

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, BITUMINOUS AND CONCRETE SURFACING, ADA IMPROVEMENTS, DRAINAGE, RETAINING WALLS, TRAFFIC SIGNALS, LIGHTING, AND BRIDGE NO. 02584

LOCATED ON CSAH 11 FROM CSAH 1 TO A POINT 0.14 MILES EAST OF CSAH 3

S.P. 002-611-036

CSAH 11

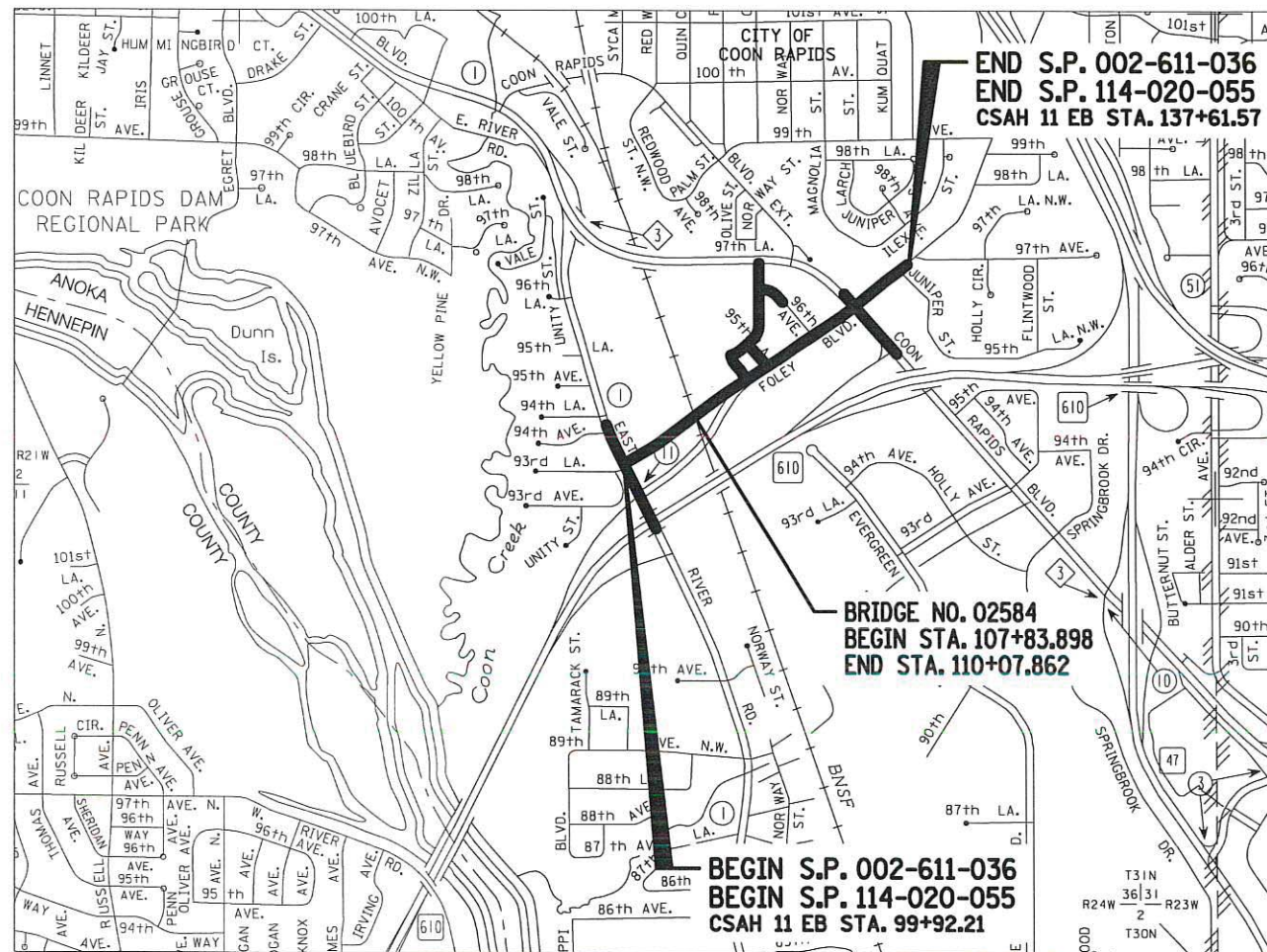
GROSS LENGTH 3769.36 FEET 0.714 MILES

BRIDGES-LENGTH 223.97 FEET 0.042 MILES

EXCEPTIONS-LENGTH FEET MILES

NET LENGTH 3769.36 FEET 0.714 MILES

LENGTH BASED ON EB STATIONING



AGREEMENT NO. 1036844
ANOKA COUNTY
S.P. 002-611-036 (TH 610=333)
LOCAL FUNDS
METRO DISTRICT

WARNING!
HIGH VOLTAGE
OVERHEAD ELECTRICAL
TRANSMISSION LINES

WARNING!
PETROLEUM PIPELINE
CROSSING



UTILITY NOTE:
THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

TRAFFIC CONTROL NOTE:
ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO AND BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

MINN. PROJ. NO. STPF 0221 (061)

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

SHEET INDEX

1	TITLE SHEET
2	GENERAL LAYOUT
3-8	ESTIMATED QUANTITIES
9	STANDARD PLATES AND INDEX OF TABULATIONS
10	SOILS AND CONSTRUCTION NOTES
11-16	TABULATIONS
17-23	INPLACE UTILITY TABULATIONS
24-30	TYPICAL SECTIONS
31-31E, 32-58B	STANDARD PLANS
59-85A	MISCELLANEOUS DETAILS
86-89	ALIGNMENT PLAN AND TABULATION
90-95	INPLACE TOPOGRAPHY, UTILITIES, AND REMOVALS
96-101	CONSTRUCTION PLANS
102-117	INTERSECTION AND SIDEWALK DETAILS
118-124	PROFILES
125	PAVEMENT JOINTING PLAN
126-131	SUPERELEVATION PLANS
132-134	STORM WATER POLLUTION PREVENTION PLAN
135-140	DRAINAGE PLANS
141-158	DRAINAGE TABULATIONS AND PROFILES
159-171	DRAINAGE DETAILS
172-176A	CONTOUR PLANS
177-200	STAGED DRAINAGE AND EROSION CONTROL
201-206	TURF ESTABLISHMENT PLANS
207	GROUND IMPROVEMENT PLAN
208-236	RETAINING WALL PLANS
237-246	WATER MAIN AND SANITARY SEWER PLANS
247-251	TEMPORARY PAVEMENT PLANS
252-337	TRAFFIC CONTROL PLANS
338-358	SIGNING PLANS
359-368	PAVEMENT MARKING PLANS
369-384	LIGHTING PLANS
385-416	TRAFFIC SIGNAL PLANS
S1-S3	SECURITY CAMERA PLANS
X1-X44	CROSS SECTIONS

THIS PLAN CONTAINS 472 SHEETS



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp*
PRINTED NAME: SHANE A. ORTLEPP
DATE: 12/14/2020 LIC. NO. 48250

RECOMMENDED FOR APPROVAL
CITY OF COON RAPIDS ENGINEER

[Signature] 1/5/21

RECOMMENDED FOR APPROVAL
ANOKA COUNTY ENGINEER

[Signature] 1/5/2021

DISTRICT STATE AID ENGINEER;
REVIEWED FOR COMPLIANCE WITH
STATE-AID RULES/POLICY

[Signature] 3/10/2021

APPROVED FOR STATE AID FUNDING;
FOR STATE AID ENGINEER

[Signature] 3/10/2021

APPROVED
DISTRICT TRANSPORTATION ENGINEER

Michael Barnes
Digitally signed by Michael Barnes
Date: 2021.03.11 13:49:54 -0600

DESIGN DESIGNATION - BIKE PATH
DESIGN SPEED (MPH) 20
BASED ON:
4.5 FT HEIGHT OF EYE 0.0 FT HEIGHT OF OBJECT



PROJECT LOCATION
COUNTY : ANOKA
DISTRICT : METRO

S.P. 114-020-055
S.P. 002-611-036

SHEET NO. 1 OF 416 SHEETS

DATE: 12/14/2020 TIME: 9:47:56 AM
FILENAME: pw:\kda-pw\benfley.com\kda-pw-01\Documents\Projects\AnokaCounty\703000004_Production\01_CAD\Highway\Sheets\cd00261036_Htd.dgn

PLAN SYMBOLS

STATE LINE	----
COUNTY LINE	----
TOWNSHIP OR RANGE LINE	----
SECTION LINE	----
QUARTER LINE	----
SIXTEENTH LINE	----
RIGHT-OF-WAY LINE	----
TEMPORARY EASEMENT	----
PRESENT RIGHT-OF-WAY	----
CONTROL OF ACCESS LINE	----
PROPERTY LINES (EXCEPT LAND LINES)	----
VACATED PLATTED PROPERTY	----
CORPORATE OR CITY LIMITS	----
TRUNK HIGHWAY CENTER LINE	----
RETAINING WALL	----
RAILROAD	----
RAILROAD RIGHT-OF-WAY	----
RIVER OR CREEK	----
DRY RUN	----
DRAINAGE DITCH	----
DRAIN TILE	----
CULVERT	----
DROP INLET	----
GUARD RAIL	----
BARBED WIRE FENCE	----
WOVEN WIRE FENCE	----
CHAIN LINK FENCE	----
RAILROAD SNOW FENCE	----
STONE WALL OR FENCE	----
HEDGE	----
RAILROAD CROSSING SIGN	----
RAILROAD CROSSING BELL	----
ELECTRIC WARNING SIGN	----
CROSSING GATE	----
MEANDER CORNER	----
SPRINGS	----
MARSH	----
TIMBER	----
ORCHARD	----
BRUSH	----
NURSERY	----
CATTLE GUARD	----
OVERPASS (HIGHWAY OVER)	----
UNDERPASS (HIGHWAY UNDER)	----
BRIDGE	----
BUILDING (ONE STORY FRAME)	----
F - FRAME C - CONCRETE	----
S - STONE T - TILE	----
B - BRICK ST - STUCCO	----
IRON ROD OR PIPE	----
MONUMENT (STONE, CONCRETE, OR METAL)	----
WOODEN HUB	----
GRAVEL PIT	----
SAND PIT	----
BORROW PIT	----
ROCK QUARRY	----

UTILITY SYMBOLS

POWER POLE LINE	----
TELEPHONE POLE LINE	----
ANCHOR	----
STREET LIGHT	----
STREET LIGHT CONDUIT	----
PEDESTAL (TELEPHONE CABLE TERMINAL)	----
GAS MAIN	----
WATER MAIN	----
HYDRANT	----
VALVE	----
CATCH BASIN	----
TELEPHONE CABLE IN CONDUIT	----
ELECTRIC CABLE IN CONDUIT	----
TELEVISION CABLE IN CONDUIT	----
TELEPHONE MANHOLE	----
ELECTRIC MANHOLE	----
BURIED TELEPHONE CABLE	----
BURIED ELECTRIC CABLE	----
BURIED TELEVISION CABLE	----
TRAFFIC SIGNAL INTERCONNECT CABLE	----
SEWER (STORM) MANHOLE	----
SEWER (SANITARY) MANHOLE	----
SEWER (STORM)	----
SEWER (SANITARY)	----

SCALES

PLAN	50'	5'
PROFILE	50'	HORZ. VERT.
INDEX MAP	1000'	

PLAN REVISIONS

DATE	SHEET NO.	APPROVED BY

DESIGN DESIGNATION
FOR: CSAH 11

R-VALUE = 40
DESIGN ESALS = 261,000
ADT (CURRENT YEAR) 2020 = 3,950
ADT (FUTURE YEAR) 2040 = 5,930
DHV (DESIGN HR. VOL.) =
D (DIRECTIONAL DISTR.) = %
T (HEAVY-COMMERCIAL) = %

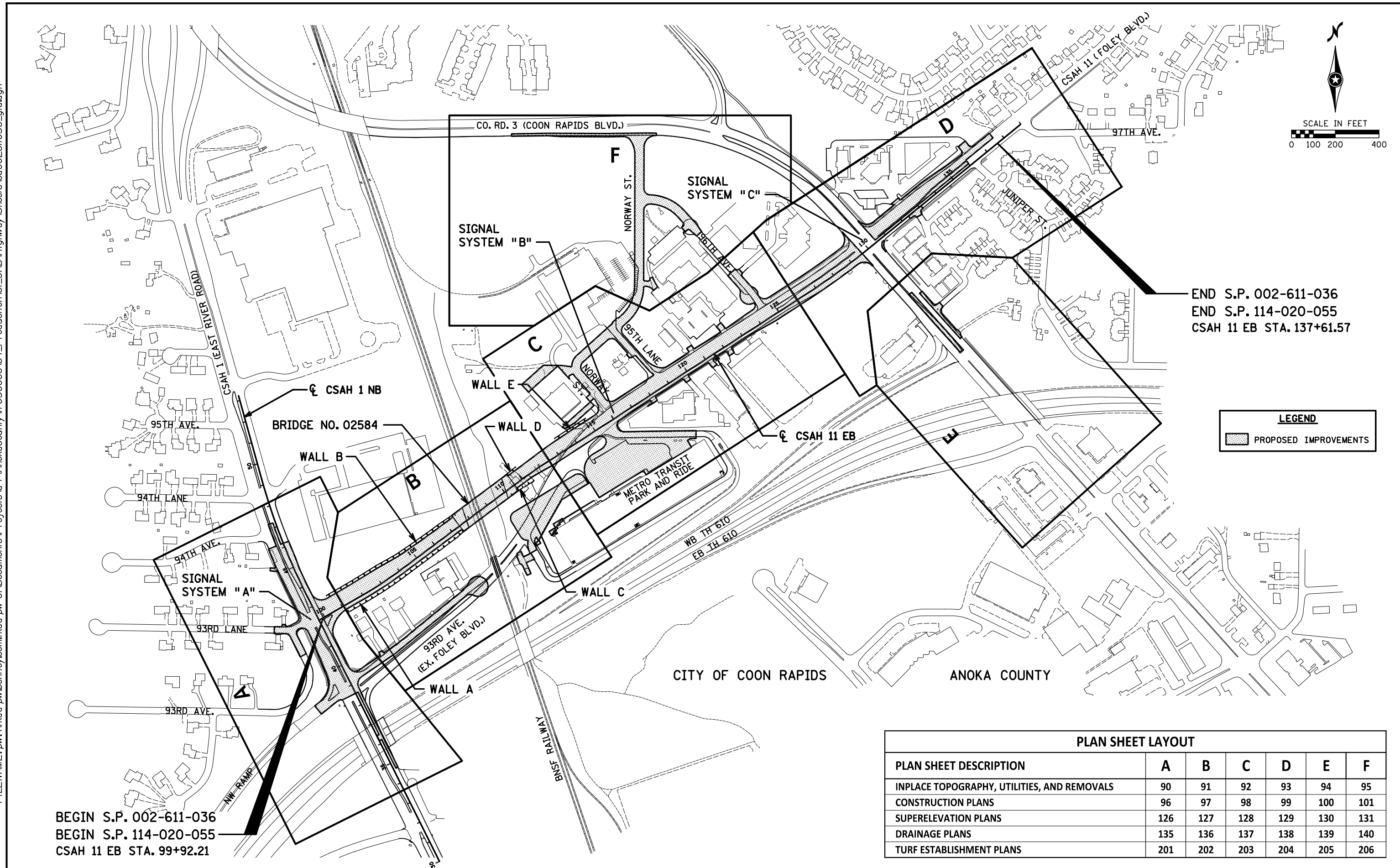
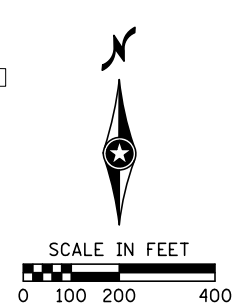
DESIGN SPEED 40 MPH
BASED ON STOPPING SIGHT DISTANCE
HT OF EYE 3.5' HT OF OBJECT 2.0'
DESIGN SPEED NOT ACHIEVED AT:
STA. TO STA. MPH

DESIGN DESIGNATION
FOR: CSAH 1

R-VALUE = 40
DESIGN ESALS = 1,170,000
ADT (CURRENT YEAR) 2020 = 17,200
ADT (FUTURE YEAR) 2040 = 23,050
DHV (DESIGN HR. VOL.) =
D (DIRECTIONAL DISTR.) = %
T (HEAVY-COMMERCIAL) = %

DESIGN SPEED 45 MPH
BASED ON STOPPING SIGHT DISTANCE
HT OF EYE 3.5' HT OF OBJECT 2.0'
DESIGN SPEED NOT ACHIEVED AT:
STA. TO STA. MPH

DATE: 11/29/2020 TIME: 12:03:05 PM
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END S.P. 002-611-036
 END S.P. 114-020-055
 CSAH 11 EB STA. 137+61.57

LEGEND
 [Hatched Box] PROPOSED IMPROVEMENTS

BEGIN S.P. 002-611-036
 BEGIN S.P. 114-020-055
 CSAH 11 EB STA. 99+92.21

PLAN SHEET LAYOUT						
PLAN SHEET DESCRIPTION	A	B	C	D	E	F
INPLACE TOPOGRAPHY, UTILITIES, AND REMOVALS	90	91	92	93	94	95
CONSTRUCTION PLANS	96	97	98	99	100	101
SUPERELEVATION PLANS	126	127	128	129	130	131
DRAINAGE PLANS	135	136	137	138	139	140
TURF ESTABLISHMENT PLANS	201	202	203	204	205	206

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/29/2020



STATE PROJ. NO. 002-611-036

GENERAL LAYOUT
 SHEET NO. 2 OF 416 SHEETS

DATE: 4/1/2021 TIME: 7:13:41 PM
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ESTIMATED QUANTITIES											
TAB LETTER	SHEET NO.	ITEM NUMBER	ITEM	NOTE NO.	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATING		NON-PARTICIPATING		
							ANOKA COUNTY S.P. 002-611-036		CITY OF COON RAPIDS S.P. 114-020-055	ANOKA COUNTY LOCAL FUNDS	CITY OF COON RAPIDS LOCAL FUNDS
							ROADWAY	STORM SEWER			
		2011.601	VIBRATION MONITORING		LUMP SUM	1	1				
		2021.501	MOBILIZATION		LUMP SUM	1	0.83	0.04	0.09	0.02	
		2031.502	FIELD OFFICE TYPE D-MODIFIED	(9)	EACH	1	0.83	0.04	0.09	0.02	
		2041.601	TRAINEES		HOUR	2000	2000				
B	13	2101.505	CLEARING		ACRE	3.8	1.8		1.0	1.0	
B	13	2101.505	GRUBBING		ACRE	5.0	3.0		1.0	1.0	
B	13	2101.524	CLEARING		TREE	41	41				
B	13	2101.524	GRUBBING		TREE	41	41				
O, Q	253, 359	2102.503	PAVEMENT MARKING REMOVAL		LIN FT	4194	4194				
Q	359	2102.518	PAVEMENT MARKING REMOVAL		SQ FT	1129	1129				
I	158	2104.502	REMOVE PIPE APRON		EACH	1			0.5	0.5	
C	13	2104.502	REMOVE MISCELLANEOUS STRUCTURES	(1)	EACH	1	1				
R	369	2104.502	REMOVE LIGHTING UNIT		EACH	14		14			
T	246	2104.502	REMOVE CONCRETE STRUCTURE	(2)	EACH	1		1			
I	158	2104.502	REMOVE MANHOLE OR CATCH BASIN		EACH	31	28		1.5	1.5	
I	158	2104.502	REMOVE CASTING		EACH	12	12				
T	246	2104.502	REMOVE GATE VALVE & BOX		EACH	16		16			
T	246	2104.502	REMOVE HYDRANT		EACH	8		8			
P	338	2104.502	REMOVE MARKER		EACH	9	9				
P	338	2104.502	REMOVE SIGN TYPE C		EACH	103	103				
P	338	2104.502	REMOVE SIGN TYPE D		EACH	2	2				
S	385	2104.502	REMOVE SIGNAL SYSTEM		EACH	1	1				
R	369	2104.502	REMOVE LIGHT FOUNDATION		EACH	14		14			
	23	2104.502	REMOVE CABINET	(3)	EACH	1	1				
K	16	2104.502	REMOVE MAIL BOX SUPPORT		EACH	13	13				
E	15	2104.502	SALVAGE CASTING		EACH	4		4			
	92	2104.502	SALVAGE BUS STOP BENCH		EACH	2	2				
R	369	2104.502	SALVAGE LUMINAIRE		EACH	10		10			
P	338	2104.502	SALVAGE SIGN TYPE C		EACH	4	4				
P	338	2104.502	SALVAGE SIGN TYPE SPECIAL		EACH	5				5	
C,L	13,247	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	453	453				
C,L,N	13,247	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	12314	11307		504	503	
T	246	2104.503	REMOVE WATER MAIN TYPE I		LIN FT	1508		1508			
T	246	2104.503	REMOVE WATER MAIN TYPE II		LIN FT	1483		1483			
U	246	2104.503	REMOVE MANHOLES OR CATCH BASINS		LIN FT	26.6		26.6			
E,I	15,158	2104.503	REMOVE SEWER PIPE (STORM)		LIN FT	1804	1720		42	42	
U	246	2104.503	REMOVE SEWER PIPE (SANITARY)		LIN FT	766		766			
C,L	13,247	2104.503	REMOVE CURB & GUTTER	(4)	LIN FT	21018	19884		567	567	
C	13	2104.503	REMOVE BITUMINOUS CURB		LIN FT	133			67	66	
C	13	2104.503	REMOVE CONCRETE CURB	(4)	LIN FT	590	590				
C	13	2104.503	REMOVE STONE RETAINING WALL	(5)	LIN FT	902	902				
C	13	2104.503	REMOVE CHAIN LINK FENCE		LIN FT	837	65		386	386	
C	13	2104.503	REMOVE WOOD FENCE		LIN FT	102	102				
R	369	2104.503	REMOVE UNDERGROUND WIRE		LIN FT	1800		1800			
U	246	2104.503	REMOVE SANITARY SERVICE PIPE		LIN FT	25		25			
T	246	2104.503	REMOVE WATER SERVICE PIPE		LIN FT	288		288			
R	369	2104.503	REMOVE CONDUIT SYSTEM		LIN FT	1800		1800			
C	13	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ YD	656	656				
C	13	2104.504	REMOVE CONCRETE PAVEMENT	(6)	SQ YD	1324	1324				
C,N	13,247	2104.504	REMOVE BITUMINOUS PAVEMENT	(7)	SQ YD	50680	48717		982	981	
C,L	13,247	2104.518	REMOVE CONCRETE WALK	(8)	SQ FT	72978	72978				


- NOTES:**
- (1) BRICK AND CONCRETE FIREPLACE (3' X 6' X 6')
 - (2) WATER MAIN VAULT.
 - (3) REMOVE ELECTRICAL CABINET AND FOUNDATION.
 - (4) REMOVE TO THE NEAREST JOINT. SAWCUT INCIDENTAL.
 - (5) AVERAGE HEIGHT 1.8'.
 - (6) EXISTING CONCRETE PAVEMENT DEPTHS AVERAGE 8", NON-REINFORCED. CONTRACTOR SHALL VERIFY IN FIELD.
 - (7) EXISTING BITUMINOUS PAVEMENT DEPTHS AVERAGE 6.1". CONTRACTOR SHALL VERIFY IN FIELD.
 - (8) REMOVE TO THE NEAREST JOINT. SAWCUT INCIDENTAL.
 - (9) SEE SPECIAL PROVISIONS.

			DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				ESTIMATED QUANTITIES	
1	4/1/21	SAO	DRW: RRC	SIGNATURE: LIC. NO. 48250 DATE: 4/1/2021				STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	CHK: SAO	DESCRIPTION OF REVISIONS			SHEET NO. 3R OF 416 SHEETS		

DATE: 12/18/2020 TIME: 1:55:39 PM
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ESTIMATED QUANTITIES											
TAB LETTER	SHEET NO.	ITEM NUMBER	ITEM	NOTE NO.	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATING		NON-PARTICIPATING		
							ANOKA COUNTY S.P. 002-611-036		CITY OF COON RAPIDS S.P. 114-020-055	ANOKA COUNTY LOCAL FUNDS	CITY OF COON RAPIDS LOCAL FUNDS
							ROADWAY	STORM SEWER			
P	338	2104.601	HAUL SALVAGED MATERIAL		LUMP SUM	1				1	
	92	2104.602	REMOVE BUS STOP SHELTER		EACH	2	2				
T	246	2104.603	ABANDON WATER MAIN		LIN FT	166		166			
	169	2105.601	DEWATERING		LUMP SUM	1	1				
G	165	2105.604	GEOMEMBRANE SYSTEM		SQ YD	1985	1985				
		2105.607	HAUL & DISPOSE OF CONTAMINATED MATERIAL		CU YD	200	200				
A,L,N	12,247	2106.507	EXCAVATION - COMMON		CU YD	44091	39009		2541	2541	
A	12	2106.507	EXCAVATION - MUCK	(1)	CU YD	10711	10711				
A	12	2106.507	COMMON EMBANKMENT (CV)	(P)	CU YD	95424	91062		2181	2181	
A	12	2106.507	SELECT GRANULAR EMBANKMENT (CV)		CU YD	1814	1814				
		2130.523	WATER		M GALLON	500	500				
D,F,M,N	14,15,247	2211.507	AGGREGATE BASE (CV) CLASS 5		CU YD	14024	12292		266	733	
A	12	2212.507	DRAINABLE AGGREGATE BASE, TYPE DSB (CV)		CU YD	5766	5766				
D	14	2301.502	DOWEL BAR		EACH	880	880				
D	14	2301.504	CONCRETE PAVEMENT 8.0"		SQ YD	4336	4336				
D	14	2301.508	SUPPLEMENTAL PAVEMENT REINFORCEMENT		POUND	240	240				
D,J	14,16	2301.602	DRILL & GROUT REINF BAR (EPOXY COATED)		EACH	352	352				
D	14	2357.506	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	7615	6437	135	522	521	
D	14	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C)		TON	480	129	351			
D	14	2360.509	TYPE SP 9.5 WEARING COURSE MIX (3,C)		TON	638	638				
M	247	2360.509	TYPE SP 12.5 WEARING COURSE MIX (4,B)		TON	554	554				
D	14	2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (4,B)		TON	7956	6974		491	491	
D	14	2360.509	TYPE SP 12.5 WEARING COURSE MIX (4,F)		TON	12120	10720		700	700	
V,W	83,209	2401.503	TYPE P-1 BARRIER CONCRETE (3S52)	(P)	LIN FT	1631	1631				
V	83	2402.503	ORNAMENTAL METAL RAILING	(P)	LIN FT	1466	1466				
X	13,111	2402.503	PIPE RAILING	(2)	LIN FT	215	215				
D	14	2406.503	EXPANSION JOINTS, DESIGN E8H	(P)	LIN FT	182	182				
D	14	2406.504	BRIDGE APPROACH PANELS	(P)	SQ YD	892	892				
W	209	2411.507	STRUCTURAL CONCRETE (1G52)	(P)	CU YD	251	251				
V	83	2411.507	STRUCTURAL CONCRETE (3B52)	(P)	CU YD	514	514				
W	209	2411.507	STRUCTURAL CONCRETE (3G52)	(P)	CU YD	434	434				
W	209	2411.507	AGGREGATE BACKFILL (CV)	(P)	CU YD	37	37				
W	209	2411.508	REINFORCEMENT BARS	(P)	POUND	26643	26643				
V,W	83,209	2411.508	REINFORCEMENT BARS (EPOXY COATED)	(P)	POUND	137473	137473				
W	209	2411.601	STRUCTURE EXCAVATION		LUMP SUM	1	1				
W	209	2411.601	DRAINAGE SYSTEM		LUMP SUM	1	1				
W	209	2411.604	MECHANICALLY STABILIZED EARTH WALL		SQ YD	3330	3330				
W	209	2411.618	ARCH CONC TEXTURE (ASHLAR STONE)	(P)	SQ FT	1381	1381				
W	209	2411.618	ARCH SURFACE FINISH (SINGLE COLOR)	(P)	SQ FT	1381	1381				
G	165	2451.607	MEDIUM FILTER AGGREGATE (CV)		CU YD	180	180				
A	12	2451.607	STRUCTURAL BACKFILL	(P)	CU YD	9308	9308				
A	12	2451.607	STRUCTURAL BACKFILL (MOD)	(P)	CU YD	20918	20918				
		2452.601	EARTH RETENTION SYSTEM (TEMPORARY)	(3)	LUMP SUM	1	1				
Y	207	2452.602	GROUND IMPROVEMENT TEST		EACH	2	2				
Y	207	2452.604	GROUND IMPROVEMENT COLUMNS	(P)	SQ YD	3802	3802				
Y	207	2452.604	GROUND IMPROVEMENT LOAD TRANSFER PLATFORM	(P)	SQ YD	3802	3802				

NOTES:
 (P) PLAN QUANTITY.
 (1) INCLUDES EARTH RETENTION SYSTEM.
 (2) SHOP DRAWINGS ARE REQUIRED FOR THE PIPE RAILINGS FOR APPROVAL OF THE ENGINEER.
 (3) SEE SHEETS 277, 291, 298, AND 303.

NO.			DATE			BY			DESCRIPTION OF REVISIONS			DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				ESTIMATED QUANTITIES	
									CHK: SAO	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 12/18/2020			STATE PROJ. NO. 002-611-036		SHEET NO. 4 OF 416 SHEETS			

DATE: 3/4/2021 TIME: 6:40:27 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-01\Documents\Projects\AnokaCounty\7030000_04_Production\01_CAD\Highway\Sheets\cd00261036_eqc.dgn

ESTIMATED QUANTITIES											
TAB LETTER	SHEET NO.	ITEM NUMBER	ITEM	NOTE NO.	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATING		NON-PARTICIPATING		
							ANOKA COUNTY S.P. 002-611-036		CITY OF COON RAPIDS S.P. 114-020-055	ANOKA COUNTY LOCAL FUNDS	CITY OF COON RAPIDS LOCAL FUNDS
							ROADWAY	STORM SEWER			
H	156	2501.502	12" RC PIPE APRON		EACH	1		1			
H	156	2501.502	15" RC PIPE APRON		EACH	6		1	2.5	2.5	
H	156	2501.502	18" RC PIPE APRON		EACH	6	2	2	1	1	
H	156	2501.502	21" RC PIPE APRON		EACH	2		1	0.5	0.5	
H	156	2501.502	24" RC PIPE APRON		EACH	3		1	1	1	
H	156	2501.502	30" RC PIPE APRON		EACH	1		1			
H	156	2501.503	18" RC PIPE CULVERT DES 3006 CL V		LIN FT	126	126				
H	156	2501.503	24" RC PIPE CULVERT DES 3006 CL III		LIN FT	110			55	55	
G	165	2502.503	6" TP PIPE DRAIN		LIN FT	48	48				
G	165	2502.503	6" PERF TP PIPE DRAIN		LIN FT	385	385				
W	209	2502.601	SUBSURFACE DRAINS		LUMP SUM	1	1				
G	165	2502.602	8" TP PIPE DRAIN CLEAN OUT		EACH	6	6				
U	246	2503.503	4" PVC PIPE SEWER		LIN FT	66			66		
U	246	2503.503	8" PVC PIPE SEWER		LIN FT	1672			1672		
U	246	2503.503	8" DUCTILE IRON PIPE SEWER CL 52		LIN FT	10			10		
H	156	2503.503	12" RC PIPE SEWER DES 3006 CL V		LIN FT	34		34			
H	156	2503.503	15" RC PIPE SEWER DES 3006 CL V		LIN FT	3455		2983	236	236	
H	156	2503.503	18" RC PIPE SEWER DES 3006 CL V		LIN FT	657		490	83.5	83.5	
H	156	2503.503	21" RC PIPE SEWER DES 3006 CL IV		LIN FT	597		295	151	151	
H	156	2503.503	24" RC PIPE SEWER DES 3006 CL III		LIN FT	334		334			
H	156	2503.503	30" RC PIPE SEWER DES 3006 CL III		LIN FT	135		135			
H	156	2503.503	36" RC PIPE SEWER DES 3006 CL V		LIN FT	344		344			
T,U	246	2503.602	CONSTRUCT BULKHEAD		EACH	3			3		
U	246	2503.602	CONNECT TO EXISTING MANHOLES (SAN)		EACH	3			3		
E,H	15,156	2503.602	CONNECT TO EXISTING STORM SEWER		EACH	39		37	1	1	
U	246	2503.602	4" PIPE PLUG		EACH	3			3		
U	246	2503.602	8" PIPE PLUG		EACH	2			2		
U	246	2503.602	8"X4" PVC WYE		EACH	2			2		
I	158	2503.603	VIDEO TAPE PIPE SEWER		LIN FT	1411		1411			
H	156	2503.603	30" STEEL CASING PIPE		LIN FT	80		80			
H	156	2503.603	36" STEEL CASING PIPE		LIN FT	126		126			
E	15	2503.603	15" PIPE SEWER		LIN FT	306		306			
T	246	2504.601	TEMPORARY WATER SERVICE		LUMP SUM	1			1		
T	246	2504.602	RECONNECT WATER SERVICE		EACH	8			8		
T	246	2504.602	CONNECT TO EXISTING WATER MAIN TYPE I		EACH	12			12		
T	246	2504.602	CONNECT TO EXISTING WATER MAIN TYPE II		EACH	2			2		
T	246	2504.602	HYDRANT		EACH	10			10		
T	246	2504.602	ADJUST VALVE BOX		EACH	9			9		
T	246	2504.602	18" BUTTERFLY VALVE & BOX		EACH	8			8		
T	246	2504.602	24" BUTTERFLY VALVE & BOX		EACH	1			1		
T	246	2504.602	30" BUTTERFLY VALVE & BOX		EACH	1			1		
T	246	2504.602	6" GATE VALVE & BOX		EACH	15			15		
T	246	2504.602	8" GATE VALVE & BOX		EACH	2			2		
T	246	2504.602	12" GATE VALVE & BOX		EACH	5			5		
T	246	2504.603	1" TYPE K COPPER PIPE		LIN FT	102			102		
T	246	2504.603	6" WATERMAIN DUCTILE IRON CL 52		LIN FT	635			635		
T	246	2504.603	8" WATERMAIN DUCTILE IRON CL 52		LIN FT	99			99		
T	246	2504.603	10" WATERMAIN DUCTILE IRON CL 52		LIN FT	82			82		
T	246	2504.603	12" WATERMAIN DUCTILE IRON CL 52		LIN FT	1282			1282		
T	246	2504.603	18" WATERMAIN DUCTILE IRON CL 52		LIN FT	1229			1229		

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 3/4/2021



STATE PROJ. NO. 002-611-036

ESTIMATED QUANTITIES
 SHEET NO. 5 OF 416 SHEETS

DATE: 4/9/2021 TIME: 3:42:31 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000 04_Production\01_CAD\Highway\Sheets\cd00261036_eqd.dgn

ESTIMATED QUANTITIES

TAB LETTER	SHEET NO.	ITEM NUMBER	ITEM	NOTE NO.	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATING			NON-PARTICIPATING	
							ANOKA COUNTY S.P. 002-611-036		CITY OF COON RAPIDS S.P. 114-020-055	ANOKA COUNTY LOCAL FUNDS	CITY OF COON RAPIDS LOCAL FUNDS
							ROADWAY	STORM SEWER			
T	246	2504.603	24" WATERMAIN DUCTILE IRON CL 52		LIN FT	652			652		
T	246	2504.603	30" WATERMAIN DUCTILE IRON CL 52		LIN FT	412			412		
T	246	2504.604	4" INSULATION		SQ YD	28.5			28.5		
T	246	2504.608	DUCTILE IRON FITTINGS		POUND	39111			39111		
H	156, 160-161	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 1		EACH	8		5		1.5	1.5
H	156, 162	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 2		EACH	1		1			
H	156, 163	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 3		EACH	1		1			
H	156, 164	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 4		EACH	1				0.5	0.5
H	156, 165	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 5		EACH	1		1			
H	156	2506.502	CASTING ASSEMBLY		EACH	126		109		8.5	8.5
E,H	15,156	2506.502	INSTALL CASTING		EACH	10		10			
I,U	158,246	2506.502	ADJUST FRAME & RING CASTING		EACH	34		21	13		
H	156	2506.503	CONST DRAINAGE STRUCTURE DESIGN H		LIN FT	70.7		67.3		1.7	1.7
H	156	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-48		LIN FT	136.6		99.6		18.5	18.5
H	156	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-60		LIN FT	7.9				4.0	3.9
U	246	2506.503	CONST DRAINAGE STRUCTURE DESIGN PC-48"		LIN FT	161.8			161.8		
H	156	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020		LIN FT	200.7		188.0		6.4	6.3
H	156	2506.503	CONST DRAINAGE STRUCTURE DES 60-4020		LIN FT	48.8		48.8			
H	156	2506.503	CONST DRAINAGE STRUCTURE DES 72-4020		LIN FT	26.4		21.7		2.4	2.3
H	156	2506.503	CONST DRAINAGE STRUCTURE DES 96-4020		LIN FT	12.6		12.6			
H	156	2506.503	CONST DRAINAGE STRUCTURE DES 108-4020		LIN FT	6.1		6.1			
H,U	156,246	2506.503	RECONSTRUCT DRAINAGE STRUCTURE		LIN FT	27.9		22.4	5.5		
		2506.601	INFILTRATION/FILTRATION SYSTEM		LUMP SUM	1		1			
E,H	15,156	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE		EACH	11		11			
U	246	2506.603	CONSTRUCT 8" OUTSIDE DROP		LIN FT	3.1			3.1		
H	156	2511.504	GEOTEXTILE FILTER TYPE 3		SQ YD	246.8	116.6			65.1	65.1
H	156	2511.504	GEOTEXTILE FILTER TYPE 4		SQ YD	110.3	67.0			21.7	21.6
F, H	15, 156	2511.507	RANDOM RIPRAP CLASS II		CU YD	473.9	441.6			16.2	16.1
H	156	2511.507	RANDOM RIPRAP CLASS III		CU YD	25.7	18.7			3.5	3.5
D,N	14,247	2521.518	4" CONCRETE WALK	(1)	SQ FT	70081	66319		3762		
D	14	2521.518	6" CONCRETE WALK		SQ FT	6036	5358		678		
D	14	2531.503	CONCRETE CURB & GUTTER DESIGN B424		LIN FT	271	271				
D	14	2531.503	CONCRETE CURB & GUTTER DESIGN B612		LIN FT	172	172				
D	14	2531.503	CONCRETE CURB & GUTTER DESIGN B618		LIN FT	8193	5255			1469	1469
D	14	2531.503	CONCRETE CURB & GUTTER DESIGN B618 (MOD)		LIN FT	5949	5949				
D,N	14,247	2531.503	CONCRETE CURB & GUTTER DESIGN B624		LIN FT	13347	8487		4309	276	275
D	14	2531.503	CONCRETE CURB & GUTTER DESIGN D418		LIN FT	40	40				
D	14	2531.503	CONCRETE CURB DESIGN B4		LIN FT	204	204				
D	14	2531.503	CONCRETE CURB DESIGN B6		LIN FT	163	163				
D	14	2531.503	CONCRETE GUTTER DESIGN SPECIAL		LIN FT	225	225				
D	14	2531.504	6" CONCRETE DRIVEWAY PAVEMENT		SQ YD	112	112				
D	14	2531.504	8" CONCRETE DRIVEWAY PAVEMENT		SQ YD	854	812			21	21
D	14	2531.603	CONCRETE CURB DESIGN V		LIN FT	130	130				
J	16	2531.618	TRUNCATED DOMES		SQ FT	816	816				
O	253	2533.503	PORTABLE PRECAST CONC BARRIER DES 8337		LIN FT	2996	2996				
O	253	2533.503	RELOCATE PORT PRECAST CONC BAR DES 8337		LIN FT	3175	3175				
	98	2540.601	BUS SHELTER	(2)	LUMP SUM	1	1				
K	16	2540.602	MAIL BOX SUPPORT		EACH	13	13				
	98	2540.602	INSTALL BUS STOP BENCH		EACH	2	2				

- NOTES:**
- SHOP DRAWINGS ARE REQUIRED FOR CONCRETE WALK WITH PIPE RAILINGS FOR APPROVAL OF THE ENGINEER.
 - TWO - BRASCO SL-0512 FWRBV-CL SLIMLINE SHELTER TYPE C (FRONT WINDSCREEN, REVERSE BARREL VAULT, CLEAR ANODIZED ALUMINUM). SEE SHEET 381.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: RRC	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 4/9/2021
CHK: SAO	

NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	4/9/21	SAO	ADDED PAY ITEM



STATE PROJ. NO. 002-611-036

ESTIMATED QUANTITIES
SHEET NO. 6R OF 416 SHEETS

DATE: 4/1/2021 TIME: 7:21:00 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-01\Documents\Projects\AnokaCounty\7030000_04_Production\01_CAD\Highway\Sheets\cd00261036_eqed.dgn

ESTIMATED QUANTITIES


TAB LETTER	SHEET NO.	ITEM NUMBER	ITEM	NOTE NO.	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATING		NON-PARTICIPATING		
							ANOKA COUNTY S.P. 002-611-036		CITY OF COON RAPIDS S.P. 114-020-055	ANOKA COUNTY LOCAL FUNDS	CITY OF COON RAPIDS LOCAL FUNDS
							ROADWAY	STORM SEWER			
R	369	2545.502	LIGHTING UNIT TYPE SPECIAL 1		EACH	3			1.5	1.5	
R	369	2545.502	LIGHTING UNIT TYPE SPECIAL 2		EACH	7			7		
R	369	2545.502	LIGHTING UNIT TYPE 1X-30		EACH	3			3		
R	369	2545.502	LIGHTING UNIT TYPE 9-40		EACH	3			2	0.5	
R	369	2545.502	UNDERPASS LUMINAIRES TYPE LED		EACH	6			6		
R	369	2545.502	LIGHT FOUNDATION DESIGN E		EACH	3			3		
R	369	2545.502	LIGHT FOUNDATION DESIGN SPECIAL		EACH	10			10		
R	369	2545.502	SERVICE CABINET-TYPE L1		EACH	1			1		
R	369	2545.502	SERVICE CABINET-TYPE RLF		EACH	2			2		
R	369	2545.502	HANDHOLE		EACH	4			4		
R	369	2545.503	1" RIGID STEEL CONDUIT		LIN FT	740			740		
R	369	2545.503	2" RIGID STEEL CONDUIT		LIN FT	515			515		
R	369	2545.503	1.25" NON-METALLIC CONDUIT		LIN FT	2000			2000		
R	369	2545.503	2" NON-METALLIC CONDUIT		LIN FT	260			260		
R	369	2545.503	2" NON-METALLIC COND (DIRECTIONAL BORE)		LIN FT	100			100		
R	369	2545.503	UNDERGROUND WIRE 1/C 2 AWG		LIN FT	515			515		
R	369	2545.503	DIRECT BURIED LIGHTING CABLE 1/C 8 AWG		LIN FT	6000			6000		
R	369	2545.503	DIRECT BURIED LIGHTING CABLE 4/C 4 AWG		LIN FT	2067			1384	341.5	
	S1-S3	2550.601	REVISE SECURITY SYSTEM	1	LUMP SUM	1	1				
H	156	2554.502	GUIDE POST TYPE B		EACH	17		8	4.5	4.5	
O	253	2554.615	RAISED PAVEMENT MARKER TEMPORARY		EACH	1256	1256				
X	13	2557.503	WIRE FENCE DESIGN 48-9322		LIN FT	54	54				
X	13	2557.503	WIRE FENCE DESIGN 48V-9322		LIN FT	304	304				
X	13	2557.603	WOODEN FENCE		LIN FT	100	100				
		2563.601	TRAFFIC CONTROL SUPERVISOR		LUMP SUM	1	0.87		0.09	0.02	
		2563.601	TRAFFIC CONTROL		LUMP SUM	1	0.87		0.09	0.02	
		2563.601	ALTERNATE PEDESTRIAN ROUTE		LUMP SUM	1	0.87		0.09	0.02	
O	253	2563.602	PORTABLE CONCRETE BARRIER DELINEATOR		EACH	248	248				
O	253	2563.602	SURFACE MOUNTED DELINEATOR		EACH	195	195				
		2563.613	TRAFFIC CONTROL SPECIAL		UNIT DAY	151	151				
O	253	2563.615	TEMPORARY IMPACT ATTENUATOR		ASSEMBLY	14	14				
O	253	2563.615	RELOCATE TEMPORARY IMPACT ATTENUATOR		ASSEMBLY	6	6				
P	338	2564.502	INSTALL SIGN TYPE C		EACH	4	4				
G	165	2564.502	INFILTRATION AREA MARKER X3-6A		EACH	4	4				
P	338	2564.518	SIGN PANELS TYPE C		SQ FT	812	773		19.5	19.5	
P	338	2564.518	SIGN PANELS TYPE SPECIAL		SQ FT	30	30				
P	338	2564.602	DELINEATOR / MARKER SIGN		EACH	15	15				
S	385	2565.501	EMERGENCY VEHICLE PREEMPTION SYSTEM A		LUMP SUM	1			1		
S	385	2565.501	EMERGENCY VEHICLE PREEMPTION SYSTEM B		LUMP SUM	1			1		
S	385	2565.501	EMERGENCY VEHICLE PREEMPTION SYSTEM C		LUMP SUM	1			1		
S	385	2565.501	TRAFFIC CONTROL INTERCONNECT		LUMP SUM	1			1		
S	385	2565.516	TRAFFIC CONTROL SIGNAL SYSTEM A		SYSTEM	1	1				
S	385	2565.516	TRAFFIC CONTROL SIGNAL SYSTEM B		SYSTEM	1				1	
S	385	2565.616	REVISE SIGNAL SYSTEM C		SYSTEM	1	1				
S	385	2565.616	TEMPORARY SIGNAL SYSTEM A		SYSTEM	1	0.87		0.09	0.02	
S	385	2565.616	TEMPORARY SIGNAL SYSTEM B		SYSTEM	1	0.87		0.09	0.02	
S	385	2565.616	TEMPORARY SIGNAL SYSTEM C		SYSTEM	1	0.87		0.09	0.02	
		2573.501	STABILIZED CONSTRUCTION EXIT		LUMP SUM	1	1				
		2573.501	EROSION CONTROL SUPERVISOR		LUMP SUM	1	1				

NOTES:
 (1) INCLUDES DEMOLITION, FURNISHING AND INSTALLING MATERIALS DETAILED ON SHEETS S1-S3, AND TROUBLESHOOTING/TESTING.

DATE: 12/14/2020 TIME: 10:08:23 AM
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ESTIMATED QUANTITIES											
TAB LETTER	SHEET NO.	ITEM NUMBER	ITEM	NOTE NO.	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATING		NON-PARTICIPATING		
							ANOKA COUNTY S.P. 002-611-036		CITY OF COON RAPIDS S.P. 114-020-055	ANOKA COUNTY LOCAL FUNDS	CITY OF COON RAPIDS LOCAL FUNDS
							ROADWAY	STORM SEWER			
	170	2573.502	WATER TREATMENT TYPE SKIMMER	(1)	EACH	2	2				
	169	2573.502	WATER TREATMENT TYPE ROCK BARREL	(1)	EACH	2	2				
	169	2573.502	WATER TREATMENT TYPE FLOCCULANT SOCK	(1)	EACH	2	2				
E	15	2573.502	STORM DRAIN INLET PROTECTION		EACH	151	137		7	7	
E	15	2573.502	CULVERT END CONTROLS		EACH	9	6		1.5	1.5	
E	15	2573.503	SILT FENCE, TYPE SD		LIN FT	631	631				
E	15	2573.503	SILT FENCE, TYPE MS		LIN FT	6142	5097		522.5	522.5	
E	15	2573.503	SILT FENCE, TYPE TB		LIN FT	614	614				
E	15	2573.503	TEMPORARY SLOPE DRAIN		LIN FT	300	300				
F	15	2573.503	FILTER BERM TYPE 3	(3)	LIN FT	10			5	5	
E	15	2573.503	SEDIMENT CONTROL LOG TYPE COMPOST		LIN FT	8808	6604		1102	1102	
G	165	2574.505	SUBSOILING		ACRE	0.2	0.2				
F	15	2574.505	SOIL BED PREPARATION		ACRE	8.2	6.3		1.0	0.9	
G	165	2574.507	FILTER TOPSOIL BORROW		CU YD	396	396				
F	15	2574.508	FERTILIZER TYPE 3		POUND	2172	1758		207	207	
F	15	2574.508	FERTILIZER TYPE 4		POUND	355	261		47	47	
F	15	2574.509	LIME		TON	24.6	18.9		2.9	2.8	
F	15	2575.504	SODDING TYPE SALT TOLERANT		SQ YD	6586	6586				
E	15	2575.504	TEMPORARY POLY COVERING		SQ YD	16000	12000		2000	2000	
F	15	2575.505	SEEDING		ACRE	8.2	6.3		1.0	0.9	
F	15	2575.505	MOWING		ACRE	16.4	12.6		1.9	1.9	
F	15	2575.505	WEED SPRAYING		ACRE	4.3	3.3		0.5	0.5	
F	15	2575.506	WEED SPRAY MIXTURE		GALLON	2.3	1.8		0.3	0.2	
F	15	2575.507	MULCH MATERIAL TYPE 9		CU YD	99	99				
F	15	2575.508	SEED MIXTURE 25-121		POUND	174	139		17.5	17.5	
F	15	2575.508	SEED MIXTURE 25-131		POUND	576	438		69	69	
F	15	2575.508	SEED MIXTURE 33-261		POUND	40	34		3	3	
F	15	2575.508	SEED MIXTURE 35-221		POUND	48	30		9	9	
F	15	2575.508	HYDRAULIC REINFORCED FIBER MATRIX		POUND	21119	16516		2301.5	2301.5	
E	15	2575.523	RAPID STABILIZATION METHOD 3		M GALLON	98.7	83.8		7.5	7.4	
F	15	2575.604	ROLLED EROSION PREVENTION CATEGORY 10		SQ YD	5232	4536		348	348	
F	15	2575.604	ROLLED EROSION PREVENTION CATEGORY 20		SQ YD	6158	3834		1162	1162	
O	253	2581.503	REMOVABLE PREFORM PAVEMENT MARKING TAPE		LIN FT	72621	72621				
O	253	2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)		LIN FT	4753	4753				
Q	359	2582.503	4" SOLID LINE PAINT		LIN FT	4689	4689				
Q	359	2582.503	12" SOLID LINE PAINT		LIN FT	2588	2588				
Q	359	2582.503	4" SOLID LINE MULTI COMP		LIN FT	30980	30526		227	227	
Q	359	2582.503	8" SOLID LINE MULTI COMP		LIN FT	330	330				
Q	359	2582.503	4" BROKEN LINE MULTI COMP	(2)	LIN FT	1570	1570				
Q	359	2582.503	8" DOTTED LINE MULTI COMP	(2)	LIN FT	124	124				
Q	359	2582.503	4" DBLE SOLID LINE MULTI COMP		LIN FT	180	180				
Q	359	2582.503	4" BROKEN LINE MULTI COMP CONT	(2)	LIN FT	63	63				
Q	359	2582.503	8" DOTTED LINE MULTI COMP CONT	(2)	LIN FT	63	63				
Q	359	2582.503	24" SOLID LINE PREF TAPE		LIN FT	767	767				
Q	359	2582.503	4" DOTTED LINE PREF THERMO	(2)	LIN FT	128	128				
Q	359	2582.518	PAVT MSSG PAINT		SQ FT	143	143				
Q	359	2582.518	PAVT MSSG PREF THERMO		SQ FT	1095	1064		15.5	15.5	
Q	359	2582.518	CROSSWALK PREF THERMO		SQ FT	3216	3216				

NOTES:
 (1) SEE SHEETS 167 AND 168 FOR WATER TREATMENT DETAILS.
 (2) LENGTH DOES NOT INCLUDE GAPS.
 (3) SEE SHEET 49 FOR STANDARD PLAN SHEET THAT INCLUDES FILTER BERM TYPE 3 (ROCK WEEPER) DETAILS.

NO.			DATE			BY			DESCRIPTION OF REVISIONS			DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				ESTIMATED QUANTITIES		
									CHK: SAO	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 12/14/2020			STATE PROJ. NO. 002-611-036				SHEET NO. 8 OF 416 SHEETS		

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

MNDOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
1070M	SUPPLEMENTAL PAVEMENT REINFORCEMENT
1103L	TYPICAL DOWEL BAR ASSEMBLY (2 SHEETS)
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007F	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133D	RIPRAP AT RCP OUTLETS
3145G	CONCRETE PIPE OR PRECAST BOX CULVERT TIES
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4022A	MANHOLE OR CATCH BASIN COVER (3 FT. X 2 FT. OPENING)
4024A	48" DIA. PRECAST SHALLOW DEPTH CATCH BASIN - DESIGN SD
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) - CASTING NO. 715 AND 716
4143E	STOOL GRATE & CONCRETE FRAME (MEDIAN DRAINS) - CASTING NO. 731
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816 (1)
4155A	ADA GRATE INLET CASTING
4160D	CURB BOX CASTING FOR CATCH BASIN - CASTING NO. 823A AND 833A
4180J	MANHOLE OR CATCH BASIN STEP
7020K	CONCRETE CURB (DESIGN B, DESIGN V, DESIGN S, DESIGN DR AND DESIGN BR) (2 SHEETS)
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
7102K	CONCRETE CURB AND GUTTER (DESIGN D, DESIGN S AND DESIGN R)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7112C	INSTALLATION & REINFORCEMENT OF CATCH BASIN & MANHOLE CASTING (CONCRETE INTEGRANT CURBS)
7113A	CONCRETE APPROACH NOSE DETAIL
8000J	CHANNELIZERS
8110E	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8111E	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED) (3 SHEETS)
8112I	PEDESTAL FOUNDATION (TRAFFIC CONTROL SIGNALS)
8120Q	POLE FOUNDATION (PA85)
8122F	PEDESTAL AND PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT) (2 SHEETS)
8123G	POLE AND MAST ARM LUMINAIRES AND TRAFFIC LIGHTS ASSEMBLY (FOR ALL POLE TYPES) (2 SHEETS)
8126L	POLE FOUNDATION (PA90 AND PA100)
8127E	LIGHT FOUNDATION - DESIGN E, PRECAST/CAST IN PLACE, 40 FT. POLE OR LESS (2 SHEETS)
8129A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)
8132B	PREFORMED RIGID PVC CONDUIT LOOP DETECTOR (3 SHEETS)
8150C	INSTALLATION OF CULVERT MARKERS
8337C	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER (TYPE "F") (3 SHEETS)
8400F	PIPE RAILING
9322K	CHAIN LINK FENCE (2 SHEETS)
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

NOTES:
(1) USE BENT BOLT WITH 816 GRATE.

INDEX OF TABULATIONS		
TAB. LETTER	SHEET NO.	DESCRIPTION
A	12	EARTHWORK SUMMARY
B	13	CLEARING AND GRUBBING
C	13	REMOVALS
D	14	AGGREGATE, CONCRETE, AND BITUMINOUS ITEMS
E	15	TEMPORARY DRAINAGE, EROSION & SEDIMENT CONTROL
F	15	TURF ESTABLISHMENT
G	165	WATER QUALITY BASINS
H	156	DRAINAGE SUMMARY
I	158	INPLACE DRAINAGE
J	16	PEDESTRIAN RAMPS
K	16	MAIL BOX SUPPORT
L	247	TEMPORARY CROSSOVERS - REMOVALS
M	247	TEMPORARY CROSSOVERS - AGG. AND BIT. ITEMS
N	247	TEMPORARY CROSSOVERS - PERMANENT AGG., BIT., AND CONC. ITEMS
O	253	TRAFFIC CONTROL
P	338	SIGNING SUMMARY
Q	359	PERMANENT PAVEMENT MARKINGS
R	369	LIGHTING
S	385	SIGNALS
T	246	WATER MAIN
U	246	SANITARY SEWER
V	83	MOMENT SLABS
W	209	RETAINING WALLS
X	13	MISCELLANEOUS
Y	207	GROUND IMPROVEMENTS


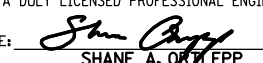
DATE: 12/14/2020 TIME: 11:58:08 AM FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000 04_Production\01_CAD\Highway\Sheets\cd00261036_pla.dgn

			DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 12/14/2020	TKDA	STANDARD PLATES AND INDEX OF TABULATIONS		
			DRW: RRC			STATE PROJ. NO. 002-611-036		SHEET NO. 9 OF 416 SHEETS
NO.	DATE	BY	CHK: SAO			DESCRIPTION OF REVISIONS		

SOILS AND CONSTRUCTION NOTES:

1. GRADING GRADE IS DEFINED AS THE BOTTOM OF AGGREGATE BASE (CV) CLASS 5.
2. CONSTRUCT EMBANKMENTS IN ACCORDANCE WITH SPECIFICATION 2106 AND THE MNDOT ROAD DESIGN MANUAL. ALL EMBANKMENT CORE -WIDENING MATERIAL, INCLUDING MATERIAL USED FOR TEMPORARY WIDENING, SHALL BE SELECT GRADING MATERIAL OR COMMON EMBANKMENT (CV) IN ACCORDANCE WITH OTHER REQUIREMENTS PROVIDED IN SPECIFICATION 2106.
3. IN AREAS TO BE WIDENED, MATCH THE EXISTING SOIL IN THE UPPER 5 FEET OF ROADWAY TO BE WIDENED WITH SOIL OF A SIMILAR CLASS, COLOR, MOISTURE CONTENT AND PERFORMANCE CHARACTERISTICS. DO NOT PLACE GRANULAR BACKFILL ADJACENT TO NON-GRANULAR SOILS.
4. IN ANY CASE WHERE GRANULAR EMBANKMENTS OR BACKFILL JOIN NON-GRANULAR SOIL EMBANKMENT OR BACKFILL, PROVIDE A 1:20 (V:H) TRANSITION SUCH THAT THE GRANULAR BACKFILL MATERIAL OVERLAYS THE ADJACENT NON-GRANULAR SOIL BACKFILL. PROVIDE A SIMILAR TAPER FOR CHANGING SUBCUT DEPTHS OR MATERIALS (I.E. DIFFERING IN COLOR, SOIL CLASSIFICATION, MOISTURE CONTENT, AND DENSITY).
5. BEFORE PLACING EMBANKMENT MATERIAL, CONSTRUCT STEPS AT A MINIMUM WIDTH OF 12 INCHES WHEN SIDESLOPES ARE STEEPER THAN 1:4 (V:H).
6. ANY EXTRA MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OUTSIDE OF THE RIGHT OF WAY IN ACCORDANCE WITH SPECIFICATION 2104.3D.
7. WHEN REMOVING BITUMINOUS PAVEMENTS ADJACENT TO MATERIALS THAT WILL REMAIN IN PLACE, MAKE FULL-DEPTH SAWCUTS PERPENDICULAR TO THE ROADWAY CENTERLINE AND ALONG EXISTING LONGITUDINAL PAVEMENT JOINTS.
8. EXISTING AGGREGATE AND TOPSOIL SHALL BE REUSED IN NEW CONSTRUCTION WHERE POSSIBLE. OTHER EXCAVATED MATERIALS SHALL BE USED TO THE FULLEST EXTENT PRACTICAL SO FAR AS THEY ARE DESIGNATED SUITABLE WITH RESPECT TO THE REQUIREMENTS OF THE PROJECT.
9. ASSUMED EXISTING AVERAGE PAVEMENT THICKNESSES ARE LISTED BELOW. THE CONTRACTOR SHALL INVESTIGATE AND MAKE THEIR OWN DETERMINATION.
 CSAH 11 - 5 INCHES OF BITUMINOUS
 CSAH 1 - 7.3 INCHES OF BITUMINOUS
 CO RD 3 - 7.5 INCHES OF BITUMINOUS
 LOCAL ROADS - 4.6 INCHES OF BITUMINOUS
10. ASIDE FROM REMOVING TOPSOIL, REMOVING UNSUITABLE SOILS ENCOUNTERED IN EXCAVATIONS AS REQUIRED BY THE ENGINEER, AND ANY WORK DESCRIBED IN THE FOUNDATION ANALYSIS DESIGN REPORT, THERE HAVE NOT BEEN ANY SUBCUTS IDENTIFIED.
11. REPLACE ALL EXCAVATED SOILS WITH SUITABLE GRADING MATERIAL MEETING THE REQUIREMENTS OF MNDOT SPECIFICATION 2106.
12. BASED ON THE BORINGS PERFORMED FOR THIS PROJECT, TOPSOIL IS EXPECTED TO BE APPROXIMATELY 1 1/2 FEET THICK ON AVERAGE. TOPSOIL MAY BE DEEPER AWAY FROM EXISTING EMBANKMENTS AND IS LIKELY TO VARY BETWEEN BORING LOCATIONS.
13. STRIP ALL EXISTING TOPSOIL AND SLOPE DRESSING IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING WITHIN PROJECT LIMITS. PLACE A MINIMUM OF 4 INCHES OF SLOPE DRESSING MATERIAL. ANY SLOPE DRESSING NEEDED IN ADDITION TO SALVAGED TOPSOIL SHALL MEET THE REQUIREMENTS OF TOPSOIL BORROW (MNDOT SPECIFICATION 3877.2A).
14. PROVIDE TACK COAT BETWEEN ALL BITUMINOUS LAYERS IN ACCORDANCE WITH SPECIFICATION 2357.
15. PROVIDE CONCRETE MEETING THE MOST CURRENT SPECIFICATION 2301 CONCRETE PAVEMENT REQUIREMENTS.
16. PROVIDE NO. 4 TIE BARS (30 INCHES LONG) AT ALL TIED LONGITUDINAL JOINTS AS IDENTIFIED IN THE STANDARD PLAN 5-297.221.
17. PRODUCE CONCRETE MIX DESIGNS FOLLOWING MIX DESIGN PROCEDURES STATED IN SPECIFICATIONS 2301.1 AND 2461.1 AS REQUIRED FOR THE TYPE OF CONCRETE USED.
18. WHERE TYING INTO EXISTING CONCRETE PAVEMENT, PROVIDE TERMINAL HEADER JOINTS AS DETAILED IN MNDOT STANDARD PLAN 5-297.221.
19. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTIONS SHOWN IN THE TYPICAL SECTIONS AND CROSS SECTIONS.
20. THE CONTRACTOR IS HEREBY REMINDED OF THEIR RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.

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				DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			SOILS AND CONSTRUCTION NOTES
				DRW: RRC	SIGNATURE: 			STATE PROJ. NO. 002-611-036
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: SAO	LIC. NO. 48250 DATE: 12/11/2020			SHEET NO. 10 OF 416 SHEETS

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EARTHWORK TABULATION							
STATION	EXCAVATION - COMMON	EXCAVATION - MUCK	COMMON EMBANKMENT (CV)	SELECT GRANULAR EMBANKMENT (CV)	DRAINABLE AGGREGATE BASE, TYPE DSB (CV)	STRUCTURAL BACKFILL	STRUCTURAL BACKFILL (MOD)
	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
CSAH 11 EB							
100+25 TO 100+50	343	114	639				
100+50 TO 101+00	333	598	1349	101	313		64
101+00 TO 101+50	251	703	1337	150	619		191
101+50 TO 102+00	252	734	1589	134	609		316
102+00 TO 102+50	242	821	1887	163	628		460
102+50 TO 103+00	116	883	2207	138	702		652
103+00 TO 103+50	15	993	2451	121	888		908
103+50 TO 104+00		923	2578	91	908		1195
104+00 TO 104+50	179	742	2604	89	573		1469
104+50 TO 105+00	383	726	2608	131	351		1779
105+00 TO 105+50	268	749	2702	115	175		2055
105+50 TO 106+00	87	812	2759	94			2368
106+00 TO 106+50	118	822	2686	116			2804
106+50 TO 107+00	140	639	2798	137		72	3171
107+00 TO 107+50	314	226	2313	117		557	2671
107+50 TO 107+84	314	226	2313	117		2413	815
107+84 TO 110+08	BRIDGE NO. 02584						
110+08 TO 110+50	332		1374			3362	
110+50 TO 111+00	396		1763			1809	
111+00 TO 111+50	553		5257			477	
111+50 TO 112+00	453		7149				
112+00 TO 112+50	526		6360				
112+50 TO 113+00	429		5002				
113+00 TO 113+50	381		4374				
113+50 TO 114+00	302		3723			103	
114+00 TO 114+50	195		2887			206	
114+50 TO 115+00	172		2194			206	
115+00 TO 115+50	164		1719			103	
115+50 TO 116+00	66		1148				
116+00 TO 116+50	89		574				
116+50 TO 117+00	183		286				
117+00 TO 117+50	247		127				
117+50 TO 118+00	346		59				
118+00 TO 118+50	366		36				
118+50 TO 119+00	338		35				
119+00 TO 119+50	332		46				
119+50 TO 120+00	261		44				
120+00 TO 120+50	105		25				
120+50 TO 121+00	63		17				
121+00 TO 120+69	203		40				
120+69 TO 121+00	95		30				
121+00 TO 121+17	158		49				
121+17 TO 121+50	99		13				
121+50 TO 122+00	192		26				
122+00 TO 122+14	240		46				
122+14 TO 122+42	59		11				
122+42 TO 122+50	134		27				
122+50 TO 123+00	182		49				
123+00 TO 123+50	195		59				
123+50 TO 124+00	201		73				
124+00 TO 124+50	196		69				
124+50 TO 125+00	220		46				
125+00 TO 125+50	258		48				
125+50 TO 126+00	261		58				
126+00 TO 126+50	259		58				
126+50 TO 127+00	257		67				

EARTHWORK TABULATION							
STATION	EXCAVATION - COMMON	EXCAVATION - MUCK	COMMON EMBANKMENT (CV)	SELECT GRANULAR EMBANKMENT (CV)	DRAINABLE AGGREGATE BASE, TYPE DSB (CV)	STRUCTURAL BACKFILL	STRUCTURAL BACKFILL (MOD)
	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
CSAH 11 EB (CONTINUED)							
127+00 TO 127+50	250		80				
127+50 TO 128+00	244		90				
128+00 TO 128+50	243		102				
128+50 TO 129+00	239		113				
129+00 TO 129+50	304		139				
129+00 TO 129+66	97		52				
129+66 TO 130+50	COUNTY ROAD 3						
130+50 TO 131+00	149		33				
131+00 TO 131+50	126		19				
131+50 TO 132+00	137		16				
132+00 TO 132+25	62		4				
132+25 TO 132+50	58		1				
132+50 TO 133+00	128		6				
133+00 TO 133+50	128		10				
133+50 TO 134+00	108		15				
134+00 TO 134+50	84		20				
134+50 TO 135+00	87		24				
135+00 TO 135+50	103		35				
135+50 TO 136+00	95		29				
136+00 TO 136+25	31		5				
136+25 TO 136+50	20						
136+50 TO 137+00	49		10				
137+00 TO 137+50	56		20				
137+50 TO 137+62	14		5				
SUBTOTALS	15675	10711	80616	1814	5766	9308	20918

EARTHWORK TABULATION			
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	
		CU YD	CU YD
CSAH 1 NB			
35+00 TO 35+50	47		48
35+50 TO 36+00	27		38
36+00 TO 36+50	5		28
36+50 TO 37+00	5		32
37+00 TO 37+50	28		46
37+50 TO 38+00	30		57
38+00 TO 38+50	11		45
38+50 TO 38+58	9		4
38+58 TO 39+00	114		24
39+00 TO 39+50	194		73
39+50 TO 40+00	200		101
40+00 TO 40+50	145		106
40+50 TO 41+00	108		188
41+00 TO 41+50	112		313
41+50 TO 42+00	158		399
42+00 TO 42+50	136		405
42+50 TO 43+00	118		419
43+00 TO 43+50	131		372
43+50 TO 44+00	99		232
44+00 TO 44+50	86		132
44+50 TO 45+00	87		83
45+00 TO 45+22	42		34
45+22 TO 45+50	54		41
45+50 TO 46+00	105		60
46+00 TO 46+18	35		13
46+18 TO 46+50	31		10
46+50 TO 47+00	20		10
47+00 TO 47+21	10		4
SUBTOTALS	2147		3317

EARTHWORK TABULATION		
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)
	CU YD	CU YD
CO. RD. 3 SB		
404+59 TO 405+00	96	141
405+00 TO 405+50	106	148
405+50 TO 406+00	64	79
406+00 TO 406+50	55	59
406+50 TO 407+00	79	88
407+00 TO 407+50	54	43
407+50 TO 408+00	51	25
408+00 TO 408+50	50	25
408+50 TO 409+00	35	16
409+00 TO 409+50	37	21
409+50 TO 410+00	81	136
410+00 TO 410+50	106	188
410+50 TO 411+00	86	124
411+00 TO 411+20	26	34
SUBTOTALS	926	1127

EARTHWORK TABULATION			
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	
		CU YD	CU YD
93RD AVE. (EX. FOLEY BLVD.)			
32+00 TO 32+50	100		20
32+50 TO 33+00	93		17
33+00 TO 33+50	50		16
33+50 TO 34+00	30		16
34+00 TO 34+50	25		11
34+50 TO 35+00	22		7
35+00 TO 35+50	21		7
35+50 TO 36+00	20		7
36+00 TO 36+50	21		7
36+50 TO 37+00	19		8
37+00 TO 37+50	16		8
37+50 TO 38+00	17		7
38+00 TO 38+50	52		14
38+50 TO 39+00	103		40
39+00 TO 39+20	33		22
SUBTOTALS	622		207

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EARTHWORK TABULATION			
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	
		CU YD	CU YD
95TH LANE			
13+00 TO 13+50	137	18	
13+50 TO 14+00	59	25	
14+00 TO 14+50	90	28	
14+50 TO 15+00	127	26	
15+00 TO 15+25	72	16	
SUBTOTALS	485	113	

EARTHWORK TABULATION			
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	
		CU YD	CU YD
96TH AVE.			
18+00 TO 18+50	105	94	
18+50 TO 19+00	108	310	
19+00 TO 19+50	117	480	
19+50 TO 19+75	59	227	
SUBTOTALS	389	1111	

EARTHWORK TABULATION			
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	
		CU YD	CU YD
NORWAY STREET			
4+50 TO 5+00	219	18	
5+00 TO 5+50	197	16	
5+50 TO 6+00	148	21	
6+00 TO 6+25	65	14	
6+25 TO 6+34	75	14	
SUBTOTALS	704	83	

EARTHWORK TABULATION			
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	
		CU YD	CU YD
93RD LANE			
4+47 TO 5+00	30	44	
5+00 TO 5+50	22	81	
SUBTOTALS	52	125	

EARTHWORK TABULATION			
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	
		CU YD	CU YD
NORWAY STREET			
6+34 TO 7+00	287	23	
7+00 TO 7+50	430	19	
7+50 TO 8+00	420	24	
8+00 TO 8+50	248	25	
8+50 TO 9+00	93	16	
9+00 TO 9+50	82	131	
9+50 TO 10+00	96	270	
10+00 TO 10+50	91	178	
10+50 TO 11+00	78	60	
11+00 TO 11+50	62	54	
11+50 TO 12+00	69	67	
12+00 TO 12+50	89	110	
12+50 TO 13+00	107	108	
13+00 TO 13+50	106	97	
13+50 TO 14+00	95	228	
14+00 TO 14+50	101	331	
14+50 TO 15+00	118	409	
15+00 TO 15+50	123	429	
15+50 TO 16+00	217	242	
16+00 TO 16+50	369	89	
16+50 TO 17+00	428	55	
17+00 TO 17+50	343	69	
17+50 TO 17+99	104	201	
SUBTOTALS	4156	3235	

EARTHWORK TABULATION			
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	
		CU YD	CU YD
93RD AVE.			
5+07 TO 5+00	31	23	
5+00 TO 5+50	24	65	
5+50 TO 6+00	5	18	
SUBTOTALS	60	106	

EARTHWORK TABULATION			
STATION	EXCAVATION - COMMON	COMMON EMBANKMENT (CV)	
		CU YD	CU YD
NW RAMP			
22+72 TO 23+00	35	7	
23+00 TO 23+50	86	54	
23+50 TO 23+75	61	51	
SUBTOTALS	182	112	

EARTHWORK SUMMARY										TAB A	
LOCATION	EXCAVATION - COMMON		EXCAVATION - MUCK (1)	COMMON EMBANKMENT (CV)		SELECT GRANULAR EMBANKMENT (CV)	DRAINABLE AGGREGATE BASE, TYPE DSB (CV)	STRUCTURAL BACKFILL	STRUCTURAL BACKFILL (MOD.)		
	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD		
	(A)	(D)	(A)	(A)	(D)	(A)	(A)	(A)	(A)		
CSAH 11 EB	15675		10711	80616		1814	5766	9308	20918		
CSAH 1 NB	2147			3317							
CO. RD. 3 SB		926			1127						
93RD AVE. (EX. FOLEY BLVD.)	622			207							
95TH LANE	485			113							
96TH AVE.	389			1111							
NORWAY STREET STA. 4+03 TO STA. 6+34	704			83							
NORWAY STREET STA. 6+34 TO STA. 17+99		4156			3235						
93RD AVE. (EX. FOLEY BLVD.)	60			106							
93RD LANE	52			125							
NW RAMP	182			112							
WEST INFILTRATION BASIN	4028			303							
NORWAY ST. INFILTRATION BASIN	6447			367							
EAST WET POND	4761			493							
NORWAY ST. WET POND	1647			464							
METRO TRANSIT GRADING	1157			3008							
CO. RD. 3 NB	256										
RAILROAD DITCH GRADING	104			637							
TOTALS	38716	5082	10711	91062	4362	1814	5766	9308	20918		

NOTES:
 (1) LOCATION IS IN AREA OF WETLAND, CSAH 11 EB STA. 100+25 TO STA. 107+00, LEFT.

COST PARTICIPATION NOTES:
 (A) 100% ANOKA COUNTY S.P. 002-611-036 FUNDS.
 (D) 50% ANOKA COUNTY LOCAL FUNDS, 50% CITY OF COON RAPIDS LOCAL FUNDS.

				DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				TKDA		EARTHWORK		TABULATIONS	
				DRW: RRC	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020						STATE PROJ. NO. 002-611-036		SHEET NO. 12 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: SAO										

DATE: 11/29/2020 TIME: 12:04:55 PM
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CLEARING AND GRUBBING							TAB B
STATION	CLEARING			GRUBBING			
	ACRE		TREE	ACRE		TREE	
	(A)	(D)	(A)	(A)	(D)	(A)	
CSAH 1 NB							
33+78 TO 47+21	0.15		10	0.30		10	
CSAH 11 EB							
101+00 TO 112+50	0.40		9	1.50		9	
112+50 TO 126+00	1.20		22	1.20		22	
126+00 TO 137+62							
CO. RD. 3 NB							
300+00 TO 304+50							
NORWAY ST.							
6+34 TO 10+30		0.50			0.50		
10+30 TO 17+50		1.50			1.50		
TOTALS	1.75	2.00	41	3.00	2.00	41	

MISCELLANEOUS					TAB X
STATION	PIPE RAILING	WIRE FENCE DESIGN 48-9322 (1)	WIRE FENCE DESIGN 48V-9322	WOODEN FENCE	
	LIN FT	EACH	LIN FT	SQ FT	
	(A)	(A)	(A)	(A)	
CSAH 1 NB					
33+78 TO 47+21				100	
CSAH 11 EB					
101+00 TO 112+50					
112+50 TO 126+00	215	54	304		
126+00 TO 137+62					
CO. RD. 3 NB					
300+00 TO 304+50					
NORWAY ST.					
6+34 TO 10+30					
10+30 TO 17+50					
TOTALS	215	54	304	100	

NOTES:
 (1) INCLUDES TOP RAIL.

REMOVALS														TAB C			
STATION	REMOVE MISCELLANEOUS STRUCTURES	SAWING CONCRETE PAVEMENT (FULL DEPTH)	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		REMOVE CURB & GUTTER	REMOVE BITUMINOUS CURB	REMOVE CONCRETE CURB	REMOVE STONE RETAINING WALL	REMOVE CHAIN LINK FENCE	REMOVE WOOD FENCE	REMOVE CONCRETE DRIVEWAY PAVEMENT	REMOVE CONCRETE PAVEMENT	REMOVE BITUMINOUS PAVEMENT	REMOVE CONCRETE WALK			
	EACH	LIN FT	LIN FT		LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	SQ YD	SQ YD				
	(A)	(A)	(A)	(D)	(A)	(D)	(D)	(A)	(A)	(D)	(A)	(A)	(A)	(D)	(A)		
CSAH 1 NB																	
33+78 TO 47+21	1	13	959		4542					102	60	71	10160		11977		
CSAH 11 EB																	
101+00 TO 112+50			542		3688			242	73		102		8341		12913		
112+50 TO 126+00		44	961		5965			348	829	65	424	1253	19828		28486		
126+00 TO 137+62			1474		3737						49		7078		7301		
CO. RD. 3 NB																	
300+00 TO 304+50			716		662						21		504		4309		
NORWAY ST.																	
6+34 TO 10+30			64		190				227					346			
10+30 TO 17+50			943		944	133			545				1617				
TOTALS	1	57	4652	1007	18594	1134	133	590	902	65	772	102	656	1324	45911	1963	64986

COST PARTICIPATION NOTES:
 (A) 100% ANOKA COUNTY S.P. 002-611-036 FUNDS.
 (D) 50% ANOKA COUNTY LOCAL FUNDS, 50% CITY OF COON RAPIDS LOCAL FUNDS.

			DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			TKDA	CLEARING AND GRUBBING, MISCELLANEOUS, AND REMOVALS		TABULATIONS	
			DRW: RRC	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/29/2020				STATE PROJ. NO. 002-611-036		SHEET NO. 13 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS								

DATE: 4/9/2021 TIME: 3:43:16 PM
FILENAME: c:\nkda\proj\tech\wise\hmv\angstad\dms01247\cd00261036_tbd.dgn

AGGREGATE, CONCRETE, AND BITUMINOUS																	TAB D						
STATION	LOCATION	AGGREGATE BASE (CV) CLASS 5			DOWEL BAR	CONCRETE PAVEMENT 8.0"	SUPPLEMENTAL PAVEMENT REINFORCEMENT	DRILL & GROUT REINF BAR (EPOXY COATED) (1)	BITUMINOUS MATERIAL FOR TACK COAT (2)			TYPE SP 9.5 WEARING COURSE MIX (2,C) (SPWEA230C)		TYPE SP 9.5 WEARING COURSE MIX (3,C) (SPWEA340C)	TYPE SP 12.5 WEARING COURSE MIX (4,F) (SPWEB440F)	TYPE SP 12.5 NON WEAR COURSE MIX (4,B) (SPNWB430B)	EXPANSION JOINTS, DESIGN E8H	BRIDGE APPROACH PANELS					
		CU YD							EACH	SQ YD	POUND	EACH	GALLON			TON			TON	TON	LIN FT	SQ YD	
		(A)	(C)	(D)									(A)	(A)	(A)	(A)			(C)	(D)			(A)
CSAH 1 NB																							
33+78 TO 47+21	LT & RT	2242	51						1430	6			15	230	2169		1760						
CSAH 11 EB																							
101+00 TO 112+50	LT & RT	1935	104						987	66			173	408	1345		1090		182	892			
112+50 TO 126+00	LT & RT	5003	59		880	4336	240	23	2587	38		129	98	4572		2477							
126+00 TO 137+62	LT & RT	2198	52						1306	25			65		2429		1480						
CO. RD. 3 NB																							
300+00 TO 304+50	LT & RT	212							127						205		167						
NORWAY ST.																							
6+34 TO 10+30	LT & RT	1		344							257				337		234						
10+30 TO 17+50	LT & RT	1		858							622				847		552						
CO. RD. 3 SB																							
404+59 TO 411+20	LT & RT	1		264							164				216		196						
TOTALS		11593	266	1466	880	4336	240	23	6437	135	1043	129	351	638	10720	1400	6974	982	182	892			

NOTES:
 (1) NO. 8 EPOXY COATED REINFORCEMENT BARS, 18" LONG.
 (2) QUANTITY BASED ON 0.07 GAL/SQ YD.

AGGREGATE, CONCRETE, AND BITUMINOUS																	TAB D													
STATION	LOCATION	4" CONCRETE WALK		6" CONCRETE WALK		CONCRETE CURB & GUTTER DESIGN B424	CONCRETE CURB & GUTTER DESIGN B612	CONCRETE CURB & GUTTER DESIGN B618	CONCRETE CURB & GUTTER DESIGN B618 (MOD)	CONCRETE CURB & GUTTER DESIGN B624			CONCRETE CURB & GUTTER DESIGN D418	CONCRETE CURB DESIGN B4	CONCRETE CURB DESIGN B6	6" CONCRETE DRIVEWAY PAVEMENT	8" CONCRETE DRIVEWAY PAVEMENT	CONCRETE GUTTER DESIGN SPECIAL (3)	CONCRETE CURB DESIGN V											
		SQ FT		SQ FT						LIN FT	LIN FT	LIN FT								LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	SQ YD	SQ YD	LIN FT	LIN FT
		(A)	(C)	(A)	(C)																									
CSAH 1 NB																														
33+78 TO 47+21	LT & RT	1199	3017	1575	407	271		615		143	1400	1998				68	9													
CSAH 11 EB																														
101+00 TO 112+50	LT & RT	9670						1574		1673	33	1672		40		10	405													
112+50 TO 126+00	LT & RT	28739		2391			128	2925		2488	1455	2633		204	163	20	319		225											
126+00 TO 137+62	LT & RT	7652	745	1167	271		44	141		1645		1617					79		130											
CO. RD. 3 NB																														
300+00 TO 304+50	LT & RT	1067		225								698				14														
NORWAY ST.																														
6+34 TO 10+30	LT & RT							800											16											
10+30 TO 17+50	LT & RT							2138											26											
CO. RD. 3 SB																														
404+59 TO 411+20	LT & RT											551																		
TOTALS		58327	3762	5358	678	271	172	5255	2938	5949	2888	8618	551	40	204	163	112	812	42	225	130									

NOTES:
 (3) VALLEY GUTTER VG 220, SEE DETAIL ON SHEET 42.

COST PARTICIPATION NOTES:
 (A) 100% ANOKA COUNTY S.P. 002-611-036 FUNDS.
 (B) 50% ANOKA COUNTY S.P. 002-611-036 FUNDS, 50% CITY OF COON RAPIDS S.P. 114-020-055 FUNDS.
 (C) 100% CITY OF COON RAPIDS S.P. 114-020-055 FUNDS.
 (D) 50% ANOKA COUNTY LOCAL FUND , 50% CITY OF COON RAPIDS LOCAL FUNDS.

			DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		AGGREGATE, CONCRETE, AND BITUMINOUS	TABULATIONS
1	4/1/21	SAO	ADDED PAY ITEM CONCRETE GUTTER DESIGN SPECIAL	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 4/9/2021		STATE PROJ. NO. 002-611-036	SHEET NO. 14R OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: SAO			

TEMPORARY DRAINAGE, EROSION & SEDIMENT CONTROL **TAB E**

ALIGNMENT	STATION		SALVAGE CASTING	REMOVE SEWER PIPE (STORM)	CONNECT TO EXISTING STORM SEWER	15" PIPE SEWER (1)	INSTALL CASTING	CONNECT INTO EXISTING DRAINAGE STRUCTURE	STORM DRAIN INLET PROTECTION		CULVERT END CONTROLS		SILT FENCE, TYPE SD		SILT FENCE, TYPE MS		SILT FENCE, TYPE TB		TEMPORARY SLOPE DRAIN (2)	SEDIMENT CONTROL LOG TYPE COMPOST		TEMPORARY POLY COVERING (3)		RAPID STABILIZATION METHOD 3 (4)	
	FROM	TO							EACH (A)	LIN FT (A)	EACH (A)	LIN FT (A)	EACH (A)	EACH (A)	EACH (A)	EACH (D)	LIN FT (A)	EACH (A)		LIN FT (D)	LIN FT (A)	LIN FT (D)	LIN FT (A)	LIN FT (D)	LIN FT (A)
STAGE 1																									
CSAH 1 NB	33+78	47+21				82		1	11		1		82	406		79			50		4000		8.4		
CSAH 11 EB	101+00	112+50							9		1		549	1786		535		300	477		4000		17.4		
PRIOR TO STAGE 2A																									
BYPASS 1 AND 4									2																
BYPASS 2 AND 3			2				2		2																
CSAH 1 NB	33+78	47+21	2				2		4																
STAGE 2A																									
CSAH 1 NB	33+78	47+21							14											973				2.8	
STAGE 2B																									
CSAH 1 NB	33+78	47+21							13		2		149							489				0.6	
CSAH 11 EB	101+00	112+50											57							91				1.6	
CSAH 11 EB	112+50	126+00			1				32		1		533							1318	1000			14.5	
CSAH 11 EB	126+00	137+62							6											353				1.3	
NORWAY ST.	6+34	10+30								3	1										520			3.2	
NORWAY ST.	10+30	17+50							11		2			1045							1684	4000		11.7	
STAGE 3A																									
CSAH 11 EB	101+00	112+50							2											101				1.1	
CSAH 11 EB	112+50	126+00							20		1		485							1306	1000			13.1	
CSAH 11 EB	126+00	137+62							4											369				0.5	
STAGE 3B																									
CSAH 11 EB	112+50	126+00							4											148				0.9	
CO. RD. 3 NB	300+00	304+50																		155				0.4	
STAGE 4																									
CSAH 1 NB	33+78	47+21		82	4	224			8				576							144		1000		3.5	
CSAH 11 EB	101+00	112+50							5				1105							630		1000		16.8	
CSAH 11 EB	112+50	126+00							1															0.9	
STAGE 5																									
CSAH 1 NB	33+78	47+21		224																					
TOTALS			4	306	5	306	4	1	137	14	6	3	631	5097	1045	614	300	6604	2204	12000	4000	83.8	14.9		

- NOTES:**
- (1) CS, CP, PP, AND RC ARE ACCEPTABLE PIPE OPTIONS FOR TEMPORARY PIPE.
 - (2) SEE SHEET 167 FOR TEMPORARY SLOPE DRAIN DETAIL.
 - (3) TO BE USED FOR TEMPORARY COVERING OF SOIL STOCK PILE AREAS OR AS DIRECTED BY THE PROJECT ENGINEER.
 - (4) RAPID STABILIZATION QUANTITIES ARE BASED ON 2.0 TIMES THE AREA SHOWN ON THE EROSION CONTROL PLANS.
 - (5) FERTILIZER TYPE 3 (SLOW RELEASE), ANALYSIS 22-5-10 AT 350 LBS/ACRE FOR SEED AND 200 LBS/ACRE FOR SOD.
 - (6) FERTILIZER TYPE 4 (NATURAL BASED), ANALYSIS 17-10-7 AT 150 LBS/ACRE.
 - (7) QUANTITY BASED ON 3 TONS OF LIME FOR EACH ACRE SEEDED.
 - (8) QUANTITY BASED ON 2 ACRES OF MOWING FOR EACH ACRE SEEDED.
 - (9) QUANTITY BASED ON 0.5 ACRES OF SPRAYING FOR EACH ACRE SEEDED.
 - (10) RATE OF 0.5 GAL PER ACRE SPRAYED. 2,4-D AMINE LABELED FOR BOTH AQUATIC AND RIGHT OF WAY USE AND FORMULATED AT 3.8 LB ACID EQUIVALENT PER GALLON.
 - (11) SEED MIXTURE 25-131, FERTILIZER TYPE 3 (SLOW RELEASE) ANALYSIS 22-5-10 AT 350 LBS/ACRE, AND ROLLED EROSION PREVENTION CATEGORY 15 CAN BE USED AS AN ALTERNATIVE TO SODDING TYPE SALT TOLERANT AT NO ADDITIONAL COST TO THE OWNER WITH PROJECT ENGINEER APPROVAL.

COST PARTICIPATION NOTES:
 (A) 100% ANOKA COUNTY S.P. 002-611-036 FUNDS.
 (D) 50% ANOKA COUNTY LOCAL FUNDS, 50% CITY OF COON RAPIDS LOCAL FUNDS.

