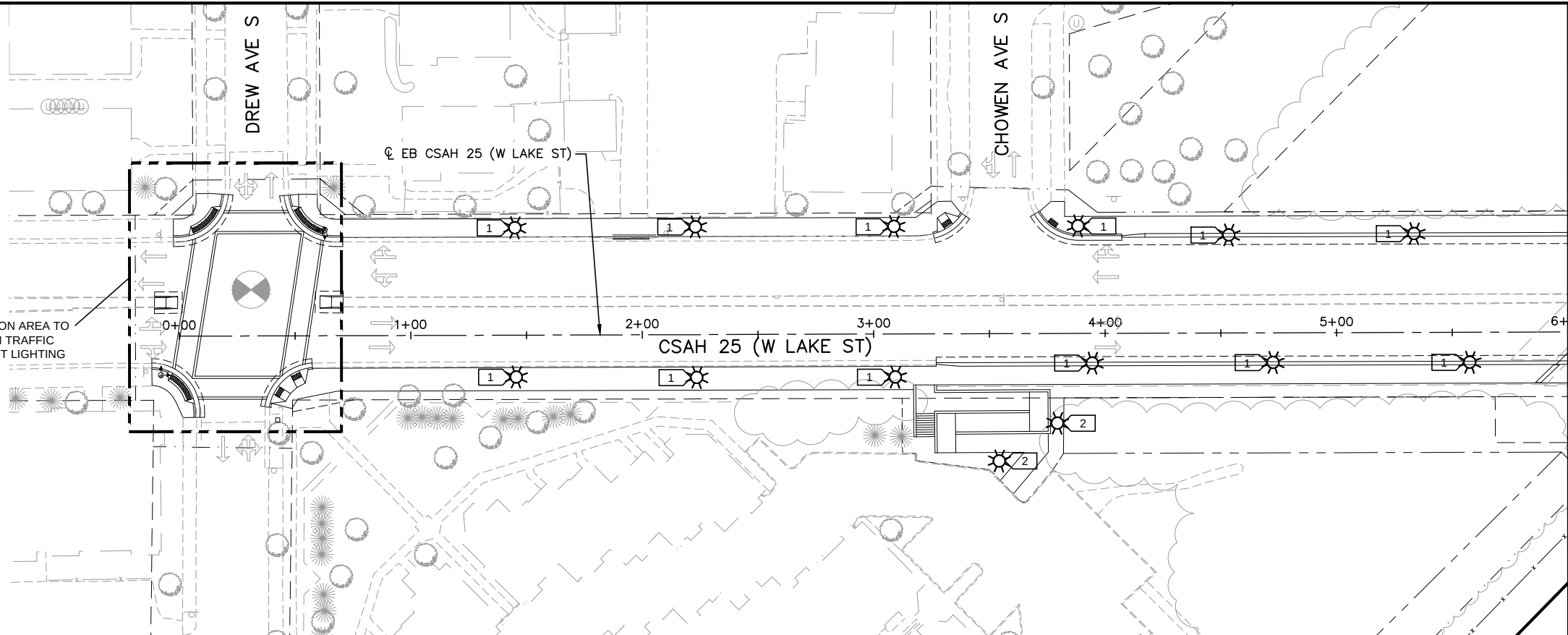
DISCIPLINE: **ELECTRICAL**

SHEET NAME: **E3-ELE-CHO - 002**

SHEET
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OF
126

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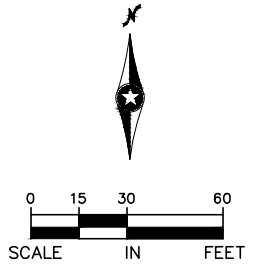
INTERSECTION AREA TO
BE LIT FROM TRAFFIC
SIGNAL MAST LIGHTING



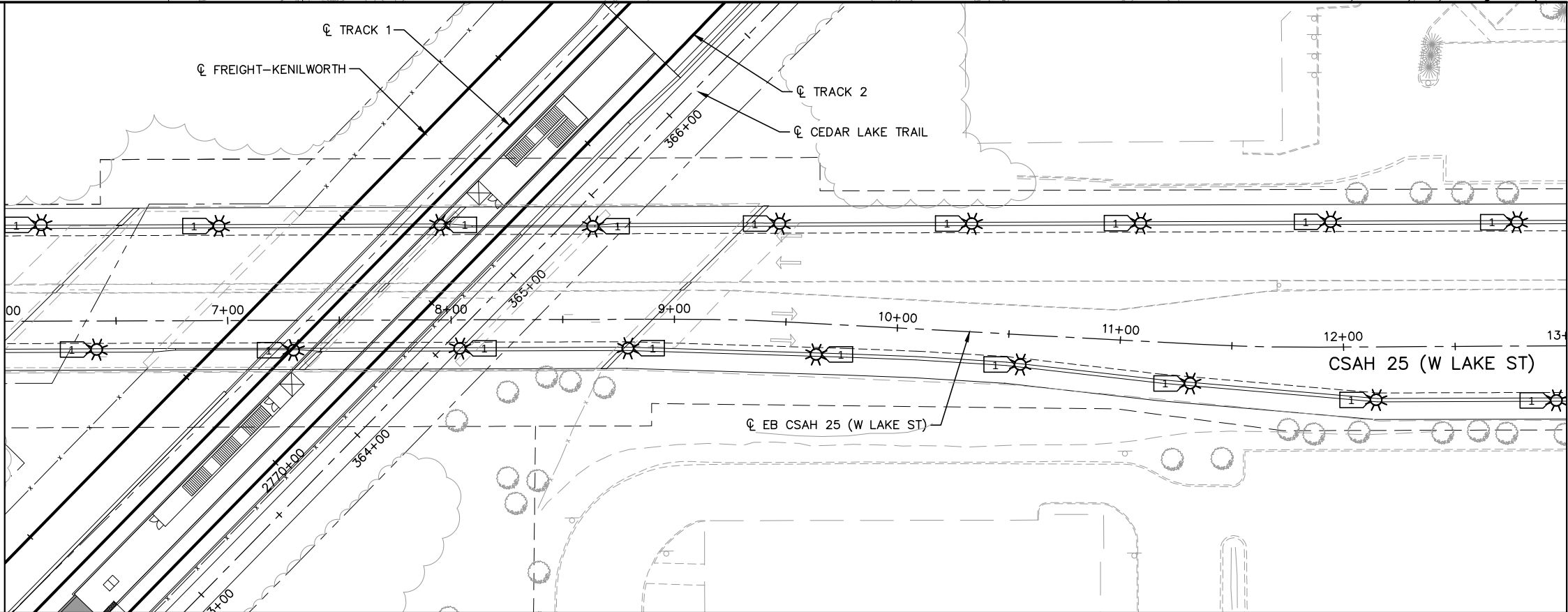
MATCHLINE - STA 6+00 - SEE BELOW

KEYNOTES:

1. POST TOP MOUNTED LUMINAIRE, LED, TYPE 5 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,183 LUMENS, MOUNTED @15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
2. POST TOP MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,736 LUMENS, MOUNTED @ 15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).

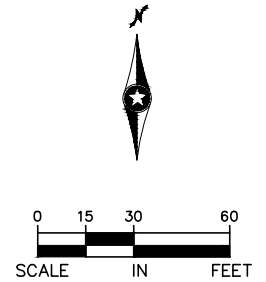


MATCHLINE - STA 6+00 - SEE ABOVE



MATCHLINE - STA 13+00
SEE SHEET E3-ELE-LAK-001

LIGHTING SHOWN IS DIAGRAMMATIC. TYPE
AND LOCATION OF LIGHTING WILL BE
DETERMINED DURING ADVANCED DESIGN.



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EAST - VOLUME 1 (CIVIL) - SEGMENT 3
ELECTRICAL SITE PLAN
CSAH 25 (W LAKE ST)
STA. 0+00 TO STA. 13+00

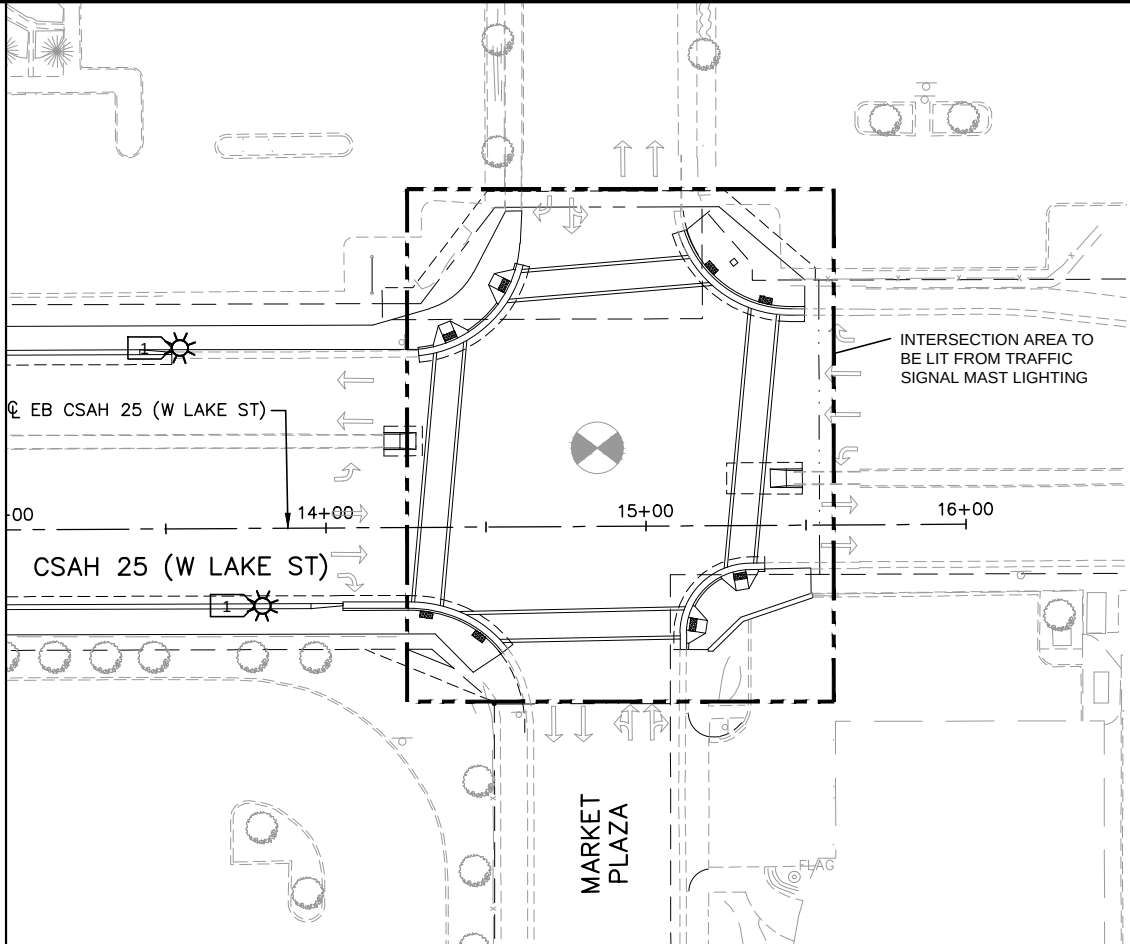
DISCIPLINE: **ELECTRICAL**

SHEET NAME: **E3-ELE-LAK - 001**

SHEET
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OF
126

Aug. 28 2014 01:10 pm V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\ELECTRICAL\E3-ELE-LAK.dwg By: Fergtk

MATCH LINE - STA 13+00
SEE SHEET E3-ELE-LAK-001



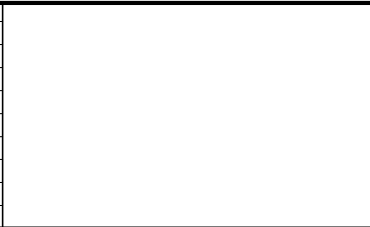
KEYNOTES:



1. POST TOP MOUNTED LUMINAIRE, LED, TYPE 5 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,183 LUMENS, MOUNTED @15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).

LIGHTING SHOWN IS DIAGRAMMATIC. TYPE AND LOCATION OF LIGHTING WILL BE DETERMINED DURING ADVANCED DESIGN.

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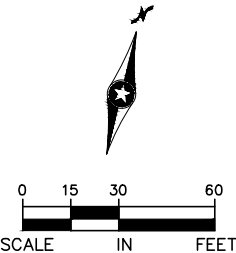
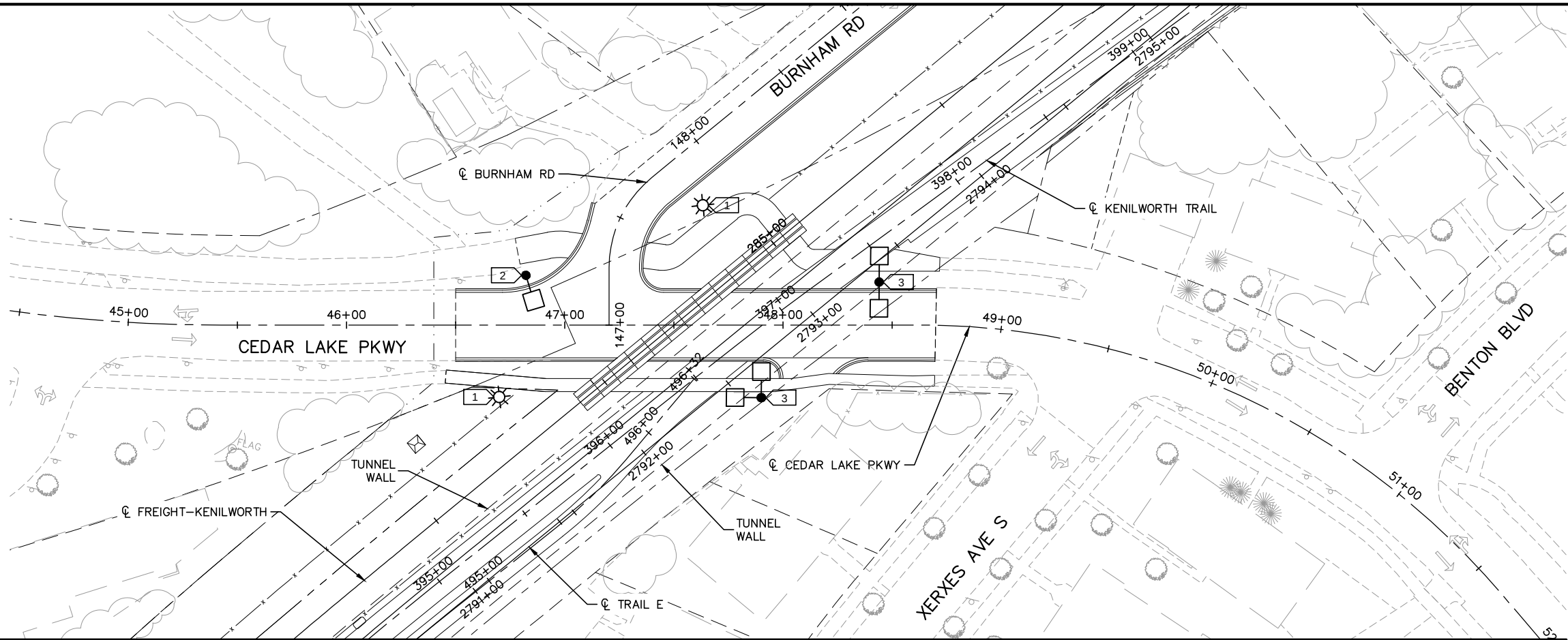
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
ELECTRICAL SITE PLAN
CSAH 25 (W LAKE ST)
STA. 13+00 TO STA. 16+00

DISCIPLINE: **ELECTRICAL**

SHEET NAME: **E3-ELE-LAK - 002**

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Aug. 28 2014 01:11 pm V:\33000_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\ELECTRICAL\E3-ELE-CED.dwg By: Fergtk



- KEYNOTES:**
- 1. POST TOP MOUNTED LUMINAIRE, LED, TYPE 2 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,427 LUMENS, MOUNTED @ 15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
 - 2. SINGLE POLE MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 12,942 LUMENS, MOUNTED @ 30'. (EQUAL TO MINNEAPOLIS SHOE BOX LUMINAIRE).
 - 3. DOUBLE POLE MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 12,942 LUMENS, MOUNTED @ 30'. (EQUAL TO MINNEAPOLIS SHOE BOX LUMINAIRE).

- GENERAL NOTES:**
- 1. TRACK 1 AND TRACK 2 NOT SHOWN FOR CLARITY.

LIGHTING SHOWN IS DIAGRAMMATIC. TYPE AND LOCATION OF LIGHTING WILL BE DETERMINED DURING ADVANCED DESIGN.

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PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
ELECTRICAL SITE PLAN
CEDAR LAKE PKWY

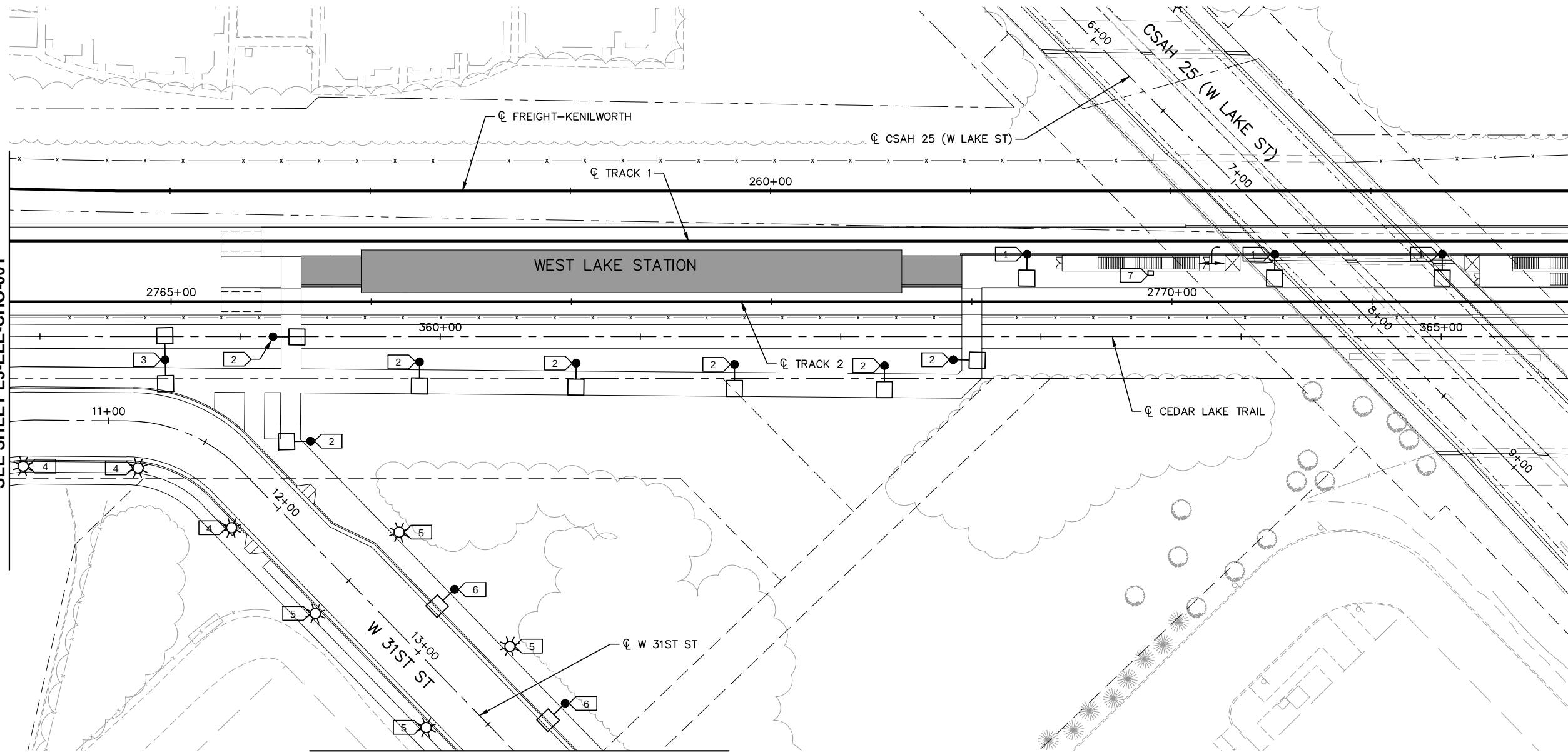
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SHEET NAME: **E3-ELE-CED - 001**

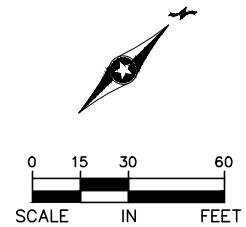
SHEET
97
OF
126

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MATCHLINE - STA 10+50
SEE SHEET E3-ELE-CHO-001



MATCHLINE - STA 13+68
SEE SHEET E3-ELE-CHO-001



- KEYNOTES:
1. SINGLE POLE MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 7,495 LUMENS, MOUNTED @ 15'.
 2. SINGLE POLE MOUNTED LUMINAIRE, LED, TYPE 2 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,858 LUMENS, MOUNTED @ 15'.
 3. DOUBLE POLE MOUNTED LUMINAIRE, LED, TYPE 2 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,858 LUMENS EACH, MOUNTED @ 15'.
 4. POST TOP MOUNTED LUMINAIRE, LED, TYPE 5 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,183 LUMENS, MOUNTED @ 15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
 5. POST TOP MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,736 LUMENS, MOUNTED @ 15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
 6. SINGLE POLE MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 15,529 LUMENS, MOUNTED @ 20'.
 7. WALL MOUNTED LED WALL PACK, COOL WHITE COLOR TEMPERATURE, 3,500 LUMENS, MOUNTED AT 10'.