TURF ESTABLISHMENT **TAB F**

STATION	AGGREGATE BASE (CV) CLASS 5	RANDOM RIPRAP CLASS II	FILTER BERM TYPE 3	SOIL BED PREPARATION		MULCH MATERIAL TYPE 9	FERTILIZER TYPE 3 (5)		FERTILIZER TYPE 4 (6)		LIME (7)		SODDING TYPE SALT TOLERANT (11)	SEEDING		MOWING (8)		WEED SPRAYING (9)		WEED SPRAY MIXTURE (10)		SEED MIXTURE 25-121		SEED MIXTURE 25-131		SEED MIXTURE 33-261		SEED MIXTURE 35-221		HYDRAULIC REINFORCED FIBER MATRIX		ROLLED EROSION PREVENTION CATEGORY 10		ROLLED EROSION PREVENTION CATEGORY 20	
				ACRE (A)	ACRE (D)		POUND (A)	POUND (D)	POUND (A)	POUND (D)	TON (A)	TON (D)		SQ YD (A)	ACRE (A)	ACRE (D)	ACRE (A)	ACRE (D)	ACRE (A)	ACRE (D)	GALLON (A)	GALLON (D)	POUND (A)	POUND (D)	POUND (A)	POUND (D)	POUND (A)	POUND (D)	POUND (A)	POUND (D)	POUND (A)	POUND (D)	POUND (A)	POUND (D)	SQ YD (A)
CSAH 1 NB																																			
33+78 TO 47+21				1.1			216		82		3.3		1293	1.1	2.2	0.6		0.3					23		21		9		11		1807		1245		1379
CSAH 11 EB																																			
101+00 TO 112+50	203	407		2.7		99	870		59		8.1		1622	2.7	5.4	1.4		0.7				109		115		14				8939		1893			
112+50 TO 126+00				2.2			588		120		6.6		2901	2.2	4.4	1.1		0.6				7		269		11		19		5206		1398		2455	
126+00 TO 137+62				0.2			71				0.6		526	0.2	0.4	0.1		0.1						31					542						
CO. RD. 3 NB																																			
300+00 TO 304+50				0.1			7				0.3		116	0.1	0.2	0.1		0.1							2				22						
NORWAY ST.																																			
6+34 TO 10+30				0.4			137				1.2			0.4	0.8	0.2		0.1				6		66					1525						
10+30 TO 17+50			10	1.5			6	277	94		4.5		128	1.5	3.0	0.8		0.4			29		72		6	18		3078		696		2324			
TOTALS	203	407	10	6.3	1.9	99	1758	414	261	94	18.9	5.7	6586	6.3	1.9	12.6	3.8	3.3	1.0	1.8	0.5	139	35	438	138	34	6	30	18	16516	4603	4536	696	3834	2324

DATE: 11/24/2020 TIME: 9:45:14 PM FILENAME: c:\tkda\proj\techwise\fm\vangstad\dms01247\cd00261036_tbe.dgn

	DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	
	DRW: RJR	SIGNATURE: <i>Matthew A. Wassman</i>	
	CHK: MAW	LIC. NO. 26883 DATE: 11/24/2020	
NO.	DATE	BY	DESCRIPTION OF REVISIONS

TEMPORARY DRAINAGE, EROSION & SEDIMENT CONTROL, AND TURF ESTABLISHMENT	TABULATIONS
STATE PROJ. NO. 002-611-036	SHEET NO. 15 OF 416 SHEETS

DATE: 11/29/2020 TIME: 12:06:14 PM
 FILENAME: c:\kda\proj\tech\se\fm\vangstad\dms01247\cd00261036_tbf.dgn

PEDESTRIAN RAMPS					TAB J
ROADWAY	CORNER LOCATION	TRUNCATED DOMES			DRILL & GROUT REINF. BAR (EPOXY COATED) (1) EACH
		RECTANGULAR	RADIAL	(NUMBER) AND TYPE	
		SQ FT	SQ FT		
		(A)	(A)		
CSAH 11/CSAH 1	NW	24		(6)2X2	15
CSAH 11/CSAH 1	NE		25.3	(7) 49.3' R.	7
CSAH 11/CSAH 1	SW	36		(9)2X2	12
CSAH 11/CSAH 1	SE	12		(3)2X2	7
CSAH 11/CSAH 1	ISLAND	36		(9)2X2	9
CSAH 11/NORWAY ST.	NW	13		(2)2X2, 1(2X2.5)	6
CSAH 11/NORWAY ST.	NE		28.5	(8) 34.3' R.	8
CSAH 11/NORWAY ST.	SW		38.8	(10) 39.3' R.	7
CSAH 11/NORWAY ST.	SE		34.5	(9) 24.3' R.	10
CSAH 11/95TH LANE	NW	12		(3)2X2	6
CSAH 11/95TH LANE	NE		32.4	(9) 54.3' R.	6
CSAH 11/96TH AVENUE	NW	12		(3)2X2	6
CSAH 11/96TH AVENUE	NE		28.5	(8) 34.3' R.	6
CSAH 11/CO. RD. 3	NW	24		(6)2X2	22
CSAH 11/CO. RD. 3	NE	24		(6)2X2	18
CSAH 11/CO. RD. 3	SW	24		(6)2X2	22
CSAH 11/CO. RD. 3	SE		32.1	(9) 39.3' R.	14
CSAH 11 EB/DRIVEWAY	SW	10		(2) 2X2.5	6
CSAH 11 EB/DRIVEWAY	SE	10		(2) 2X2.5	6
CSAH 11 WB/DRIVEWAY	NW	9		(1)2X2, (1)2X2.5	6
CSAH 11 WB/DRIVEWAY	NE	9		(1)2X2, (1)2X2.5	6
CSAH 1/93RD AVE.	NW	12		(3)2X2	6
CSAH 1/93RD AVE.	NE		30.9	(8) 29.3' R.	6
CSAH 1/93RD AVE.	SW	12		(3)2X2	8
CSAH 1/93RD AVE.	SE		27.3	(7) 39.3' R.	6
CSAH 1/93RD AVE.	ISLAND	24		(6)2X2	6
CO. RD. 3/DRIVEWAY	NE	9		(1)2X2, (1)2X2.5	6
CO. RD. 3/DRIVEWAY	SE		26.8	(7) 24.3' R.	6
METRO TRANSIT PARK AND RIDE		112	86.3	(28)2X2, (21) 40.7' R.	80
TOTALS		424	391.4		329
		815.4			

NOTES:
 (1) NO. 4 EPOXY COATED REINFORCEMENT BARS, 12" LONG.

MAIL BOX SUPPORT			TAB K
STATION	LOCATION	REMOVE MAIL BOX SUPPORT (2)	MAIL BOX SUPPORT (3)
		EACH	EACH
		(A)	(A)
CSAH 11 EB			
118+52	RT	1	1
118+54	RT	1	1
118+56	RT	1	1
119+58	RT	1	1
120+96	RT	1	1
CSAH 11 WB			
215+41	LT	1	1
217+84	LT	1	1
220+91	LT	1	1
CO. RD. 3 NB			
301+22	RT	1	1
CSAH 1 SB			
75+08	LT	1	1
93RD AVE.			
33+20	LT	1	1
33+22	LT	1	1
93RD LANE			
5+05	LT	1	1
TOTALS		13	13

NOTES:
 (2) SALVAGING MAIL BOX IS INCIDENTAL.
 (3) INSTALLATION OF MAIL BOX IS INCIDENTAL.

COST PARTICIPATION NOTES:
 (A) 100% ANOKA COUNTY S.P. 002-611-036 FUNDS.

		DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			PEDESTRIAN RAMPS, AND MAIL BOX SUPPORT	TABULATIONS
		DRW: RRC	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/29/2020			STATE PROJ. NO. 002-611-036	SHEET NO. 16 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS				

DATE: 11/24/2020 TIME: 9:45:32 PM FILENAME: pw:\kda-pw-beinfley.com\kda-pw-01\Documents\Project\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_uta.dgn

GENERAL NOTES:

- ALL UTILITY WORK SHOWN SHALL BE DONE BY OTHERS UNLESS OTHERWISE NOTED.
- THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".
- SOME UTILITIES MAY HAVE RELOCATED THEIR UTILITIES PRIOR TO CONSTRUCTION.
- ALL POWER LINES ARE DISTRIBUTION UNLESS NOTED OTHERWISE.
- NOT ALL UTILITIES OUTSIDE OF CONSTRUCTION LIMITS ARE SHOWN.

UTILITIES

THE FOLLOWING LIST SHOWS THE UTILITY COMPANIES WITHIN THE PROJECT AREA AND THEIR ABBREVIATIONS:

- BNSF = BURLINGTON NORTHERN SANTA FE RAILWAY
- CENTERPOINT = CENTERPOINT ENERGY MINNESOTA GAS
- CENTURYLINK = CENTURYLINK
- CITY = CITY OF COON RAPIDS
- COMCAST = COMCAST CABLE LLC
- CONNEXUS = CONNEXUS ENERGY
- COUNTY = ANOKA COUNTY
- GRE = GREAT RIVER ENERGY
- MCES = METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES
- MTC = METRO TRANSIT
- MNDOT = MINNESOTA DEPARTMENT OF TRANSPORTATION
- NNG = NORTHERN NATURAL GAS COMPANY
- XCEL = XCEL ENERGY
- ZAYO = ZAYO GROUP LLC

UTILITY ABBREVIATIONS

- ANC = ANCHOR
- APR = APRON
- CB = CATCH BASIN
- F/O-BUR = BURIED FIBER OPTIC CABLE
- GAS = GAS MAIN
- GV = GATE VALVE
- HH = HAND HOLE
- HYD = HYDRANT
- LGT = BURIED LIGHTING
- LP = LIGHT POLE
- MH = MANHOLE
- OHP = OVERHEAD POWER LINE
- OHU = OVERHEAD UTILITY
- P-BUR = BURIED POWER LINE
- PED = PEDESTAL
- POLE = UTILITY POLE
- SAN = SANITARY SEWER
- SIG-BUR = BURIED SIGNAL LINE
- SIG-INT = BURIED SIGNAL INTERCONNECT LINE
- T-BUR = BURIED TELEPHONE LINE
- T-OH = TELEPHONE OVERHEAD
- VAULT = VAULT
- WM = WATERMAIN

INPLACE UTILITY TABULATION - GAS								
ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 1 NB	35+12 - 40+14	83' LT - 93' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	39+65 - 40+32	318' LT - 185' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	40+13 - 40+14	23' RT - 78' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	40+14	93' LT - 78' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	40+14	78' LT	GAS VALVE	CENTERPOINT	X			LOWER TOP
CSAH 1 NB	40+14 - 42+71	93' LT - 87' LT	BURIED GAS LINE	CENTERPOINT			X	

INPLACE UTILITY TABULATION - GAS (CONTINUED)								
ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 1 NB	40+32 - 41+17	185' LT - 176' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	41+17 - 41+41	176' LT - 221' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	41+41 - 42+41	221' LT - 168' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	42+41 - 42+65	168' LT - 135' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	42+65 - 42+71	135' LT - 87' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	42+71 - 45+27	87' LT - 82' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	45+27 - 46+56	82' LT - 94' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 1 NB	46+56 - 48+36	94' LT - 82' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	99+80 - 101+81	219' RT - 176' RT	BURIED GAS LINE	CENTERPOINT		X		LOWER FOR POND
CSAH 11 EB	101+81 - 102+69	176' RT - 172' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	102+69 - 104+82	172' RT - 236' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	104+82 - 107+20	236' RT - 232' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	107+20	232' RT	GAS VALVE	CENTERPOINT			X	
CSAH 11 EB	107+20 - 107+36	232' RT - 203' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	107+29 - 110+47	629' RT - 353' LT	24" HP GAS LINE	CENTERPOINT			X	
CSAH 11 EB	107+36 - 108+48	203' RT - 205' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	107+40 - 110+64	633' RT - 364' LT	20" HP GAS LINE	CENTERPOINT			X	
CSAH 11 EB	108+48 - 110+73	205' RT - 122' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	110+53	29' RT	GAS METER	CENTERPOINT		X		
CSAH 11 EB	110+53 - 110+58	29' RT - 98' RT	BURIED GAS LINE	CENTERPOINT		X		
CSAH 11 EB	110+58 - 110+73	98' RT - 122' RT	BURIED GAS LINE	CENTERPOINT		X		
CSAH 11 EB	110+73 - 113+41	122' RT - 1' LT	BURIED GAS LINE	CENTERPOINT		X		
CSAH 11 EB	113+41 - 115+34	1' LT - 362' RT	BURIED GAS LINE	CENTERPOINT			X	OUT OF SERVICE
CSAH 11 EB	113+41 - 115+95	1' LT - 57' LT	BURIED GAS LINE	CENTERPOINT		X		
CSAH 11 EB	115+75 - 116+05	74' RT - 33' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	115+88	284' RT	GAS METER	CENTERPOINT			X	
CSAH 11 EB	115+88 - 115+75	284' RT - 74' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	115+95 - 118+22	57' RT - 64' LT	BURIED GAS LINE	CENTERPOINT		X		
CSAH 11 EB	118+22	64' LT - 67' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	118+22	67' RT	GAS METER	CENTERPOINT			X	
CSAH 11 EB	118+22 - 119+82	64' LT - 63' LT	BURIED GAS LINE	CENTERPOINT		X		
CSAH 11 EB	119+82 - 120+05	63' LT - 85' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	119+82 - 121+75	63' LT - 67' LT	BURIED GAS LINE	CENTERPOINT		X		
CSAH 11 EB	121+75 - 123+27	67' LT - 88' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	123+27 - 123+07	88' LT - 141' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	123+27 - 124+62	88' LT - 110' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	124+62 - 126+48	110' LT - 120' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	126+48 - 126+49	120' LT - 134' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	126+48 - 129+14	120' LT - 108' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	127+21 - 128+36	752' LT - 814' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	127+21 - 129+40	752' LT - 133' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	128+23 - 129+05	843' LT - 917' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	128+36 - 128+23	815' LT - 845' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	129+05 - 128+23	917' LT - 962' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	129+14 - 129+40	108' LT - 133' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	129+32 - 129+53	3' LT - 11' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	129+53 - 129+55	11' RT - 50' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	129+55 - 129+84	50' RT - 744' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	129+55 - 136+84	50' RT - 29' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	130+32 - 130+60	405' LT - 219' RT	BURIED GAS LINE	NNG			X	
CSAH 11 EB	130+60 - 131+10	219' RT - 685' RT	BURIED GAS LINE	NNG			X	
CSAH 11 EB	133+02 - 133+47	72' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	133+47 - 134+80	72' LT - 63' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	134+80 - 136+82	63' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	136+82 - 136+84	63' LT - 29' RT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	136+82 - 138+33	63' LT	BURIED GAS LINE	CENTERPOINT			X	
CSAH 11 EB	136+84	29' RT - 66' LT	BURIED GAS LINE	CENTERPOINT			X	

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: RRC			
CHK: RSQ	SIGNATURE: <i>Ronald S. Quanbeck</i> LIC. NO. 19396 DATE: 11/24/2020		
NO.	DATE	BY	DESCRIPTION OF REVISIONS




DATE: 12/11/2020 TIME: 2:43:08 PM
 FILENAME: p:\v\kda-pw-bentley.com\fkda-pw-01\Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_urb.dgn

INPLACE UTILITY TABULATION - TRAFFIC SIGNAL								
ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION ③			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 1 NB	34+91	26' RT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	34+91 - 37+70	26' RT - 39' RT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	37+63 - 38+16	29' LT - 28' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	37+70	39' RT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	37+70 - 38+17	39' RT - 27' RT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	36+18	28' LT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	38+16 - 38+17	28' LT - 27' RT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	38+16 - 38+19	28' LT - 70' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	38+17	27' RT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	38+19 - 38+37	70' LT - 75' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	38+19 - 38+38	70' LT - 89' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	38+19 - 38+57	70' LT - 86' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	38+37	75' LT	SIGNAL POLE	MNDOT		X		①②
CSAH 1 NB	38+38	89' LT	SIGNAL CABINET	MNDOT		X		②
CSAH 1 NB	38+38 - 38+41	89' LT - 91' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	38+41	91' LT	SIGNAL CABINET	MNDOT		X		②
CSAH 1 NB	38+19 - 38+57	70' LT - 86' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	38+41 - 39+01	91' LT - 71' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	38+42	32' RT	SIGNAL POLE	MNDOT		X		②
CSAH 1 NB	38+82	44' RT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	38+82 - 39+60	44' RT - 35' RT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	38+97	76' LT	SIGNAL POLE	MNDOT		X		②
CSAH 1 NB	38+97 - 39+01	76' LT - 70' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	39+01	70' LT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	39+01 - 39+30	70' LT - 17' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	39+01 - 39+73	70' LT - 84' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	39+30	17' LT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	39+30 - 39+60	17' LT - 35' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	39+30 - 39+70	17' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	39+59	174' RT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	39+59 - 39+60	174' RT - 35' RT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	39+60	35' RT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	39+60 - 39+68	35' RT - 37' RT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	39+68	37' RT	SIGNAL POLE	MNDOT		X		①②
CSAH 1 NB	39+73	84' LT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	39+73 - 41+01	84' LT - 74' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	41+01	74' LT	HANDHOLE	MNDOT		X		②
CSAH 1 NB	41+01 - 42+14	74' LT - 71' LT	BURIED SIGNAL	MNDOT		X		②
CSAH 1 NB	42+80	72' LT	HANDHOLE	MNDOT		X		②
CSAH 11 EB	126+50	15' RT - 23' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	126+50	23' RT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	126+50 - 129+36	23' RT - 33' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+07	443' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	129+07 - 129+41	443' LT - 124' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+29	341' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	129+29* - 129+41	341' LT - 241' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+30	28' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	129+30 - 129+35	28' LT - 77' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+30 - 129+36	28' LT - 33' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+35	77' LT	SIGNAL POLE	ANOKA COUNTY		X		①②
CSAH 11 EB	129+35 - 129+41	77' LT - 124' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+36	33' RT	HANDHOLE	ANOKA COUNTY		X		②

INPLACE UTILITY TABULATION - TRAFFIC SIGNAL								
ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION ③			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 11 EB	129+36 - 129+43	33' RT - 40' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+36 - 129+58	33' RT - 57' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+41	124' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	129+41	124' LT - 241' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+41 - 130+09	124' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+41	241' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	129+41 - 129+46	241' LT - 138' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+41 - 129+46	124' LT - 138' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+43	40' RT	SIGNAL POLE	ANOKA COUNTY		X		①②
CSAH 11 EB	129+58	57' RT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	129+58	63' RT	SIGNAL POLE	ANOKA COUNTY		X		②
CSAH 11 EB	129+58	57' RT - 63' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	129+58 - 130+03	57' RT - 56' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+03	56' RT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	130+03 - 130+62	56' RT - 51' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+09	124' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	130+09 - 130+51	124' LT - 123' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+46 - 130+51	217' LT - 123' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+51	123' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	130+51 - 130+53	123' LT - 98' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+53	98' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	130+53 - 130+54	98' LT - 103' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	103+53 - 130+75	98' LT - 75' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+54	103' LT	SIGNAL POLE	ANOKA COUNTY		X		①②
CSAH 11 EB	130+62	51' RT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	130+62 - 130+71	51' RT - 414' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+62 - 130+83	51' RT - 22' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+64 - 130+71	414' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+66	85' LT	SIGNAL POLE	ANOKA COUNTY		X		②
CSAH 11 EB	130+66 - 130+75	85' LT - 75' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+75	75' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	130+75 - 130+79	75' LT - 16' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+75 - 132+16	75' LT - 73' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+79	16' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	130+79 - 130+83	16' LT - 22' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+81	26' RT	SIGNAL POLE	ANOKA COUNTY		X		①②
CSAH 11 EB	130+81 - 130+83	26' RT - 22' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+83	22' RT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	130+83 - 130+89	22' RT - 26' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+83 - 130+93	22' RT - 26' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+89	26' RT	SIGNAL CABINET	ANOKA COUNTY		X		②
CSAH 11 EB	130+89 - 130+93	26' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+93	26' RT	SIGNAL CABINET	ANOKA COUNTY		X		②
CSAH 11 EB	130+93 - 130+98	26' RT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	130+98	26' RT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	132+16	73' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	132+16 - 133+75	73' LT - 71' LT	BURIED SIGNAL	ANOKA COUNTY		X		②
CSAH 11 EB	133+75	71' LT	HANDHOLE	ANOKA COUNTY		X		②
CSAH 11 EB	133+75	71' LT - 24' LT	BURIED SIGNAL	ANOKA COUNTY		X		②

- SPECIFIC NOTES:**
 ① SEE LIGHTING PLAN.
 ② SEE SIGNAL PLANS.
 ③ CONTRACTOR TO PERFORM.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TRAFFIC SIGNALS		INPLACE UTILITY TABULATIONS	
DRW: RRC			STATE PROJ. NO. 002-611-036		SHEET NO. 18 OF 416 SHEETS	
CHK: RSQ			SIGNATURE: <i>Ronald S. Quanbeck</i>	LIC. NO. 19396	DATE: 12/11/2020	
NO.	DATE	BY	DESCRIPTION OF REVISIONS			

INPLACE UTILITY TABULATION - POWER

ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 11 EB	107+08 - 107+55	492' RT - 336' RT	P-BUR	BNSF			X	
CSAH 11 EB	107+14 - 107+55	318' RT - 336' RT	P-BUR	BNSF			X	
CSAH 11 EB	107+14 - 107+80	318' RT - 317' RT	P-BUR	BNSF		X		
CSAH 11 EB	107+23 - 107+82	301' RT - 312' RT	P-BUR	BNSF		X		
CSAH 11 EB	107+23	301' RT	SIGNAL POLE	BNSF		X		
CSAH 11 EB	107+29	302' RT	RR CROSSING ARM	BNSF		X		
CSAH 11 EB	107+55 - 107+66	336' RT - 323' RT	P-BUR	BNSF			X	
CSAH 11 EB	107+66	323' RT	TRANSFORMER	BNSF			X	
CSAH 11 EB	107+66 - 107+80	323' RT - 318' RT	P-BUR	BNSF			X	
CSAH 11 EB	107+80	318' RT	TRANSFORMER	BNSF	X			
CSAH 11 EB	107+82 - 108+00	312' RT - 212' RT	P-BUR	BNSF	X			
CSAH 11 EB	107+82 - 109+03	312' RT - 111' LT	P-BUR	BNSF			X	
CSAH 11 EB	107+84	316' RT	SIGNAL CABINET	BNSF		X		
CSAH 11 EB	108+00	212' RT	RR CROSSING ARM	BNSF		X		
CSAH 11 EB	108+06	214' RT	SIGNAL POLE	BNSF		X		
CSAH 1 NB	40+10	214' LT	POWER POLE	XCEL			X	
CSAH 1 NB	40+10 - 40+19	214' LT - 94' LT	OVERHEAD POWER	XCEL			X	
CSAH 1 NB	40+19	94' LT	POWER POLE W/GUY	XCEL			X	
CSAH 1 NB	40+19 - 40+38	94' LT - 131' RT	OVERHEAD POWER	XCEL			X	
CSAH 1 NB	40+19 - 41+45	94' LT - 228' LT	OVERHEAD POWER	XCEL			X	
CSAH 1 NB	40+38	131' RT	POWER POLE W/GUY	XCEL			X	
CSAH 1 NB	40+38 - 42+37	131' RT - 55' RT	OVERHEAD POWER	XCEL		X		
CSAH 1 NB	41+45	228' LT	POWER POLE W/GUY	XCEL			X	
CSAH 1 NB	42+37	55' RT	POWER POLE W/GUY	XCEL		X		
CSAH 1 NB	42+37 - 43+83	55' RT - 87' LT	OVERHEAD POWER	XCEL		X		
CSAH 1 NB	42+37 - 43+94	55' RT	OVERHEAD POWER	XCEL		X		
CSAH 1 NB	42+74	87' LT	LIGHT POLE	XCEL		X		②
CSAH 1 NB	42+74 - 43+83	87' LT	OVERHEAD POWER	XCEL			X	
CSAH 1 NB	43+83	87' LT	LIGHT POLE W/GUY	XCEL			X	②
CSAH 1 NB	43+94	55' RT	POWER POLE	XCEL			X	
CSAH 1 NB	43+94 - 45+55	55' RT - 46' RT	OVERHEAD POWER	XCEL			X	
CSAH 1 NB	45+55	46' RT	POWER POLE	XCEL			X	
CSAH 1 NB	45+55 - 46+12	46' RT - 43' RT	OVERHEAD POWER	XCEL			X	
CSAH 1 NB	45+57	143' LT	POWER POLE	XCEL			X	
CSAH 1 NB	45+57 - 46+12	143' LT - 43' RT	OVERHEAD POWER	XCEL			X	
CSAH 1 NB	46+12	43' RT	POWER POLE	XCEL			X	
CSAH 1 NB	46+12 - 46+51	43' RT - 93' LT	OVERHEAD POWER	XCEL			X	
CSAH 1 NB	46+12 - 48+07	43' RT - 33' RT	OVERHEAD POWER	XCEL			X	
CSAH 1 NB	46+51	93' LT	POWER POLE	XCEL			X	②
CSAH 1 NB	48+07	33' RT	POWER POLE	XCEL			X	
CSAH 11 EB	99+70 - 100+89	203' RT - 200' RT	OVERHEAD POWER	XCEL			X	
CSAH 11 EB	100+89 - 100+93	200' RT - 420' RT	OVERHEAD POWER	XCEL			X	
CSAH 11 EB	100+89 - 101+83	200' RT - 189' RT	P-BUR	XCEL			X	
CSAH 11 EB	100+93	420' RT	POWER POLE W/GUY	XCEL			X	
CSAH 11 EB	100+93 - 102+25	420' RT - 358' RT	OVERHEAD POWER	XCEL			X	
CSAH 11 EB	101+83	189' RT	TRANSFORMER	XCEL			X	
CSAH 11 EB	101+83 - 103+47	189' RT - 194' RT	P-BUR	XCEL			X	
CSAH 11 EB	102+25	358' RT	POWER POLE W/GUYS	XCEL			X	
CSAH 11 EB	102+25 - 104+22	358' RT - 329' RT	OVERHEAD POWER	XCEL			X	
CSAH 11 EB	103+95 - 104+26	167' RT - 224' RT	P-BUR	XCEL			X	
CSAH 11 EB	104+22	329' RT	PP W/ LIGHT W/GUYS	XCEL			X	②


INPLACE UTILITY TABULATION - POWER (CONTINUED)

ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 11 EB	104+22 - 104+26	329' RT - 224' RT	OVERHEAD POWER	XCEL			X	
CSAH 11 EB	104+22 - 105+57	329' RT - 324' RT	OVERHEAD POWER	XCEL			X	
CSAH 11 EB	104+26	224' RT	POWER POLE	XCEL			X	
CSAH 11 EB	104+52	913' RT	POWER LINE TOWER	XCEL			X	345kV
CSAH 11 EB	104+52 - 107+19	913' RT - 64' RT	345kV OVERHEAD POWER	XCEL			X	345kV
CSAH 11 EB	105+57	324' RT	POWER POLE W/GUY	XCEL			X	
CSAH 11 EB	105+57 - 106+86	324' RT - 312' RT	OVERHEAD POWER	XCEL			X	
CSAH 11 EB	106+86	312' RT	POWER POLE W/ LIGHT	XCEL			X	②
CSAH 11 EB	106+86 - 107+14	312' RT - 318' RT	OVERHEAD POWER	XCEL			X	
CSAH 11 EB	107+14	318' RT	POWER POLE	XCEL			X	
CSAH 11 EB	107+14 - 107+80	318' RT - 316' RT	P-BUR	XCEL			X	
CSAH 11 EB	107+19	64' RT	POWER LINE TOWER	XCEL			X	345kV
CSAH 11 EB	107+19 - 109+98	64' RT - 811' LT	345kV OVERHEAD POWER	XCEL			X	345kV
CSAH 11 EB	109+98	811' LT	POWER LINE TOWER	XCEL			X	345kV
CSAH 11 EB	107+10	827' RT	POWER POLE W/GUY	GREAT RIVER			X	69kV
CSAH 11 EB	107+10 - 108+19	827' RT - 427' RT	69kV OVERHEAD POWER	GREAT RIVER			X	69kV
CSAH 11 EB	108+19	427' RT	POWER POLE	GREAT RIVER		X		69kV RAISE
CSAH 11 EB	108+19 - 109+08	427' RT - 162' RT	69kV OVERHEAD POWER	GREAT RIVER		X		69kV RAISE
CSAH 11 EB	109+08	162' RT	POWER POLE	GREAT RIVER		X		69kV RAISE
CSAH 11 EB	109+08 - 109+82	162' RT - 67' LT	69kV OVERHEAD POWER	GREAT RIVER		X		69kV RAISE
CSAH 11 EB	109+82	67' LT	POWER POLE	GREAT RIVER		X		69kV RAISE
CSAH 11 EB	109+82 - 110+56	67' LT - 292' LT	69kV OVERHEAD POWER	GREAT RIVER		X		69kV RAISE
CSAH 11 EB	110+56	292' LT	POWER POLE	GREAT RIVER		X		69kV RAISE
CSAH 11 EB	107+10 - 108+19	827' RT - 427' RT	OVERHEAD POWER	CONNEXUS		X		①
CSAH 11 EB	108+19 - 109+08	427' RT - 162' RT	OVERHEAD POWER	CONNEXUS		X		①
CSAH 11 EB	109+08 - 109+82	162' RT - 67' LT	OVERHEAD POWER	CONNEXUS		X		①
CSAH 11 EB	109+08 - 109+98	162' RT - 231' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	109+19 - 109+26	151' RT - 120' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	109+19 - 109+35	151' RT - 161' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	109+27	259' RT	POWER POLE W/GUY	CONNEXUS		X		
CSAH 11 EB	109+27 - 109+98	259' RT - 231' RT	OVERHEAD GUY	CONNEXUS		X		
CSAH 11 EB	109+35 - 110+60	161' RT - 115' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	109+82 - 110+56	67' LT - 292' LT	OVERHEAD POWER	CONNEXUS		X		①
CSAH 11 EB	109+98	231' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	109+98 - 110+32	231' RT - 30' LT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	109+98 - 111+66	231' RT - 168' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	110+32	30' LT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	110+56 - 110+79	292' LT - 368' LT	OVERHEAD POWER	CONNEXUS			X	
CSAH 11 EB	110+60 - 111+07	115' RT - 196' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	111+07 - 112+22	196' RT - 145' RT	P-BUR	CONNEXUS		X		
CSAH 11 EB	111+66	168' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	111+66 - 112+23	168' RT - 145' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	112+23	145' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	112+23 - 112+79	145' RT - 120' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	112+79	120' RT	POWER POLE W/GUY	CONNEXUS		X		②
CSAH 11 EB	112+79 - 114+51	120' RT - 50' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	114+28	29' LT	POWER POLE W/GUY	CONNEXUS		X		
CSAH 11 EB	114+28 - 114+51	29' LT - 50' RT	OVERHEAD GUY	CONNEXUS		X		
CSAH 11 EB	114+51	50' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	114+51 - 116+15	50' RT - 24' RT	OVERHEAD POWER	CONNEXUS		X		

SPECIFIC NOTES:

- ① LOCATED ON GREAT RIVER ENERGY POLE.
- ② SEE LIGHTING PLAN.

DATE: 11/24/2020 TIME: 9:45:44 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-01\Documents\Project\AnokaCounty\TO_30000_04_Production\OL_CAD\Highway\Sheets\cd00261036_util.dgn

DES: TJV	DRW: RRC	CHK: RSQ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				POWER
SIGNATURE: <i>Ronald S. Quanbeck</i>			LIC. NO. 19396 DATE: 11/24/2020			INPLACE UTILITY TABULATIONS	
NO. DATE BY DESCRIPTION OF REVISIONS						STATE PROJ. NO. 002-611-036 SHEET NO. 19 OF 416 SHEETS	

DATE: 11/24/2020 TIME: 9:45:56 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-01\Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_1.rtd.dgn

INPLACE UTILITY TABULATION - POWER (CONTINUED)								
ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 11 EB	115+11 - 115+72	358' LT - 60' LT	P-BUR	CONNEXUS	X			LOWER FOR STM XING
CSAH 11 EB	115+72 - 117+02	60' LT - 68' LT	P-BUR	CONNEXUS		X		
CSAH 11 EB	116+08	59' LT	POWER POLE W/GUY	CONNEXUS			X	
CSAH 11 EB	116+08 - 116+15	59' LT - 24' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	116+15	24' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	116+15 - 117+32	24' RT - 18' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	117+19 - 117+26	158' LT - 63' LT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	117+26	63' LT	POWER POLE W/GUY	CONNEXUS		X		
CSAH 11 EB	117+26 - 117+32	63' LT - 18' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	117+32	18' RT	POWER POLE W/GUY	CONNEXUS		X		①
CSAH 11 EB	117+32 - 119+11	18' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	119+11	18' RT	POWER POLE W/GUY	CONNEXUS		X		①
CSAH 11 EB	119+11 - 120+96	18' RT - 17' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	120+03 - 120+13	24' RT - 83' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	120+82 - 120+96	184' LT - 17' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	120+96	17' RT	POWER POLE W/GUY	CONNEXUS		X		
CSAH 11 EB	120+96 - 122+66	17' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	120+96 - 121+49	17' RT - 22' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	121+49 - 121+69	22' RT - 164' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	122+66	17' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	122+66 - 124+29	17' RT - 18' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	123+34	139' LT	TRANSFORMER	CONNEXUS		X		
CSAH 11 EB	123+34 - 123+49	139' LT - 73' LT	P-BUR	CONNEXUS			X	
CSAH 11 EB	123+49 - 123+92	73' LT - 74' LT	P-BUR	CONNEXUS			X	
CSAH 11 EB	123+88 - 123+92	37' RT - 74' LT	P-BUR	CONNEXUS			X	
CSAH 11 EB	123+88	37' RT	TRANSFORMER	CONNEXUS			X	
CSAH 11 EB	124+29	18' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	124+29 - 126+02	18' RT - 22' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	125+85	81' LT	POWER POLE W/GUY	CONNEXUS		X		
CSAH 11 EB	125+85 - 126+02	81' LT - 22' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	125+85 - 126+35	81' LT - 149' LT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	126+02	22' RT	POWER POLE W/ LIGHT	CONNEXUS		X		①
CSAH 11 EB	126+02 - 126+34	22' RT - 217' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	126+02 - 127+79	22' RT - 29' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	126+34	217' RT	POWER POLE W/GUY	CONNEXUS			X	
CSAH 11 EB	127+79	29' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	127+79 - 127+83	29' RT - 166' LT	P-BUR	CONNEXUS			X	
CSAH 11 EB	127+79 - 129+20	29' RT - 40' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	129+06 - 131+67	85' LT - 79' LT	P-BUR	CONNEXUS			X	
CSAH 11 EB	129+20	40' RT	POWER POLE W/GUY	CONNEXUS		X		
CSAH 11 EB	129+20 - 130+76	40' RT - 32' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	130+76	40' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	130+76 - 130+89	40' RT - 26' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	130+76 - 131+07	40' RT - 924' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	130+76 - 131+82	40' RT - 26' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	131+66	29' RT	TRANSFORMER	CONNEXUS			X	
CSAH 11 EB	131+66 - 131+67	29' RT - 79' LT	P-BUR	CONNEXUS			X	
CSAH 11 EB	131+71 - 131+73	79' LT - 28' RT	P-BUR	CONNEXUS			X	
CSAH 11 EB	131+71 - 133+75	79' LT - 77' LT	P-BUR	CONNEXUS			X	
CSAH 11 EB	131+73	28' RT	TRANSFORMER	CONNEXUS			X	
CSAH 11 EB	131+82	26' RT	POWER POLE	CONNEXUS			X	
CSAH 11 EB	131+82 - 133+59	26' RT - 18' RT	OVERHEAD POWER	CONNEXUS			X	
CSAH 11 EB	133+59	18' RT	POWER POLE	CONNEXUS			X	
CSAH 11 EB	133+59 - 133+62	18' RT - 74' LT	OVERHEAD GUY	CONNEXUS		X		

INPLACE UTILITY TABULATION - POWER (CONTINUED)								
ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 11 EB	133+59 - 135+95	18' RT - 19' RT	OVERHEAD POWER	CONNEXUS			X	
CSAH 11 EB	133+62	74' LT	POWER POLE W/GUY	CONNEXUS		X		
CSAH 11 EB	135+95	19' RT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	135+95 - 138+22	19' RT - 15' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	136+43	145' LT	POWER POLE W/GUY	CONNEXUS		X		
CSAH 11 EB	136+43 - 137+16	145' LT - 78' LT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	136+58 - 137+16	75' LT - 78' LT	P-BUR	CONNEXUS		X		
CSAH 11 EB	137+16	78' LT	POWER POLE	CONNEXUS		X		
CSAH 11 EB	137+16 - 138+21	78' LT - 19' RT	OVERHEAD POWER	CONNEXUS		X		
CSAH 11 EB	109+68	294' RT	LIGHT POLE	MTC			X	
CSAH 11 EB	109+68 - 110+74	294' RT - 226' RT	P-BUR	MTC			X	
CSAH 11 EB	110+74	226' RT	LIGHT POLE	MTC		X		①②
95TH AVE	14+05	42' RT	LIGHT POLE	PRIVATE			X	
NORWAY ST	8+46	47' LT	POWER POLE	PRIVATE			X	
NORWAY ST	9+43	49' LT	POWER POLE	PRIVATE		X		①
NORWAY ST	10+22	32' LT	LIGHT POLE	PRIVATE		X		①
NORWAY ST	10+77	47' LT	LIGHT POLE	PRIVATE		X		①
NORWAY ST	11+61	3' LT	LIGHT POLE	PRIVATE		X		①
NORWAY ST	12+52	38' LT	LIGHT POLE	PRIVATE			X	

SPECIFIC NOTES:

- ① SEE LIGHTING PLAN.
- ② CONTRACTOR TO PERFORM.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: RRC	
CHK: RSQ	SIGNATURE: <i>Ronald S. Quanbeck</i> LIC. NO. 19396 DATE: 11/24/2020



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/24/2020 TIME: 9:46:02 PM FILENAME: pw:\kda-pw-bentley.com\ifkda-pw-ON\Documents\Projects\AnokaCounty\7030000_04_Production\01_CAD\Highway\Sheets\cd00261036_1rfe.dgn

INPLACE UTILITY TABULATION - COMMUNICATIONS OVERHEAD

ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 1 NB	38+18 - 40+38	150' RT - 133' RT	TELEPHONE OVERHEAD	COMCAST			X	①
CSAH 1 NB	40+10 - 40+19	214' LT - 94' LT	TELEPHONE OVERHEAD	COMCAST			X	①
CSAH 1 NB	40+19 - 40+38	94' LT - 131' RT	TELEPHONE OVERHEAD	COMCAST			X	①
CSAH 1 NB	40+19 - 41+45	94' LT - 228' LT	TELEPHONE OVERHEAD	COMCAST			X	①
CSAH 1 NB	40+38 - 42+37	131' RT - 55' RT	TELEPHONE OVERHEAD	COMCAST		X		①
CSAH 1 NB	42+37 - 43+94	55' RT	TELEPHONE OVERHEAD	COMCAST		X		①
CSAH 1 NB	43+94 - 45+55	55' RT - 46' RT	TELEPHONE OVERHEAD	COMCAST			X	①
CSAH 1 NB	45+55 - 46+12	46' RT - 43' RT	TELEPHONE OVERHEAD	COMCAST			X	①
CSAH 1 NB	46+12 - 48+07	43' RT - 33' RT	TELEPHONE OVERHEAD	COMCAST			X	①
CSAH 1 NB	38+18 - 40+38	150' RT - 133' RT	TELEPHONE OVERHEAD	ZAYO			X	①
CSAH 1 NB	40+38 - 42+37	131' RT - 55' RT	TELEPHONE OVERHEAD	ZAYO		X		①
CSAH 1 NB	42+37 - 43+94	55' RT	TELEPHONE OVERHEAD	ZAYO		X		①
CSAH 1 NB	43+94 - 45+55	55' RT - 46' RT	TELEPHONE OVERHEAD	ZAYO			X	①
CSAH 1 NB	45+55 - 46+12	46' RT - 43' RT	TELEPHONE OVERHEAD	ZAYO			X	①
CSAH 1 NB	46+12 - 48+07	43' RT - 33' RT	TELEPHONE OVERHEAD	ZAYO			X	①
CSAH 11 EB	117+32 - 119+11	18' RT	FIBER OPTIC OVERHEAD	COMCAST		X		②
CSAH 11 EB	119+11 - 120+96	18' RT - 17' RT	FIBER OPTIC OVERHEAD	COMCAST		X		②
CSAH 11 EB	120+96 - 122+66	17' RT	FIBER OPTIC OVERHEAD	COMCAST		X		②
CSAH 11 EB	122+96 - 124+29	17' - 18' RT	FIBER OPTIC OVERHEAD	COMCAST		X		②
CSAH 11 EB	124+29 - 126+02	18' RT - 22' RT	FIBER OPTIC OVERHEAD	COMCAST		X		②
CSAH 11 EB	126+02 - 127+79	22' RT - 29' RT	TELEPHONE OVERHEAD	COMCAST		X		②
CSAH 11 EB	127+79 - 129+20	29' RT - 40' RT	TELEPHONE OVERHEAD	COMCAST		X		②
CSAH 11 EB	129+20 - 130+76	40' RT - 32' RT	TELEPHONE OVERHEAD	COMCAST		X		②
CSAH 11 EB	130+76 - 131+82	32' RT - 26' RT	TELEPHONE OVERHEAD	COMCAST		X		②
CSAH 11 EB	131+82 - 133+59	26' RT - 18' RT	TELEPHONE OVERHEAD	COMCAST			X	②
CSAH 11 EB	133+59 - 135+95	18' RT - 19' RT	TELEPHONE OVERHEAD	COMCAST			X	②
CSAH 11 EB	135+95 - 138+21	19' RT	TELEPHONE OVERHEAD	COMCAST			X	②
CSAH 11 EB	109+99 - 111+66	231' RT - 168' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	111+66 - 112+23	168' RT - 145' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	112+23 - 112+79	145' RT - 120' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	112+79 - 114+51	120' RT - 50' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	114+51 - 116+15	50' RT - 24' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	116+15 - 117+32	24' RT - 18' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	117+32 - 119+11	18' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	119+11 - 120+96	18' RT - 17' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	120+96 - 122+66	17' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	122+66 - 124+29	17' RT - 18' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	124+29 - 126+02	18' RT - 22' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	126+02 - 127+79	22' RT - 29' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	127+79 - 129+20	29' RT - 40' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	129+20 - 130+76	40' RT - 32' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	130+76 - 131+82	32' RT - 26' RT	TELEPHONE OVERHEAD	ZAYO		X		②
CSAH 11 EB	131+82 - 133+58	26' RT - 18' RT	TELEPHONE OVERHEAD	ZAYO			X	②
CSAH 11 EB	133+58 - 135+95	18' RT - 19' RT	TELEPHONE OVERHEAD	ZAYO			X	②
CSAH 11 EB	135+95 - 138+22	19' RT - 15' RT	TELEPHONE OVERHEAD	ZAYO			X	②
CSAH 11 EB	117+15 - 117+27	158' LT - 63' LT	TELEPHONE OVERHEAD	CENTURYLINK		X		②
CSAH 11 EB	117+27 - 117+32	63' LT - 18' RT	TELEPHONE OVERHEAD	CENTURYLINK		X		②
CSAH 11 EB	117+32 - 119+11	18' RT	TELEPHONE OVERHEAD	CENTURYLINK		X		②
CSAH 11 EB	119+11 - 120+96	18' RT - 17' RT	TELEPHONE OVERHEAD	CENTURYLINK		X		②
CSAH 11 EB	120+85 - 120+96	185' LT - 17' RT	TELEPHONE OVERHEAD	CENTURYLINK		X		②
CSAH 11 EB	120+96 - 122+66	17' RT	TELEPHONE OVERHEAD	CENTURYLINK		X		②
CSAH 11 EB	122+66 - 124+29	17' RT - 18' RT	TELEPHONE OVERHEAD	CENTURYLINK		X		②
CSAH 11 EB	124+29 - 126+02	18' RT - 22' RT	TELEPHONE OVERHEAD	CENTURYLINK		X		②
CSAH 11 EB	135+95 - 138+21	19' RT	TELEPHONE OVERHEAD	CENTURYLINK			X	②

INPLACE UTILITY TABULATION - COMMUNICATIONS OVERHEAD

ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
93RD AVE	32+77 - 33+07	113' RT - 105' LT	TELEPHONE OVERHEAD	COMCAST			X	①
93RD AVE	32+77 - 34+22	113' RT - 73' RT	TELEPHONE OVERHEAD	COMCAST			X	①
93RD AVE	32+77 - 34+22	113' RT - 73' RT	FIBER OPTIC OVERHEAD	COMCAST			X	①
93RD AVE	34+22 - 36+56	73' RT - 65' RT	TELEPHONE OVERHEAD	COMCAST			X	①
93RD AVE	34+22 - 36+56	73' RT - 65' RT	FIBER OPTIC OVERHEAD	COMCAST			X	①
93RD AVE	36+56 - 37+92	65' RT	TELEPHONE OVERHEAD	COMCAST			X	①
93RD AVE	36+56 - 37+92	65' RT	FIBER OPTIC OVERHEAD	COMCAST			X	①
93RD AVE	37+92 - 38+63	65' RT - 58' RT	TELEPHONE OVERHEAD	COMCAST			X	①
93RD AVE	37+92 - 38+63	65' RT - 58' RT	FIBER OPTIC OVERHEAD	COMCAST			X	①
93RD AVE	32+82 - 34+18	122' RT - 73' RT	FIBER OPTIC OVERHEAD	ZAYO			X	①
93RD AVE	34+18 - 36+53	73' RT - 65' RT	FIBER OPTIC OVERHEAD	ZAYO			X	①
93RD AVE	36+53 - 37+88	65' RT	FIBER OPTIC OVERHEAD	ZAYO			X	①
93RD AVE	37+88 - 39+17	65' RT - 58' RT	FIBER OPTIC OVERHEAD	ZAYO			X	①
93RD AVE	39+17 - 39+39	58' RT - 65' RT	FIBER OPTIC OVERHEAD	ZAYO			X	①
93RD AVE	30+98 - 32+96	100' LT	FIBER OPTIC OVERHEAD	CENTURYLINK			X	①

- SPECIFIC NOTES:**
- ① LOCATED ON XCEL ENERGY POLE.
 - ② LOCATED ON CONNEXUS ENERGY POLE.

INPLACE UTILITY TABULATION - COMMUNICATIONS UNDERGROUND

ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
93RD AVE	31+60 - 31+80	136' RT - 114' RT	TELEPHONE BURIED	COMCAST			X	
93RD AVE	31+80 - 32+83	114' RT - 112' RT	TELEPHONE BURIED	COMCAST			X	
93RD AVE	32+83	112' RT	PEDESTAL	COMCAST			X	
93RD AVE	33+07 - 34+04	103' LT - 92' LT	TELEPHONE BURIED	COMCAST			X	
93RD AVE	33+14	107' LT	PEDESTAL	COMCAST			X	
93RD AVE	33+14 - 34+02	107' LT - 97' LT	TELEPHONE BURIED	COMCAST			X	
93RD AVE	34+02	97' LT	PEDESTAL	COMCAST			X	
93RD AVE	34+02 - 35+80	97' LT - 65' LT	TELEPHONE BURIED	COMCAST			X	
93RD AVE	34+04	92' LT	PEDESTAL	COMCAST			X	
93RD AVE	34+04 - 35+82	92' LT - 65' LT	TELEPHONE BURIED	COMCAST			X	
93RD AVE	35+80	75' LT	PEDESTAL	COMCAST			X	
93RD AVE	35+82	65' LT	PEDESTAL	COMCAST			X	
93RD AVE	35+82 - 36+58	65' LT - 56' LT	TELEPHONE BURIED	COMCAST			X	
93RD AVE	36+56 - 36+58	65' RT - 56' LT	TELEPHONE BURIED	COMCAST			X	
93RD AVE	36+58 - 37+05	56' LT - 51' LT	TELEPHONE BURIED	COMCAST			X	
93RD AVE	37+05	51' LT	PEDESTAL	COMCAST			X	
93RD AVE	32+06 - 33+02	85' LT - 100' LT	TELEPHONE BURIED	CENTURYLINK			X	
93RD AVE	32+96 - 35+74	100' LT - 72' LT	FIBER OPTIC BURIED	CENTURYLINK			X	
93RD AVE	33+02 - 33+97	100' LT - 92' LT	TELEPHONE BURIED	CENTURYLINK			X	
93RD AVE	33+97 - 35+78	92' LT - 65' LT	TELEPHONE BURIED	CENTURYLINK			X	
93RD AVE	35+78 - 37+02	65' LT - 51' LT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	105+59 - 107+32	323' RT - 297' RT	FIBER OPTIC BURIED	COMCAST			X	
CSAH 11 EB	106+84	315' RT	PEDESTAL	COMCAST			X	
CSAH 11 EB	106+84 - 108+26	315' RT - 279' RT	FIBER OPTIC IN CONDUIT	COMCAST			X	
CSAH 11 EB	108+26 - 110+01	279' RT - 225' RT	FIBER OPTIC BURIED	COMCAST			X	
CSAH 11 EB	109+04	113' RT	PEDESTAL	COMCAST			X	

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Ronald S. Quanbeck</i> LIC. NO. 19396 DATE: 11/24/2020		
DRW: RRC			
CHK: RSQ			
NO.	DATE	BY	DESCRIPTION OF REVISIONS



DATE: 11/29/2020 TIME: 12:36:58 PM
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INPLACE UTILITY TABULATION - COMMUNICATIONS UNDERGROUND (CONTINUED)

ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 11 EB	123+76 - 127+94	25' RT - 38' RT	FIBER OPTIC BURIED	CENTURYLINK		X		
CSAH 11 EB	123+76 - 129+53	25' RT - 46' RT	FIBER OPTIC BURIED	CENTURYLINK		X		
CSAH 11 EB	125+87	132' LT	PEDESTAL	CENTURYLINK			X	
CSAH 11 EB	125+87 - 126+06	132' LT - 46' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	126+06 - 127+94	46' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	126+06 - 129+57	46' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	127+08 - 129+29	740' LT - 107' LT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	127+93	111' LT	PEDESTAL	CENTURYLINK			X	
CSAH 11 EB	127+93 - 127+94	111' LT - 46' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	127+93 - 129+29	111' LT - 107' LT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	127+94 - 128+95	46' RT - 41' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	127+94 - 128+95	46' RT - 41' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	128+92 - 129+29	71' LT - 107' LT	FIBER OPTIC BURIED	CENTURYLINK		X		
CSAH 11 EB	128+95	41' RT	HANDHOLE	CENTURYLINK			X	
CSAH 11 EB	128+95 - 129+45	41' RT - 54' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	128+95 - 129+54	31' RT - 38' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	129+37	53' RT	PEDESTAL	CENTURYLINK			X	
CSAH 11 EB	129+37 - 129+65	55' RT - 63' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	129+65 - 130+73	63' RT - 55' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	129+53 - 133+84	38' RT - 35' RT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	129+57 - 130+78	46' RT - 39' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	130+73 - 130+77	55' RT - 33' RT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	130+52 - 130+72	322' LT - 90' LT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	130+52 - 130+74	322' LT - 332' LT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	130+72 - 132+58	90' LT - 84' LT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	130+77 - 133+84	29' RT - 35' RT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	132+58	84' LT	PEDESTAL	CENTURYLINK		X		
CSAH 11 EB	132+58 - 133+63	84' LT - 86' LT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	133+63 - 133+66	86' LT - 130' LT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	133+66 - 133+67	126' LT - 86' LT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	133+67 - 135+14	86' LT - 76' LT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	133+84	35' RT	PEDESTAL	CENTURYLINK			X	
CSAH 11 EB	133+84 - 138+08	35' RT - 17' RT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	133+90	34' RT	PEDESTAL	CENTURYLINK			X	
CSAH 11 EB	133+90 - 134+38	34' RT - 49' RT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	133+90 - 134+75	34' RT - 65' RT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	135+14	76' LT	PEDESTAL	CENTURYLINK		X		
CSAH 11 EB	135+14 - 135+15	76' LT - 15' RT	TELEPHONE BURIED	CENTURYLINK			X	
CSAH 11 EB	107+74 - 108+27	295' RT - 277' RT	FIBER OPTIC BURIED	ZAYO		X		
CSAH 11 EB	108+27	277' RT	HANDHOLE	ZAYO			X	
CSAH 11 EB	108+27 - 108+58	277' RT - 193' RT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	108+27 - 109+95	277' RT - 231' RT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	108+58 - 114+22	193' RT - 34' LT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	109+95	231' RT	HANDHOLE	ZAYO		X		
CSAH 11 EB	109+95 - 109+98	231' LT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	114+22 - 114+35	34' LT - 31' LT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	114+35 - 114+79	31' LT - 36' LT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	114+79 - 115+12	36' LT - 47' LT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	115+12 - 123+83	47' LT - 63' LT	FIBER OPTIC BURIED	ZAYO		X		
CSAH 11 EB	119+11 - 123+67	18' RT	FIBER OPTIC BURIED	ZAYO		X		
CSAH 11 EB	123+49 - 123+67	106' LT - 18' RT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	123+67	18' RT	HANDHOLE	ZAYO		X		
CSAH 11 EB	123+67 - 125+16	18' RT - 32' RT	FIBER OPTIC BURIED	ZAYO		X		
CSAH 11 EB	123+83 - 125+22	63' LT - 70' LT	FIBER OPTIC BURIED	ZAYO		X		
CSAH 11 EB	123+83	63' LT	HANDHOLE	ZAYO		X		
CSAH 11 EB	125+16 - 127+05	32' RT - 50' RT	FIBER OPTIC BURIED	ZAYO			X	

INPLACE UTILITY TABULATION - COMMUNICATIONS UNDERGROUND (CONTINUED)

ALIGNMENT	STATION	LOCATION	DESCRIPTION	OWNER	ACTION			REMARKS
					ADJUST	RELOCATE	LEAVE AS IS	
CSAH 11 EB	125+22 - 125+30	70' LT - 78' LT	FIBER OPTIC BURIED	ZAYO		X		
CSAH 11 EB	125+30 - 129+33	78' LT - 72' LT	FIBER OPTIC BURIED	ZAYO		X		
CSAH 11 EB	127+05 - 129+37	50' RT - 53' RT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	129+33 - 131+03	72' LT - 79' LT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	129+37	53' RT	HANDHOLE	ZAYO			X	
CSAH 11 EB	129+37 - 126+65	53' RT - 146' RT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	131+03 - 131+09	79' LT - 84' LT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	131+09 - 137+65	84' LT - 72' LT	FIBER OPTIC BURIED	ZAYO			X	
CSAH 11 EB	112+83	129' RT	ELEC. CABINET	PRIVATE		X		REMOVE ①
CSAH 1 NB	34+74 - 35+02	261' LT - 28' LT	FIBER OPTIC BURIED	MnDOT			X	
CSAH 1 NB	35+02 - 35+14	28' LT - 206' RT	FIBER OPTIC BURIED	MnDOT			X	
96TH AVE	12+60 - 13+16	63' LT - 39' LT	FIBER OPTIC BURIED	ZAYO			X	
96TH AVE	13+16 - 13+60	39' LT - 35' LT	FIBER OPTIC BURIED	ZAYO			X	
96TH AVE	13+60 - 17+01	35' LT - 33' LT	FIBER OPTIC BURIED	ZAYO			X	
96TH AVE	17+01 - 17+15	33' LT - 58' LT	FIBER OPTIC BURIED	ZAYO			X	
96TH AVE	17+15 - 17+16	58' LT - 119' LT	FIBER OPTIC BURIED	ZAYO			X	
96TH AVE	17+16	119' LT	HANDHOLE	ZAYO			X	
CR 3 NB	300+00 - 304+12	71' LT - 73' LT	FIBER OPTIC BURIED	CENTURYLINK			X	
CR 3 NB	300+14 - 306+24	24' RT - 40' RT	TELEPHONE BURIED	CENTURYLINK			X	
CR 3 NB	302+83	76' LT	PEDESTAL	CENTURYLINK			X	
CR 3 NB	302+83 - 303+74	76' LT	TELEPHONE BURIED	CENTURYLINK			X	
CR 3 NB	303+74	76' LT	PEDESTAL	CENTURYLINK			X	
CR 3 NB	303+74 - 305+97	76' LT - 70' LT	TELEPHONE BURIED	CENTURYLINK			X	
CR 3 NB	304+05 - 304+12	36' RT - 73' LT	FIBER OPTIC BURIED	CENTURYLINK			X	
CR 3 NB	304+12 - 306+07	73' LT - 87' LT	FIBER OPTIC BURIED	CENTURYLINK			X	
CSAH 11 EB	106+96 - 110+34	561' RT - 435' LT	TELEPHONE BURIED	BNSF		X		SEE BRIDGE PLAN
CSAH 11 EB	107+23 - 107+29	301' RT - 302' RT	TELEPHONE BURIED	BNSF			X	
CSAH 11 EB	107+23 - 107+29	321' RT - 302' RT	TELEPHONE BURIED	BNSF			X	
CSAH 11 EB	107+25 - 107+59	326' RT - 337' RT	TELEPHONE BURIED	BNSF			X	
CSAH 11 EB	107+59 - 107+80	337' RT - 317' RT	TELEPHONE BURIED	BNSF			X	
CSAH 11 EB	131+91	143' LT - 82' LT	DATA LINE	ACE HDWR		X		
CSAH 11 EB	131+91 - 135+68	82' LT - 73' LT	DATA LINE	ACE HDWR		X		
CSAH 11 EB	135+68 - 136+05	73' LT - 88' LT	DATA LINE	ACE HDWR		X		

SPECIFIC NOTES:

① CONTRACTOR TO PERFORM.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: RRC	SIGNATURE: <i>Ronald S. Quanbeck</i> LIC. NO. 19396 DATE: 11/29/2020		
CHK: RSQ	RONALD S. QUANBECK		
NO.	DATE	BY	DESCRIPTION OF REVISIONS



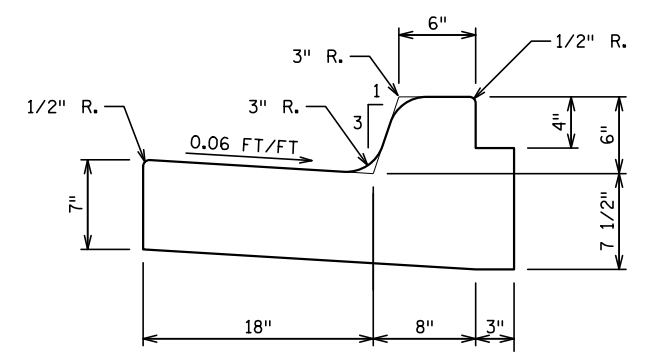
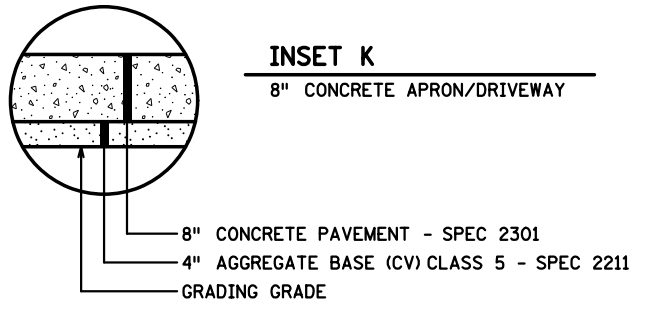
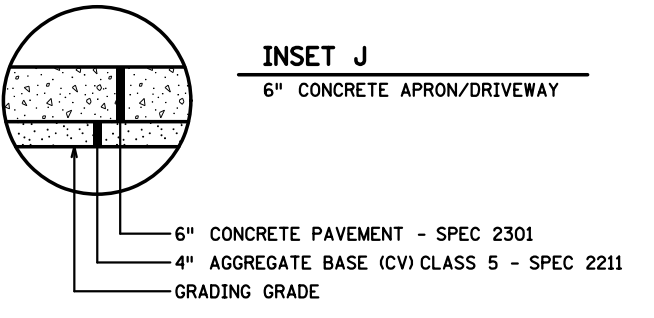
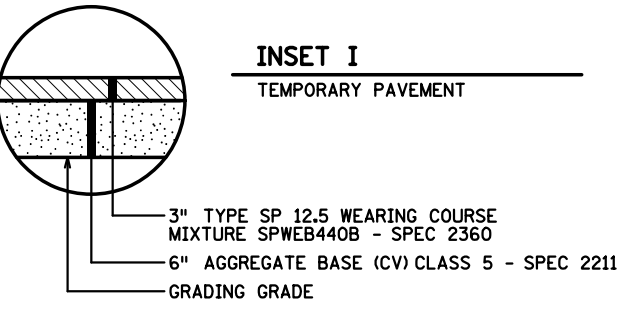
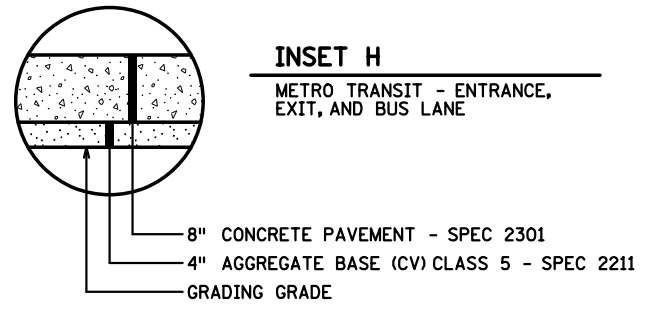
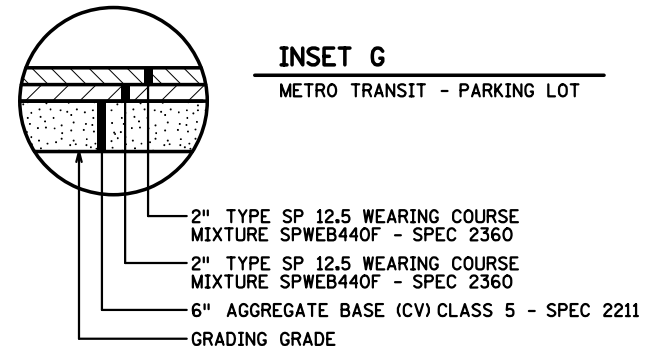
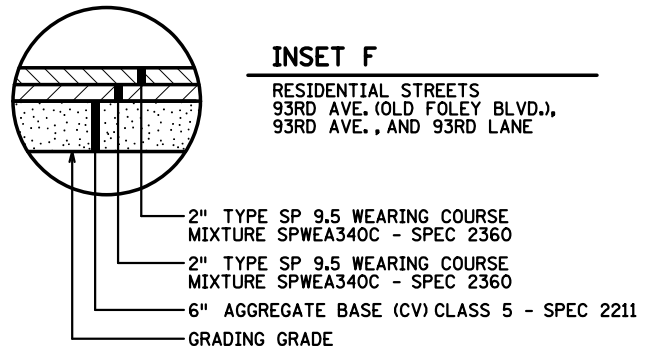
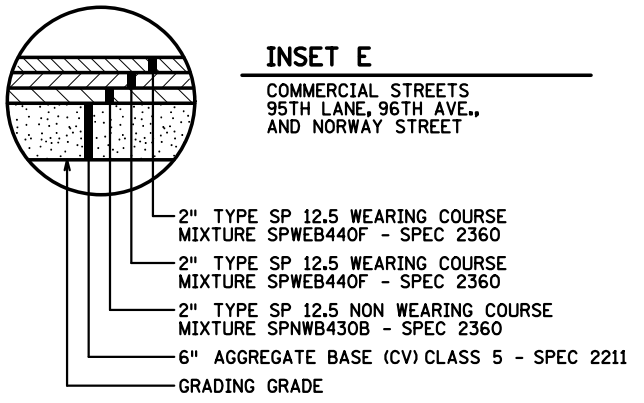
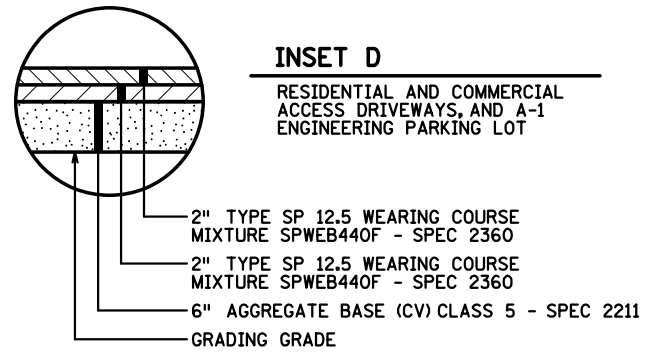
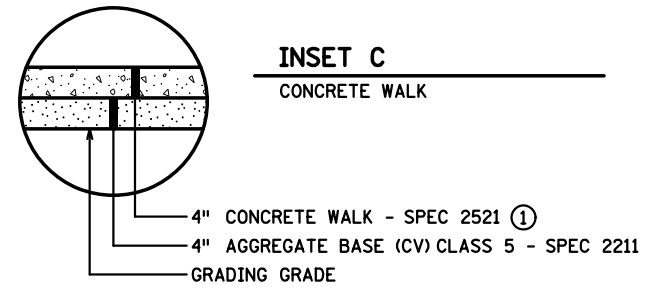
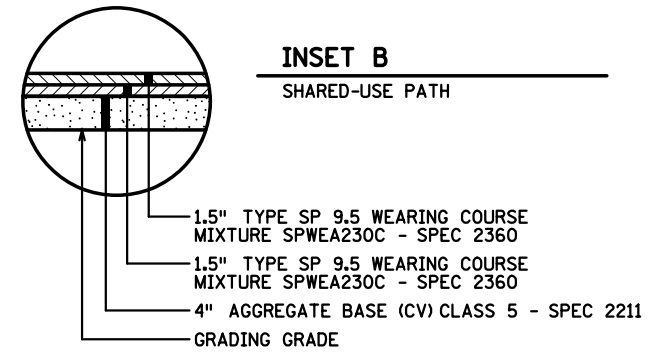
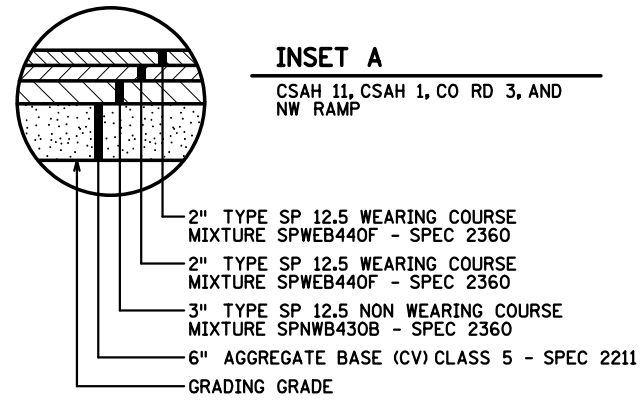
COMMUNICATIONS

INPLACE UTILITY TABULATIONS

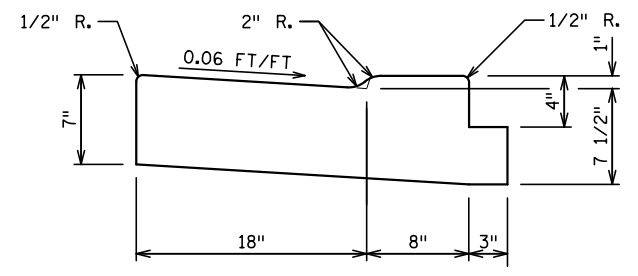
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SHEET NO. 23 OF 416 SHEETS

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B618 C&G MODIFIED 1
 PAID FOR AS CONCRETE CURB
 AND GUTTER DESIGN B618 (MODIFIED)



B618 C&G MODIFIED 2
 PAID FOR AS CONCRETE CURB
 AND GUTTER DESIGN B618 (MODIFIED)

SPECIFIC NOTES:

① SEE STANDARD PLANS 5-297.250 AND 5-297.254 FOR AREAS OF 6" SIDEWALK THICKNESS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: TJV
 CHK: SAO

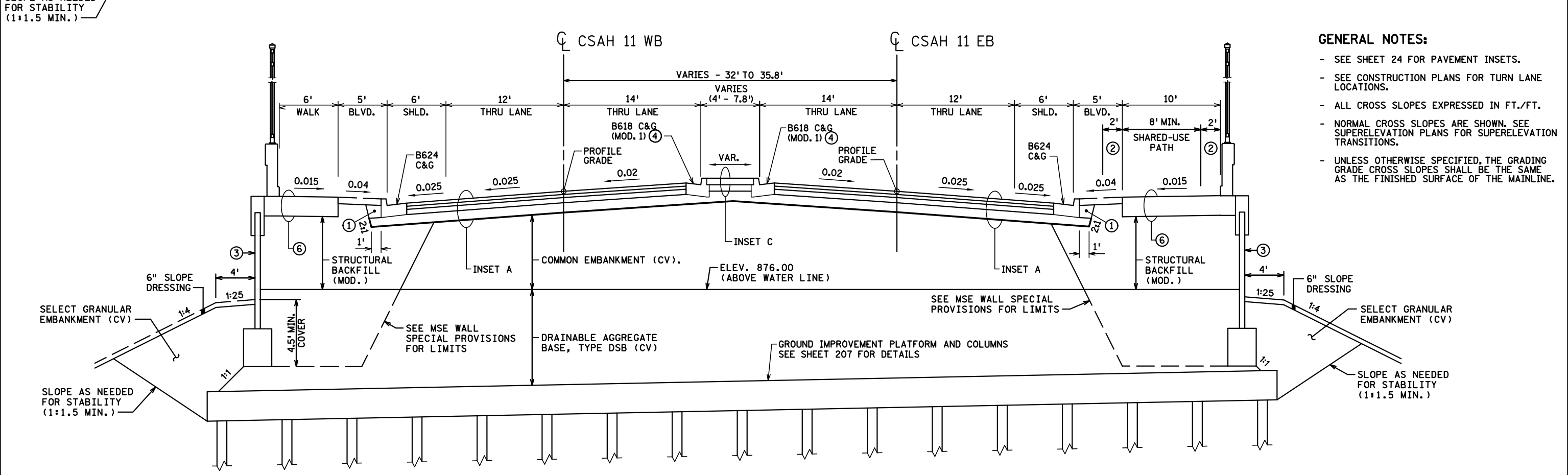
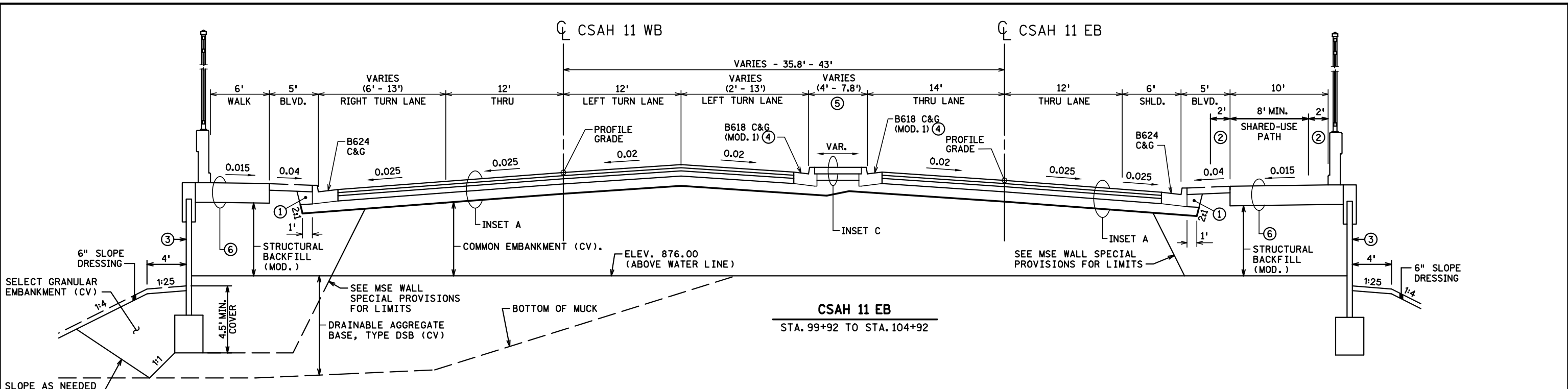
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



INSETS	TYPICAL SECTIONS
STATE PROJ. NO. 002-611-036	SHEET NO. 24 OF 416 SHEETS

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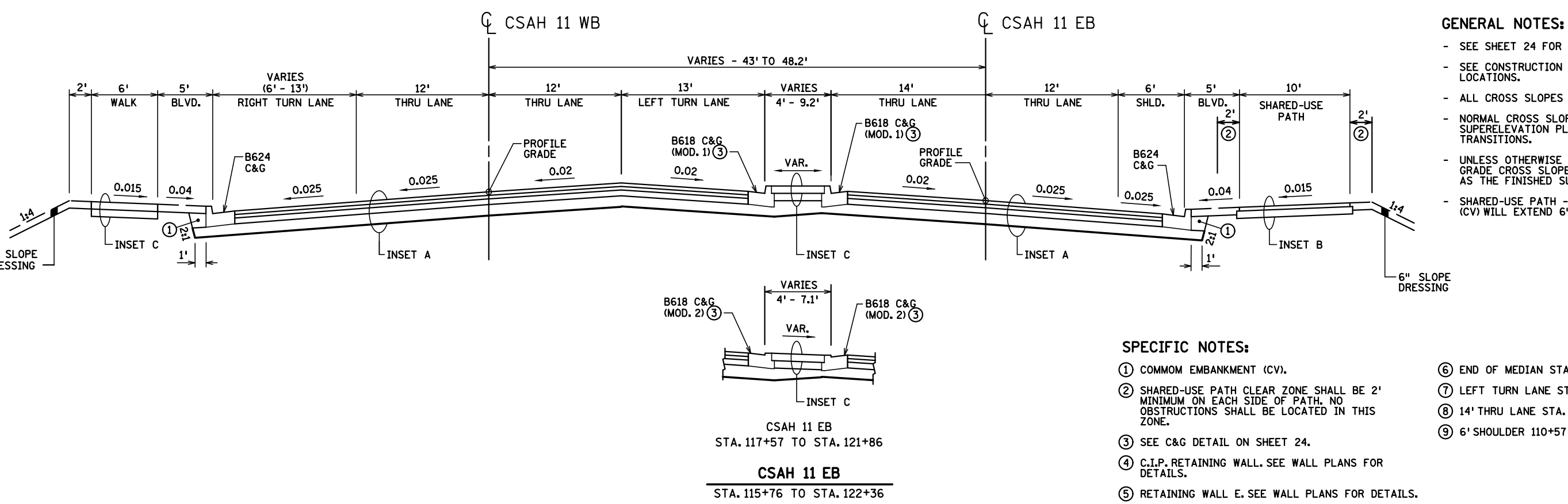
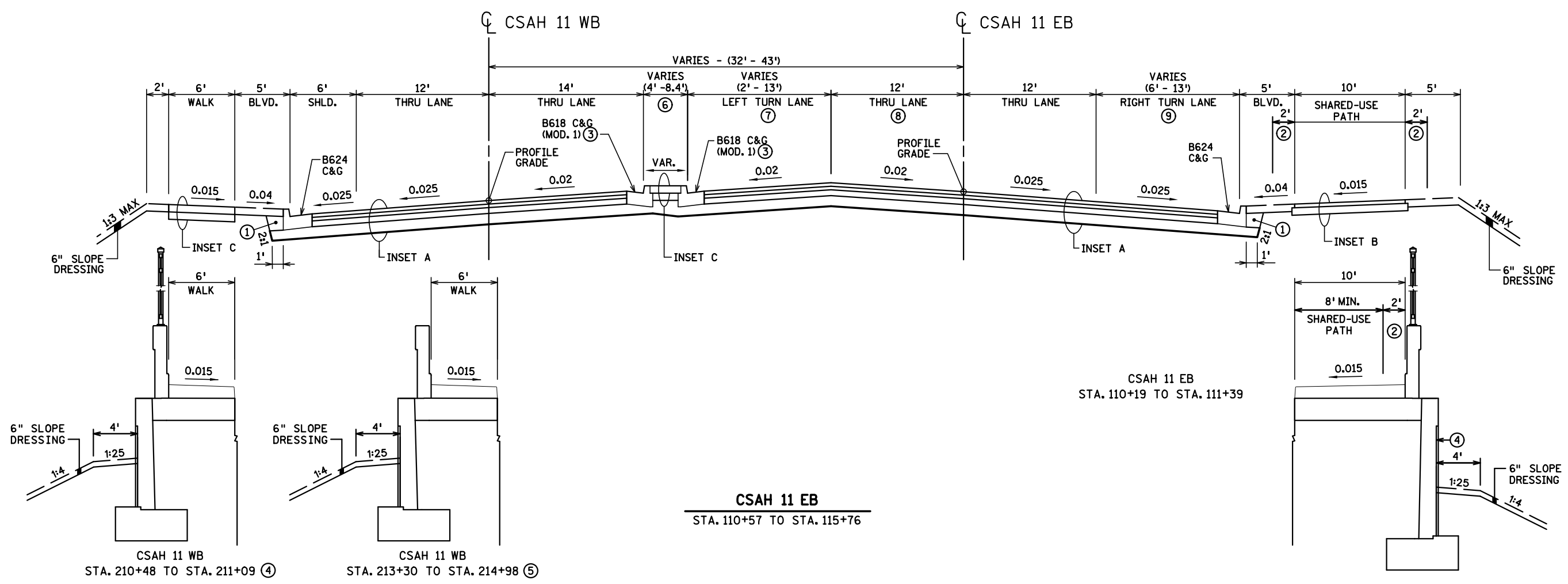


- GENERAL NOTES:**
- SEE SHEET 24 FOR PAVEMENT INSETS.
 - SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS.
 - ALL CROSS SLOPES EXPRESSED IN FT./FT.
 - NORMAL CROSS SLOPES ARE SHOWN. SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 - UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.

- SPECIFIC NOTES:**
- ① COMMON EMBANKMENT (CV).
 - ② SHARED-USE PATH CLEAR ZONE SHALL BE 2' MINIMUM ON EACH SIDE OF PATH. NO OBSTRUCTIONS SHALL BE LOCATED IN THIS ZONE.
 - ③ MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL. SEE RETAINING WALL PLANS FOR DETAILS.
 - ④ SEE C&G DETAIL ON SHEET 24.
 - ⑤ MEDIAN BEGINS STA. 100+28.
 - ⑥ MOMENT SLAB. SEE MISCELLANEOUS DETAILS.

			DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			CSAH 11		TYPICAL SECTIONS		
			DRW: TJV	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020			STATE PROJ. NO. 002-611-036		SHEET NO. 25 OF 416 SHEETS		
NO.	DATE	BY	DESCRIPTION OF REVISIONS								

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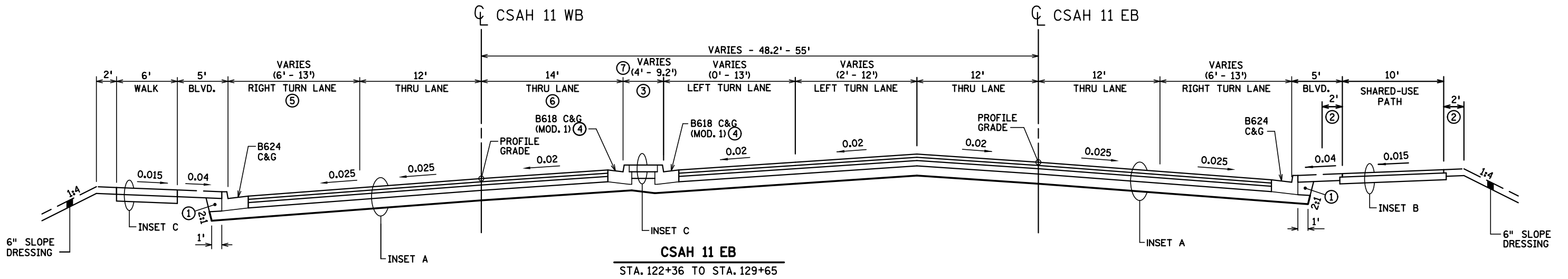
- GENERAL NOTES:**
- SEE SHEET 24 FOR PAVEMENT INSETS.
 - SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS.
 - ALL CROSS SLOPES EXPRESSED IN FT./FT.
 - NORMAL CROSS SLOPES ARE SHOWN. SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 - UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.
 - SHARED-USE PATH - CLASS 5 AGGREGATE BASE (CV) WILL EXTEND 6" FROM EDGE OF BITUMINOUS.

- SPECIFIC NOTES:**
- ① COMMON EMBANKMENT (CV).
 - ② SHARED-USE PATH CLEAR ZONE SHALL BE 2' MINIMUM ON EACH SIDE OF PATH. NO OBSTRUCTIONS SHALL BE LOCATED IN THIS ZONE.
 - ③ SEE C&G DETAIL ON SHEET 24.
 - ④ C.I.P. RETAINING WALL. SEE WALL PLANS FOR DETAILS.
 - ⑤ RETAINING WALL E. SEE WALL PLANS FOR DETAILS.
 - ⑥ END OF MEDIAN STA. 115+28.
 - ⑦ LEFT TURN LANE STA. 112+11 TO STA. 115+28.
 - ⑧ 14' THRU LANE STA. 110+57 TO STA. 112+11.
 - ⑨ 6' SHOULDER 110+57 TO STA. 110+83.

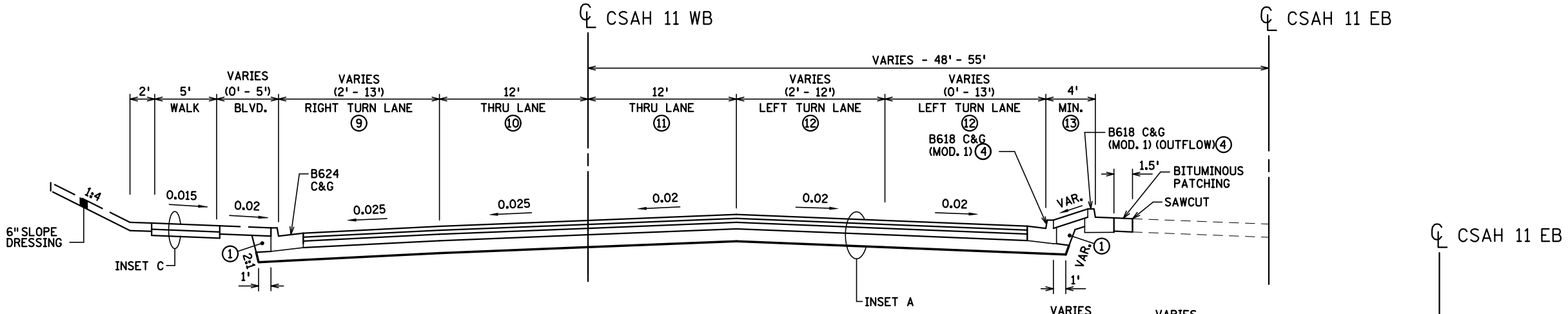
DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020		
DRW: TJV			
CHK: SAO			
NO.	DATE	BY	DESCRIPTION OF REVISIONS

	CSAH 11	TYPICAL SECTIONS
	STATE PROJ. NO. 002-611-036	SHEET NO. 26 OF 416 SHEETS

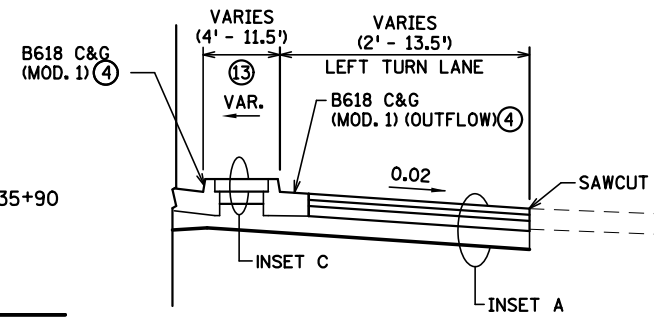
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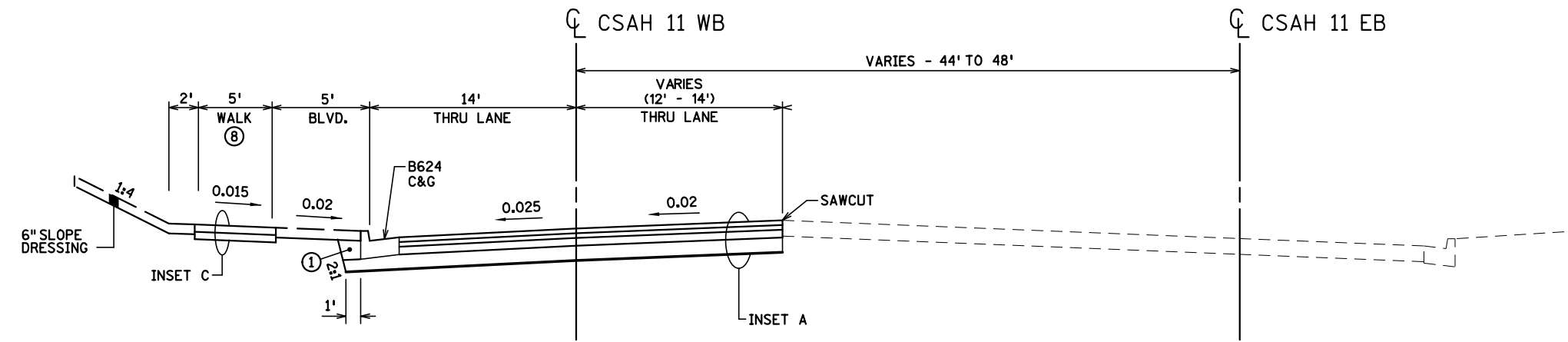
CSAH 11 EB
STA. 122+36 TO STA. 129+65



CSAH 11 WB
STA. 233+76 TO STA. 235+90



CSAH 11 WB
STA. 230+40 TO STA. 236+00



CSAH 11 WB
STA. 236+00 TO STA. 237+58

- GENERAL NOTES:**
- SEE SHEET 24 FOR PAVEMENT INSETS.
 - SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS.
 - ALL CROSS SLOPES EXPRESSED IN FT./FT.
 - NORMAL CROSS SLOPES ARE SHOWN. SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 - UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.
 - SHARED-USE PATH - CLASS 5 AGGREGATE BASE (CV) WILL EXTEND 6" FROM EDGE OF BITUMINOUS.

- SPECIFIC NOTES:**
- ① COMMON EMBANKMENT (CV).
 - ② SHARED-USE PATH CLEAR ZONE SHALL BE 2' MINIMUM ON EACH SIDE OF PATH. NO OBSTRUCTIONS SHALL BE LOCATED IN THIS ZONE.
 - ③ END RAISED MEDIAN AT STA. 129+18.
 - ④ SEE C&G DETAIL ON SHEET 24.
 - ⑤ 6' SHOULDER STA. 122+36 TO STA. 124+07.
 - ⑥ 12' THRU LANE STA. 122+36 TO STA. 124+66.
 - ⑦ LEFT TURN LANE STA. 122+36 TO STA. 124+66.
 - ⑧ WALK ENDS AT STA. 236+74.
 - ⑨ RIGHT TURN LANE STA. 230+40 TO STA. 235+41.
 - ⑩ 14' THRU LANE STA. 235+41 TO STA. 236+00.
 - ⑪ 14' THRU LANE STA. 235+48 TO STA. 235+89.
 - ⑫ LEFT TURN LANE STA. 230+68 TO STA. 235+48.
 - ⑬ RAISED MEDIAN STA. 230+68 TO STA. 235+90.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: TJV
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

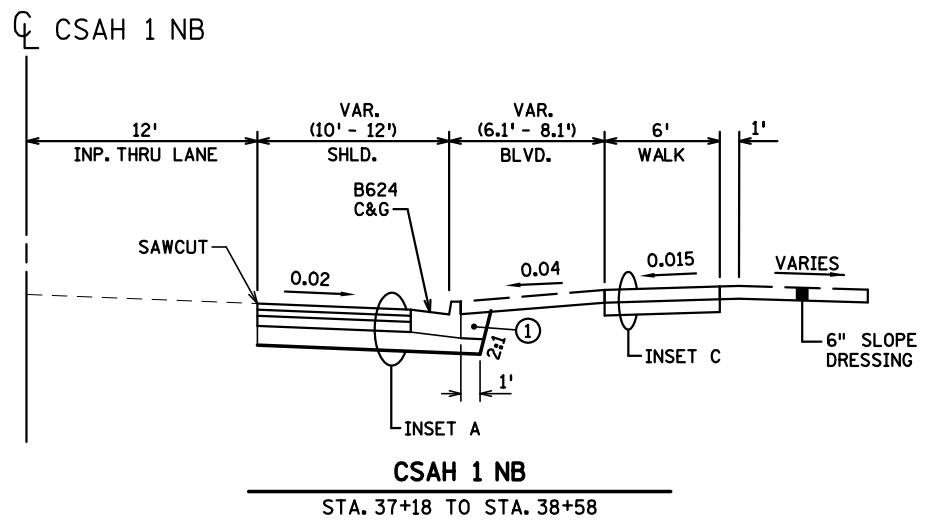
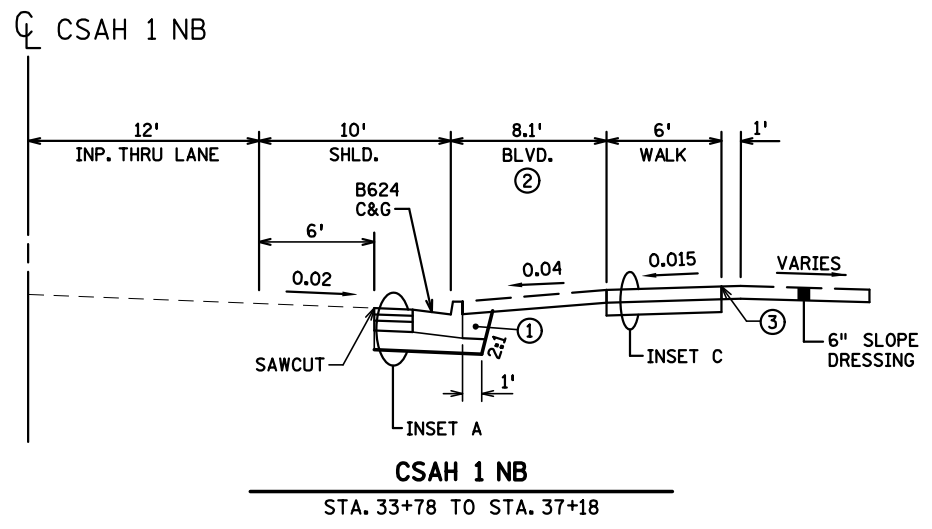
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



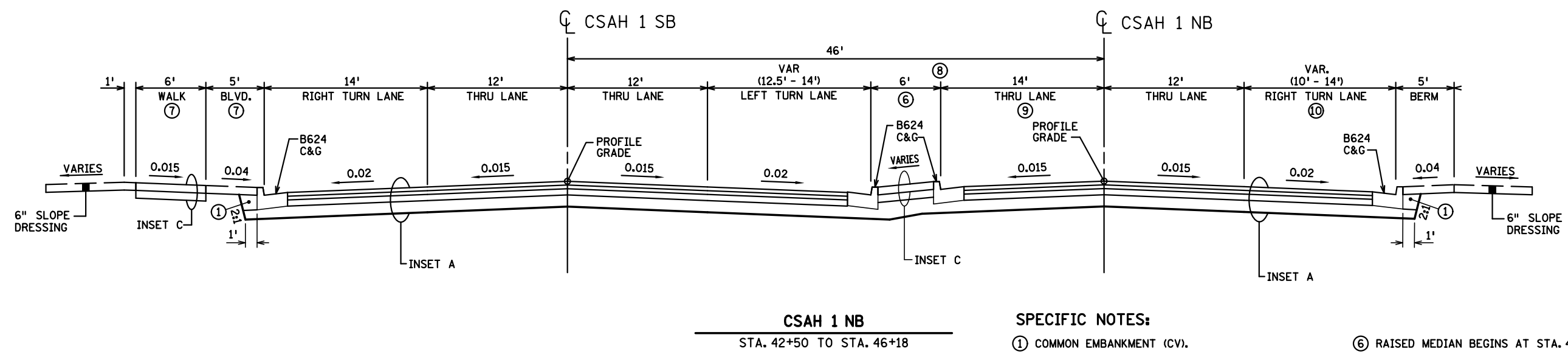
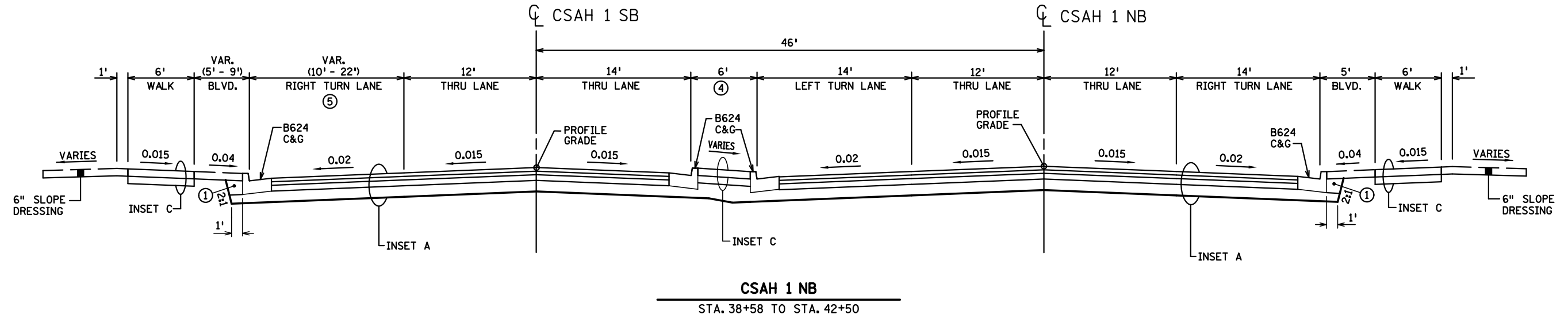
CSAH 11
 STATE PROJ. NO. 002-611-036

TYPICAL SECTIONS
 SHEET NO. 27 OF 416 SHEETS

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- GENERAL NOTES:**
- SEE SHEET 24 FOR PAVEMENT INSETS.
 - SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS.
 - ALL CROSS SLOPES EXPRESSED IN FT./FT.
 - NORMAL CROSS SLOPES ARE SHOWN. SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 - UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.