LIGHTING SHOWN IS DIAGRAMMATIC. TYPE AND LOCATION OF LIGHTING WILL BE DETERMINED DURING ADVANCED DESIGN.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING



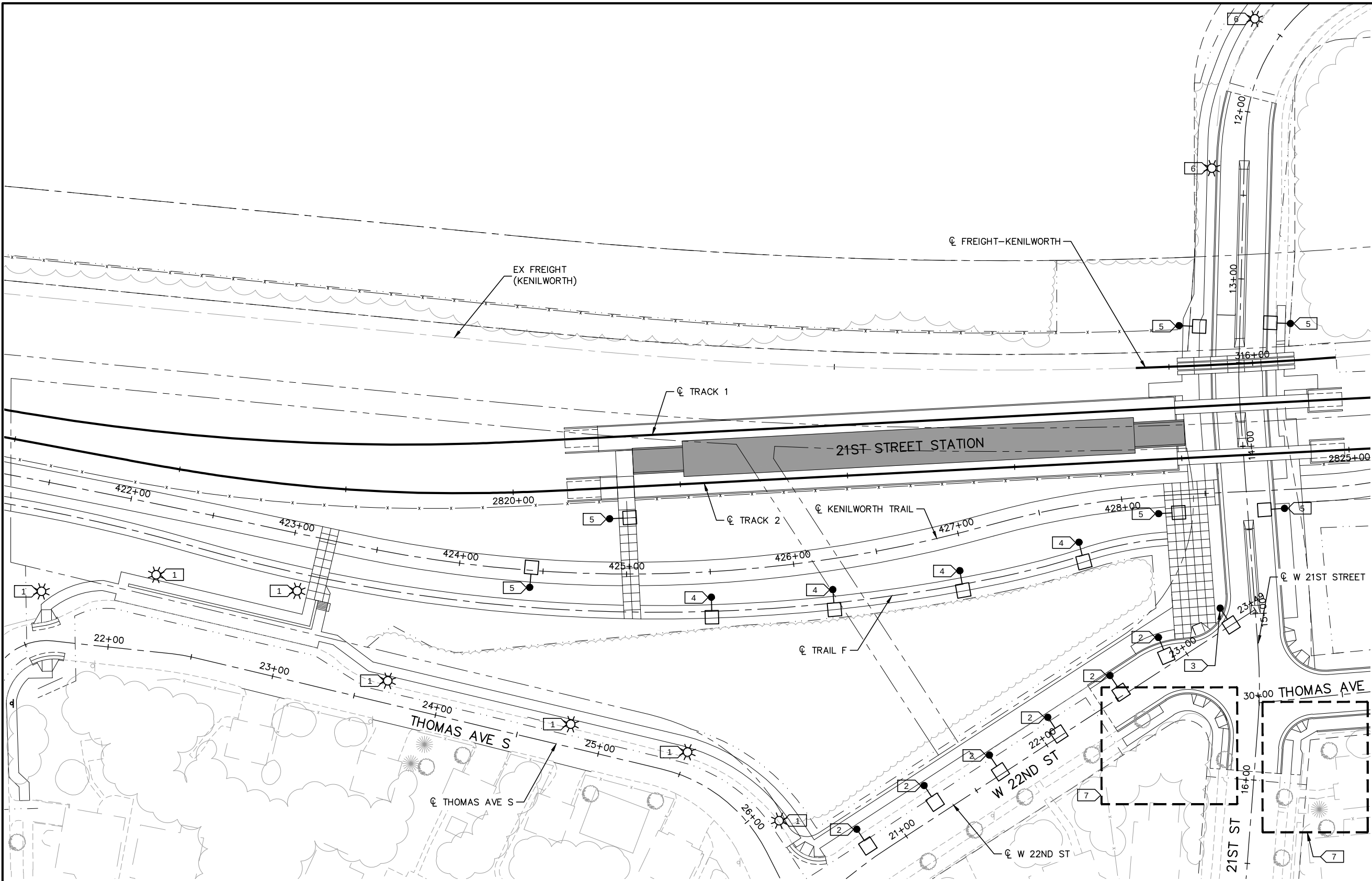
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
ELECTRICAL SITE PLAN
WEST LAKE SITE

DISCIPLINE: **ELECTRICAL**

SHEET NAME: **E3-ELE-PLN - 001**

SHEET
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- KEYNOTES:
1. POST TOP MOUNTED LUMINAIRE, LED, TYPE 5 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,183 LUMENS, MOUNTED @15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
 2. SINGLE POLE MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 12,942 LUMENS, MOUNTED @ 15'.
 3. SINGLE POLE MOUNTED LUMINAIRE, LED, TYPE 4 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 12,942 LUMENS, MOUNTED @ 20'.
 4. SINGLE POLE MOUNTED LUMINAIRE, LED, TYPE 2 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 7,531 LUMENS, MOUNTED @ 15'.
 5. SINGLE POLE MOUNTED LUMINAIRE, LED, TYPE 5 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 15,271 LUMENS, MOUNTED @ 25'.
 6. POST TOP MOUNTED LUMINAIRE, LED, TYPE 2 DISTRIBUTION, COOL WHITE COLOR TEMPERATURE, 5,427 LUMENS, MOUNTED @ 15'. (EQUAL TO MINNEAPOLIS LANTERN LUMINAIRE).
 7. SALVAGE AND REINSTALL ANY EXISTING LUMINAIRES IN THIS AREA.

LIGHTING SHOWN IS DIAGRAMMATIC. TYPE AND LOCATION OF LIGHTING WILL BE DETERMINED DURING ADVANCED DESIGN.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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EAST - VOLUME 1 (CIVIL) - SEGMENT 3
ELECTRICAL SITE PLAN
W 21ST STREET SITE

DISCIPLINE: **ELECTRICAL**

SHEET NAME: **E3-ELE-21ST - 001**

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OF
126

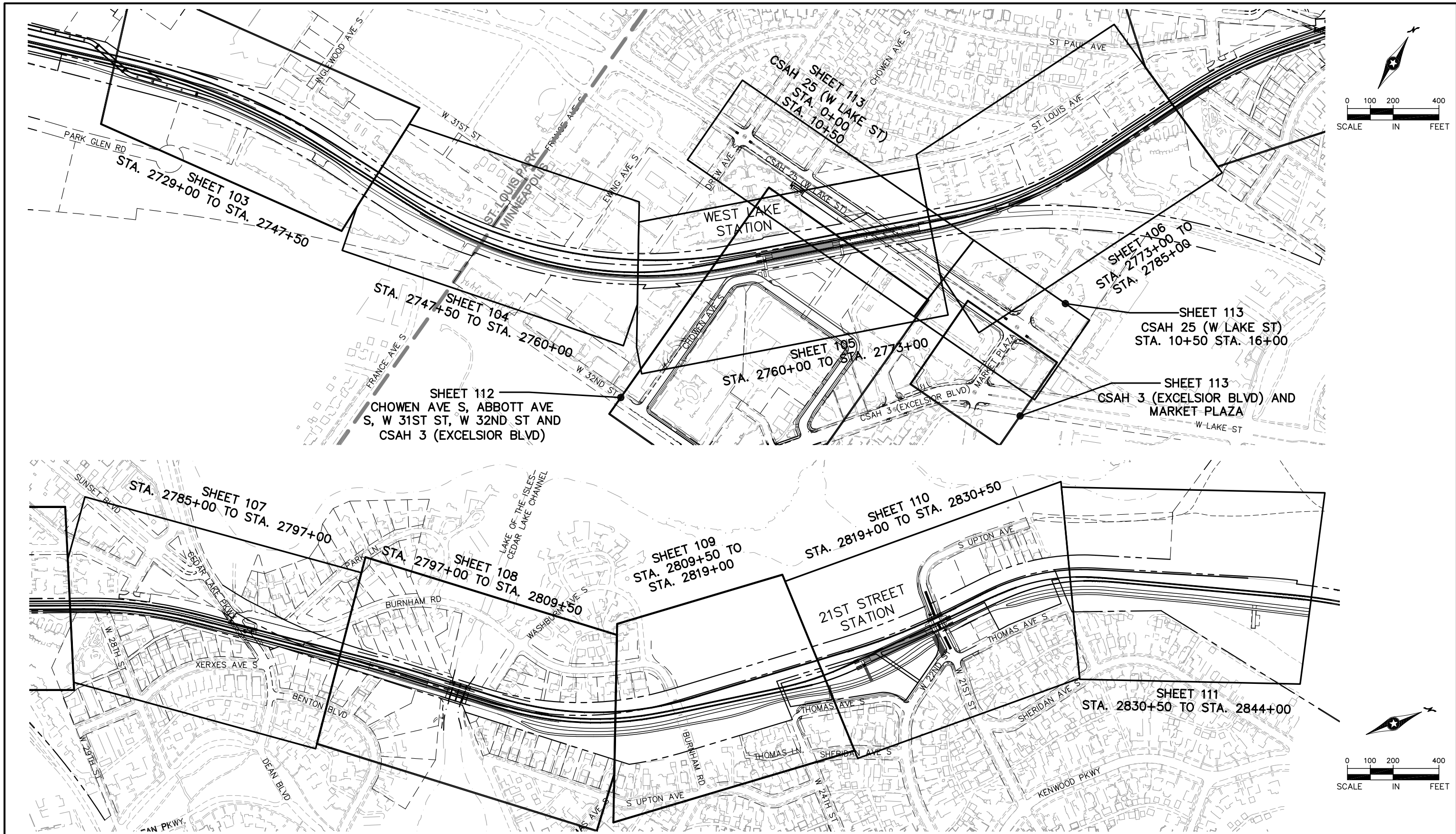
Aug. 29 2014 09:16 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\UTILITIES\E3-UTL-NTS.dwg By: Eric.Maki

LEGEND						SANITARY AND WATER PLAN CONSTRUCTION NOTES					
PROPOSED UTILITY LINE TYPES			PROPOSED UTILITY SYMBOLS			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.			⑱ CONSTRUCT WATER SERVICE TRACK CROSSING PER TYPICAL WATER SERVICE TRACK CROSSING FOR 2” COPPER SERVICE OR SMALLER DETAIL.		
——— ——— WATER MAIN ———▶——— SANITARY SEWER ———▶▶——— SANITARY SEWER FORCE MAIN ———COM—UG——— FIBER OPTIC COMMUNICATION			Ⓜ WATER MANHOLE ⌘ WATER VALVE ⦿ WATER HYDRANT Ⓢ SANITARY SEWER MANHOLE			② 8” GATE VALVE AND VALVE BOX.			⑲ NOT USED		
						③ 6” GATE VALVE, VALVE BOX, HYDRANT AND DIP LEAD.			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.		
						④ COORDINATE WITH CITY FOR SERVICE CONNECTIONS.			㉑ NOT USED		
						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.					

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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: CITY OF MINNEAPOLIS TRAFFIC CONTACT: ALLAN KLUGMAN PHONE: (612) 673-2743 MOBILE: (612) 655-6292 ADDRESS: 300 BORDER AVENUE NORTH MINNEAPOLIS, MN 55405			UTILITY: LEVEL 3 COMMUNICATIONS CONTACT: BRAD MORSETH PHONE: MOBILE: (612) 805-9479 ADDRESS: 715 N. 2ND ST. MINNEAPOLIS, MINNESOTA 55401			UTILITY: TDS TELECOM CONTACT: MICHAEL RITCHIE PHONE: (608) 664-4461 MOBILE: ADDRESS: 525 JUNCTION ROAD MADISON, WISCONSIN 53717			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			
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: CITY OF MINNEAPOLIS WATER CONTACT: MARIE ASGIAN PHONE: (612) 673-5682 MOBILE: ADDRESS: ROOM MAIN, WATER - EAST YARD 935 5TH AVENUE SE MINNEAPOLIS, MN 55414			UTILITY: METROPOLITAN COUNCIL, ENVIRONMENTAL SERVICES CONTACT: ADAM GORDON PHONE: (651) 602-4508 MOBILE: ADDRESS: 3565 KENNEBEC DRIVE EAGAN, MINNESOTA 55122			UTILITY: TELECOM TRANSPORT MANAGEMENT, INC. CONTACT: DAVE SMITH PHONE: (612) 309-8422 MOBILE: ADDRESS: 6844 WASHINGTON AVE. EDEN PRAIRIE, MN 55344						
UTILITY: CENTERPOINT ENERGY CONTACT: ANDREW BALGOBIN PHONE: (612) 321-5426 MOBILE: ADDRESS: 700 WEST LINDEN AVENUE MINNEAPOLIS, MINNESOTA 55403			UTILITY: CITY OF ST. LOUIS PARK CONTACT: JACK SULLIVAN PHONE: (952) 924-2691 MOBILE: ADDRESS: ENGINEERING DEPARTMENT CITY HALL 5005 MINNETONKA BLVD ST. LOUIS PARK, MINNESOTA 55416			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: TW TELECOM, INCORPORATED CONTACT: BOB STRONG PHONE: (952) 351-2353 MOBILE: (612) 805-6827 ADDRESS: 5480 FELTL ROAD MINNETONKA, MINNESOTA 55343-7982						
UTILITY: CENTURYLINK CONTACT: BRANDON ELVERUM PHONE: (651) 250-3996 MOBILE: ADDRESS: 390 COMMERCE DRIVE, ROOM #104 WOODBURY, MINNSOTA 55125			UTILITY: COMCAST CABLE CONTACT: TOM NIEDZIELSKI PHONE: (651) 493-5407 MOBILE: (612) 490-7750 ADDRESS: 2621 FAIRVIEW AVE. NORTH ROSEVILLE, MINNESOTA 55113			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: VERIZON COMMUNICATIONS CONTACT: STEPHEN BONCZKOWSKI PHONE: (630) 395-6161 MOBILE: (630) 327-6959 ADDRESS: 501 63RD ST. DOWNERS GROVE, ILLINOIS 60516						
UTILITY: CENTURYLINK CONTACT: KATHY HOGGARTH PHONE: (651) 312-5306 MOBILE: ADDRESS: 425 MONROE ST. ANOKA, MINNESOTA 55303			UTILITY: EDCO PRODUCTS CONTACT: RUSS CLARNO PHONE: (952) 945-2650 MOBILE: ADDRESS: 8700 EXCELSIOR BLVD. HOPKINS, MINNESOTA 55343			UTILITY: ROGERS COMMUNICATIONS CONTACT: RICHARD AUSTRIA PHONE: (647) 747-2976 MOBILE: (647) 241-6534 ADDRESS: EAST BUILDING 2ND FLOOR BRAMPTON, ONTARIO L6T 0C1			UTILITY: WINDSTREAM CONTACT: ERIC BECKER PHONE: MOBILE: (612) 790-4110 ADDRESS: 2996 CENTRE POINT DR. ROSEVILLE, MINNESOTA 55113						
UTILITY: CENTURYLINK - LITECORE/KMC CONTACT: KYLE TOSTENSON PHONE: (318) 417-2768 MOBILE: ADDRESS: 100 CENTURYLINK DRIVE MONROE, LA 71203			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: SPRINT COMMUNICATIONS COMPANY, LP CONTACT: DAN HILLIARD PHONE: (651) 772-6714 MOBILE: (612) 414-2089 ADDRESS: 849 EARL STREET ST. PAUL, MINNESOTA 55106			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: CITY OF HOPKINS CONTACT: NATE STANLEY PHONE: (952) 548-6356 MOBILE: (952) 292-6872 ADDRESS: 1010 1ST ST. S. HOPKINS, MINNESOTA 55343			UTILITY: HERC CONTACT: ANDREW LEITH PHONE: (612) 348-8993 MOBILE: ADDRESS: HENNEPIN COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES SOLID WASTE & ENERGY DIVISION 701 FOURTH AVENUE SOUTH, SUITE 700 MINNEAPOLIS, MN 55415-1842			UTILITY: ST. LOUIS PARK PUBLIC SCHOOLS - ISD #283 CONTACT: TOM MARBLE PHONE: (952) 928-6152 MOBILE: ADDRESS: ST. LOUIS PARK PUBLIC SCHOOLS - ISD #283 6425 WEST 33RD STREET ST. LOUIS PARK, MINNESOTA 55426			UTILITY: XCEL ENERGY - DISTRIBUTION CONTACT: MORGAN IMPOLA PHONE: (952) 829-4538 MOBILE: (612) 876-5447 ADDRESS: 5309 WEST 70TH STREET EDINA, MINNESOTA 55439						
UTILITY: CITY OF MINNEAPOLIS SEWER CONTACT: KELLY MORIARITY PHONE: (612) 673-3617 MOBILE: ADDRESS: CITY OF LAKES BUILDING 309 2ND AVENUE SOUTH - ROOM 330 MINNEAPOLIS, MN 55401-2268			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: SUPER-VALU CONTACT: AARON RESTEMAYER PHONE: (952) 238-3231 MOBILE: ADDRESS: 300 2ND AVE. S. HOPKINS, MINNESOTA 55343			UTILITY: XO COMMUNICATIONS CONTACT: ED PARKER PHONE: (602) 324-6488 MOBILE: ADDRESS: 3930 E. WATKINS SUITE 200 PHOENIX, ARIZONA 85034						
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL	Kimley»Horn pce			METROPOLITAN C O U N C I L SOUTHWEST Green Line LRT Extension			EAST - VOLUME 1 (CIVIL) - SEGMENT 3 UTILITY CONTACTS			SHEET 101 OF 126
						PRELIMINARY ENGINEERING			DISCIPLINE: UTILITY			SHEET NAME: E3-UTL-CNTC-001			

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PRELIMINARY ENGINEERING

**METROPOLITAN**
COUNCIL

**SOUTHWEST**
Green Line LRT Extension

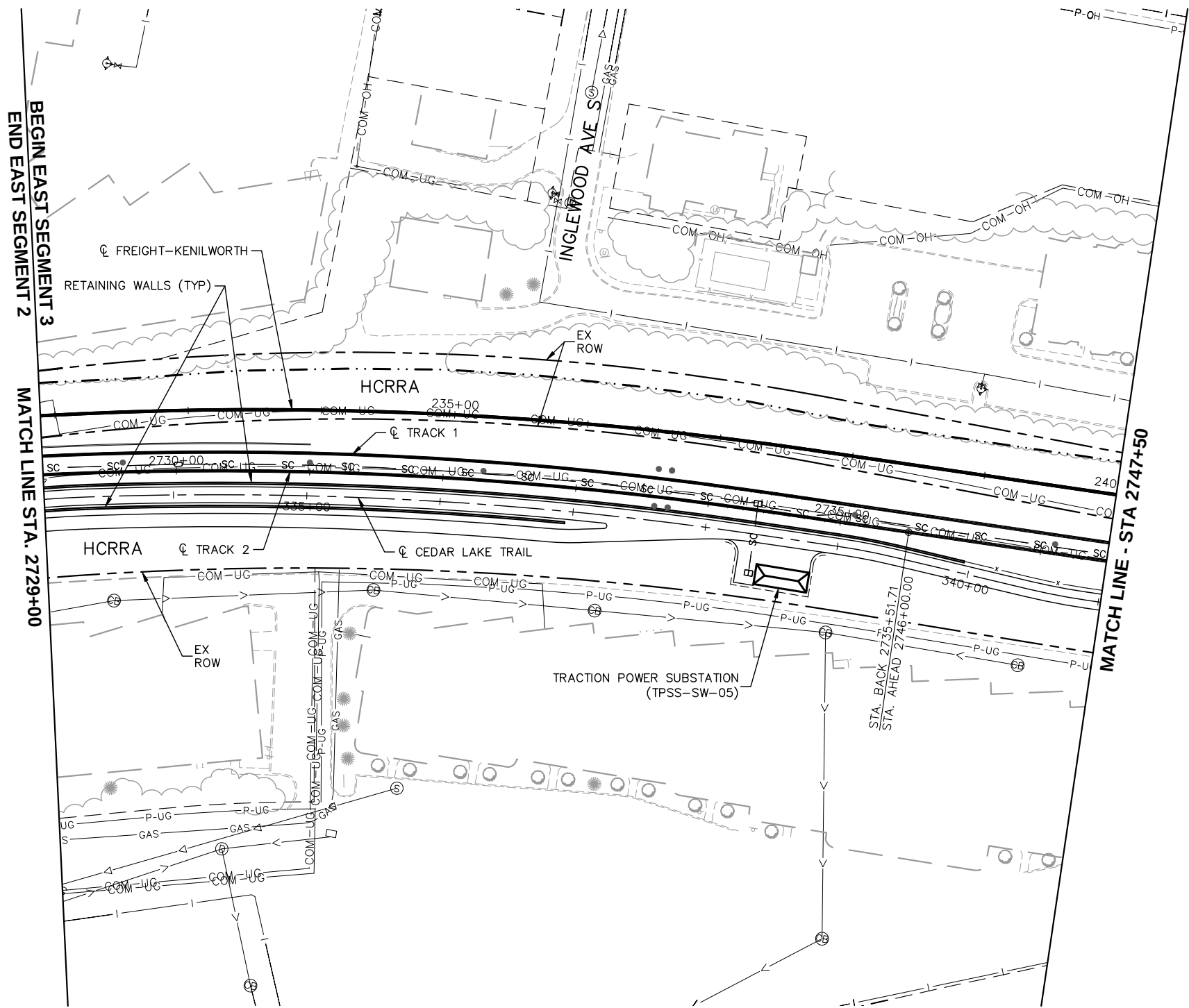
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
UTILITY PLAN
SHEET INDEX

DISCIPLINE: **UTILITY**

SHEET NAME: **E3-UTL-IDX-001**

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- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

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PRELIMINARY ENGINEERING




EAST - VOLUME 1 (CIVIL) - SEGMENT 3

UTILITY PLAN

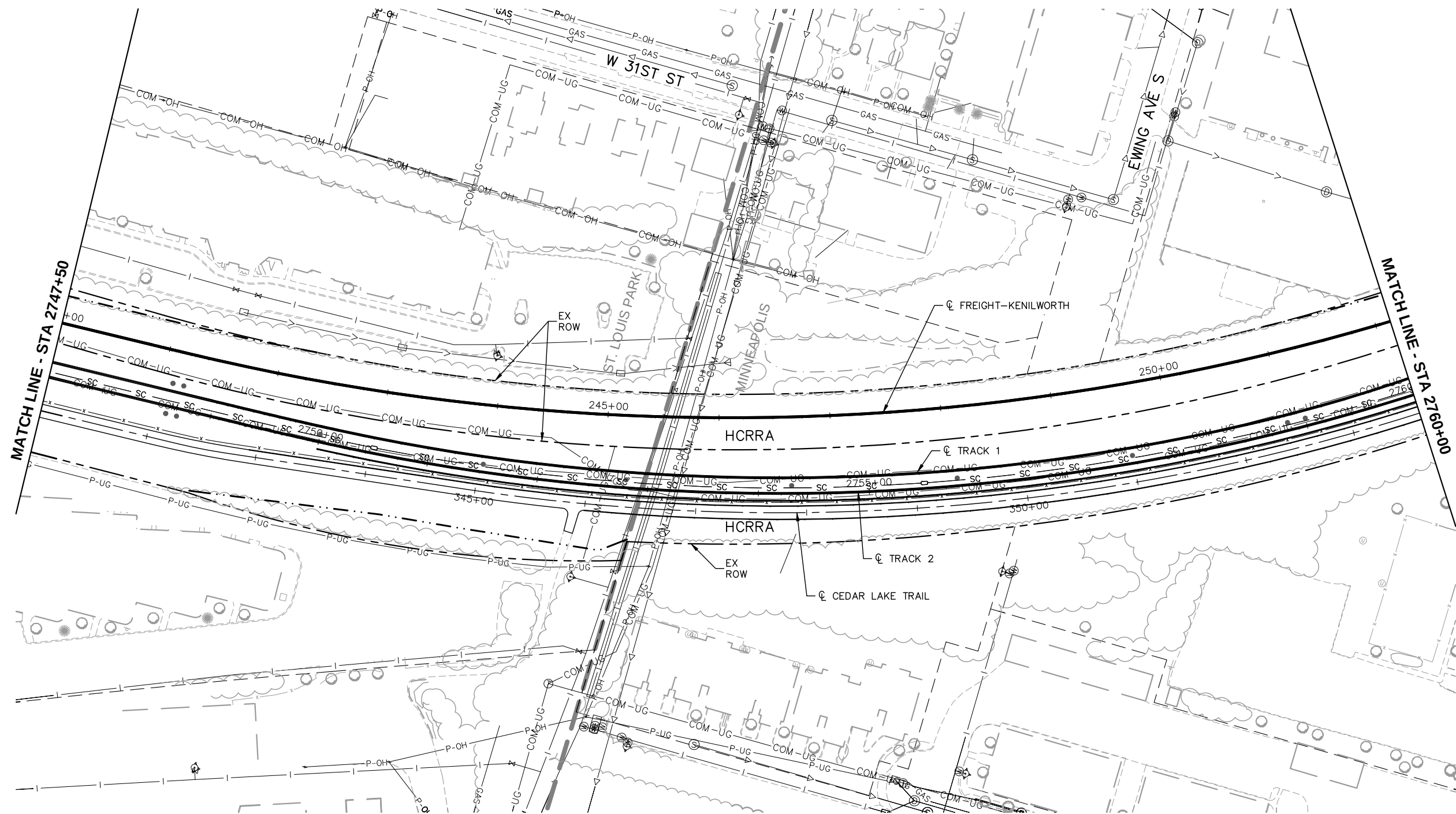
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DISCIPLINE: UTILITY

SHEET NAME: E3-UTL-PLN-001

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- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



PRELIMINARY ENGINEERING

SOUTHWEST
Green Line LRT Extension

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
UTILITY PLAN

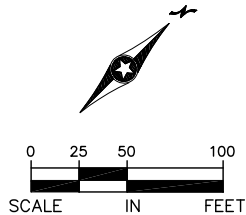
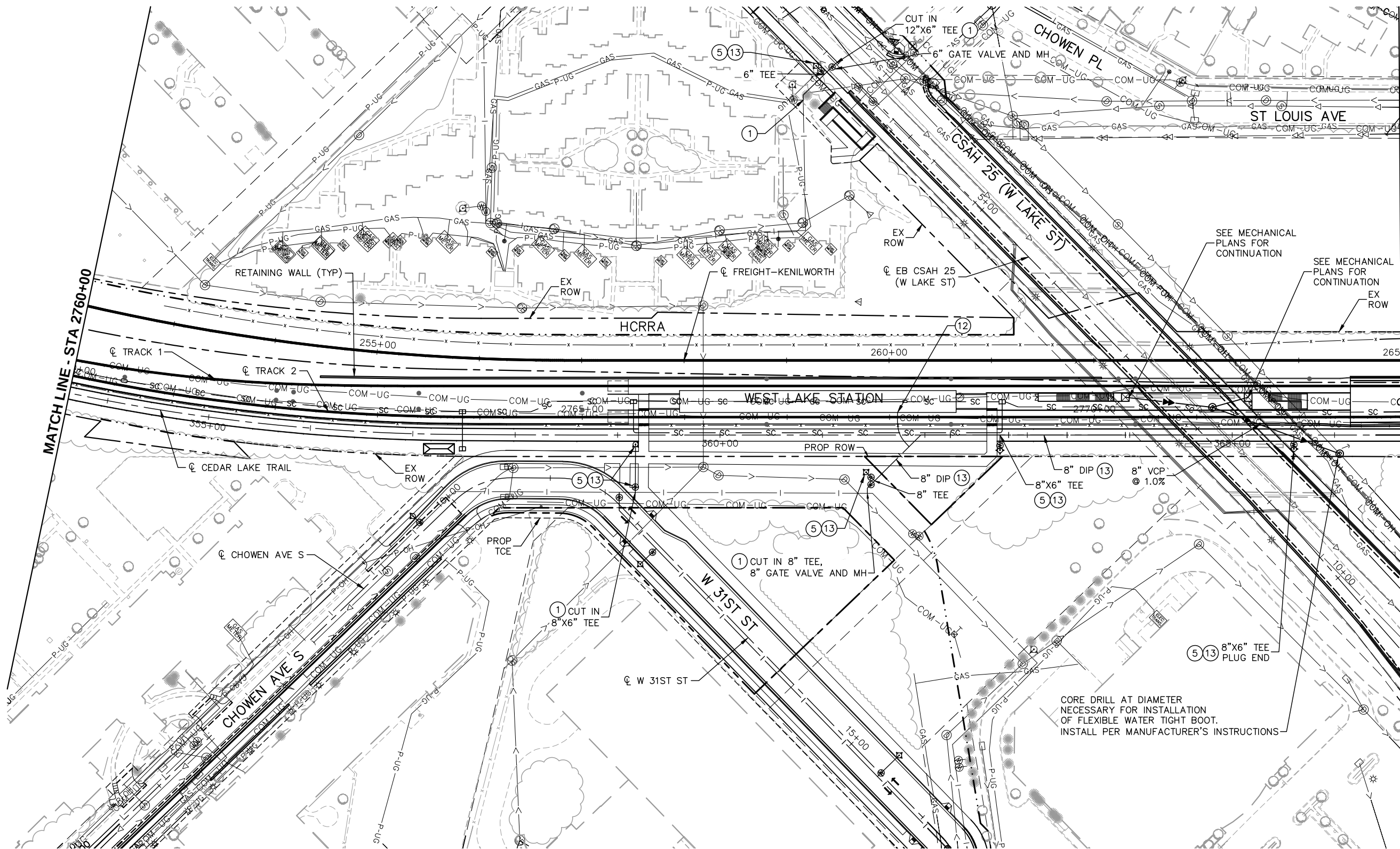
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DISCIPLINE: UTILITY

SHEET NAME: E3-UTL-PLN-002

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- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

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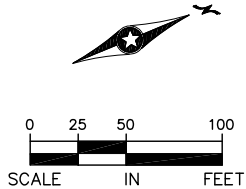
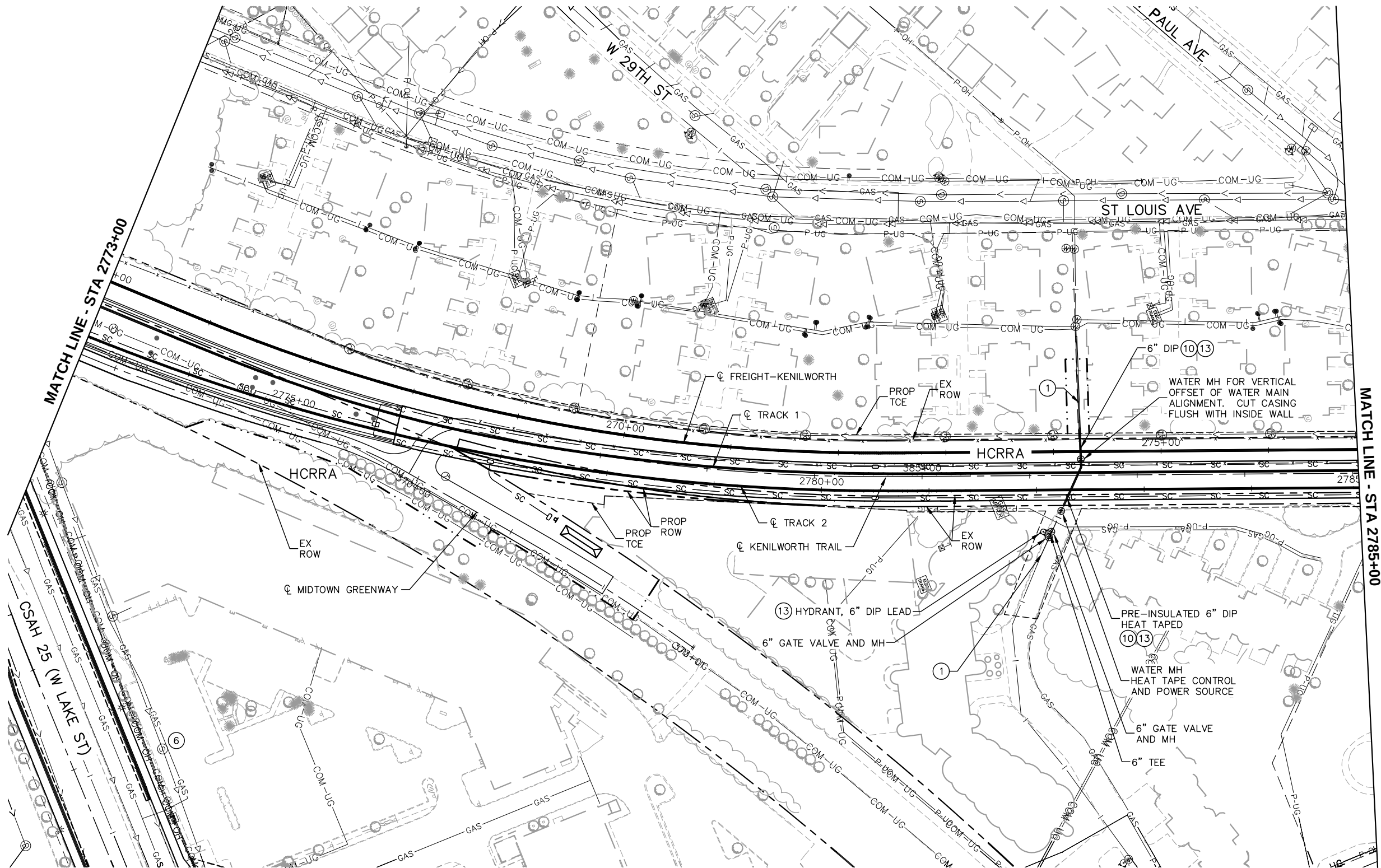
PRELIMINARY ENGINEERING

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
UTILITY PLAN
STA 2760+00 TO STA 2773+00

DISCIPLINE: UTILITY
SHEET NAME: E3-UTL-PLN-003

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- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

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PRELIMINARY ENGINEERING

METROPOLITAN
COUNCIL

SOUTHWEST
Green Line LRT Extension

EAST - VOLUME 1 (CIVIL) - SEGMENT 3

UTILITY PLAN

STA 2773+00 TO STA 2785+00

DISCIPLINE: **UTILITY**

SHEET NAME: **E3-UTL-PLN-004**

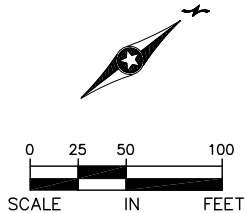
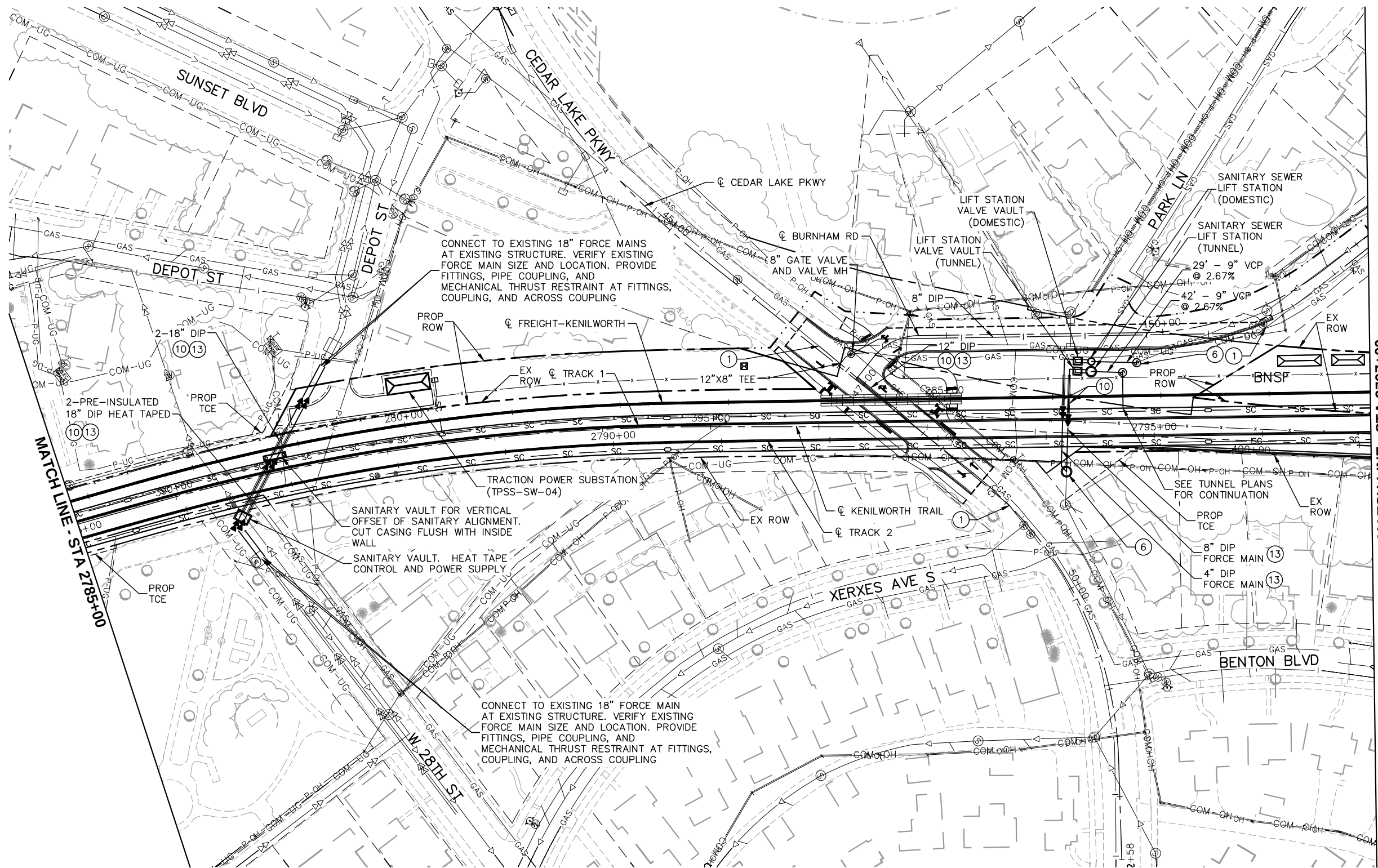
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- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