- SPECIFIC NOTES:**
- ① COMMON EMBANKMENT (CV).
 - ② PAVED BOULEVARD STA. 35+68 TO STA. 37+01.
 - ③ MATCH AT BOTTOM OF SLOPE PAVING STA. 35+68 TO STA. 37+01.
 - ④ RAISED MEDIAN STA. 38+86 TO STA. 41+86.
 - ⑤ 10' SHOULDER STA. 41+90 TO STA. 42+50.
 - ⑥ RAISED MEDIAN BEGINS AT STA. 43+10.
 - ⑦ 11' WALK AND 0' BOULEVARD STA. 45+51 TO STA. 46+18.
 - ⑧ LEFT TURN LANE STA. 46+04 TO STA. 46+18.
 - ⑨ 12' THRU LANE STA. 46+04 TO STA. 46+18.
 - ⑩ 10' SHOULDER STA. 43+53 - STA. 43+58.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

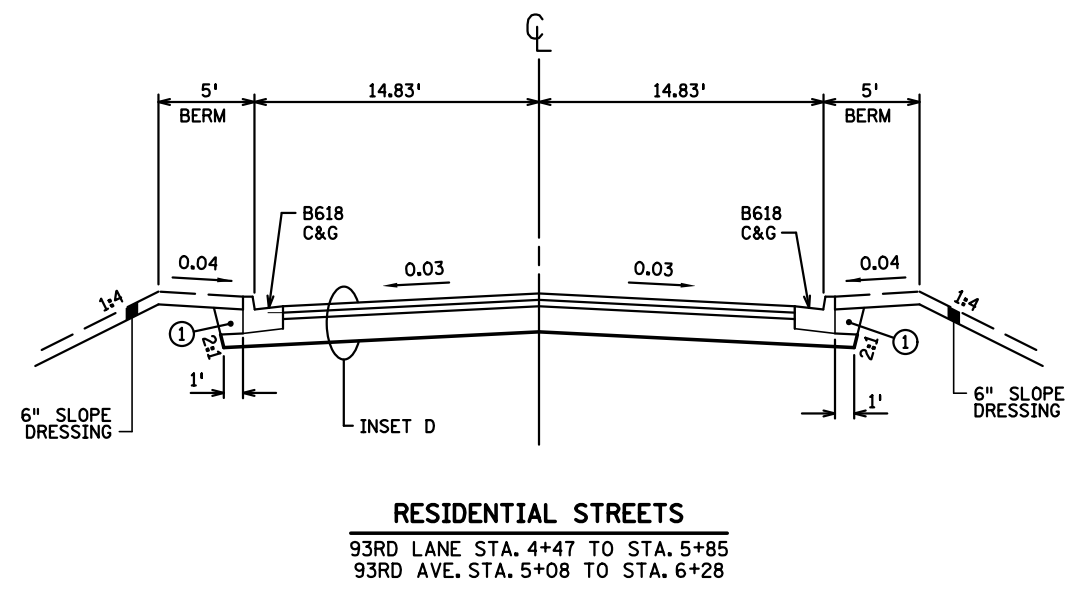
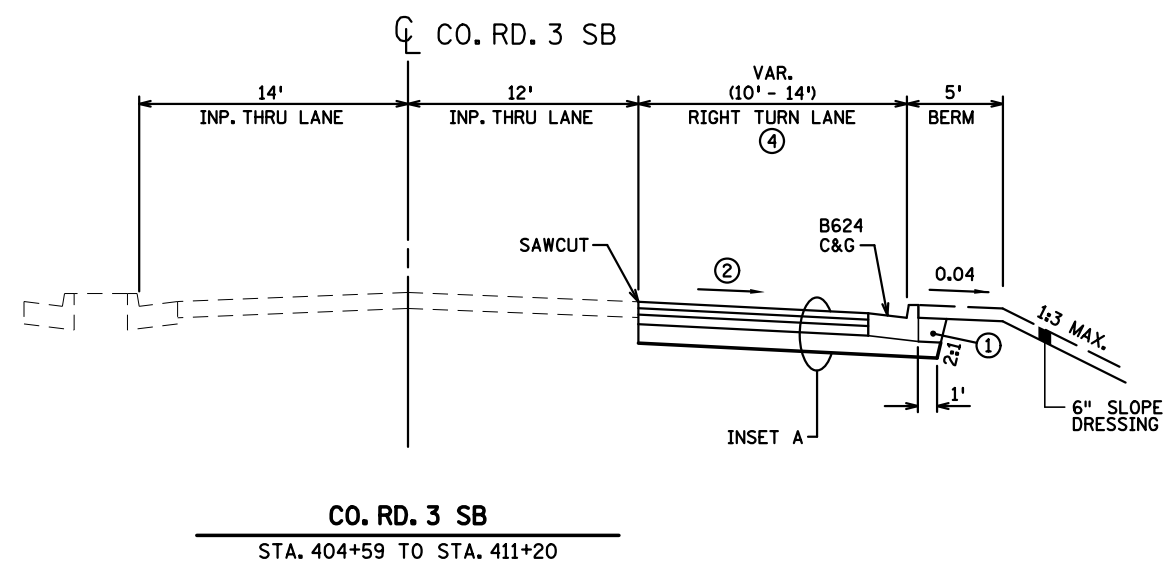
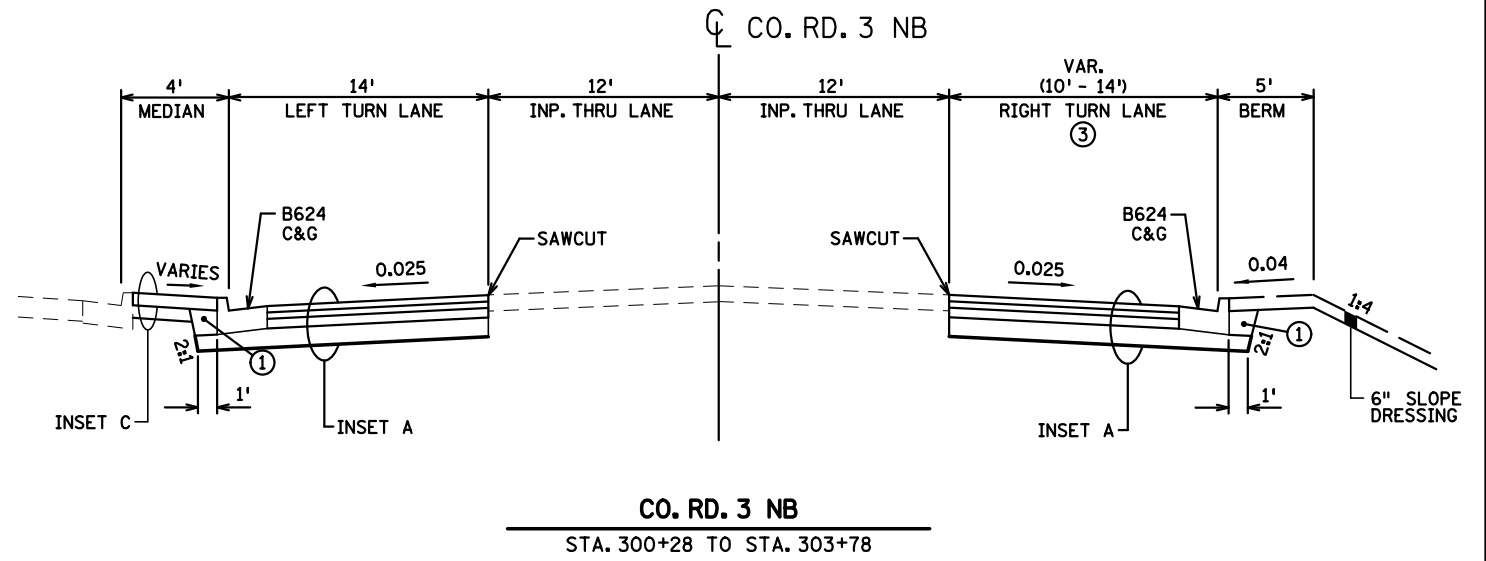
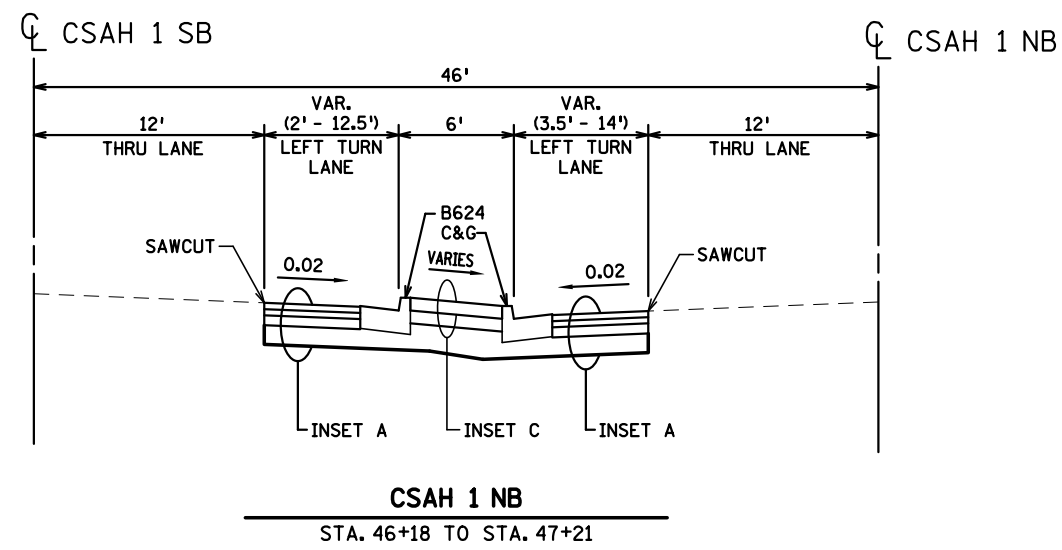
DES: TJV
 DRW: TJV
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



DATE: 11/24/2020 TIME: 9:48:03 PM
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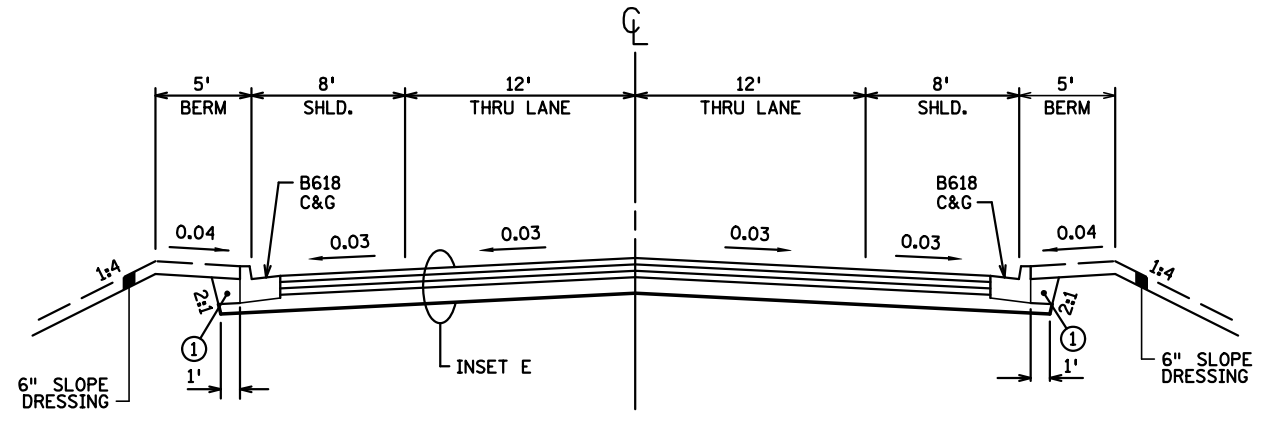


- GENERAL NOTES:**
- SEE SHEET 24 FOR PAVEMENT INSETS.
 - SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS.
 - ALL CROSS SLOPES EXPRESSED IN FT./FT.
 - NORMAL CROSS SLOPES ARE SHOWN. SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 - UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.

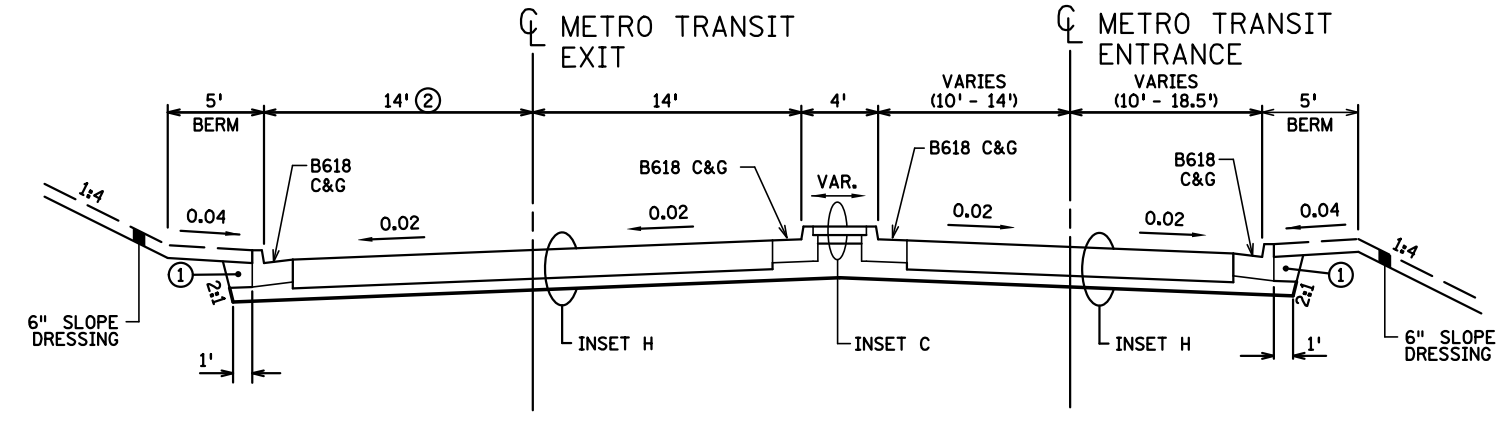
- SPECIFIC NOTES:**
- ① COMMON EMBANKMENT (CV).
 - ② MATCH ADJOINING PAVEMENT CROSS SLOPE.
 - ③ RIGHT TURN LANE CONSTRUCTION STA. 300+74 TO STA. 303+51.
 - ④ 10' SHOULDER STA. 404+59 TO STA. 406+25.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: TJV							
CHK: SAO							
NO.	DATE	BY	DESCRIPTION OF REVISIONS	SIGNATURE: <i>Shane A. Ortlepp</i>	LIC. NO. 48250	DATE: 11/24/2020	
				CO. RD. 3, AND RESIDENTIAL STREETS		TYPICAL SECTIONS	
				STATE PROJ. NO. 002-611-036		SHEET NO. 29 OF 416 SHEETS	

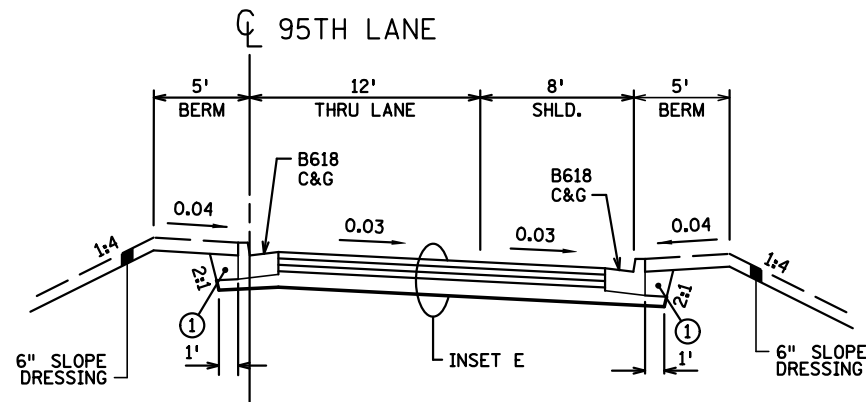
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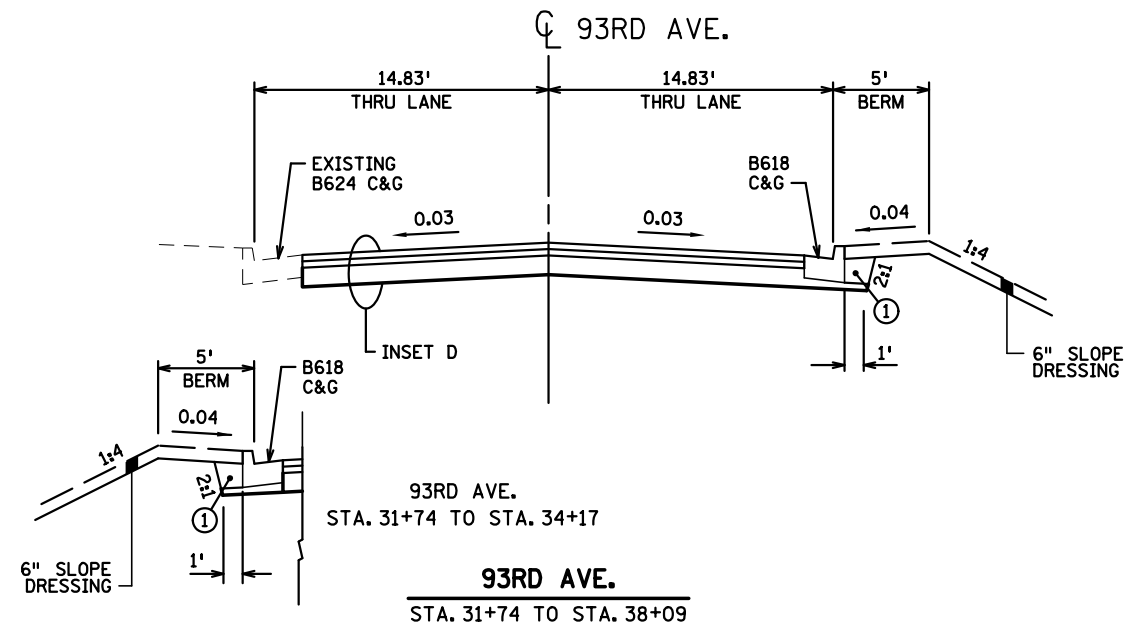
COMMERCIAL STREETS
 95TH LANE STA. 13+88 TO STA. 15+38
 96TH AVE. STA. 17+65 TO STA. 20+00
 NORWAY ST. STA. 4+00 TO STA. 18+00



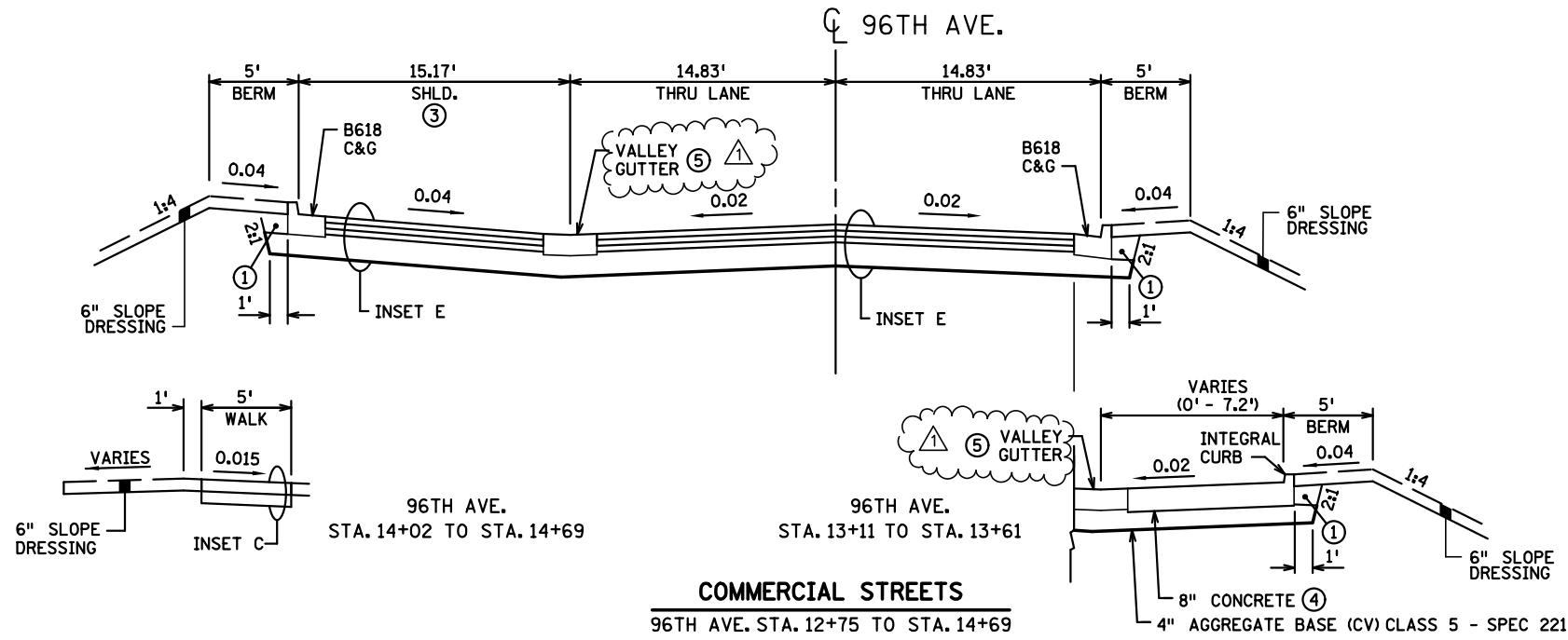
METRO TRANSIT MAIN ENTRANCE
 STA. 12+73 TO STA. 15+59



COMMERCIAL STREETS
 95TH LANE STA. 12+50 TO STA. 13+88



93RD AVE.
 STA. 31+74 TO STA. 38+09



COMMERCIAL STREETS
 96TH AVE. STA. 12+75 TO STA. 14+69

- GENERAL NOTES:**
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 - SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS.
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 - NORMAL CROSS SLOPES ARE SHOWN. SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 - UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.

- SPECIFIC NOTES:**
- ① COMMON EMBANKMENT (CV).
 - ② VARIABLE WIDTH STA. 12+73 TO STA. 13+20. VARIES 31' - 14'.
 - ③ VARIABLE WIDTH STA. 12+95 - STA 13+94. VARIES 0' - 43'.
 - ④ PAID FOR AS 8" CONCRETE DRIVEWAY PAVEMENT.
 - ⑤ VALLEY GUTTER VG 220, SEE DETAIL ON SHEET 42. PAID FOR AS CONCRETE GUTTER DESIGN SPECIAL.

NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	4/9/21	SAO	ADD NOTE TO VALLEY GUTTER

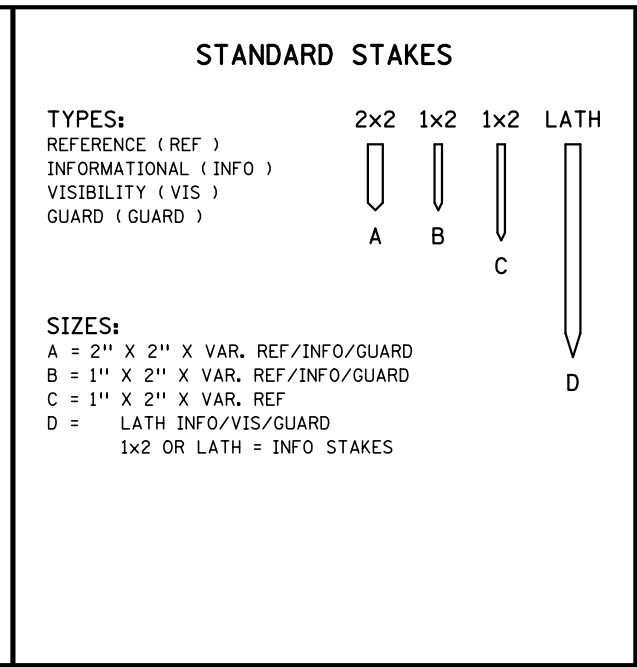
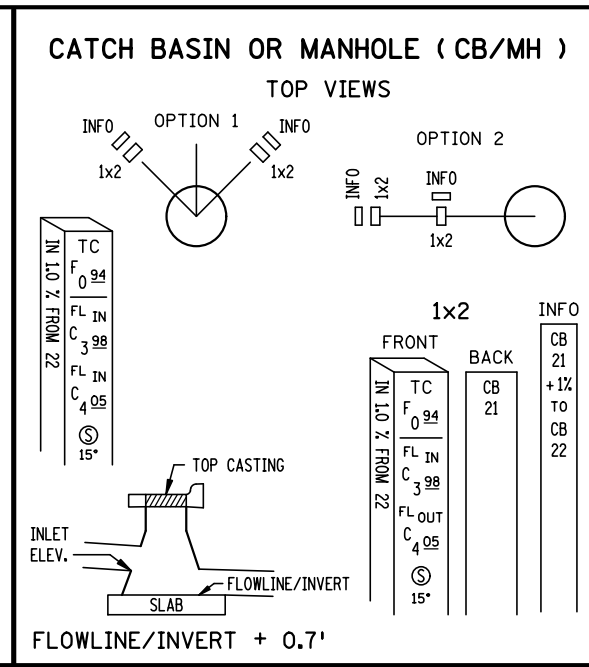
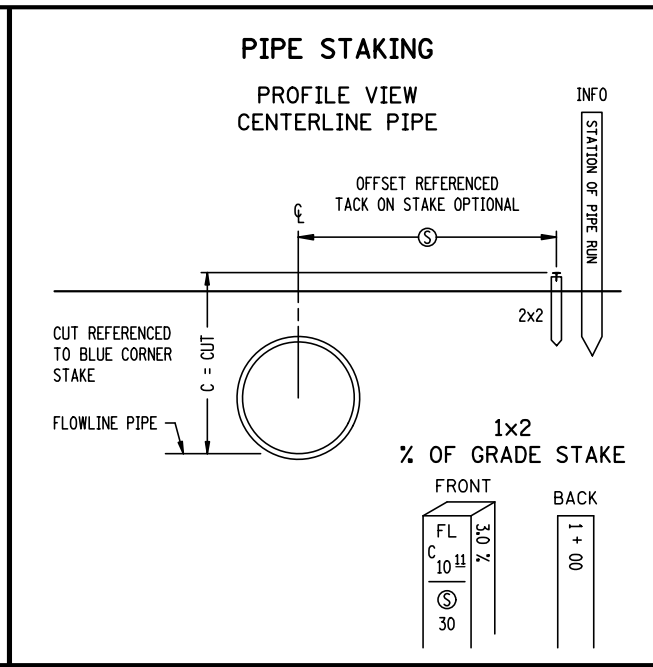
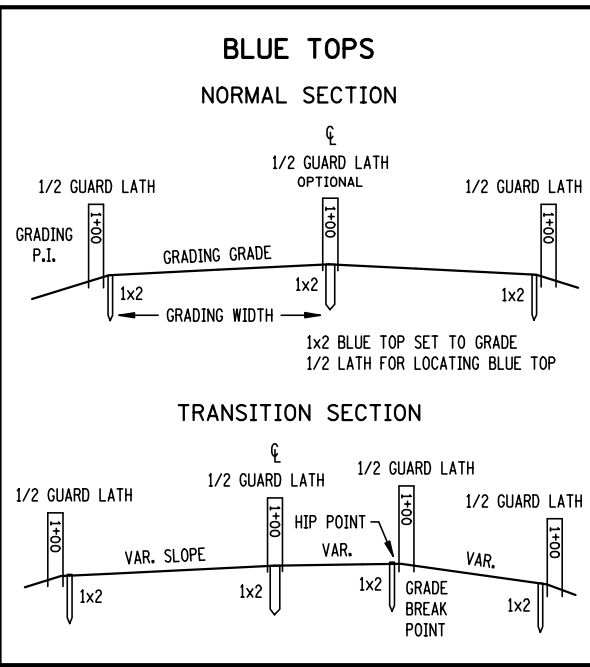
DES: TJV I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: RRC
 CHK: SAO
 SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 4/9/2021



COMMERCIAL STREETS, 93RD AVE, 96TH AVE.
 METRO TRANSIT ENT./EXIT
 STATE PROJ. NO. 002-611-036

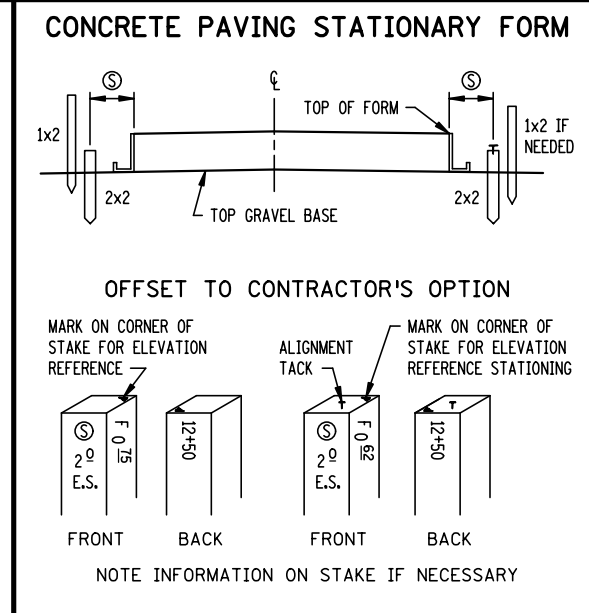
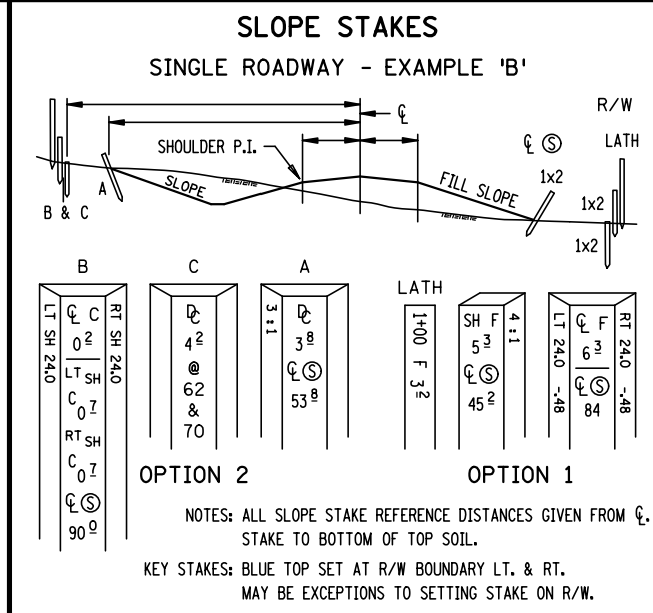
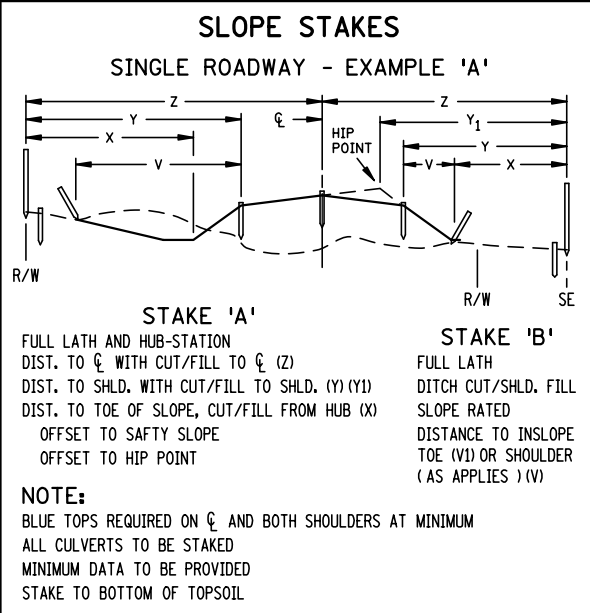
TYPICAL SECTIONS
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ABBREVIATIONS

BBL = BARREL (PIPE)	HH = HANDHOLE
B.C. = BACK CURB	HP = HIP POINT
C & G = CURB & GUTTER	LT = LEFT
C = CUT	MH = MANHOLE
CAP = CORR. ALUM. PIPE	NB = NORTHBOUND
CB = CATCH BASIN	⊙ = OFFSET
CL = CENTERLINE	PAR = PARCEL
CL & GR = CLEAR & GRUB	% = PERCENT GRADE
CMP = CORR. METAL PIPE	P.E. = PERM. EASEMENT
COR = CORNER	RAD = RADIUS POINT
CR = CROWN	RCP = REINF. CONC. PIPE
CSP = CORR. STEEL PIPE	RP = REFERENCE POINT
⊕ = DITCH CUT	RSC = REINF. SECT. CONC.
D.E. = DRAINAGE EASEMENT	RT = RIGHT
DI = DROP INLET	R/W = RIGHT OF WAY
EB = EASTBOUND	SB = SOUTHBOUND
E.M. = EDGE BITUMINOUS MAT	SCP = SECT. CONC. PIPE
E.S. = EDGE CONCRETE SLAB	SH = SHOULDER
F = FILL	TC = TOP CASTING
FF = FRONT FACE	OR TOP CURB
FL = FLOW LINE	T.E. = TEMP. EASEMENT
FL IN = FLOWLINE INLET	3 : 1 = SLOPE (EXAMPLE)
FL OUT = FLOWLINE OUTLET	WB = WESTBOUND
GR = GRADE	WP = WORKING POINTS
GW = GRADING WIDTH	



RECOMMENDED STAKING INTERVALS

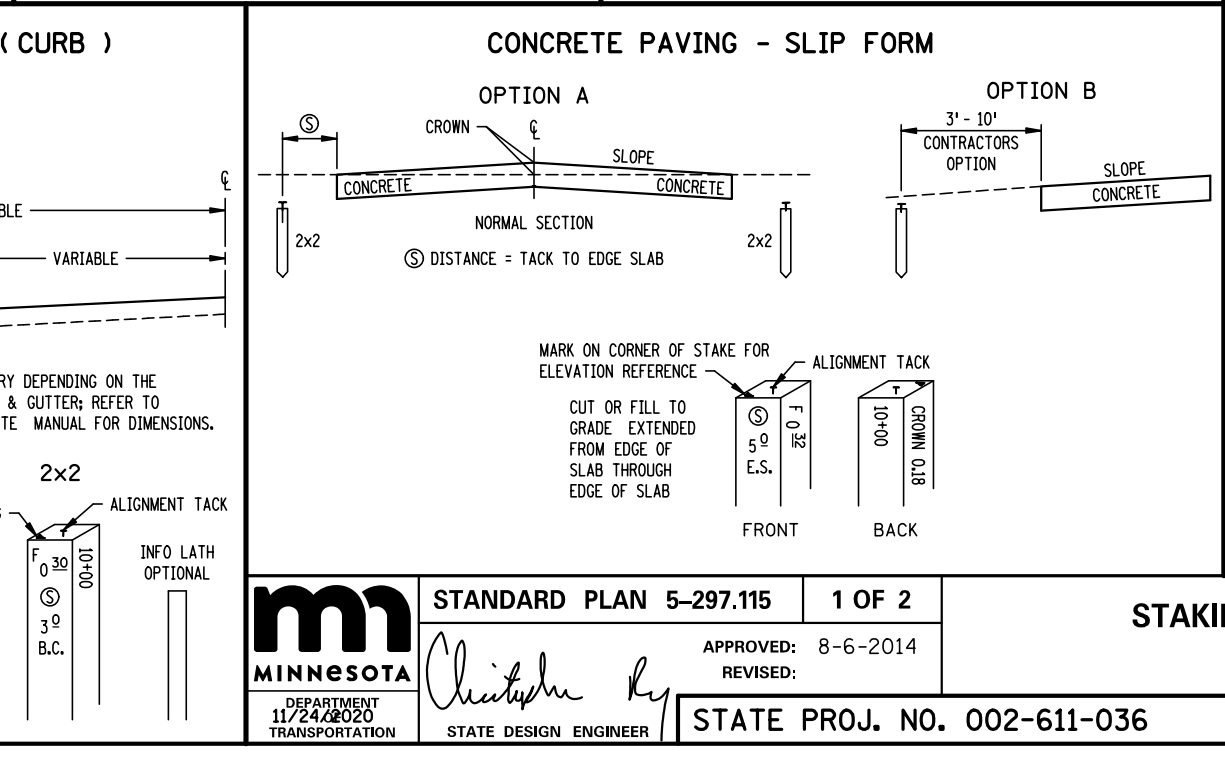
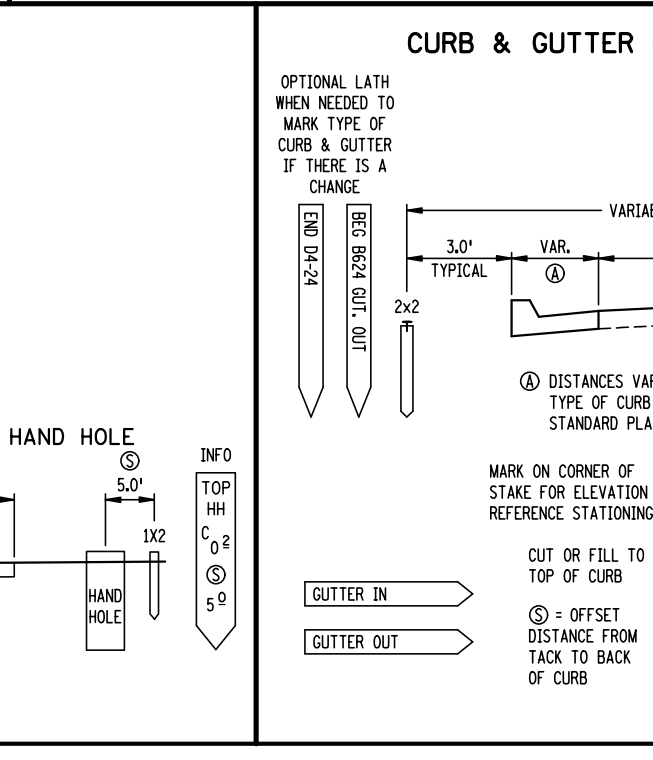
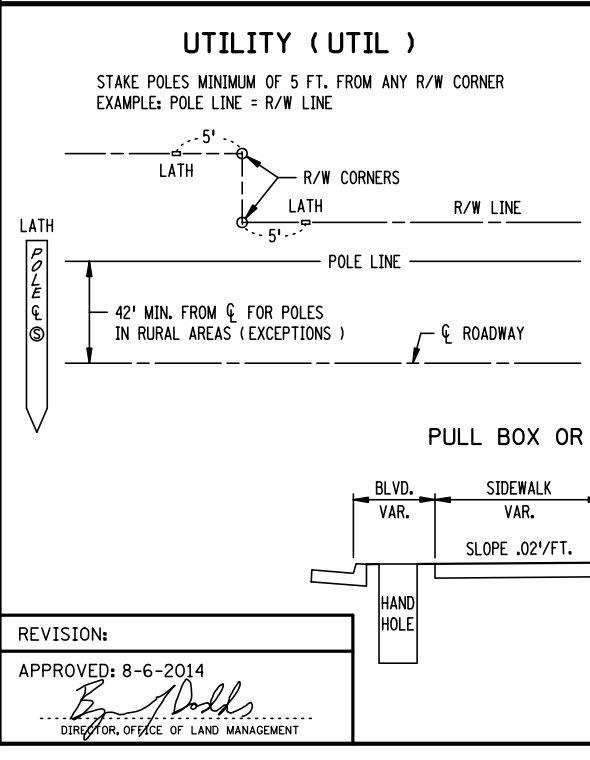
FIGURE A

	SLOPE STAKES	SUB GRADE B.T.	CLASS MATERIAL B.T.	CONC PAVT	C & G	CL & GR LIMITS	MUCK EXC.	R/W	TEMP. EASE.
TANGENT	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
HORIZ. CURVE									
0 - 3'	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
OVER 3' -	100	50	50	25	25	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
VERT. CURVE									
'M' 100' CHORD 0 - .25	100	100	100	50	50				
'M' OVER .25	100	50	50	25	25				
TRAN.		50	50						

STAKING TOLERANCES (FEET)

	HORIZONTAL	VERTICAL
CONSTRUCTION LIMITS	± 1.5	
CLEARING & GRUBBING	2.0	
SLOPES STAKES	2.0	± 0.2
KEY STAKES	0.2	0.03
DRAINAGE STAKES	0.05	0.05
CURB & GUTTER	0.07	0.03
PAVING	0.05	0.03
ALIGNMENT	0.07	
UTILITY	0.10	0.05
STRUCTURAL	0.02	0.02
GUARD RAIL	0.5	
BUILDINGS	0.04	
O.H. SIGNS	0.05	0.05
MUCK EXCAVATION LIMITS	2.0	
R/W B-POINTS	0.10	
NOISE WALLS	1.0	0.5

THE TOLERANCES ARE RELATIVE TO PROJECT DATUM



DISCLAIMER

THESE STAKING INFORMATION SHEETS ARE FOR INFORMATION PURPOSES ONLY. STAKING PROCEDURES VARY AND MAY BE SUBJECT TO CHANGE DURING CONSTRUCTION BY CIRCUMSTANCES AND/OR AGREEMENTS BETWEEN SURVEY CREW AND CONTRACTOR.

REVISIONS:

APPROVED: 8-6-2014

[Signature]
DIRECTOR, OFFICE OF LAND MANAGEMENT



STANDARD PLAN 5-297.115 1 OF 2

APPROVED: 8-6-2014
REVISED:

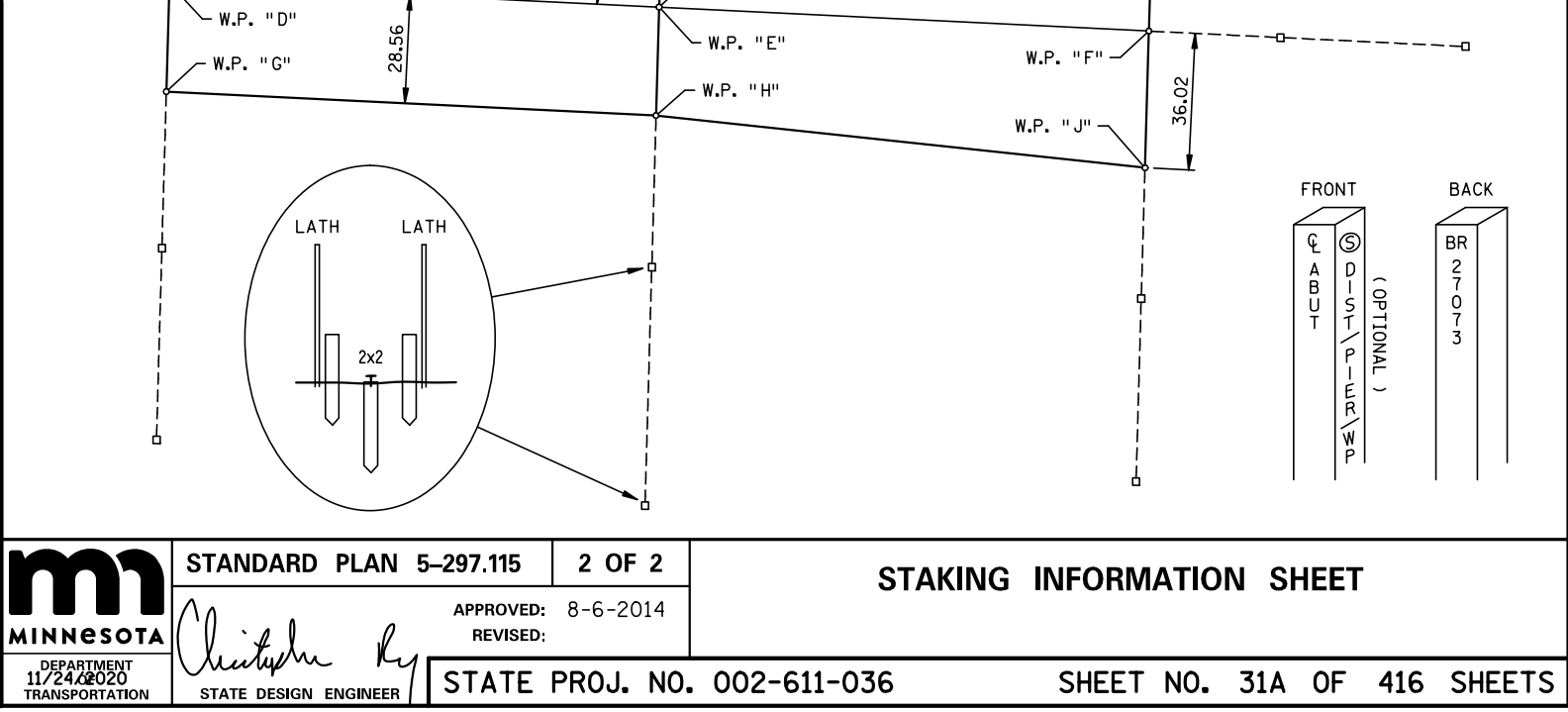
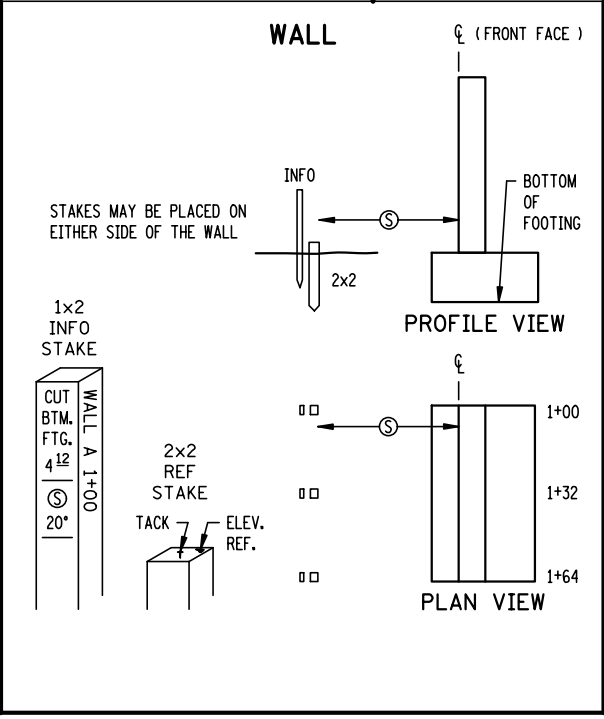
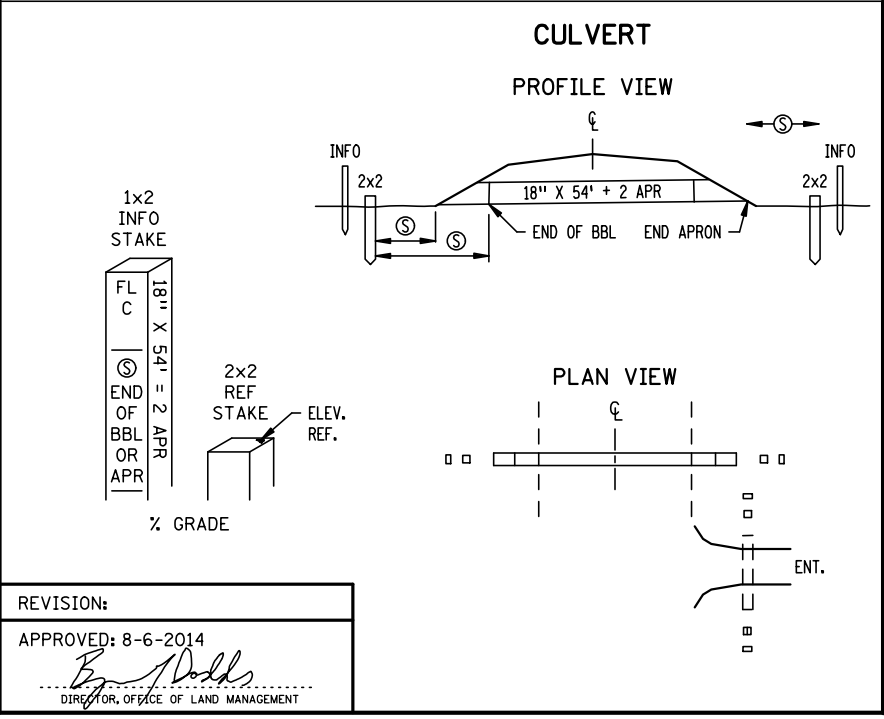
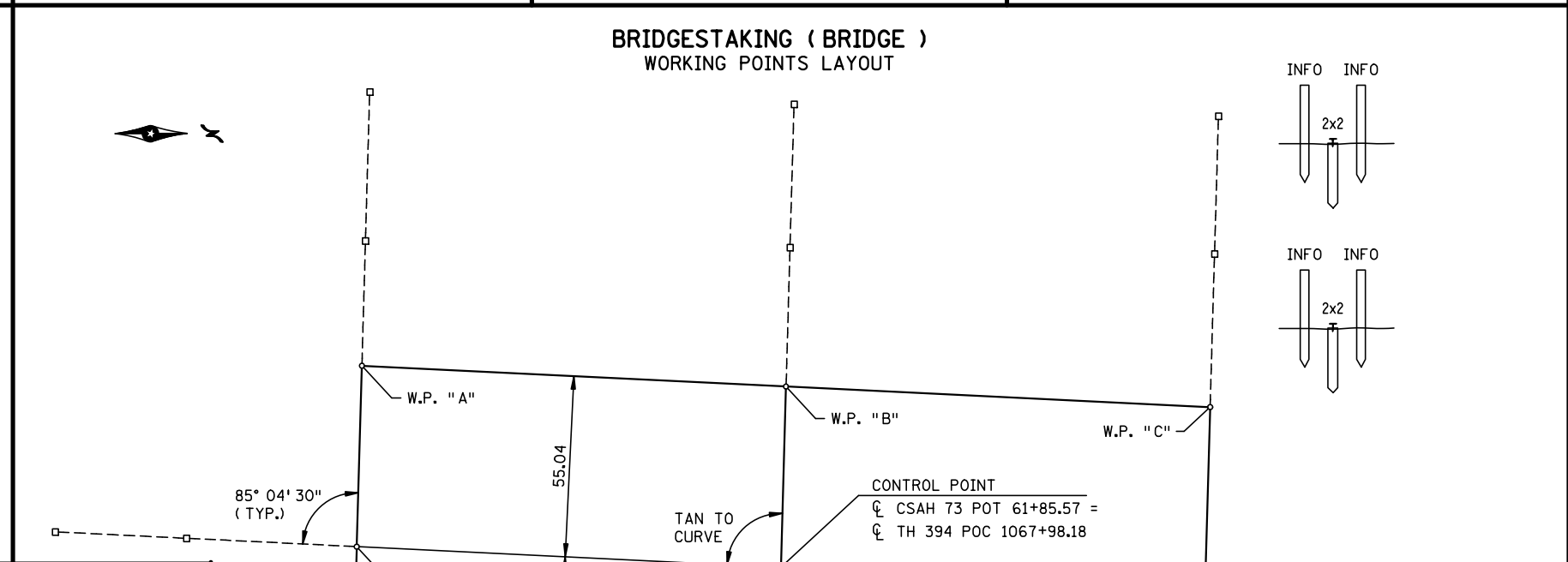
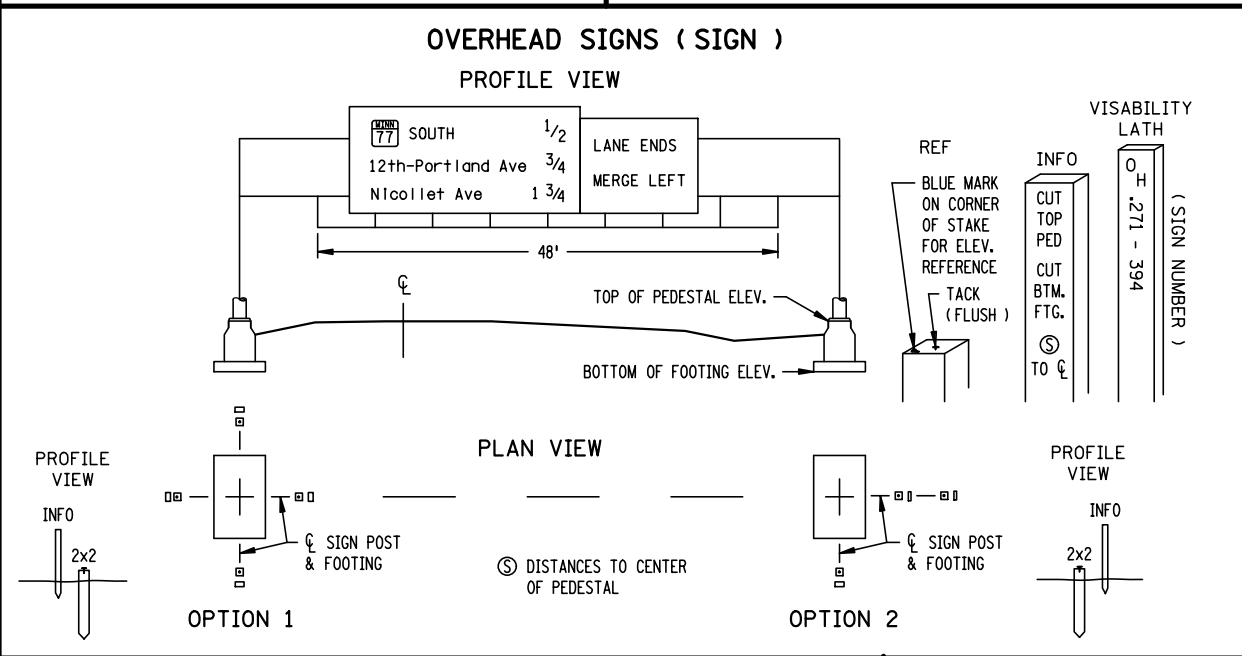
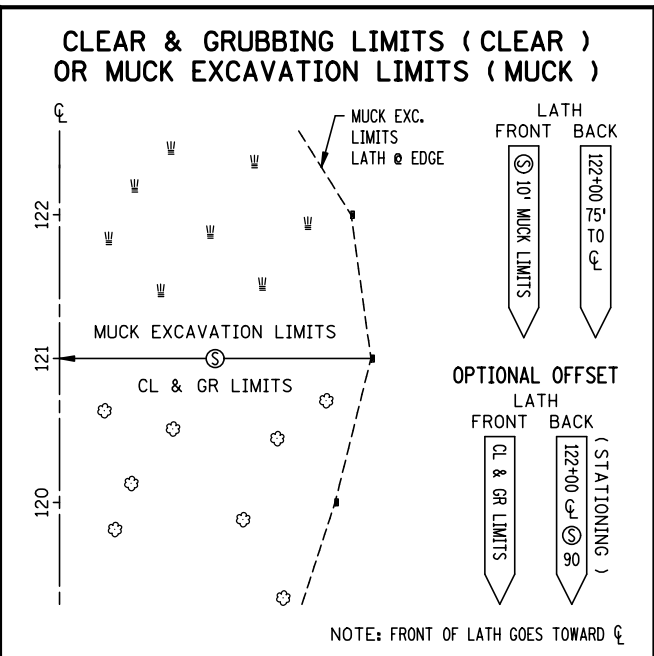
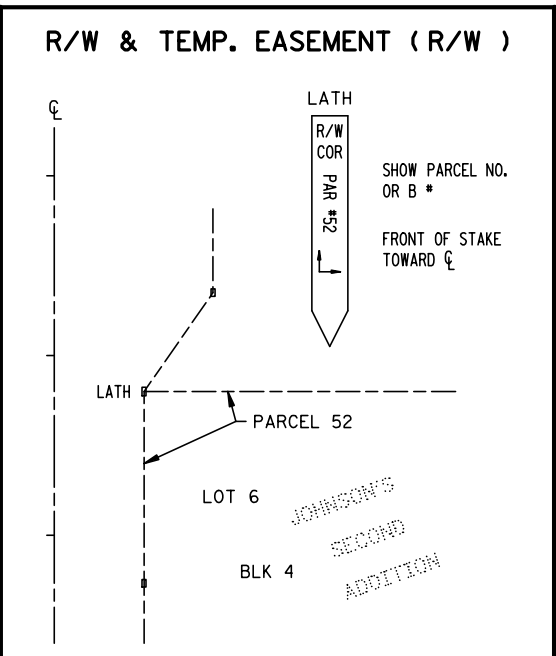
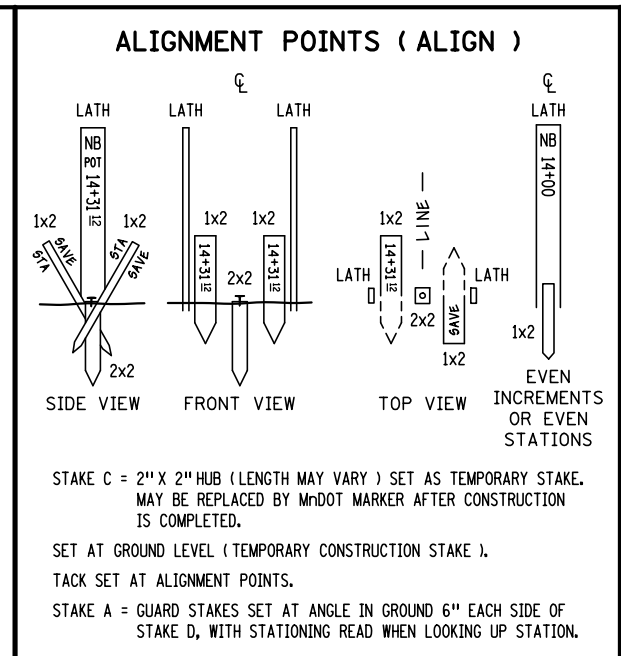
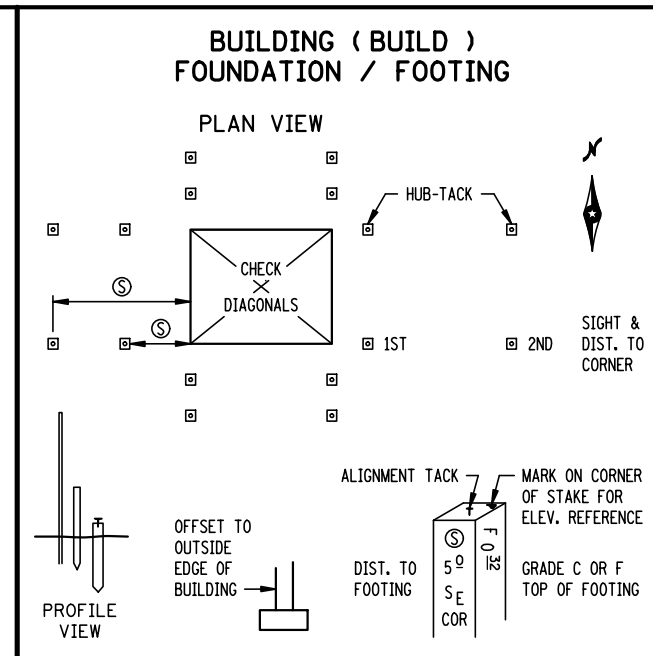
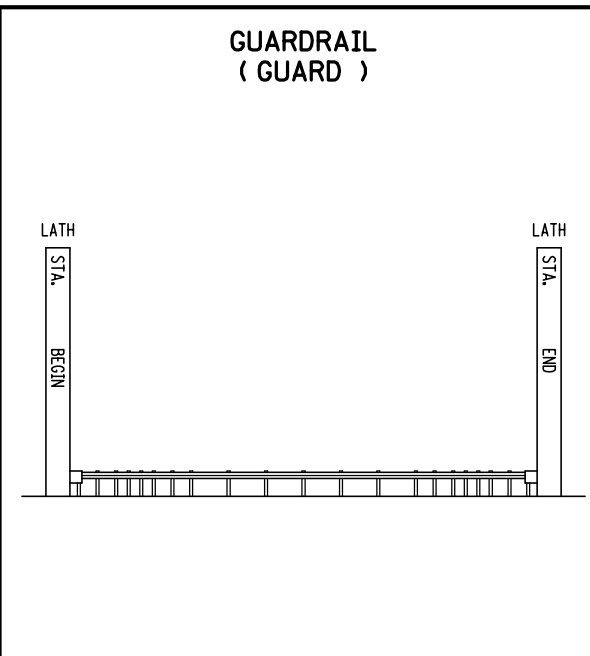
[Signature]
STATE DESIGN ENGINEER

STATE PROJ. NO. 002-611-036

STAKING INFORMATION SHEET

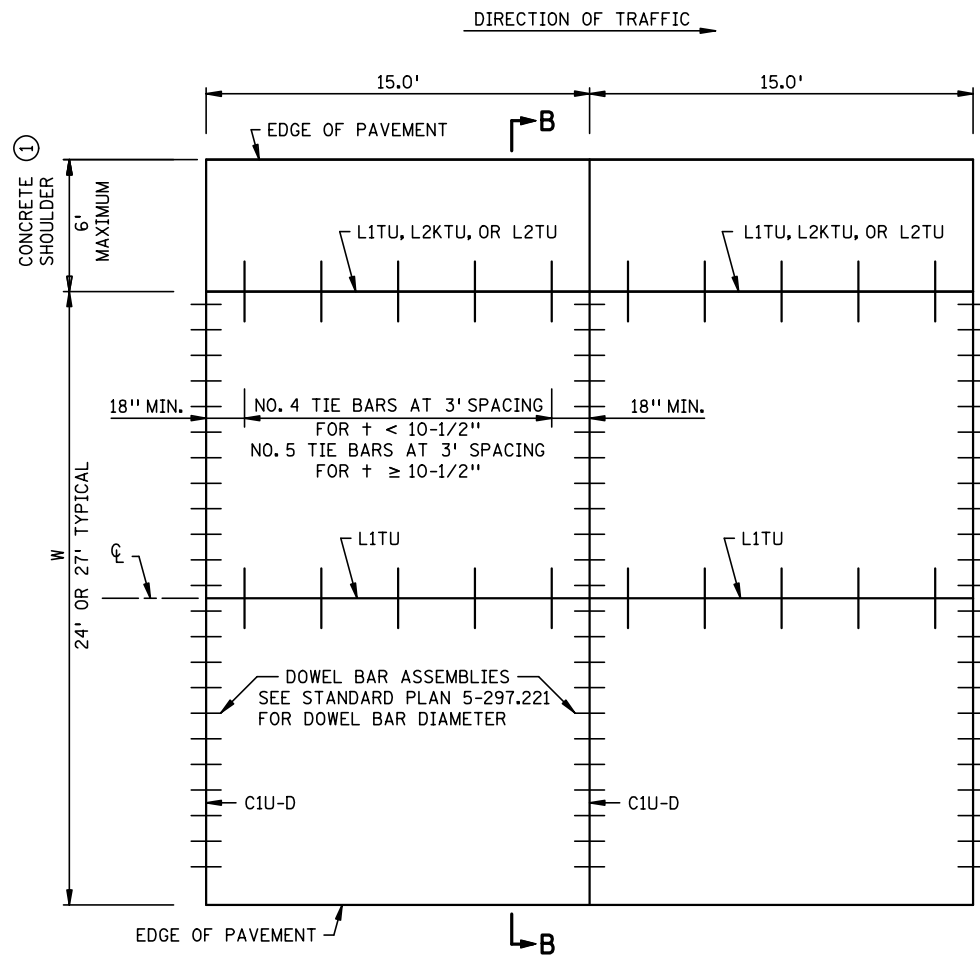
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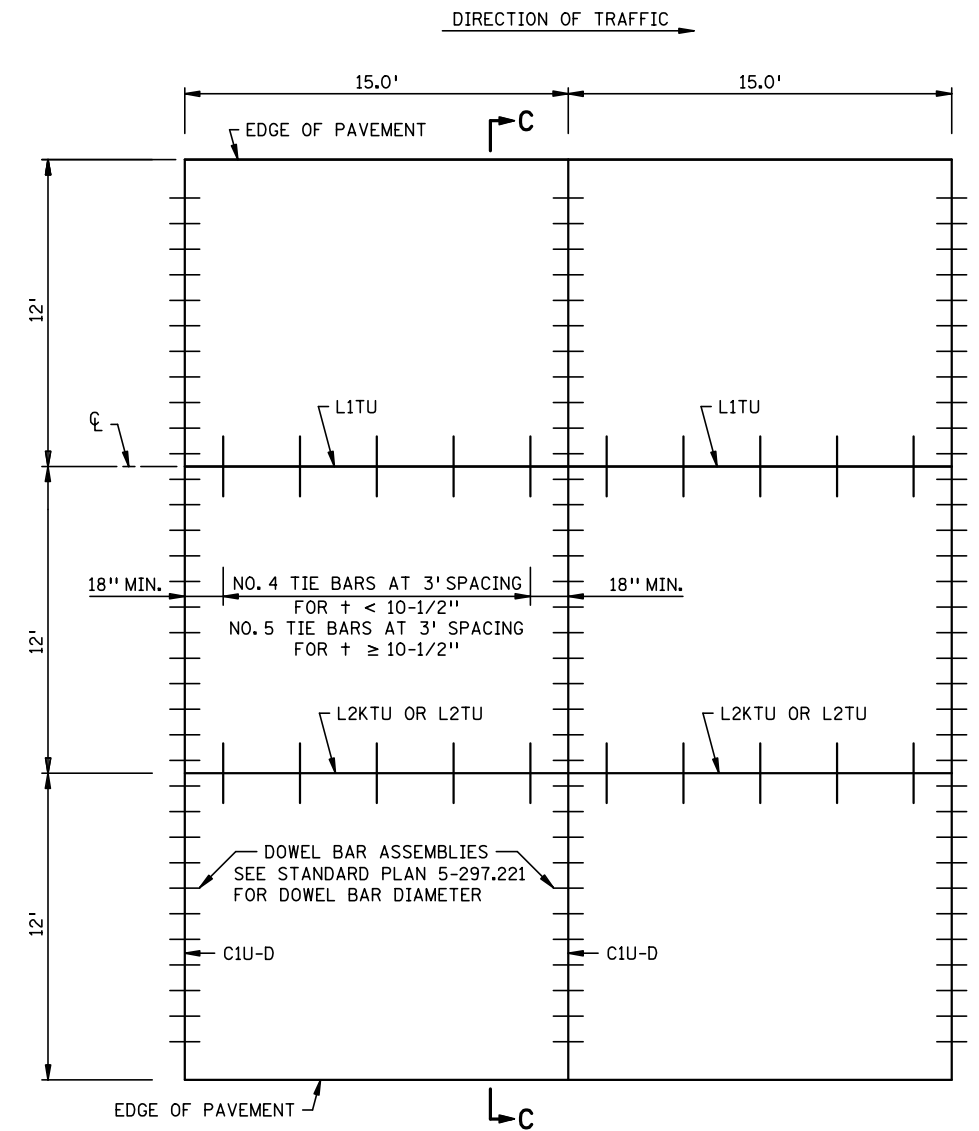


REVISIONS:
 APPROVED: 8-6-2014
 Director, Office of Land Management

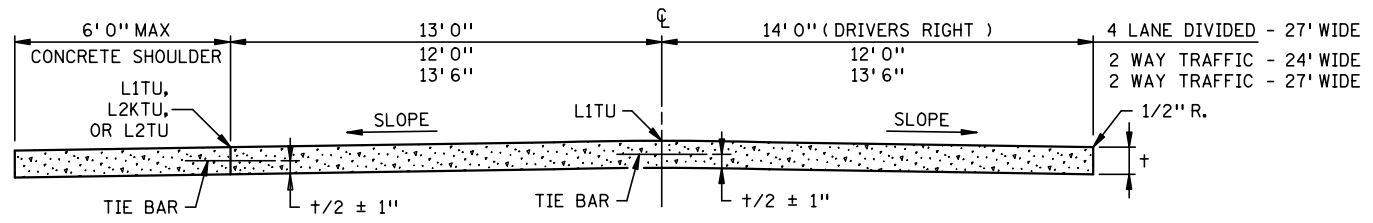
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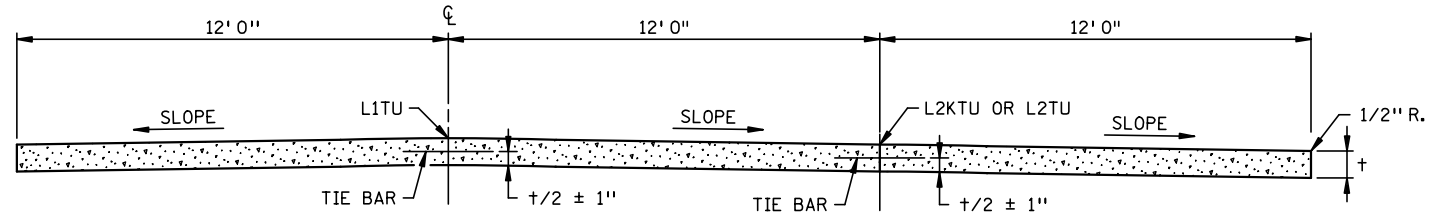
MAINLINE PAVEMENT WITH INSIDE CONCRETE SHOULDER
DOWELED



MAINLINE PAVEMENT URBAN
DOWELED



SECTION B-B



SECTION C-C

GENERAL NOTES:

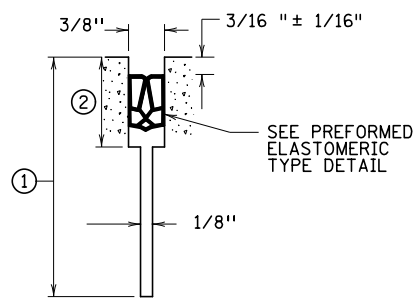
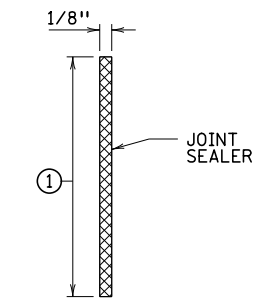
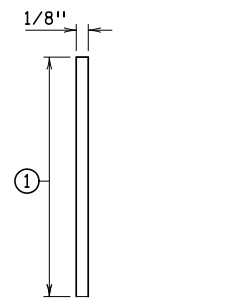
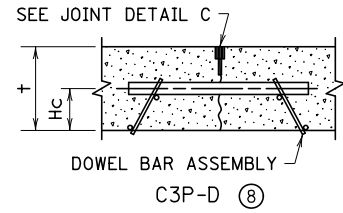
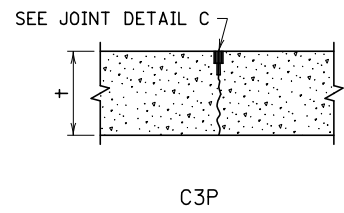
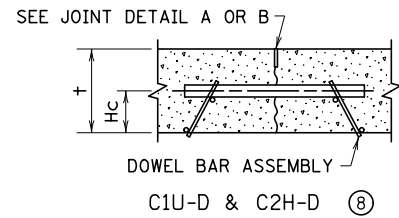
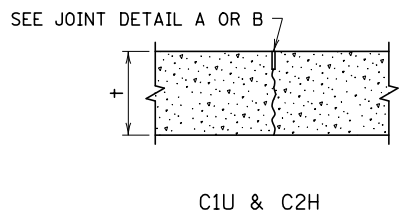
SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS, t .
DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.
ALL REINFORCING BARS SHALL BE EPOXY COATED AND COMPLY WITH SPEC. 3301.
FOR SUPPLEMENTAL PAVEMENT REINFORCEMENT, SEE STANDARD PLATE 1070.

① CONTACT THE CONCRETE ENGINEER TO DISCUSS WHETHER TIE BARS AND SAWEED JOINTS ARE NEEDED BASED ON CONCRETE SHOULDER WIDTH AND DEPTH.

REVISION:
APPROVED: FEBRUARY 16, 2016
<i>[Signature]</i> DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

	STANDARD PLAN 5-297.217	2 OF 2	CONCRETE MAINLINE PAVEMENT 15.0 FT. PANEL LENGTH URBAN OR CONCRETE SHOULDERS
		APPROVED: 2-16-2016	
DEPARTMENT 11/24/2020 TRANSPORTATION	STATE DESIGN ENGINEER	STATE PROJ. NO. 002-611-036	

DATE: 12/14/2020 TIME: 10:48:32 AM
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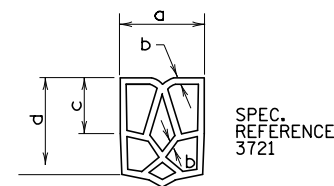


JOINT DETAIL A (3)(5)
SAWED & UNSEALED

JOINT DETAIL B (4)(5)
SAWED & SEALED

JOINT DETAIL C (4)(5)
SAWED AND SEALED

REQUIRED DIMENSIONS (2)	
JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	1 1/16"
	USE IN ALL 3/8" JOINTS
a	0.69" + 0.13" - 0.05"
b	0.08" ± 0.02"
c	0.25" MIN.
d	0.63" MIN.



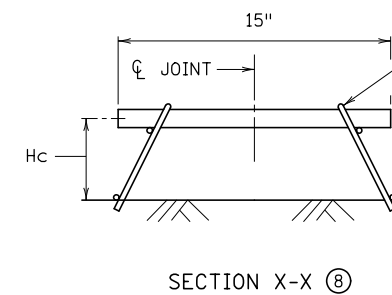
TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

PREFORMED ELASTOMERIC TYPE DETAIL (2)

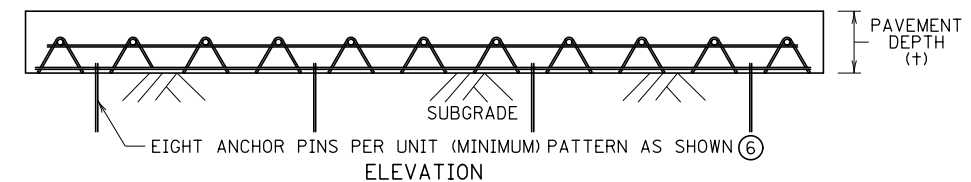
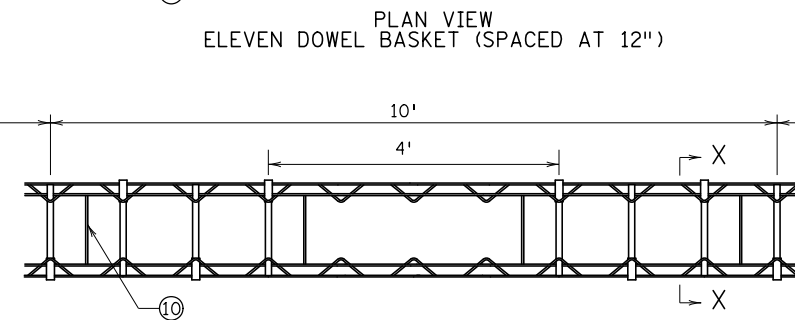
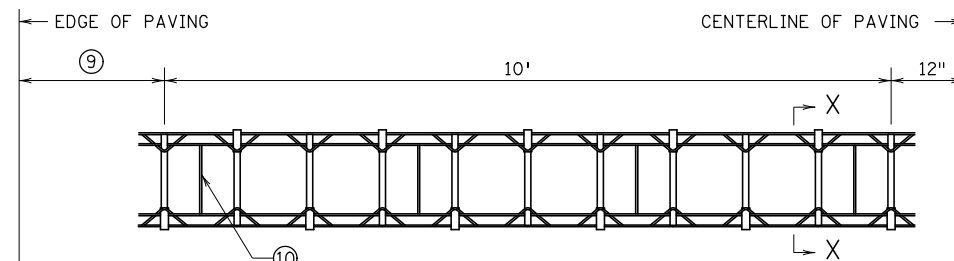
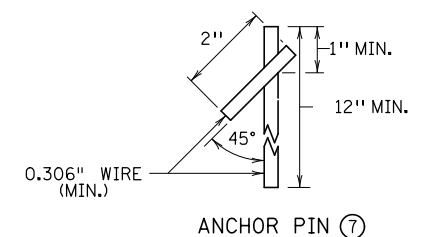
CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE				
JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
C1U	C1U-D	A	UNSEALED	1/8"
C2H	C2H-D	B	3725	1/8"
C3P	C3P-D	C	3721	3/8"

LEGEND	EXAMPLE
C = CONTRACTION JOINT	C2H-D
NO. = JOINT REFERENCE	
U = UNSEALED	
H = HOT Poured	
P = PREFORMED	
-D = DOWEL BARS	

DOWEL BAR TABLE		
+ PAVEMENT DEPTH (IN.)	DOWEL BAR DIAMETER (IN.)	HC HEIGHT TO CENTER (IN.)
7 - 7 1/2	1	3
8 - 10	1 1/4	4
≥ 10 1/2	1 1/2	5



WELD ALTERNATE ENDS OF DOWEL BAR



CONTRACTION JOINT DOWEL BAR ASSEMBLIES

NOTES:

- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY. FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE/RAMP PAVEMENT.
- SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
- (1) JOINT DEPTH AND TOLERANCE: $\pm 3 \pm 1/4$ ".
- (2) JOINT DEPTH 1/4" MORE THAN THE PREFORMED SEALER WHEN COMPRESSED TO FIT THE JOINT DESIGN WIDTH. "a" DIMENSION APPLIES AT ANY POINT THROUGHOUT "c" DEPTH. SHARP CORNERS NOT PERMITTED. PROVIDE CORNERS WITH SUITABLE FILLET.
- (3) CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- (4) CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING, WHEN SEALING IS REQUIRED.
- (5) JOINT WIDTH TOLERANCE IS $\pm 1/16$ " TO $-1/32$ ".
- (6) EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.
- (7) ANCHOR PIN REQUIREMENTS FOR CONCRETE PAVEMENT ON GRADE CONSTRUCTION. FOR CONCRETE OVERLAYS, ANCHOR PIN REQUIREMENT AS APPROVED BY THE ENGINEER.
- (8) TOLERANCES:
 - PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE $\pm 1/8$ " IN 15".
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT $\pm 1/4$ " IN 15".
 - SAW CONTRACTION JOINTS PERPENDICULAR TO THE CENTERLINE OF THE PAVEMENT AND CENTERED ON THE DOWEL BAR ± 3 ".
 - HEIGHT (hc) TO CENTER OF DOWEL BAR $\pm 1/2$ ".
- (9) DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
 - 3' 0" FOR 14' 0" LANE.
 - 2' 6" FOR 13' 6" LANE.
 - 2' 0" FOR 13' 0" LANE.
 - 1' 0" FOR 12' 0" LANE.
- (10) CONTRACTOR OPTION TO CUT AND BEND SPACER WIRES AFTER STAKING.

REVISION:

APPROVED: 08-13-2020

Glenn Engstrom

GLENN ENGSTROM
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

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MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.221 1 OF 4

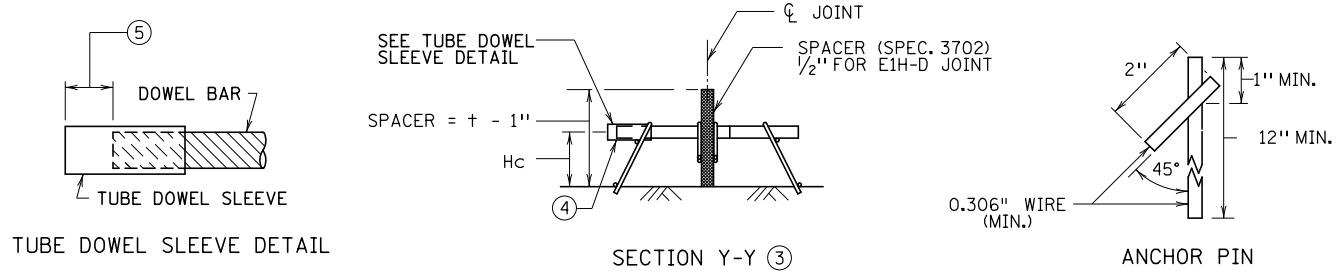
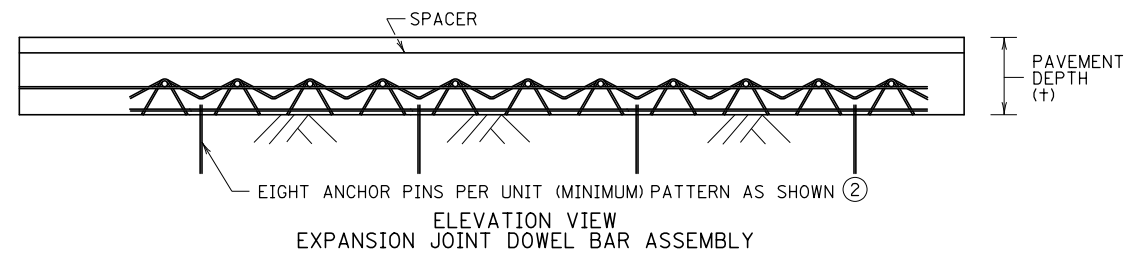
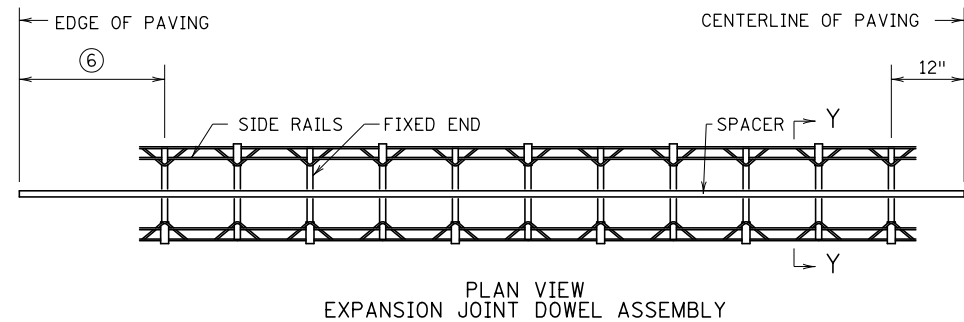
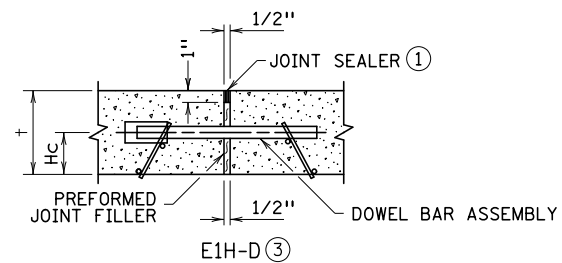
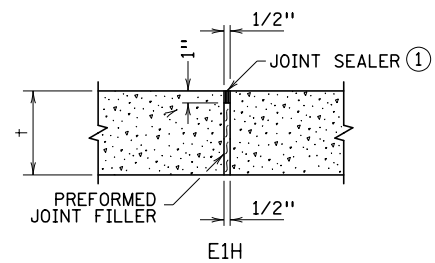
Tom Styrbicki

THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 08-13-2020
REVISED:

PAVEMENT JOINTS
CONTRACTION (DESIGN C)

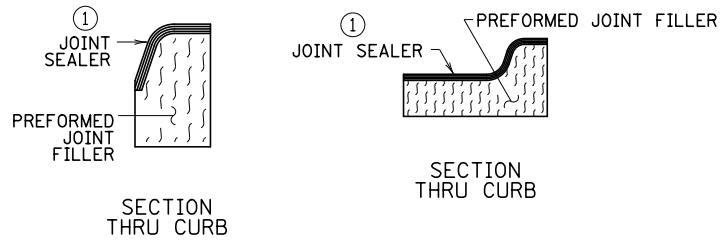
STATE PROJ. NO. 002-611-036 SHEET NO. 31C OF 416 SHEETS



EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE				
JOINT REFERENCE		PREFORMED JOINT FILLER SPEC.	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
E1H	E1H-D	3702	3725	1/2"

LEGEND	EXAMPLE
E = EXPANSION JOINT	E1H-D
NO. = JOINT REFERENCE	
H = HOT POURED	
-D = DOWEL BARS	

DOWEL BAR TABLE		
† PAVEMENT DEPTH (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER (IN.)
7 - 7 1/2	1	3
8 - 10	1 1/4	4
≥ 10 1/2	1 1/2	5



- NOTES:**
- WHEN USING THE EXPANSION JOINT DOWEL ASSEMBLY, CONTACT THE CONCRETE OFFICE.
 - SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.
 - PROVIDE PREFORMED JOINT FILLER MATERIAL IN ACCORDANCE WITH SPEC. 3702.
 - FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - ① JOINT SEALER SPEC. 3725. CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE.
 - ② EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.
 - ③ TOLERANCES:
 - PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE ±1/8" IN 15"
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT ±1/4" IN 15"
 - HEIGHT (hc) TO CENTER OF DOWEL BAR ± 1/2".
 - ④ PLACE METAL INSTALLATION SHIELDS FOR EXPANSION JOINTS PARALLEL TO THE PAVEMENT SURFACE AND THE PAVEMENT CENTERLINE WITHIN A TOLERANCE OF 1/4" WITHIN THE LENGTH OF BAR.
 - ⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE IS 1" MINIMUM.
 - ⑥ DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
 - 3' 0" FOR 14' 0" LANE.
 - 2' 6" FOR 13' 6" LANE.
 - 2' 0" FOR 13' 0" LANE.
 - 1' 0" FOR 12' 0" LANE.

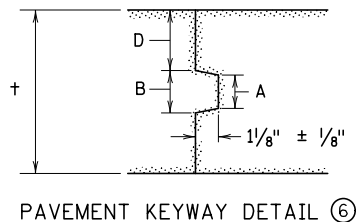
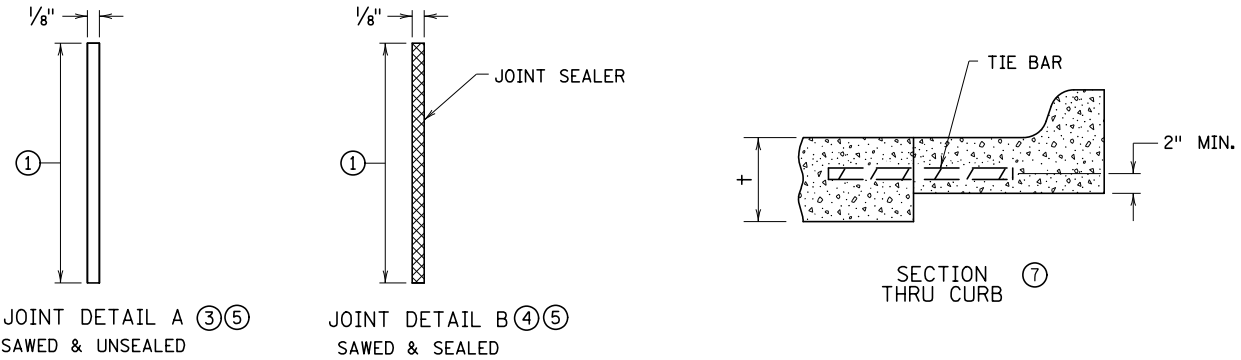
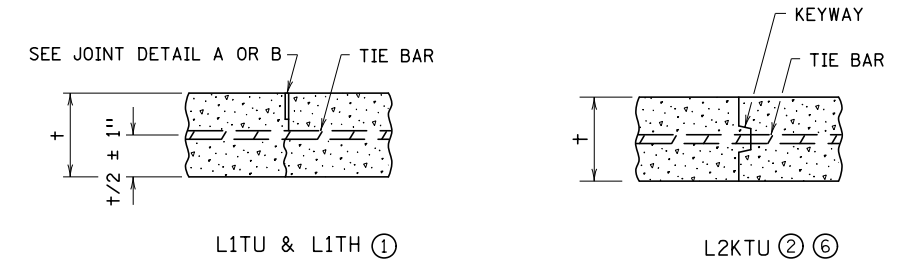
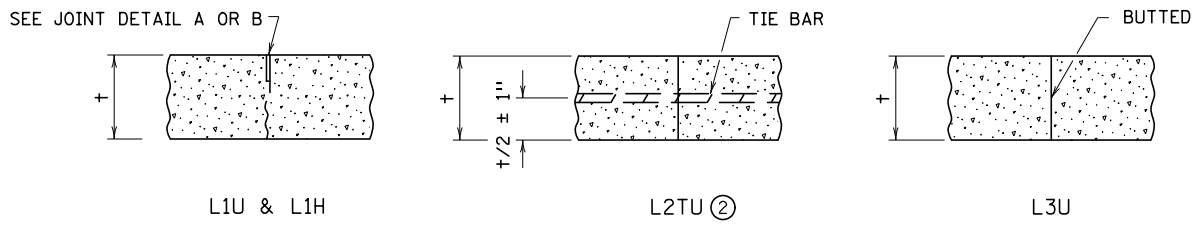
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REVISION:
 APPROVED: 08-13-2020
 GLENN ENDBROM
 DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.221 2 OF 4
 APPROVED: 08-13-2020
 REVISED:
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

PAVEMENT JOINTS
 EXPANSION (DESIGN E)
 STATE PROJ. NO. 002-611-036 SHEET NO. 31D OF 416 SHEETS

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LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE

JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1TU		A	UNSEALED	1/8"
L1H	L1TH		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
L3U			NONE	UNSEALED	

LEGEND

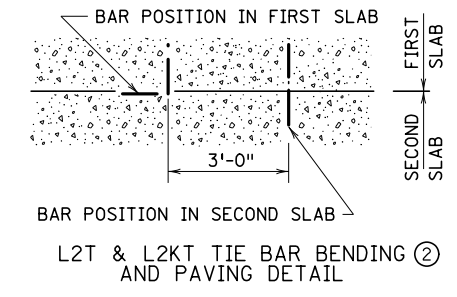
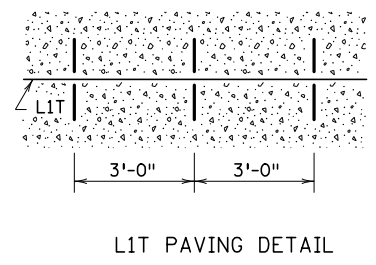
L = LONGITUDINAL JOINT
 NO. = JOINT REFERENCE
 1 = PAVED CONSTRUCTION JOINT
 2 = TIED CONSTRUCTION JOINT
 3 = BUTTED CONSTRUCTION JOINT
 K = KEYWAY
 T = TIE BARS
 U = UNSEALED
 H = HOT POURED

EXAMPLE

L2KTU

TIE BAR TABLE

PAVEMENT THICKNESS	TIE BAR SIZE	LENGTH	SPACING
< 10-1/2"	NO. 4	30"	3'
≥ 10-1/2"	NO. 5	36"	3'
ALL THICKNESS WHEN TYING TO CURB AND GUTTER	NO. 4	30"	3'



FIXED FORM KEYWAY TABLE

± PAVEMENT THICKNESS	D (TOLERANCE ± 1/4")	A	B
< 7"	2-1/2"	1"	2"
7" TO 7-1/2"	3"	2"	2-1/2"
8" TO 10"	4"	2"	2-1/2"
≥ 10-1/2"	5"	2"	2-1/2"

SLIPFORM KEYWAY TABLE

± PAVEMENT THICKNESS	D (TOLERANCE ± 1/4")
< 10"	NO KEYWAY
≥ 10"	5"

- NOTES:**
- PROVIDE EPOXY COATED TIE BARS COMPLYING WITH SPEC. 3301.
 - FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.
 - SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
 - LONGITUDINAL JOINTS SAWED WIDER THAN 1/8", CONTACT THE CONCRETE UNIT FOR SEALING RECOMMENDATIONS.
- ① JOINT DEPTH AND TOLERANCE: $\pm 3 \pm 1/4$ ".
 - ② BEND TIE BARS 90 DEGREES WHEN INSERTED IN THE L2 JOINTS, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.
 - ③ CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
 - ④ CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING, WHEN SEALING IS REQUIRED.
 - ⑤ JOINT WIDTH TOLERANCE IS $\pm 1/16$ " TO $-1/32$ ".
 - ⑥ CONTRACTOR'S OPTION TO USE KEYWAY WHEN:
 - PLACING FIXED FORM CONSTRUCTION.
 - PLACING SLIPFORM CONSTRUCTION WHEN $\pm \geq 10$ ".
 - USE OF KEYWAY FOR ANY OTHER APPLICATION REQUIRES APPROVAL BY THE ENGINEER. OTHER KEYWAY SHAPES MAY BE USED WITH THE APPROVAL OF THE CONCRETE ENGINEER.
 - ⑦ WHEN CURB AND GUTTER IS NOT CONSTRUCTED AT THE SAME DEPTH AS ADJACENT CONCRETE, PLACE TIE BAR MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.

REVISION:

APPROVED: 08-13-2020

Glenn Engstrom

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MINNESOTA

DEPARTMENT OF TRANSPORTATION

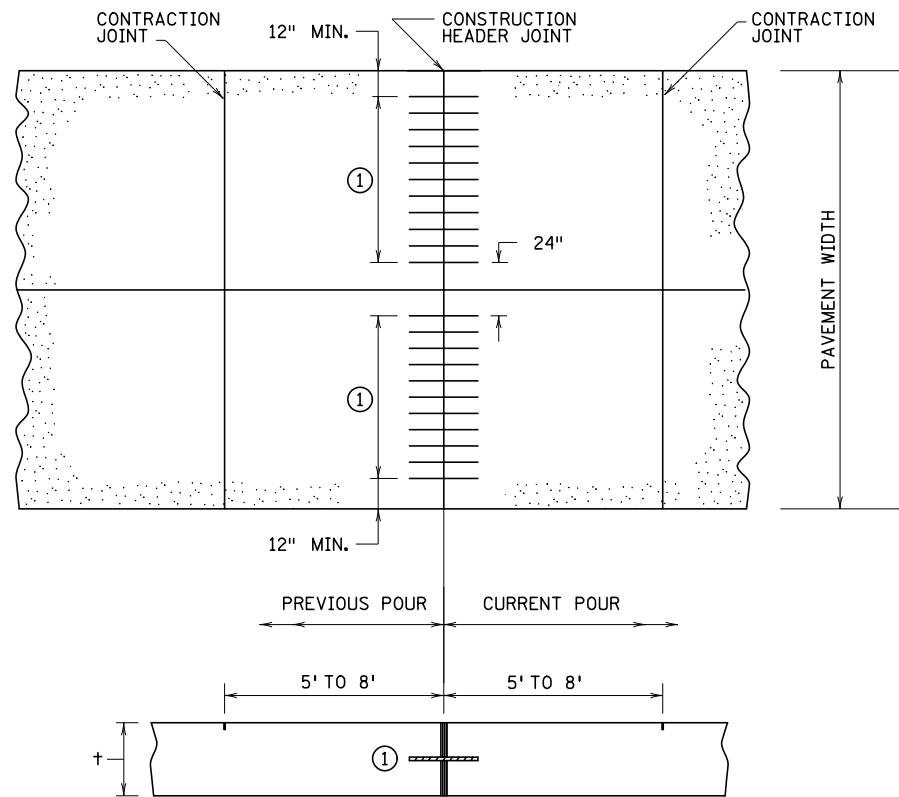
STANDARD PLAN 5-297.221 3 OF 4

APPROVED: 08-13-2020
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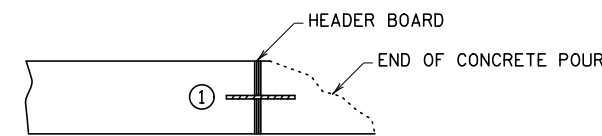
Thomas Styrbicki

THOMAS STYRBICKI
 STATE DESIGN ENGINEER

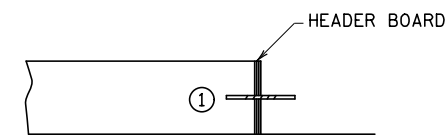
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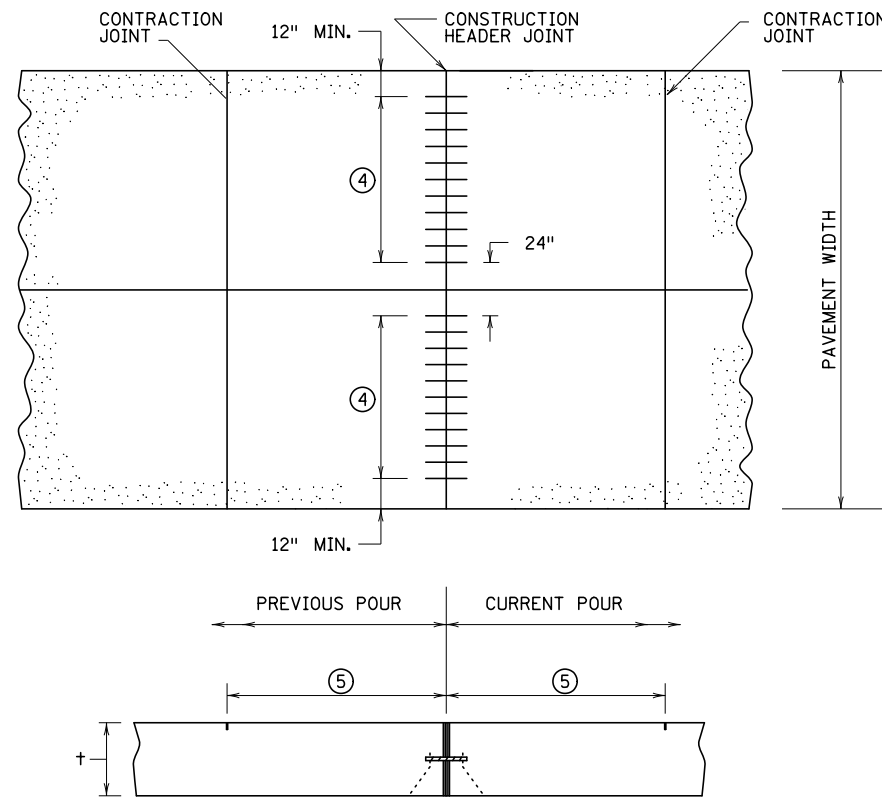
REINFORCEMENT BAR CONSTRUCTION HEADER



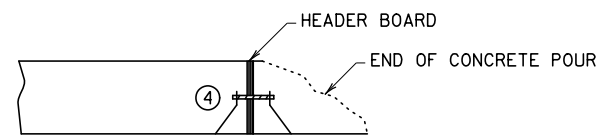
SLIPFORM PLACED REINFORCEMENT BAR HEADER ②



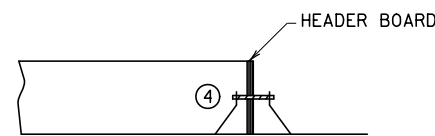
FIXED FORM PLACED REINFORCEMENT BAR HEADER ③



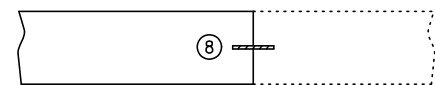
DOWEL BAR CONSTRUCTION HEADER



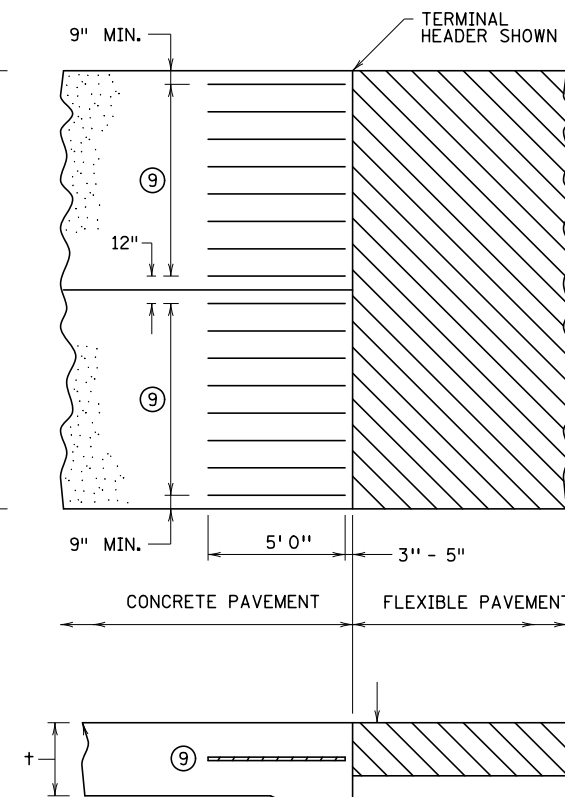
SLIPFORM PLACED DOWEL BAR HEADER ⑥



FIXED FORM PLACED DOWEL BAR HEADER ⑦



DRILL AND GROUT DOWEL BAR HEADER



PERMANENT HEADER ⑩

NOTES:

- ① PROVIDE EPOXY COATED REINFORCEMENT BARS IN ACCORDANCE WITH SPEC. 3301.
 - WHEN $t < 10\frac{1}{2}$ " , NO. 4 BARS 30" LONG, SPACED 12" ON CENTER AT DEPTH OF $t/2 \pm 1$ "
 - WHEN $t \geq 10\frac{1}{2}$ " , NO. 5 BARS 36" LONG, SPACED 12" ON CENTER AT DEPTH OF $t/2 \pm 1$ "
- ② PAVE PAST THE HEADER LOCATION. REMOVE END OF CONCRETE POUR. SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. INSERT THE REINFORCEMENT BARS AND FINISH THE CONCRETE BEHIND THE BOARD.
- ③ SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. PLACE THE CONCRETE BEHIND THE BOARD AND INSERT THE REINFORCEMENT BARS. CONSOLIDATE AND FINISH THE CONCRETE BEHIND THE HEADER BOARD.
- ④ PROVIDE DOWEL BARS IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
- ⑤ DISTANCE EQUAL TO OR LESS THAN THE DESIGNED CONTRACTION JOINT SPACING IN ACCORDANCE WITH THE CONTRACT.
- ⑥ PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION. SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PAVE PAST THE HEADER LOCATION AND FINISH CONCRETE BEHIND THE HEADER BOARD. THOROUGHLY REMOVE ALL CONCRETE FROM THE EXPOSED DOWELS.
- ⑦ PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION. SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PLACE, CONSOLIDATE AND FINISH THE CONCRETE BEHIND THE HEADER BOARD.
- ⑧ DRILL AND GROUT 18" LONG DOWEL BARS, SPACED 12" ON CENTER AT A DEPTH OF $t/2 \pm 1$ " WITH A MNDOT APPROVED EPOXY OR NON-SHRINK GROUT IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- ⑨ PROVIDE NO. 7 REINFORCEMENT BARS, 5' LONG, SPACED 18" ON CENTER AT DEPTH OF $t/2 \pm 1$ " .
- ⑩ USE THE TERMINAL HEADER WHEN LONG SECTIONS OF CONCRETE ABUT BITUMINOUS. DO NOT USE A TERMINAL HEADER ON SHORT CONCRETE SECTIONS (LESS THAN 200 FEET) ABUTTING BITUMINOUS (E.G. SIDE STREETS, ETC.). CONTACT THE CONCRETE UNIT WHEN FUTURE CONCRETE IS BEING CONSTRUCTED ADJACENT TO AN EXISTING TERMINAL HEADER.

REVISION:

APPROVED: 08-13-2020

 GLENN ENGSTROM
 DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH



STANDARD PLAN 5-297.221

4 OF 4

THOMAS STYRBICKI
 STATE DESIGN ENGINEER

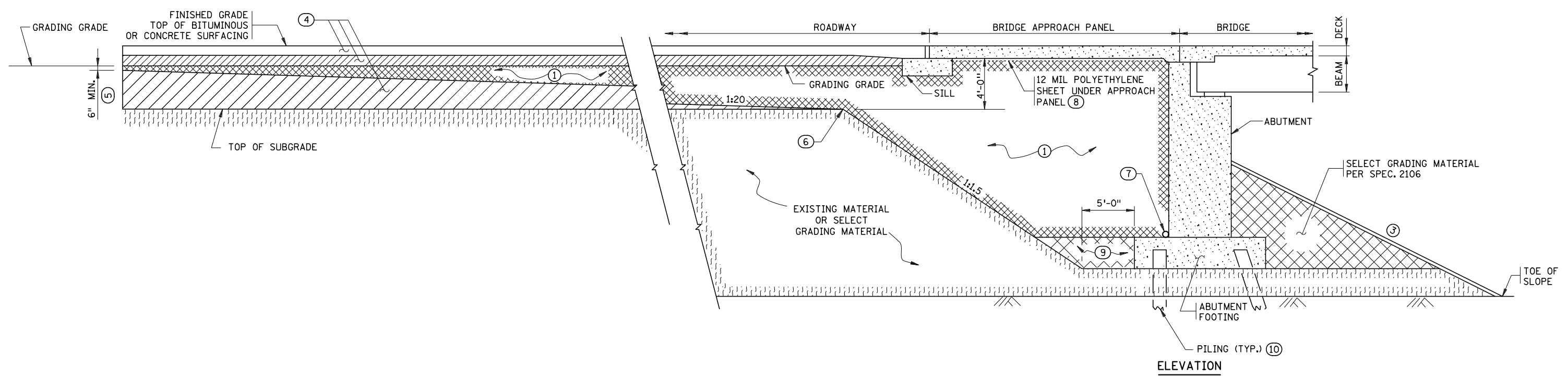
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STATE PROJ. NO. 002-611-036

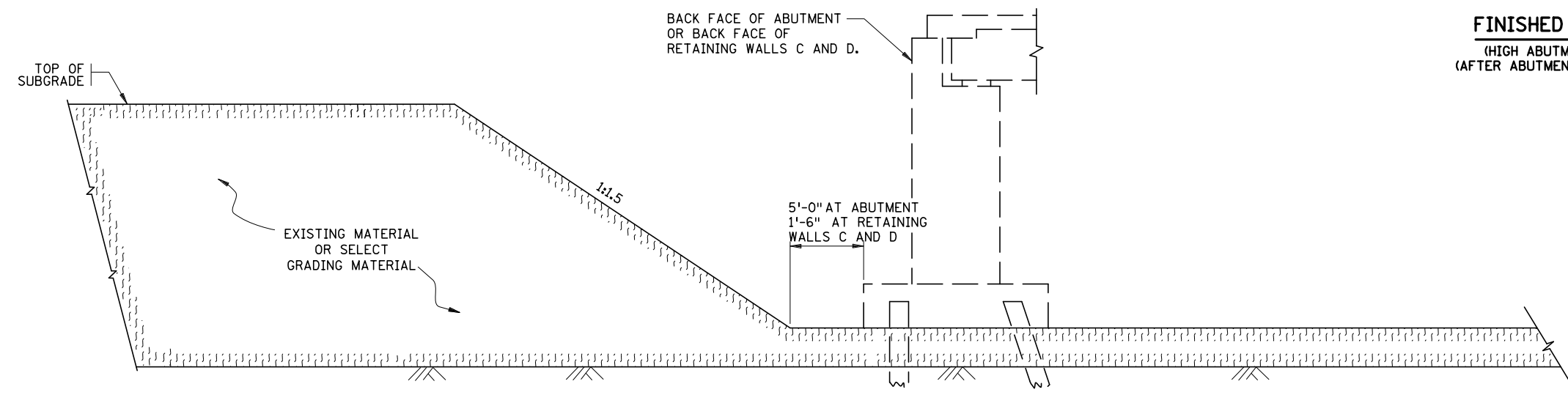
PAVEMENT JOINTS
 CONSTRUCTION AND TERMINAL HEADERS

SHEET NO. 32 OF 416 SHEETS

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FINISHED GRADING SECTION
 (HIGH ABUTMENT ON PILING SHOWN)
 (AFTER ABUTMENT HAS BEEN CONSTRUCTED)



ROUGH GRADING SECTION
 (PRIOR TO ABUTMENT CONSTRUCTION)
 EAST EMBANKMENT ONLY. DOES NOT APPLY TO
 WEST EMBANKMENT WITH GROUND IMPROVEMENTS

ROUGH GRADING SECTION
 HAS BEEN MODIFIED TO
 MATCH PROJECT CONDITIONS.

NOTES:

- ① QUANTITY OF STRUCTURAL BACKFILL (SPEC. 3149.2.D.2) IS BASED ON DIMENSIONS SHOWN, AND PAYMENT IS BASED ON THIS QUANTITY. SEE PLAN FOR QUANTITY. IF THE CONTRACTOR CHOOSES TO INCREASE DIMENSIONS IN ORDER TO FACILITATE CONSTRUCTION OPERATIONS, ANY QUANTITY INCREASES ARE CONSIDERED INCIDENTAL.
- ② PLACE ABUTMENT APPROACH SURCHARGE MATERIAL PRIOR TO ABUTMENT CONSTRUCTION. AFTER COMPLETION OF SURCHARGE WAITING PERIOD, REMOVE SURCHARGE AND EXISTING MATERIAL OR SELECT GRADING MATERIAL TO THE LIMITS SHOWN IN "ROUGH GRADING SECTION" ABOVE, PRIOR TO ABUTMENT CONSTRUCTION. SEE BRIDGE PLANS AND SPECIAL PROVISIONS FOR ABUTMENT APPROACH SURCHARGE REQUIREMENT AND PAYMENTS.
- ③ SEE BRIDGE PLAN FOR SLOPE AND SLOPE PROTECTION.
- ④ SEE PLAN FOR TYPE OF MATERIAL.
- ⑤ GRADING TO BE SQUARED OFF ON SKEWED BRIDGES.
- ⑥ TOP OF 1:1.5 SLOPE (FORMS A LINE PARALLEL TO END OF BRIDGE).
- ⑦ SUBSURFACE PIPE DRAIN. FURNISH AND INSTALL AT TOP OF BRIDGE FOOTING IF BRIDGE DETAIL B910 IS INCLUDED ON BRIDGE PLAN.
- ⑧ IF THE APPROACH PANEL IS TIED TO THE ABUTMENT WITH REINFORCEMENT BARS, PLACE 12 MIL POLYETHYLENE SHEETING (OR TWO LAYERS OF 6 MIL) UNDER THE LIMITS OF THE APPROACH PANEL TO ALLOW THE PANEL TO MOVE LONGITUDINALLY ON THE GRADE. SHEETING IS INCIDENTAL.
- ⑨ SELECT GRADING MATERIAL (SPEC. 2106) SHALL BE COMPACTED AND MEET THE MOISTURE REQUIREMENTS OF 2106. STRUCTURAL BACKFILL (SPEC. 3149.2.D.2) MAY BE USED IN LIEU OF SELECT GRADING MATERIAL PER SPEC. 2106.
- ⑩ FOR BRIDGES WITHOUT PILING, REFER TO BRIDGE PLANS FOR MATERIAL REQUIREMENTS BELOW ABUTMENT FOOTING.

* MODIFIED

REVISION:
 APPROVED: AUGUST 22, 2019

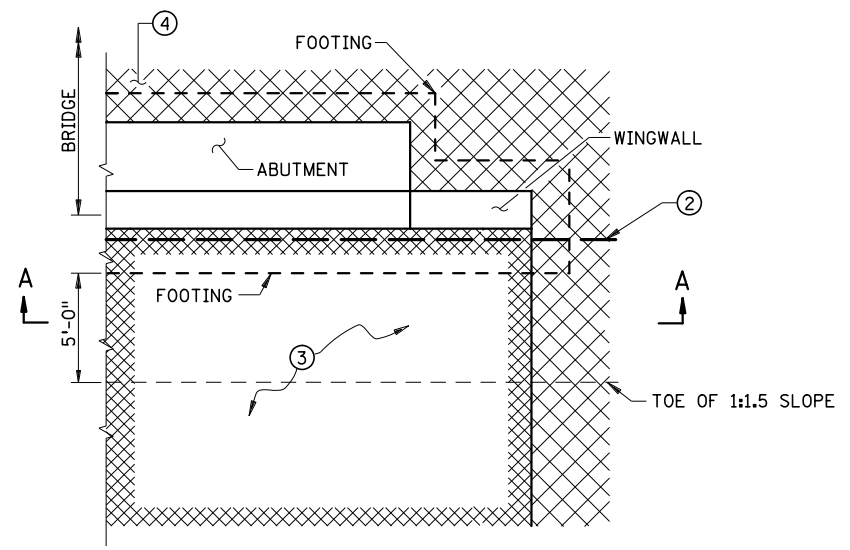
 GLENN ENGSTROM
 DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

m MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.233 1 OF 2
 Peter A Harff
 APPROVED: 08-22-2019
 REVISOR:
 STATE DESIGN ENGINEER

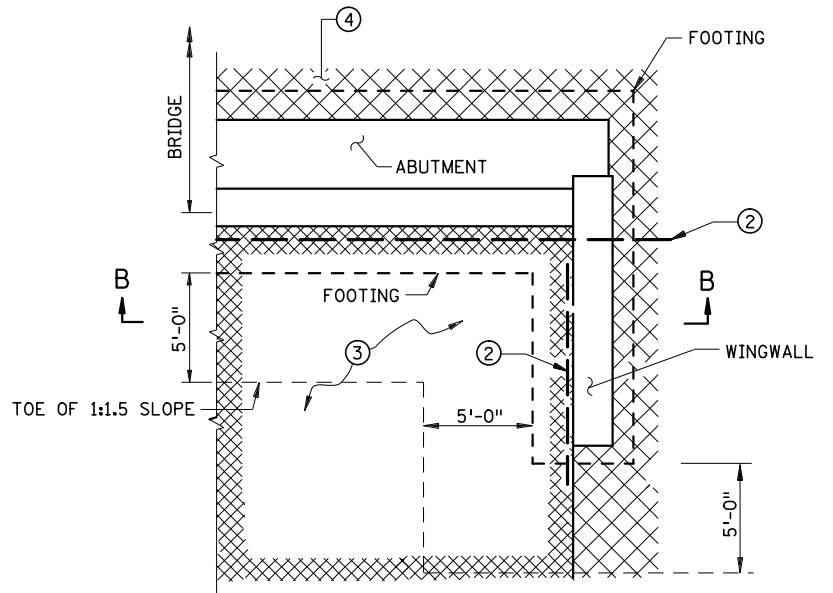
**BRIDGE ABUTMENT APPROACH TREATMENT FOR
 PARAPET OR SEMI-INTEGRAL ABUTMENT ON FOOTING**
 STATE PROJ. NO. 002-611-036 SHEET NO. 33 OF 416 SHEETS

* DENOTES MODIFICATION FROM STANDARD PLAN.

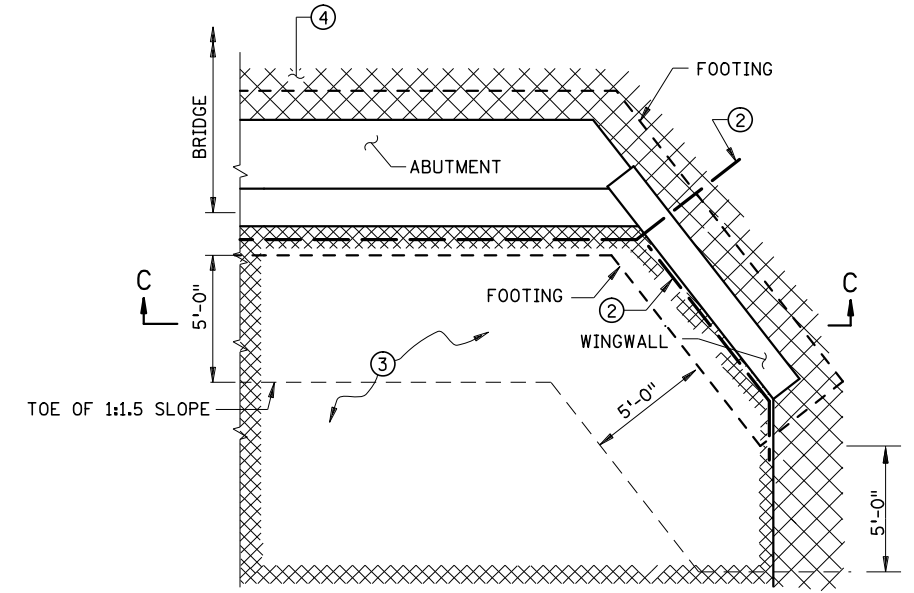
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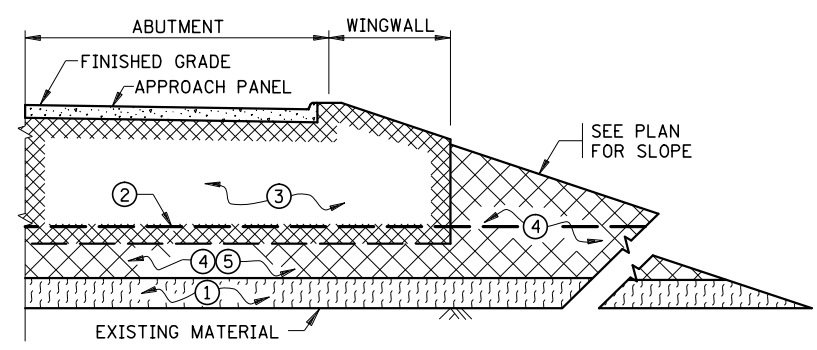
PARTIAL PLAN VIEW AT ABUTMENT
(WINGWALL AT 180°) (FINISHED GRADING)



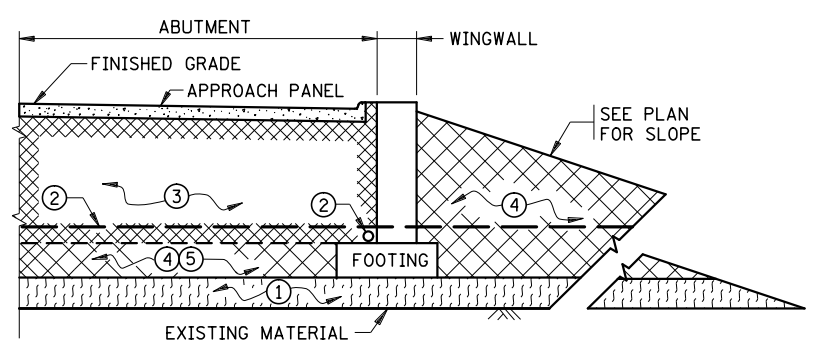
PARTIAL PLAN VIEW AT ABUTMENT
(WINGWALL AT 90°) (FINISHED GRADING)



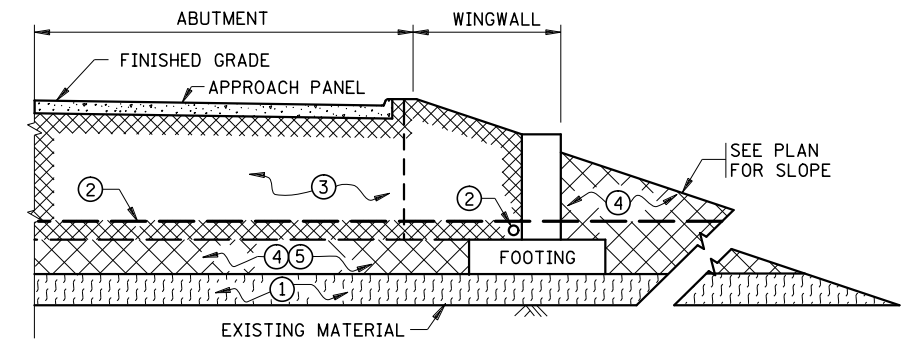
PARTIAL PLAN VIEW AT ABUTMENT
(WINGWALL AT ANY OTHER ANGLE) (FINISHED GRADING)



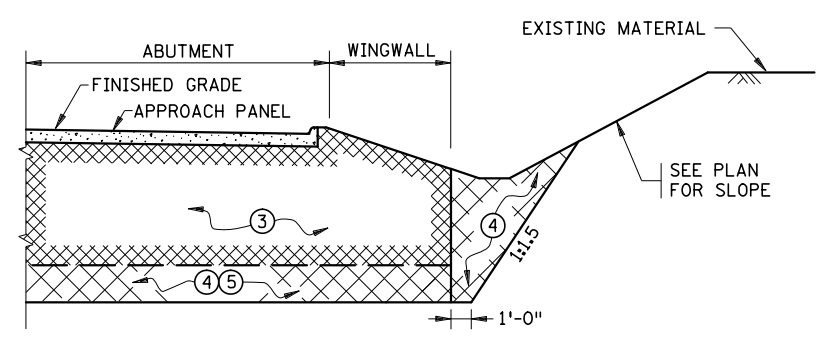
FINISHED GRADING SECTION A-A
(FILL SECTION)



FINISHED GRADING SECTION B-B
(FILL SECTION)



FINISHED GRADING SECTION C-C
(FILL SECTION)



FINISHED GRADING SECTION A-A
(CUT SECTION)
(BRIDGE DETAIL B910 DRAIN NOT SHOWN)

NOTES:

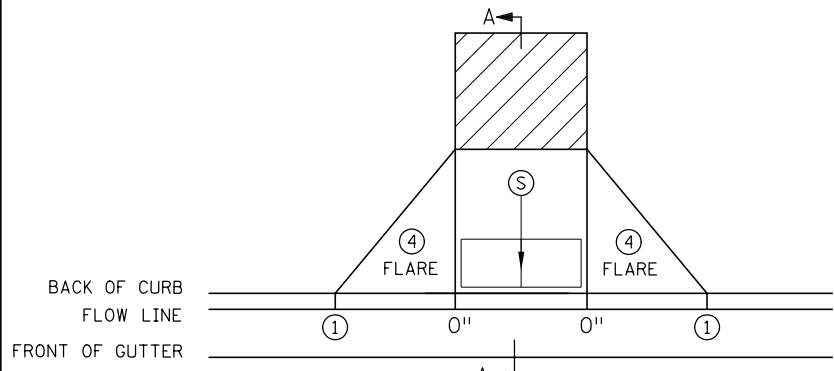
- ① EXISTING MATERIAL OR SELECT GRADING MATERIAL (SPEC. 2106).
- ② SUBSURFACE PIPE DRAIN, FURNISH AND INSTALL AT TOP OF BRIDGE FOOTING IF BRIDGE DETAIL B910 IS INCLUDED ON BRIDGE PLAN.
- ③ QUANTITY OF STRUCTURAL BACKFILL (SPEC. 3149.2.D.2) IS BASED ON DIMENSIONS SHOWN, AND PAYMENT IS BASED ON THIS QUANTITY. SEE PLAN FOR QUANTITY. IF THE CONTRACTOR CHOOSES TO INCREASE DIMENSIONS IN ORDER TO FACILITATE CONSTRUCTION OPERATIONS, ANY QUANTITY INCREASES ARE CONSIDERED INCIDENTAL.
- ④ SELECT GRADING MATERIAL (SPEC. 2106).
- ⑤ MATERIAL SHALL MEET THE COMPACTION AND MOISTURE CONTENT REQUIRMENTS OF SPEC. 2106. STRUCTURAL BACKFILL (SPEC. 3149.2.D.2) MAY BE USED IN LIEU OF SELECT GRADING MATERIAL (SPEC. 2106).

REVISION:
APPROVED: AUGUST 22, 2019 <i>Glenn Engstrom</i> GLENN ENGSTROM DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

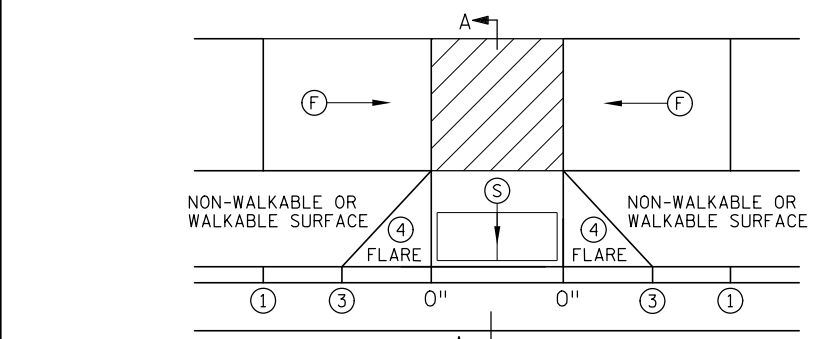
 MINNESOTA DEPARTMENT OF TRANSPORTATION	STANDARD PLAN 5-297.233	2 OF 2
	<i>Peter A Harff</i> STATE DESIGN ENGINEER	APPROVED: 08-22-2019 REVISED:

BRIDGE ABUTMENT APPROACH TREATMENT FOR PARAPET OR SEMI-INTEGRAL ABUTMENT ON FOOTING
STATE PROJ. NO. 002-611-036
SHEET NO. 34 OF 416 SHEETS

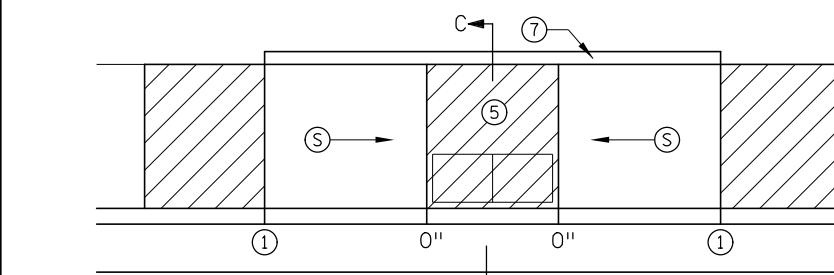
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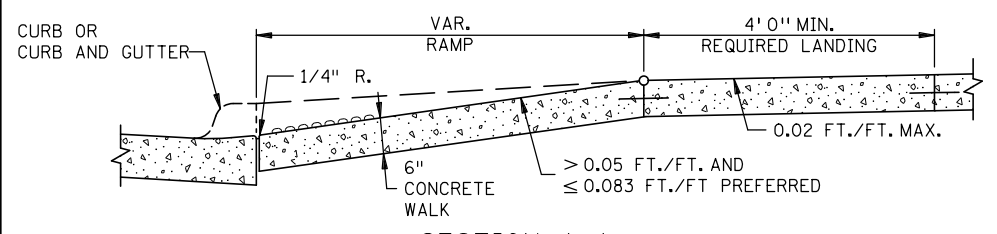
PERPENDICULAR



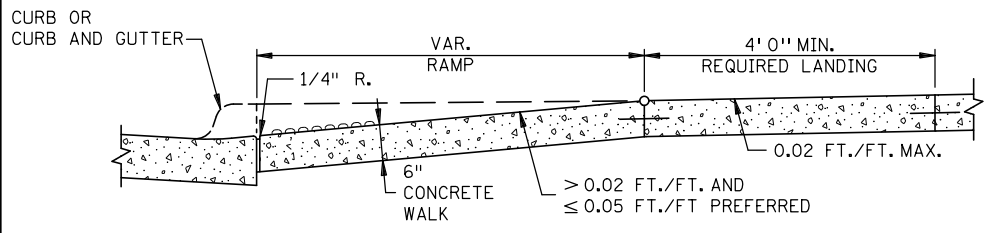
TIERED PERPENDICULAR



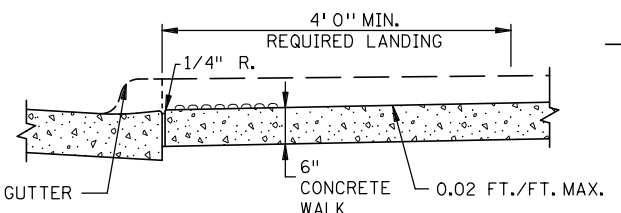
PARALLEL



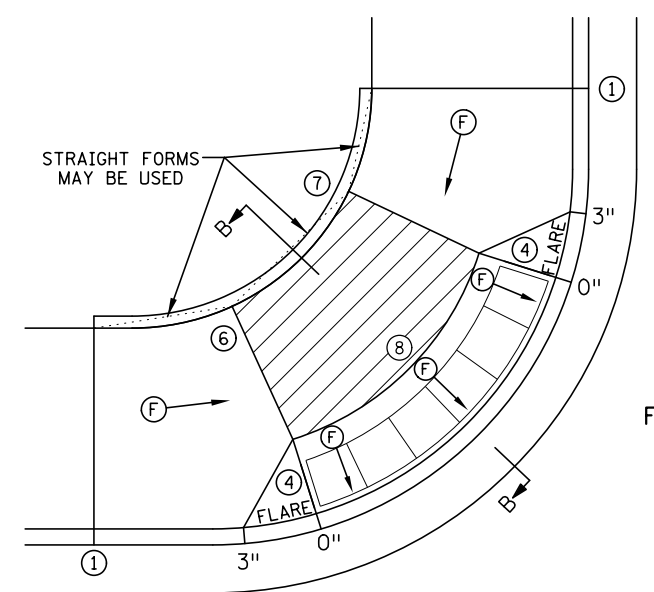
SECTION A-A
PERPENDICULAR/TIERED/DIAGONAL



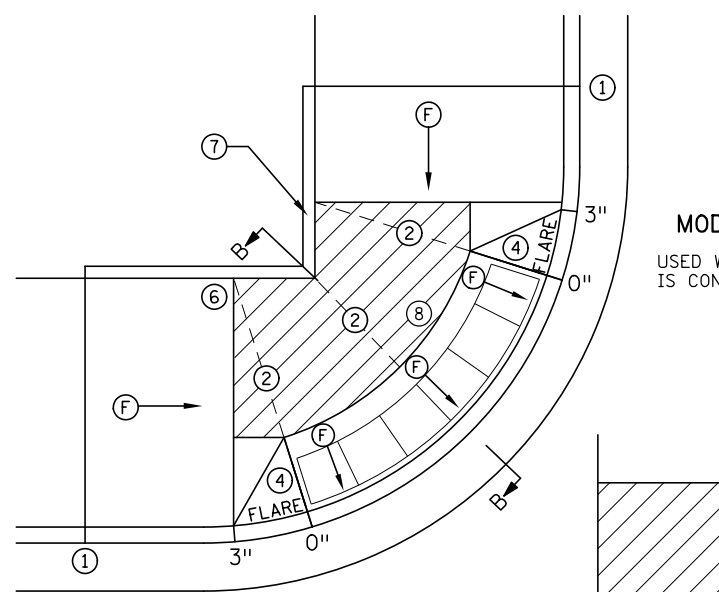
SECTION B-B
FAN



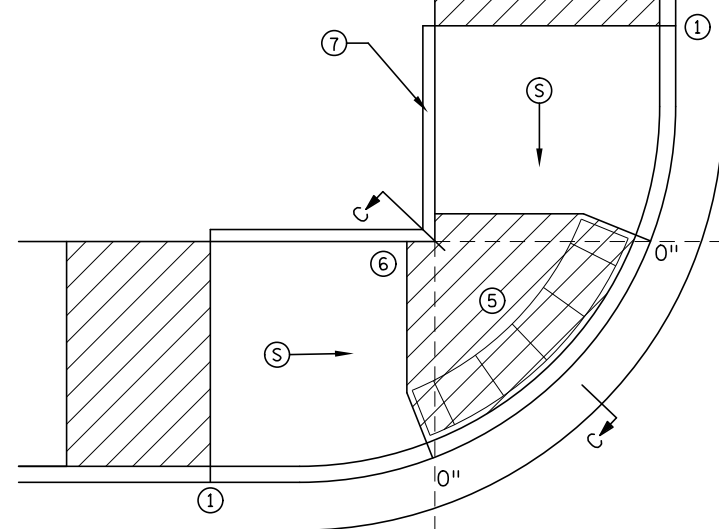
SECTION C-C
PARALLEL/DEPRESSED CORNER



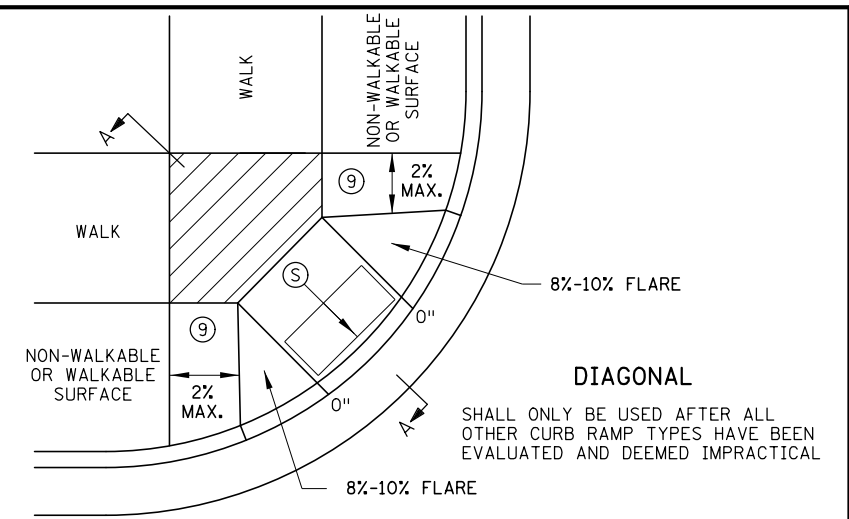
FAN ⑩



MODIFIED FAN ⑩
USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.
 - INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
 - SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30' OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
 - ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN ⑥ BELOW.)
 - TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).
 - TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
 - WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
 - ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
 - 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
 - RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
- ① MATCH FULL HEIGHT CURB.
 - ② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
 - ③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
 - ④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
 - ⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
 - ⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
 - ⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
 - ⑧ A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
 - ⑨ PAVE FULL WALK WIDTH.
 - ⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

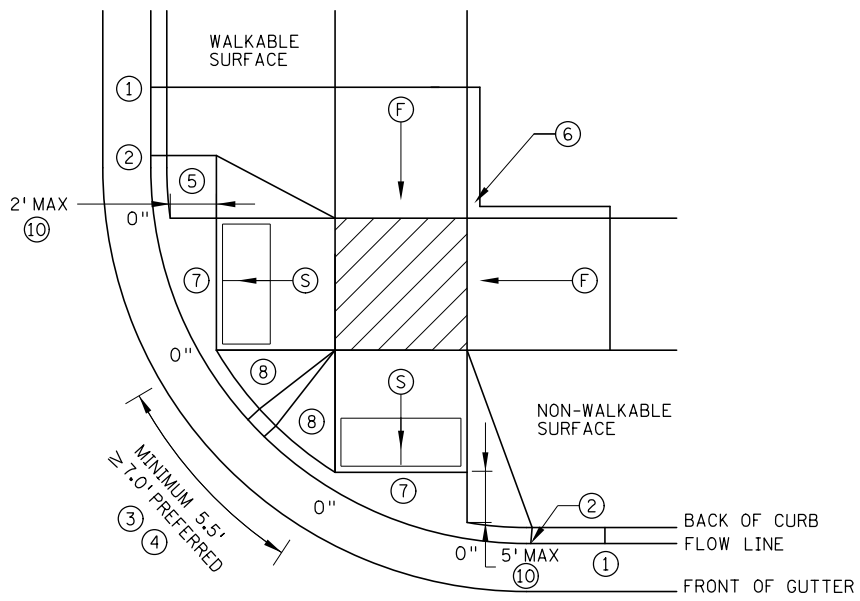
LEGEND	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
(Hatched Box)	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
X"	CURB HEIGHT

REVISION:
 APPROVED: JANUARY 23, 2017
 OPERATIONS ENGINEER

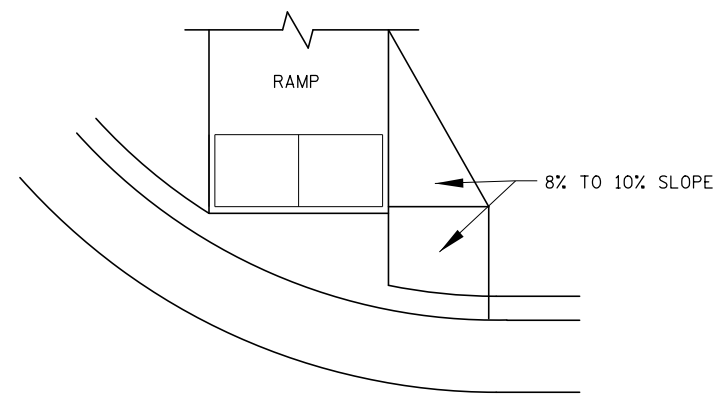
STANDARD PLAN 5-297.250 **1 OF 6**
 APPROVED: 1-23-2017
 REVISOR:
 STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

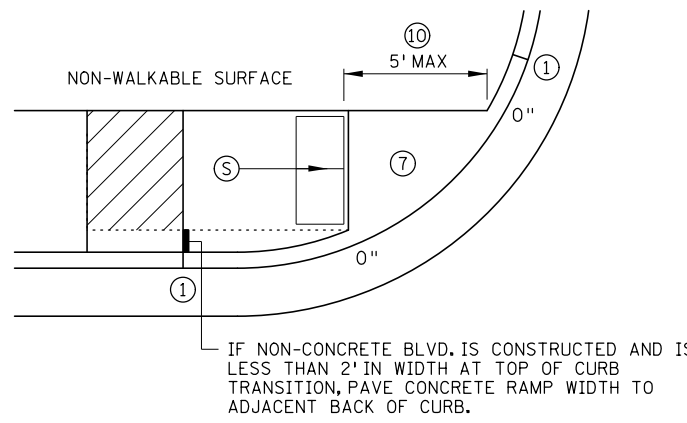
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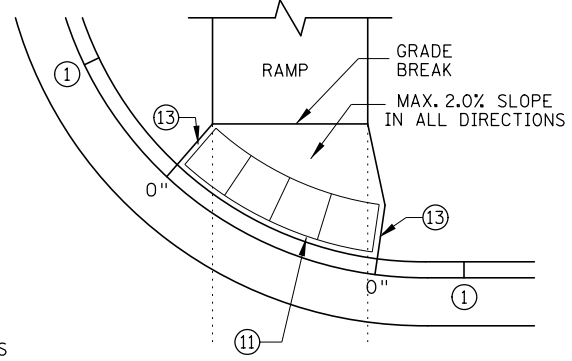
COMBINED DIRECTIONAL ⑨



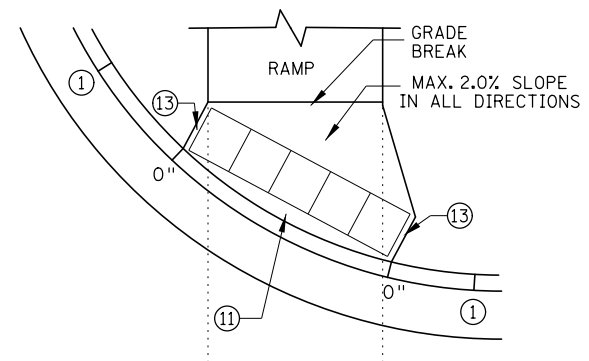
DIRECTIONAL RAMP WALKABLE FLARE



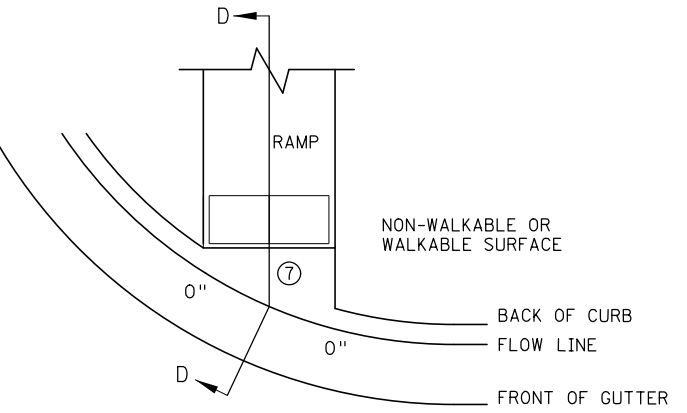
STANDARD ONE-WAY DIRECTIONAL ⑨



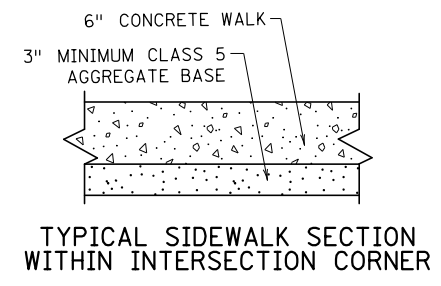
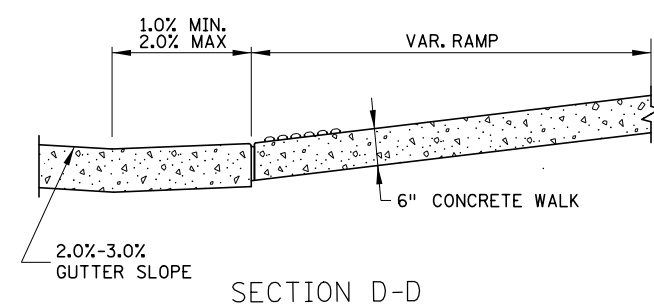
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫



CURB FOR DIRECTIONAL RAMPS ⑭



LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
(Hatched box)	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X"	CURB HEIGHT

- NOTES:**
- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.
- TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).
- TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
- RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.
- ① MATCH FULL CURB HEIGHT.
 - ② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
 - ③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
 - ④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
 - ⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.
 - ⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
 - ⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
 - ⑧ 8% TO 10% WALKABLE FLARE.
 - ⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
 - ⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
 - ⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
 - ⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
 - ⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
 - ⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

REVISION:
 APPROVED: JANUARY 23, 2017
 OPERATIONS ENGINEER

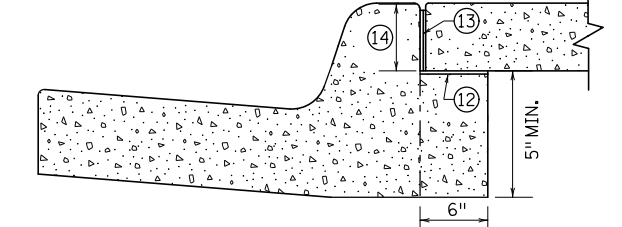
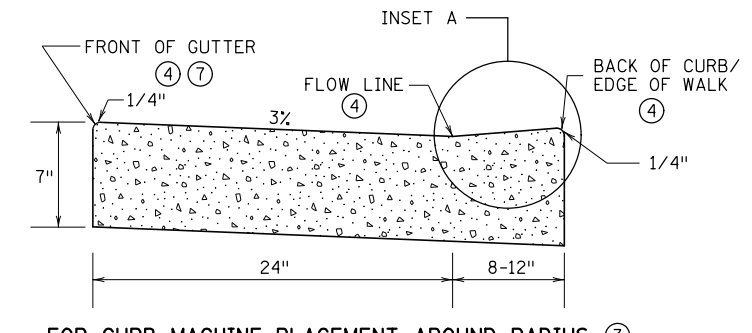
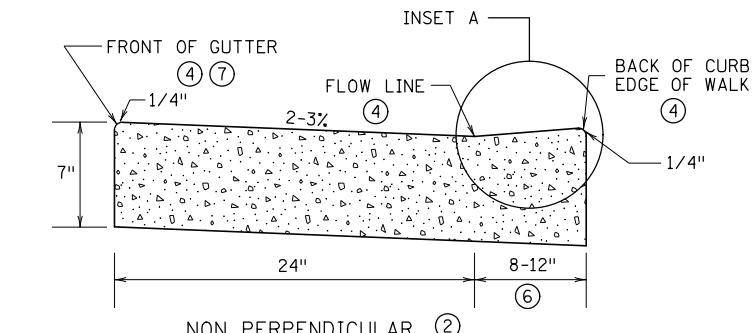
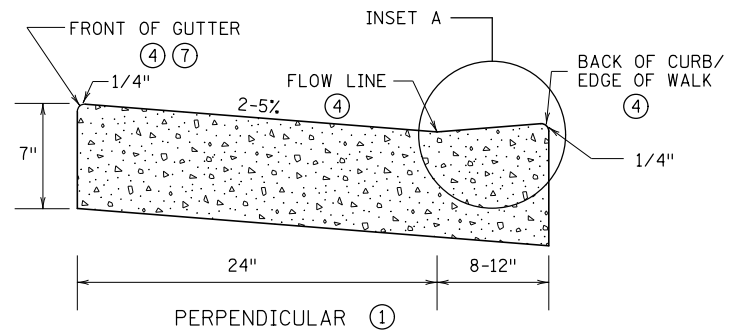
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 DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 2 OF 6

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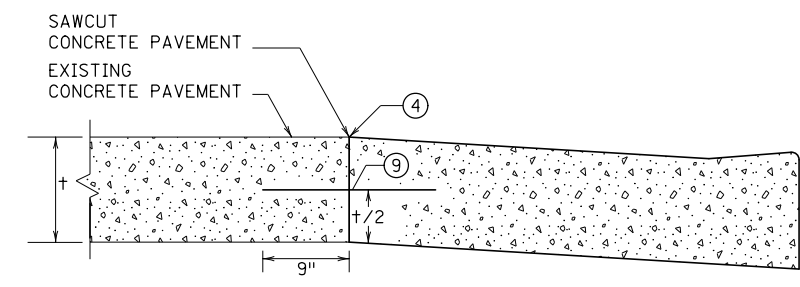
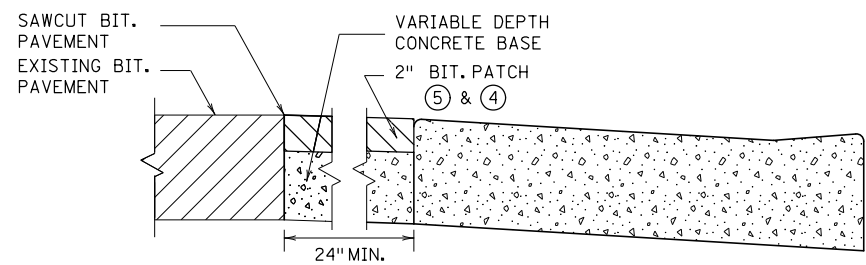
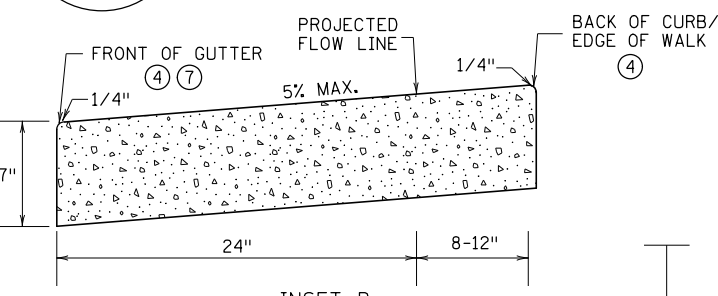
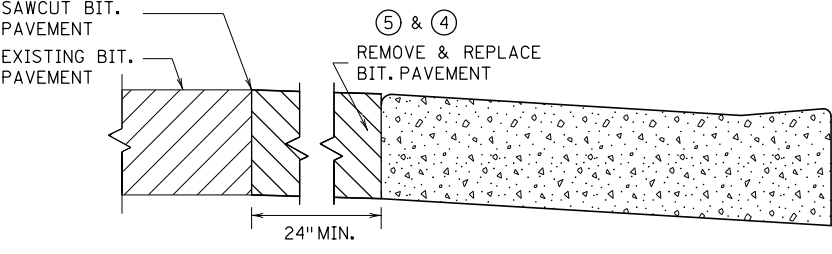
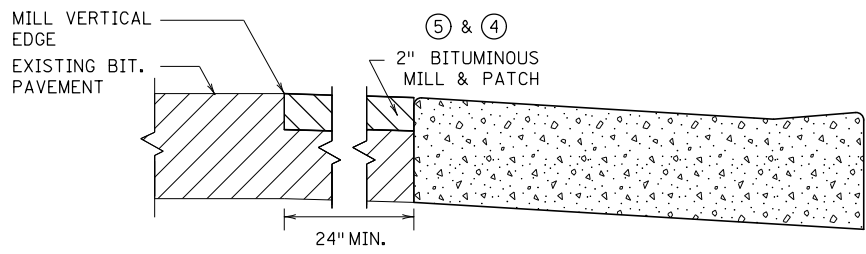
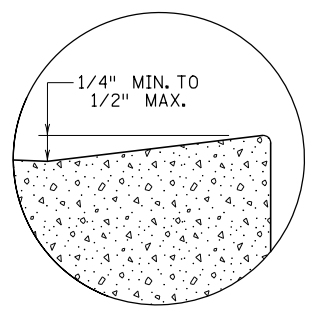
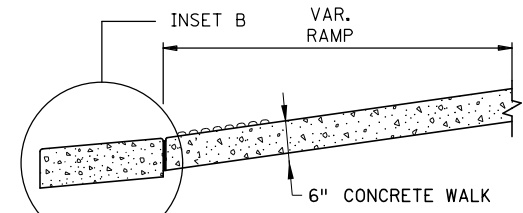
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OPTIONAL SILL CURB WHEN SIDEWALK IS AT BACK OF CURB
CONCRETE SILL TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.

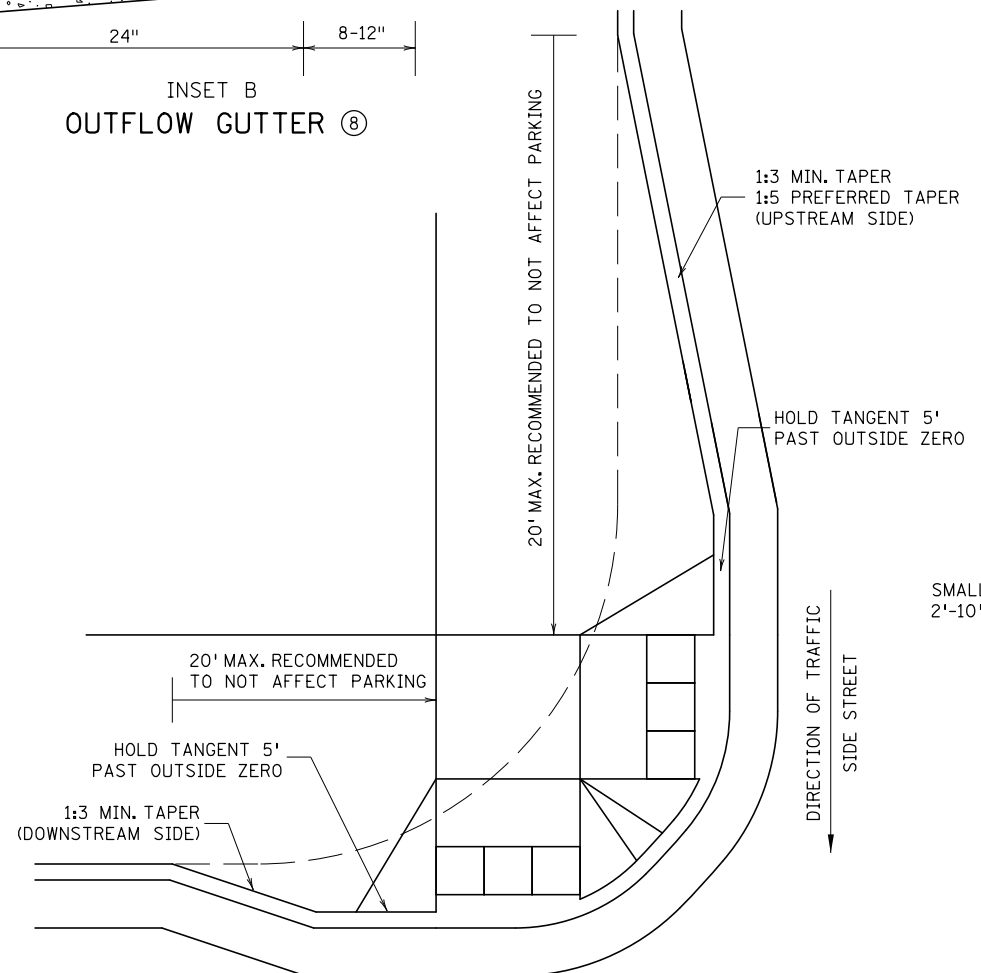
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER
FOR USE ON CURB RAMP RETROFITS

- NOTES:**
- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR.
 - ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
 - ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
 - ② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
 - ③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
 - ④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4\".
 - ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
 - ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
 - ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5\" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
 - ⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
 - ⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18\" LONG TIE BARS AT 30\" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1\" MINIMUM FROM ALL JOINTS.
 - ⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
 - ⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.
 - ⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.
 - ⑬ 1/2\" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.
 - ⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4\" MIN.



COMBINED DIRECTIONAL (COMPOUND RADIUS)

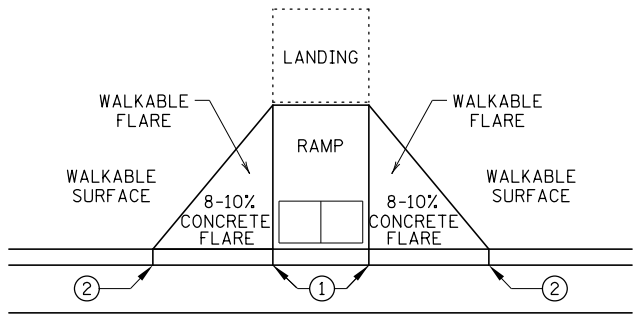
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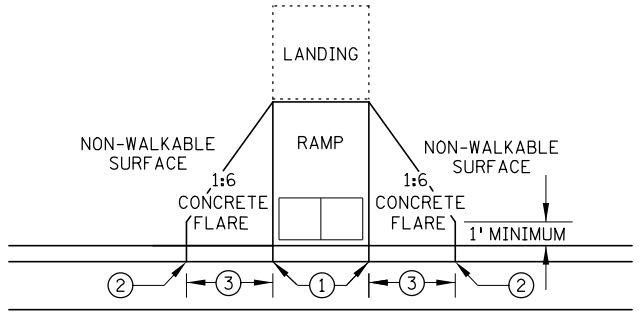
STANDARD PLAN 5-297.250 3 OF 6
APPROVED: 1-23-2017
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PEDESTRIAN CURB RAMP DETAILS

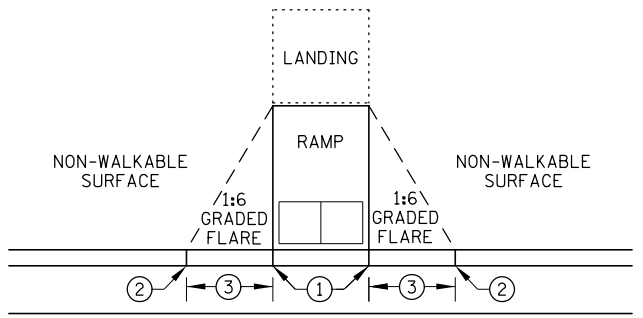
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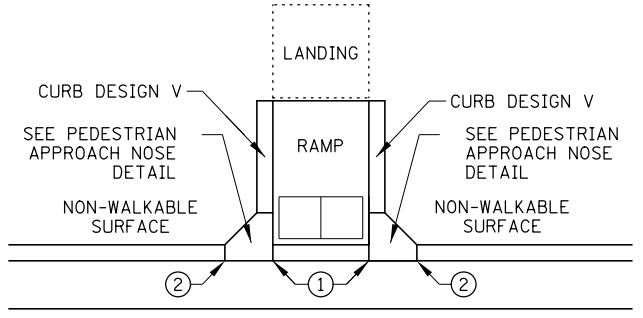
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

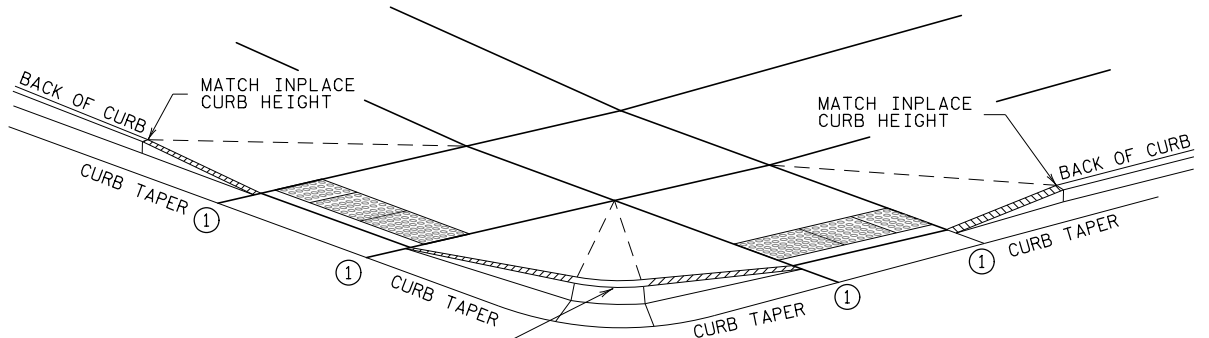


GRADED FLARES



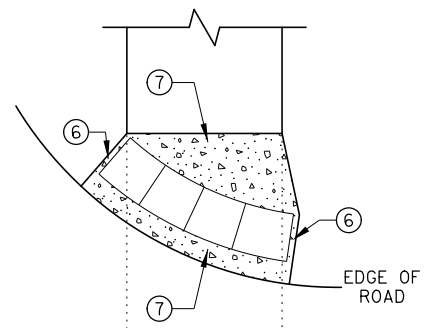
RETURNED CURB ⑤

TYPICAL SIDE TREATMENT OPTIONS ④ ⑪

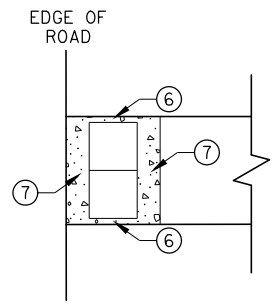


3" MINIMUM CURB HEIGHT, 4" PREFERRED
 (MEASURED AT FRONT FACE OF CURB)
 FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

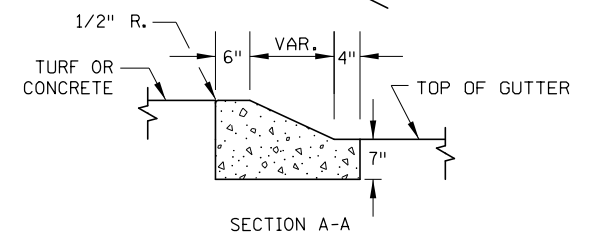
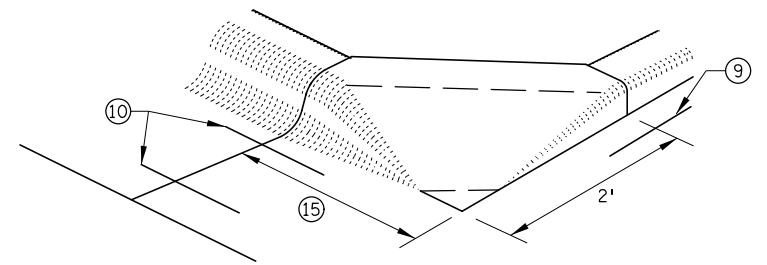


RADIAL DETECTABLE WARNING

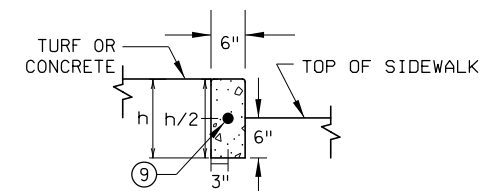


RECTANGULAR DETECTABLE WARNING

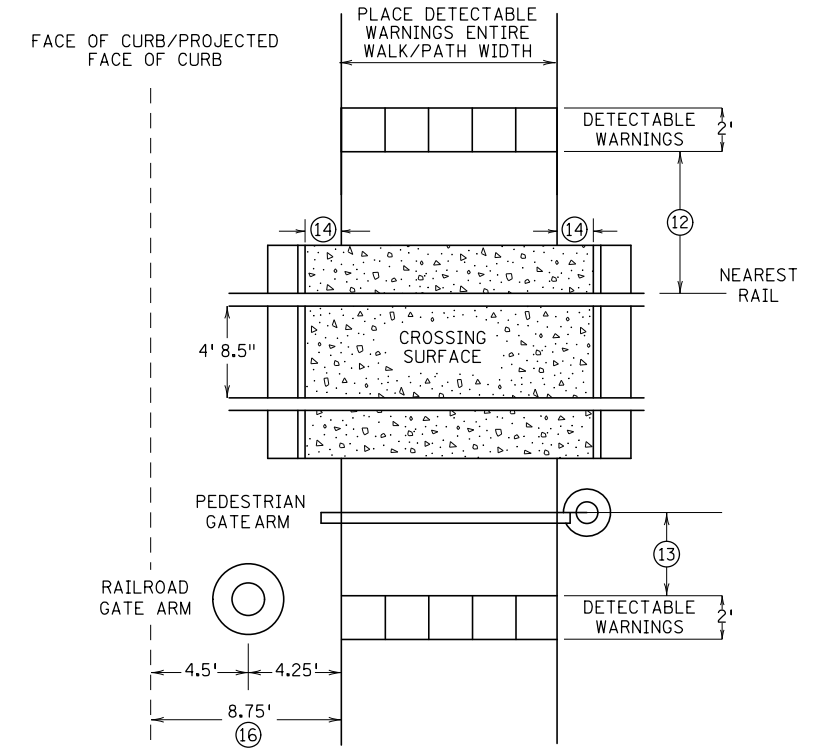
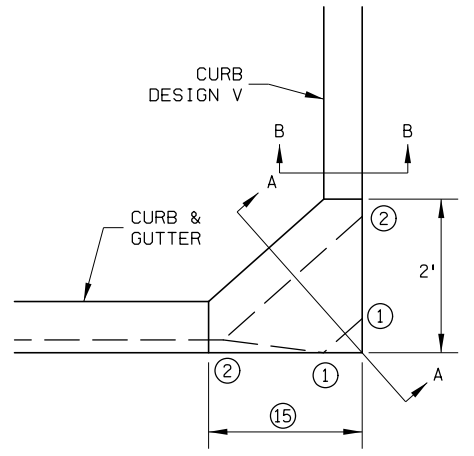
DETECTABLE EDGE WITHOUT CURB AND GUTTER



SECTION A-A



SECTION B-B



RAILROAD CROSSING
PLAN VIEW

NOTES:

- SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMP FROM THE BACK OF CURB.
- ① 0" CURB HEIGHT.
- ② FULL CURB HEIGHT.
- ③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.
- ④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.
- ⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
- ⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
- ⑨ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
- ⑩ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
- ⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6" LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.
- ⑫ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- ⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.
- ⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
- ⑮ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
- ⑯ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

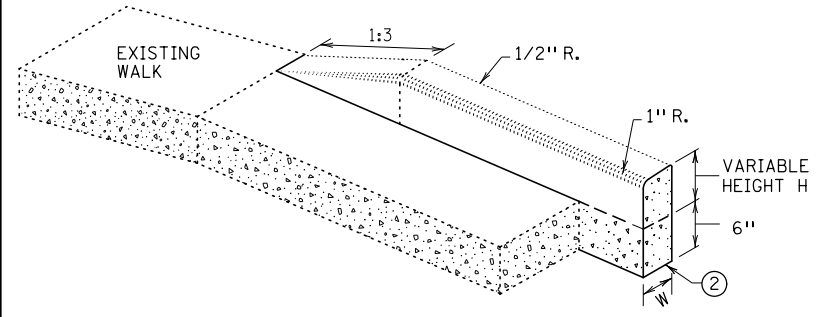
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PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)

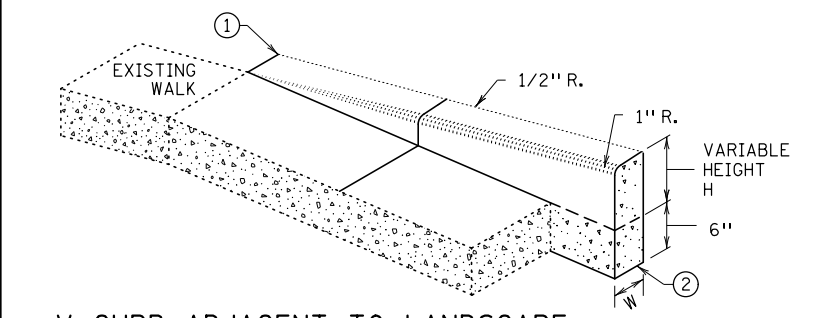
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	APPROVED: 1-23-2017 REVISION:	
STATE PROJ. NO. 002-611-036		

PEDESTRIAN CURB RAMP DETAILS

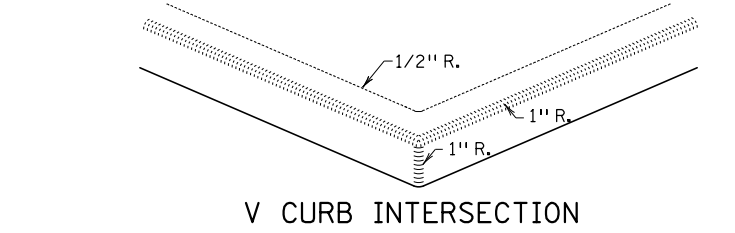
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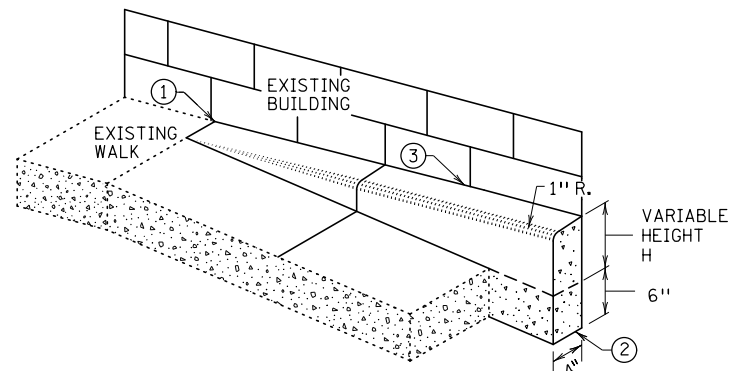
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

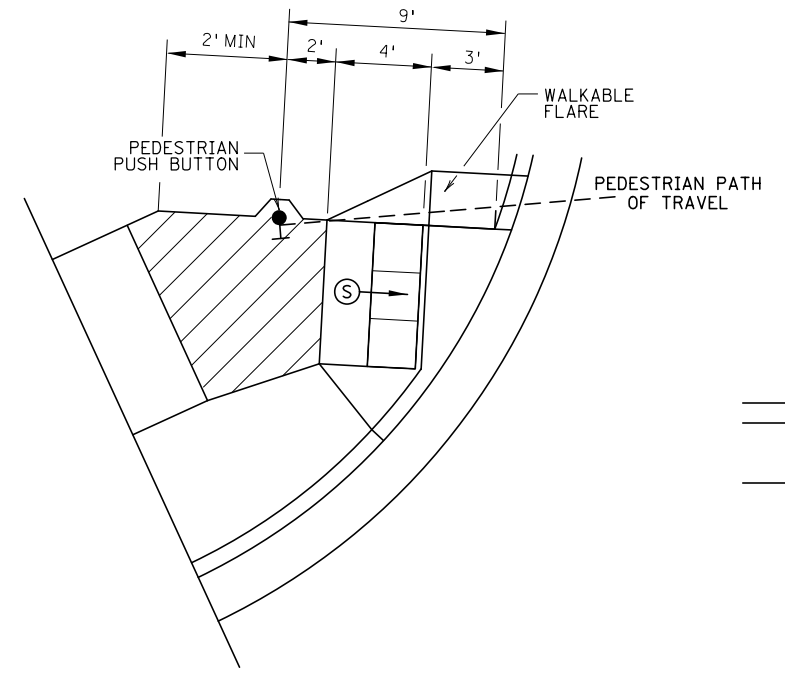


V CURB INTERSECTION



V CURB ADJACENT TO BUILDING
OR BARRIER

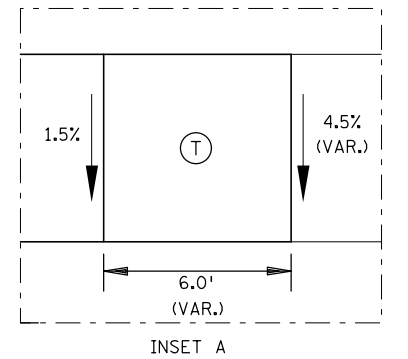
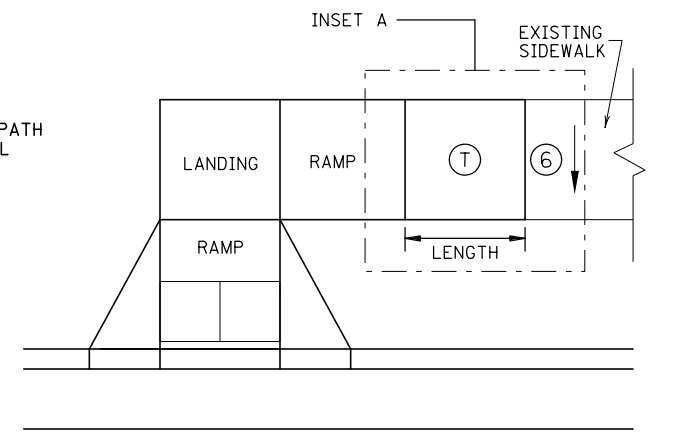
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



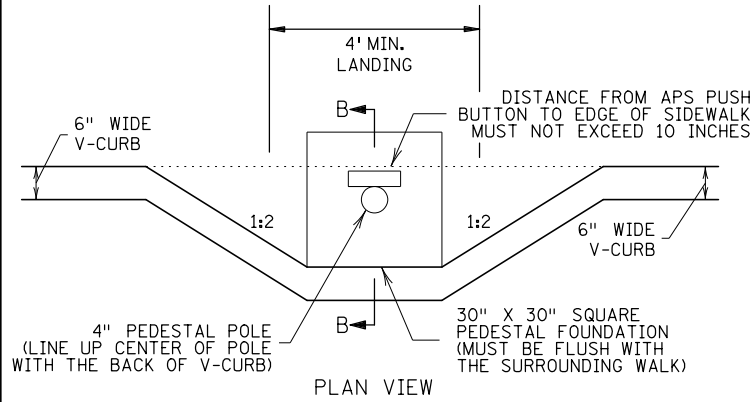
SEMI-DIRECTIONAL RAMP (3,4,9)

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

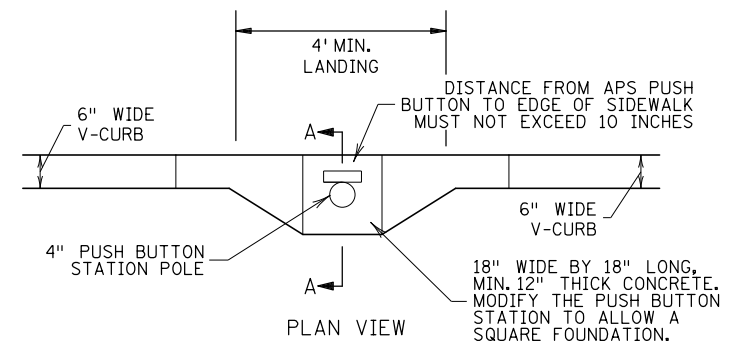
PRIMARYLY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)



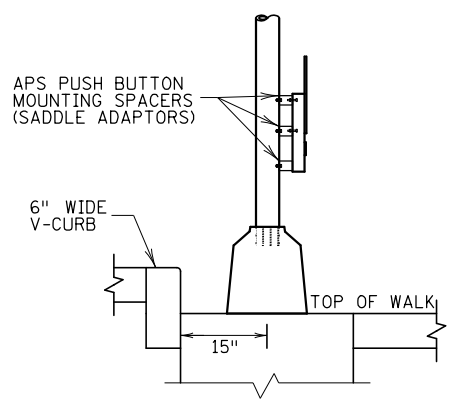
TRANSITION PANEL (4,5)



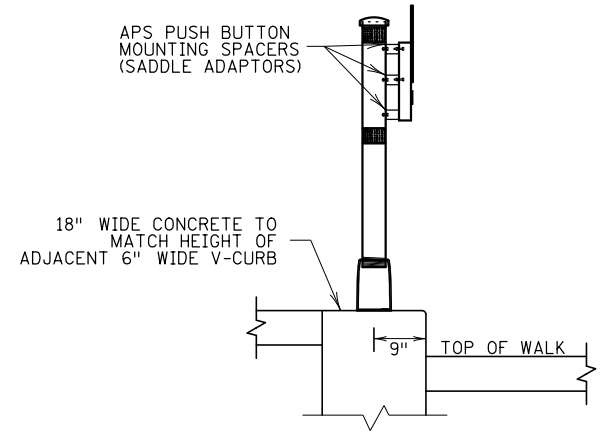
PLAN VIEW



PLAN VIEW



SECTION B-B



SECTION A-A

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)

PUSH BUTTON STATION (V-CURB)

NOTES:

- A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.
- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.
- WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
- ④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
- ⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
- ⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- ▨ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- Ⓣ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

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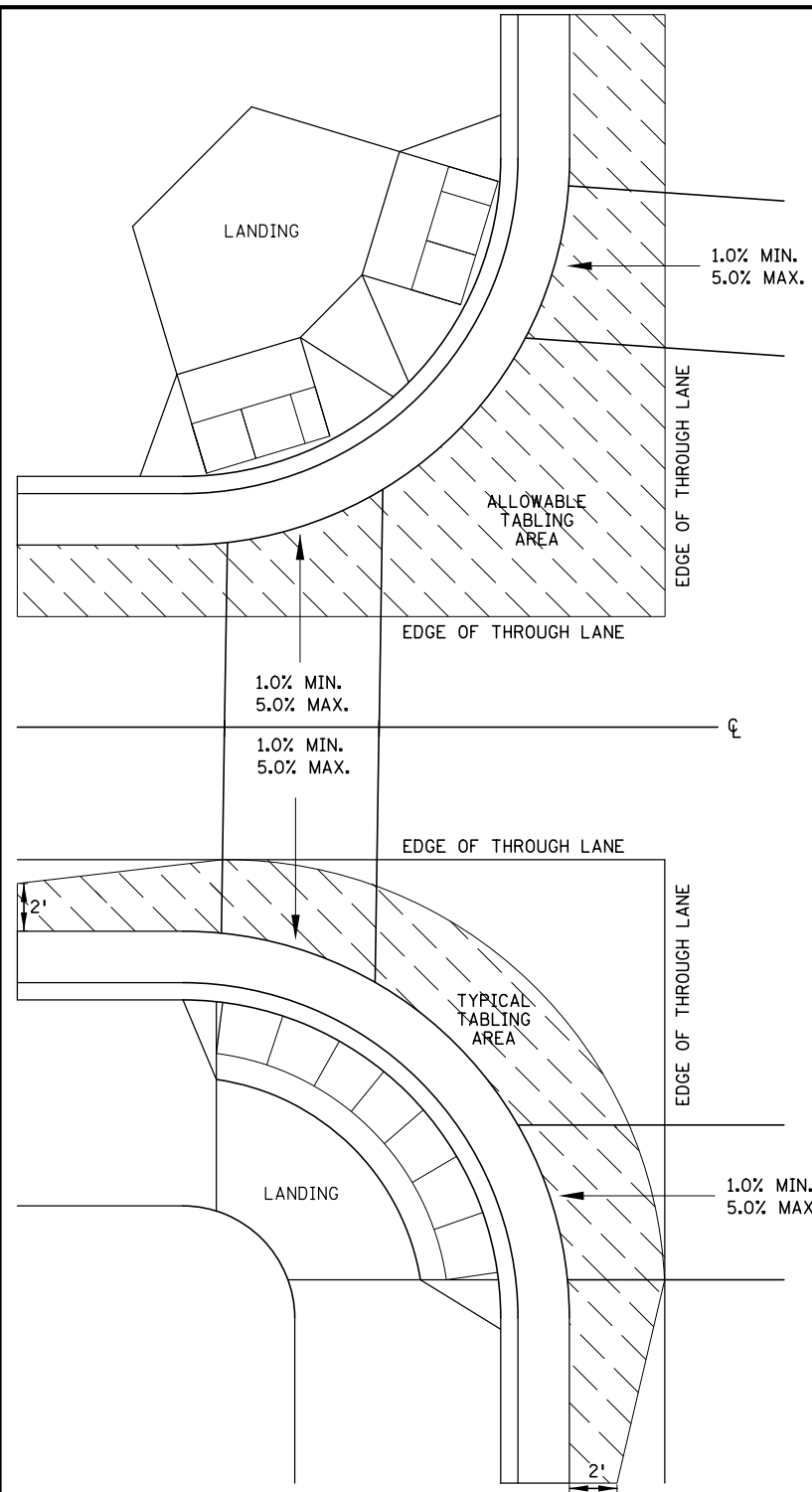
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APPROVED: 1-23-2017
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PEDESTRIAN CURB RAMP DETAILS

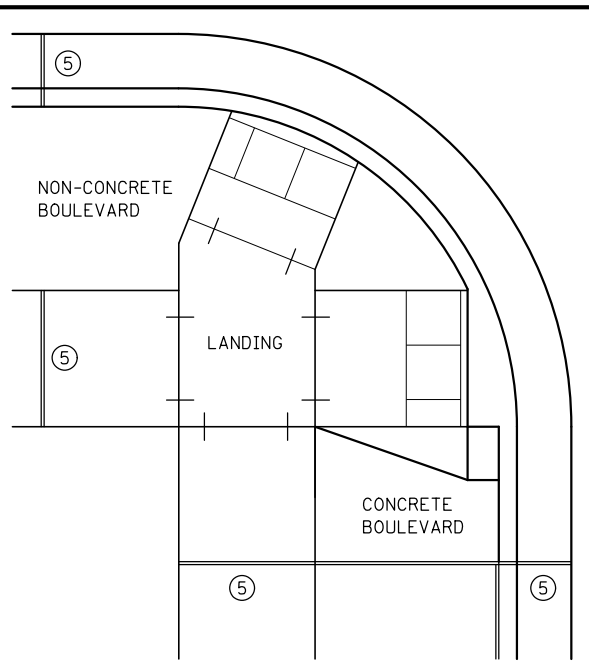
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SHEET NO. 39 OF 416 SHEETS