PRELIMINARY ENGINEERING

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
UTILITY PLAN

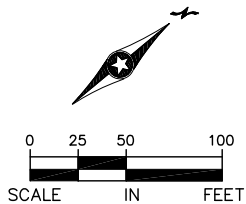
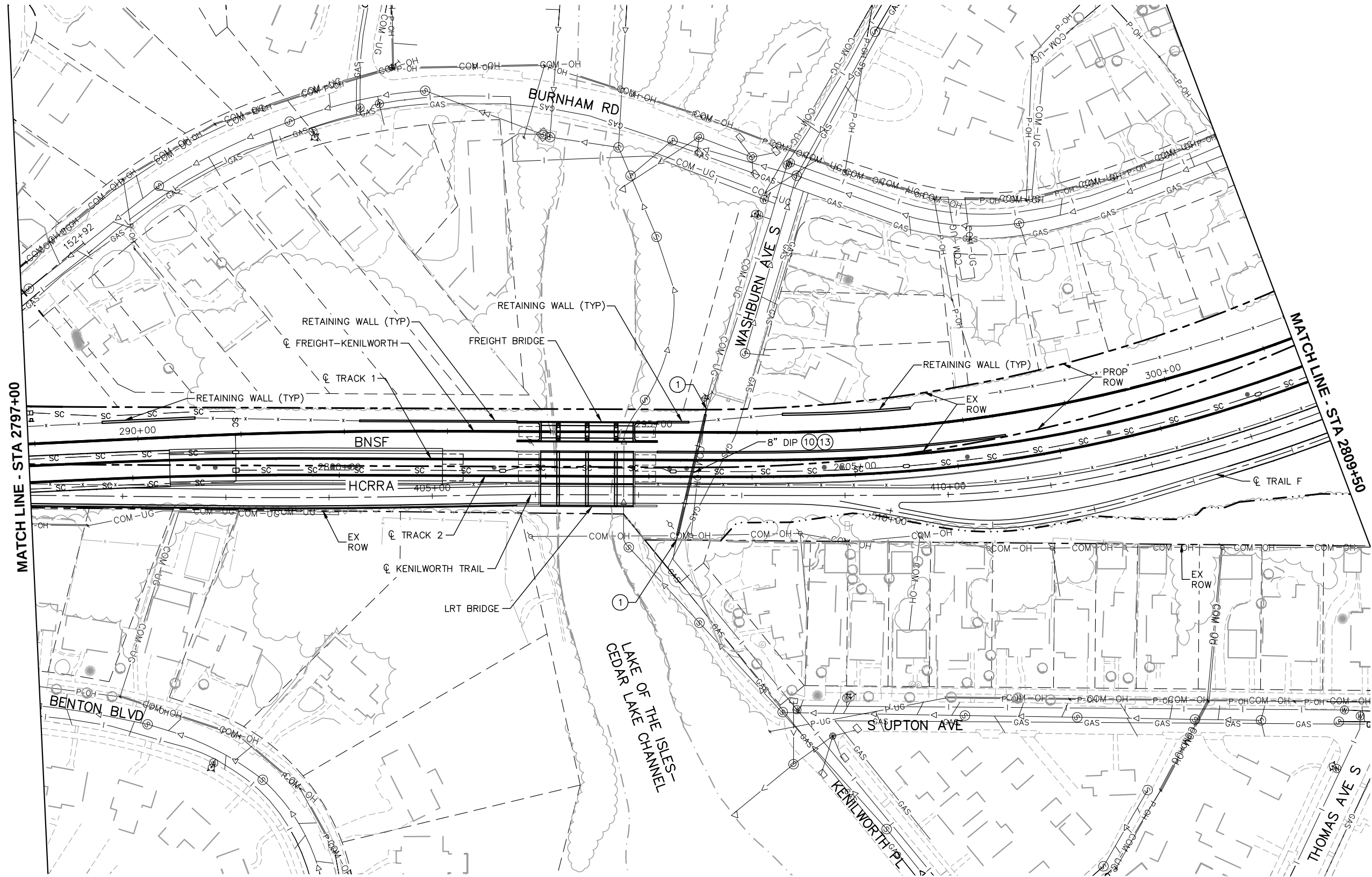
STA 2785+00 TO STA 2797+00

DISCIPLINE: UTILITY

SHEET NAME: E3-UTL-PLN-005

SHEET 107 OF 126

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- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

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PRELIMINARY ENGINEERING



METROPOLITAN
COUNCIL



SOUTHWEST
Green Line LRT Extension

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
UTILITY PLAN

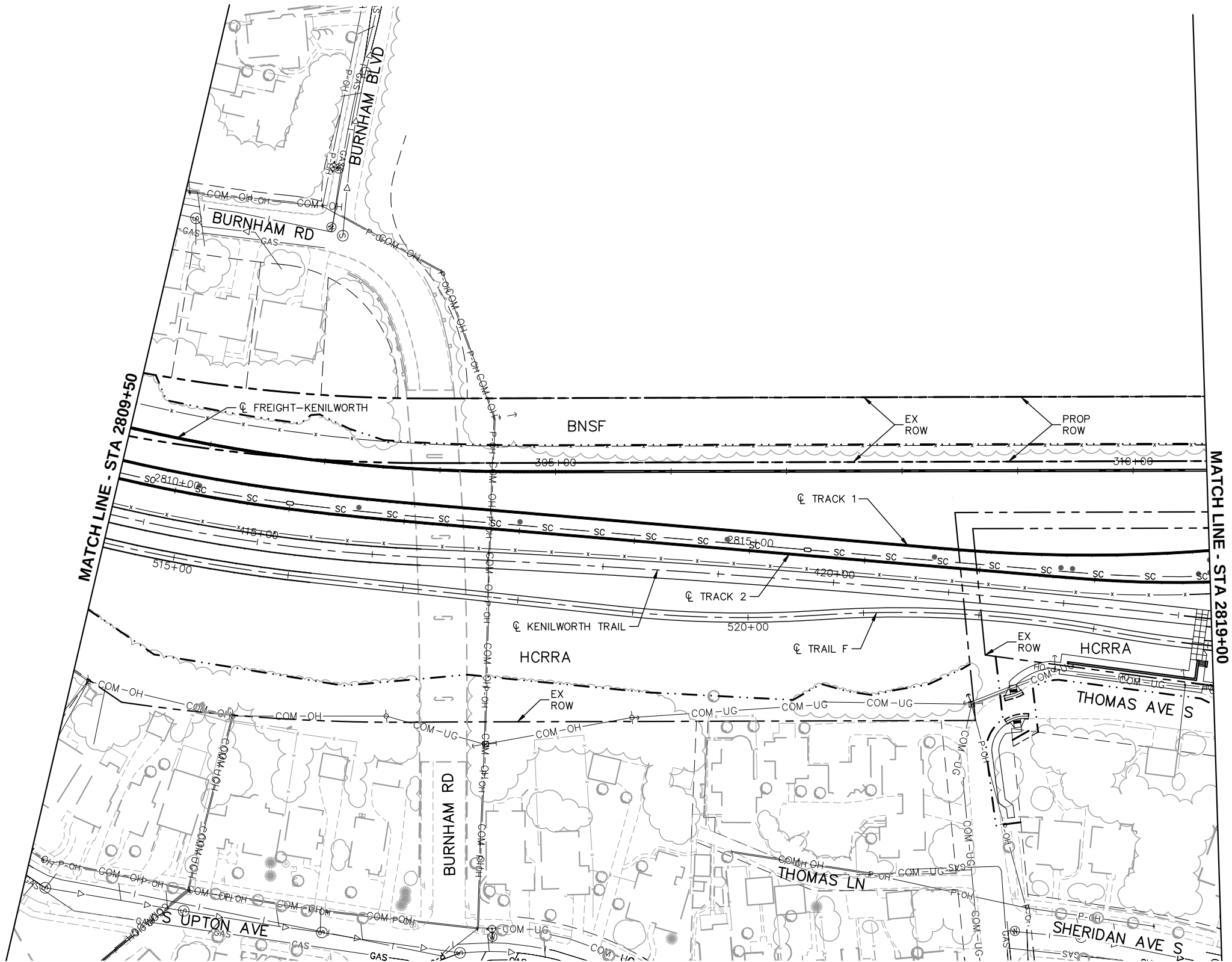
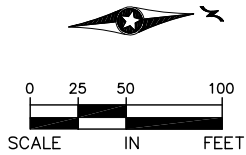
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DISCIPLINE: **UTILITY**

SHEET NAME: **E3-UTL-PLN-006**

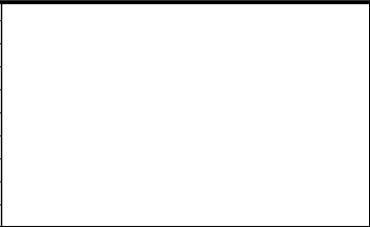
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Aug. 29 2014 09:24 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\UTILITIES\E3-UTL-PLN.dwg By: Eric.Maki



- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



PRELIMINARY ENGINEERING

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
UTILITY PLAN

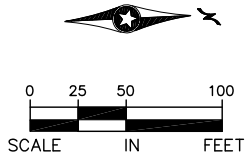
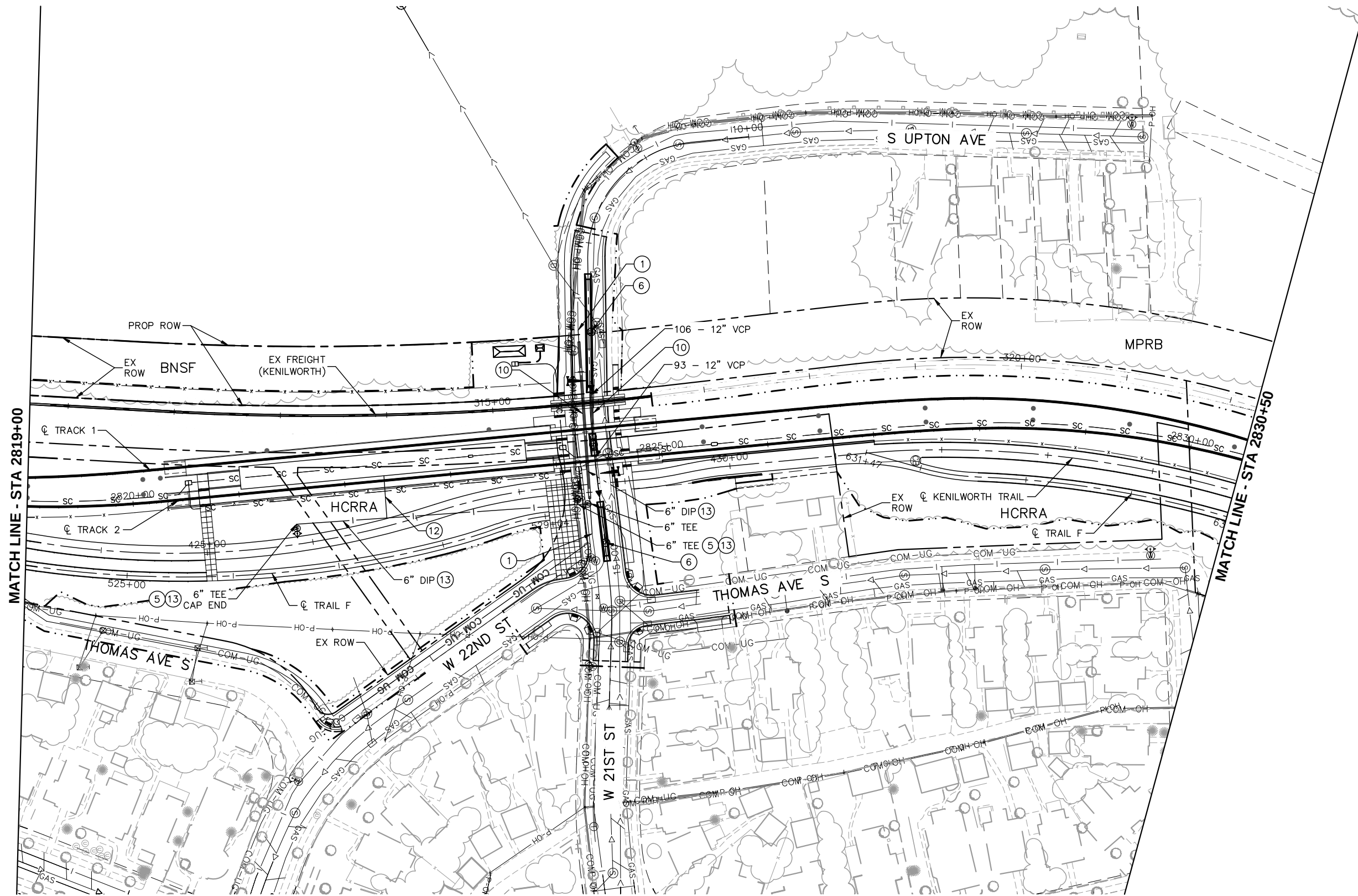
STA 2809+50 TO STA 2819+00

DISCIPLINE: UTILITY

SHEET NAME:
E3-UTL-PLN-007

SHEET 109 OF 126

Aug. 29 2014 09:25 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\UTILITIES\E3-UTL-PLN.dwg By: Eric.Maki



- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL




PRELIMINARY ENGINEERING




SOUTHWEST
Green Line LRT Extension

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
UTILITY PLAN

STA 2819+00 TO STA 2830+50

DISCIPLINE: UTILITY

SHEET NAME: E3-UTL-PLN-008

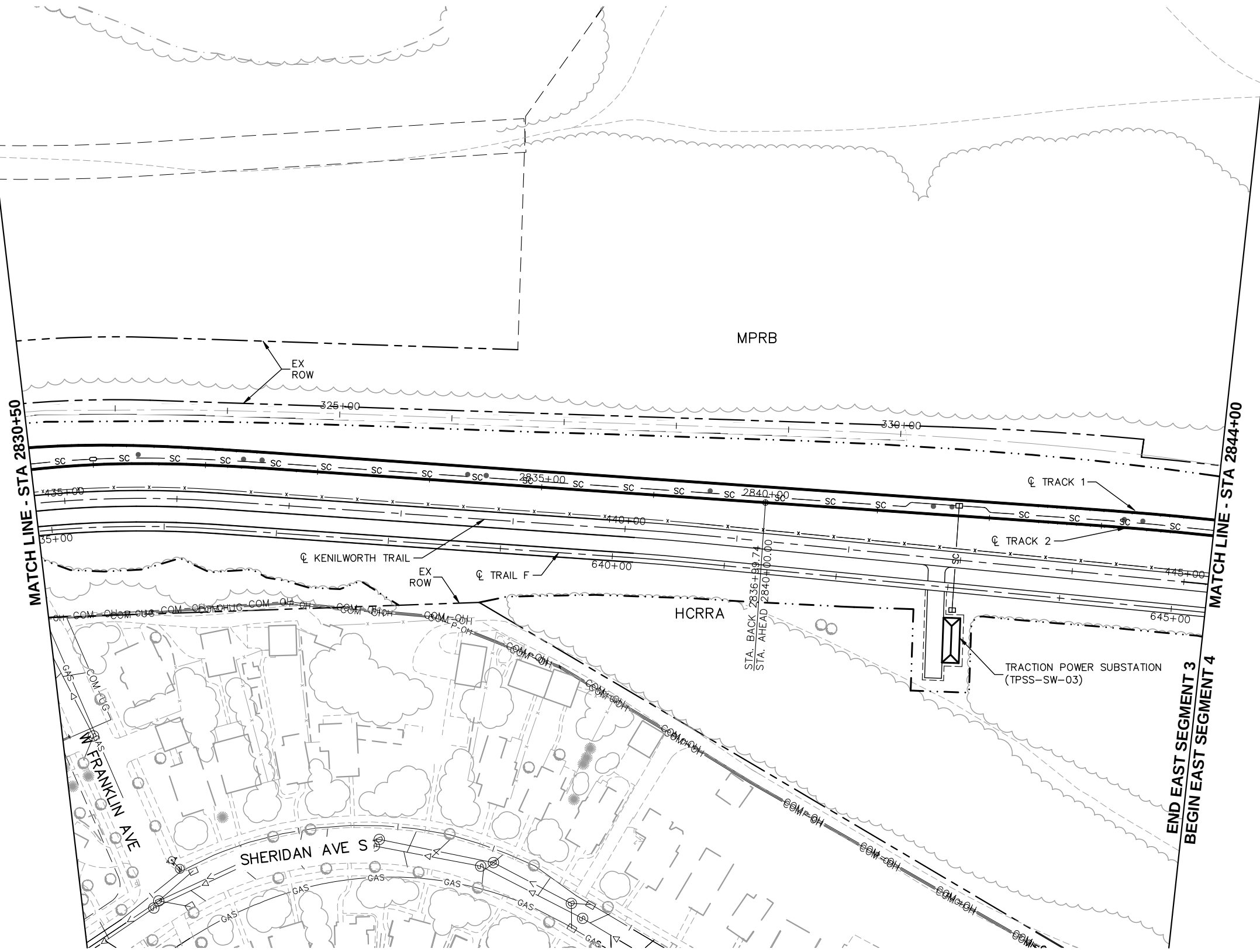
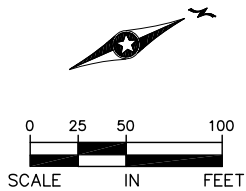
SHEET

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126

Aug. 29 2014 09:26 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\UTILITIES\E3-UTL-PLN.dwg By: Eric.Maki



- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



PRELIMINARY ENGINEERING

EAST - VOLUME 1 (CIVIL) - SEGMENT 3
UTILITY PLAN

STA 2830+50 TO STA 2844+00

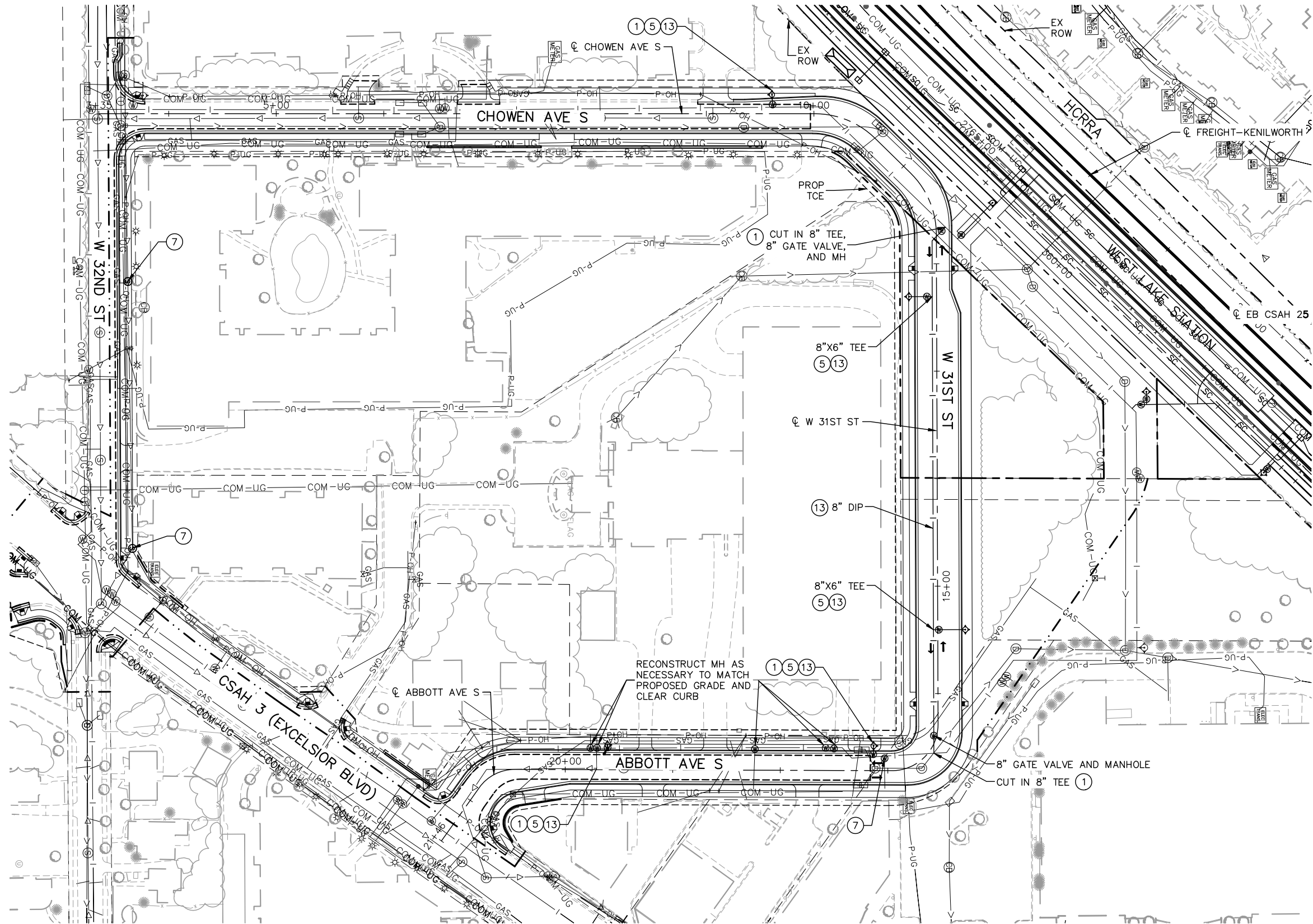
DISCIPLINE: UTILITY

SHEET NAME:

E3-UTL-PLN-009

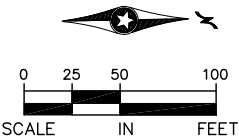
SHEET
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OF
126

Aug. 29 2014 09:27 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\UTILITIES\E3-UTL-PLN.dwg By: Eric.Maki



NOTES:

- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
- * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.



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pce

PRELIMINARY ENGINEERING



METROPOLITAN
COUNCIL



SOUTHWEST
Green Line LRT Extension

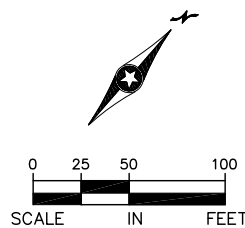
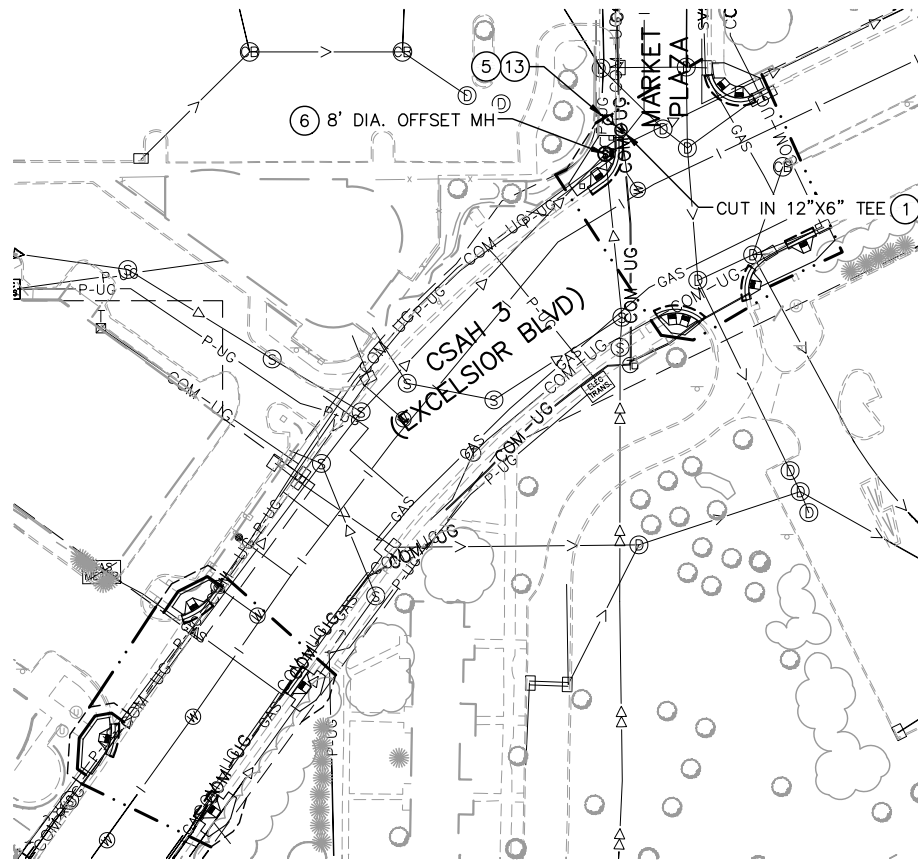
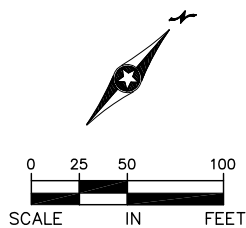
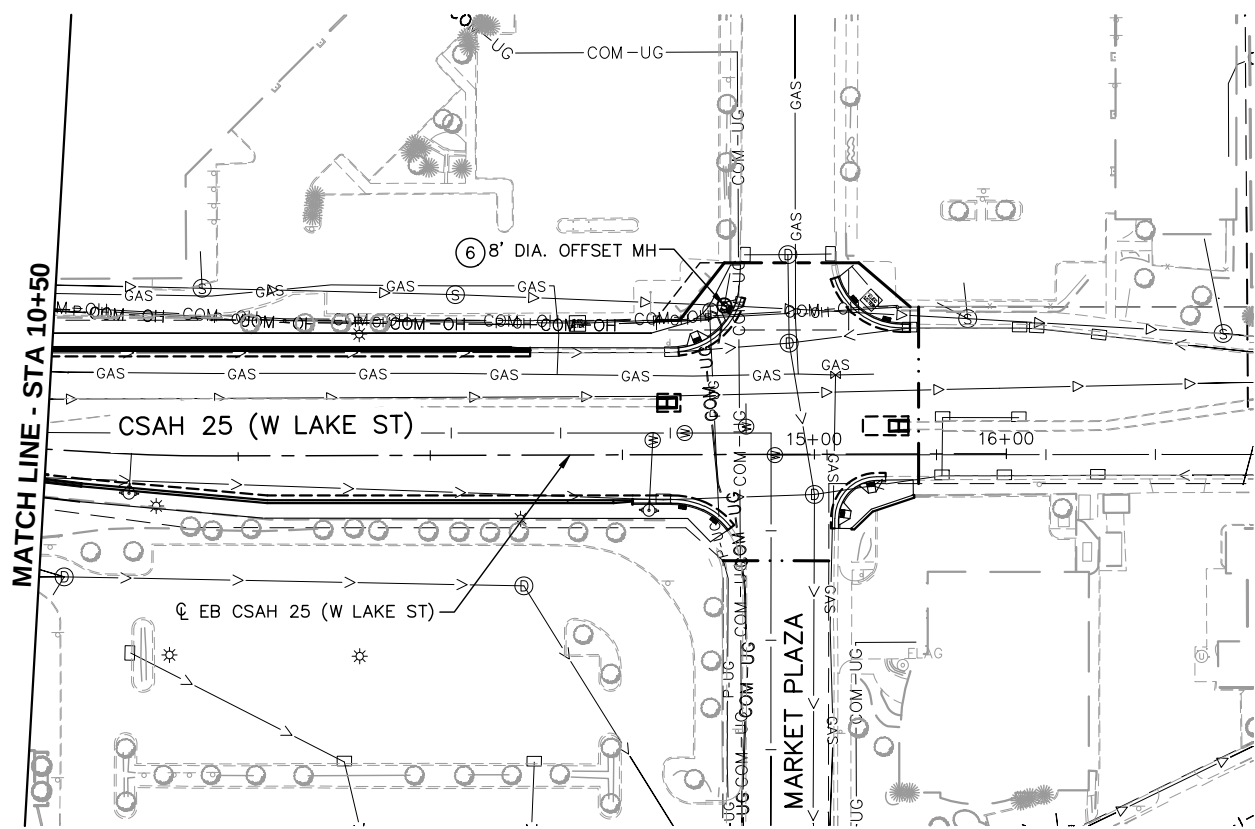
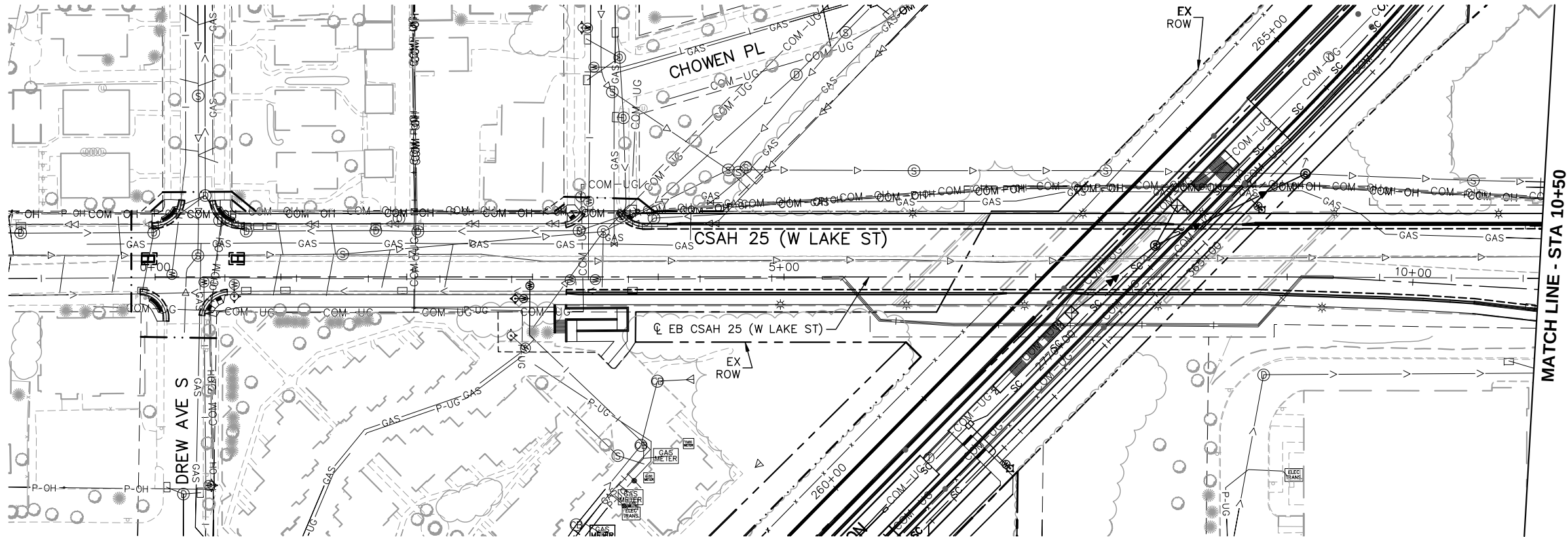
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
UTILITY PLAN
CHOWEN AVE S, ABBOTT AVE S, W 31ST ST,
W 32ND ST AND CSAH 3 (EXCELSIOR BLVD)

DISCIPLINE: **UTILITY**

SHEET NAME: **E3-UTL-PLN - 010**

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Aug. 29 2014 09:29 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\UTILITIES\E3-UTL-PLN.dwg By: Eric.Maki



- NOTES:
- * SEE SHEET E3-UTL-NTS-001 FOR UTILITY LEGEND.
 - * (XX)=SANITARY AND WATER PLAN CONSTRUCTION NOTE. REFER TO SHEET E3-UTL-NTS-001 FOR NOTES.

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PRELIMINARY ENGINEERING

EAST - VOLUME 1 (CIVIL) - SEGMENT 3

UTILITY PLAN

CSAH 25 (W LAKE ST), CSAH 3 (EXCELSIOR BLVD) AND MARKET PLAZA

DISCIPLINE:

UTILITY

SHEET NAME:

E3-UTL-PLN - 011

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OF
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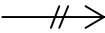
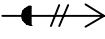
Aug. 28 2014 09:11 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRAFFIC\E3-TFC-SIG-NTS.dwg By: guillermo.madrigal

TRAFFIC LEGEND

INPLACE

-  POWER POLE
-  PUSHBUTTON PEDESTAL
-  LUMINAIRE
-  SIG. POLE W/MASTARM
-  SIGNAL PEDESTAL
-  SIGNAL FACE
-  TRAFFIC PAD
-  PEDESTRIAN INDICATION
-  PUSHBUTTON
-  EVP CONFIRMATORY LIGHT
-  EVP DETECTOR
-  EVP DETECTOR AND CONFIRMATORY LIGHT
-  AUTOMATIC GATE

FURNISH & INSTALL

-  POWER POLE
-  PUSHBUTTON PEDESTAL
-  LUMINAIRE
-  SIG. POLE W/MASTARM
-  SIGNAL PEDESTAL
-  SIGNAL FACE
-  WARNING FLASHER
-  TRAFFIC PAD
-  PEDESTRIAN INDICATION
-  PUSHBUTTON
-  EVP CONFIRMATORY LIGHT
-  EVP DETECTOR
-  EVP DETECTOR AND CONFIRMATORY LIGHT
-  AUTOMATIC GATE
-  RAIL CROSSING FLASHER

ABBREVIATIONS

- 2-1

AWF

EVP

FYA

GRN

GR. RD.

INP

INS. GR.

LED

LUM

P1-1 (e.g.)

PB2-1 (e.g.)

PED

SOP

STA

WLK

YEL

RED

Ø2
- SIGNAL HEAD NUMBER

ADVANCE WARNING FLASHER

EMERGENCY VEHICLE PRE-EMPTION

FLASHING YELLOW ARROW

GREEN INDICATION

GROUND ROD

INPLACE

INSULATED GROUND

LIGHT EMITTING DIODE

LUMINAIRE

PEDESTRIAN HEAD (PHASE 1, NO. 1)

PUSH BUTTON (PHASE 2, NO. 1)

PEDESTRIAN

SOURCE OF POWER

STATION

WALK INDICATION

YELLOW INDICATION

RED INDICATION

SIGNAL PHASE NUMBER

INPLACE EQUIPMENT LABELS

-  SIGNAL BASE NO.
-  SIGNAL HEAD NO./FLASHER HEAD NO.
-  LUMINAIRE NO.
-  CONTROLLER CABINET
-  SIGNAL SERVICE CABINET

EQUIPMENT LABELS

-  SIGNAL BASE NO.
-  SIGNAL HEAD NO./FLASHER HEAD NO.
-  LUMINAIRE NO.
-  CONTROLLER CABINET
-  SIGNAL SERVICE CABINET

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN
NOTES AND LEGEND

DISCIPLINE:
TRAFFIC

SHEET NAME:
E3-TFC-SIG-NTS - 001

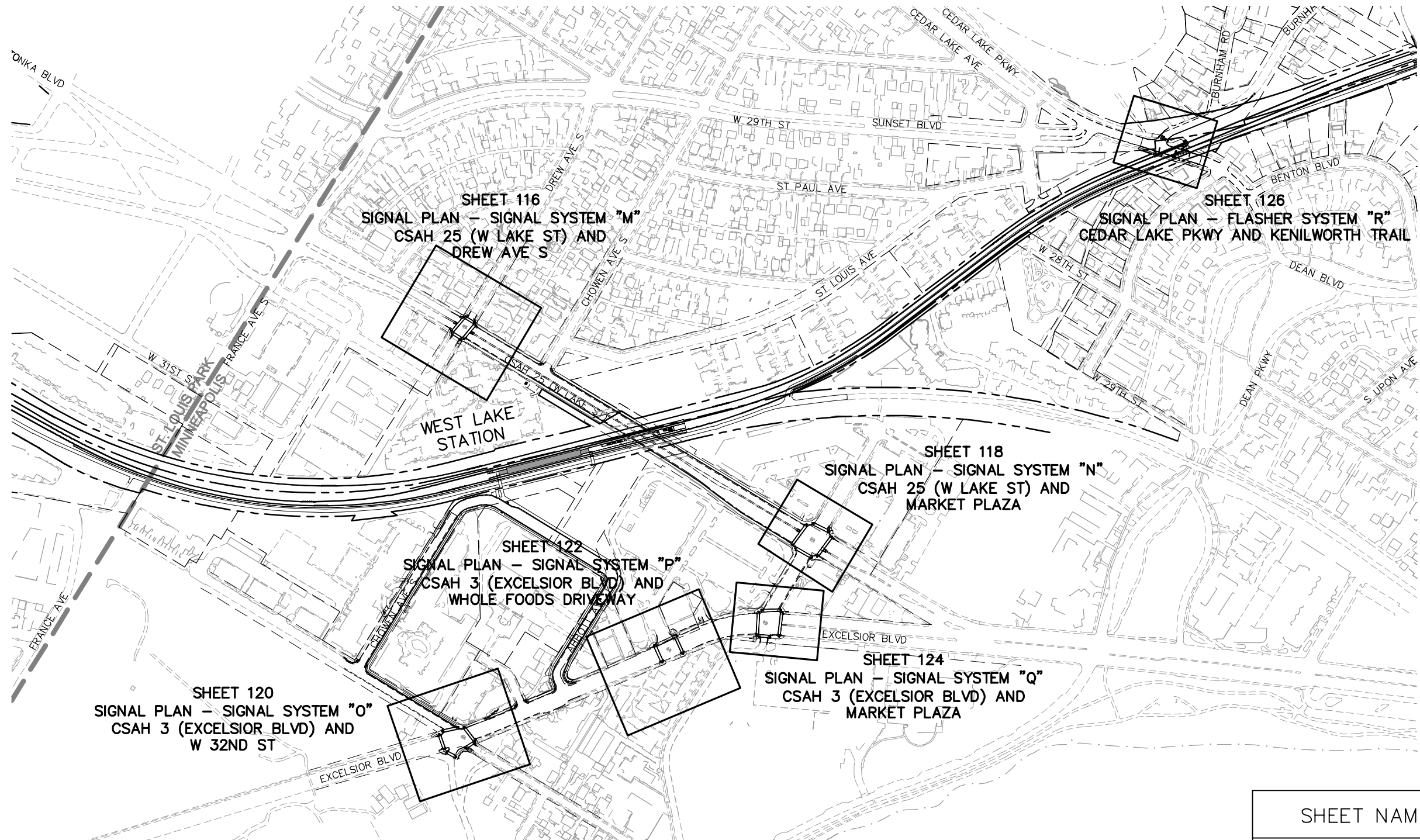
SHEET

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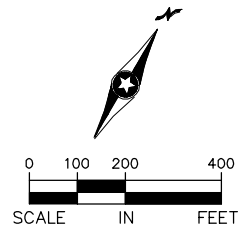
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SHEET NAME LEGEND	
TFC	= TRAFFIC
03	= SEGMENT 3
SIG	= SIGNAL PLAN SHEETS
001	= SEQUENCE NUMBER