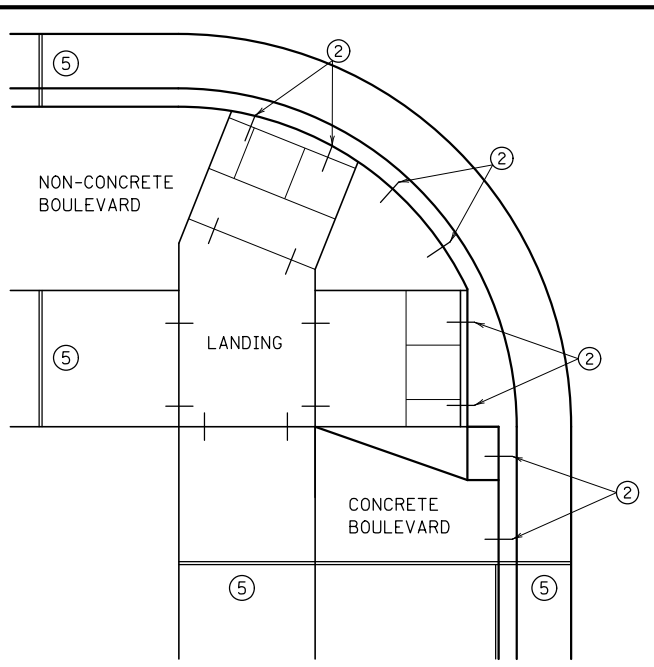
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CURB LINE AND ROAD CROSSING ADJUSTMENTS



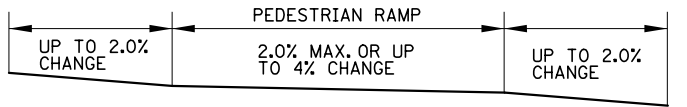
EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS



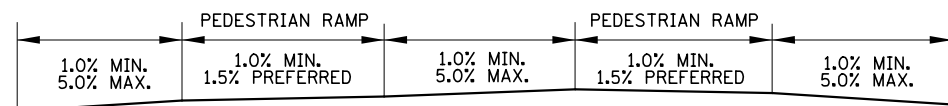
OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS ④



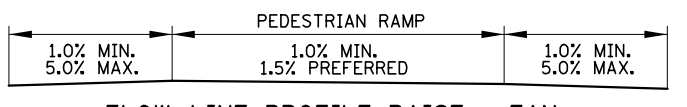
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



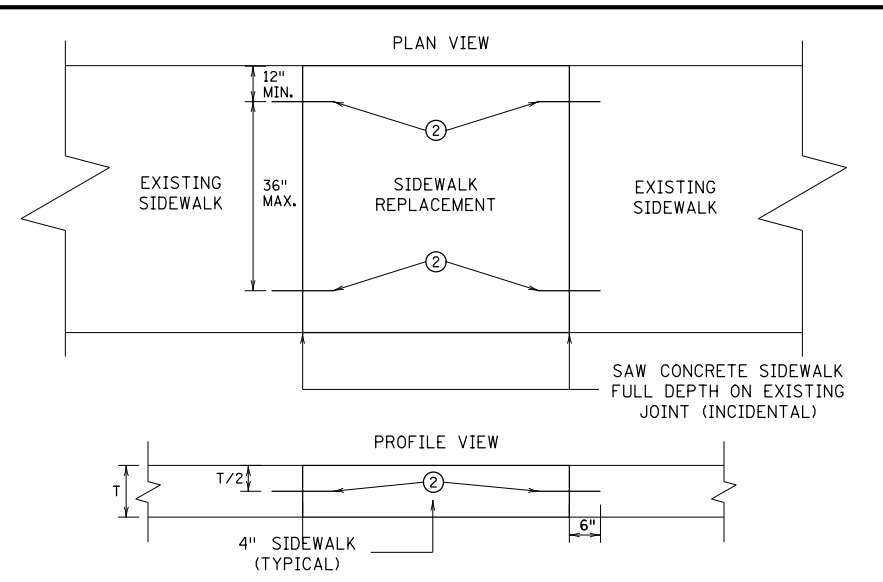
FLOW LINE PROFILE "TABLE" - FAN



FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

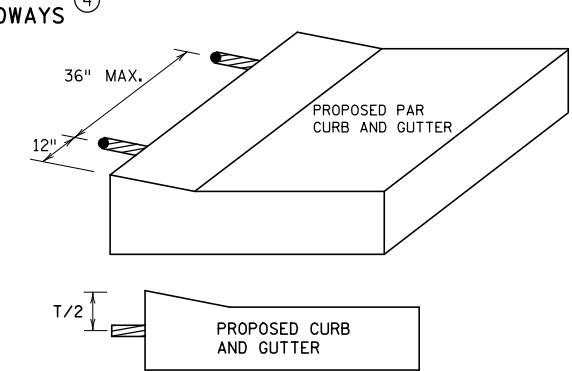


FLOW LINE PROFILE RAISE - FAN

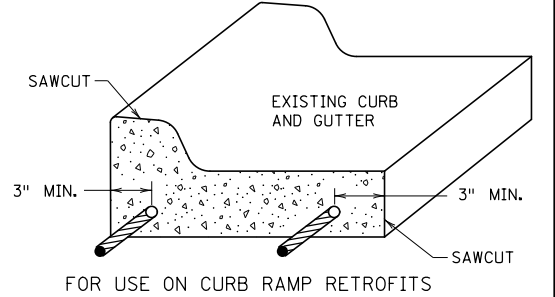


OPTIONAL SIDEWALK REINFORCEMENT

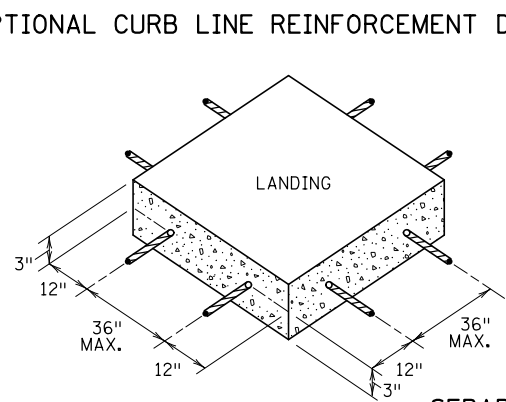
SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



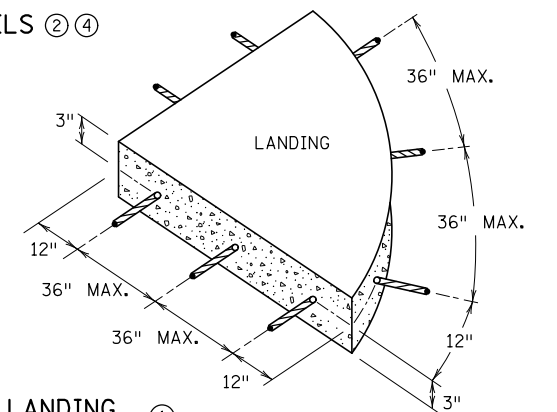
OPTIONAL CURB LINE REINFORCEMENT DETAILS ② ④



CURB AND GUTTER REINFORCEMENT ③



SEPARATE LANDING POUR REINFORCEMENT ①



"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

- 1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
- 2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
- 3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
- 4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMP OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

- 1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
- 2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
- 3) 5.0% RECOMMENDED MAX. FLOW LINE
- 4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

- ① TO ENSURE RAMP AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY Poured INITIAL LANDINGS.
- ② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
- ③ DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.
- ④ THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
- ⑤ 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

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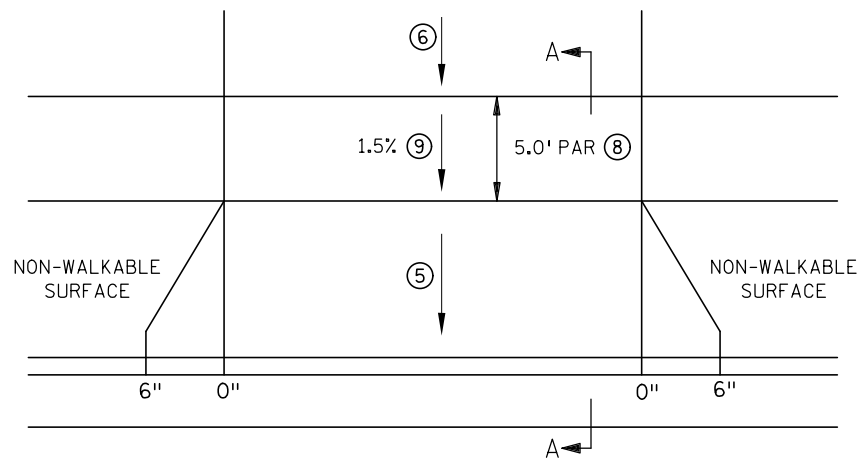
STANDARD PLAN 5-297.250 6 OF 6
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PEDESTRIAN CURB RAMP DETAILS

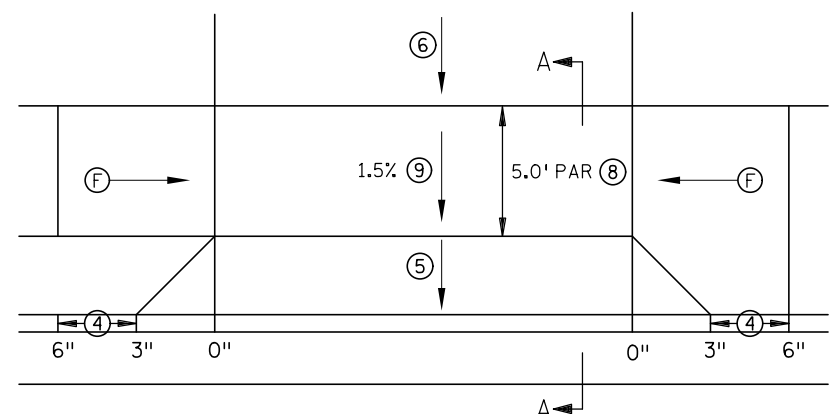
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SHEET NO. 40 OF 416 SHEETS

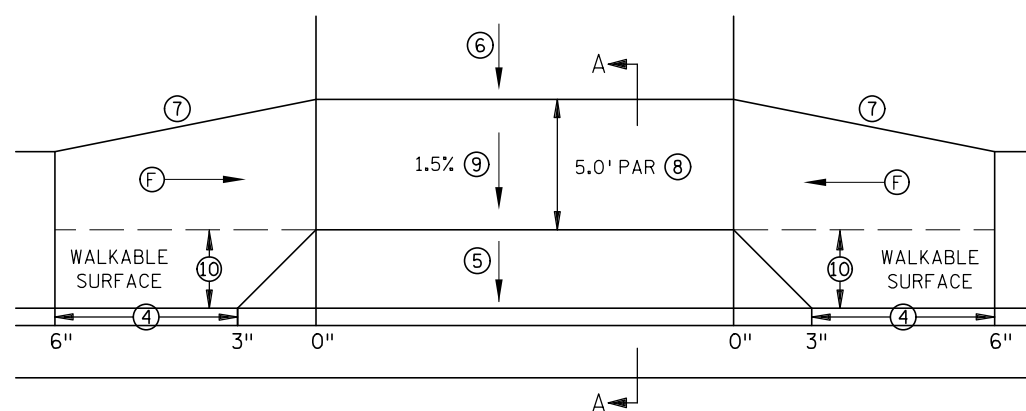
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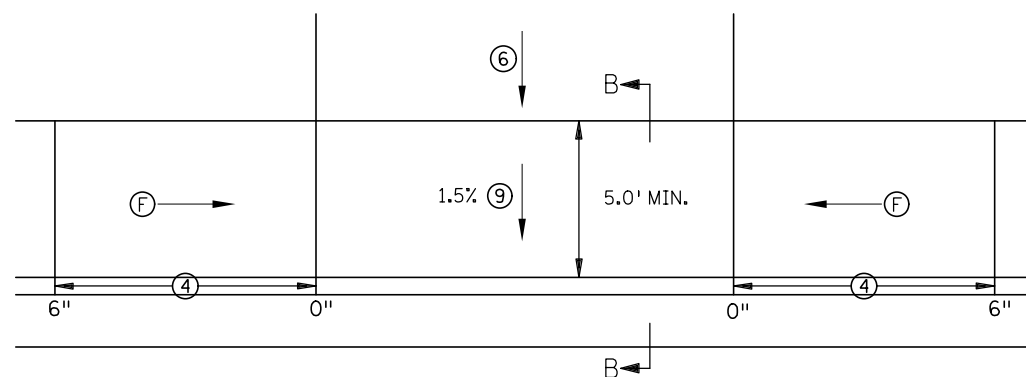
PERPENDICULAR DRIVEWAY ①



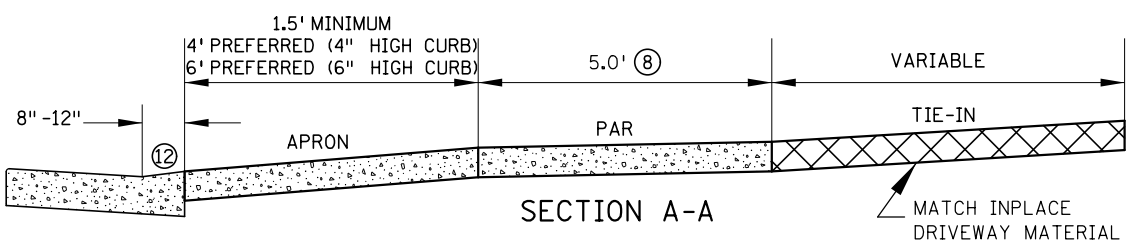
TIERED PERPENDICULAR DRIVEWAY ②



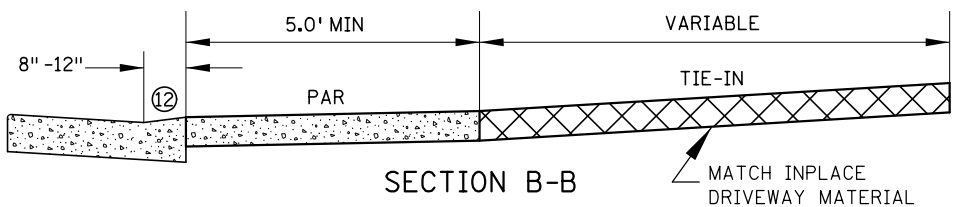
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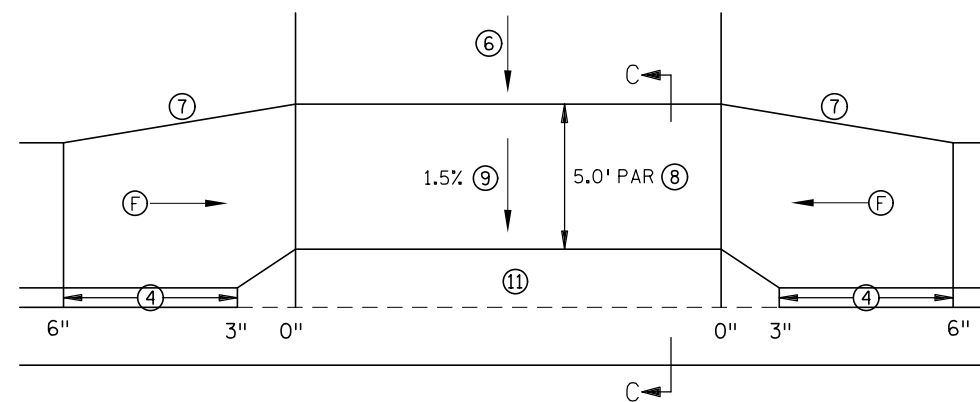
PARALLEL DRIVEWAY ③



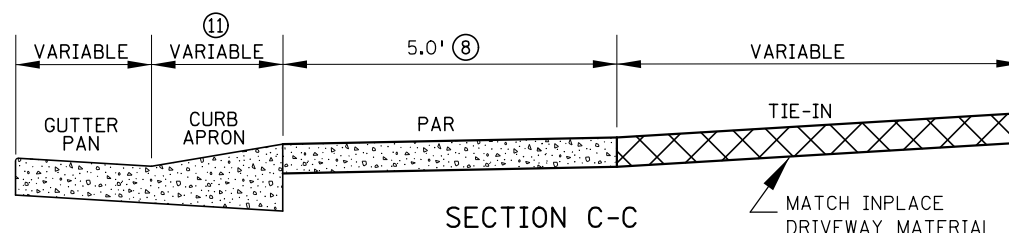
SECTION A-A



SECTION B-B



VALLEY GUTTER DRIVEWAY



SECTION C-C

NOTES:

- IN NO CASE SHALL SIDEWALK PROFILES EXCEED 5.0%, EXCEPT SIDEWALK PROFILES CAN MATCH ROADWAY GRADE IF ROADWAY GRADE IS GREATER THAN 5.0%. RAMPS FOR DRIVEWAYS ARE REQUIRED TO FOLLOW THE ABOVE SIDEWALK CRITERIA.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PEDESTRIAN ACCESS ROUTE (PAR). 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- DRIVEWAY TYPES FROM MOST PREFERRED TO LEAST PREFERRED ARE AS FOLLOWS: PERPENDICULAR, TIERED PERPENDICULAR, TIERED PERPENDICULAR OFFSET & PARALLEL.
- ① TO BE USED WHEN THE DRIVEWAY PAR IS LEVEL WITH OR ABOVE THE TOP OF CURB, RESULTING IN A CONTINUOUS PAR PROFILE.
- ② TO BE USED WHEN THE DRIVEWAY PAR IS BELOW THE ROADWAY CURB HEIGHT. THIS DRIVEWAY TYPE CAN BE USED FOR BOTH PAVED (AS SHOWN) AND GRASS BOULEVARDS.
- ③ SHOULD BE USED FOR NEGATIVE SLOPED DRIVEWAYS. DW CURB TYPE 2 CURB SHOULD BE USED TO RAISE PAR ABOVE GUTTER AND REDUCE "ROLLER COASTER" EFFECT. 4" HIGH ROADWAY CURB SHOULD BE USED TO REDUCE "ROLLER COASTER" EFFECT ESPECIALLY WHEN MULTIPLE DRIVEWAYS ARE PRESENT.
- ④ TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- ⑤ 8% MAX. PREFERRED, 10% MAX. FOR COMMERCIAL AND 12% MAX. FOR RESIDENTIAL. SEE GENERAL NOTES ON SHEET 2 FOR MORE INFORMATION.
- ⑥ 8% MAX. PREFERRED, SEE SHEET 2 FOR MORE INFORMATION.
- ⑦ 1:3 MIN. 1:5 PREFERRED FOR DRIVEWAY RETROFIT PROJECTS. 1:10 PREFERRED FOR SIDEWALK REPLACEMENT PROJECTS.
- ⑧ 5.0' MIN. PAR WIDTH IS THE STANDARD THROUGH DRIVEWAYS. IF FEASIBLE WIDEN DRIVEWAY PAR WIDTH TO MATCH APPROACHING SIDEWALK PAR WIDTHS. IN VERTICALLY CONSTRAINED AREAS PAR WIDTHS CAN INCREMENTALLY BE REDUCED TO 4.5' OR 4' MIN AFTER ALL OTHER OPTIONS HAVE BEEN APPLIED.
- ⑨ THE PEDESTRIAN ACCESS ROUTE, MAY NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
- ⑩ SIDEWALK OFFSET TO BE LESS THAN OR EQUAL TO HALF THE APPROACHING SIDEWALK WIDTH.
- ⑪ VALLEY GUTTER APRON TO BE POURED INTEGRAL WITH THE CURB AND GUTTER. SEE SHEET 2 FOR MORE INFORMATION.
- ⑫ SEE SHEET 2 FOR CURB TYPE INFORMATION.

LEGEND	
(F)	INDICATES DRIVEWAY RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
X"	CURB HEIGHT (INCHES)

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STANDARD PLAN 5-297.254

1 OF 4

APPROVED: 1-23-2017
 REVISOR:
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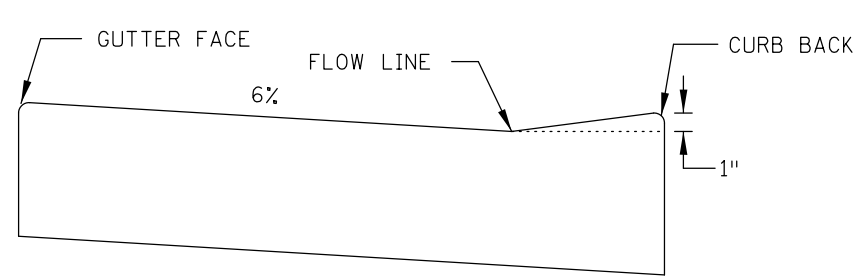
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 REVISOR:

STATE PROJ. NO. 002-611-036

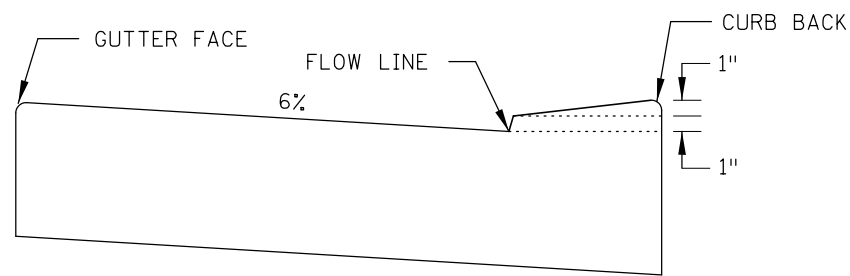
DRIVEWAY AND SIDEWALK DETAILS

SHEET NO. 41 OF 416 SHEETS

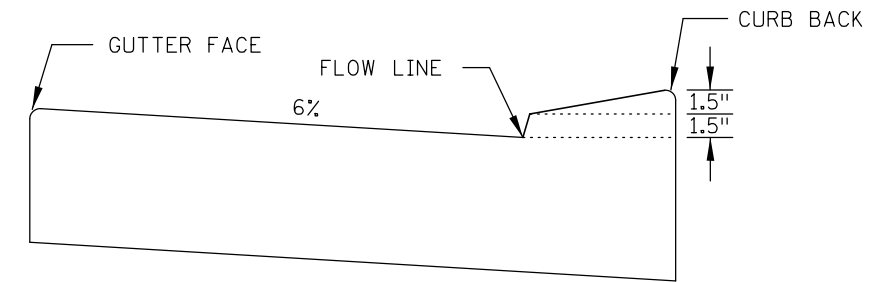
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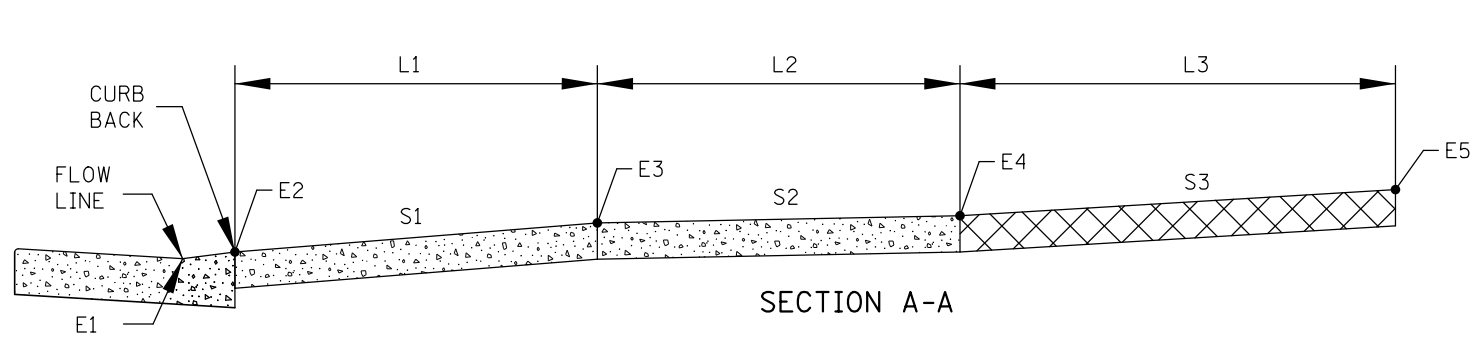
DW CURB STANDARD
STANDARD CURB AT DRIVEWAY



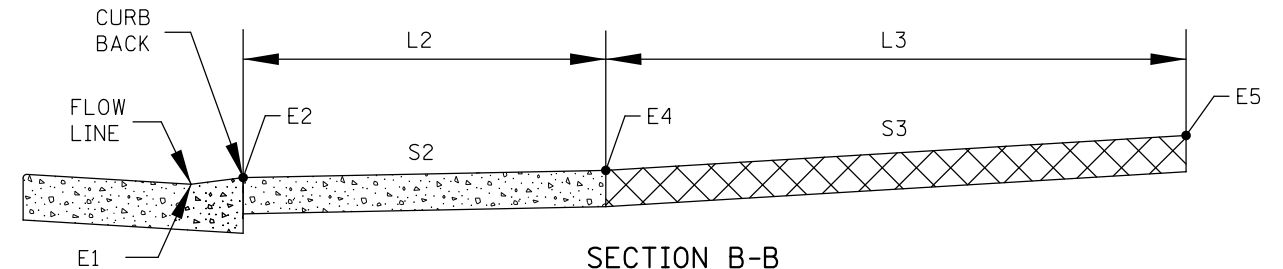
DW CURB TYPE 2
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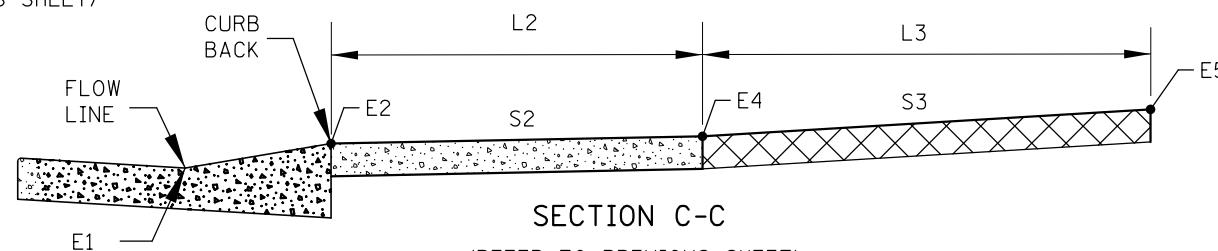
DW CURB TYPE 3
VERTICALLY CONSTRAINED



SECTION A-A
(REFER TO PREVIOUS SHEET)

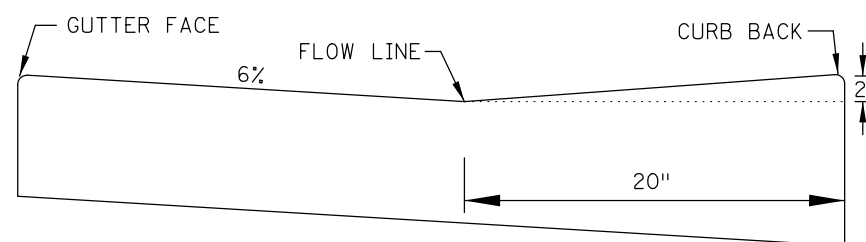


SECTION B-B
(REFER TO PREVIOUS SHEET)

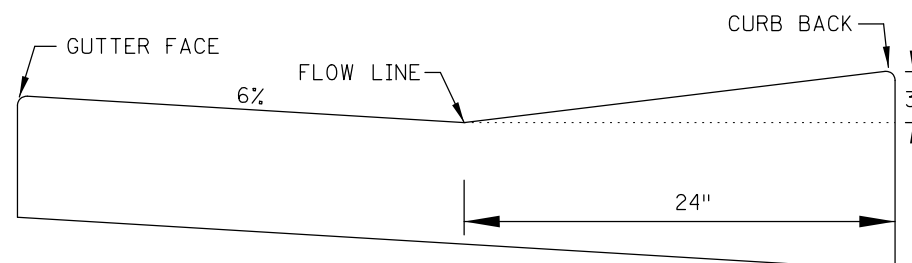


SECTION C-C
(REFER TO PREVIOUS SHEET)

DRIVEWAY TABULATION ①																
STATION	SIDE	DRIVEWAY TYPE	CURB TYPE ③	E1	E2	L1	S1	E3	L2	S2 ②	E4	L3	S3	EXISTING	E5	COMMENTS
						FT	%		FT	%		FT	%			



VG 220



VG 324

VALLEY GUTTER CURB
OTHER CURB HEIGHTS & CURB APRON LENGTHS CAN BE USED

NOTES:

- DW CURB STANDARD SHALL BE USED WHEN THE DRIVEWAY ACTS AS A PEDESTRIAN RAMP. THE MAX. APRON SLOPE MUST ADHERE TO ADA CRITERIA AS WELL. DW CURB STANDARD SHOULD BE USED IF THERE IS ON STREET PARKING.
- WHERE ROADWAY DRAINAGE IS A CONCERN (NEGATIVE SLOPED APRON) DW CURB TYPE 2 CAN BE USED TO HELP KEEP THE WATER ON PUBLIC RIGHT OF WAY.
- S1 8% MAX PREFERRED, 10% MAX. COMMERCIAL AND 12% MAX. RESIDENTIAL. IF EXISTING GRADES ARE STEEPER DO NOT MAKE GRADES APPRECIABLY WORSE BY USING BEST PRACTICES SUCH AS DRIVEWAY CURB HEIGHTS, EXTENDING L3 AND/ OR STEEPEN S3.
- DW CURB TYPE 3 SHALL ONLY BE USED IN EXTREME TIE-IN CASES.
- S3 8% MAX PREFERRED, IF THIS SLOPE IS EXCEEDED OR IS CONTINUED FOR MORE THAN 5' ANALYZE THE NEED FOR VERTICAL CURVE(S). SEE ROAD DESIGN MANUAL, CHAPTER 5, FOR GEOMETRIC DESIGNS OF DRIVEWAYS.
- ① EXAMPLE SHOWN TO BE INCLUDED IN PLAN FOR EACH DRIVEWAY.
- ② SHOULD BE DESIGNED AT 1.5%.
- ③ DW CURB STANDARD SHALL BE THE STARTING POINT FOR ALL PERPENDICULAR AND TIERED DRIVEWAYS. DW CURB TYPES 2 AND 3 SHALL ONLY BE USED AFTER UTILIZING BEST PRACTICES SUCH AS MAXIMIZING S1, S3, AND L3.

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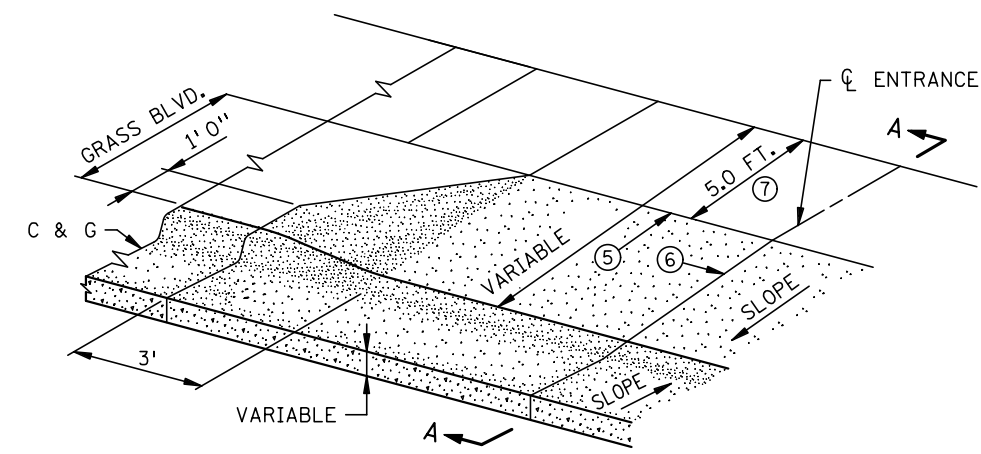
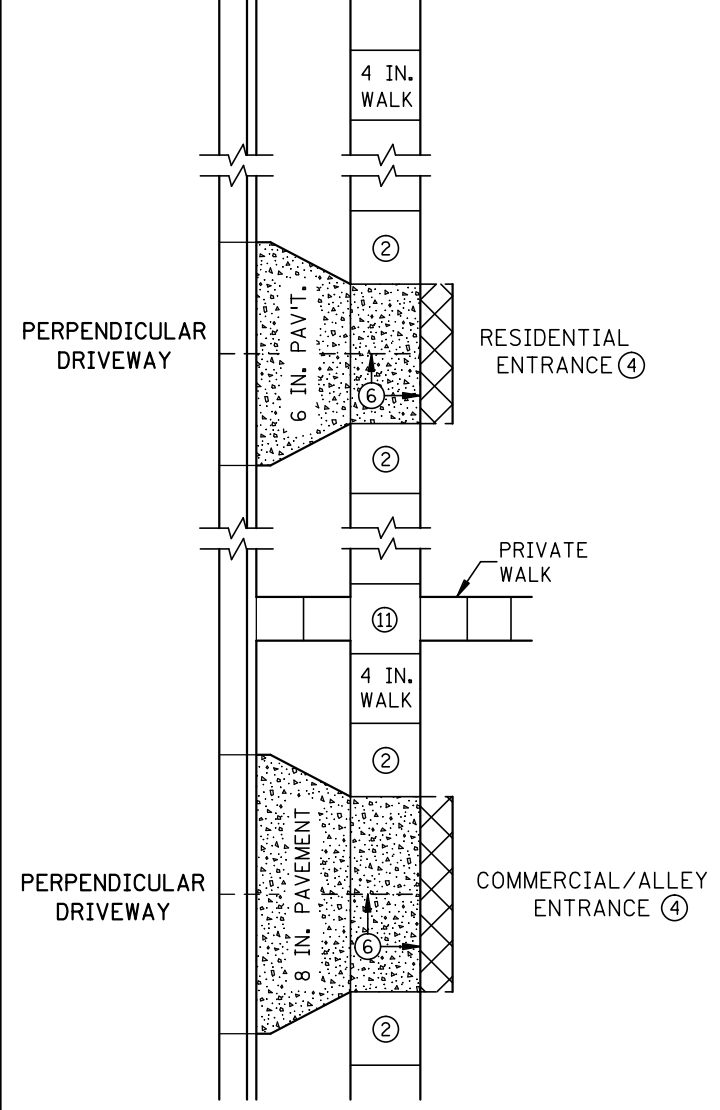
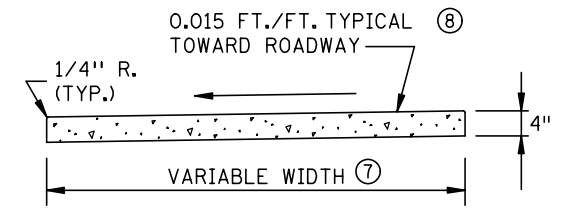
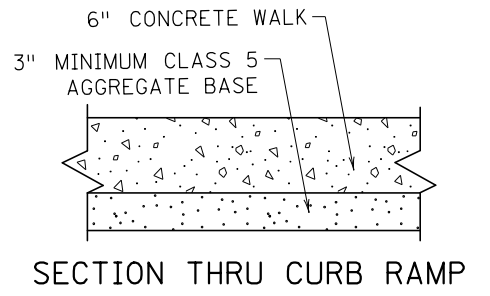
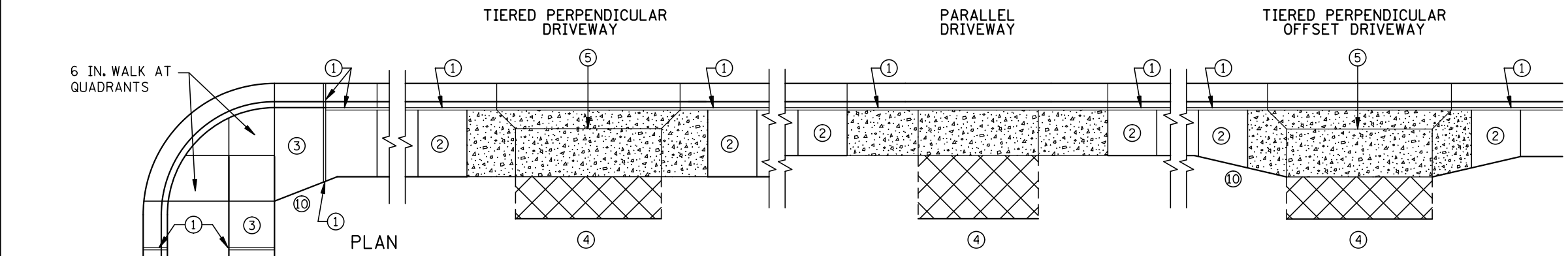
STANDARD PLAN 5-297.254 2 OF 4
APPROVED: 1-23-2017
REVISOR:
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DRIVEWAY AND SIDEWALK DETAILS

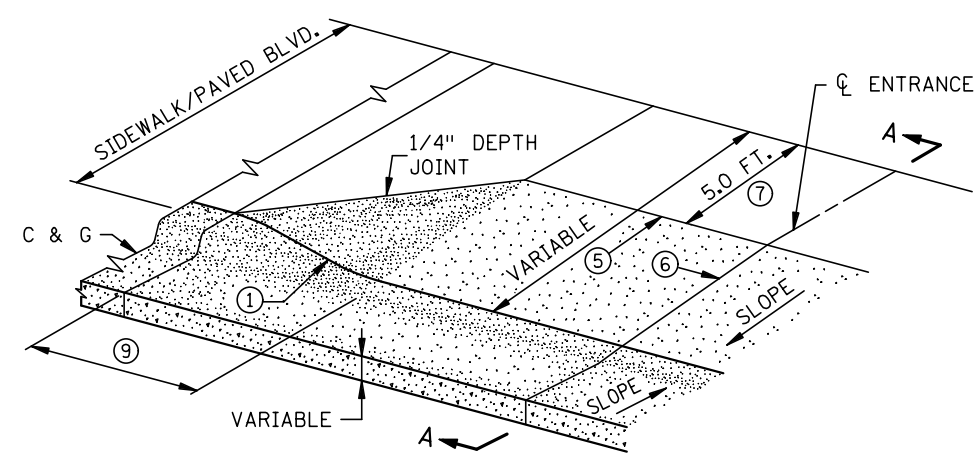
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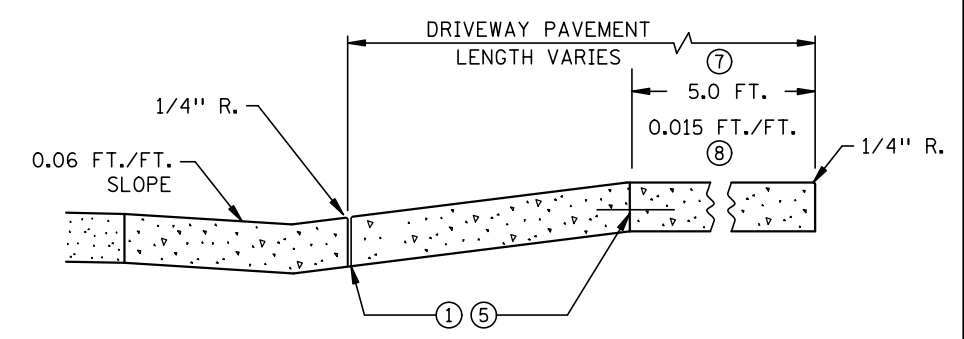
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HALF PLAN PERSPECTIVE
 PERPENDICULAR DRIVEWAYS WITH GRASS BOULEVARDS



HALF PLAN PERSPECTIVE
 PERPENDICULAR DRIVEWAYS WITH CONCRETE BOULEVARDS AND ALL TIERED DRIVEWAYS



SECTION A-A
 SECTION THRU DRIVEWAY

NOTES:

- TO MINIMIZE SIDEWALK "ROLLER COASTER" EFFECT IT IS DESIRABLE TO KEEP THE PAR ELEVATION CONTINUOUS OR AT LEAST IN THE UPPER HALF OF CURB HEIGHT. 4" HIGH CURB SHOULD BE USED INSTEAD OF 6" HIGH CURB TO HELP THIS PROBLEM WHEN APPLICABLE.
- 4" HIGH ADJACENT CURB IS PREFERRED WHEN BOULEVARDS 4' OR LESS ARE PRESENT MEASURED FROM THE BACK OF CURB. WHEN THE DRIVEWAY IS SLOPING DOWN FROM THE ROADWAY (NEGATIVE) 4" HIGH ADJACENT CURB SHOULD ALSO BE USED.
- SEE ROAD DESIGN MANUAL, CHAPTER 5, FOR GEOMETRIC DESIGN OF DRIVEWAYS.
- ① 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MnDOT SPEC. 3702, EXCEPT AT GRASS BOULEVARDS.
- ② TRANSITION DRIVEWAY THICKNESS TO WALK THICKNESS.
- ③ TRANSITION CURB RAMP THICKNESS TO WALK THICKNESS.
- ④ MATCH INPLACE DRIVEWAY WIDTH, MATERIAL TYPE AND THICKNESS.
- ⑤ TIE ONLY IF ADJACENT SECTIONS ARE NOT POURED MONOLITHICALLY. SEE SECTION A-A.
- ⑥ FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS (MAXIMUM WIDTH 15 FT. BETWEEN JOINTS).
- ⑦ 5.0' MIN. PAR WIDTH IS THE STANDARD THROUGH DRIVEWAYS. IF FEASIBLE WIDEN DRIVEWAY PAR WIDTH TO MATCH APPROACHING SIDEWALK PAR WIDTHS. IN VERTICALLY CONSTRAINED AREAS PAR WIDTHS CAN INCREMENTALLY BE REDUCED TO 4.5' OR 4' MIN AFTER ALL OTHER OPTIONS HAVE BEEN APPLIED.
- ⑧ THE PEDESTRIAN ACCESS ROUTE CROSS-SLOPE, SHALL NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
- ⑨ 8% TO 10% FLARES SHALL BE USED WHEN ADJACENT TO WALKABLE SURFACES AND FOR ALL TIERED DRIVEWAYS WITH GRASS BOULEVARDS.
- ⑩ 1:10 MIN. SIDEWALK OFFSET TAPER REQUIRED FOR SIDEWALK REPLACEMENT PROJECTS. 1:3 MIN. AND 1:5 MIN. PREFERRED SIDEWALK OFFSET TAPER FOR DRIVEWAY REPLACEMENT.
- ⑪ LANDING REQUIRED, SEE NEXT SHEET FOR MORE INFORMATION.

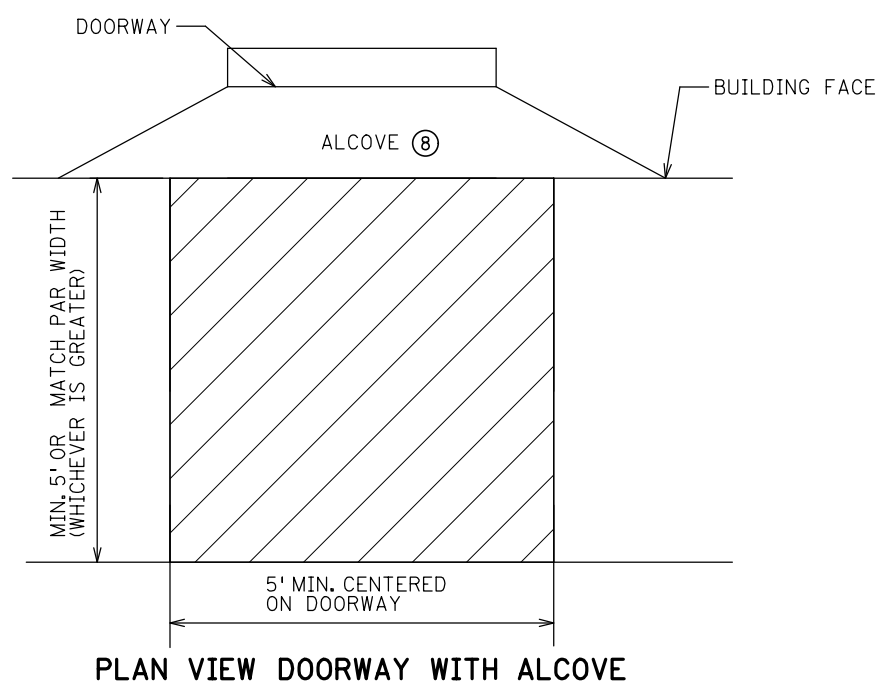
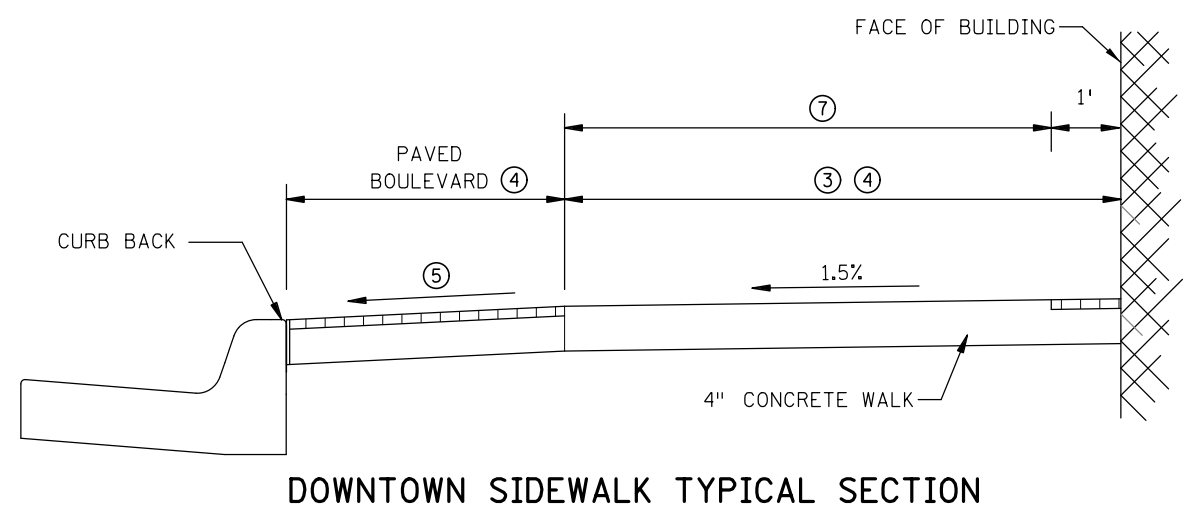
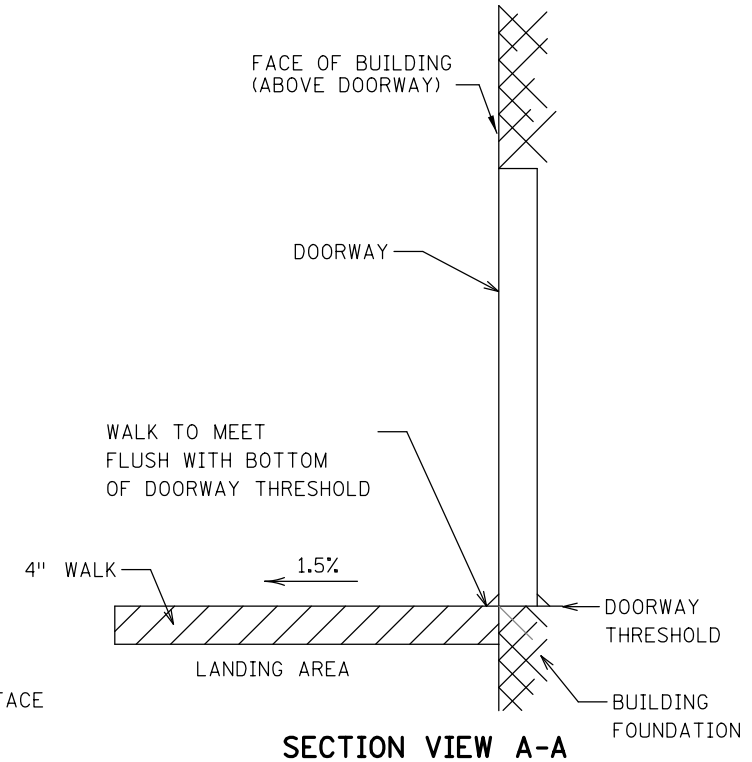
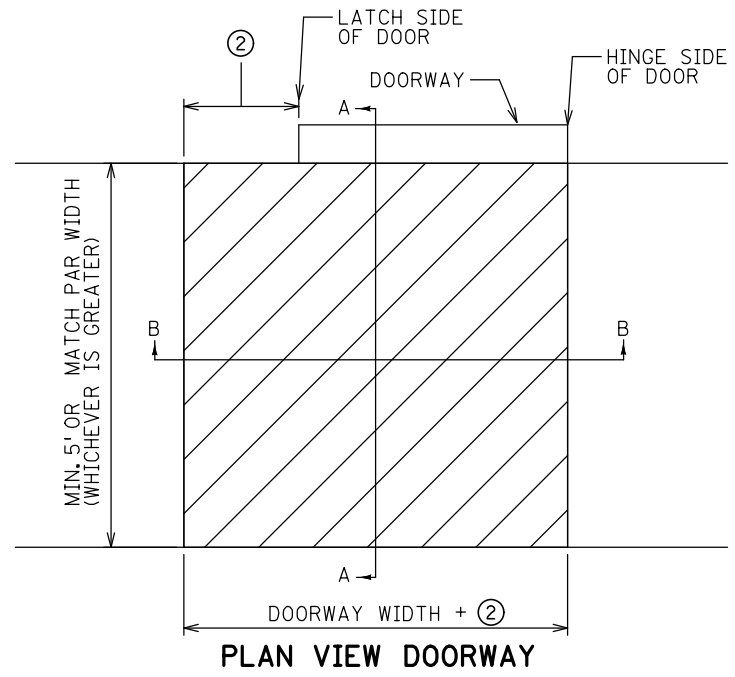
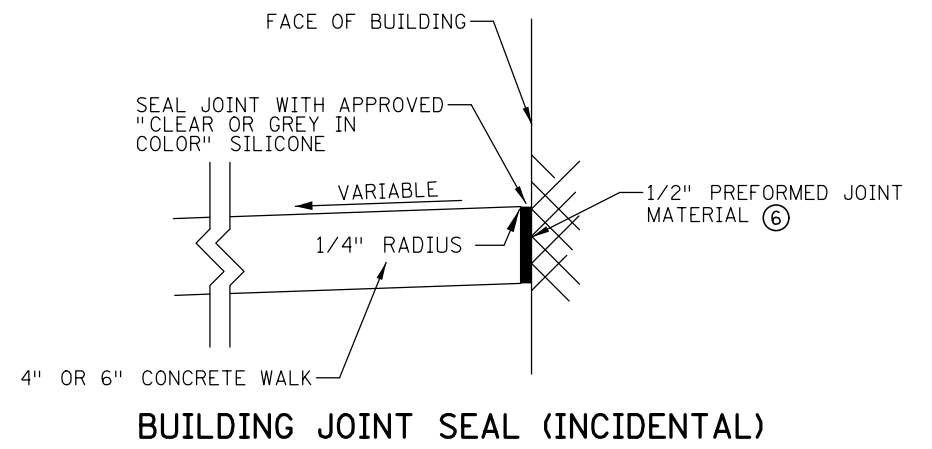
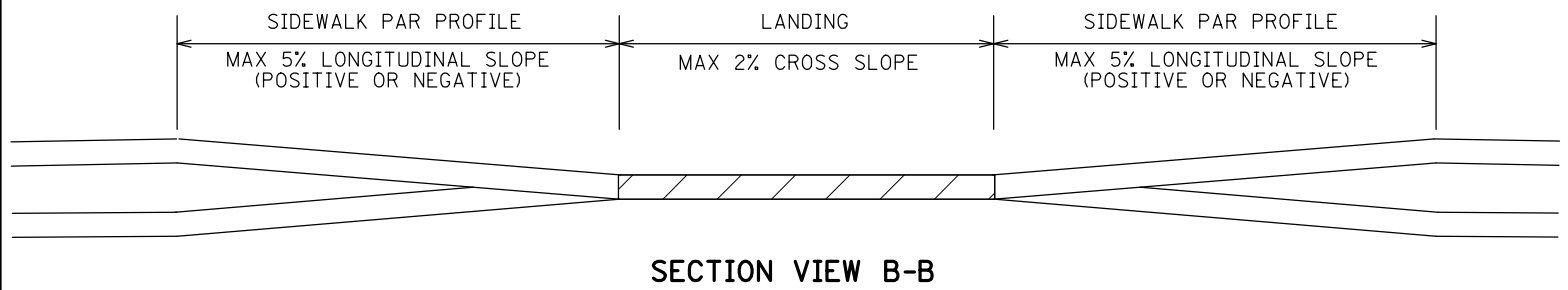
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 APPROVED: JANUARY 23, 2017
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STANDARD PLAN 5-297.254 3 OF 4
 APPROVED: 1-23-2017
 REVISION:
 STATE DESIGN ENGINEER

DRIVEWAY AND SIDEWALK DETAILS

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SIDEWALK LANDING REQUIREMENTS (1)

- NOTES:
- FIELD ADJUST SIDEWALK PROFILES TO MEET ALL DOORWAY THRESHOLDS.
 - SIDEWALK MUST MAINTAIN POSITIVE DRAINAGE AWAY FROM THE BUILDING TO THE ROADWAY. SEE SPECIAL PROVISIONS FOR SILICONE SPECIFICATIONS.
 - (1) LANDING CRITERIA IS REQUIRED FOR ALL DOORS, PRIVATE WALKS AND STEPS.
 - (2) 18" MIN. WHEN DOOR SWINGS OUTWARD FROM BUILDING. 12" MIN. WHEN DOOR SWINGS INWARD FROM BUILDING.
 - (3) 6' MIN. PAR REQUIRED WHEN ADJACENT TO BUILDINGS.
 - (4) 2/3 PAR TO 1/3 BOULEVARD SHOULD BE USED WHEN FEASIBLE.
 - (5) 1%-5% FOR THE MAJORITY OF THE BLOCK, WITH EXCEPTIONS UP TO 8% IN CONSTRAINED AREAS. 10% MAX. FOR SHORT SECTIONS ALLOWED TO ACCOUNT FOR FIELD TOLERANCES.
 - (6) FURNISH AND INSTALL BACKER ROD OF APPROPRIATE DIAMETER.
 - (7) TO MINIMIZE VIBRATION AND ROLLING RESISTANCE, AREA SHOULD BE FREE OF PAVERS, STAMPED CONCRETE, AND/OR EXCESSIVE JOINTING.
 - (8) 2% MAX. PER BUILDING CODE. IF GREATER THAN 2%, FLATTEN AS FEASIBLE.

LEGEND	
	LANDING - ALL SLOPES TO BE LESS THAN 2%
	OPTIONAL AESTHETIC TREATMENT

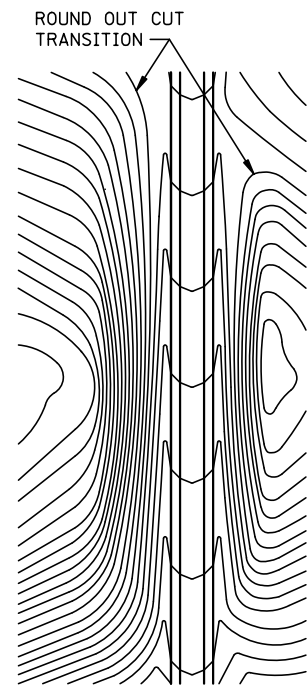
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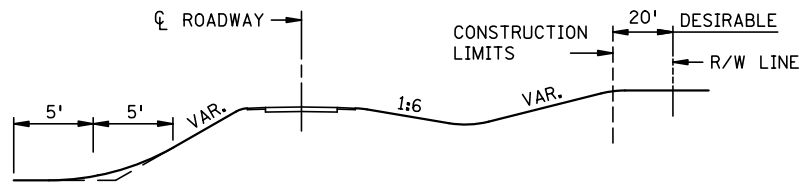
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	STANDARD PLAN 5-297.254	4 OF 4	DRIVEWAY AND SIDEWALK DETAILS
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			SHEET NO. 44 OF 416 SHEETS

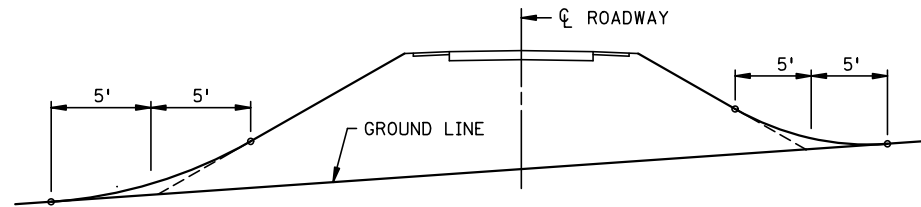
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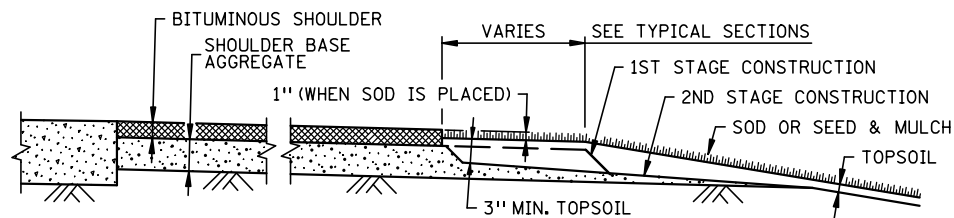
CONTOURING ROAD CUTS



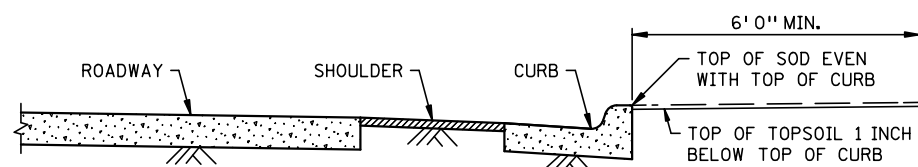
ROUNDING SHOULDERS AND BACKSLOPES



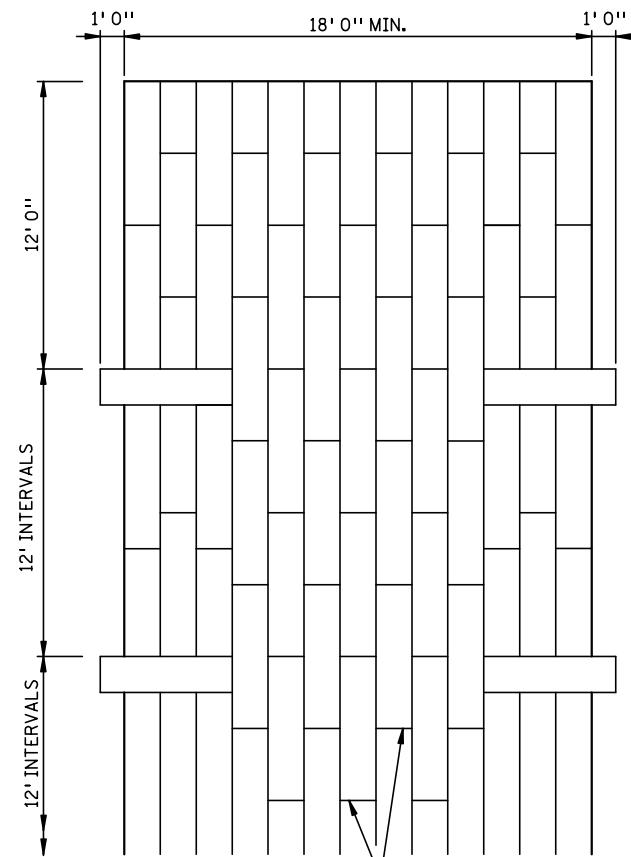
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



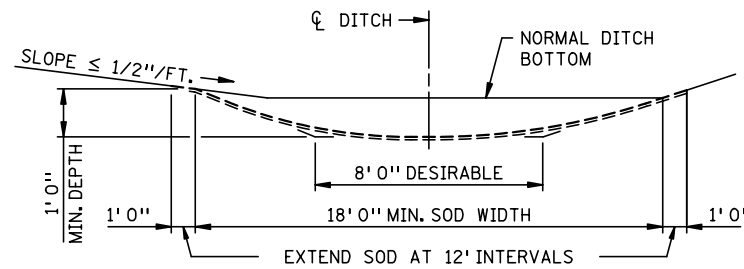
SHAPING AND TOPSOILING INSLOPES



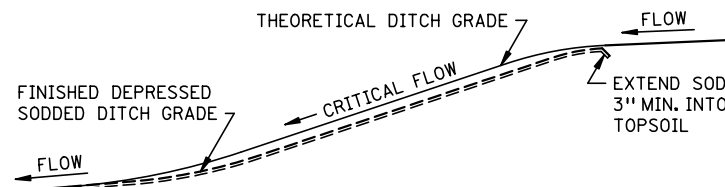
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



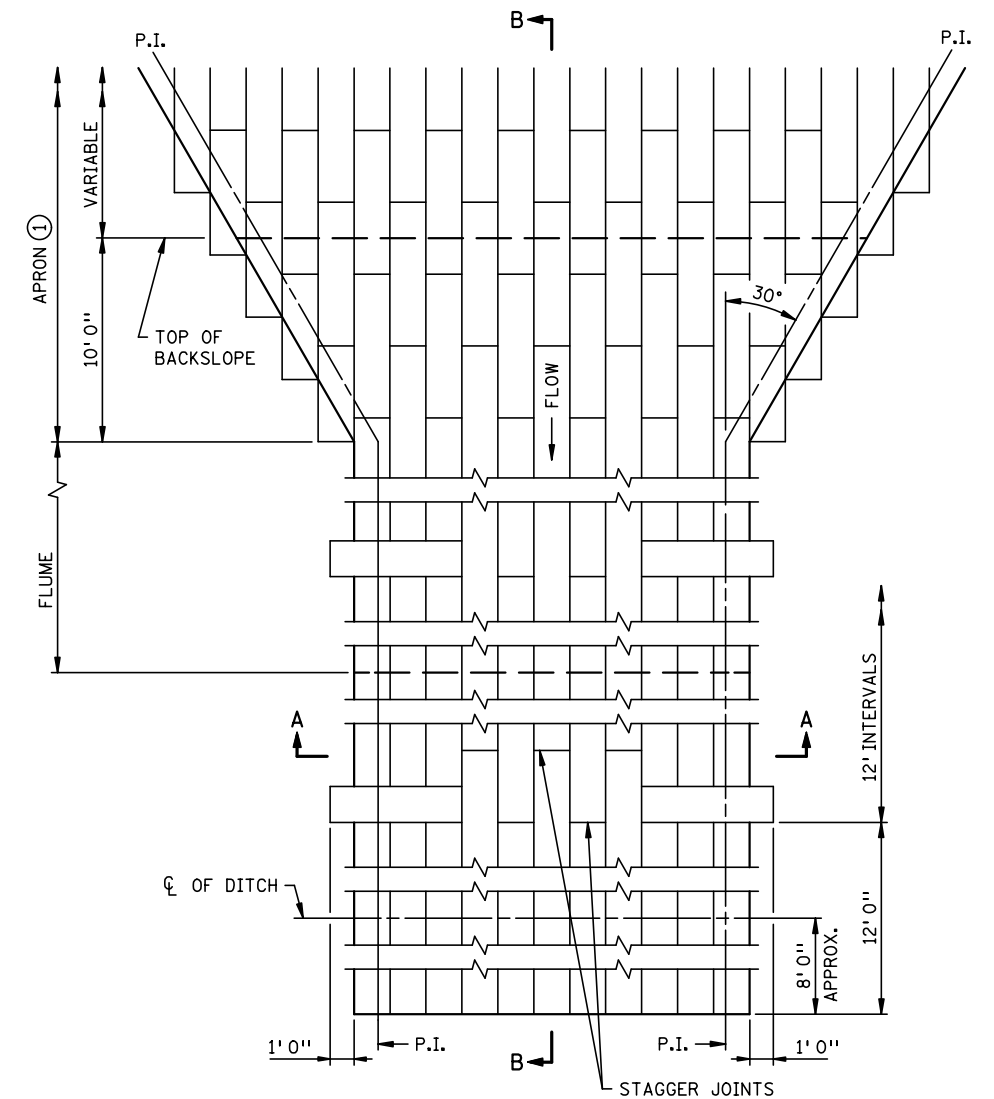
PLAN VIEW



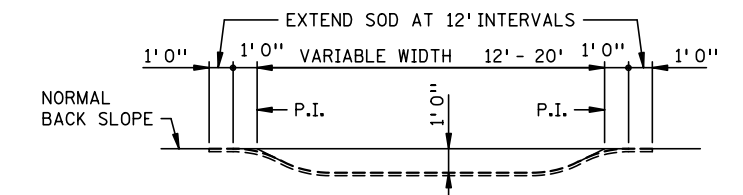
SODDED DITCH CROSS SECTION
 WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



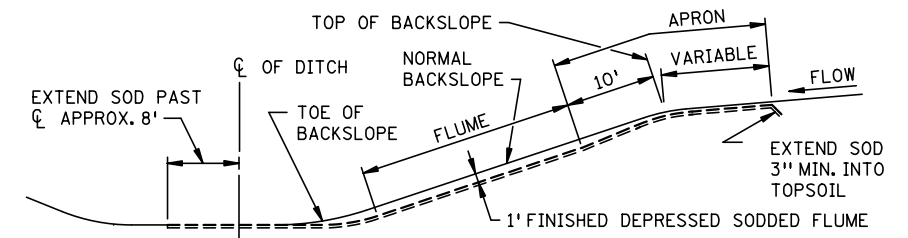
DITCH PROFILE
 SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

NOTES:
 SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
 ① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

REVISION:
 APPROVED: 2-28-2017

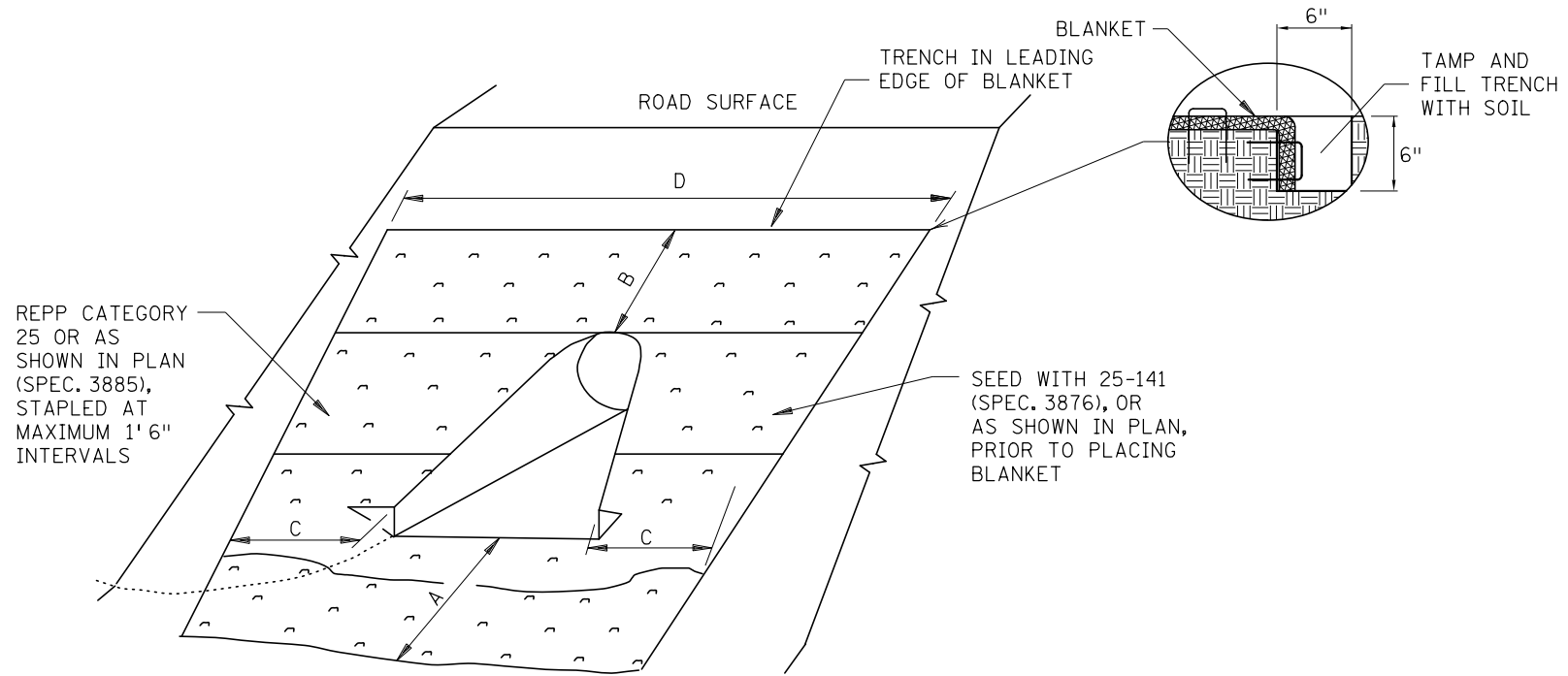
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MINNESOTA
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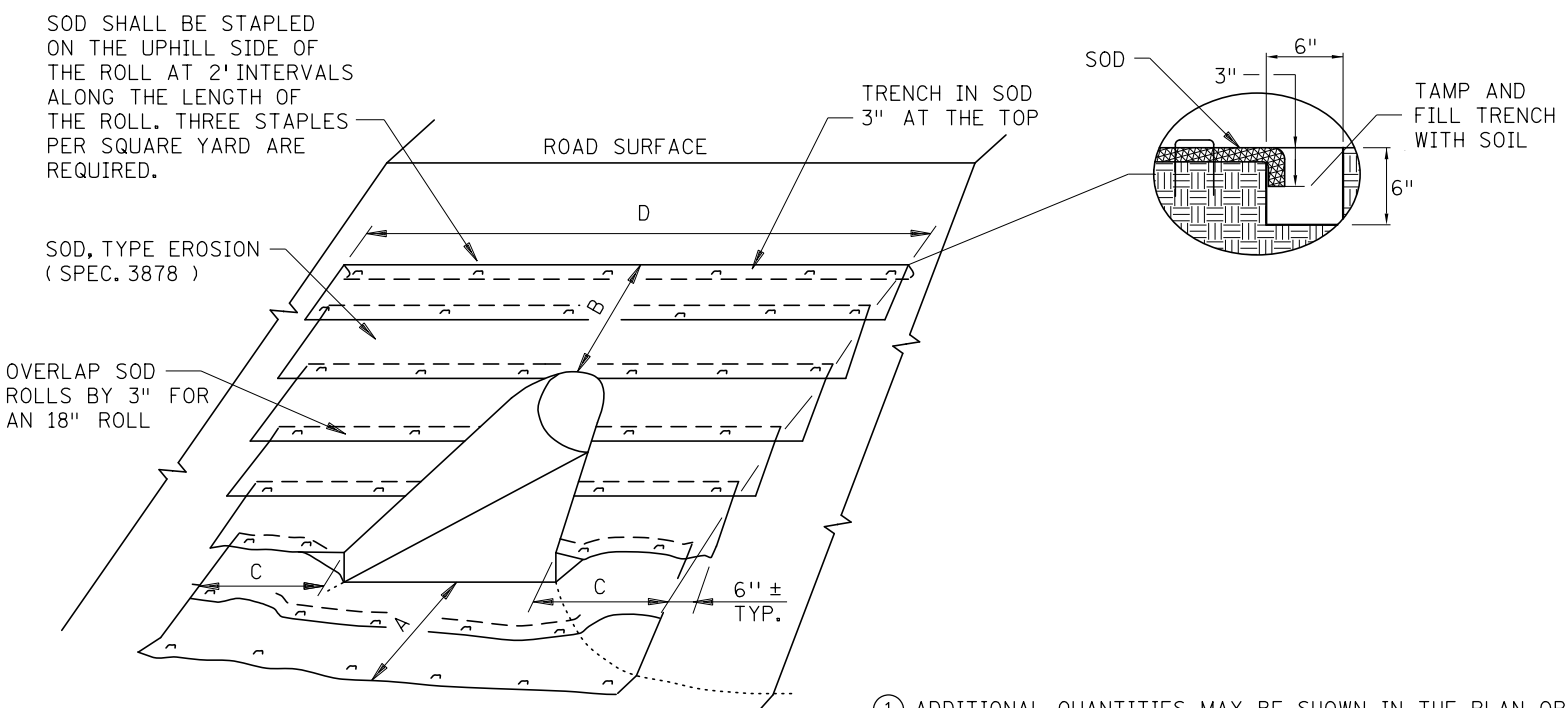
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PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES
 STATE PROJ. NO. 002-611-036 SHEET NO. 45 OF 416 SHEETS

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ROLLED EROSION PREVENTION PRODUCT (BLANKET) & SEED DETAIL



SODDING DETAIL

- ① ADDITIONAL QUANTITIES MAY BE SHOWN IN THE PLAN OR REQUIRED BY THE ENGINEER.
- ② FOR ARCH PIPE USE CLOSEST CIRCULAR PIPE DIAMETER AND APRON SLOPE. DIAMETERS LARGER THAN 72" REQUIRE SPECIAL DESIGNS.

CULVERT DIAMETER ②	SOD OR REPP (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	9	9	8	8	N/A	N/A	3'	1.5'	3'	13'
18"	13	12	12	14	16	N/A	3'	3'	3'	16'
21"	14	14	14	16	18	14	3'	3'	3'	17'
24"	16	15	16	19	21	17	3'	3'	3'	18'
27"	N/A	20	N/A	N/A	N/A	N/A	3'	4.5'	3'	20'
30"	23	22	25	30	32	N/A	3'	4.5'	3'	22'
36"	34	34	39	48	51	37	4.5'	4.5'	4.5'	27'
42"	43	40	51	64	N/A	N/A	4.5'	6'	4.5'	30'
48"	54	50	66	82	N/A	N/A	4.5'	7.5'	4.5'	34'
54"	65	58	81	102	N/A	N/A	4.5'	9'	4.5'	37'
60"	69	59	91	115	N/A	N/A	4.5'	9'	4.5'	39'
66"	69	63	N/A	N/A	N/A	N/A	4.5'	9'	4.5'	39'
72"	78	72	99	122	N/A	N/A	4.5'	10.5'	4.5'	41'

CULVERT DIAMETER ②	SOD OR REPP (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	10	10	9	10	N/A	N/A	4.5'	1.5'	3'	13'
18"	13	13	12	14	15	N/A	6'	1.5'	3'	14'
21"	16	14	16	18	19	15	6'	1.5'	3'	15'
24"	18	18	18	21	22	18	7.5'	1.5'	3'	16'
27"	N/A	19	N/A	N/A	N/A	N/A	7.5'	1.5'	3'	17'
30"	23	23	24	28	29	N/A	9'	1.5'	3'	18'
36"	36	35	38	47	48	37	10.5'	1.5'	4.5'	23'
42"	43	40	47	58	N/A	N/A	12'	1.5'	4.5'	25'
48"	50	46	57	70	N/A	N/A	13.5'	1.5'	4.5'	27'
54"	57	50	67	84	N/A	N/A	15'	1.5'	4.5'	29'
60"	74	63	90	113	N/A	N/A	16.5'	1.5'	6'	33'
66"	75	67	N/A	N/A	N/A	N/A	16.5'	1.5'	6'	33'
72"	77	70	92	114	N/A	N/A	16.5'	1.5'	6'	34'

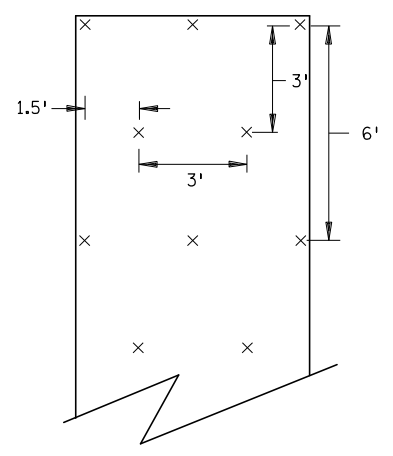
NOTES:
 REPP = ROLLED EROSION PREVENTION PRODUCT.
 AREA SHOWN IN SQUARE YARDS IS FOR ONE CULVERT END.
 QUANTITIES ARE CALCULATED TO INCLUDE SOD REQUIRED TO PROVIDE A 3" OVERLAP ON ALL 18" WIDE ROLLS. THIS ALLOWS FOR SHRINKAGE OF THE SOD.
 FOR PIPE ARCHES USE EQUIVALENT PIPE DIAMETER TO APPROXIMATE AREA.
 FOR CORRUGATED POLYETHYLENE PIPE METAL APRON (PLATE 3129), USE THE METAL APRON COLUMN (PLATE 3123).
 AREAS AND DIMENSIONS ARE APPROXIMATE AND ARE BASED ON APRON SIDE SLOPES OF NO STEEPER THAN 1:2, UNLESS INDICATED AS FOR SAFETY APRONS.
 CARE SHOULD BE TAKEN IN SELECTING SOD TO STABILIZE THE APRON. RIP-RAP SHOULD BE USED FOR FLOW VELOCITIES GREATER THAN 6 FPS.

REVISION:
 APPROVED: JANUARY 8, 2020
Marni Karnowski
 MARNI KARNOWSKI
 CHIEF ENVIRONMENTAL OFFICER

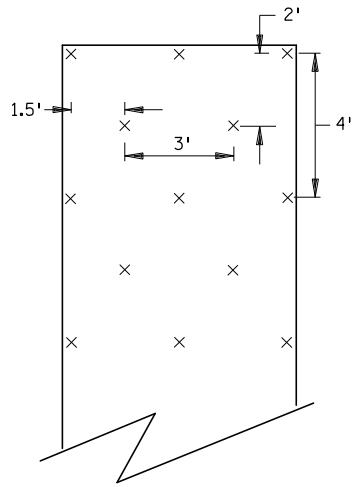
m MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.404 2 OF 3
 APPROVED: 1-8-2020
 REVISED:
Tom Styrbicki
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

PERMANENT EROSION CONTROL
 TURF ESTABLISHMENT DETAIL AT CULVERT ENDS
 STATE PROJ. NO. 002-611-036 SHEET NO. 46 OF 416 SHEETS

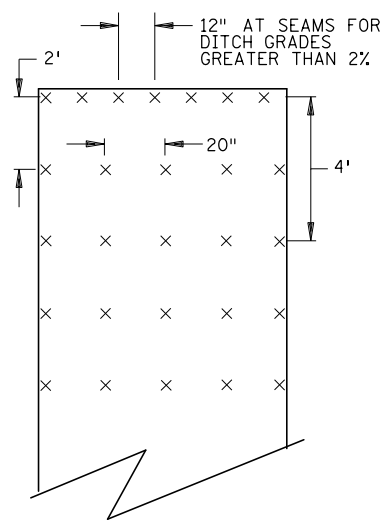
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SLOPES FLATTER THAN 1:2
120 STAPLES PER 100 SQ YD

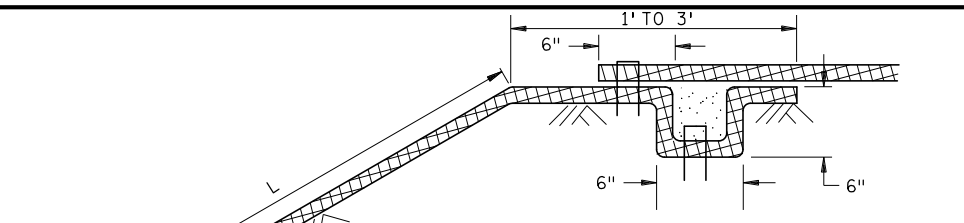


SLOPES 1:2 TO 1:1
170 STAPLES PER 100 SQ YD

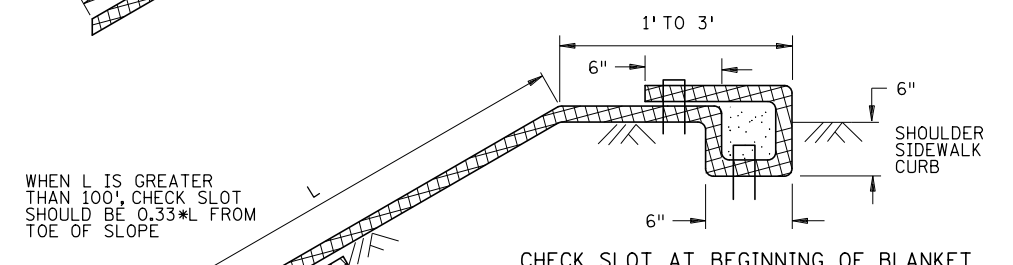


CHANNEL AND DITCH APPLICATIONS
350 STAPLES PER 100 SQ YD

BLANKET STAPLE PATTERN

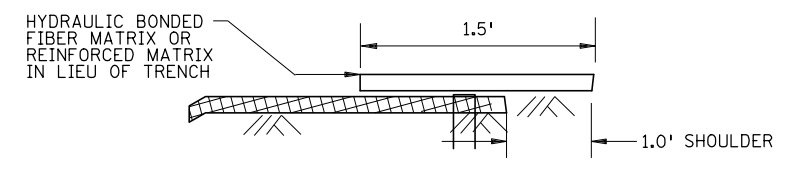


CHECK SLOT WHERE BLANKET CONTINUES

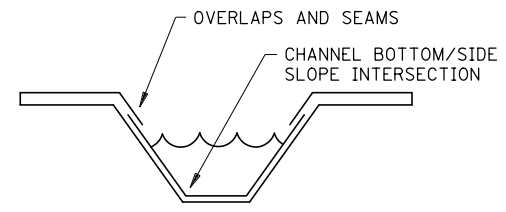


CHECK SLOT AT BEGINNING OF BLANKET

CHECK SLOT REQUIREMENTS
 DIG 6" BY 6" TRENCH.
 INSERT BLANKET INTO ENTIRE TRENCH PERIMETER.
 PLACE SINGLE ROW STAPLES AT 3' SPACING ALONG THE BOTTOM OF THE TRENCH.
 BACKFILL TRENCH WITH SOIL AND TAMP.
 PLACE SINGLE ROW STAPLES AT 3' SPACING ON OVERLAP.



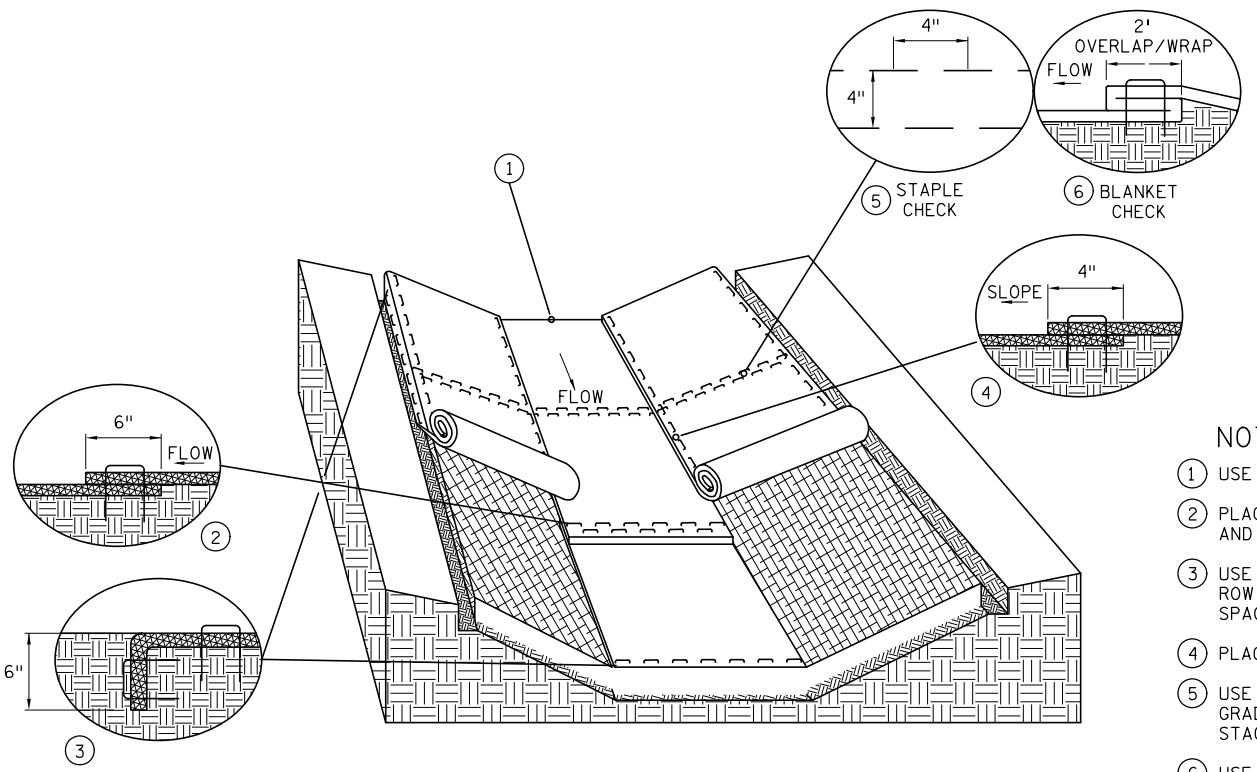
CHECK SLOT ALTERNATIVE
PLACE SINGLE ROW STAPLES AT 12" SPACING
CHECK SLOT DETAILS



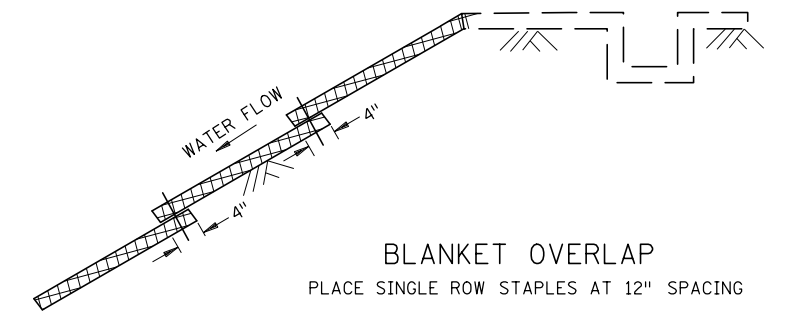
DITCH BLANKET CRITICAL POINTS ⑦

NOTES:

- ① USE CHECK SLOT DETAIL (NO ALTERNATES).
- ② PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER.
- ③ USE 6" X 6" TRENCH TO PLACE BLANKET. PLACE SINGLE ROW OF STAPLES ON TOP AND TRENCH SIDES AT 12" SPACING. BACKFILL TRENCH WITH SOIL AND TAMP.
- ④ PLACE SINGLE ROW OF STAPLES AT 12" SPACING.
- ⑤ USE STAPLE CHECK FOR CHANNEL SLOPES LESS THAN 2.5%. GRADE AT 100' INTERVALS. PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND AT 4" SPACING.
- ⑥ USE BLANKET CHECKS FOR THE FOLLOWING SLOPES:
 2.5%-3% 100' INTERVALS
 3%-5% 50' INTERVALS
 5%-7% 25' INTERVALS
- ⑦ CRITICAL POINTS SHALL BE SECURED WITH PROPER STAPLE PATTERNS.



DITCH BLANKET STAPLE DETAIL



BLANKET OVERLAP
PLACE SINGLE ROW STAPLES AT 12" SPACING

GENERAL BLANKET INSTALLATION REQUIREMENTS
 REPP = ROLLED EROSION PREVENTION PRODUCT.
 PREPARE SOIL AS PER SPECIFICATION 2574.
 LAY PARALLEL OR PERPENDICULAR TO THE DIRECTION OF WATER FLOW.
 OVERLAP ADJACENT STRIP EDGES A MINIMUM OF 4".
 OVERLAP BLANKET 6" (MINIMUM) AT EACH END. OVERLAP BOTTOM END OF UPPER BLANKET OVER TOP END OF LOWER BLANKET. STAPLE ALONG OVERLAP EVERY 1.5'.
 THE UPPERMOST BLANKET OF ALL SLOPE APPLICATIONS MUST START IN A CHECK SLOT. IF SLOPE LENGTH (L) IS 100' OR GREATER, INSERT BLANKET INTO A CHECK SLOT 1/3 FROM THE BOTTOM OF THE SLOPE.

REVISION:
 APPROVED: JANUARY 8, 2020
Marni Karnowski
 MARNI KARNOWSKI
 CHIEF ENVIRONMENTAL OFFICER

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 DEPARTMENT
 OF
 TRANSPORTATION

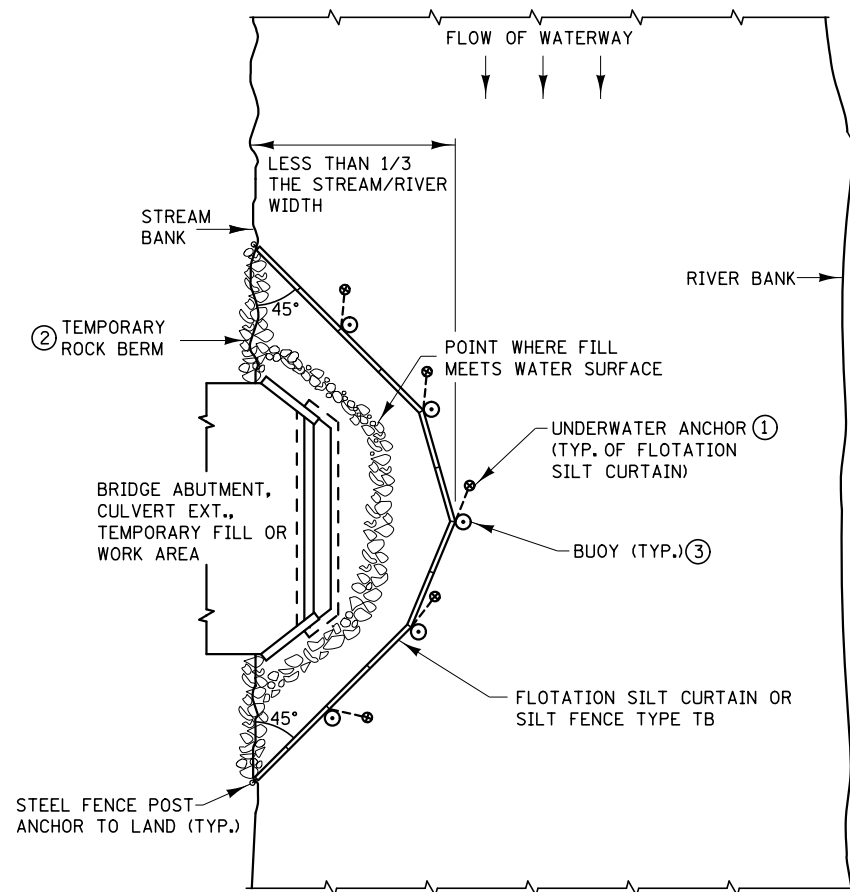
STANDARD PLAN 5-297.404
 3 OF 3
 APPROVED: 1-8-2020
 REVISED:
Tom Styrbicki
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

STATE PROJ. NO. 002-611-036

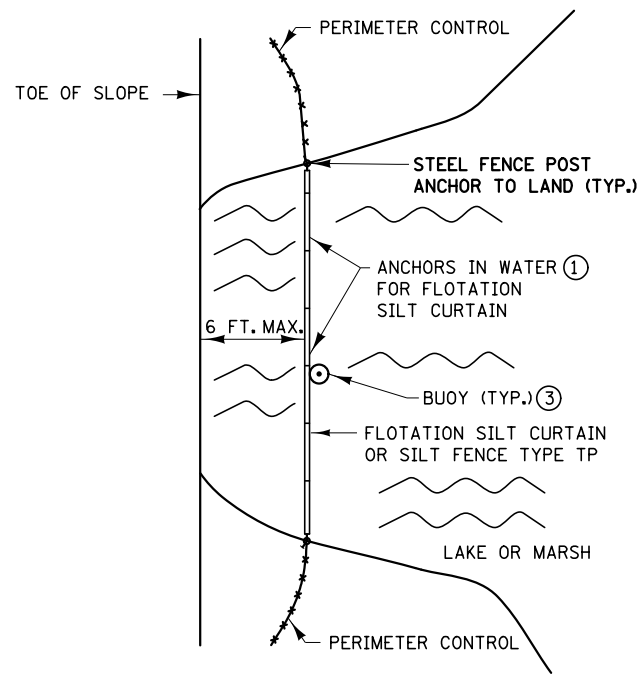
PERMANENT EROSION CONTROL
 REPP (BLANKET) STAPLE PATTERN FOR SLOPES

SHEET NO. 47 OF 416 SHEETS

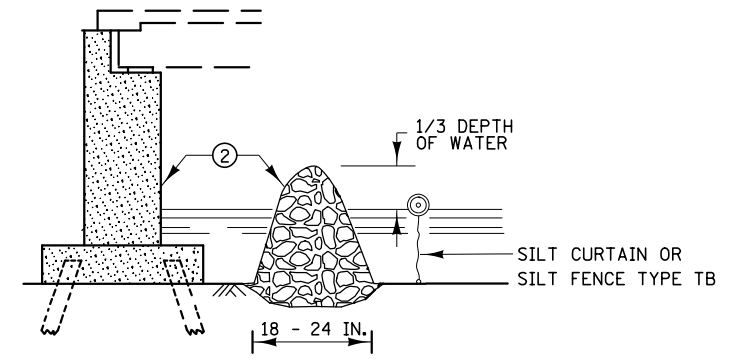
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PLAN VIEW FOR STREAM ⑤



PLAN VIEW FOR LAKE OR MARSH ⑤



TEMPORARY ROCK BERM FOR SEDIMENT CONTROL

INSTALLATION GUIDELINES
SILT FENCE TYPE TB

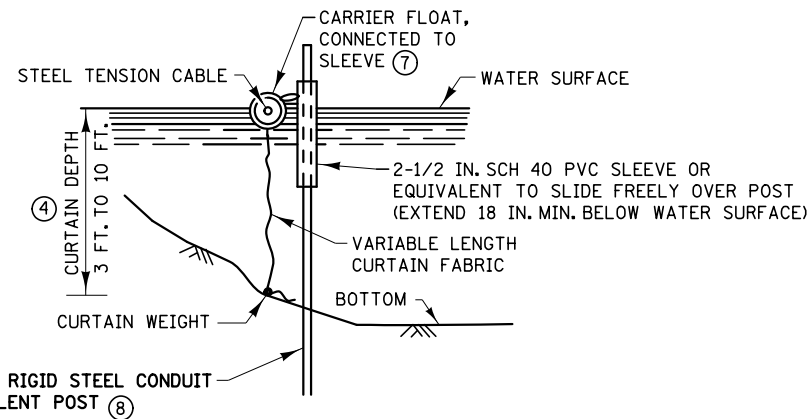
MINIMUM WATER DEPTH: 1 FT.
 MAXIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.

INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: STILL WATER

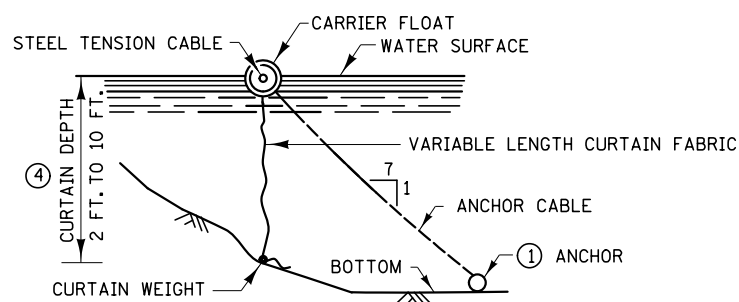
MINIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER DEPTH: 10 FT.
 MAXIMUM WATER VELOCITY: 2 FT./SEC.
 MAXIMUM WAVE HEIGHT: 1 FT

INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: MOVING WATER

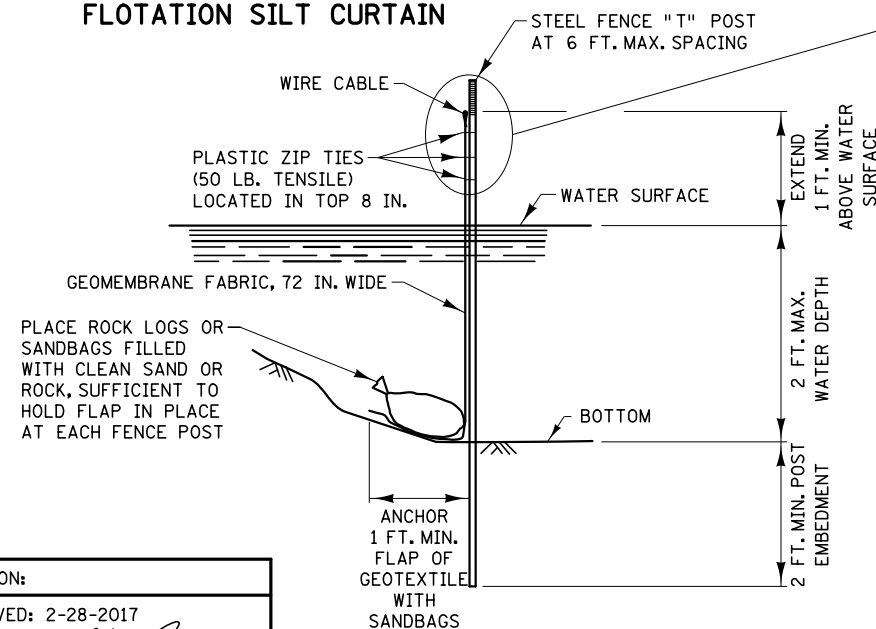
MINIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER DEPTH: 10 FT.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.
 MAXIMUM WAVE HEIGHT: 2 FT.



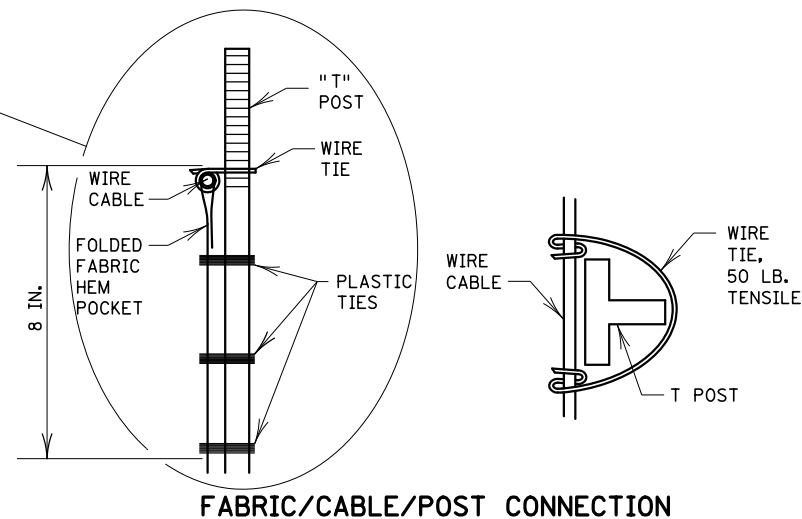
ALTERNATE FLOTATION SILT CURTAIN



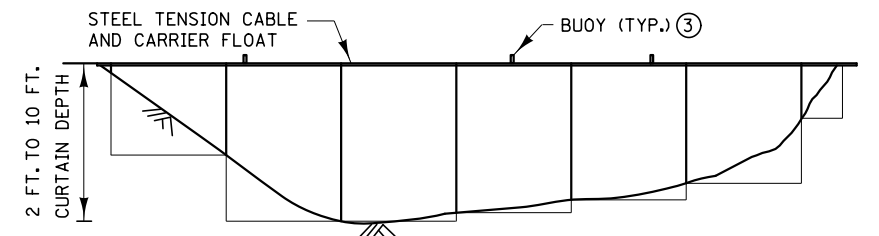
FLOTATION SILT CURTAIN



SILT FENCE TYPE TB ⑥



FABRIC/CABLE/POST CONNECTION



FRONT VIEW FOR FLOTATION SILT CURTAIN

NOTES:

SEE SPECS. 2573, 3886, 3887 & 3893.

- FOR ANCHOR SPACING AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
- IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT A BRIDGE, CULVERT, OR SLOPE, A TEMPORARY ROCK BERM CONSTRUCTED FROM THE RIPRAP CAN BE USED TO PROVIDE ADDITIONAL PROTECTION. WHEN THE WORK IS COMPLETE THE RIPRAP CAN THEN BE MOVED TO THE PERMANENT LOCATION INDICATED IN THE PLANS. THE TEMPORARY ROCK BERM IS INCIDENTAL.
- ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
- MINIMUM WATER DEPTH APPLIES TO THE DEEPEST POINT ALONG THE FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB FOR DETERMINING APPLICABILITY OF FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB.
- SILT CURTAIN SHOULD BE REMOVED WHEN THE AREA CONTRIBUTING DIRECT RUNOFF HAS BEEN TEMPORARILY OR PERMANENTLY STABILIZED. SILT CURTAIN SHOULD ALSO BE REMOVED BEFORE WINTER IF ICE UP OR ICE FLOW IS ANTICIPATED.
- EMBED POST INTO BOTTOM A MINIMUM OF 40% OF THE WATER DEPTH (INCLUDING WAVE HEIGHT), BUT IN NO CASE SHALL EMBEDMENT BE LESS THAN 2 FEET.
- ANCHOR FLOAT MUST BE CONNECTED SECURELY TO SLEEVE WITH A MINIMUM TENSILE STRENGTH OF 100 LBS. CONNECTION METHOD MUST ALLOW FOR SLEEVE TO MOVE FREELY ON POST.
- PROVIDE SUFFICIENT NUMBER OF POST ANCHORS TO MAINTAIN SILT CURTAIN POSITION.

REVISIONS:
 APPROVED: 2-28-2017
 Chief Environmental Officer



STANDARD PLAN 5-297.405

1 OF 8

STATE DESIGN ENGINEER

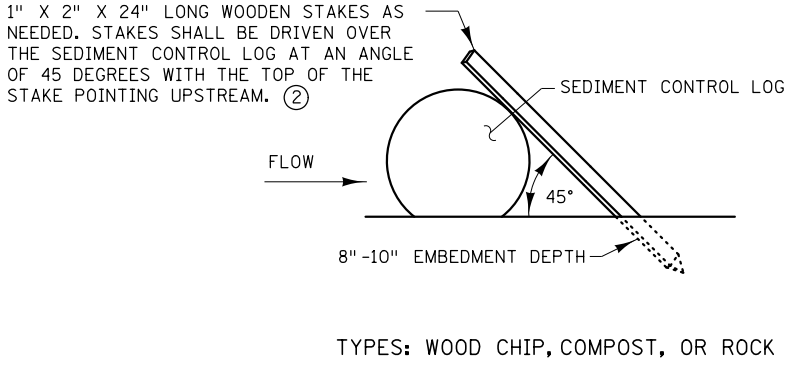
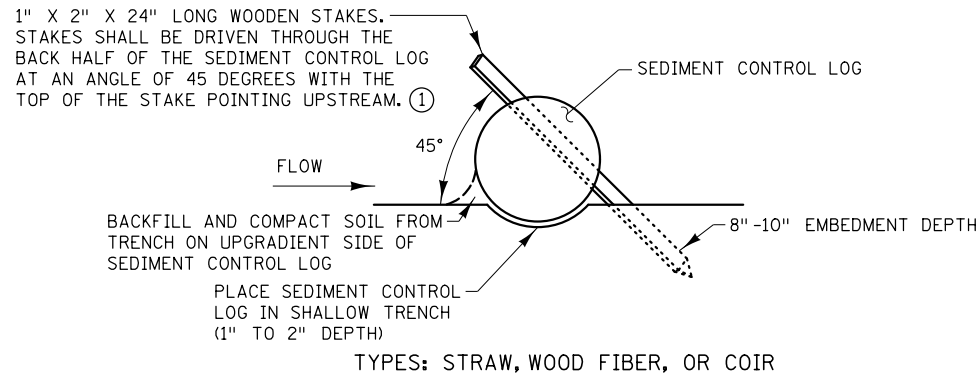
APPROVED: 2-28-2017
 REVISED:

TEMPORARY SEDIMENT CONTROL
 SILT CURTAIN OR SILT FENCE TYPE TB

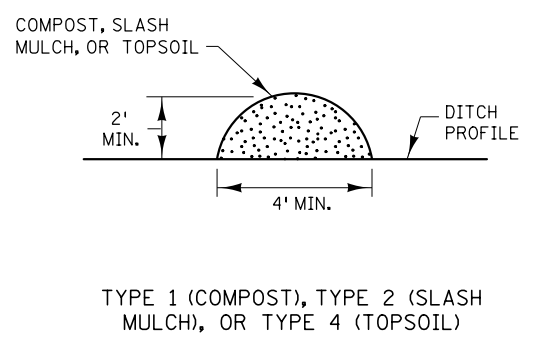
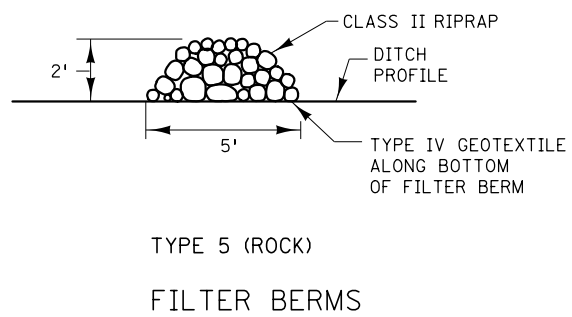
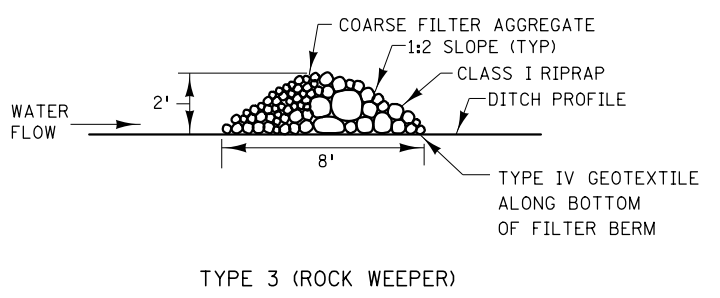
STATE PROJ. NO. 002-611-036

SHEET NO. 48 OF 416 SHEETS

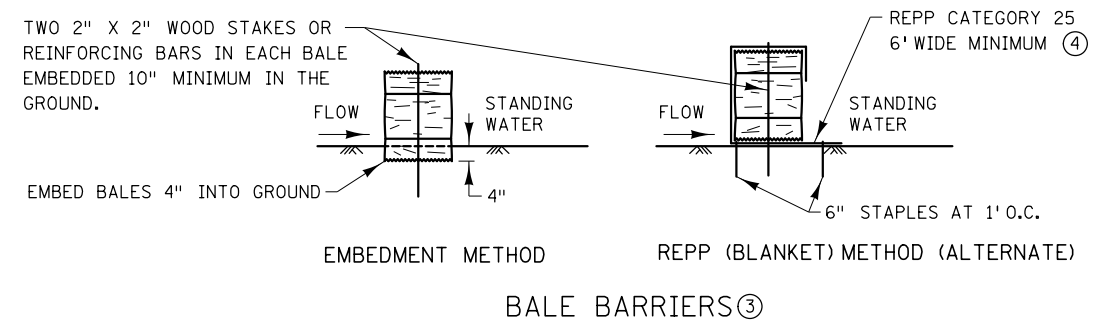
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SEDIMENT CONTROL LOGS



FILTER BERMS



NOTES:

- REPP = ROLLED EROSION PREVENTION PRODUCT.
- SEE SPECS. 2573, 3149, 3874, 3882, 3885, 3886, AND 3897.
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1' FOR DITCH CHECKS OR 2' FOR OTHER APPLICATIONS.
- ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
- ③ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6" MAXIMUM DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14" X 18" X 36" LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
- ④ INSTEAD OF TRENCHING, PLACE BALE ON THE REPP (BLANKET) AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

REVISION:

APPROVED: JANUARY 8, 2020

Marni Karnowski

MARNI KARNOWSKI
CHIEF ENVIRONMENTAL OFFICER

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.405 2 OF 8

Tom Styrbicki

THOMAS STYRBICKI
STATE DESIGN ENGINEER

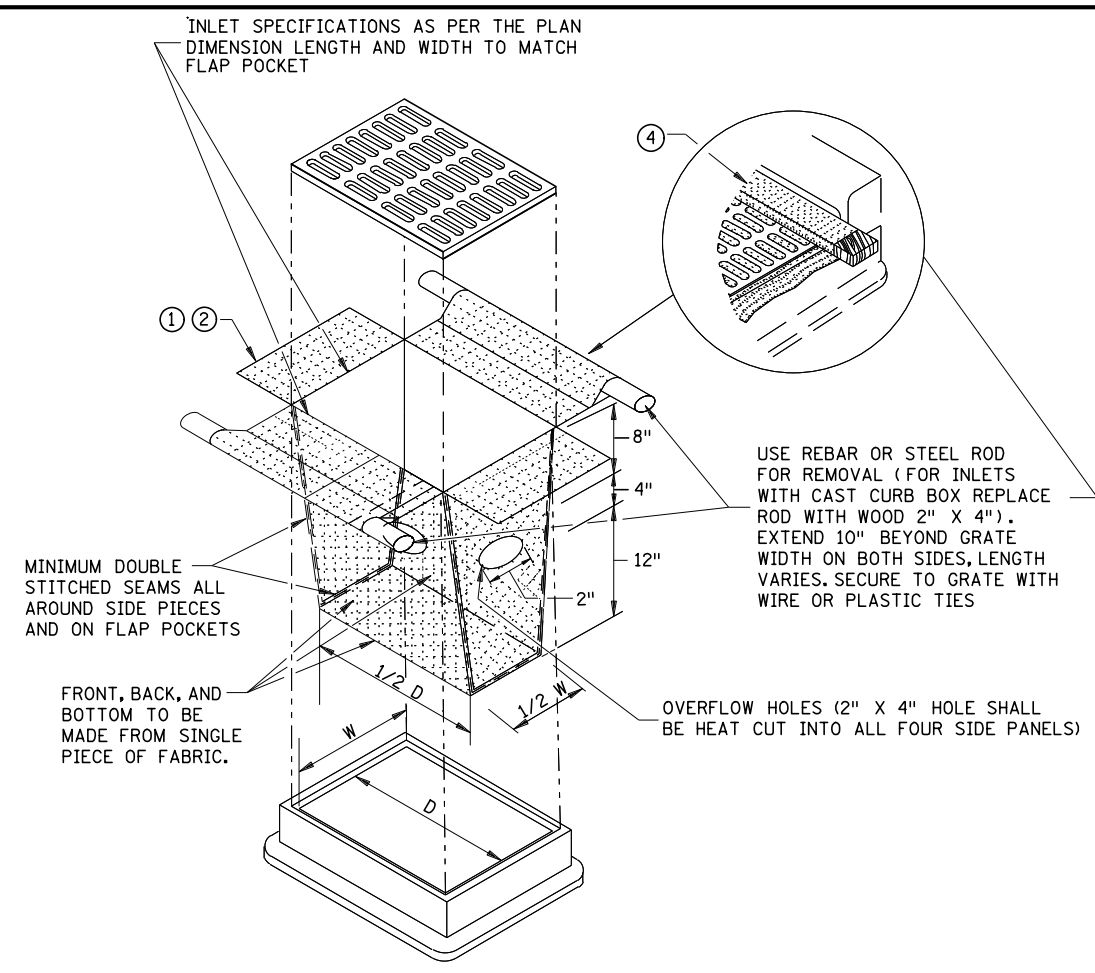
APPROVED: 1-8-2020
REVISED:

TEMPORARY SEDIMENT CONTROL

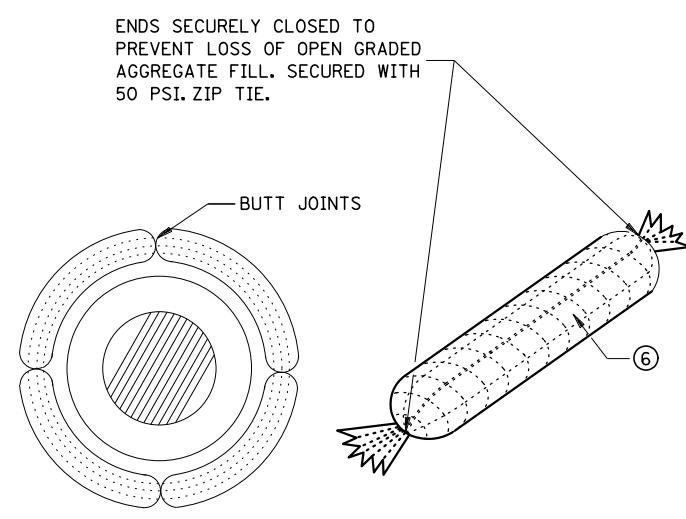
FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS

STATE PROJ. NO. 002-611-036 SHEET NO. 49 OF 416 SHEETS

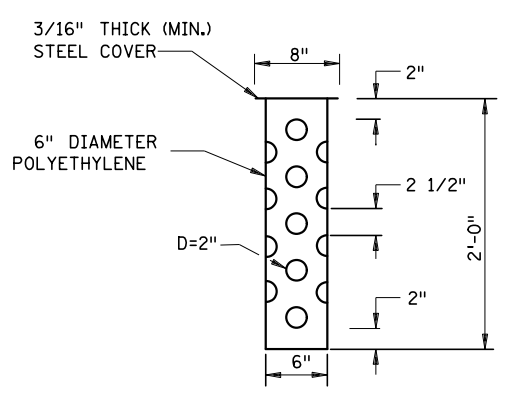
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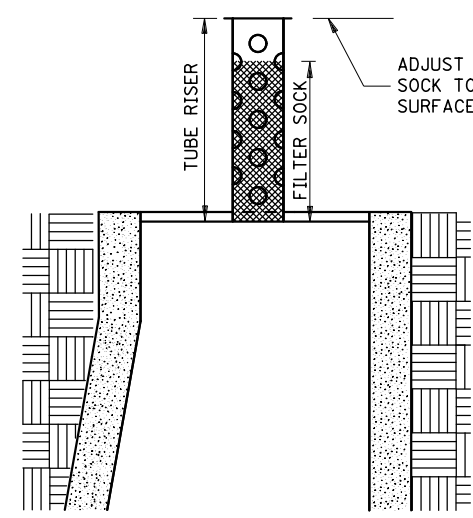
FILTER BAG INSERT ③
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)



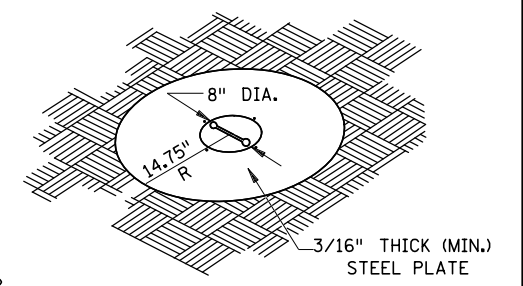
ROCK LOG/COMPOST LOG



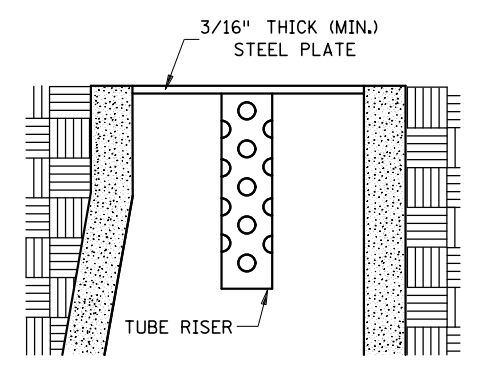
TUBE RISER



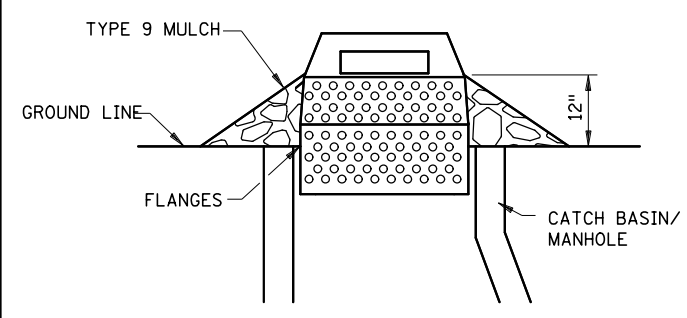
SECTION (UP POSITION)



PERSPECTIVE VIEW

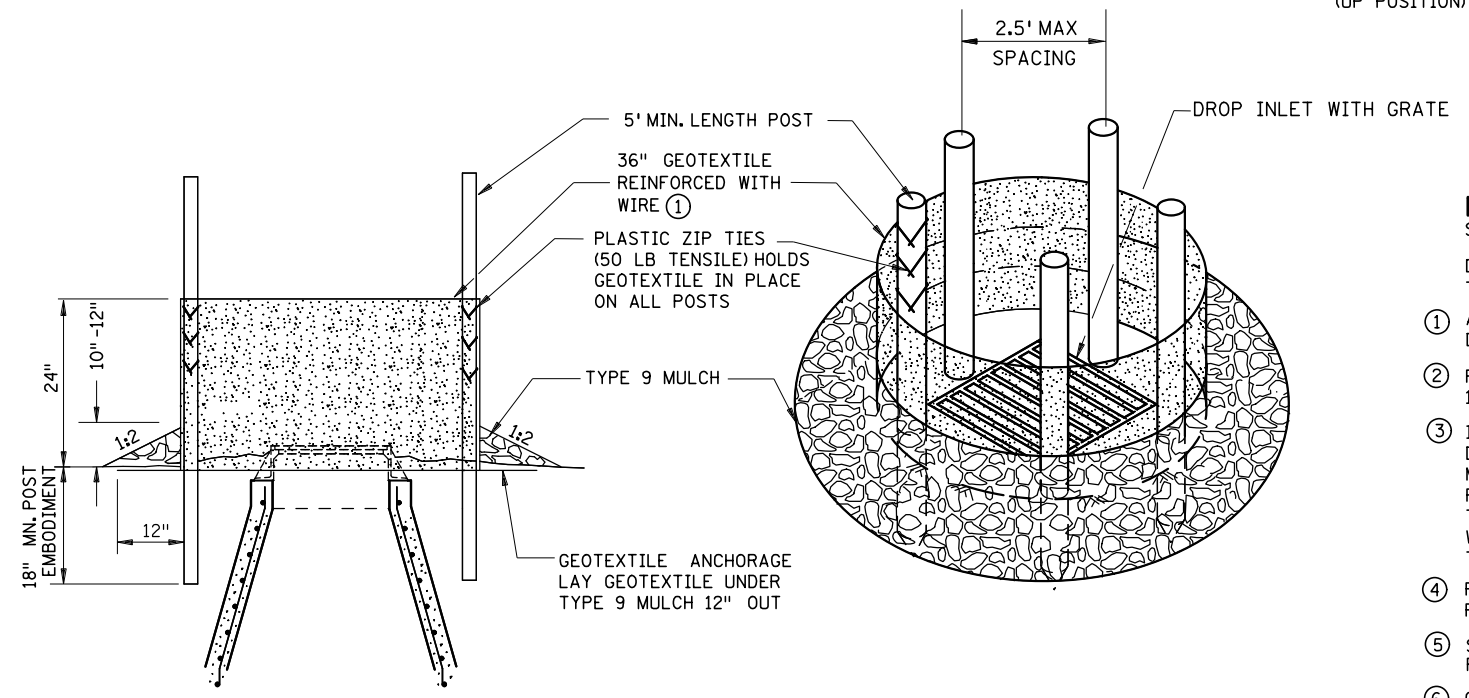


SECTION (DOWN POSITION)



SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



SILT FENCE RING AND ROCK FILTER BERM
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

POP-UP HEAD

- NOTES:**
SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.
- ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
 - FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
 - INSTALLATION NOTES:
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
 - FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
 - SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
 - GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

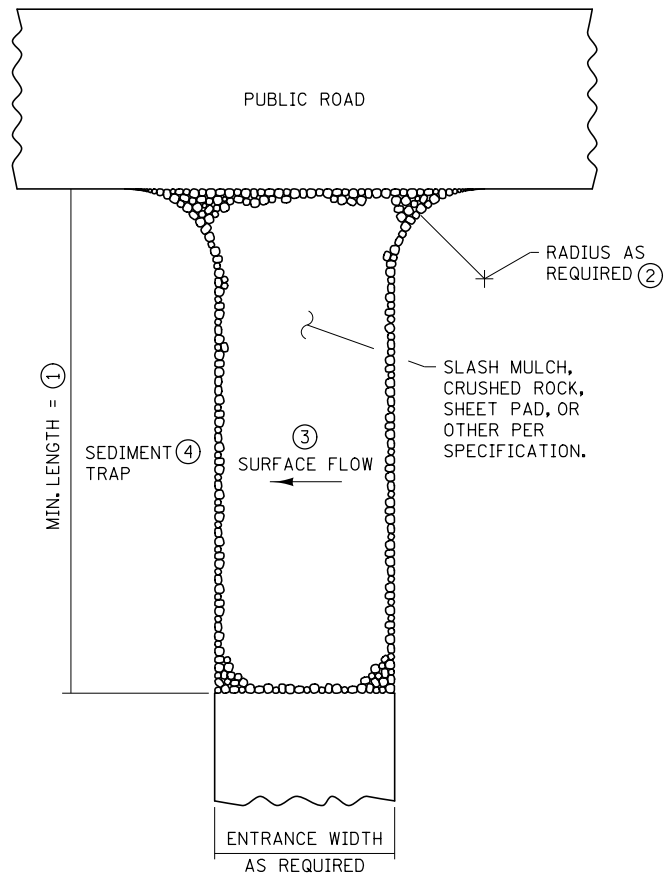
REVISION:
APPROVED: 2-28-2017
[Signature]
CHIEF ENVIRONMENTAL OFFICER

m MINNESOTA DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.405 4 OF 8
APPROVED: 2-28-2017
REVISOR:
[Signature] STATE DESIGN ENGINEER

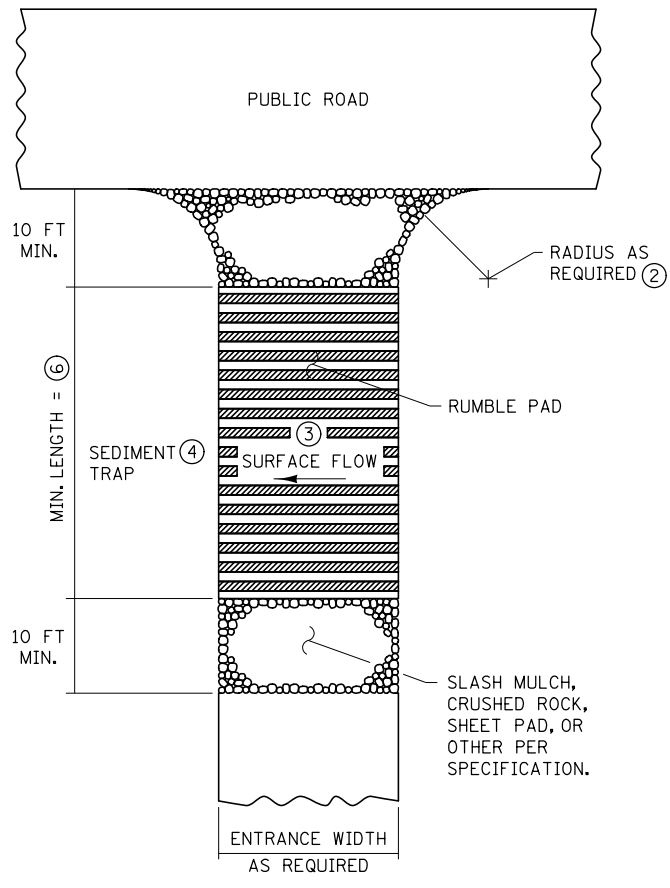
TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION

STATE PROJ. NO. 002-611-036 SHEET NO. 50 OF 416 SHEETS

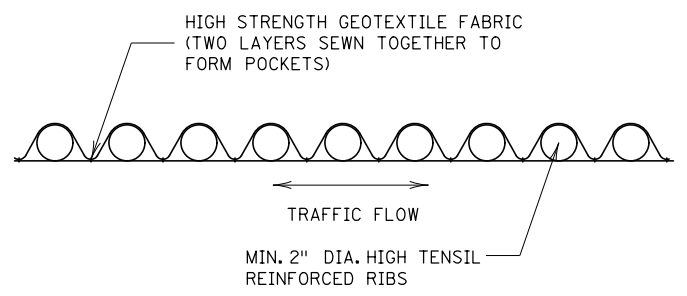
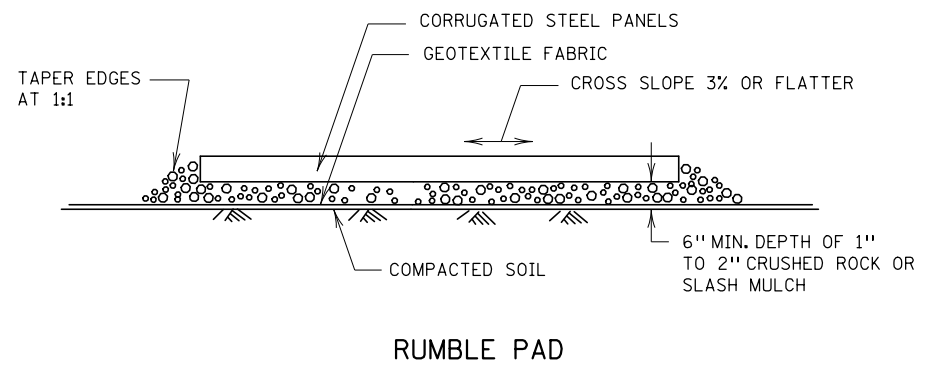
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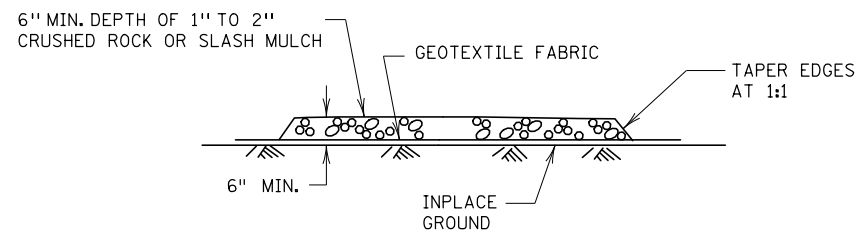
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

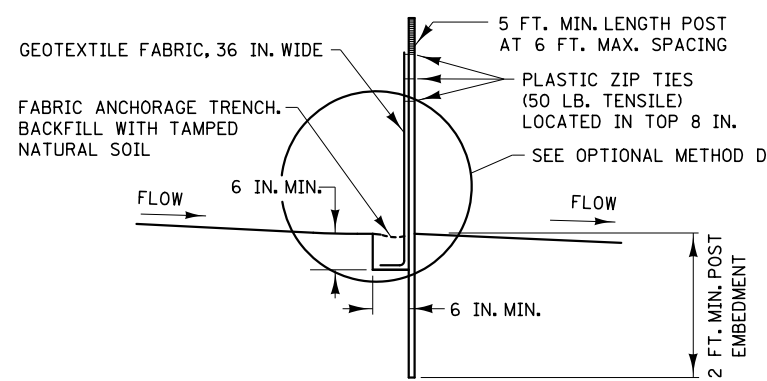
- SEE SPECS. 2573 & 3882.
- ① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
- ② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
- ③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
- ④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
- ⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
- ⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
- ⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

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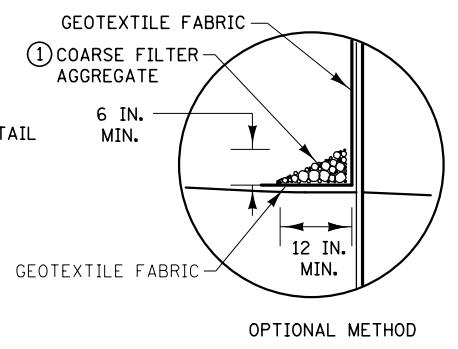
<p>MINNESOTA DEPARTMENT OF TRANSPORTATION</p>	<p>STANDARD PLAN 5-297.405</p> <p>5 OF 8</p>
	<p>APPROVED: 2-28-2017 REVISED:</p> <p><i>[Signature]</i> STATE DESIGN ENGINEER</p>

**TEMPORARY SEDIMENT CONTROL
STABILIZED CONSTRUCTION EXIT**

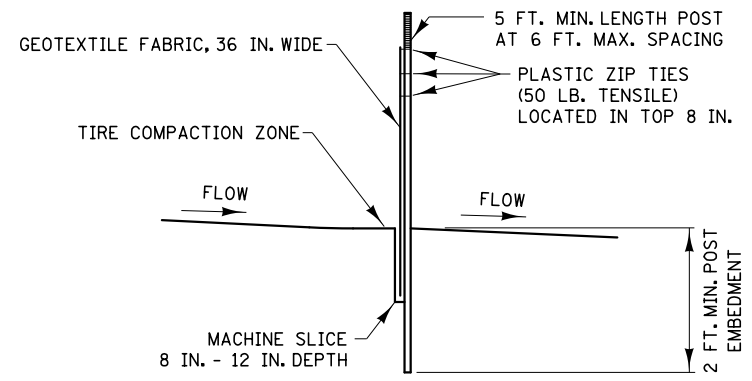
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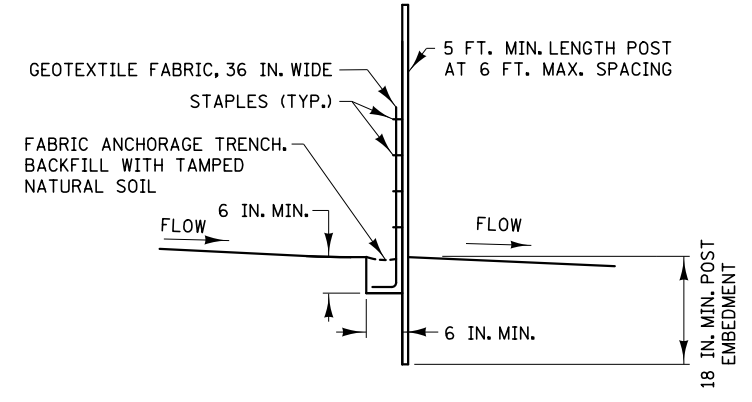
**SILT FENCE TYPE HI ②
(HAND INSTALLED)**



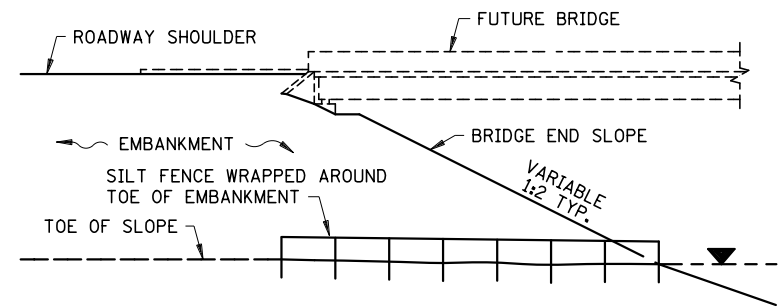
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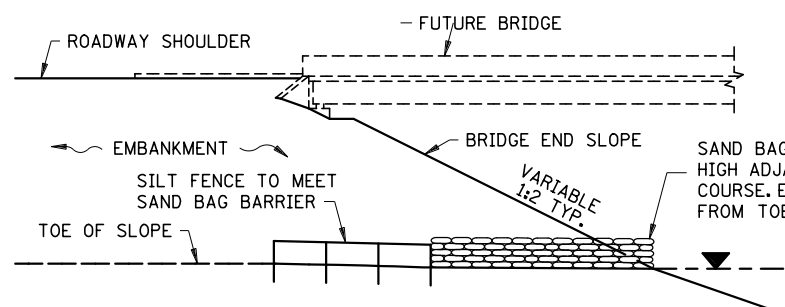
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(MACHINE SLICED)**



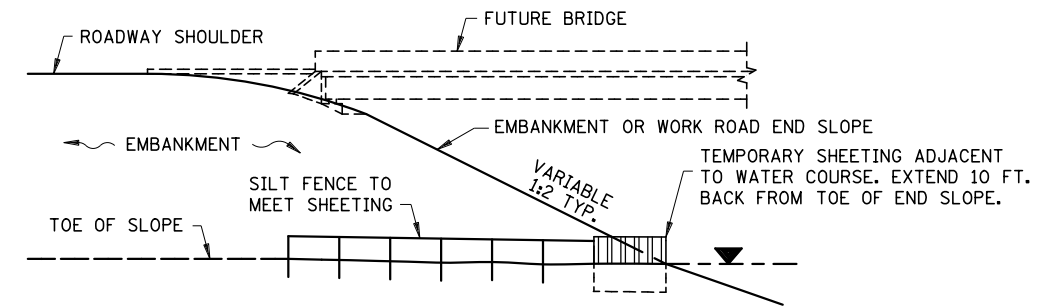
**SILT FENCE TYPE PA ③
(PREASSEMBLED)**



SILT FENCE ONLY ④

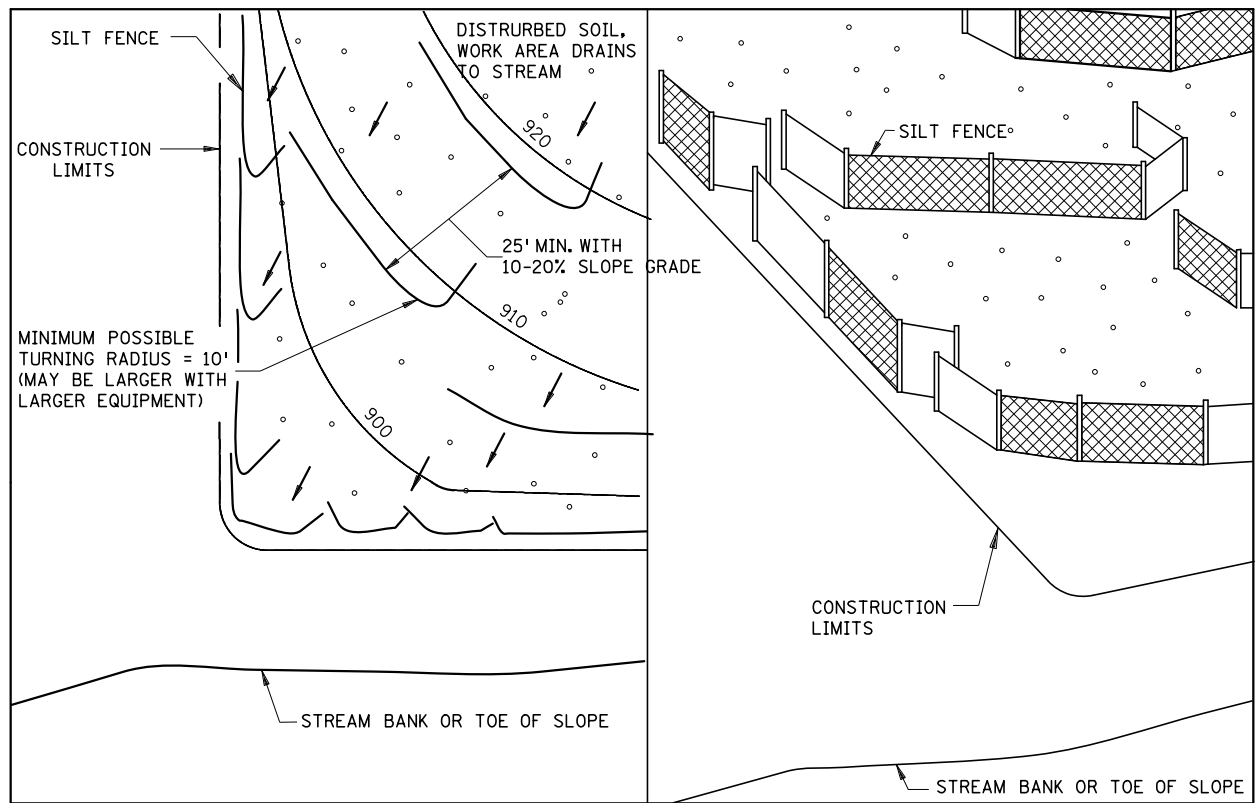


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

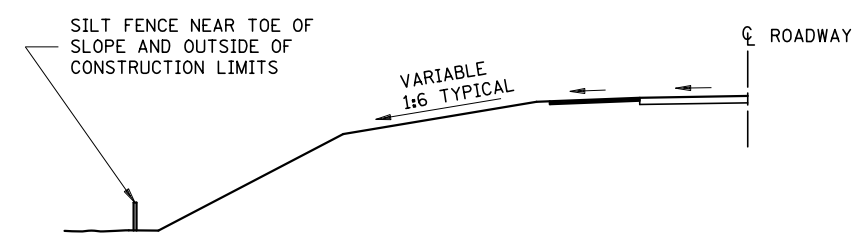
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

- SEE SPECS. 2573, 3149 & 3886.
- ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.
- ② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.
- ③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.
- ④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1/2 ACRE.
- ⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1 ACRE.
- ⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

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STANDARD PLAN 5-297.405 6 OF 8
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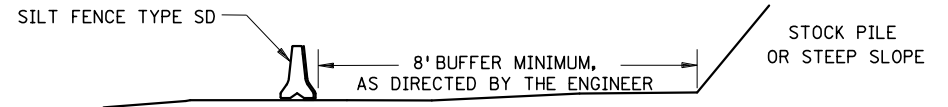
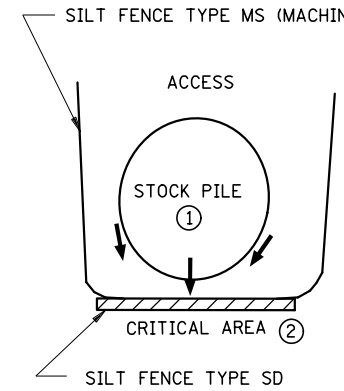
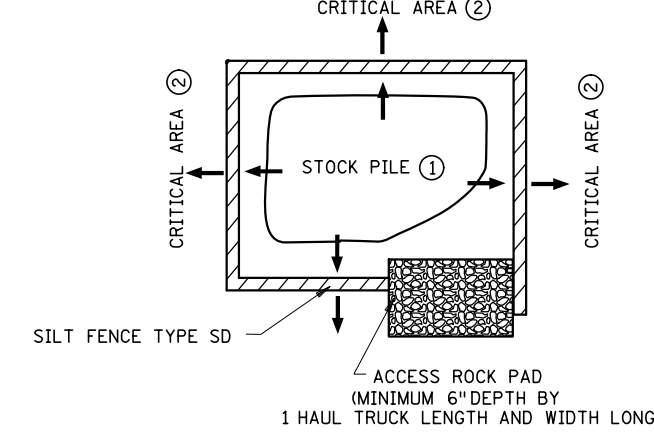
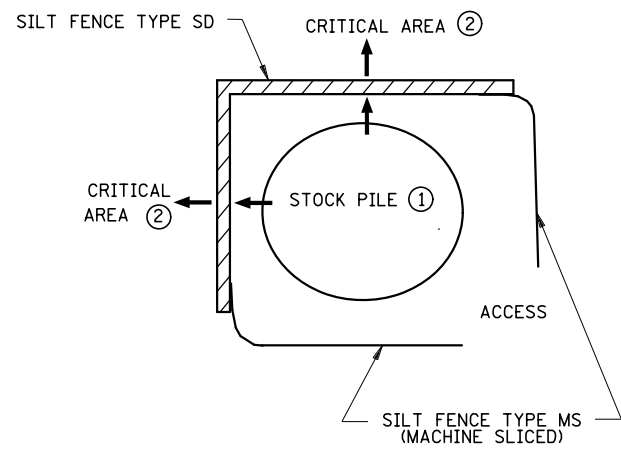
TEMPORARY SEDIMENT CONTROL

SILT FENCE

STATE PROJ. NO. 002-611-036

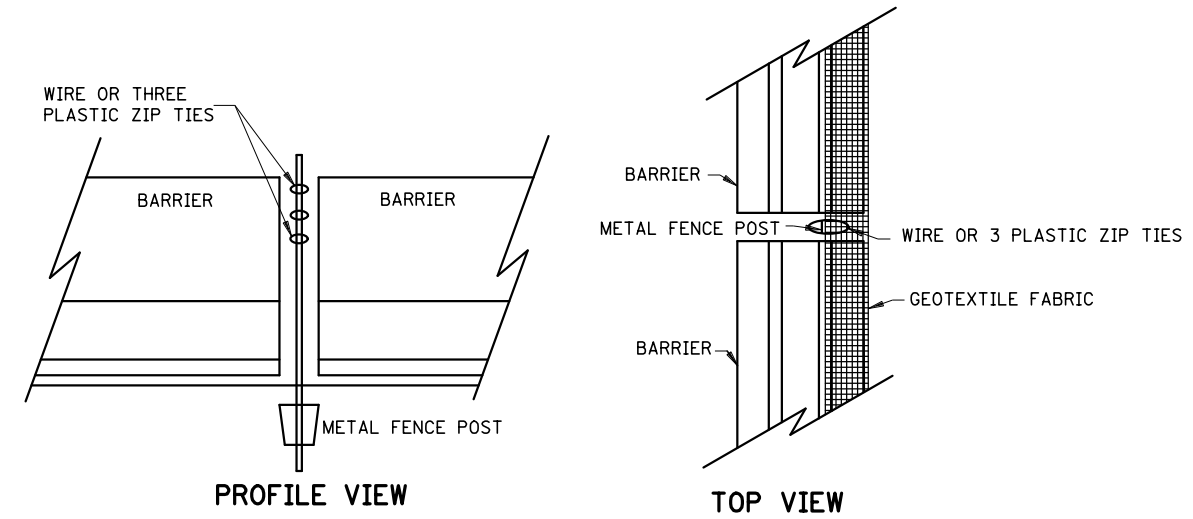
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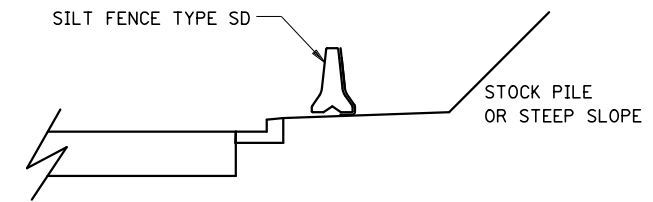


STOCK PILE CONTAINMENT

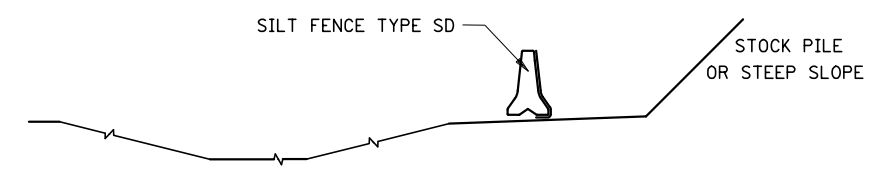
STOCKPILE SEDIMENT CONTROL



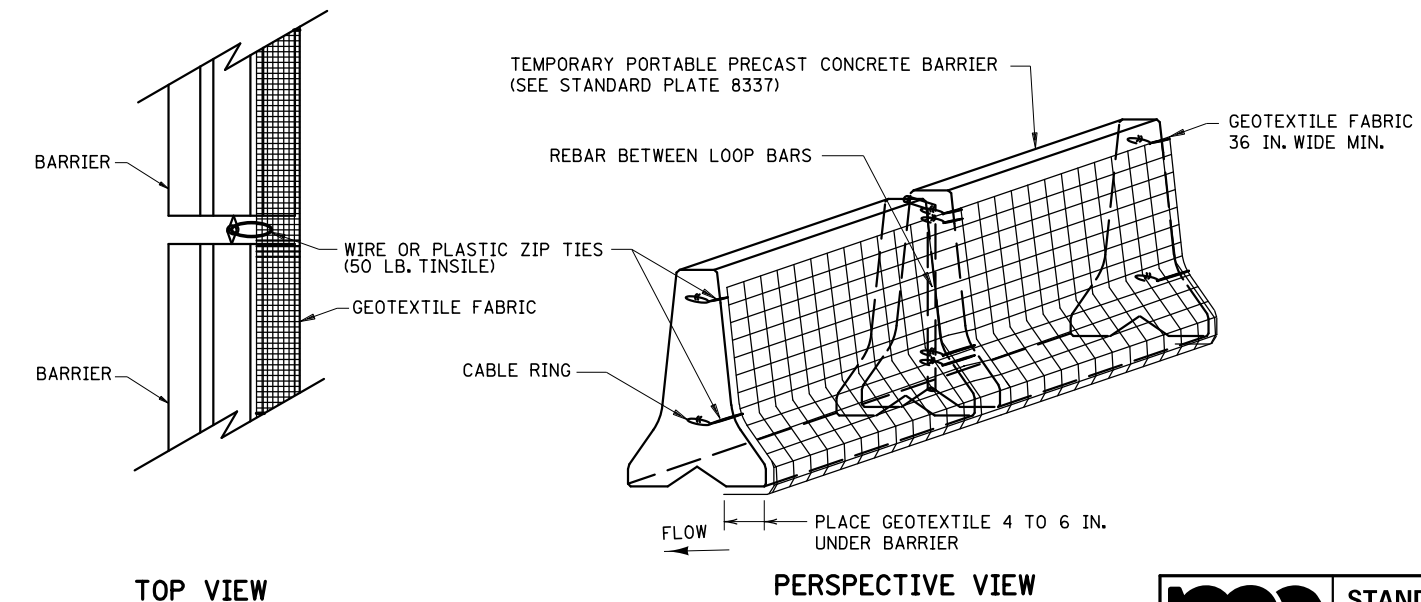
SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITHOUT LOOP BARS



CURB AND GUTTER PROTECTION SYSTEM



DITCH PROTECTION SYSTEM



SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITH LOOP BARS

NOTES:

- SEE SPECS. 2533, 2573 & 3886.
- SILT FENCE TYPE SD USED TO PROTECT CRITICAL AREAS FROM SHEET FLOW, AND AREAS WHERE OTHER SILT FENCES CANNOT BE PLACED. MAXIMUM CONTRIBUTING AREA: 1 ACRE.
- PLACE SILT FENCE TYPE SD ALONG A CONSTANT ELEVATION.
- SILT FENCE TYPE SD CAN UTILIZE EITHER A CONCRETE, OR WATER FILLED, TEMPORARY MEDIAN BARRIER.
- ① PLACING STOCK PILES NEXT TO AN ENVIRONMENTALLY SENSITIVE AREA IS NOT RECOMMENDED. WHEN THERE ARE NO FEASIBLE ALTERNATIVES, PLACE SILT FENCE SD AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- ② CRITICAL AREAS INCLUDE WETLANDS, JUDICIAL DITCHES, STREAMS, WATER BODIES, AND OTHER AREAS REQUIRING PROTECTION.

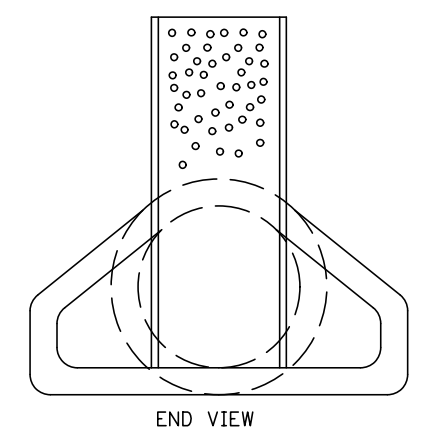
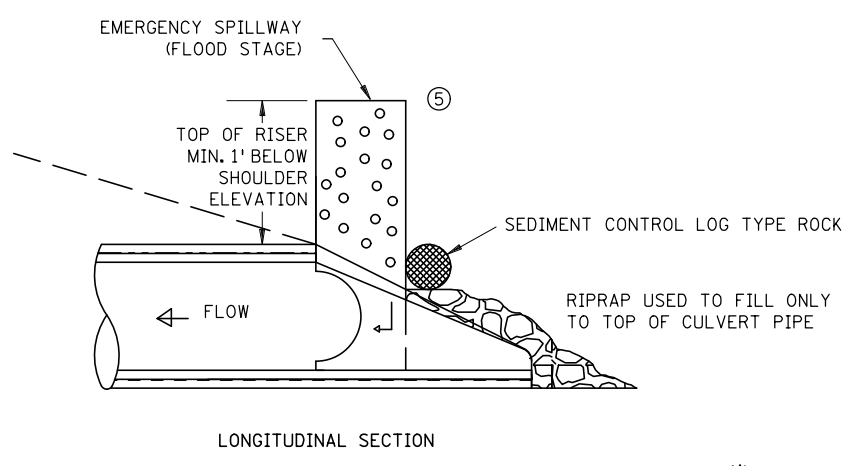
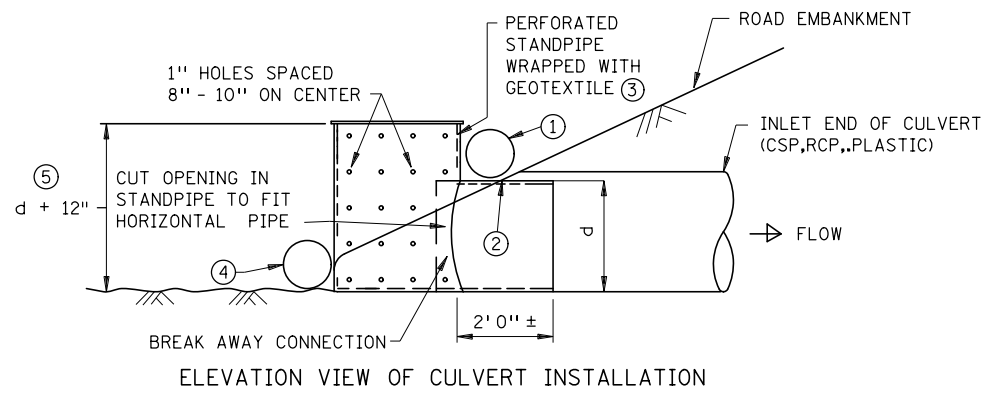
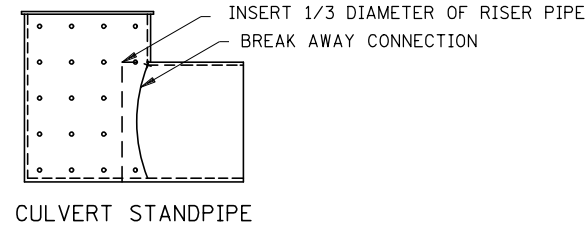
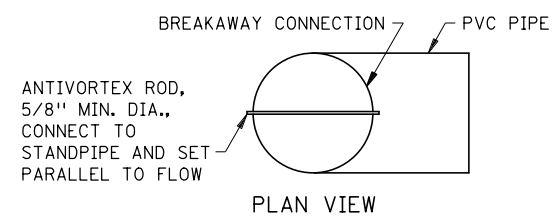
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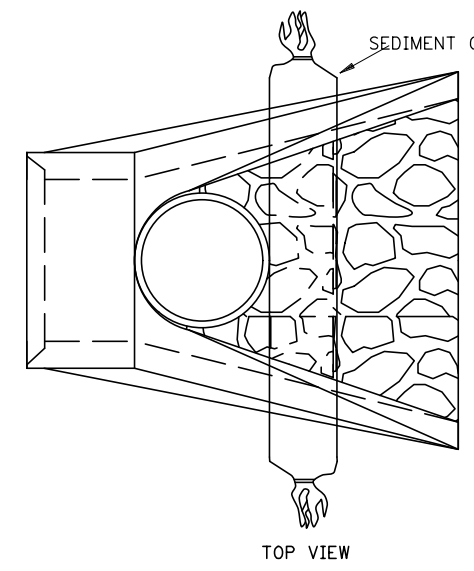
STANDARD PLAN 5-297.405 7 OF 8
APPROVED: 2-28-2017
REVISED:
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STATE DESIGN ENGINEER

**TEMPORARY SEDIMENT CONTROL
SUPER DUTY SILT FENCE**

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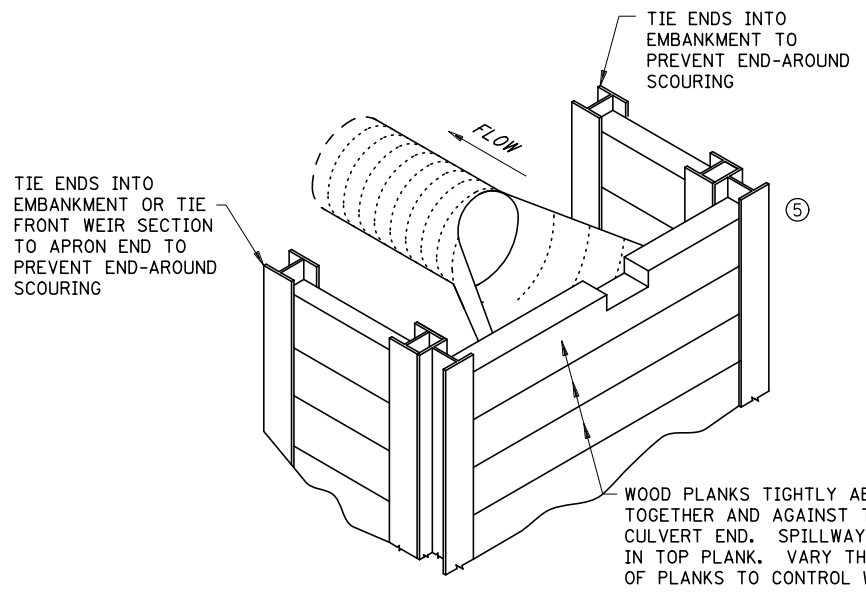
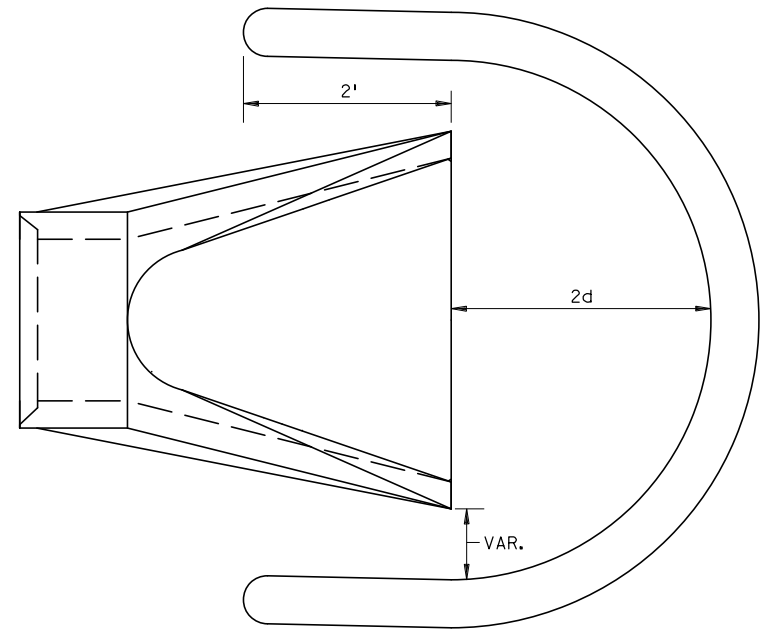


CULVERT STANDPIPE INSERT (D-RISER)
 d= CULVERT SIZE: 12" - 36"



NOTE: SEDIMENT CONTROL LOG TYPE ROCK MAY BE WRAPPED AROUND RISER

CULVERT STANDPIPE INSERT (D-RISER)



WOOD PLANK WEIR

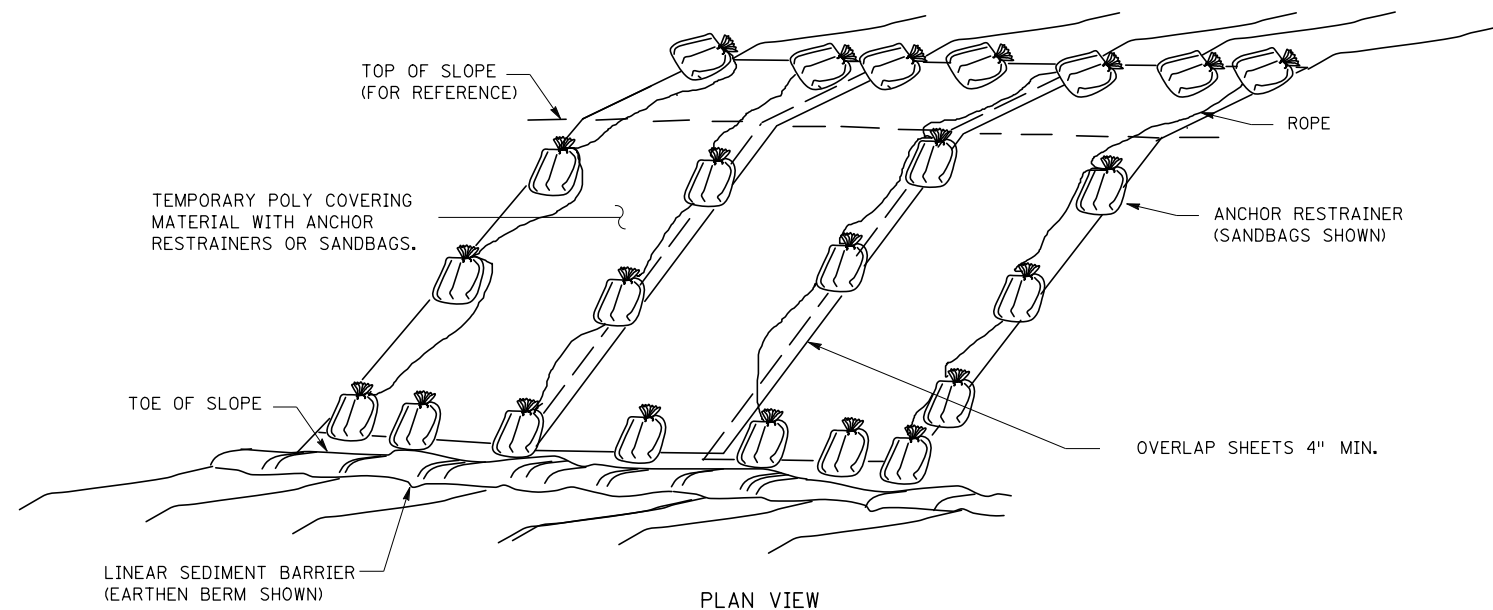
- NOTES:
- SEE SPECS. 2573, 3891 & 3893.
 - FOR USE WHEN TEMPORARY PONDING IS NEEDED IN DITCH SECTIONS FOR SEDIMENT CONTROL.
 - MANUFACTURED ALTERNATIVES LISTED ON MnDOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED AT NO ADDITIONAL COST.
 - ① ROCK LOG OR SANDBAG TO HOLD STANDPIPE AND ACT AS A SEAL BETWEEN RISER PIPE AND CULVERT.
 - ② PLACE CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO CSP OR RCP CULVERT.
 - ③ ALL GEOTEXTILE USED FOR CULVERT PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.
 - ④ ROCK LOG OR RIP RAP TO HOLD STANDPIPE AND ACT AS A FILTER BETWEEN RISER PIPE AND CULVERT.
 - ⑤ HEIGHT OVERFLOW NOT TO CAUSE FLOODING OF ROAD OR ADJACENT PROPERTIES.

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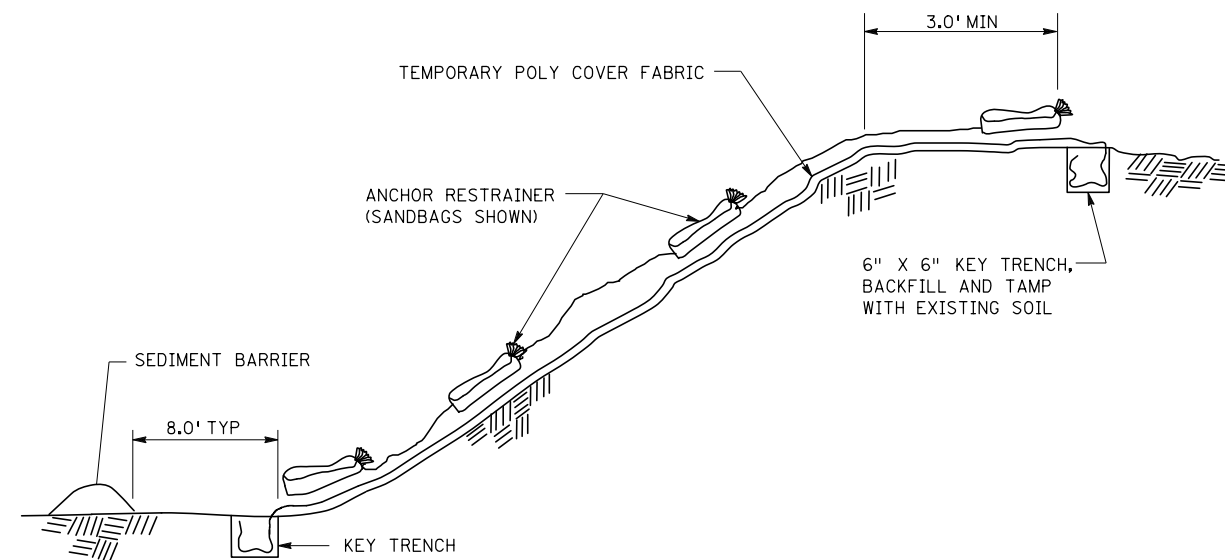
	STANDARD PLAN 5-297.405	8 OF 8
	APPROVED: 2-28-2017 REVISOR: [Signature] STATE DESIGN ENGINEER	

TEMPORARY SEDIMENT CONTROL
 CULVERT END CONTROLS

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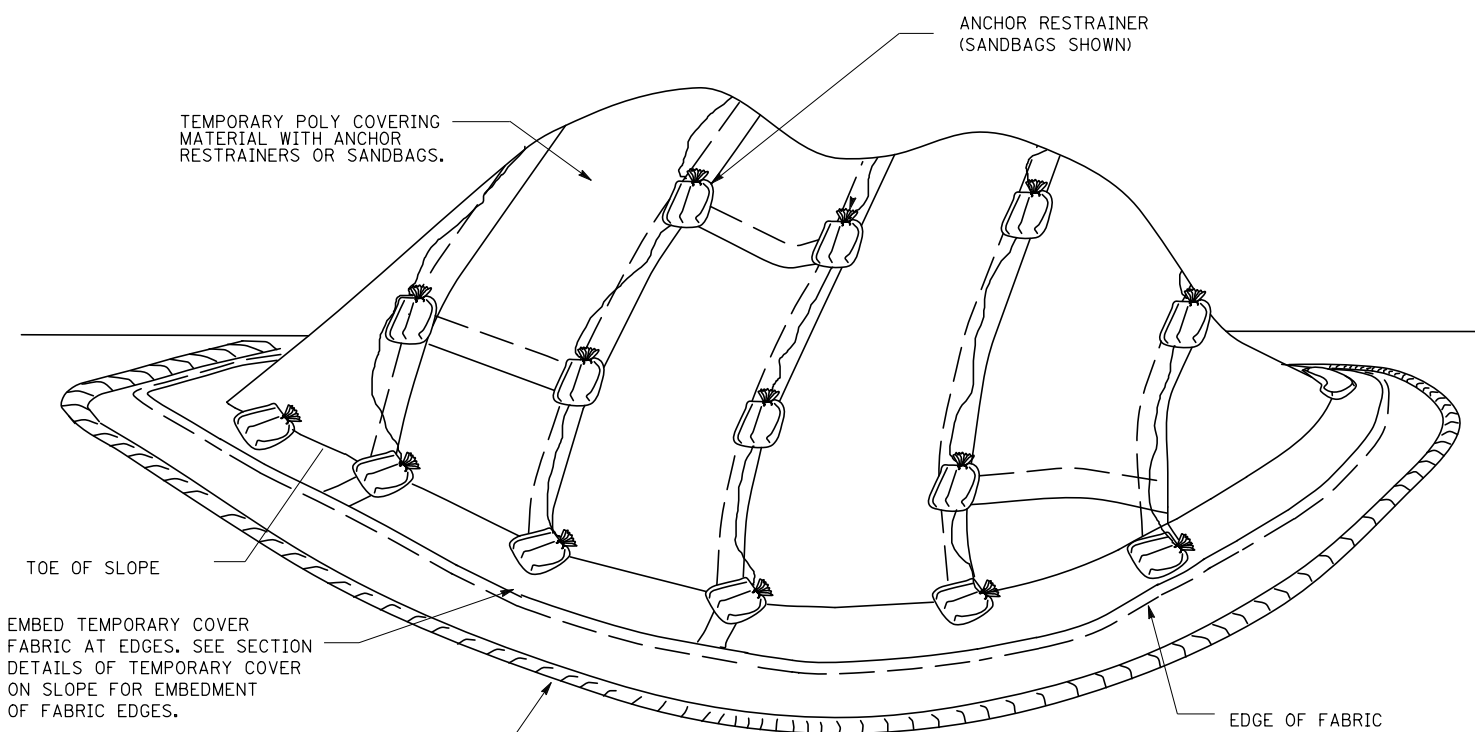


PLAN VIEW

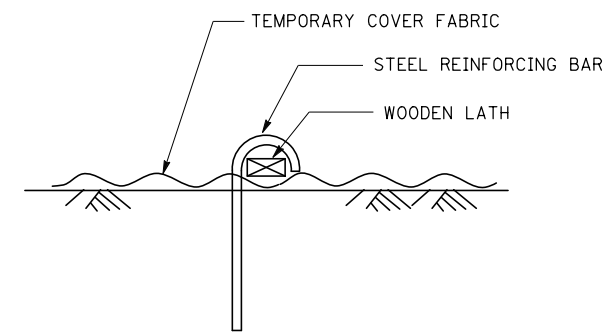


ELEVATION VIEW

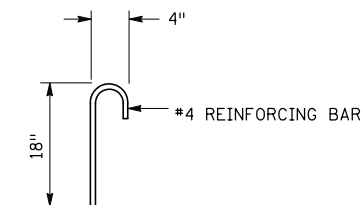
TEMPORARY POLY COVER ON SLOPE



TEMPORARY POLY COVER ON STOCKPILE



ANCHOR RESTRAINER
(STEEL BAR AND WOODEN LATH OPTION)



STEEL REINFORCING BAR DETAIL

NOTES:

ANCHOR RESTRAINERS: TYPE, QUANTITY, AND SPACING ARE INCIDENTAL TO POLY COVER. PROVIDE ON CORNERS AND SEAMS OF POLY COVER MATERIAL TO KEEP FROM BLOWING OFF. NO MINIMUM SPACING REQUIRED.

PERIMETER CONTROL: USE SEDIMENT CONTROL LOGS TYPE WOOD CHIP OR COMPOST, INCIDENTAL.

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STANDARD PLAN 5-297.409

1 OF 1

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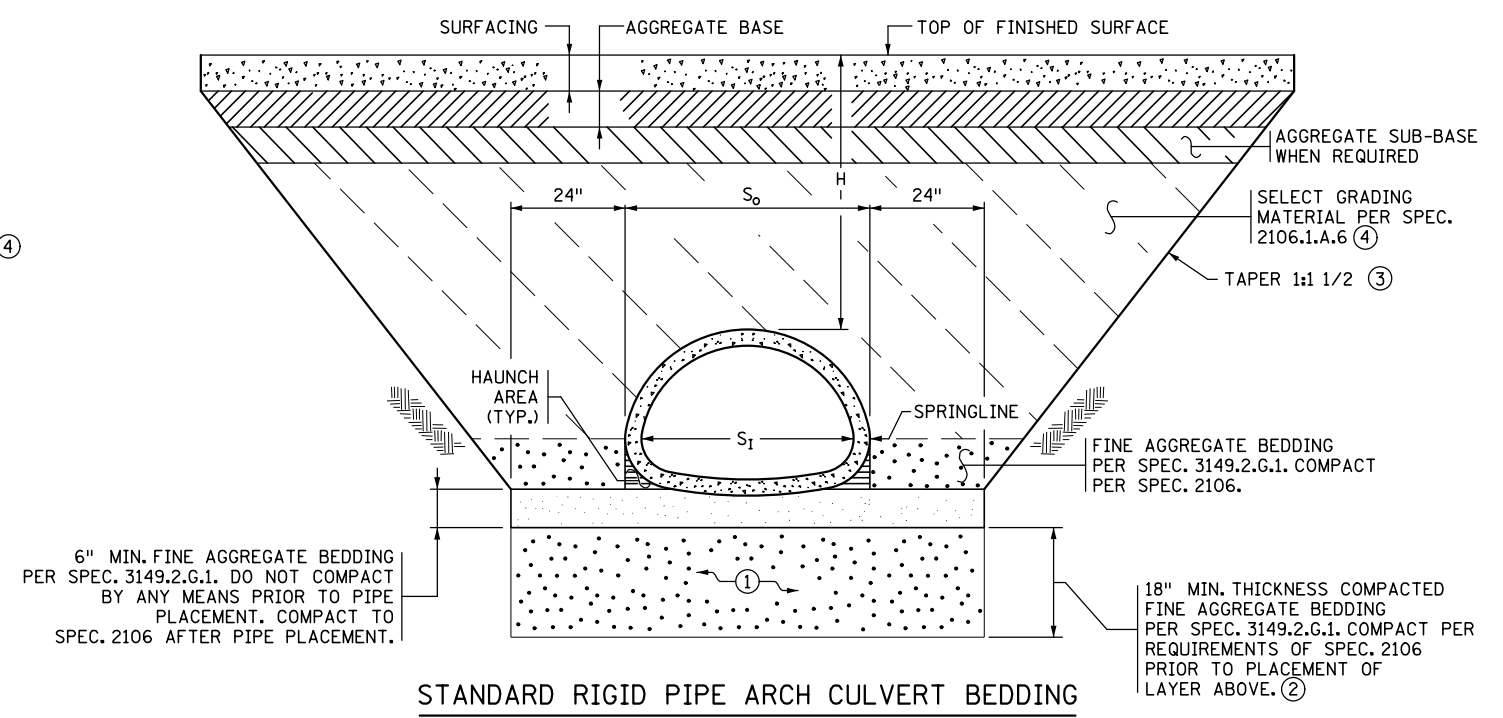
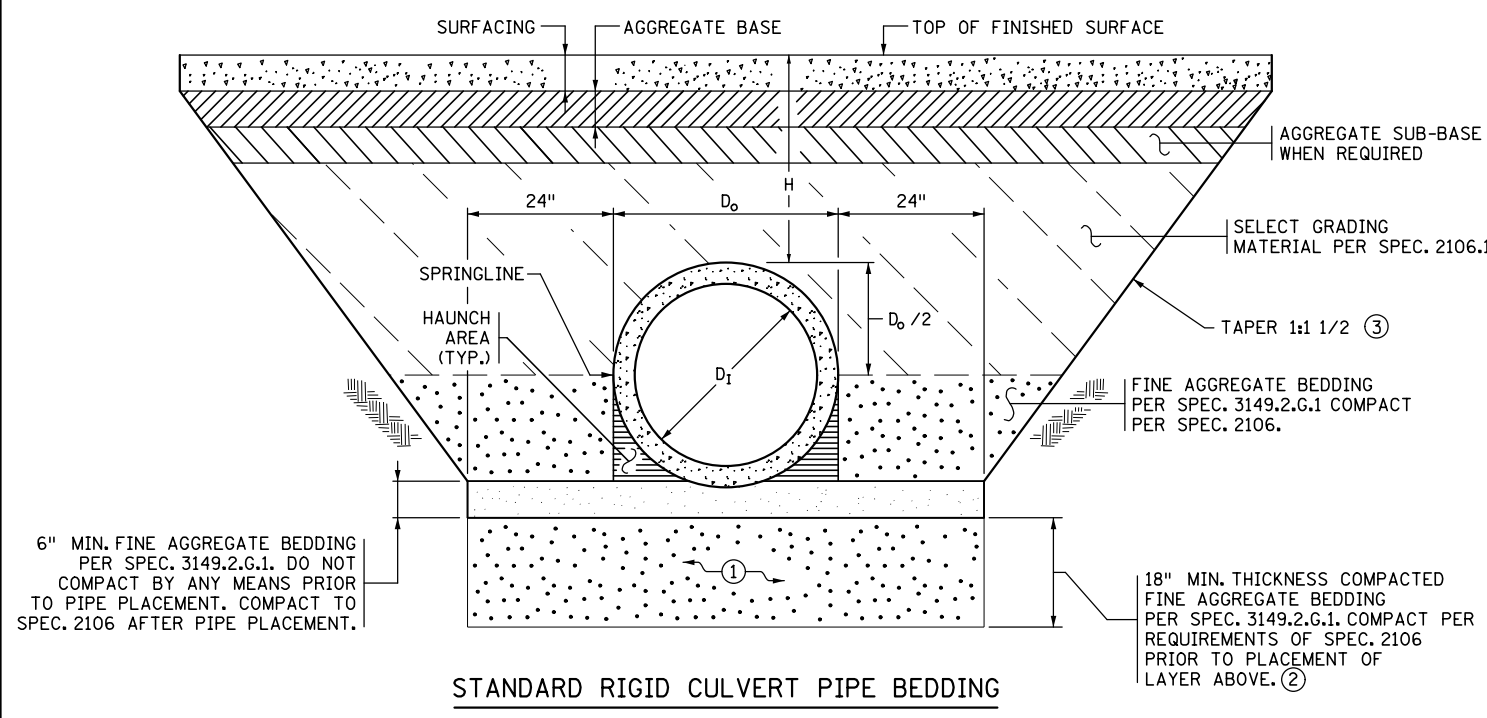
APPROVED: 2-28-2017
REVISED:

STATE PROJ. NO. 002-611-036

TEMPORARY EROSION CONTROL
TEMPORARY POLY COVERINGS

SHEET NO. 55 OF 416 SHEETS

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- LEGEND-**
- D_1 = INSIDE DIAMETER OF ROUND PIPE (INCHES).
 - D_0 = OUTSIDE DIAMETER OF ROUND PIPE (INCHES).
 - S_1 = INSIDE SPAN OF PIPE-ARCH (INCHES).
 - S_0 = OUTSIDE SPAN OF PIPE-ARCH (INCHES).
 - H = FILL COVER HEIGHT OVER PIPE (FEET).
 - = UNDISTURBED SOIL
 - = COMPACTED BEDDING
 - = LOOSE BEDDING, COMPACTED AFTER PIPE PLACEMENT

- NOTES**
- STANDARD BEDDING FOR RIGID PIPE CULVERTS WITHOUT TREATMENTS.
 - RIGID PIPE INCLUDES CONCRETE.
 - ENTRANCE CULVERTS (FIELD AND DRIVEWAY CULVERTS) DO NOT NEED BEDDING UNLESS SPECIFIED IN THE PLANS OR SPECIAL PROVISIONS.
 - UNLESS OTHERWISE NOTED IN THE PLAN, BEDDING QUANTITIES ARE COMPUTED FOR THE FULL LENGTH OF THE PIPE AND APRON, AND WILL NOT BE ADJUSTED FOR CHANGES TO MEET OSHA REQUIREMENTS.
 - WHEN RIPRAP IS REQUIRED AT THE APRON END, SEE STANDARD PLATE OR PLAN FOR RIPRAP INSTALLATION AND QUANTITIES. FOR APRONS WITHOUT RIPRAP PLACE 6" MIN. FINE AGGREGATE BEDDING UNDER APRONS. USE A TRENCH WIDTH EQUAL TO THE PIPE TRENCH WIDTH.
 - CONTRACT PAY ITEM FOR FINE AGGREGATE BEDDING INCLUDES THE COST OF EXCAVATION, PLACEMENT AND COMPACTION.
 - EXCAVATION AND BACKFILL WITH SELECT GRADING MATERIAL ARE NOT TABULATED SEPARATELY BUT ARE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT CULVERT PAY ITEM.
 - EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
 - ALL SLOPES SHOWN AS (V):(H).
 - PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER OR SPAN.
 - PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2501.
 - PLACE MULTIPLE PIPE CULVERTS WITH A CLEARANCE OF 24 INCHES OR GREATER BETWEEN STRINGS OF PIPE.
 - ① IF APPROVED BY THE ENGINEER, IN WET CONDITIONS THE CONTRACTOR MAY SUBSTITUTE 18" OF COARSE FILTER AGGREGATE PER SPEC. 3149.2.H COMPACTED TO THE QUALITY COMPACTION REQUIREMENTS OF SPEC. 2106. WRAP WITH GEOTEXTILE FABRIC TYPE IV PER SPEC. 3733. SEAM ALL FABRIC SIDES AND ENDS PER SPEC. TABLE 3733-1 INCLUDING FOOTNOTE (a) OR OVERLAP A MINIMUM OF 3 FT., ALL AT NO ADDITIONAL COST.
 - ② FOR INSTALLATIONS ON INTACT BEDROCK, OMIT THIS LAYER.
 - ③ OVER-EXCAVATION BENEATH TAPERS IS NOT PERMITTED UNLESS REQUIRED BY OSHA. (TYP.)
 - ④ MAXIMUM EMBANKMENT PARTICLE SIZE WITHIN 2 FT. OF RIGID PIPE IS 3".

CONSTRUCTION SEQUENCE

1. PLACE AND COMPACT 18" OF FINE AGGREGATE BEDDING TO THE REQUIREMENTS OF SPEC. 2106.
2. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL (SPEC. 3149.2.G.1) TO GRADE. DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
3. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
4. FURNISH AND INSTALL PIPE TO GRADE.
5. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVEL THE BLADE END OF A SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF THE PIPE IN THE HAUNCH AREA) THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).
6. COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF SPEC. 2106 ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
7. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE SPRINGLINE WHEN COMPACTED.
8. COMPLETE REMAINING BACKFILL.