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PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3

SIGNAL PLAN

SHEET INDEX

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-IDX - 001**

SHEET

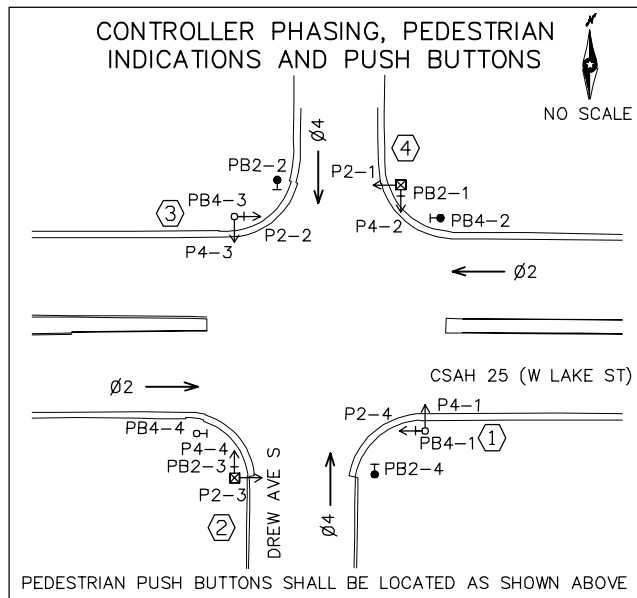
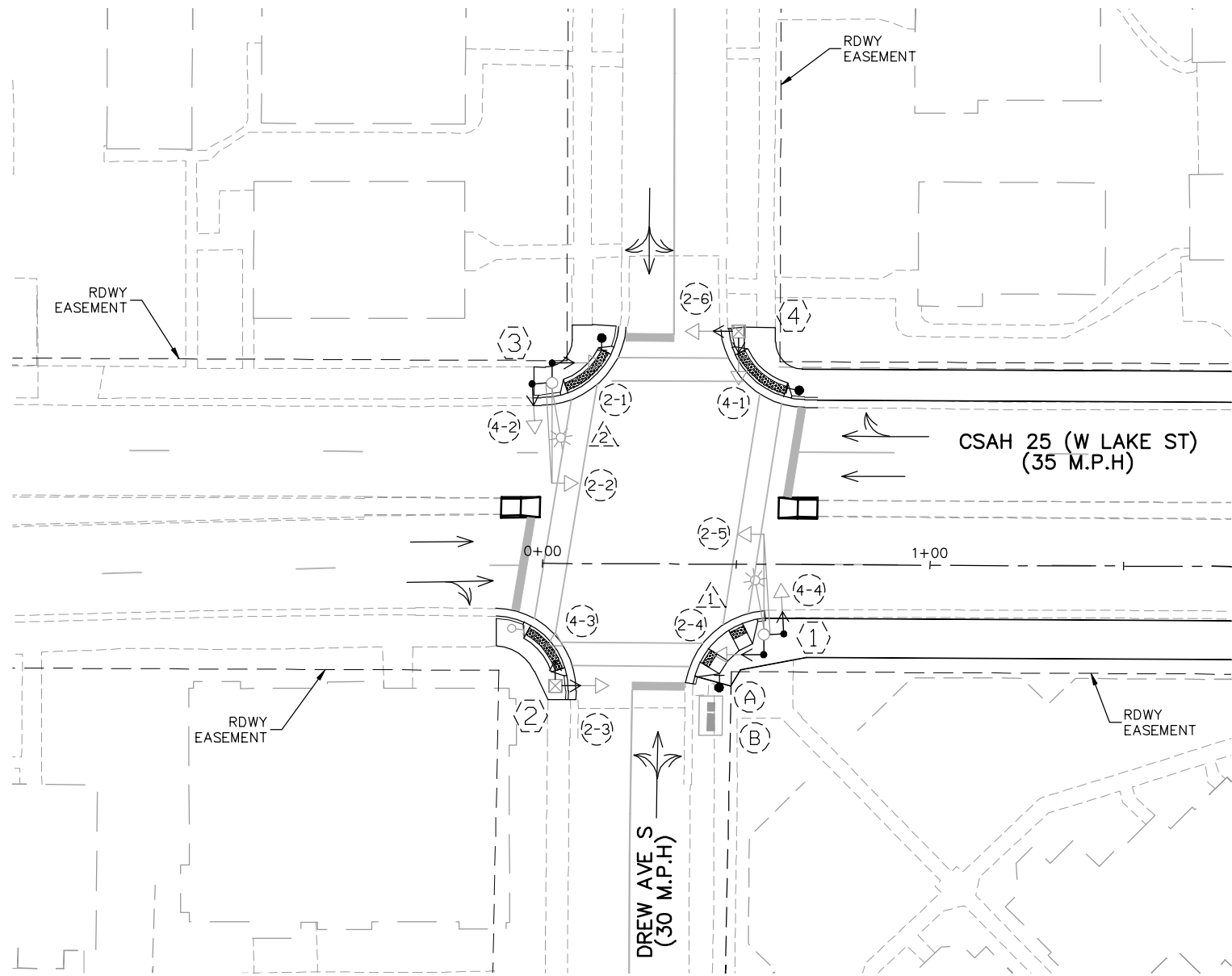
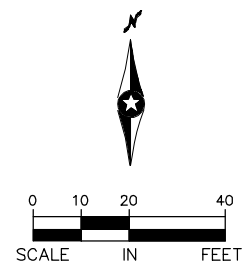
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- NOTES
1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNTDOWN TIMERS.
 2. (A) - CONTROLLER CABINET
(B) - SIGNAL SERVICE CABINET
 3. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.



SIGNAL FACE CHART			
FACE	R	Y	G
2-1, 2-2, 2-3, 2-4, 2-5, 2-6	☐	☐	☐
4-1, 4-2, 4-3, 4-4	☐	☐	☐

SIGNAL SYSTEM "M" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS AND COUNTDOWN TIMERS.

SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 2 PHASE.

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PRELIMINARY ENGINEERING



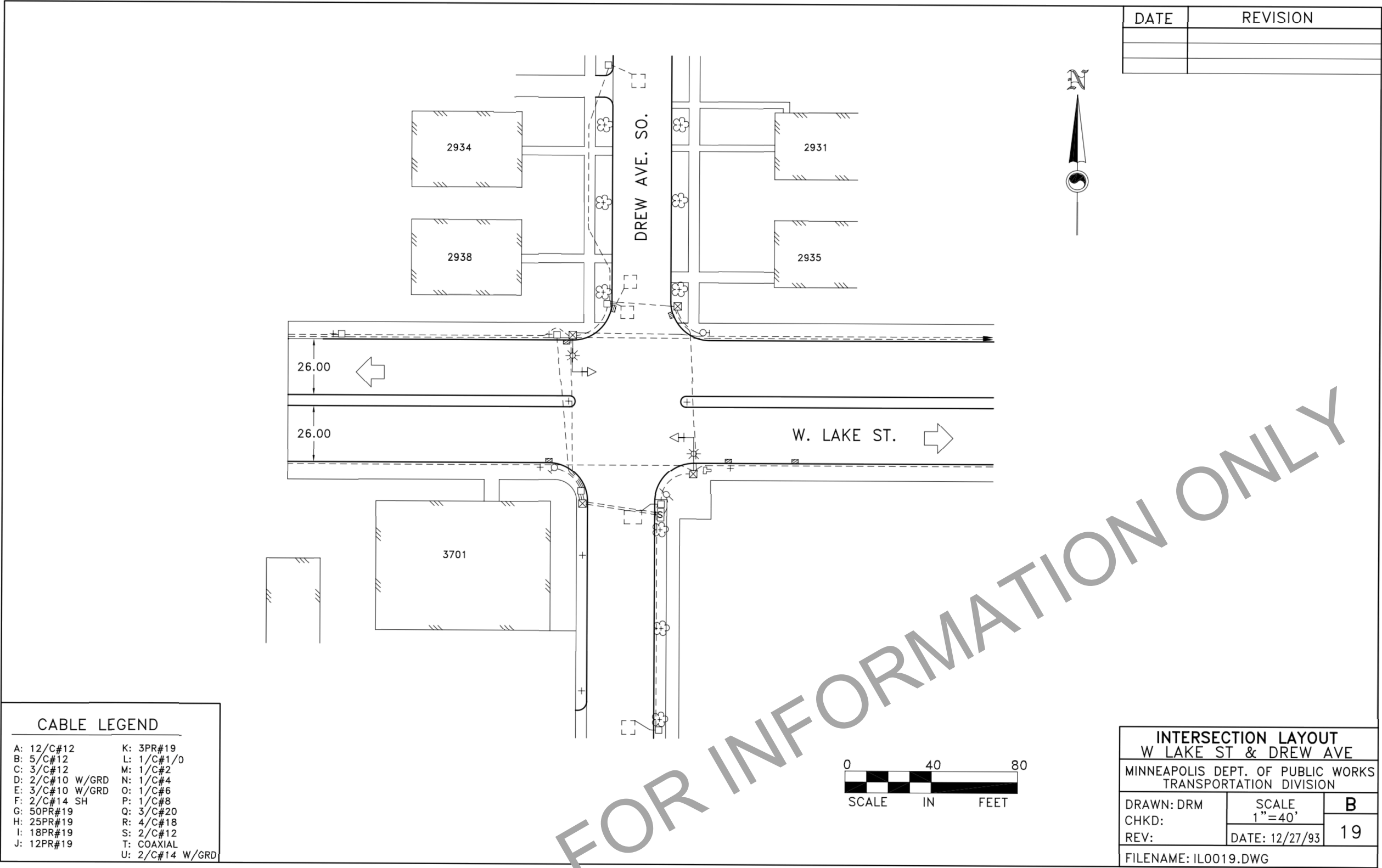
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN - SIGNAL SYSTEM "M"
CSAH 25 (W LAKE ST) AND DREW AVE S

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-SIG-WLK - 001

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**METROPOLITAN
COUNCIL**

PRELIMINARY ENGINEERING



SOUTHWEST
Green Line LRT Extension



EAST - VOLUME 1 (CIVIL) - SEGMENT 3

SIGNAL PLAN - SIGNAL SYSTEM "M"

CSAH 25 (W LAKE ST) AND DREW AVE S

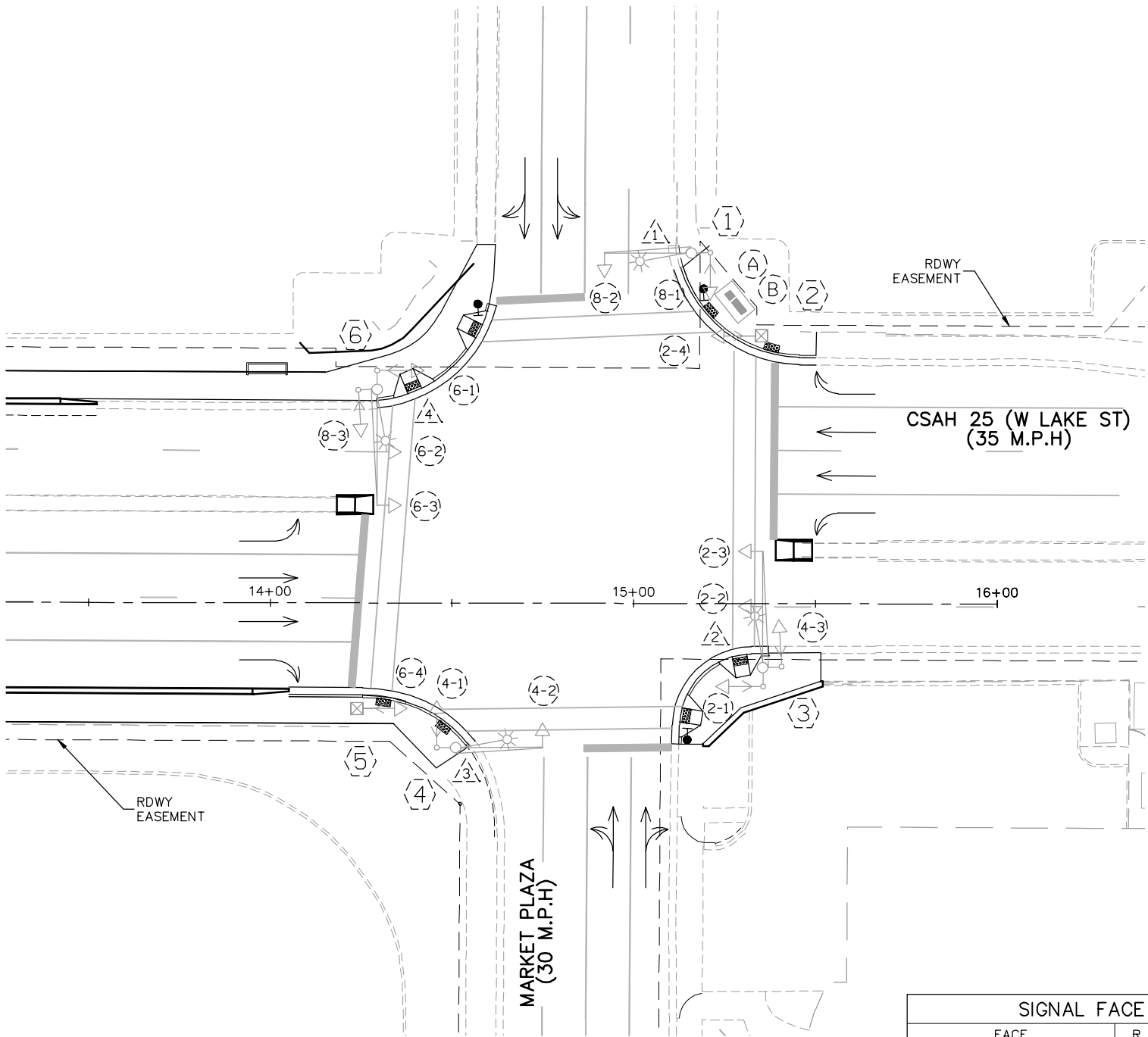
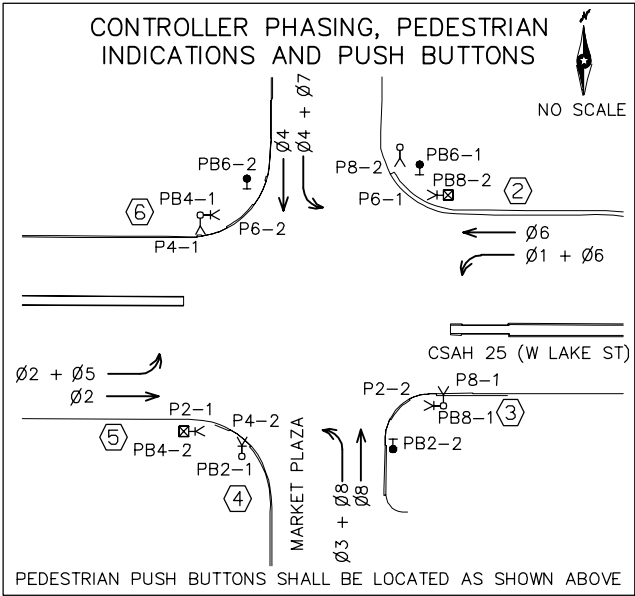
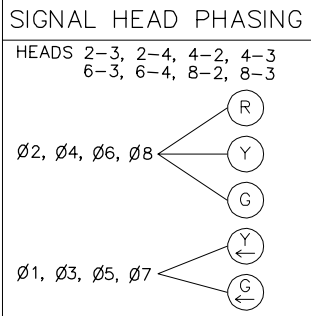
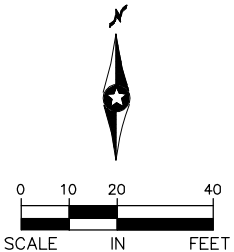
FOR INFORMATION ONLY

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-WLK - 002**

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- NOTES
1. (A) - CONTROLLER CABINET
(B) - SIGNAL SERVICE CABINET
 2. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.



SIGNAL FACE CHART					
FACE	R	Y	G	Y	G
2-1, 2-2	○	○	○		
2-3, 2-4	○	○	○	◁	◁
4-1	○	○	○		
4-2, 4-3	○	○	○	◁	◁
6-1, 6-2	○	○	○		
6-3, 6-4	○	○	○	◁	◁
8-1	○	○	○		
8-2, 8-3	○	○	○	◁	◁

SIGNAL SYSTEM "N" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS.

SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING



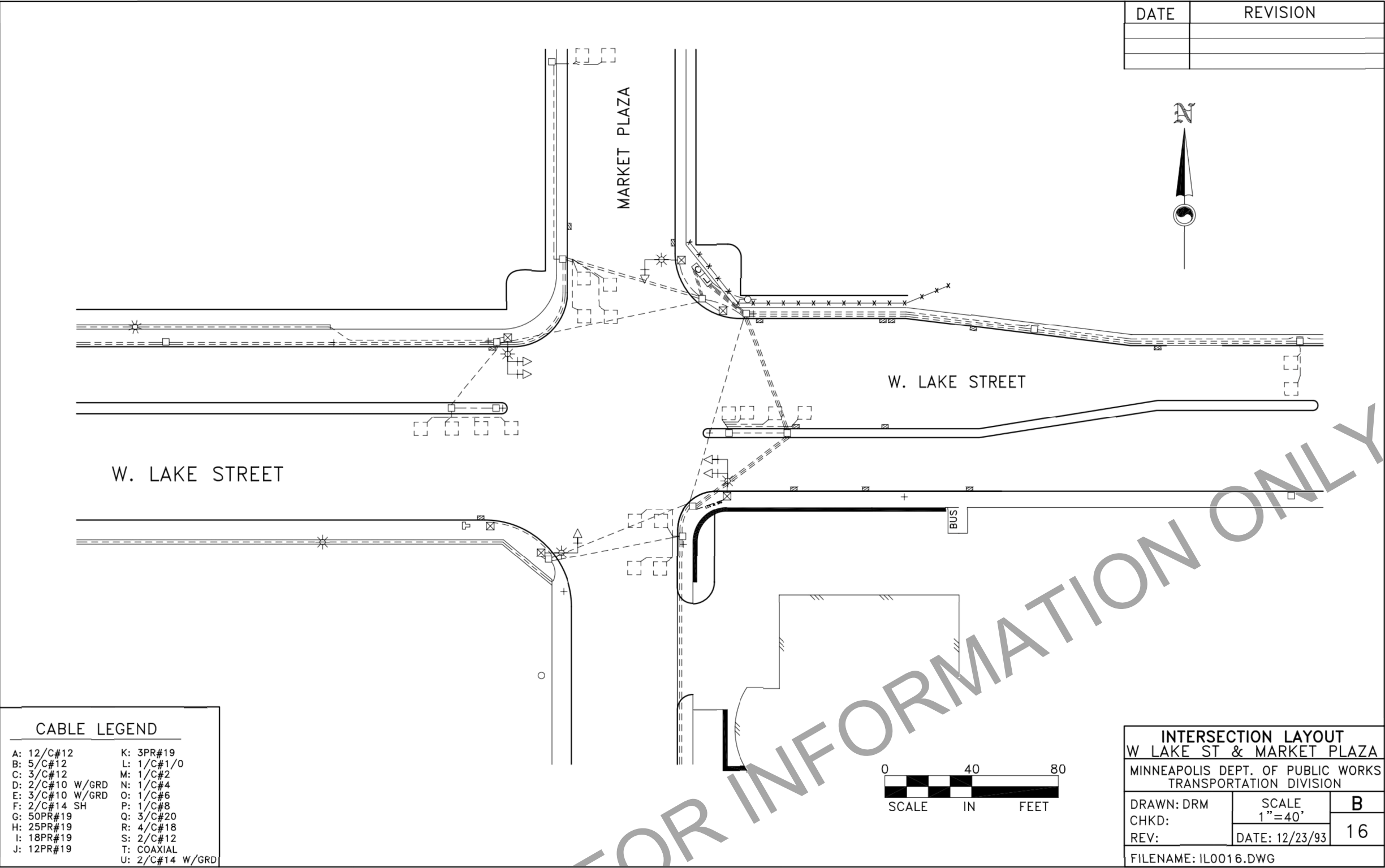
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN - SIGNAL SYSTEM "N"
CSAH 25 (W LAKE ST) AND MARKET PLAZA

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-WLK - 003**

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PRELIMINARY ENGINEERING



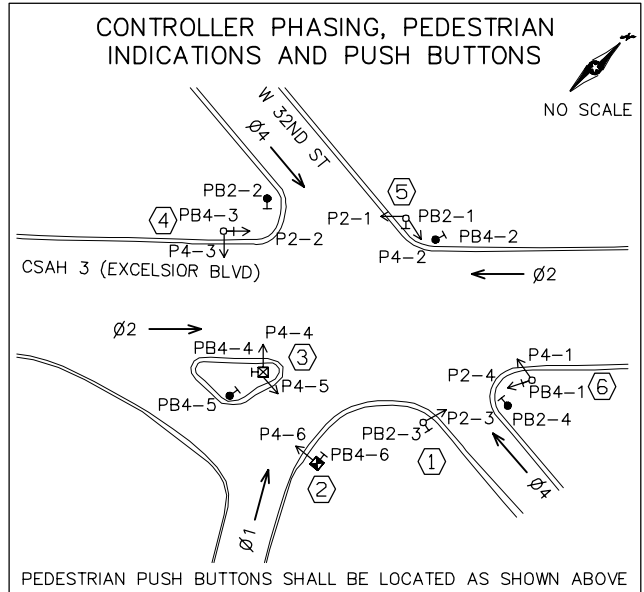
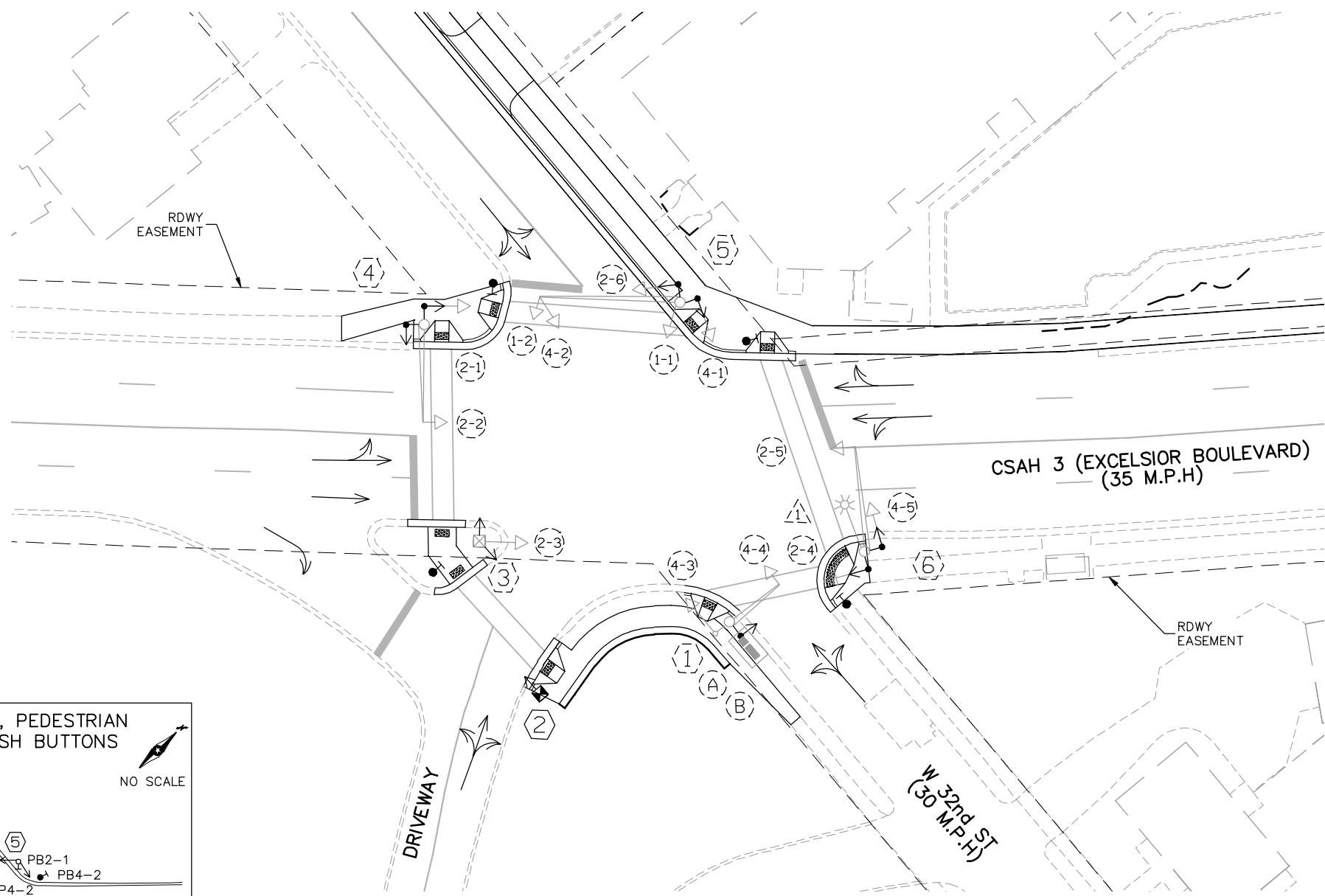
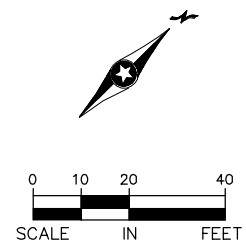
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN - SIGNAL SYSTEM "N"
CSAH 25 (W LAKE ST) AND MARKET PLAZA
FOR INFORMATION ONLY

DISCIPLINE: TRAFFIC

SHEET NAME:
E3-TFC-SIG-WLK - 004

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- NOTES
1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNTDOWN TIMERS.
 2. (A) - CONTROLLER CABINET
(B) - SIGNAL SERVICE CABINET
 3. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.



SIGNAL FACE CHART			
FACE	R	Y	G
1-1, 1-2	○	○	○
2-1, 2-2, 2-3, 2-4, 2-5, 2-6	○	○	○
4-1, 4-2, 4-3, 4-4, 4-5	○	○	○

SIGNAL SYSTEM "O" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS AND COUNTDOWN TIMERS.

- SIGNAL SYSTEM OPERATIONS
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
 - NORMAL OPERATION IS 3 PHASE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



PRELIMINARY ENGINEERING



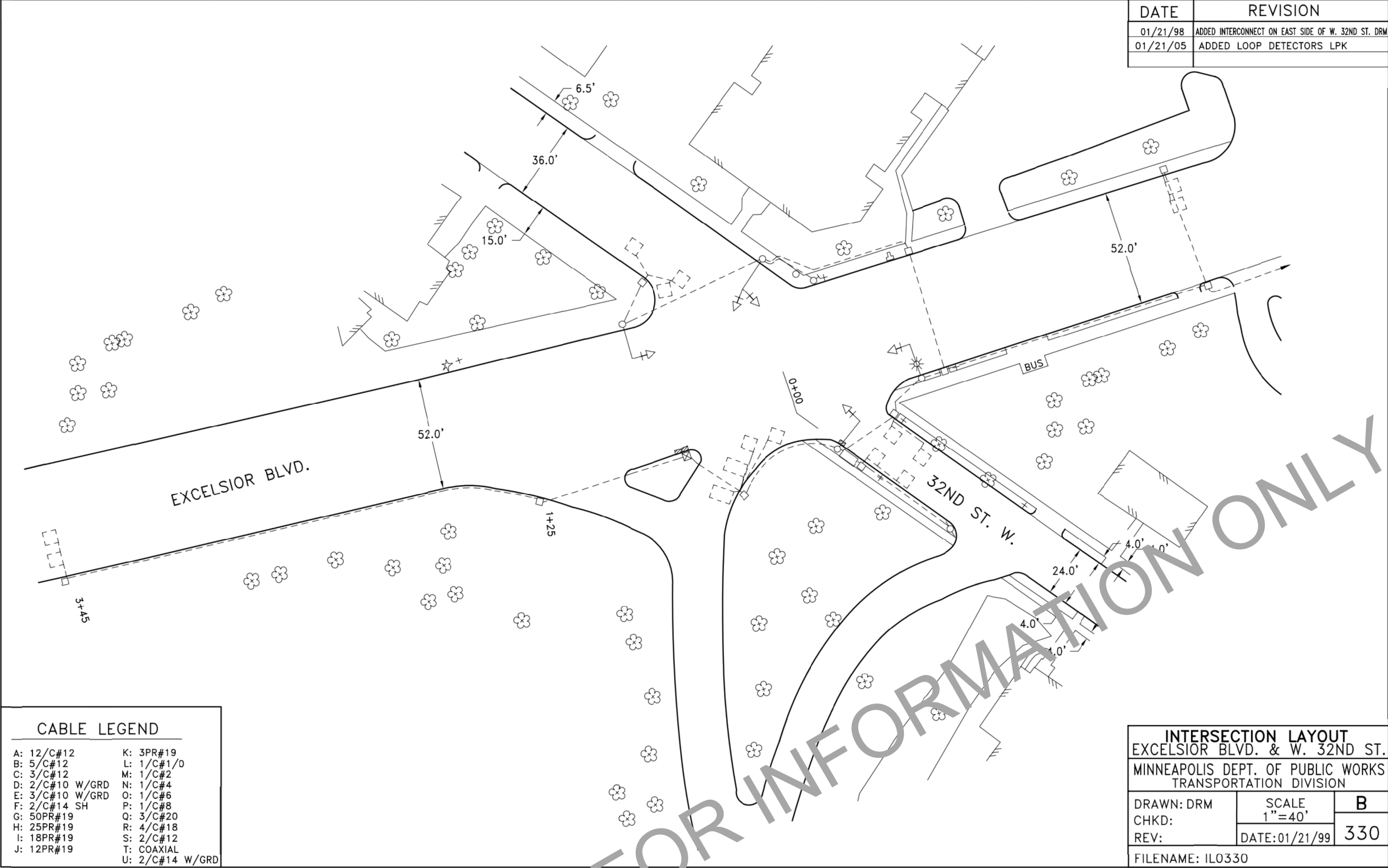
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN - SIGNAL SYSTEM "O"
CSAH 3 (EXCELSIOR BLVD) AND W 32ND ST

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-EXC - 001**

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CABLE LEGEND	
A: 12/C#12	K: 3PR#19
B: 5/C#12	L: 1/C#1/0
C: 3/C#12	M: 1/C#2
D: 2/C#10 W/GRD	N: 1/C#4
E: 3/C#10 W/GRD	O: 1/C#6
F: 2/C#14 SH	P: 1/C#8
G: 50PR#19	Q: 3/C#20
H: 25PR#19	R: 4/C#18
I: 18PR#19	S: 2/C#12
J: 12PR#19	T: COAXIAL
	U: 2/C#14 W/GRD

DATE	REVISION
01/21/98	ADDED INTERCONNECT ON EAST SIDE OF W. 32ND ST. DRM
01/21/05	ADDED LOOP DETECTORS LPK

INTERSECTION LAYOUT EXCELSIOR BLVD. & W. 32ND ST.		
MINNEAPOLIS DEPT. OF PUBLIC WORKS TRANSPORTATION DIVISION		
DRAWN: DRM	SCALE 1"=40'	B
CHKD:		
REV:	DATE: 01/21/99	330
FILENAME: IL0330		

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



PRELIMINARY ENGINEERING



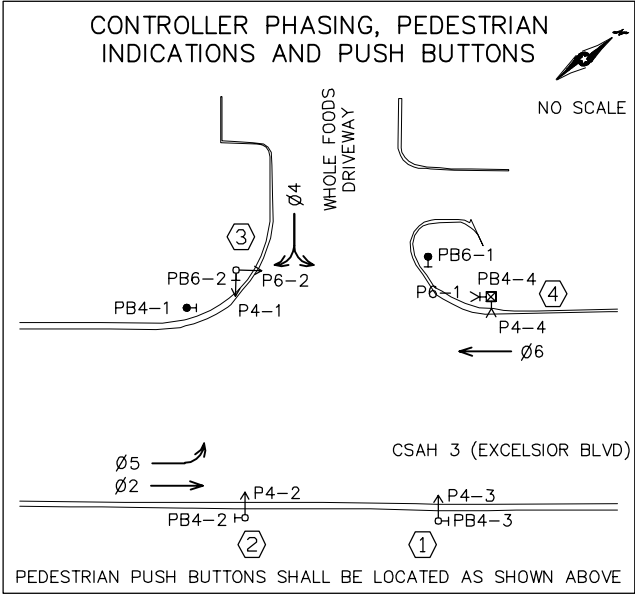
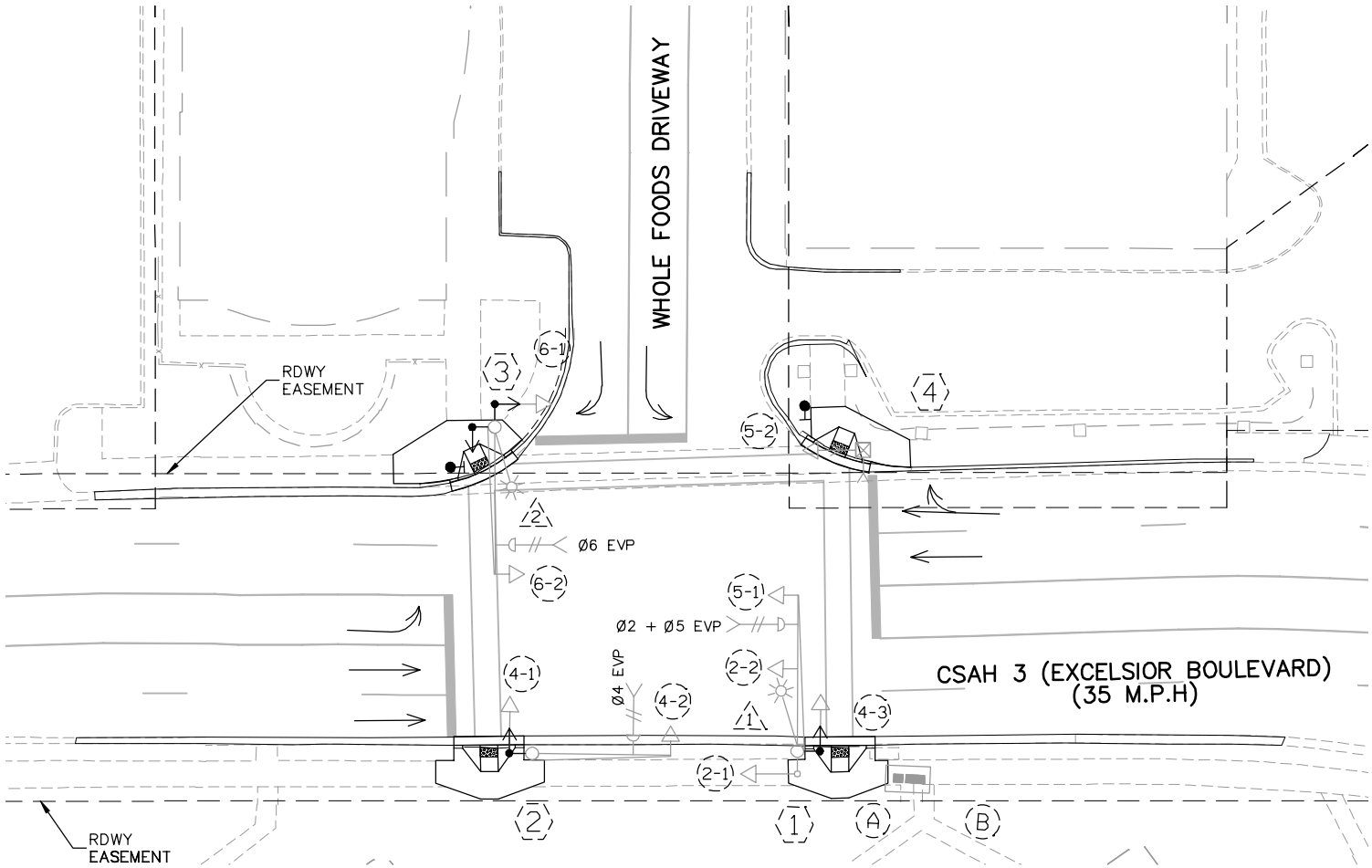
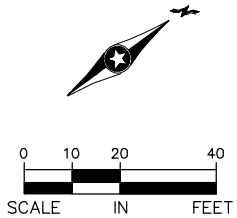
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN - SIGNAL SYSTEM "O"
CSAH 3 (EXCELSIOR BLVD) AND W 32ND ST
FOR INFORMATION ONLY

DISCIPLINE: TRAFFIC

SHEET NAME:
E3-TFC-SIG-EXC - 002

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- NOTES
1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNTDOWN TIMERS.
 2. (A) - CONTROLLER CABINET
(B) - SIGNAL SERVICE CABINET
 3. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.



SIGNAL FACE CHART			
FACE	R	Y	G
2-1, 2-2	○	○	○
4-1, 4-2, 4-3	○	○	○
5-1, 5-2	◁	◁	◁
6-1, 6-2	○	○	○

SIGNAL SYSTEM "P" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS AND COUNTDOWN TIMERS.

SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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PRELIMINARY ENGINEERING



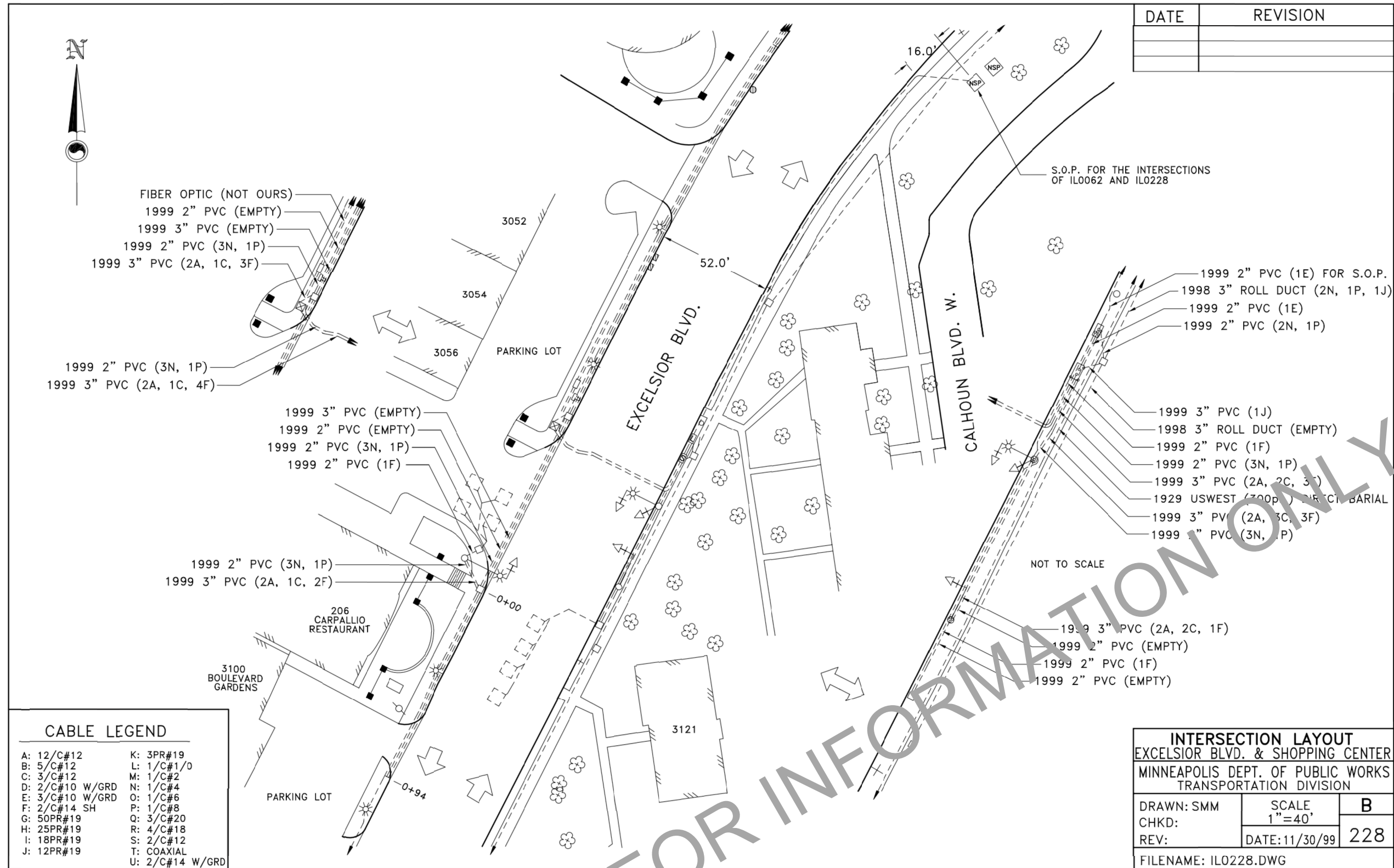
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN - SIGNAL SYSTEM "P"
CSAH 3 (EXCELSIOR BLVD) AND
WHOLE FOODS DRIVEWAY

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-SIG-EXC - 003

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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PRELIMINARY ENGINEERING



METROPOLITAN
COUNCIL



SOUTHWEST
Green Line LRT Extension

EAST - VOLUME 1 (CIVIL) - SEGMENT 3

SIGNAL PLAN - SIGNAL SYSTEM "P"

CSAH 3 (EXCELSIOR BLVD) AND WHOLE

FOODS DRIVEWAY - FOR INFORMATION ONLY

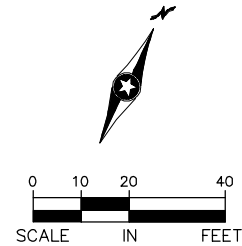
DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-EXC - 004**

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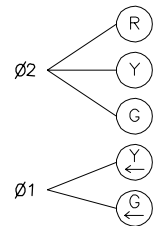
Aug. 28 2014 09:13 am V:\3300_PEC-E\CAD\SEGMENT E3\PLAN SHEETS\TRAFFIC\E3-SIG-EXC.dwg By: guillermo.madrigal

- NOTES
1. ALL PEDESTRIAN INDICATIONS SHALL INCLUDE COUNTDOWN TIMERS.
 2. (A) - CONTROLLER CABINET
(B) - SIGNAL SERVICE CABINET
 3. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.



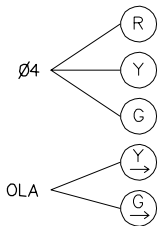
SIGNAL HEAD PHASING

HEADS 2-3, 2-4, 2-7, 2-8

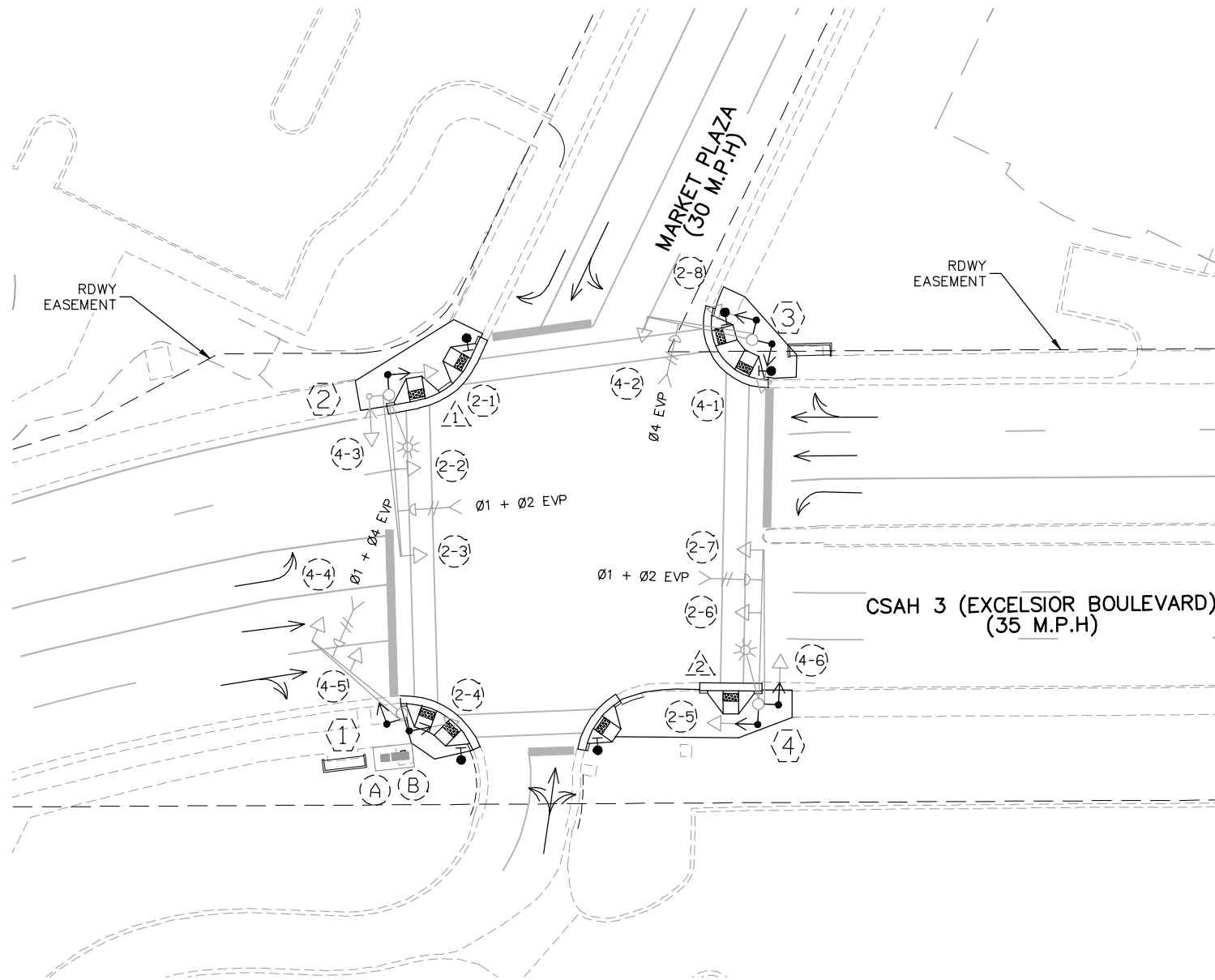
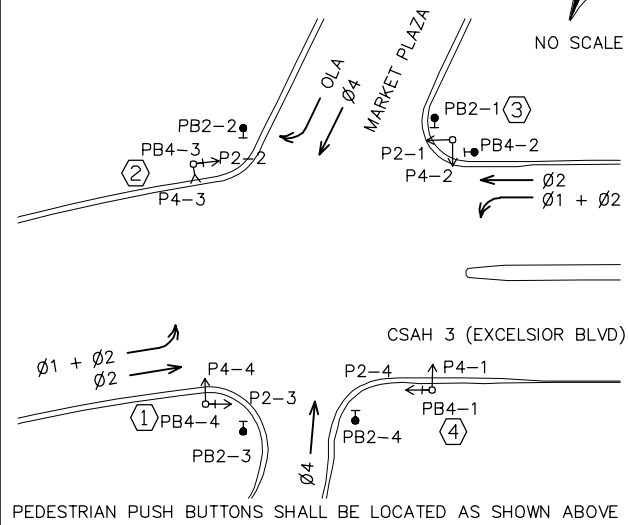


SIGNAL HEAD PHASING

HEAD 4-4



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL FACE CHART

FACE	R	Y	G	Y	G
2-1, 2-2, 2-5, 2-6	○	○	○		
2-3, 2-4, 2-7, 2-8	○	○	○	◀	◀
4-1, 4-2, 4-3, 4-5, 4-6	○	○	○		
4-4	○	○	○	▶	▶

SIGNAL SYSTEM "Q" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS AND COUNTDOWN TIMERS.

SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 3 PHASE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

PRELIMINARY ENGINEERING



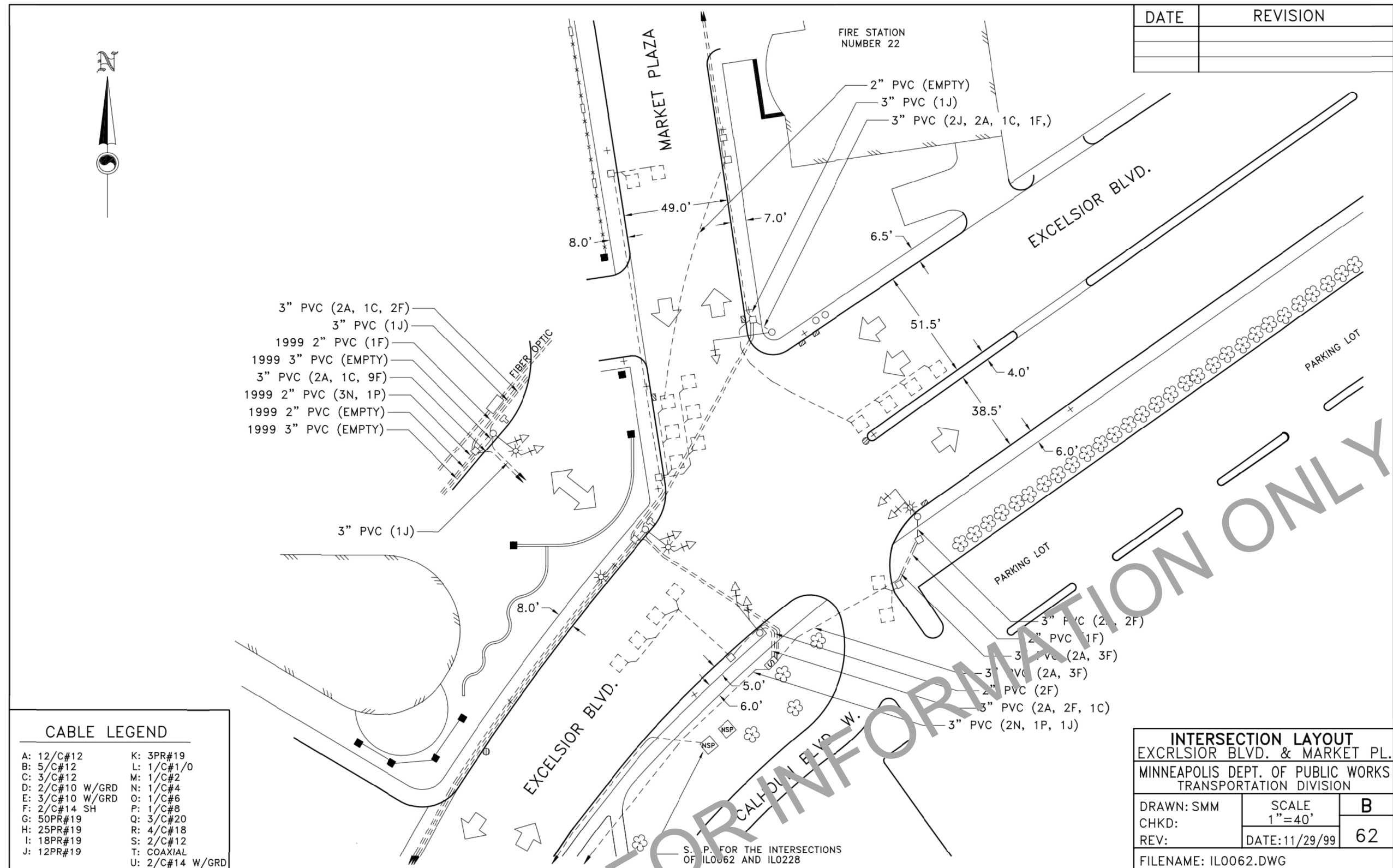
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN - SIGNAL SYSTEM "Q"
CSAH 3 (EXCELSIOR BLVD) AND
MARKET PLAZA

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-EXC - 005**

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CABLE LEGEND

A: 12/C#12	K: 3PR#19
B: 5/C#12	L: 1/C#1/0
C: 3/C#12	M: 1/C#2
D: 2/C#10 W/GRD	N: 1/C#4
E: 3/C#10 W/GRD	O: 1/C#6
F: 2/C#14 SH	P: 1/C#8
G: 50PR#19	Q: 3/C#20
H: 25PR#19	R: 4/C#18
I: 18PR#19	S: 2/C#12
J: 12PR#19	T: COAXIAL
	U: 2/C#14 W/GRD

INTERSECTION LAYOUT EXCRLSIOR BLVD. & MARKET PL.		
MINNEAPOLIS DEPT. OF PUBLIC WORKS TRANSPORTATION DIVISION		
DRAWN: SMM	SCALE 1"=40'	B
CHKD:	DATE: 11/29/99	62
REV:	FILENAME: IL0062.DWG	

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

PRELIMINARY ENGINEERING



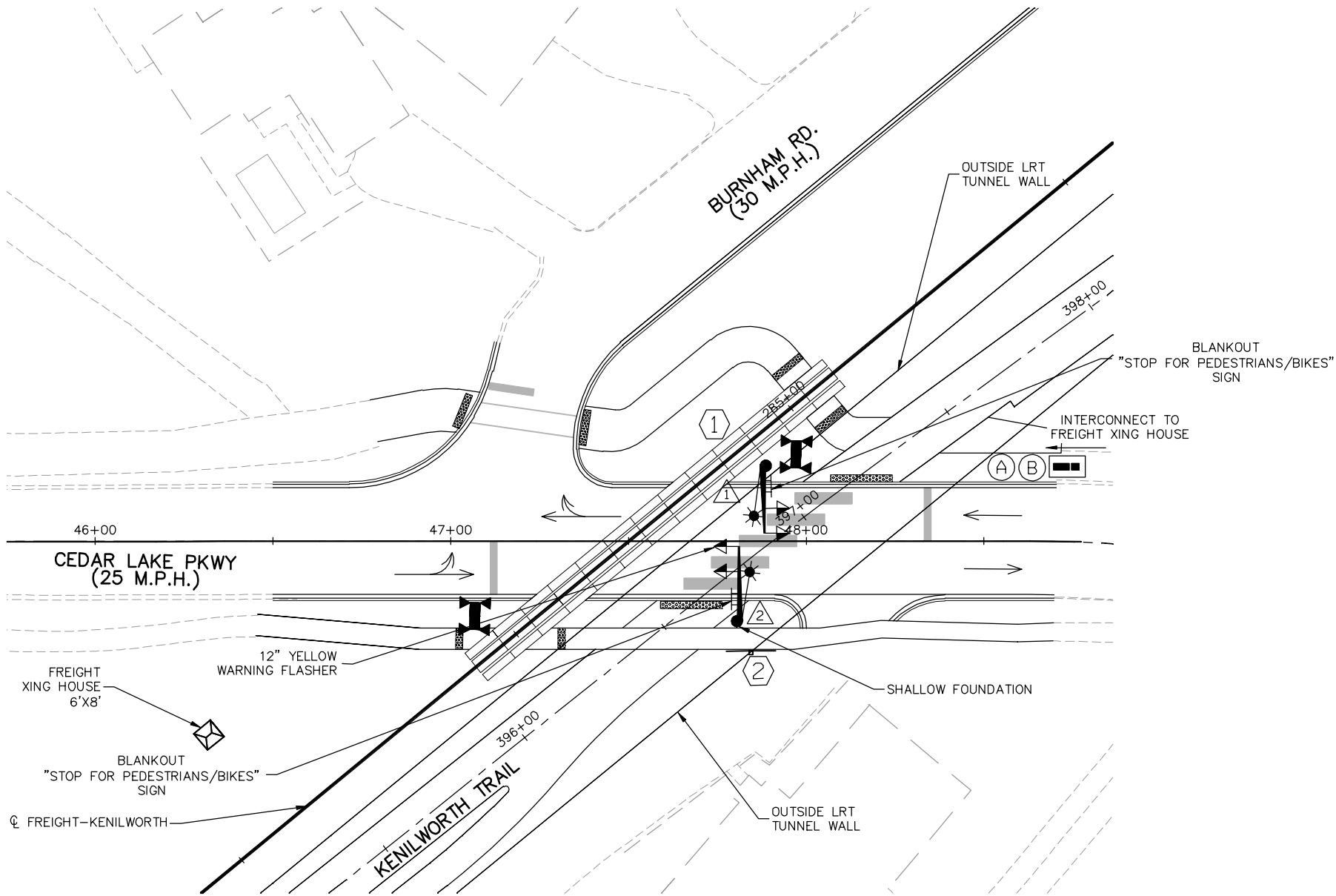
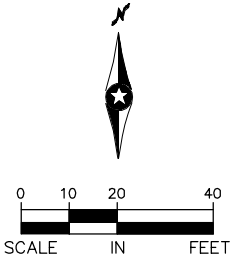
EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN - SIGNAL SYSTEM "Q"
CSAH 3 (EXCELSIOR BLVD) & MARKET PLAZA
FOR INFORMATION ONLY

DISCIPLINE:	TRAFFIC	SHEET NAME:	E3-TFC-SIG-EXC - 006
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- NOTES
1. (A) - CONTROLLER CABINET
(B) - FLASHER SERVICE CABINET
 2. THE EXACT LOCATION OF HANDHOLES, POLES, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.
 3. TRAIL CROSSING WILL INCLUDE PASSIVE DETECTION FOR BICYCLES AND PEDESTRIANS.
 4. CONDUIT STUB OUTS FOR FUTURE PEDESTRIAN PUSH BUTTONS SHALL BE INSTALLED.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





PRELIMINARY ENGINEERING



EAST - VOLUME 1 (CIVIL) - SEGMENT 3
SIGNAL PLAN - FLASHER SYSTEM "R"
CEDAR LAKE PKWY AND KENILWORTH TRAIL

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-CED - 001**

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