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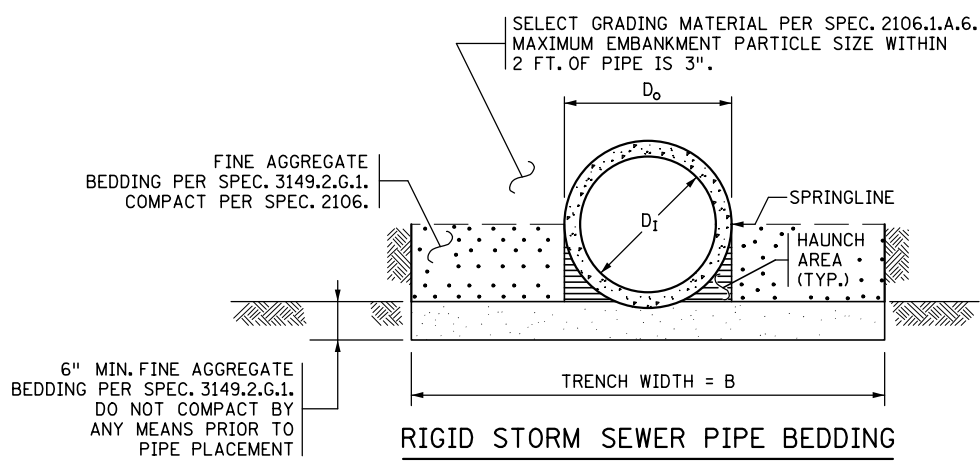
APPROVED: JANUARY 18, 2019

Kevin Westrom

STATE BRIDGE ENGINEER

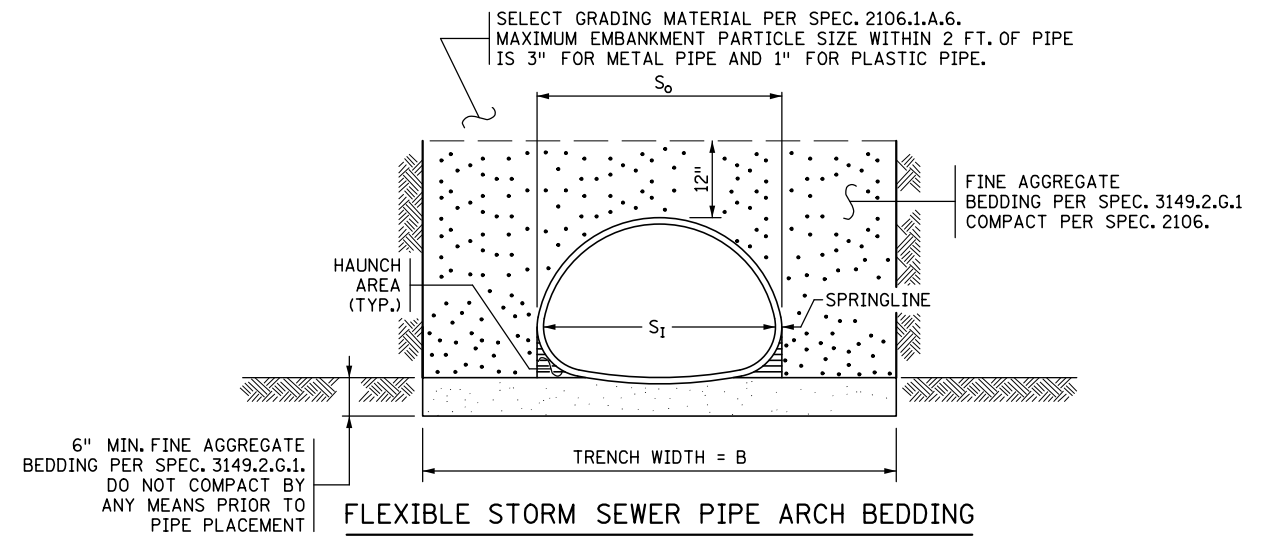
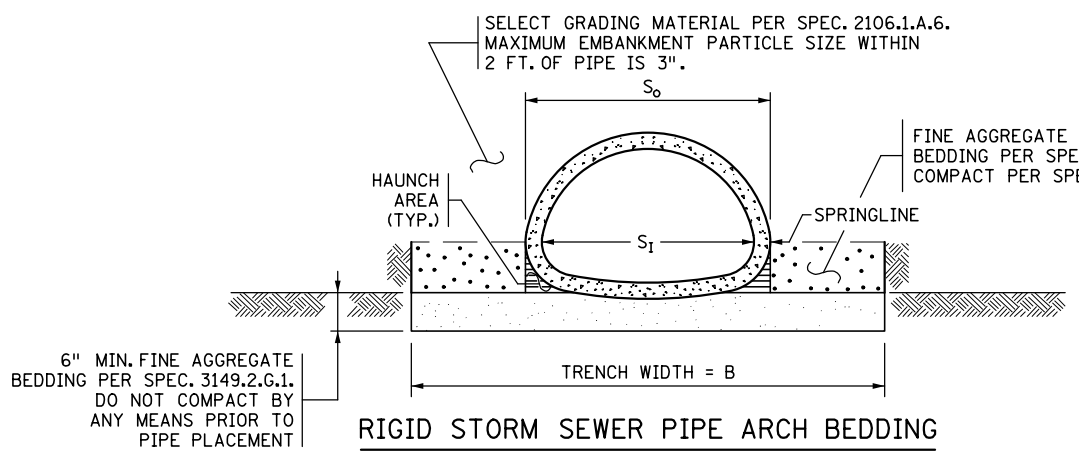
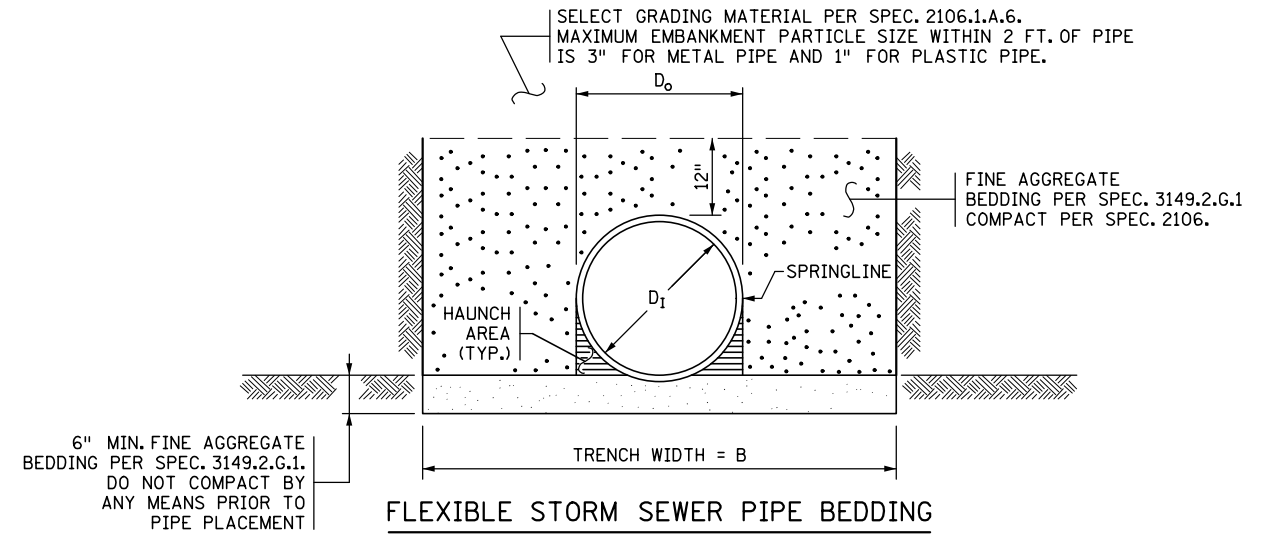
	STANDARD PLAN 5-297.441	1 OF 1	STANDARD CULVERT BEDDING FOR RIGID PIPE (WITHOUT TREATMENTS)
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TRENCH BASE WIDTH ①②	
PIPE DIA. D_1 OR S_1	TRENCH WIDTH B
< 42"	$D_0 + 24"$
42" TO 54"	$1.5 \times D_0$
> 54"	$D_0 + 36"$

PLASTIC PIPE WITH $H > 10$ FT. ①②	
PIPE DIA.	TRENCH WIDTH (FEET)
12"	5'-2"
15"	5'-6"
18"	5'-9"
24"	6'-6"
30"	8'-0"
36"	9'-6"
42"	11'-0"
48"	12'-6"



-LEGEND-

D_1 = INSIDE DIAMETER OF ROUND PIPE (INCHES).
 D_0 = OUTSIDE DIAMETER OF ROUND PIPE (INCHES).
 S_1 = INSIDE SPAN OF PIPE-ARCH (INCHES).
 S_0 = OUTSIDE SPAN OF PIPE-ARCH (INCHES).
 H = FILL COVER HEIGHT OVER PIPE (FEET).

= UNDISTURBED SOIL
 = COMPACTED BEDDING
 = LOOSE BEDDING, COMPACTED AFTER PIPE PLACEMENT

CONSTRUCTION SEQUENCE

1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE. DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
2. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
3. FURNISH AND INSTALL PIPE TO GRADE.
4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL FINE AGGREGATE BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVE THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF HAUNCH UNDER THE PIPE). THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).
5. COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF SPEC. 2106 ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
6. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE SPRINGLINE FOR RIGID PIPE AND 12" ABOVE THE TOP OF THE PIPE FOR FLEXIBLE PIPE WHEN COMPACTED.
7. COMPLETE REMAINING BACKFILL.

NOTES

- EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
- PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER OR SPAN.
- PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2503.
- WHEN RIPRAP IS REQUIRED AT THE APRON END, SEE STANDARD PLATE OR PLAN FOR RIPRAP INSTALLATION AND QUANTITIES. FOR APRONS WITHOUT RIPRAP PLACE 6" MIN. FINE AGGREGATE BEDDING UNDER APRONS. USE A TRENCH WIDTH EQUAL TO THE PIPE TRENCH WIDTH.
- FINE AGGREGATE BEDDING INCLUDING THE COST OF EXCAVATION, PLACEMENT AND COMPACTION IS INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.
- EXCAVATION AND BACKFILL WITH SELECT GRADING MATERIAL ARE NOT TABULATED SEPARATELY BUT ARE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.
- RIGID PIPE INCLUDES CONCRETE, FLEXIBLE PIPE INCLUDES METAL, AND PLASTIC MATERIALS SUCH AS CORRUGATED POLYPROPYLENE (PP), CORRUGATED POLYETHYLENE (CP) AND POLYVINYL CHLORIDE (PVC).
- ① MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.
- ② USE PLASTIC PIPE TABLE FOR TRENCH WIDTHS WHEN FILL HEIGHT IS GREATER THAN 10 FT.

REVISION:
 APPROVED: JANUARY 18, 2019

 STATE BRIDGE ENGINEER

DEPARTMENT OF TRANSPORTATION

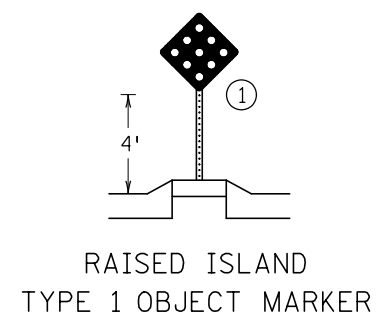
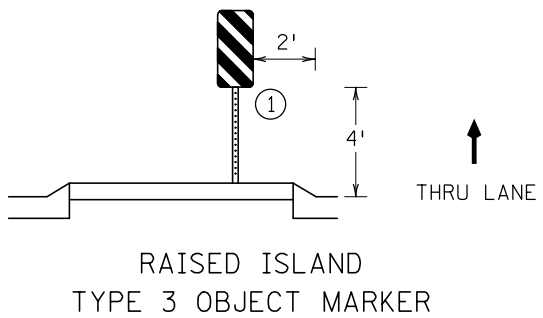
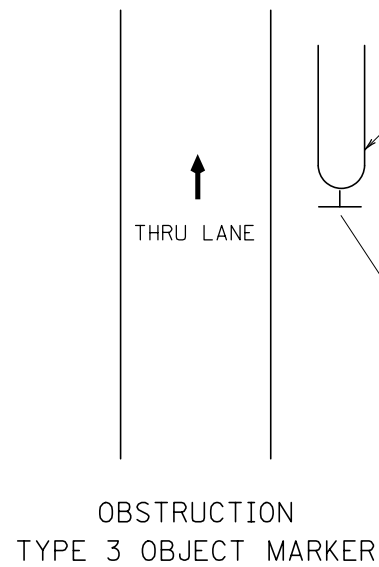
STANDARD PLAN 5-297.442 1 OF 1
 APPROVED: 01-18-2019
 REVISED:

 STATE DESIGN ENGINEER

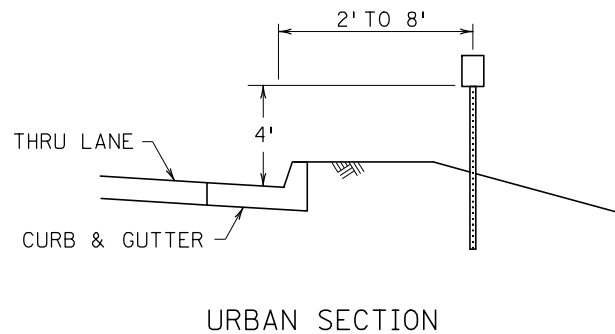
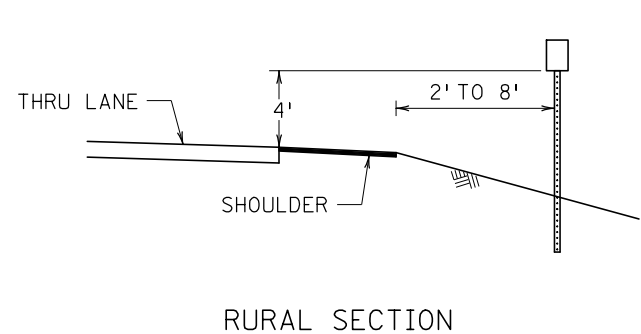
STANDARD STORM SEWER BEDDING FOR RIGID AND FLEXIBLE PIPE

STATE PROJ. NO. 002-611-036 SHEET NO. 57 OF 416 SHEETS

DATE: 12/14/2020 TIME: 10:51:03 AM
 FILENAME: c:\nkda\project\wise\m.vangstad\dms01247\cd00261036_s702_l_spn.dgn



MARKER TYPICAL PLACEMENT



DELINEATOR TYPICAL PLACEMENT

NOTES:

- ① MARKER SHOULD BE PLACED AS CLOSE TO THE BEGINNING OF MEDIAN AS POSSIBLE.
- ② THE EDGE OF THE OBJECT MARKER THAT IS CLOSEST TO THE ROAD USER SHALL BE PLACED IN LINE WITH THE CLOSEST EDGE OF THE OBSTRUCTION. STRIPES SHALL BE ANGLED DOWNWARD TOWARDS THE SIDE TRAFFIC IS TO PASS THE OBSTRUCTION.

REVISION:
 APPROVED: OCTOBER 16, 2019

 BRIAN SORENSON
 STATE TRAFFIC ENGINEER

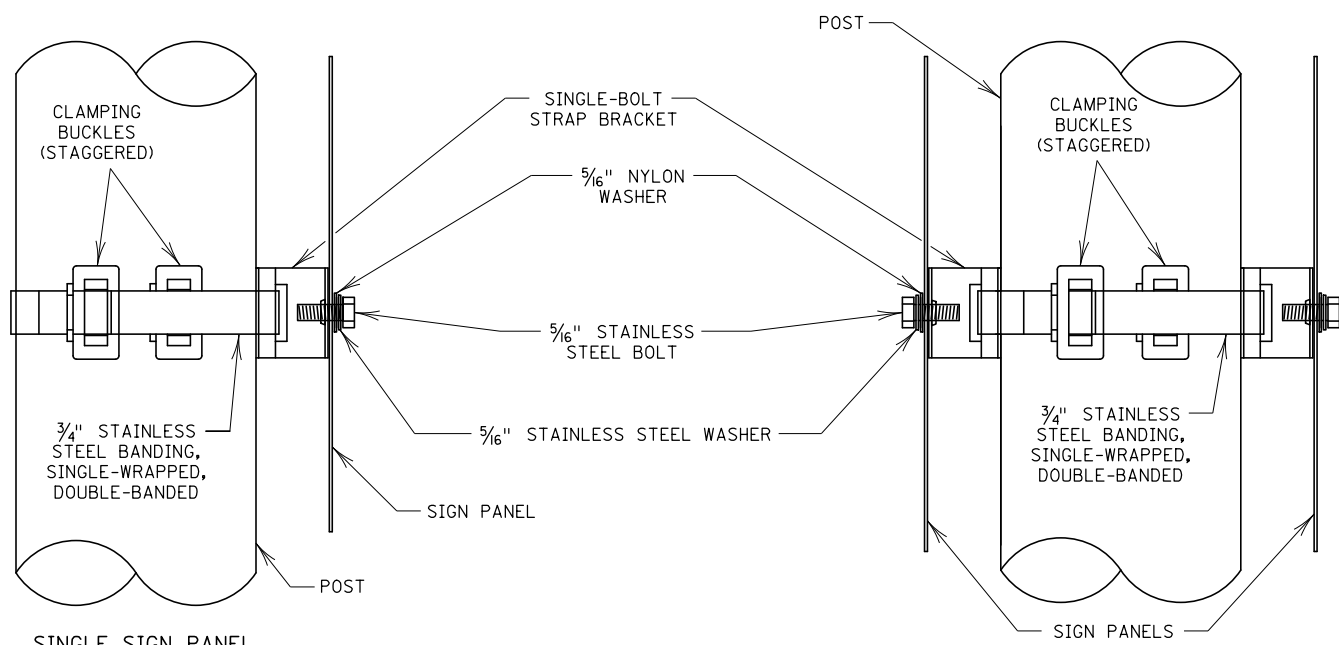


STANDARD PLAN 5-297.702 1 OF 1

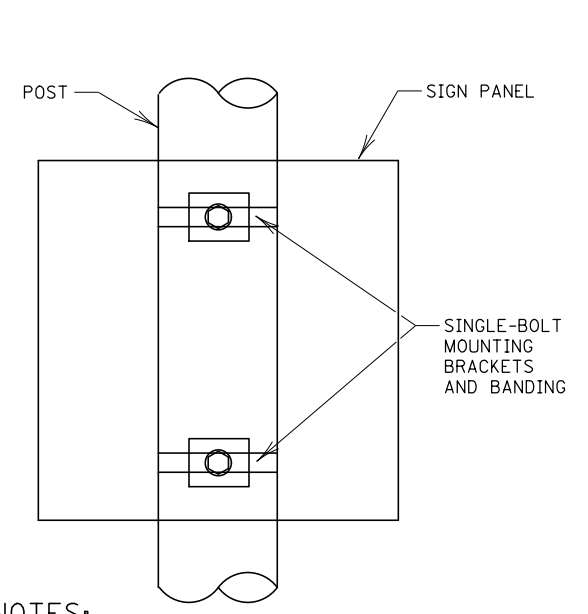
 PETER A. HARFF
 STATE DESIGN ENGINEER
 APPROVED: 10-16-2019
 REVISED:

DELINEATOR AND MARKER PLACEMENT

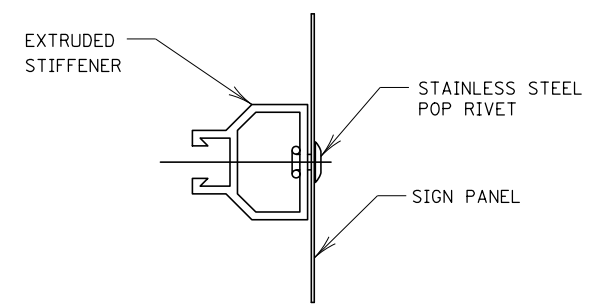
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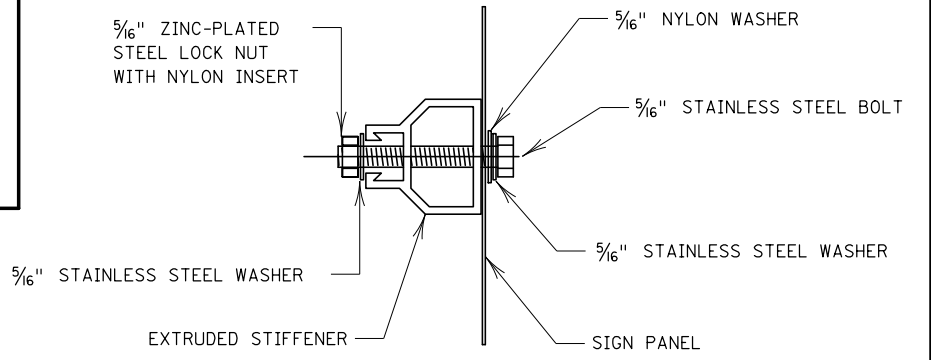
NON-STIFFENER MOUNTING DETAILS
 FOR SIGN PANELS UP TO 24" WIDE AND
 OVERHEAD SIGN IDENTIFICATION PLATES



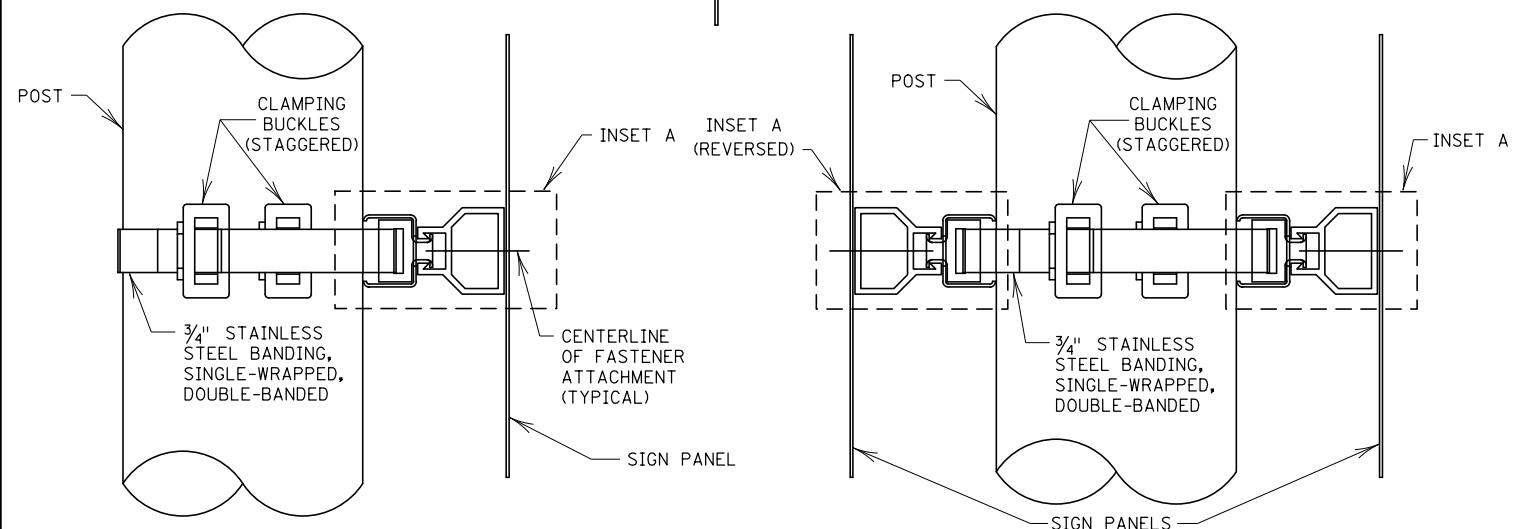
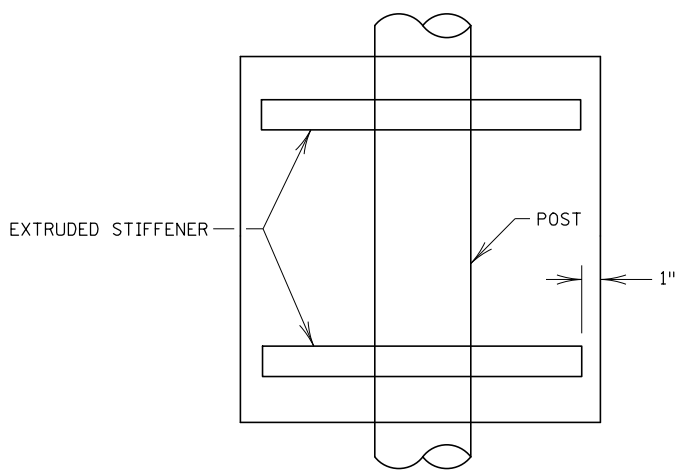
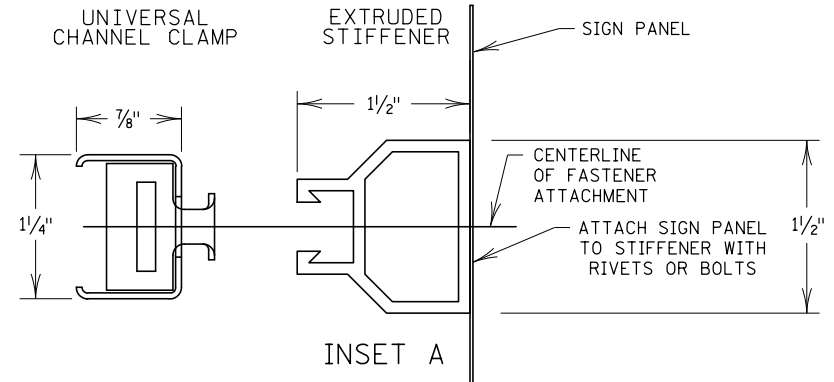
NOTES:
 TENSION THE BANDING IN ACCORDANCE WITH THE MANUFACTURER'S
 INSTALLATION REQUIREMENTS.
 DO NOT MOUNT SIGNS ON BREAKAWAY TRAFFIC SIGNALS AND
 LUMINAIRE SUPPORTS.



ATTACH 3/16" RIVETS AT 6" INTERVALS.
 ATTACH END RIVETS 3" FROM SIGN EDGE.
 USE 1/4" RIVETS FOR THE END RIVETS.
RIVET ATTACHMENT



ATTACH AT STANDARD PUNCH CODE LOCATIONS
BOLT ATTACHMENT



STIFFENER MOUNTING DETAILS
 FOR SIGN PANELS 30" WIDE AND LARGER

		PANEL WIDTH				
		2'	3'	4'	5'	6'
PANEL HEIGHT	2'	2	2	2	2	3
	3'	2	2	2	2	3
	4'	2	2	2	2	3
	5'	3	3	3	3	3
	6'	3	3	3	4	4
7'	3	3	3	4	4	

PROVIDE VERTICAL SPACING OF NO MORE THAN 36"
 BETWEEN STIFFENERS.
 PROVIDE A VERTICAL DISTANCE OF NO MORE THAN 12"
 FROM PANEL EDGE TO STIFFENER.

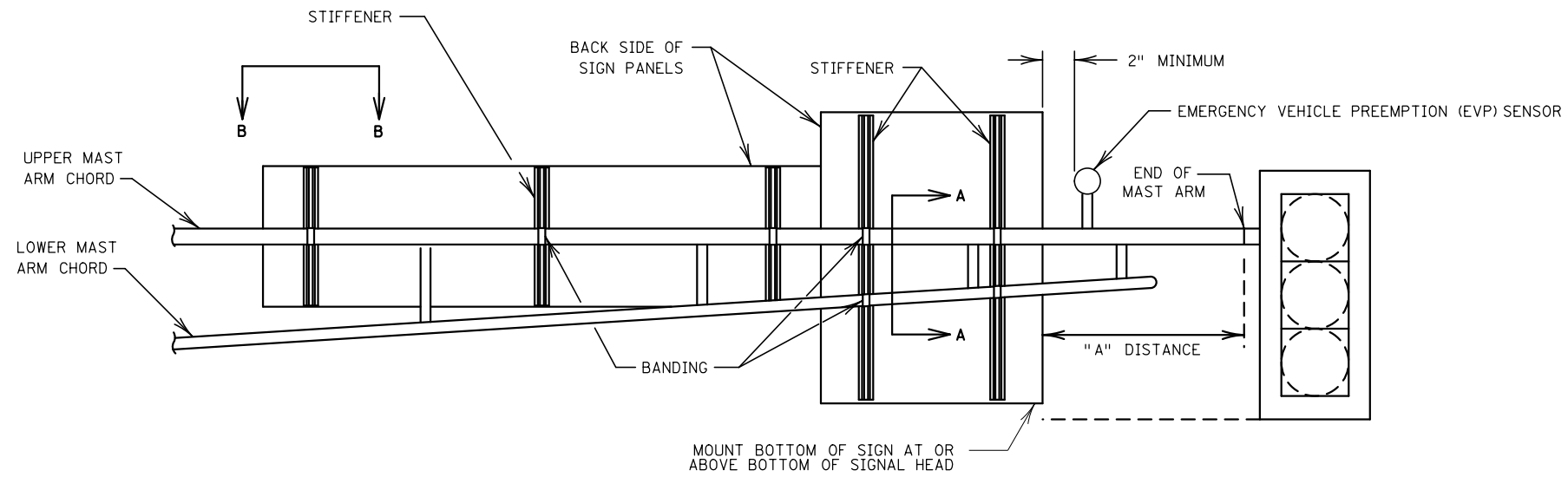
NOTES:
 SPACE STIFFENERS IN ACCORDANCE WITH THE PUNCH CODES SHOWN IN THE MnDOT
 STANDARD SIGNS AND MARKINGS MANUAL.
 ATTACH STIFFENERS TO SIGN PANELS USING FASTENERS. PLACE STIFFENERS AT THE
 VERTICAL LOCATIONS OF THE MOUNTING HOLES FOR EACH SIGN.
 FURNISH AND INSTALL HARDWARE COMPATIBLE WITH STIFFENER MOUNTING SYSTEMS.
 FURNISH TWO TYPE 201 STAINLESS STEEL 3/4" WIDE BY 1/32" THICK STRAPS, EACH
 WITH CLAMPING BUCKLES AND INSTALL SEPARATELY WITH A SINGLE WRAP AROUND
 THE MAST ARM CHORD. PLACE THE SECOND BANDING STRAP OVER THE FIRST STRAP
 AND STAGGER THE CLAMPING BUCKLES SO THE BUCKLES ARE NOT DIRECTLY OVER
 ONE ANOTHER.

REVISION:
 APPROVED: OCTOBER 16, 2019
 BRIAN SOBERSON
 STATE TRAFFIC ENGINEER

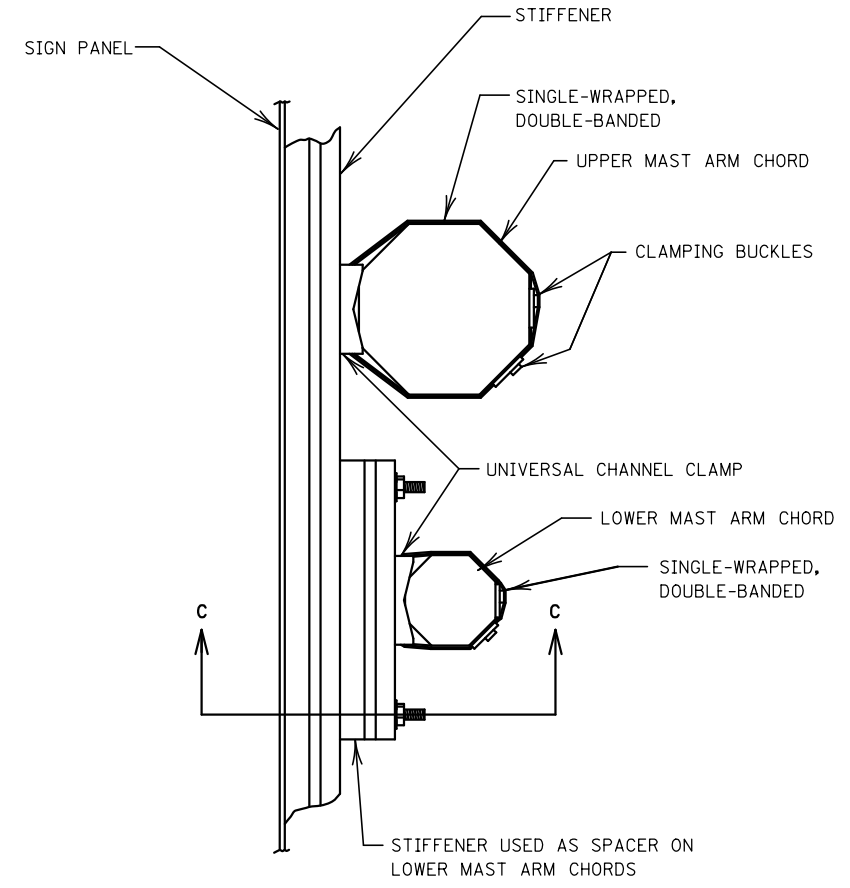
m MINNESOTA
 DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.730
 1 OF 1
 Peter A Harff
 PETER A. HARFF
 STATE DESIGN ENGINEER
 APPROVED: 10-16-2019
 REVISED:

SIGN MOUNTING SYSTEMS FOR ROUND SUPPORTS
 STATE PROJ. NO. 002-611-036
 SHEET NO. 58A OF 416 SHEETS

DATE: 12/14/2020 TIME: 10:51:14 AM FILENAME: c:\nkda\proj\tech\wise\hmv\angstad\dms01247\cd00261036_s731_l_spm.dgn



MAST ARM SIGN MOUNTING



VIEW A-A ①

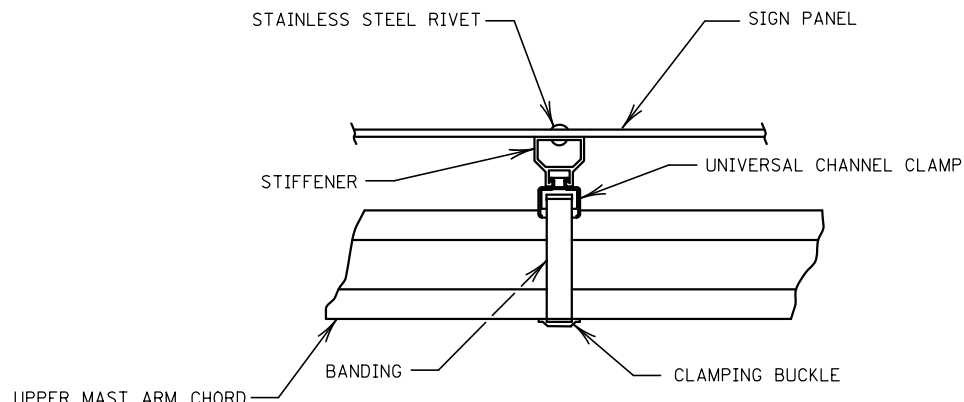
① SIGN PANELS TALLER THAN 36" MUST BE BANDED TO THE LOWER MAST ARM CHORD AT A MINIMUM OF ONE LOCATION. SIGN PANEL SHALL BE BANDED TO THE LOWER MAST ARM AT A LOCATION THAT WILL PROVIDE THE CLOSEST TO PLUMB ALIGNMENT FOR THE SIGN PANEL.

		NUMBER OF EXTRUDED STIFFENERS REQUIRED*													
		PANEL WIDTH													
PANEL HEIGHT		2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	
		2'	2	2	2	3	3	3	4	4	4	5	5	5	5
	3'	2	2	2	3	3	3	4	4	5	5	5	5	5	
	4'	2	2	2	3	3	3	4	4	5	5	5	5	6	
	5'	2	2	2	3	4	4	5	5	5	5	5	5	6	
	6'			2	3	4	4	5	5	5	5	5	5	6	
	7'				4	4	5	5	5	5	5	5	5	6	

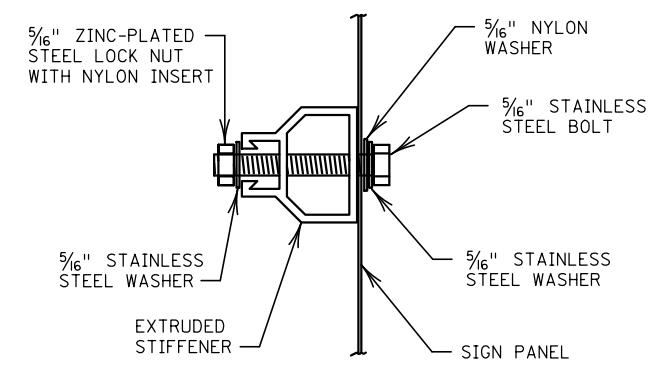
* WHERE SIGN PANEL DIMENSIONS FALL BETWEEN 1' INCREMENTS, USE NEXT HIGHER WIDTH AND/OR HEIGHT DIMENSION.

NOTES:

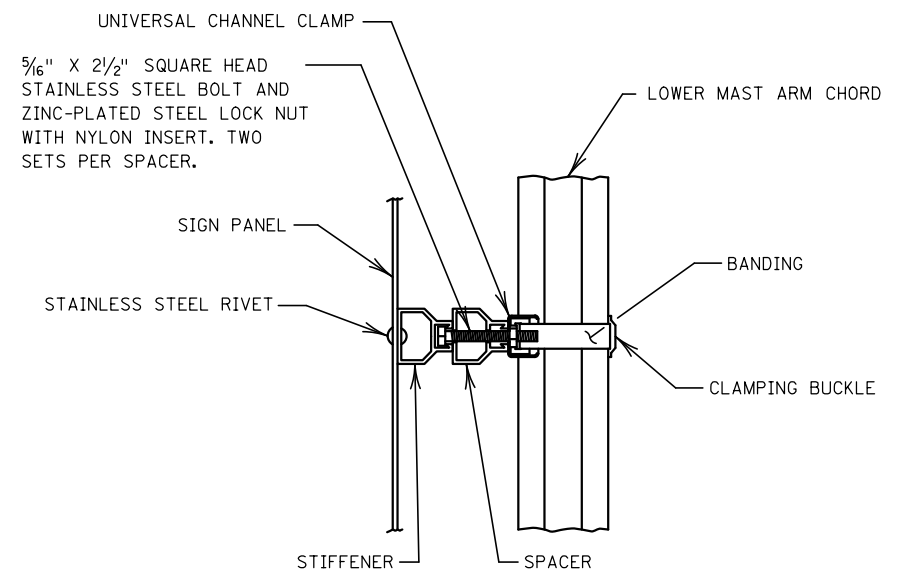
- FURNISH AND INSTALL AT LEAST ONE SPACER FOR EACH SIGN PANEL WHEN PANELS ARE ATTACHED TO THE LOWER MAST ARM CHORD.
- AFFIX SIGNS TO UPPER AND LOWER MAST ARM CHORDS WHEN POSSIBLE.
- POSITION BOTTOM OF SIGN PANEL AT LEAST 17' ABOVE ROADWAY.
- MOUNT SIGN PANELS PLUMB AND SHIM WITH REQUIRED SPACERS AS SHOWN.
- PROVIDE SPACING BETWEEN STIFFENERS OF NO MORE THAN 36".
- PROVIDE A HORIZONTAL DISTANCE OF NO MORE THAN 12" FROM PANEL EDGE TO STIFFENER.
- PROVIDE A VERTICAL DISTANCE OF NO MORE THAN 1" FROM PANEL EDGE TO STIFFENER.
- FURNISH AND INSTALL 1/4" STAINLESS STEEL RIVETS 3" FROM THE PANEL EDGE TO ATTACH THE STIFFENERS TO THE SIGN PANELS. FURNISH AND INSTALL 3/16" STAINLESS STEEL RIVETS AT 6" ON CENTER TO ATTACH THE REMAINDER OF THE STIFFENER TO THE SIGN PANEL.
- FURNISH TWO TYPE 201 STAINLESS STEEL 3/4" WIDE BY 1/32" THICK STRAPS, EACH WITH CLAMPING BUCKLES AND INSTALL SEPARATELY WITH A SINGLE WRAP AROUND THE MAST ARM CHORD. PLACE THE SECOND BANDING STRAP OVER THE FIRST STRAP AND STAGGER THE CLAMPING BUCKLES SO THE BUCKLES ARE NOT DIRECTLY OVER ONE ANOTHER.
- THE "A" DISTANCE IS SHOWN ON THE PLANS. IT IS THE DISTANCE FROM THE END OF THE MAST ARM TO THE EDGE OF EACH SIGN.



VIEW B-B



BOLT ATTACHMENT
ATTACH AT STANDARD PUNCH CODE LOCATIONS



VIEW C-C

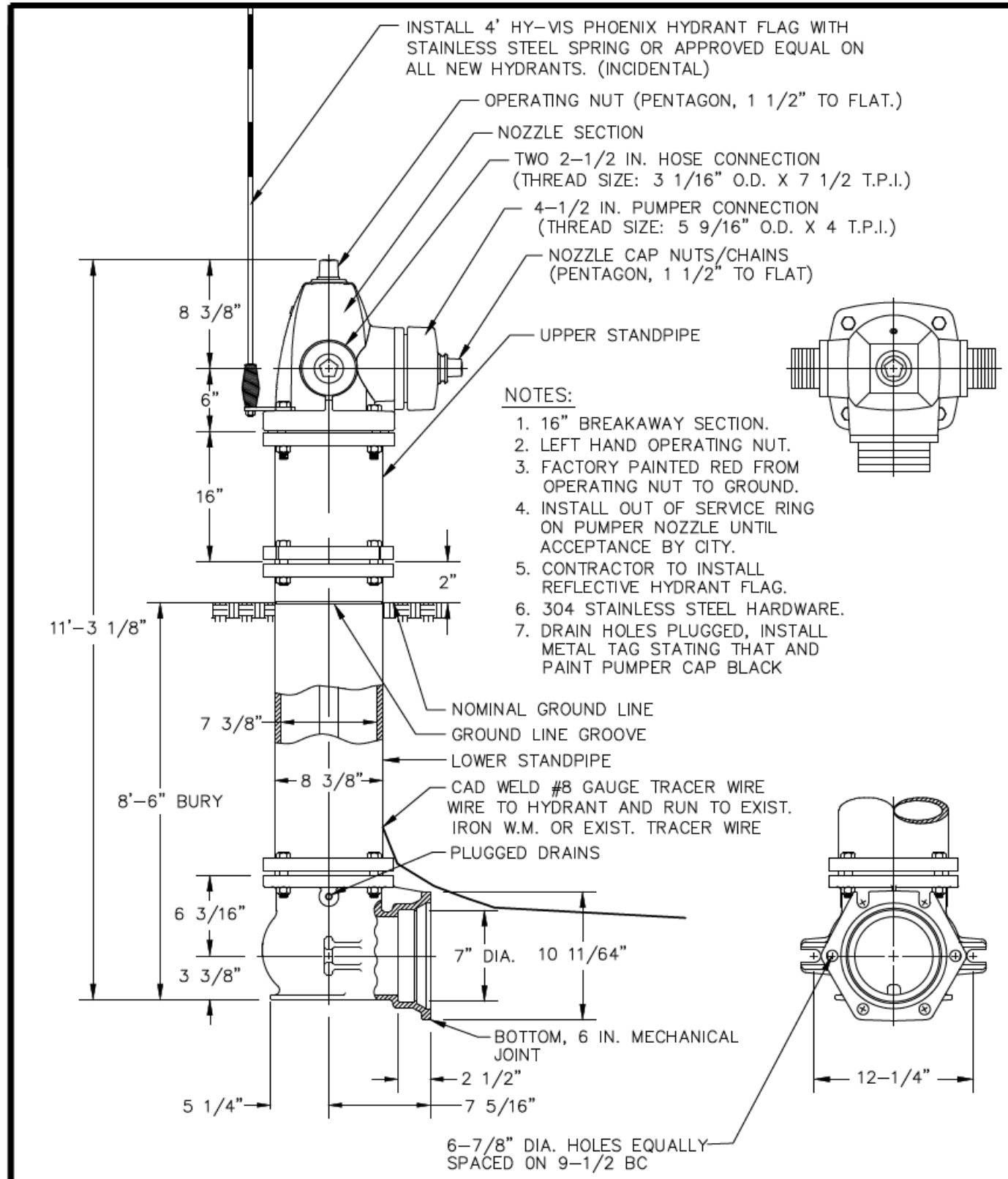
REVISION: APRIL 17, 2020
APPROVED: OCTOBER 16, 2019
Brian Sobenson
BRIAN SOBENSON
STATE TRAFFIC ENGINEER

m MINNESOTA
DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.731
1 OF 1
Peter A. Harff
PETER A. HARFF
STATE DESIGN ENGINEER
APPROVED: 10-16-2019
REVISED: 4-17-2020

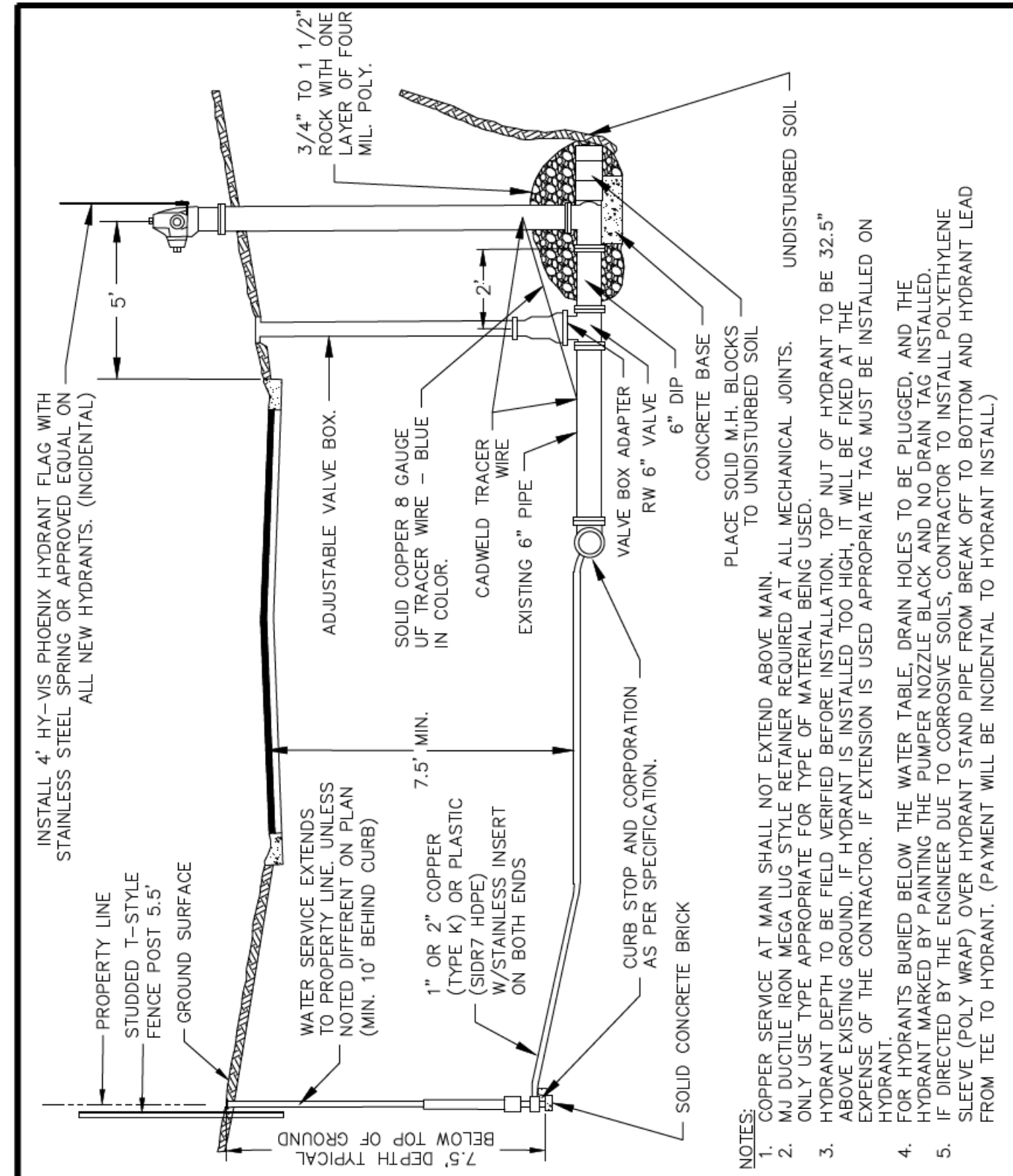
SIGN MOUNTING DETAILS FOR SIGNAL MAST ARMS

STATE PROJ. NO. 002-611-036 SHEET NO. 58B OF 416 SHEETS

DATE: 11/25/2020 TIME: 8:46:47 AM
 FILENAME: c:\kda_proj\tech\ise\hmv\vangstad\dms01247\cd00261036_mda.dgn



- NOTES:
1. 16" BREAKAWAY SECTION.
 2. LEFT HAND OPERATING NUT.
 3. FACTORY PAINTED RED FROM OPERATING NUT TO GROUND.
 4. INSTALL OUT OF SERVICE RING ON PUMPER NOZZLE UNTIL ACCEPTANCE BY CITY.
 5. CONTRACTOR TO INSTALL REFLECTIVE HYDRANT FLAG.
 6. 304 STAINLESS STEEL HARDWARE.
 7. DRAIN HOLES PLUGGED, INSTALL METAL TAG STATING THAT AND PAINT PUMPER CAP BLACK



- NOTES:
1. COPPER SERVICE AT MAIN SHALL NOT EXTEND ABOVE MAIN.
 2. MJ DUCTILE IRON MEGA LUG STYLE RETAINER REQUIRED AT ALL MECHANICAL JOINTS. ONLY USE TYPE APPROPRIATE FOR TYPE OF MATERIAL BEING USED.
 3. HYDRANT DEPTH TO BE FIELD VERIFIED BEFORE INSTALLATION. TOP NUT OF HYDRANT TO BE 32.5" ABOVE EXISTING GROUND. IF HYDRANT IS INSTALLED TOO HIGH, IT WILL BE FIXED AT THE EXPENSE OF THE CONTRACTOR. IF EXTENSION IS USED APPROPRIATE TAG MUST BE INSTALLED ON HYDRANT.
 4. FOR HYDRANTS BURIED BELOW THE WATER TABLE, DRAIN HOLES TO BE PLUGGED, AND THE HYDRANT MARKED BY PAINTING THE PUMPER NOZZLE BLACK AND NO DRAIN TAG INSTALLED. IF DIRECTED BY THE ENGINEER DUE TO CORROSIVE SOILS, CONTRACTOR TO INSTALL POLYETHYLENE SLEEVE (POLY WRAP) OVER HYDRANT STAND PIPE FROM BREAK OFF TO BOTTOM AND HYDRANT LEAD FROM TEE TO HYDRANT. (PAYMENT WILL BE INCIDENTAL TO HYDRANT INSTALL.)

COON RAPIDS Minnesota

HYDRANT DETAIL WB67 PACER 8'-6" BURY/MECH. JOINT BASE

DRAWN: R.L.S. DATE: 1/17/2019 SCALE: NONE PLATE NO. WM-1

COON RAPIDS Minnesota

TYPICAL WATER SERVICE LAYOUT & HYDRANT REPLACEMENT (ONLY) LAYOUT

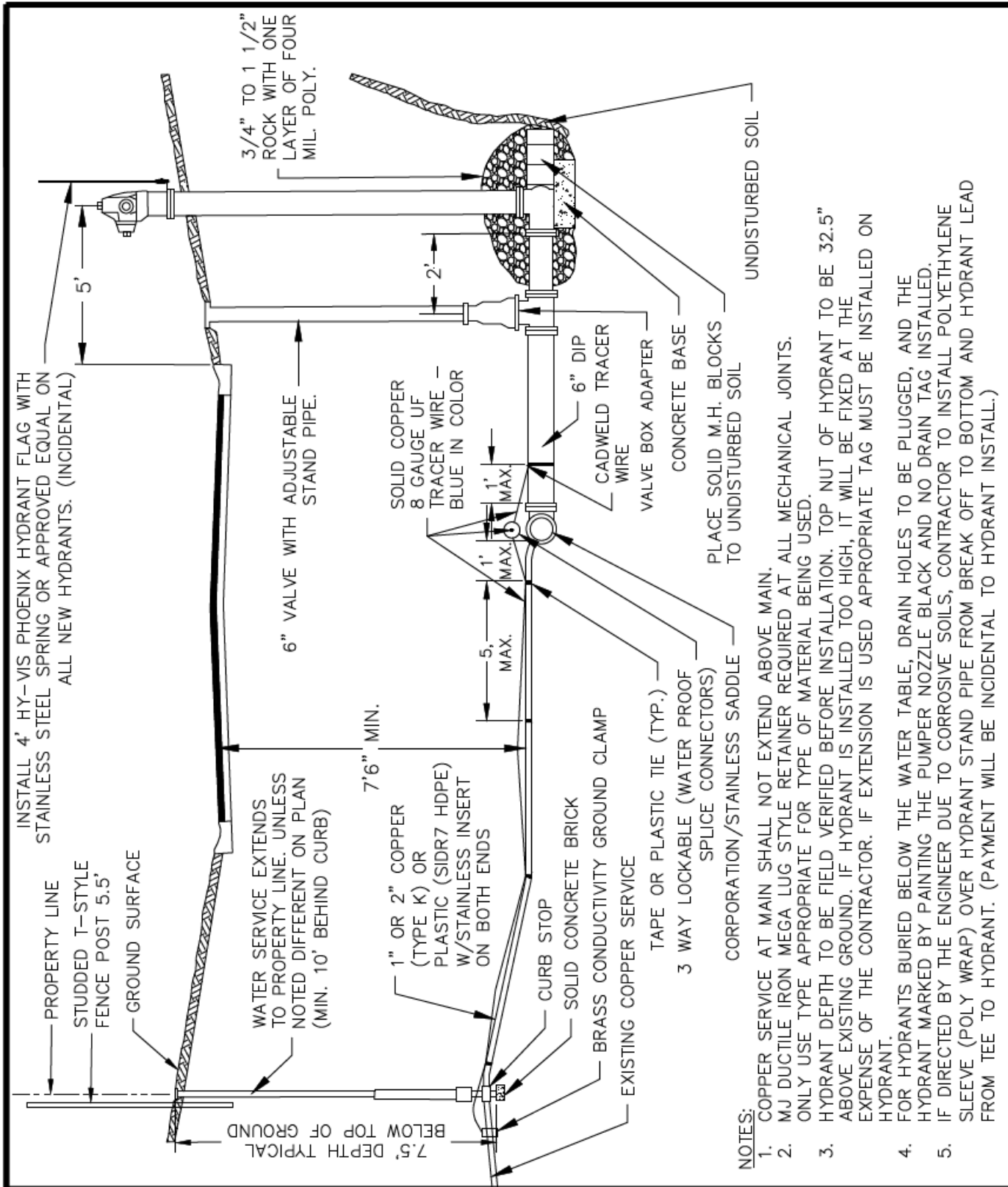
DRAWN: R.L.S. DATE: 1/21/2020 SCALE: NONE PLATE NO. WM-2

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: TJV	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/25/2020
CHK: SAO	SHANE A. ORTLEPP

TKDA

STATE PROJ. NO. 002-611-036 SHEET NO. 59 OF 416 SHEETS

MISCELLANEOUS DETAILS



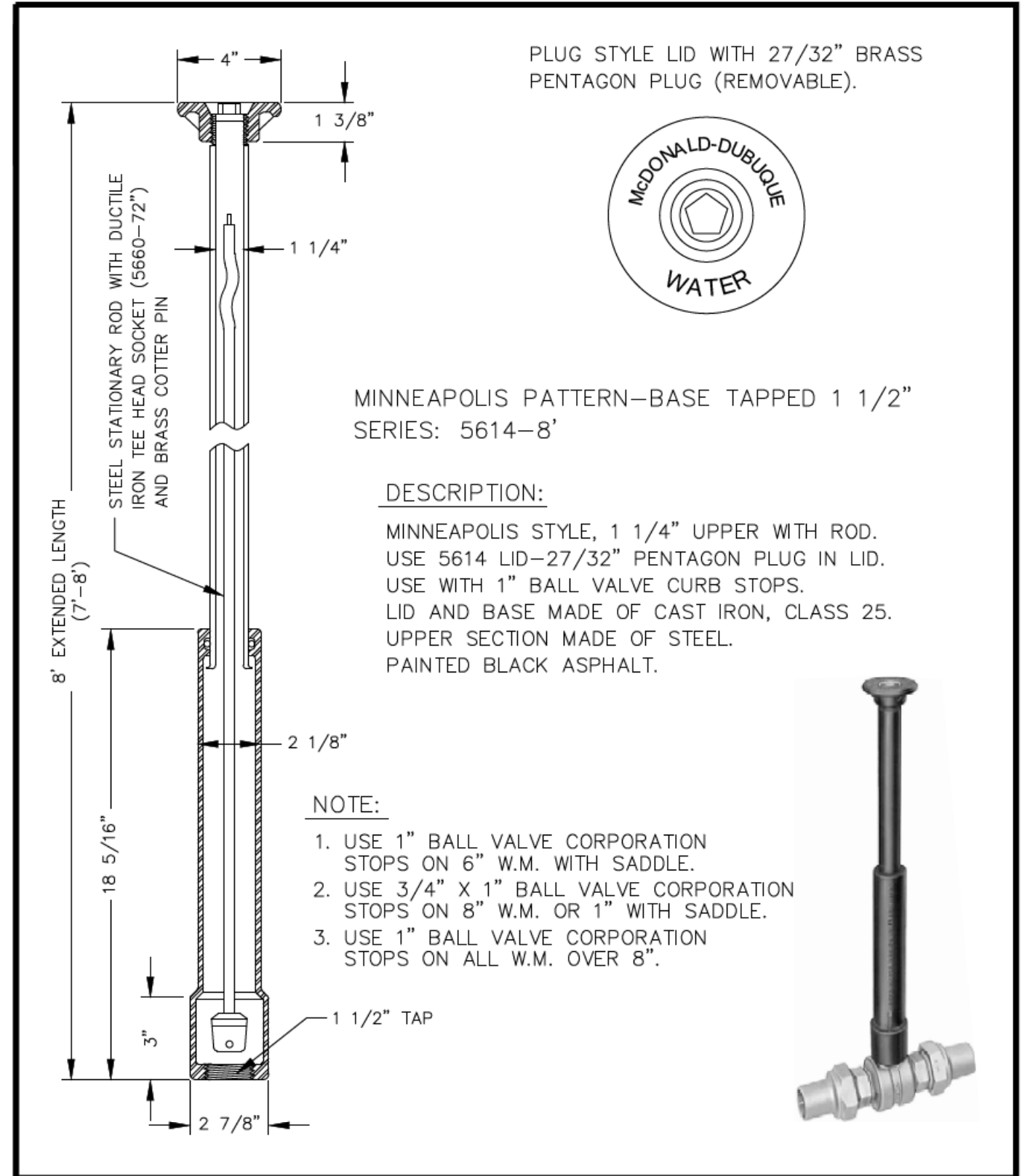
NOTES:

1. COPPER SERVICE AT MAIN SHALL NOT EXTEND ABOVE MAIN.
2. MJ DUCTILE IRON MEGA LUG STYLE RETAINER REQUIRED AT ALL MECHANICAL JOINTS. ONLY USE TYPE APPROPRIATE FOR TYPE OF MATERIAL BEING USED.
3. HYDRANT DEPTH TO BE FIELD VERIFIED BEFORE INSTALLATION. TOP NUT OF HYDRANT TO BE 32.5" ABOVE EXISTING GROUND. IF HYDRANT IS INSTALLED TOO HIGH, IT WILL BE FIXED AT THE EXPENSE OF THE CONTRACTOR. IF EXTENSION IS USED APPROPRIATE TAG MUST BE INSTALLED ON HYDRANT.
4. FOR HYDRANTS BURIED BELOW THE WATER TABLE, DRAIN HOLES TO BE PLUGGED, AND THE HYDRANT MARKED BY PAINTING THE PUMPER NOZZLE BLACK AND NO DRAIN TAG INSTALLED.
5. IF DIRECTED BY THE ENGINEER DUE TO CORROSIVE SOILS, CONTRACTOR TO INSTALL POLYETHYLENE SLEEVE (POLY WRAP) OVER HYDRANT STAND PIPE FROM BREAK OFF TO BOTTOM AND HYDRANT LEAD FROM TEE TO HYDRANT. (PAYMENT WILL BE INCIDENTAL TO HYDRANT INSTALL.)

City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN 55433-3761
Tel: 763-755-2880
Fax: 763-767-6491
www.coonrapidsmn.gov

**TYPICAL HYDRANT & WATER SERVICE LAYOUT FOR
NEW & TOTAL REPLACEMENT OF WATER MAIN**

DRAWN: R.L.S. DATE: 1/21/2020 SCALE: NONE PLATE NO. WM-3



PLUG STYLE LID WITH 27/32" BRASS PENTAGON PLUG (REMOVABLE).

MINNEAPOLIS PATTERN-BASE TAPPED 1 1/2" SERIES: 5614-8'

DESCRIPTION:

MINNEAPOLIS STYLE, 1 1/4" UPPER WITH ROD. USE 5614 LID-27/32" PENTAGON PLUG IN LID. USE WITH 1" BALL VALVE CURB STOPS. LID AND BASE MADE OF CAST IRON, CLASS 25. UPPER SECTION MADE OF STEEL. PAINTED BLACK ASPHALT.

NOTE:

1. USE 1" BALL VALVE CORPORATION STOPS ON 6" W.M. WITH SADDLE.
2. USE 3/4" X 1" BALL VALVE CORPORATION STOPS ON 8" W.M. OR 1" WITH SADDLE.
3. USE 1" BALL VALVE CORPORATION STOPS ON ALL W.M. OVER 8".



City of Coon Rapids
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CURB STOP BOX WITH ROD

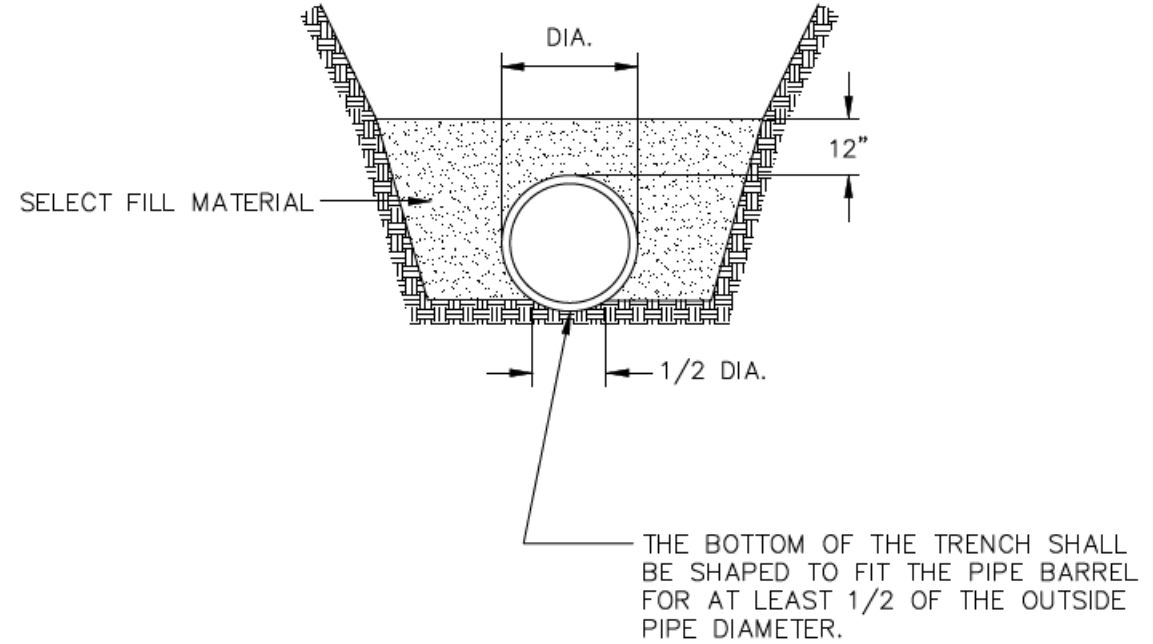
DRAWN: R.L.S. DATE: 1/16/2019 SCALE: NONE PLATE NO. WM-4

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.								
DRW: TJV	SIGNATURE: LIC. NO. 48250 DATE: 11/24/2020								
CHK: SAO	STATE PROJ. NO. 002-611-036								
NO. DATE BY DESCRIPTION OF REVISIONS					MISCELLANEOUS DETAILS				
					SHEET NO. 60 OF 416 SHEETS				

DATE: 11/24/2020 TIME: 9:54:37 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_mdc.dgn

NOTE:

SURROUND THE PIPE TO A MINIMUM OF 12" ABOVE IT'S TOP WITH SELECT FILL MATERIAL, PLACED IN 2 LIFTS, FIRST LIFT NO MORE THEN 1' DEPTH, AND COMPACTED WITH GAS POWERED WHACKER FOR FULL LENGTH OF THE PIPE, TO ENSURE FILLING OF ALL VOIDS UNDER AND ADJACENT TO THE PIPE.

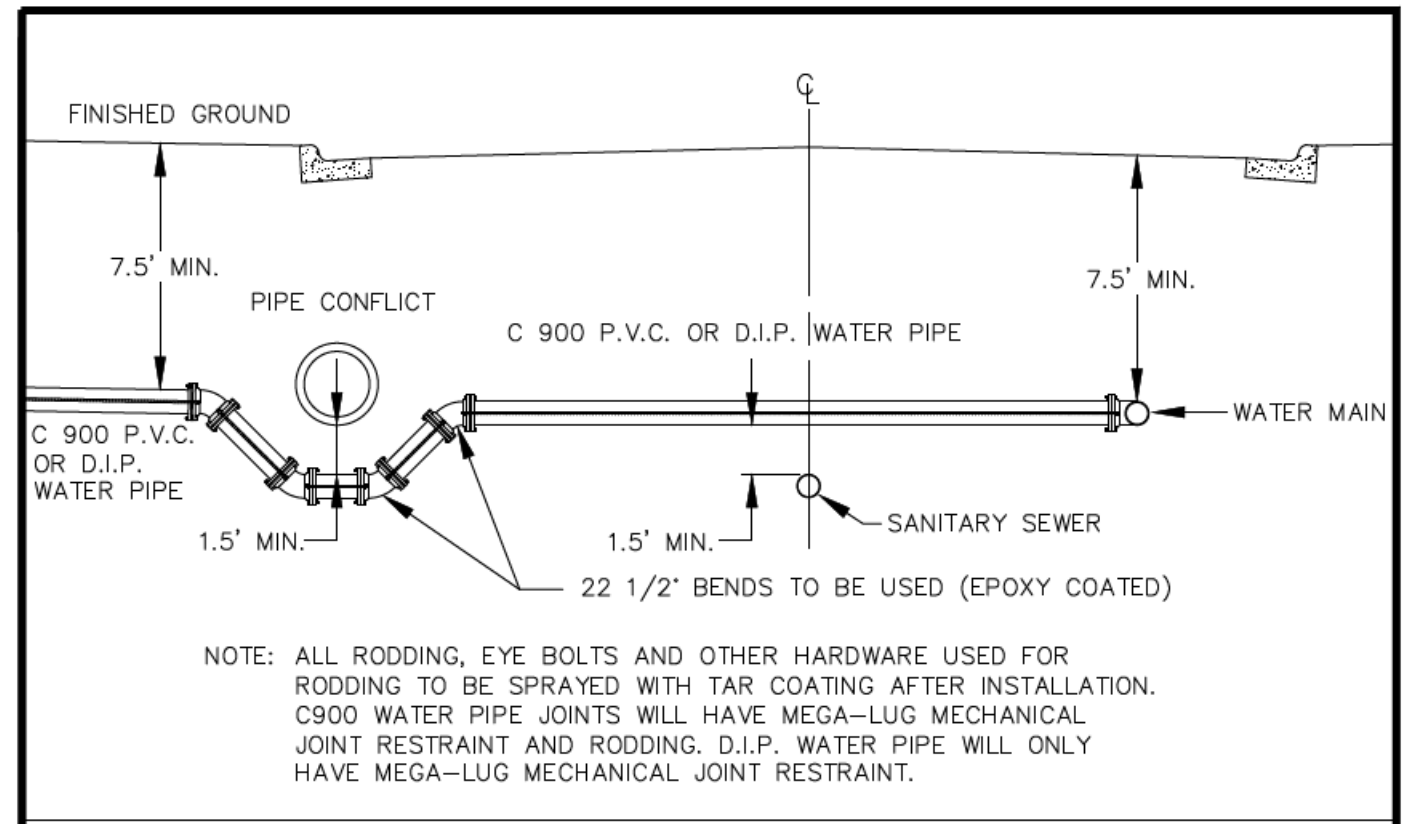


THE BOTTOM OF THE TRENCH SHALL BE SHAPED TO FIT THE PIPE BARREL FOR AT LEAST 1/2 OF THE OUTSIDE PIPE DIAMETER.

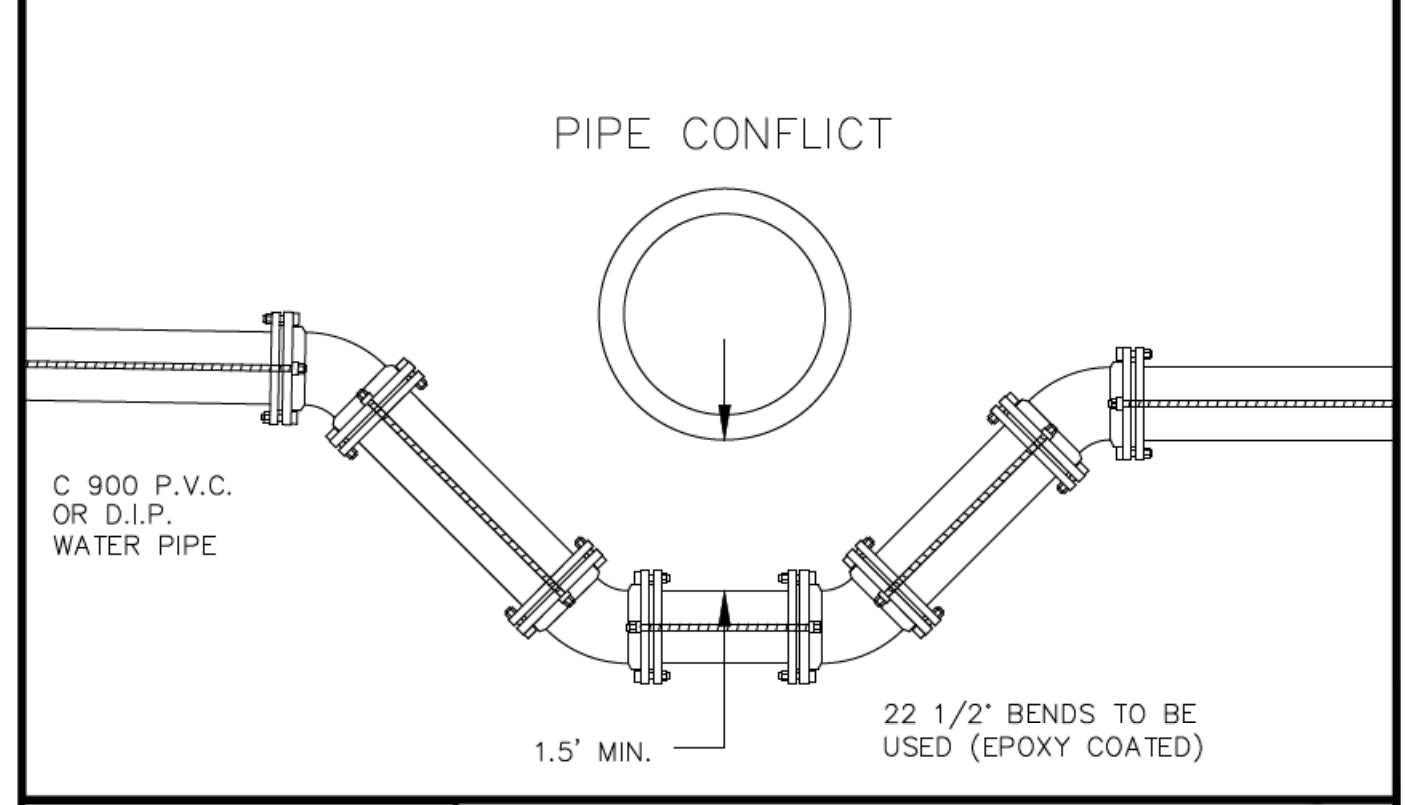
City of Coon Rapids
 11155 Robinson Drive
 Coon Rapids, MN 55433-3761
 Tel: 763-755-2880
 Fax: 763-767-6491
 www.coonrapidsmn.gov

CLASS C PIPE BEDDING

DRAWN: R.L.S. DATE: 1/12/2005 SCALE: NONE PLATE NO. WM-5



NOTE: ALL RODDING, EYE BOLTS AND OTHER HARDWARE USED FOR RODDING TO BE SPRAYED WITH TAR COATING AFTER INSTALLATION. C900 WATER PIPE JOINTS WILL HAVE MEGA-LUG MECHANICAL JOINT RESTRAINT AND RODDING. D.I.P. WATER PIPE WILL ONLY HAVE MEGA-LUG MECHANICAL JOINT RESTRAINT.



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VERTICAL BENDS DETAIL

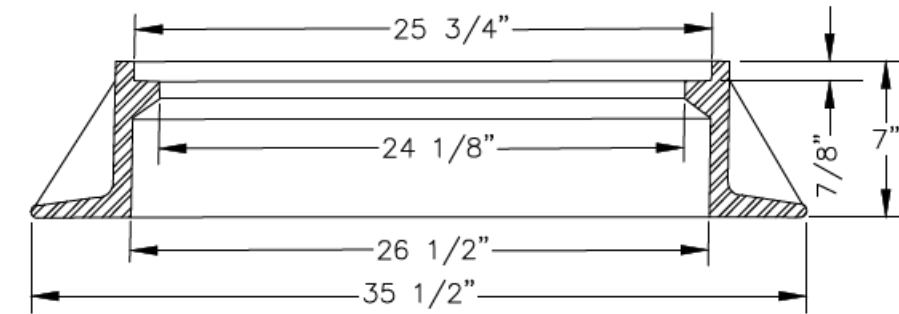
DRAWN: R.L.S. DATE: 1/7/2019 SCALE: NONE PLATE NO. WM-6

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: TJV	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020
CHK: SAO	



DATE: 11/24/2020 TIME: 9:55:43 PM
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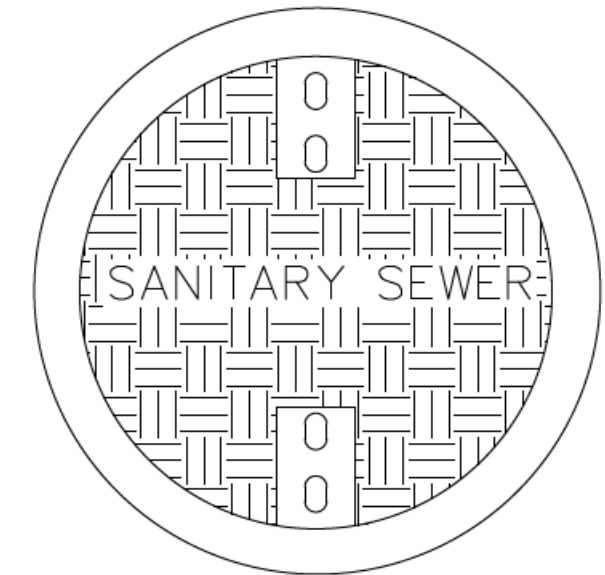
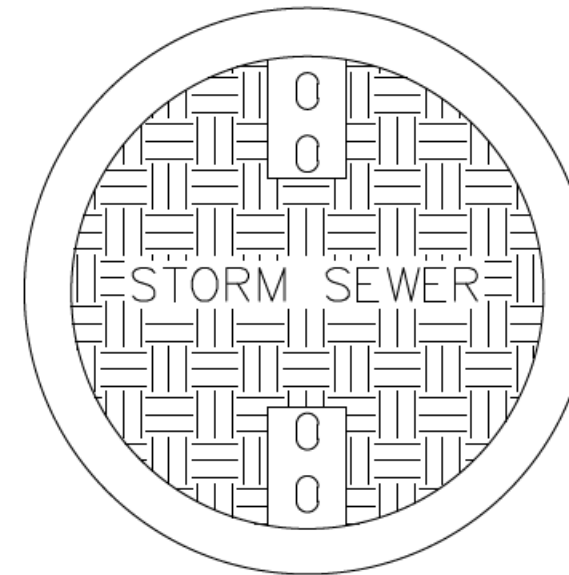
CASTING – NEENAH FOUNDRY NO. R-1733 SERIES MANHOLE FRAME OR APPROVED EQUAL. CASTING & RINGS TO HAVE INFI-SHIELD INSTALLED.



COVER-ESS BROTHER 301-CP LID. OR EQUAL WITH RUBBER GASKET ON THE BOTTOM OF THE LID.

NEENAH R1733-5044

NEENAH R1733-5044



NOTE: ALL LIDS MUST HAVE RUBBER GASKET ON THE BOTTOM OF THE LID.



STANDARD MANHOLE CASTINGS

DRAWN: R.L.S. DATE: 1/25/2019 SCALE: NONE PLATE NO. SAN-7

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: TJV	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020		
CHK: SAO	SHANE A. ORTLEPP		
NO.	DATE	BY	DESCRIPTION OF REVISIONS



STATE PROJ. NO. 002-611-036

MISCELLANEOUS DETAILS

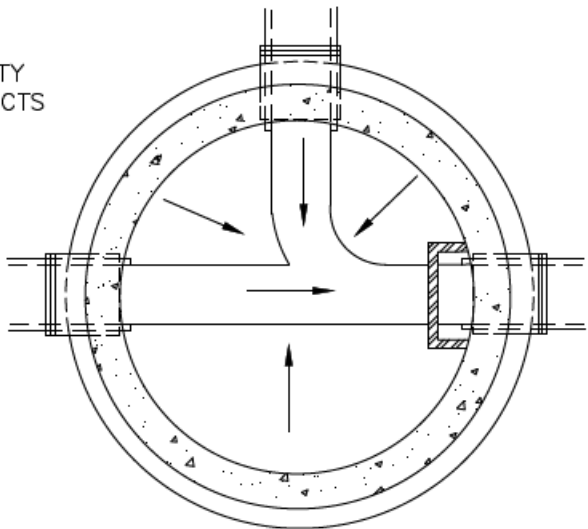
SHEET NO. 62 OF 416 SHEETS

DATE: 11/24/2020 TIME: 9:56:45 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_mde.dgn

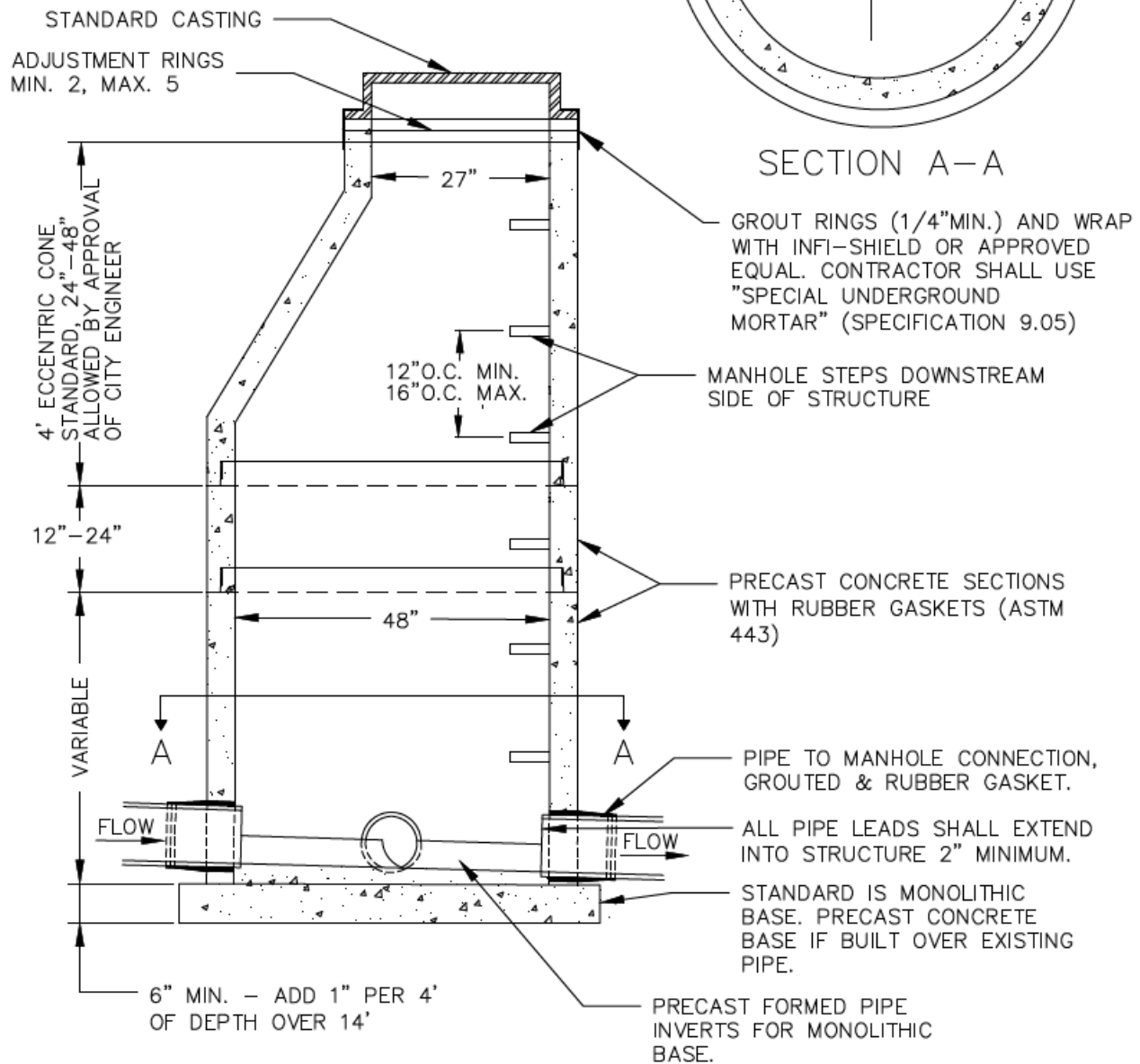
NOTES:

1. GROUT SHALL BE SPECIAL UNDERGROUND UTILITY MORTAR MADE BY TWIN CITY CONCRETE PRODUCTS OF ST. PAUL OR APPROVED EQUAL.
2. STRUCTURE TO BE PRECAST UNLESS APPROVED BY CITY ENGINEER.

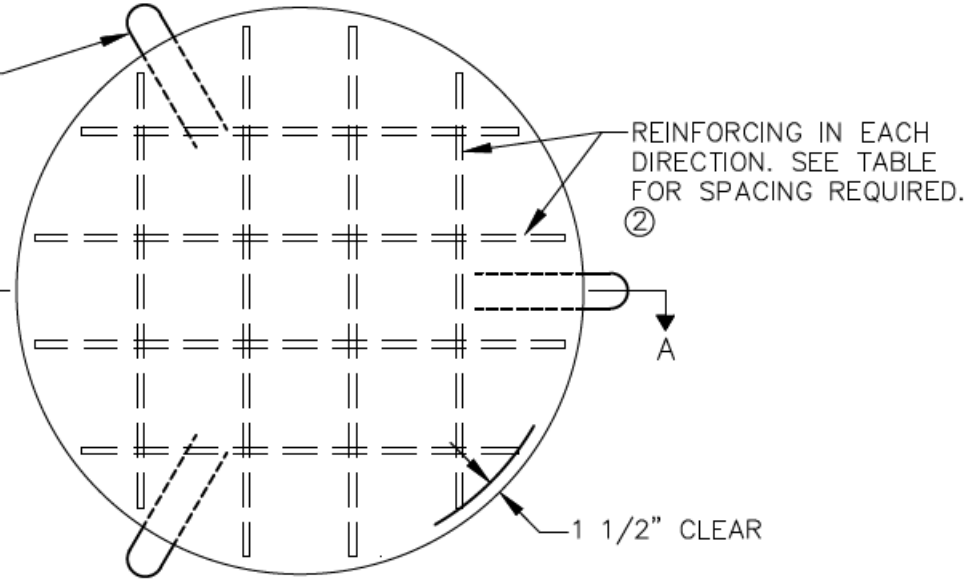
POUR CONCRETE BOTTOM TO 1/2 PIPE DIAMETER AND SLOPE AS SHOWN BY ARROWS.



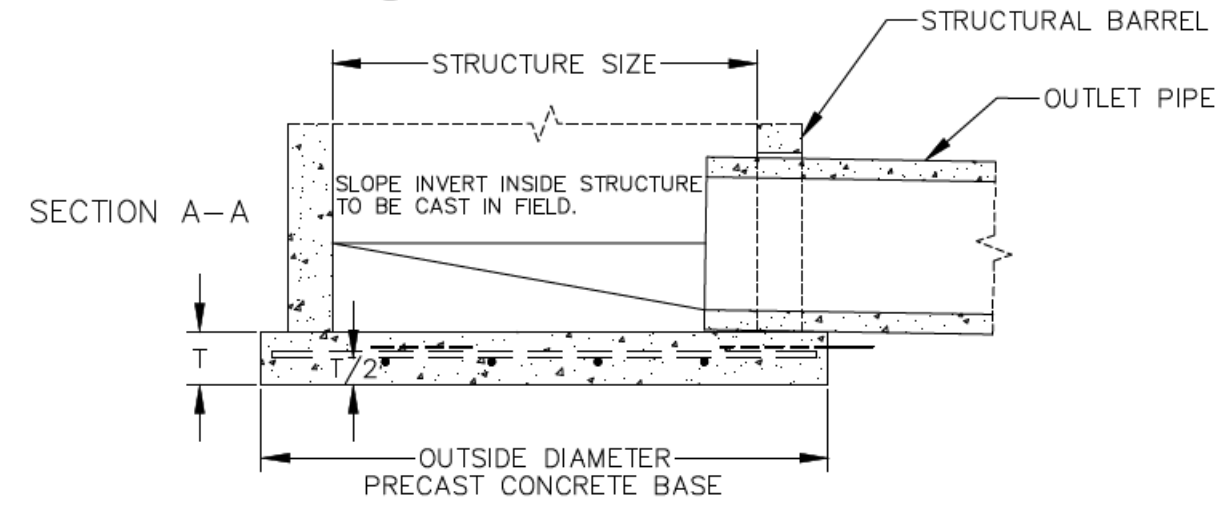
SECTION A-A



- 3 LIFTING LOOPS AT 120° OR OTHER APPROVED LIFTING DEVICES. (MUST NOT INTERFERE WITH BARREL SECTION)



TOP VIEW



SECTION A-A

STRUCTURE SIZE (INCHES)	PRECAST CONCRETE BASE				APPROX. WEIGHT (POUNDS)
	OUTSIDE DIAMETER (INCHES)	T (INCHES)	MINIMUM REINF. ② BAR NUMBER	SPACING (INCHES)	
30	44	6	4	12	790
48	64	6	4	12	1,680
54	72	8	4	12	2,830
60	78	8	4	12	3,320
66	85	8	4	12	3,940
72	92	8	4	12	4,620
78	100	8	4	12	5,460
84	106	8	4	8	6,130
90	114	8	4	8	7,090
96	120	8	4	8	7,850
102	127	8	4	8	8,800
108	132	9	4	8	10,690 ①
120	146	12	4	8	17,440
132	160	12	4	8	20,940
144	174	12	4	6	24,770

NOTES:

- ① ALTERNATE T=10" WITH NO.4 BAR SPACED AT 10".
- ② EQUIVALENT WIRE MESH MAY BE USED.

City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN 55433-3761
Tel: 763-755-2880
Fax: 763-767-6491
www.coonrapidsmn.gov

STANDARD SANITARY SEWER MANHOLE

DRAWN: R.L.S. DATE: 1/25/2019 SCALE: NONE PLATE NO. SAN-8

City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN 55433-3761
Tel: 763-755-2880
Fax: 763-767-6491
www.coonrapidsmn.gov

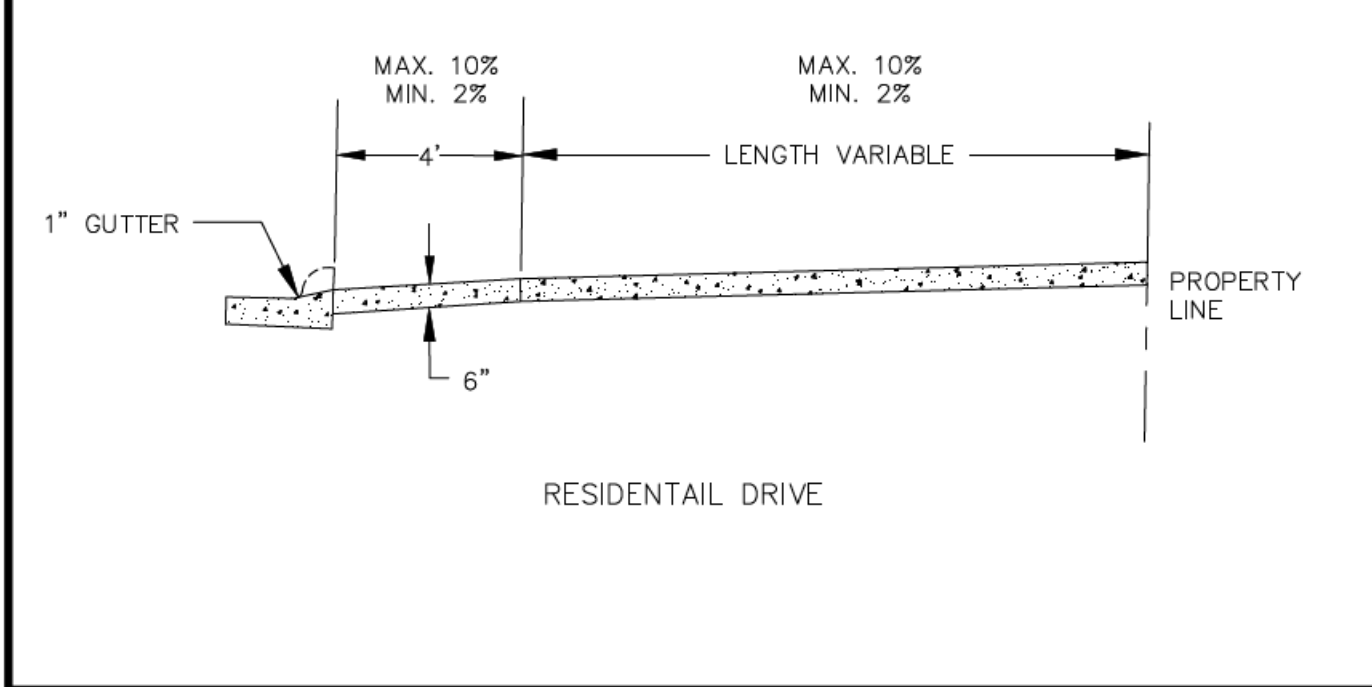
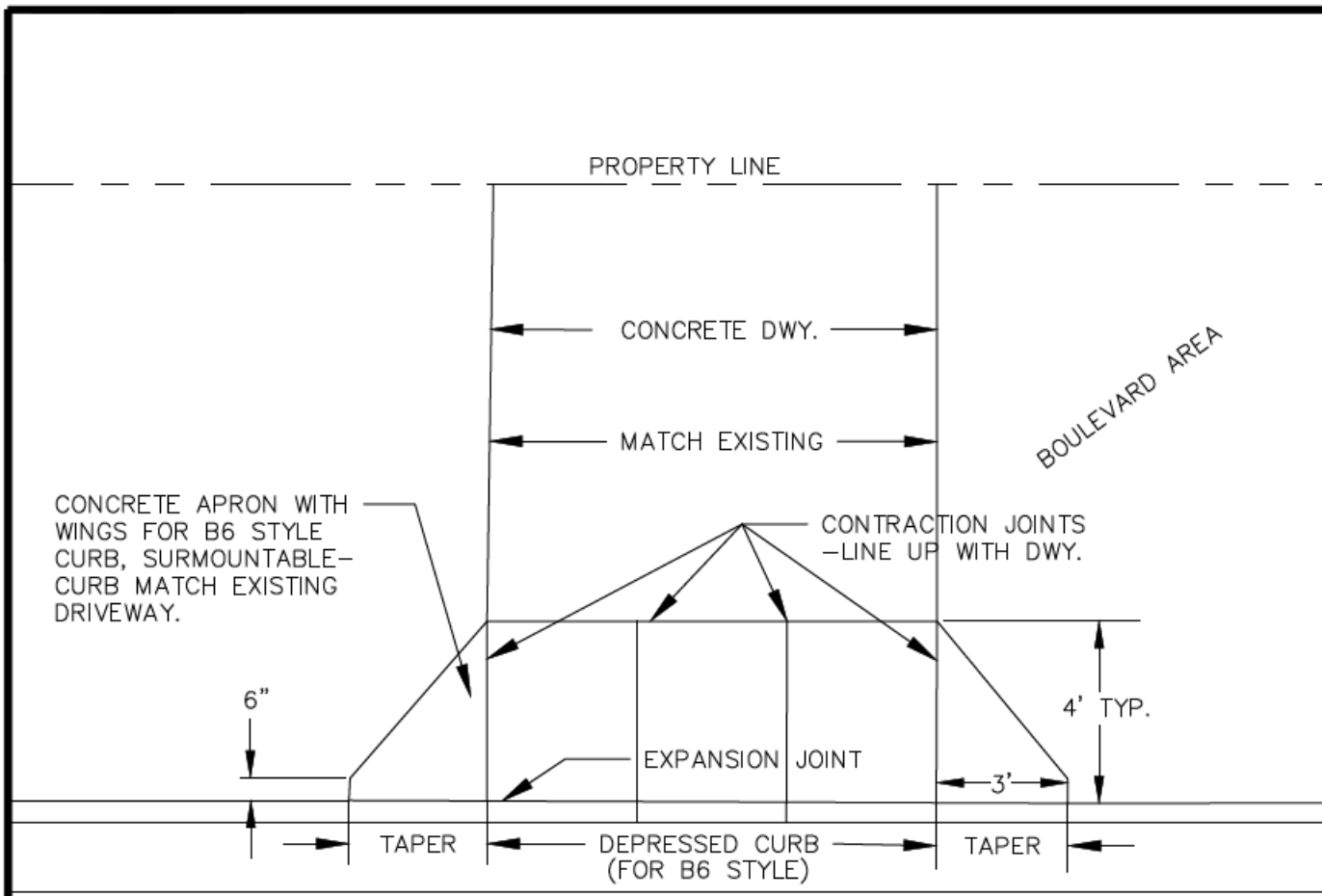
MnDOT PRECAST CONCRETE BASE DETAIL 4011E

DRAWN: R.L.S. DATE: 2/5/2019 SCALE: NONE PLATE NO. SAN-9

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: TJV	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020
CHK: SAO	



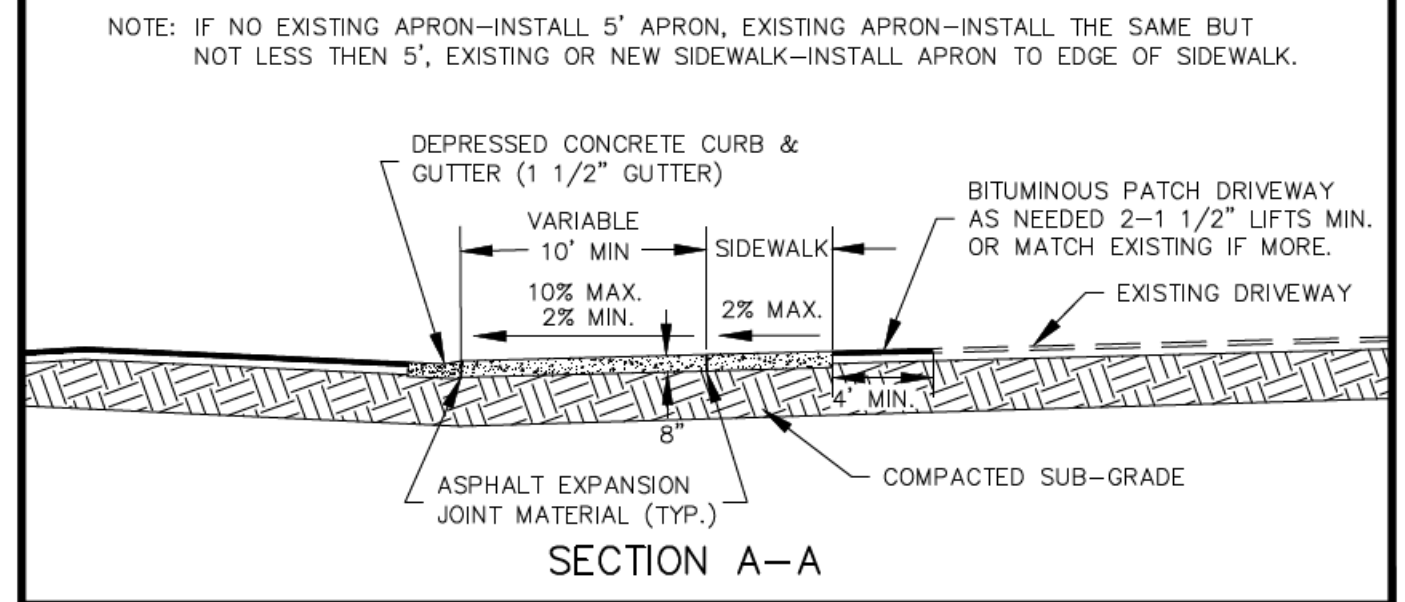
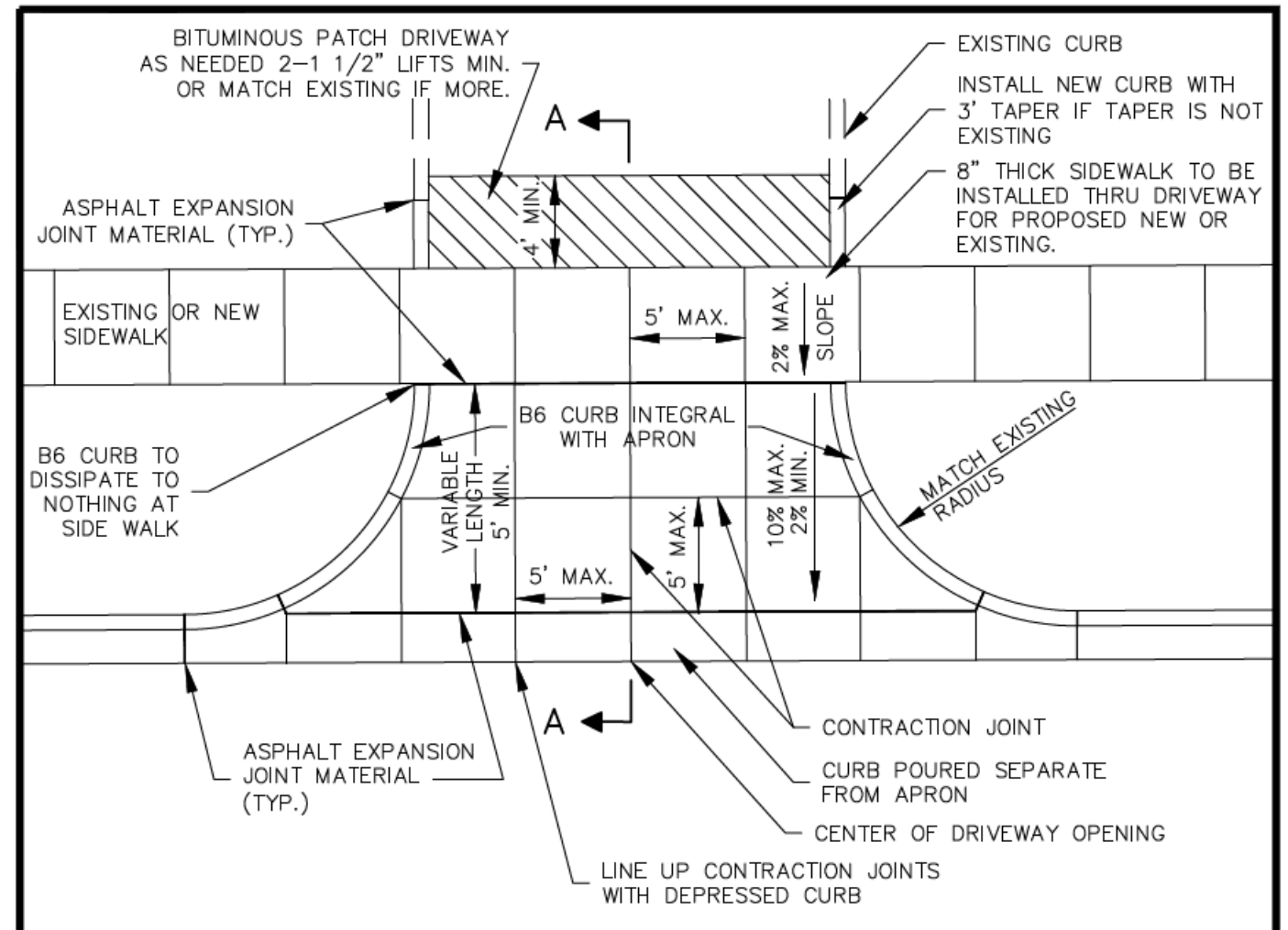
DATE: 11/24/2020 TIME: 9:57:38 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_mdf.dgn



COON RAPIDS
Minnesota

CONCRETE DRIVEWAY DETAIL FOR STREET RECONSTRUCTION

DRAWN: R.L.S.	DATE: 1/3/2019	SCALE: NONE	PLATE NO. STR-8
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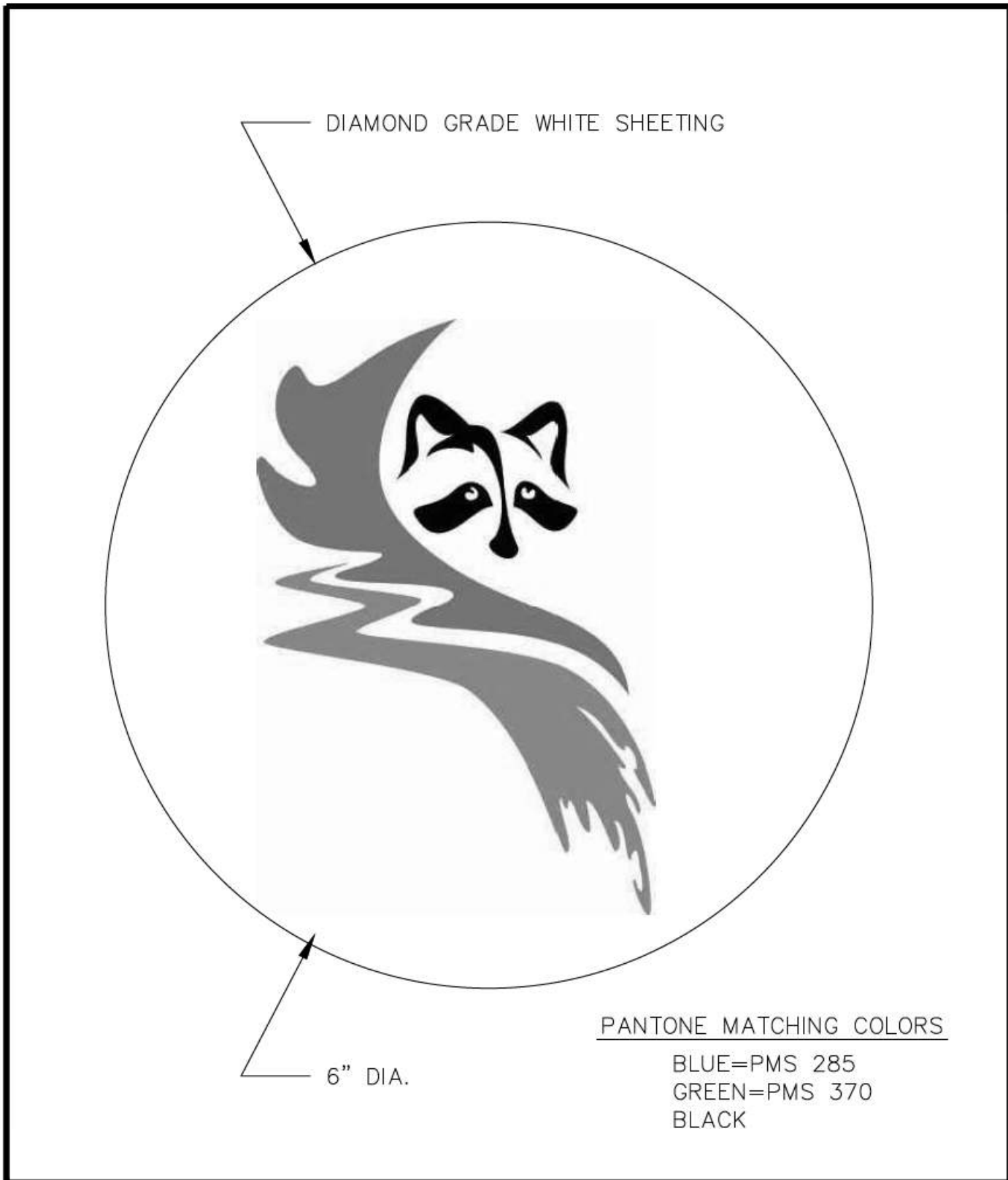
COON RAPIDS
Minnesota

COMMERCIAL DRIVEWAY FOR STREET RECONSTRUCTION

DRAWN: R.L.S.	DATE: 1/3/2019	SCALE: NONE	PLATE NO. STR-9
---------------	----------------	-------------	-----------------

	DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	
	DRW: TJV	SIGNATURE:	LIC. NO. 48250 DATE: 11/24/2020
	CHK: SAO	TKDA	
NO.	DATE	BY	DESCRIPTION OF REVISIONS

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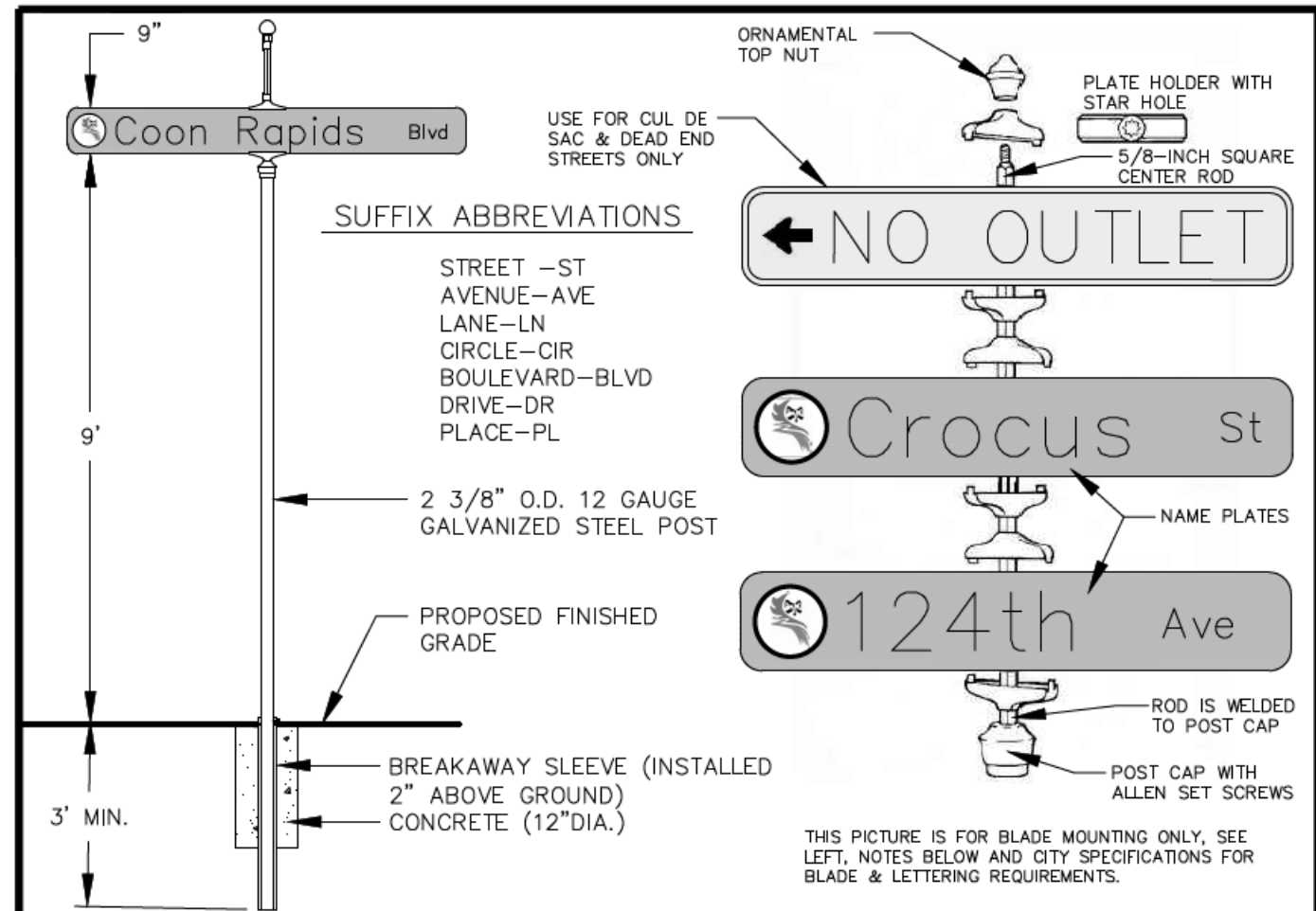


PANTONE MATCHING COLORS
 BLUE=PMS 285
 GREEN=PMS 370
 BLACK



STREET SIGN LOGO

DRAWN: R.L.S. DATE: 3/18/2011 SCALE: NONE PLATE NO. STR-12



NOTES:

1. SIGN BLADE SIZE IS 9" FOR 40 MPH AND LESS, 12" FOR 45 MPH AND GREATER, ARE MADE OUT OF .080" THICK ALUMINUM AND HAVE ROUNDED CORNERS.
2. BLADE LENGTH SHALL BE 24" MIN. OR AS NECESSARY TO FIT NAME AND LOGO.
3. BLADES SHALL BE SINGLE FACED AND FASTENED TOGETHER WITH STAINLESS STEEL BOLTS WITH NYLON INSERT LOCK NUTS.
4. LETTER SIZE IS 6" UPPER CASE & 4.5" LOWER CASE FOR STREET NAME ON 9" BLADES, 8" UPPER CASE & 6" LOWER CASE FOR STREET NAME ON 12" BLADES, 3" UPPER CASE & 2.5" LOWER CASE FOR SUFFIX ON 9" & 12" BLADES. NO OUTLET ALL UPPER CASE.
5. THE FONT TO USE FOR LETTERING IS SERIES B.
6. WHITE DIAMOND GRADE SHEETING, MNDOT GREEN BACKGROUND FOR PUBLIC STREETS MNDOT BLUE BACKGROUND FOR PRIVATE STREETS, EC FILM OVERLAY WITH LOGO AND NO BORDER.
7. THE CITY LOGO WILL PRECEDE THE STREET NAME ON BLADE.
8. STREET NAMES SHALL BE SPELLED COMPLETELY EXCEPT FOR SUFFIXES.
9. SIGN BRACKETS SHALL BE LYLE SIGNS NO. E450 OR E650 FOR NO OUTLET.
10. SIGN POST SHALL BE 2 3/8" O.D. X 12' LONG GALVANIZED ROUND TUBE AND INSTALLED WITH BREAKAWAY SLEEVE IN CONCRETE.
11. A SIGN PLAN SHOWING SIGN COLORS, SIZES AND LETTERING MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL.
12. SEE CITY SPECIFICATIONS FOR MORE DETAILS ON MATERIALS AND LAYOUT.
13. PERMANENT SIGNS SHALL BE PLACED SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY APPROACHING ROAD USERS, OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS, AND BUILDINGS.



STREET SIGN INSTALLATION

DRAWN: R.L.S. DATE: 1/24/2020 SCALE: NONE PLATE NO. STR-13

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: TJV	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020
CHK: SAO	



STATE PROJ. NO. 002-611-036 MISCELLANEOUS DETAILS SHEET NO. 65 OF 416 SHEETS

DATE: 11/24/2020 TIME: 9:58:59 PM FILENAME: p:\kda-pw-bentley.com\kda-pw-01\Documents\Projects\AnokaCounty\7030000_04_Production\01_CAD\Highway\Sheets\cd00261036_mdhdgn

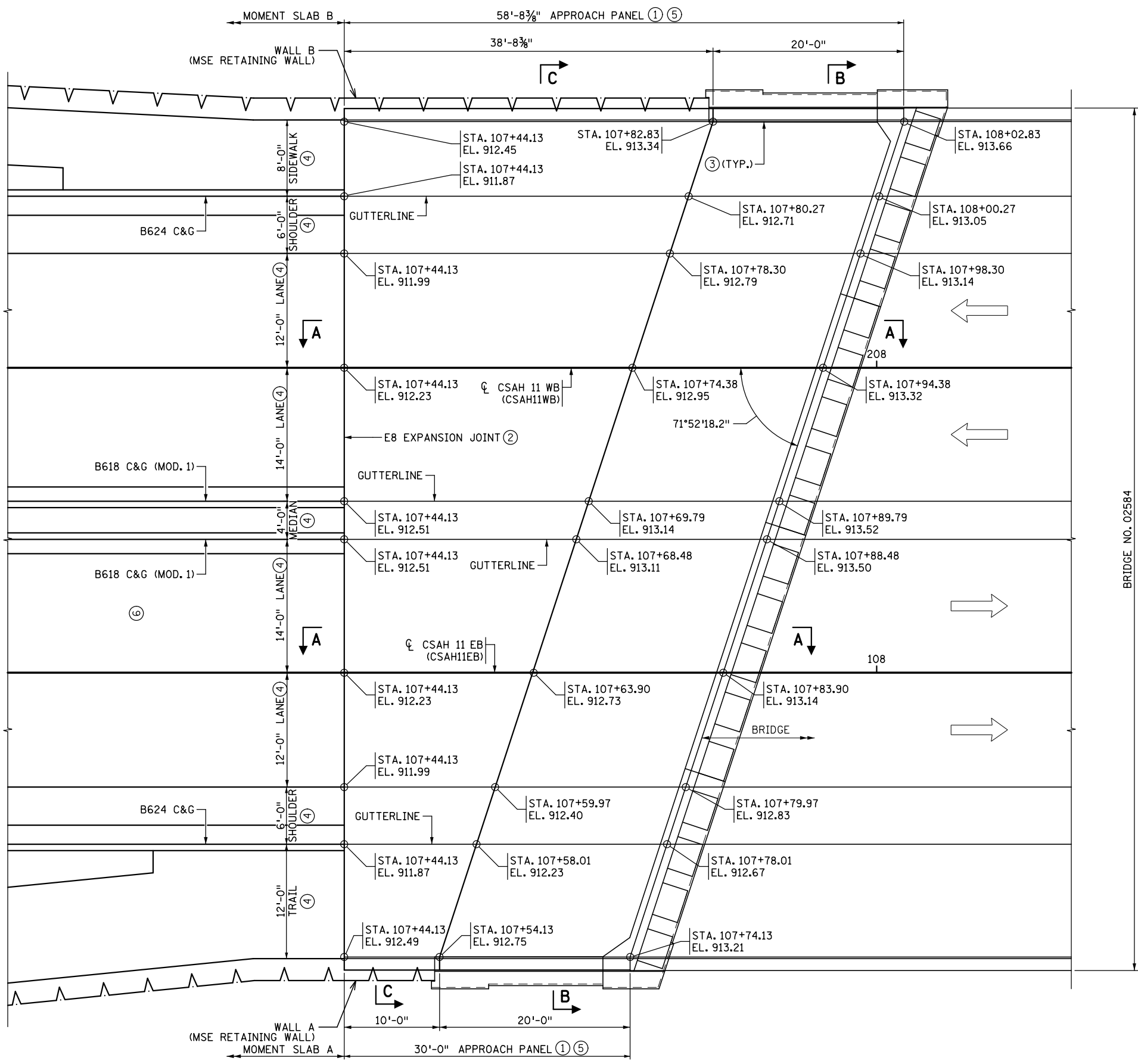
DRIVEWAY CHART WITH ADA SIDEWALK																			
STATION	SIDE	DRIVEWAY TYPE	DRIVEWAY CURB TYPE	E1	E2	L1	S1	E3	L2	S2	E4	L3	S3	EXISTING	E5	ENTRANCE WIDTH	APRON THICKNESS	TIE-IN MATERIAL	TIE-IN DISTANCE FROM FACE OF CURB
						FT	%		FT	%		FT	%						
CSAH 11 EB																			
118+02	RIGHT	TIERED PERPENDICULAR (2)	STANDARD	880.925	881.008	4.33	7.99	881.354	10.00	1.50	881.504	4.33	3.60	-5.27	881.660	26.0' WIDE	8"	BITUMINOUS - INSET D	19.3 FT.
119+81	RIGHT	TIERED PERPENDICULAR (2)	STANDARD	881.890	881.973	4.33	7.99	882.319	10.00	1.50	882.469	7.21	8.03	1.88	883.048	24.6' WIDE	8"	BITUMINOUS - INSET D	22.2 FT.
121+17	RIGHT	TIERED PERPENDICULAR (2)	STANDARD	881.391	881.474	4.33	7.99	881.820	10.00	1.50	881.970	15.73	8.05	1.73	883.237	23.5' WIDE	8"	BITUMINOUS - INSET D	30.7 FT.
122+14	RIGHT	TIERED PERPENDICULAR (2)	STANDARD	881.544	881.627	4.33	7.99	881.973	10.00	1.50	882.123	12.00	5.57	2.66	882.792	26.0' WIDE	8"	BITUMINOUS - INSET D	27.0 FT.
CSAH 11 WB																			
220+72	LEFT	TIERED PERPENDICULAR (2)	STANDARD	881.808	881.891	4.33	7.99	882.237	6.00	1.50	882.327	10.69	8.03	1.77	883.185	26.0' WIDE	8"	BITUMINOUS - INSET D	21.7 FT.
222+44	LEFT	TIERED PERPENDICULAR (2)	STANDARD	881.645	881.728	4.33	7.99	882.074	6.00	1.50	882.164	23.10	6.62	6.00	883.693	26.0' WIDE	8"	BITUMINOUS - INSET D	34.0 FT.
232+31	LEFT	PARALLEL (2)	STANDARD	884.841	884.924				5.00	1.50	884.999	7.12	4.85	-0.34	885.344	38.0' WIDE	8"	BITUMINOUS - INSET D	12.8 FT.
236+30	LEFT	(3)	STANDARD	890.746	890.829	5.00	2.50	890.954	5.00	1.50	891.029	29.70	-2.17	-2.20	890.384	40.0' WIDE	8"	BITUMINOUS - INSET D	40.4 FT.
CSAH 1 SB																			
75+26	LEFT	TIERED PERPENDICULAR (2)	STANDARD	878.764	878.847	4.33	7.99	879.193	6.00	1.50	879.283	19.84	0.86	2.42	879.454	16.0' WIDE	6"	CONCRETE - INSET J	31.1 - 25.8 FT.
DRIVEWAY CHART WITHOUT ADA SIDEWALK																			
CO RD 3 NB																			
301+01	RIGHT	(4)	STANDARD	887.54	887.62	5.68	8.80	888.12								18.0' WIDE	6"	(1)	VAR. (5)
93RD AVE.																			
33+42	LEFT	(4)	STANDARD	882.92	883.00	4.00	8.00	883.32								16.8' WIDE	6"	BITUMINOUS - INSET D	15.0 FT.
93RD LANE																			
4+65	RIGHT	(4)	STANDARD	875.73	875.80	4.00	1.25	875.85								20.5' WIDE	6"	(1)	NA
4+92	LEFT	(4)	STANDARD	877.05	877.13	4.00	1.50	877.19								16.2' WIDE	6"	BITUMINOUS - INSET D	11.2 FT.
NORWAY ST.																			
4+78	LEFT	(2)	STANDARD	883.65	883.73	4.00	6.00	883.97								26.0' WIDE	8"	BITUMINOUS - INSET D	25.6 FT.
6+19	LEFT	(2)	STANDARD	884.68	884.76	4.00	4.00	884.92								34.0' WIDE	8"	BITUMINOUS - INSET D	VAR. (5)
6+48	LEFT	(2)	STANDARD	884.84	884.93	4.00	4.00	885.09								30.0' WIDE	8"	(1)	NA
10+50	RIGHT	(2)	STANDARD	882.42	882.51	4.00	6.00	882.75								26.0' WIDE	8"	(1)	NA
11+26	RIGHT	(2)	STANDARD	882.84	882.92	4.00	6.00	883.16								24.0' WIDE	8"	BITUMINOUS - INSET D	VAR. (5)
95TH LANE																			
14+18	LEFT	(4)	STANDARD	882.98	883.06	4.00	6.00	883.30								20.0' WIDE	6"	CONCRETE - INSET J	8.7 FT.
96TH AVE.																			
14+45	RIGHT	(3)	STANDARD	882.65	882.73	11.44	2.53	883.020								25.0' WIDE	8"	(1)	12.2 FT.

NOTES:

- (1) N/A, APRON ONLY.
- (2) SEE STANDARD PLAN SHEETS 5-297.254 (1 THRU 4).
- (3) SEE MISCELLANEOUS DETAILS - STD.PLATE STR-9 ON SHEET 64.
- (4) SEE MISCELLANEOUS DETAILS - STD.PLATE STR-8 ON SHEET 64.
- (5) SEE CONSTRUCTION PLAN FOR TIE-IN LOCATION.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: TJV	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020		
CHK: SAO	SHANE A. ORTLEPP		
NO.	DATE	BY	DESCRIPTION OF REVISIONS





NOTES:

- ① SEE STANDARD PLAN 5-297.231 FOR DRAINAGE DETAILS AND ADDITIONAL REQUIREMENTS.
- ② E8H QUANTITY SHALL BE MEASURED FROM EDGE OF APPROACH PANEL TO EDGE OF APPROACH PANEL.
- ③ TO ACCOMMODATE GUARDRAIL CONNECTION AND CRASH TEST REQUIREMENTS THE CONCRETE BARRIER MUST EXTEND 7'-0" MINIMUM ONTO THE APPROACH PANEL. FOR PARALLEL WINGWALLS THE BARRIER MUST EXTEND 7'-0" MINIMUM ON TO THE APPROACH PANEL OR TO THE END OF THE WINGWALL, WHICH EVER IS LONGER. REFER TO BRIDGE PLAN FOR BARRIER REINFORCEMENT AND PAYMENT.
- ④ SEE GRADING PLANS FOR PAVEMENT AND SHOULDER WIDTHS AND CONFIGURATION.
- ⑤ APPROACH PANEL LENGTHS ARE MEASURED ALONG CENTERLINE. PANEL SIZE AND REQUIREMENTS FOR TRANSVERSE AND LONGITUDINAL JOINTS ARE SHOWN ON STANDARD PLANS 5-297.228 AND 5-297.229. MAXIMUM PANEL LENGTH OF 20'-0" FOR UP TO 40°SKEWS, 15'-0" FOR SKEWS OVER 40°
- ⑥ FOR CONCRETE PAVEMENT, SEE STANDARD PLAN 5-297.227 FOR LUG REQUIREMENTS.

GENERAL NOTES:

SECTION A-A IS SHOWN ON STANDARD PLAN 5-297.227. SECTIONS B-B AND C-C ARE SHOWN ON STANDARD PLAN 5-297.225 AND SHOW THE STATION AND ELEVATION AT END LOCATIONS ON THE APPROACH PANEL.

A CONCRETE SILL IS REQUIRED BENEATH EXPANSION JOINT TYPE E8. EXTEND THE EXPANSION JOINT AND THE SILL ALONG THE FULL WIDTH OF THE TRAFFIC LANES, SHOULDERS AND CURB. ENSURE THAT SILL DOES NOT INTERFERE WITH GUARDRAIL POST PLACEMENT. CONCRETE SILL AND CURBING, IF REQUIRED, ARE INCLUDED IN THE APPROACH PANEL PAY ITEM.

GENERAL DRAINAGE DETAILS ARE SHOWN ON BRIDGE APPROACH PANEL DRAINAGE DETAILS, STANDARD PLAN 5-297.231. ADDITIONAL CATCH BASIN DETAILS ARE SHOWN ON DRAINAGE PLAN SHEETS.

REFER TO SPEC. 2406 FOR ADDITIONAL INFORMATION.

WEST APPROACH PANEL PLAN
OVER 10°SKEW, BARRIER ON APPROACH PANEL

STANDARD PLAN SHEET NO.
5-297.224 (1 OF 2)
STANDARD APPROVED:
FEBRUARY 16, 2016

MODIFIED: SHEET HAS BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.

DATE: 11/24/2020 TIME: 9:59:37 PM FILENAME: c:\nkda_proj\project\wise\m.vangstad\dms01247\cd00261036_ap01.dgn

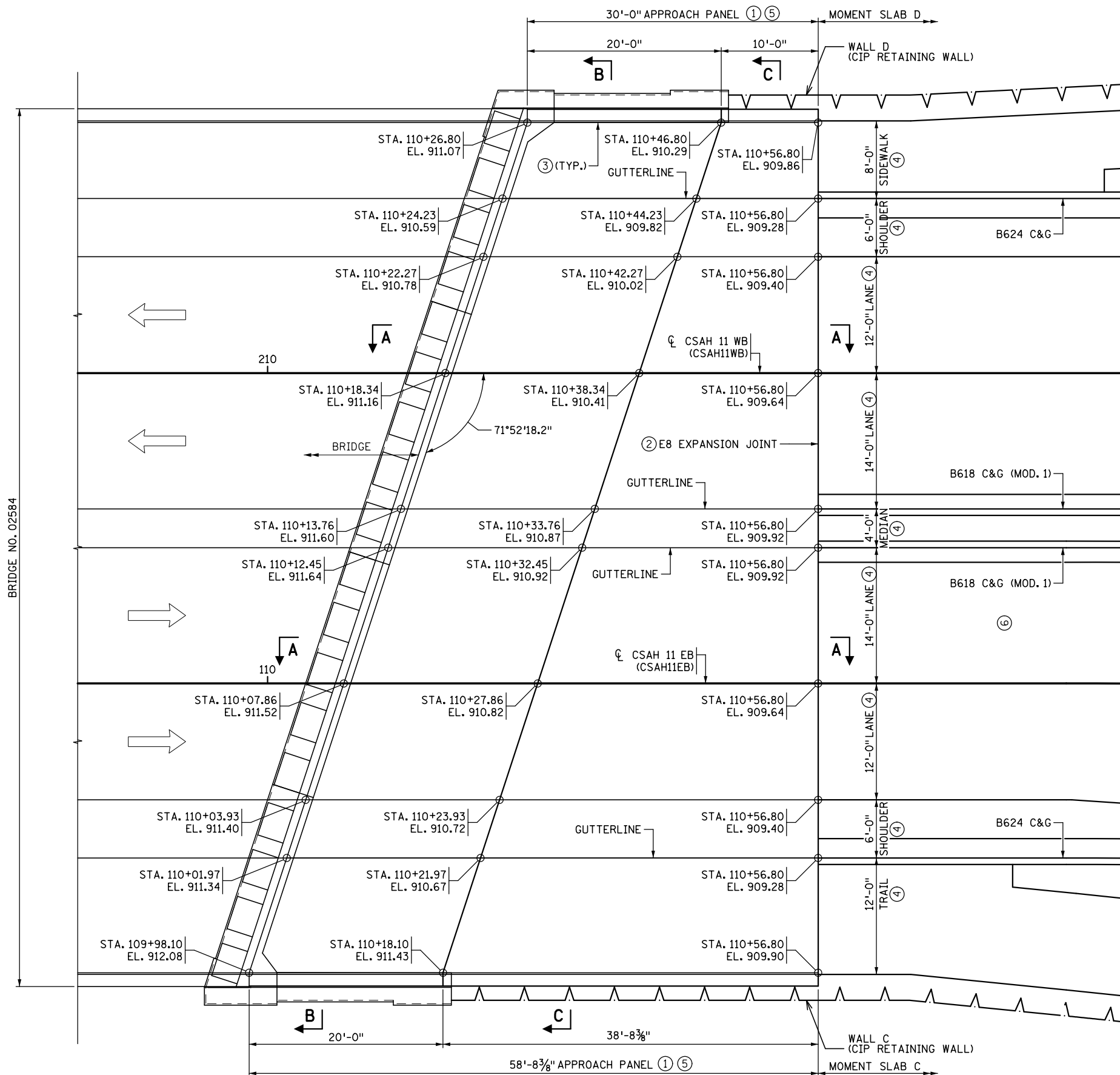
DES: DRH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: DRH	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020
CHK: L.J.L.	LINDSEY J. LAWRENCE



WEST APPROACH PANEL PLAN
STATE PROJ. NO. 002-611-036

APPROACH PANEL PLANS
SHEET NO. 67 OF 416 SHEETS

NO.	DATE	BY	DESCRIPTION OF REVISIONS



NOTES:

- ① SEE STANDARD PLAN 5-297.231 FOR DRAINAGE DETAILS AND ADDITIONAL REQUIREMENTS.
- ② E8H QUANTITY SHALL BE MEASURED FROM EDGE OF APPROACH PANEL TO EDGE OF APPROACH PANEL.
- ③ TO ACCOMMODATE GUARDRAIL CONNECTION AND CRASH TEST REQUIREMENTS THE CONCRETE BARRIER MUST EXTEND 7'-0" MINIMUM ONTO THE APPROACH PANEL. FOR PARALLEL WINGWALLS THE BARRIER MUST EXTEND 7'-0" MINIMUM ON TO THE APPROACH PANEL OR TO THE END OF THE WINGWALL, WHICH EVER IS LONGER. REFER TO BRIDGE PLAN FOR BARRIER REINFORCEMENT AND PAYMENT.
- ④ SEE GRADING PLANS FOR PAVEMENT AND SHOULDER WIDTHS AND CONFIGURATION.
- ⑤ APPROACH PANEL LENGTHS ARE MEASURED ALONG CENTERLINE. PANEL SIZE AND REQUIREMENTS FOR TRANSVERSE AND LONGITUDINAL JOINTS ARE SHOWN ON STANDARD PLANS 5-297.228 AND 5-297.229. MAXIMUM PANEL LENGTH OF 20'-0" FOR UP TO 40° SKEWS, 15'-0" FOR SKEWS OVER 40°
- ⑥ FOR CONCRETE PAVEMENT, SEE STANDARD PLAN 5-297.227 FOR LUG REQUIREMENTS.

GENERAL NOTES:

SECTION A-A IS SHOWN ON STANDARD PLAN 5-297.227. SECTIONS B-B AND C-C ARE SHOWN ON STANDARD PLAN 5-297.225 AND SHOW THE STATION AND ELEVATION AT END LOCATIONS ON THE APPROACH PANEL.

A CONCRETE SILL IS REQUIRED BENEATH EXPANSION JOINT TYPE E8. EXTEND THE EXPANSION JOINT AND THE SILL ALONG THE FULL WIDTH OF THE TRAFFIC LANES, SHOULDERS AND CURB. ENSURE THAT SILL DOES NOT INTERFERE WITH GUARDRAIL POST PLACEMENT. CONCRETE SILL AND CURBING, IF REQUIRED, ARE INCLUDED IN THE APPROACH PANEL PAY ITEM.

GENERAL DRAINAGE DETAILS ARE SHOWN ON BRIDGE APPROACH PANEL DRAINAGE DETAILS, STANDARD PLAN 5-297.231. ADDITIONAL CATCH BASIN DETAILS ARE SHOWN ON DRAINAGE PLAN SHEETS.

REFER TO SPEC. 2406 FOR ADDITIONAL INFORMATION.

EAST APPROACH PANEL PLAN
OVER 10° SKEW, BARRIER ON APPROACH PANEL

STANDARD PLAN SHEET NO.
5-297.224 (1 OF 2)
STANDARD APPROVED:
FEBRUARY 16, 2016

MODIFIED: SHEET HAS BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.

DATE: 11/24/2020 TIME: 9:59:58 PM FILENAME: c:\tkda\proj\tech\wise\hmv\angstad\dms01247\cd00261036_qp02.dgn

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: DRH
DRW: DRH
CHK: L.J.L.

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

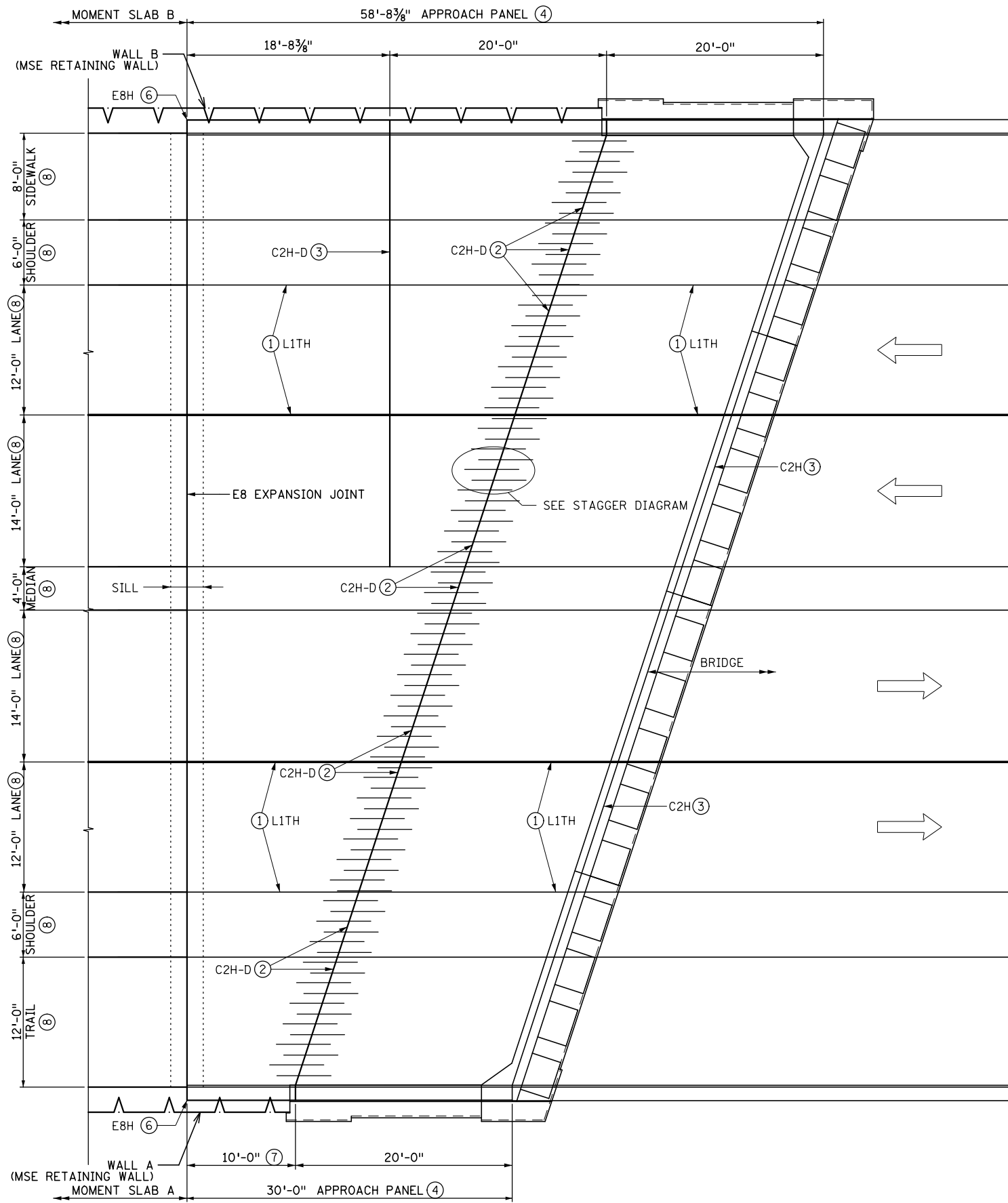
SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
LINDSEY J. LAWRENCE



EAST APPROACH PANEL PLAN
STATE PROJ. NO. 002-611-036

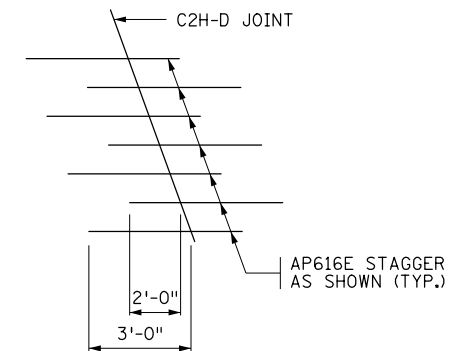
APPROACH PANEL PLANS
SHEET NO. 68 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:00:17 PM
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APPROACH PANEL JOINT LAYOUT NOTES:

- ① L1TH LONGITUDINAL JOINT. SEE STANDARD PLAN 5-297.229 FOR REINFORCEMENT LAP LENGTH REQUIREMENTS FOR STAGED CONSTRUCTION.
- ② PERMISSIBLE CONSTRUCTION JOINT. USE JOINT TYPE C2H-D WITH AP616E BARS AT 12-INCH SPACING AT MID DEPTH OF THE SLAB, PARALLEL TO THE CENTERLINE OF THE ROADWAY. AP616E BARS ARE 5'-0" LONG. PLACE THE BAR WITH 2'-0" ON ONE SIDE OF THE JOINT AND 3'-0" ON THE OPPOSITE SIDE OF THE JOINT. ALTERNATE THE 2'-0" AND 3'-0" DIMENSIONS AS SHOWN ON THE PLAN. THE C2H-D JOINT AND AP616E BARS ARE REQUIRED ON ALL PANELS WITH A SKEW OVER 10 DEGREES.
- ③ C2H CONTRACTION JOINT.
- ④ MAXIMUM PANEL LENGTH MEASURED ALONG CENTERLINE OF 20'-0" FOR UP TO 40°SKEWS, 15'-0" FOR SKEWS OVER 40°.
- ⑤ ALL JOINTS SHALL BE SAWCUT. SAWCUTS SHALL BE MADE WHILE THE CONCRETE IS STILL GREEN. WHEN A CONCRETE WEARING COURSE IS SPECIFIED, THE JOINTS SHALL BE SAWN THROUGH BOTH THE WEARING COURSE AND THE UNDERLYING APPROACH SLAB IN A SINGLE OPERATION.
- ⑥ E8 QUANTITY SHALL BE PAID FOR SEPARATELY, MEASURED FROM EDGE OF APPROACH PANEL TO EDGE OF APPROACH PANEL.
- ⑦ 10'-0" MINIMUM.
- ⑧ SEE GRADING PLAN FOR PAVEMENT AND SHOULDER WIDTHS AND CONFIGURATION.



STAGGER DIAGRAM

WEST APPROACH PANEL - OVER 10° SKEWS ⑤

STANDARD PLAN SHEET NO.
5-297.228 (1 OF 2)
 STANDARD APPROVED:
 MARCH 23, 2011

MODIFIED: SHEET HAS BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

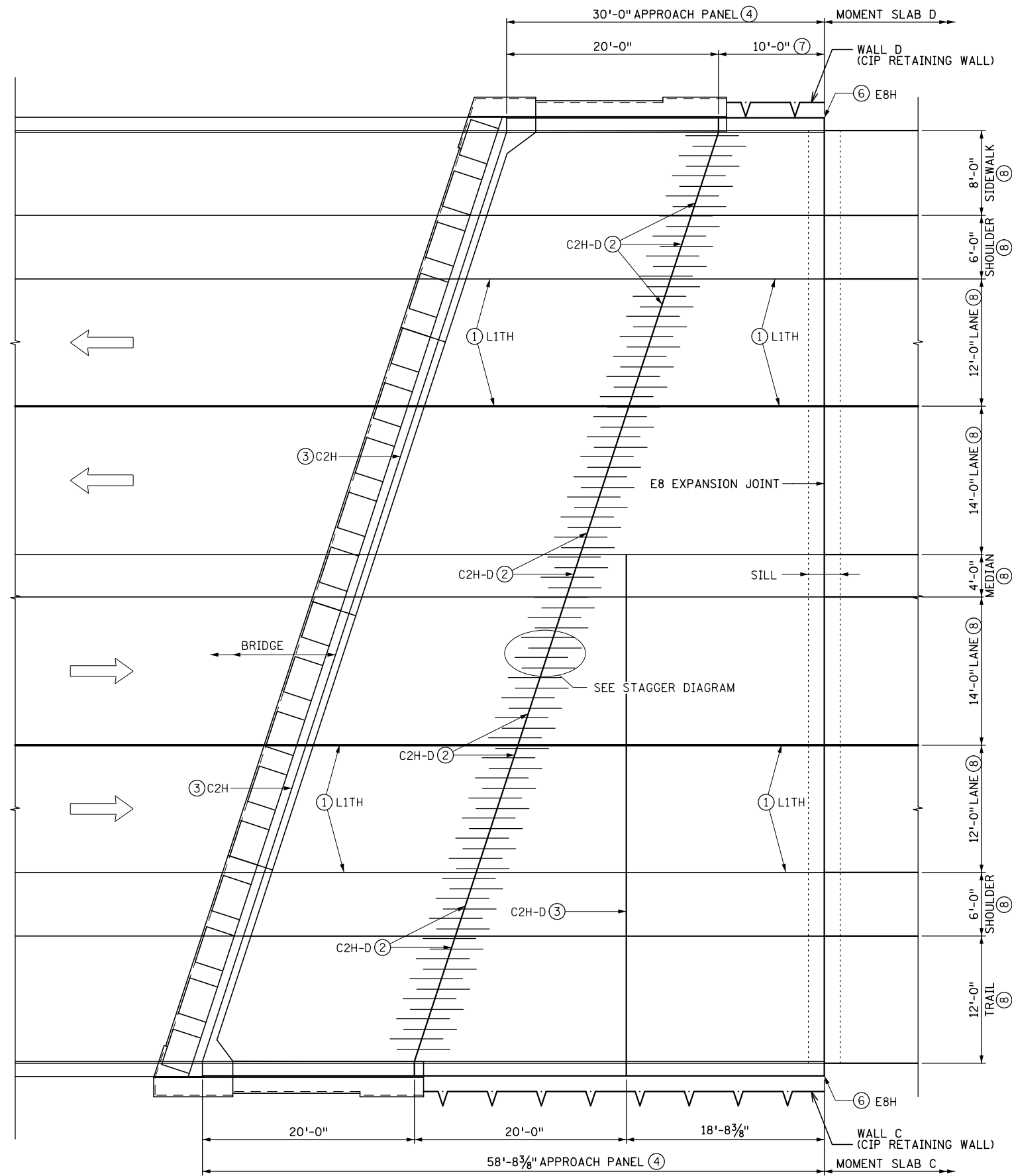
DES: DRH
 DRW: DRH
 CHK: L.J.L.
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



WEST APPROACH PANEL JOINT LAYOUT
 STATE PROJ. NO. 002-611-036

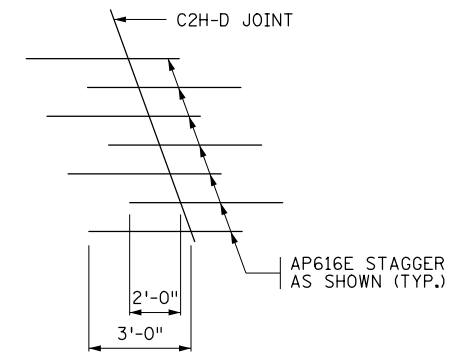
APPROACH PANEL PLANS
 SHEET NO. 69 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:00:58 PM
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APPROACH PANEL JOINT LAYOUT NOTES:

- ① L1TH LONGITUDINAL JOINT. SEE STANDARD PLAN 5-297.229 FOR REINFORCEMENT LAP LENGTH REQUIREMENTS FOR STAGED CONSTRUCTION.
- ② PERMISSIBLE CONSTRUCTION JOINT. USE JOINT TYPE C2H-D WITH AP616E BARS AT 12-INCH SPACING AT MID DEPTH OF THE SLAB, PARALLEL TO THE CENTERLINE OF THE ROADWAY. AP616E BARS ARE 5'-0\"/>



STAGGER DIAGRAM

EAST APPROACH PANEL - OVER 10° SKEWS ⑤

STANDARD PLAN SHEET NO.
5-297.228 (1 OF 2)
 STANDARD APPROVED:
 MARCH 23, 2011

MODIFIED: SHEET HAS BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: DRH
 DRW: DRH
 CHK: L.J.L

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

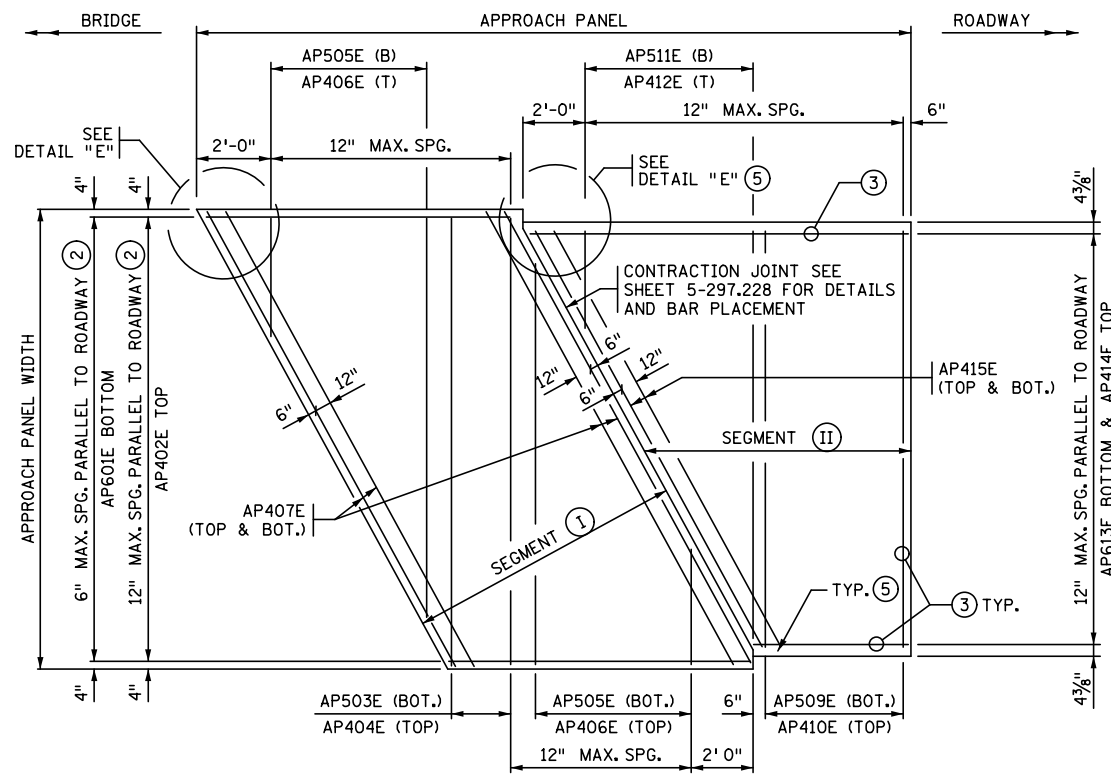
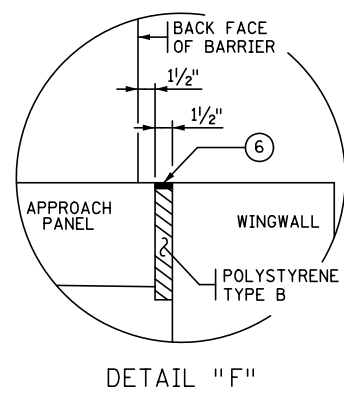
SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



EAST APPROACH PANEL JOINT LAYOUT
 STATE PROJ. NO. 002-611-036

APPROACH PANEL PLANS
 SHEET NO. 70 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:01:36 PM
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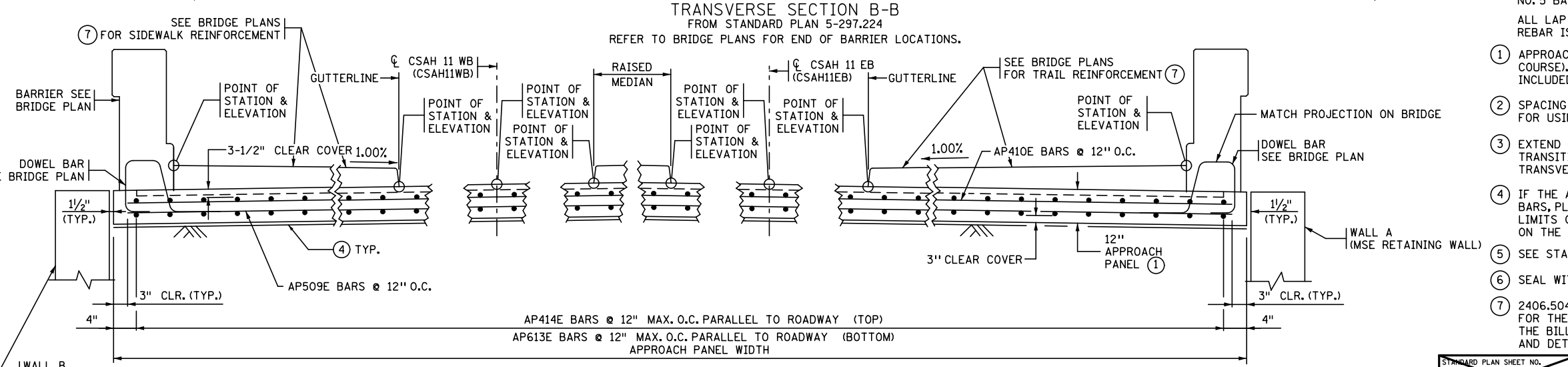
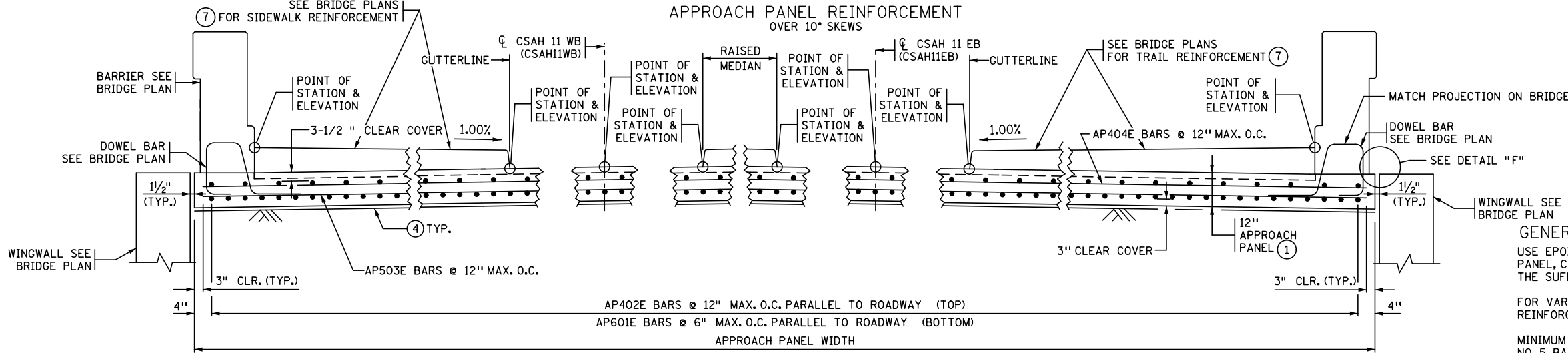
TYPE	LOCATION	ESTIMATED WEIGHT
PANEL (SQ. TO 10')	BRIDGE TO END OF APPROACH PANEL	48.5 LB./SQ. YD.
PANEL SEGMENT (I) (OVER 10')	BRIDGE TO CONTRACTION JOINT	48.5 LB./SQ. YD.
PANEL SEGMENT (II) (OVER 10')	CONTRACTION JOINT TO END OF APPROACH PANEL	35.0 LB./SQ. YD.
SILL	SILL (IF REQUIRED)	14.0 LB./LIN FT.

NOTES:
 TRANSVERSE BARS IN BOTH PANEL SEGMENTS ARE PERPENDICULAR TO ROADWAY CENTERLINE EXCEPT AP407E ARE PARALLEL TO SKEW IN SEGMENT (I) AND AP415E ARE PARALLEL TO SKEW IN SEGMENT (II).
 LONGITUDINAL BARS IN BOTH PANEL SEGMENTS ARE PARALLEL TO ROADWAY CENTERLINE.

BAR	NO.	LENGTH	SHAPE	LOCATION
AP601E		'-	---	BOTTOM LONGITUDINAL
AP402E		'-	---	TOP LONGITUDINAL
AP503E		'-	---	BOTTOM TRANSVERSE
AP404E		'-	---	TOP TRANSVERSE
AP505E	SER. OF	'- TO	---	BOTTOM TRANSVERSE
AP406E	SER. OF	'- TO	---	TOP TRANSVERSE
AP407E		'-	---	TOP & BOTTOM EDGE
AP508E		8'-0	---	TOP CORNER - FAN
AP509E		'-	---	BOTTOM TRANSVERSE
AP410E		'-	---	TOP TRANSVERSE
AP511E	SER. OF	'- TO	---	BOTTOM TRANSVERSE
AP412E	SER. OF	'- TO	---	TOP TRANSVERSE
AP613E	SER. OF	'- TO	---	BOTTOM LONGITUDINAL
AP414E	SER. OF	'- TO	---	TOP LONGITUDINAL
AP415E		'-	---	TOP & BOTTOM EDGE
AP616E		5'-0	---	C2H-D JOINT

GENERAL NOTES:
 USE EPOXY COATED GRADE 60 REINFORCEMENT PER SPEC. 3301 IN APPROACH PANEL, CONCRETE SILL, AND CURB TRANSITION. EPOXY COAT BARS MARKED WITH THE SUFFIX "E" IN ACCORDANCE WITH SPEC. 3301.
 FOR VARIABLE ROADWAY WIDTHS, VARY THE LAP LENGTH OF THE REINFORCEMENT.
 MINIMUM REINFORCEMENT LAP LENGTHS ARE AS FOLLOWS: NO. 4 BAR = 1'-11", NO. 5 BAR = 2'-5", NO. 6 BAR = 2'-10".
 ALL LAP SPLICES SHALL BE STAGGERED SUCH THAT NO MORE THAN 50% OF REBAR IS SPLICED AT THE SAME LOCATION.

- (1) APPROACH SLAB THICKNESS IS 12" (12" MONOLITHIC OR 10" SLAB + 2" WEARING COURSE). CHECK BRIDGE PLANS FOR CONCRETE WEARING COURSE, WHICH IS INCLUDED IN BRIDGE PLAN QUANTITIES.
- (2) SPACING ONLY FOR B6 INTEGRANT CURB. SEE CURB DETAIL FOR SPACING FOR USING B624 CURB AND GUTTER.
- (3) EXTEND AND/OR CUT REINFORCING AS NECESSARY TO ACCOMMODATE CURB TRANSITION IF PRESENT. REINFORCEMENT MUST EXTEND INTO CURB AS SHOWN IN TRANSVERSE SECTIONS B-B AND C-C.
- (4) IF THE APPROACH PANEL IS TIED TO THE BRIDGE ABUTMENT WITH REINFORCEMENT BARS, PLACE 12 MIL POLYETHYLENE SHEETING (OR 2 LAYERS OF 6 MIL) UNDER THE LIMITS OF THE APPROACH PANEL TO ALLOW THE PANEL TO MOVE LONGITUDINALLY ON THE GRADE. SHEETING IS INCLUDED IN THE APPROACH PANEL PAY ITEM.
- (5) SEE STANDARD PLAN 5-297.224 FOR CURB TRANSITION LOCATION.
- (6) SEAL WITH SELF-LEVELING SILICONE PER SPEC. 3722.
- (7) 2406.504 BRIDGE APPROACH PANELS, INCLUDES ALL CONCRETE AND REINFORCEMENT FOR THE CONSTRUCTION OF THE SIDEWALK AND TRAIL ON THE APPROACH PANELS. THE BILL OF REINFORCEMENT FOR THE SIDEWALK AND TRAIL HAS BEEN INCLUDED AND DETAILED IN THE BRIDGE PLAN.

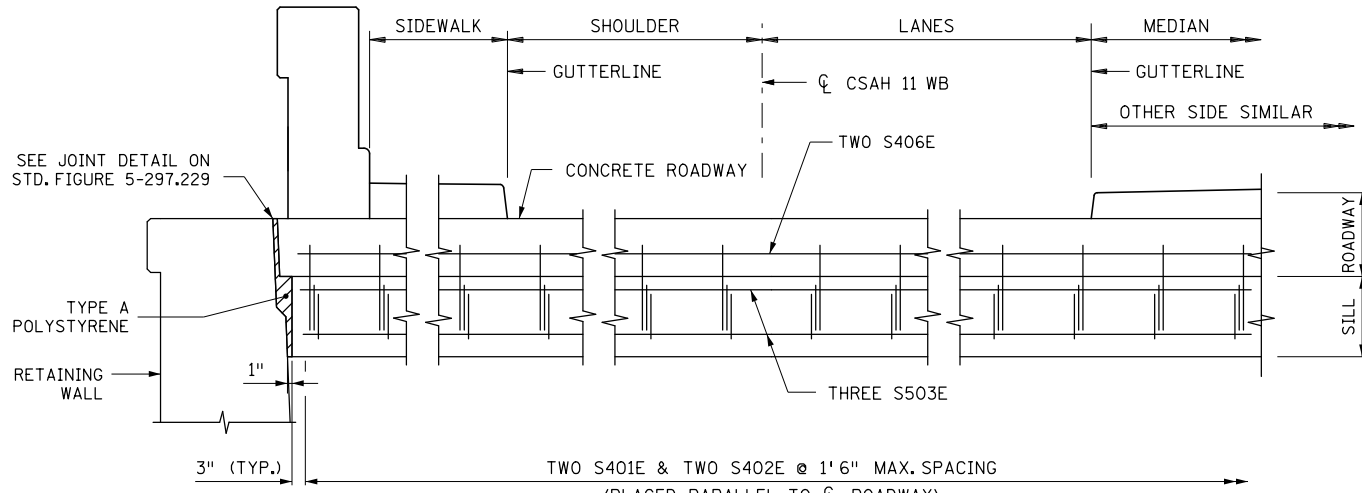


STANDARD PLAN SHEET NO. 5-297.225 (2 OF 2)
 STANDARD APPROVED FEBRUARY 16, 2016

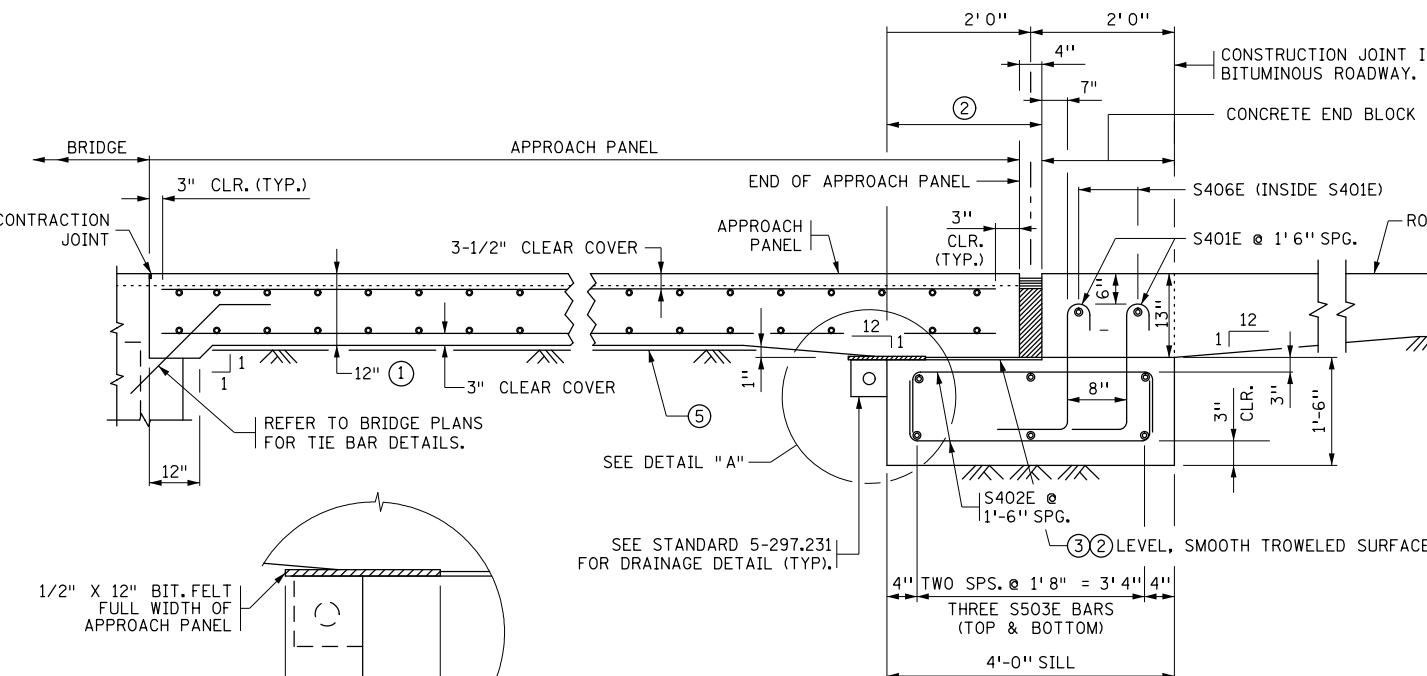
MODIFIED: SHEET HAS BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS. NOTE 7 ADDED.

DES: DRH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: DRH	
CHK: LJL	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020

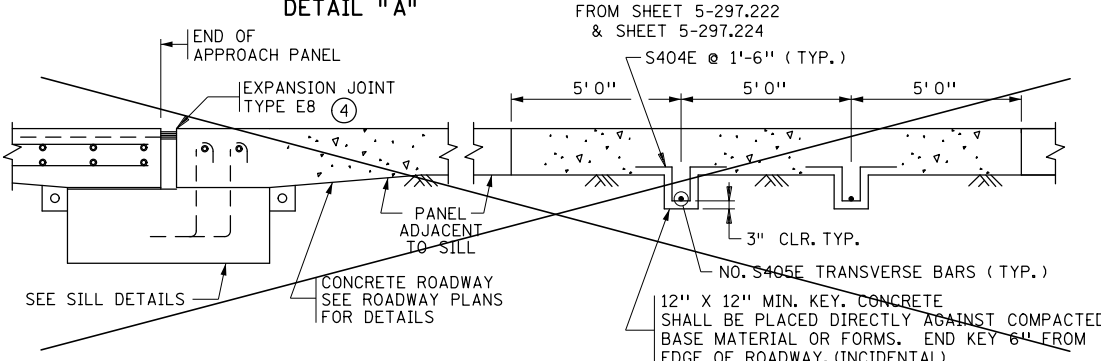




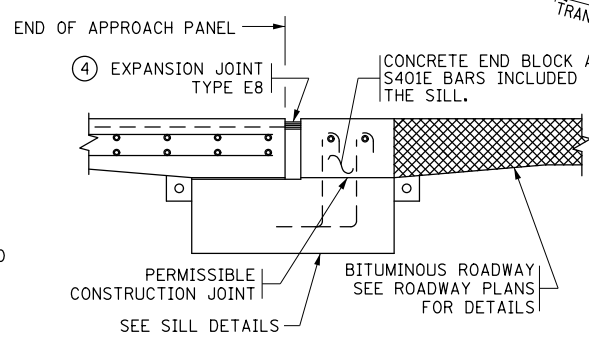
PARTIAL SILL ELEVATION
(REINFORCEMENT IN PAVEMENT NOT SHOWN)



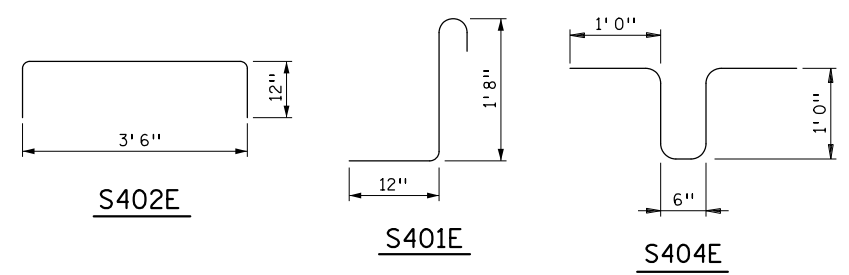
LONGITUDINAL SECTION A-A



SILL & CONCRETE MAINLINE

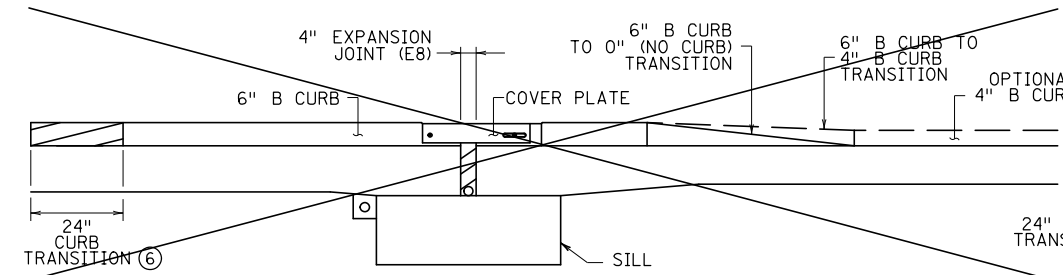


SILL & BITUMINOUS MAINLINE

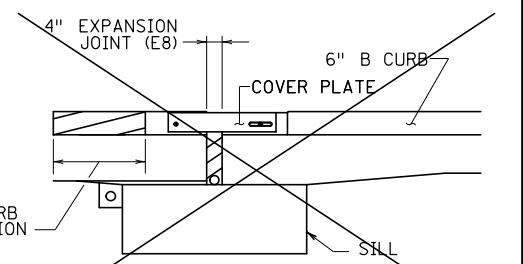


BILL OF REINFORCEMENT FOR CONCRETE SILL				
CONTRACTOR IS REQUIRED TO COMPLETE THE BILL OF REINFORCEMENT TABLE AND PREPARE SHOP DRAWINGS AND SUBMIT THEM TO THE PROJECT ENGINEER AT LEAST 3 WEEKS BEFORE REBAR FABRICATION.				
BAR NO.	LENGTH	SHAPE	LOCATION	
S401E	3' 2"	┆	SILL VERTICAL	
S402E	5' 6"	┆	SILL TIE	
* S503E	' -	┆	SILL HORIZONTAL	
* S404E	4' 6"	┆	KEY TIE	
* S405E	' -	┆	KEY HORIZONTAL	
* S406E	' -	┆	END BLOCK HORIZONTAL	

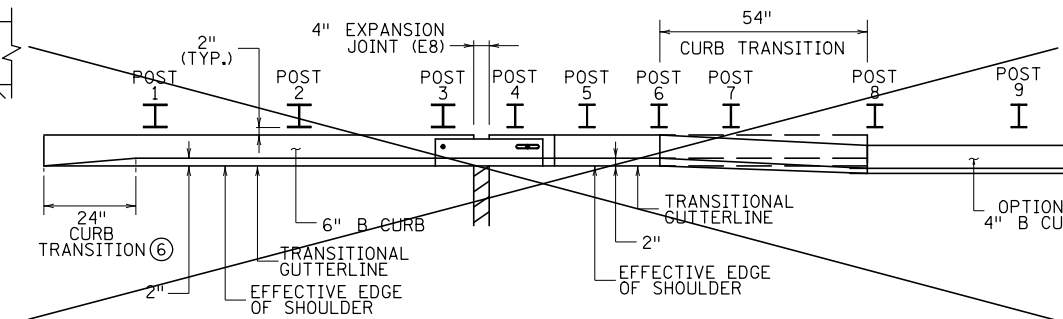
* MINIMUM REINFORCEMENT LAP LENGTHS ARE AS FOLLOWS:
NO. 4 BAR = 1'-11", NO. 5 BAR = 2'-5".



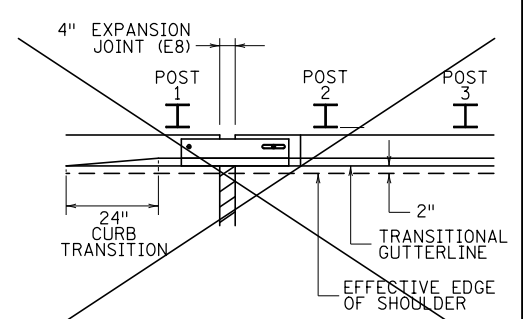
36"/42" SINGLE SLOPE BARRIER FRONT VIEW
(ASSUMES 10'-8" BARRIER LENGTH ON APPROACH PANEL)



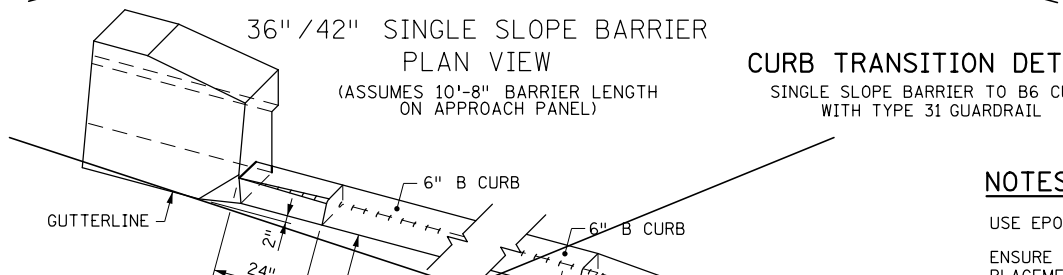
54" SINGLE SLOPE BARRIER FRONT VIEW
(ASSUMES 16'-8" BARRIER LENGTH ON APPROACH PANEL)



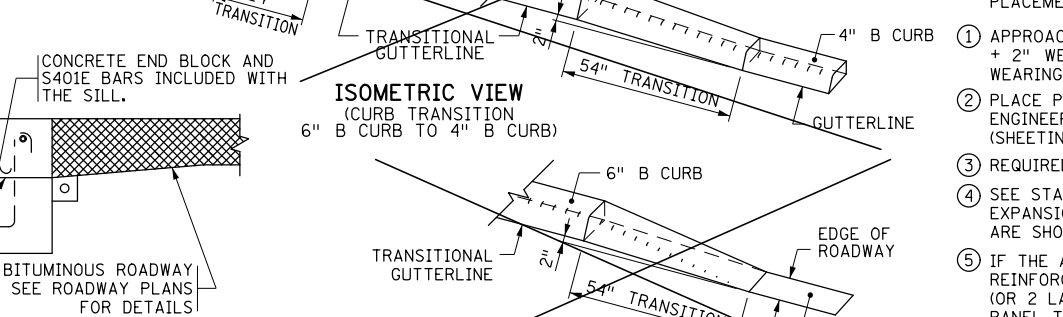
36"/42" SINGLE SLOPE BARRIER PLAN VIEW
(ASSUMES 10'-8" BARRIER LENGTH ON APPROACH PANEL)



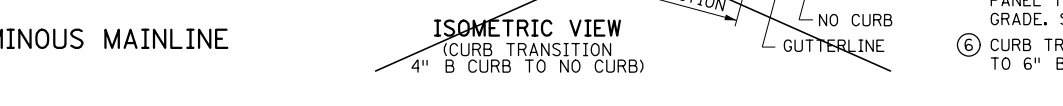
54" SINGLE SLOPE BARRIER PLAN VIEW
(ASSUMES 16'-8" BARRIER LENGTH ON APPROACH PANEL)



CURB TRANSITION DETAILS
SINGLE SLOPE BARRIER TO B6 CURB WITH TYPE 31 GUARDRAIL



ISOMETRIC VIEW (CURB TRANSITION 6" B CURB TO 4" B CURB)



ISOMETRIC VIEW (CURB TRANSITION 4" B CURB TO NO CURB)

- NOTES:**
- USE EPOXY COATED GRADE 60 REINFORCEMENT PER SPEC 3301.
 - ENSURE THAT SILL DOES NOT INTERFERE WITH GUARDRAIL POST PLACEMENT.
 - ① APPROACH SLAB THICKNESS IS 12" (12" MONOLITHIC OR 10" SLAB + 2" WEARING COURSE). CHECK BRIDGE PLANS FOR CONCRETE WEARING COURSE, WHICH IS INCLUDED IN BRIDGE PLAN QUANTITIES.
 - ② PLACE PLASTIC SHEETING PER SPEC. 3756 AS APPROVED BY THE ENGINEER TO BREAK BOND. COVER AREA SHOWN IN DETAIL. (SHEETING IS INCLUDED IN THE APPROACH PANEL PAY ITEM).
 - ③ REQUIRED CONSTRUCTION JOINT.
 - ④ SEE STANDARD PLANS 5-297.222 & 5-297.224 FOR TYPE OF EXPANSION JOINT. DETAILS OF EXPANSION JOINT TYPE E8 ARE SHOWN ON STANDARD PLAN 5-297.229.
 - ⑤ IF THE APPROACH PANEL IS TIED TO THE BRIDGE ABUTMENT WITH REINFORCEMENT BARS, PLACE 12 MIL POLYETHYLENE SHEETING (OR 2 LAYERS OF 6 MIL) UNDER THE LIMITS OF THE APPROACH PANEL TO ALLOW THE PANEL TO MOVE LONGITUDINALLY ON THE GRADE. SHEETING IS INCLUDED IN THE APPROACH PANEL PAY ITEM.
 - ⑥ CURB TRANSITIONS FROM VERTICAL FACE AT END OF BARRIER TO 6" B CURB OVER 24" LENGTH.

DATE: 11/24/2020 TIME: 10:02:16 PM FILENAME: c:\tkda\proj\tech\wise\hfm\vangstad\dms01247\cd00261036_ap06.dgn

STANDARD PLAN SHEET NO. 5-297.227 (2 OF 2)
STANDARD APPROVED DECEMBER 20, 2011

MODIFIED: SHEET HAS BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

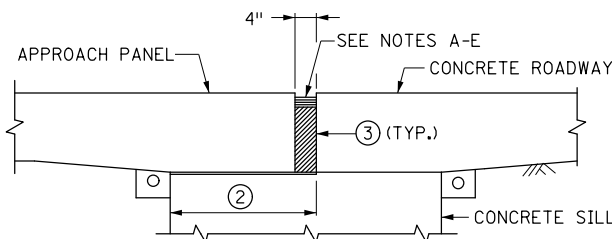
DES: DRH I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: DRH
 CHK: L.J.L. SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



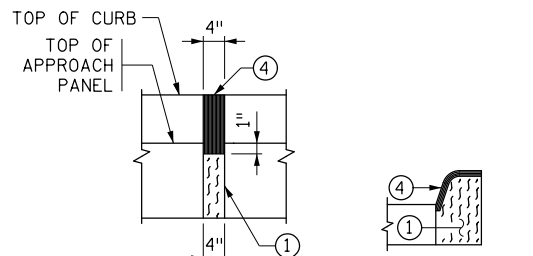
APPROACH PANEL MISCELLANEOUS DETAILS
STATE PROJ. NO. 002-611-036

APPROACH PANEL PLANS
SHEET NO. 72 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:02:53 PM
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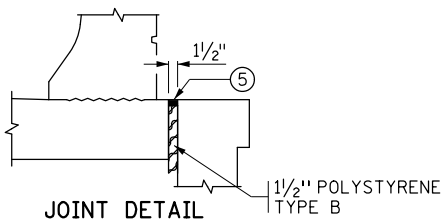


E8H JOINT DETAIL AT PAVEMENT

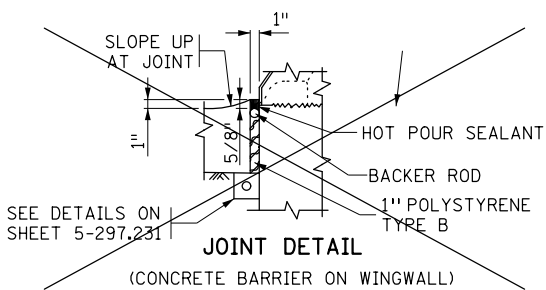


SECTION THRU CURB
E8H JOINT AT CURB

EXPANSION JOINTS



JOINT DETAIL
(CONCRETE BARRIER ON APPROACH PANEL)



SEE DETAILS ON SHEET 5-297.231
JOINT DETAIL
(CONCRETE BARRIER ON WINGWALL)

E8H PRESSURE RELIEF JOINT MATERIAL
INSTALLATION INSTRUCTIONS:

SEE MNDOT APPROVED/QUALIFIED PRODUCTS LIST.

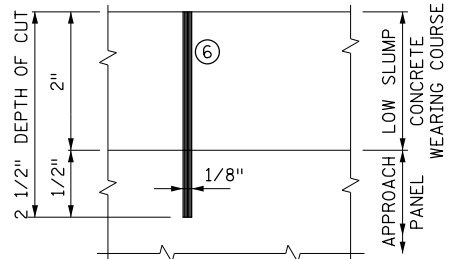
FURNISH AND INSTALL JOINT MATERIAL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE FOLLOWING:

- (A) EXPANSION JOINT FILLER MATERIALS USED FOR A 4 INCH PRESSURE RELIEF JOINT CONSISTS OF A PREFORMED FOAM PRODUCT HAVING MINIMUM DIMENSIONS OF 4.5 INCHES IN WIDTH (MAY BE LAMINATED) AND 8 INCHES IN DEPTH, AND A MINIMUM LENGTH OF 10 FEET. WHEN THE CONCRETE DEPTH IS GREATER THAN THE DEPTH OF THE PRESSURE RELIEF MATERIAL, FILL THE VOID BELOW THE MATERIAL WITH POLYSTYRENE. FURNISH AND INSTALL THE JOINT MATERIAL UNDER COMPRESSION WITH A LUBRICANT ADHESIVE APPLIED TO THE CONCRETE CONTACT SURFACES.
- (B) SAW OR FORM THE JOINTS 4 INCHES WIDE BY THE FULL-DEPTH OF THE PANEL. INSPECT TO ASSURE THAT THE INSIDE WALLS OF THE JOINT HAVE BEEN SANDBLASTED, ARE DRY, SMOOTH AND FREE OF DEBRIS AND LOOSE PARTICLES. APPLY TAPE TO THE TOP 1 INCH OF THE INSIDE WALLS TO PREVENT THE LUBRICANT ADHESIVE FROM CONTAMINATING THE CONCRETE BONDING SURFACES OF THE SUBSEQUENTLY PLACED HOT POUR JOINT SEALER.
- (C) PAINT THE INSIDE WALLS OF THE JOINT WITH LUBRICANT ADHESIVE AT THE RATE OF 1 GALLON PER 50 LINEAL FEET OF JOINT.
- (D) PINCH THE BOTTOM OF THE MATERIAL TOGETHER AND PUSH IT DOWN INTO THE JOINT. WALK THE MATERIAL DOWN INTO THE JOINT; USE A SLEDGEHAMMER AND A 2 X 4 IF NECESSARY. APPLY LUBRICANT ADHESIVE TO THE ENDS OF THE PREFORMED FOAM MATERIAL WHEN BUTTING TWO PIECES TOGETHER.
- (E) FURNISH AND INSTALL THE FOAM RELIEF JOINT MATERIAL TO A DEPTH OF APPROXIMATELY 7/8 INCH BELOW THE FINISHED CONCRETE SURFACE. AFTER INSTALLATION, REMOVE THE TAPE AND FILL THE VOID ON TOP OF THE FOAM MATERIAL WITH APPROXIMATELY 1/2 INCH OF HOT POUR JOINT SEALER (MNDOT 3723 OR 3725) TO A LEVEL OF 3/8 INCH +/- 1/4 INCH BELOW THE FINISHED CONCRETE SURFACE. THE HOT POUR JOINT SEALER SHOULD ONLY SLIGHTLY MELT INTO THE FOAM JOINT MATERIAL (TO PREVENT EXCESSIVE MELTING OF THE JOINT MATERIAL, PLACE THE HOT POUR SEALER AT THE LOWER END OF THE TEMPERATURE SPECIFICATION). CHECK FOR CORRECT TEMPERATURE BY PLACING HOT POUR SEALER ON A SAMPLE OF WASTE FOAM MATERIAL.

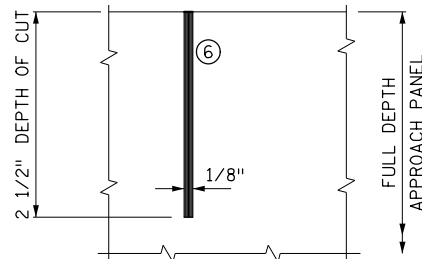
EXPANSION JOINT NOTES:

- ① PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.
- ② PLACE PLASTIC SHEETING SPEC. 3756 AS APPROVED BY THE ENGINEER TO BREAK BOND. COVER AREA SHOWN IN DETAIL. SEE SILL DETAILS ON STANDARD PLAN 5-297.227.
- ③ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING PRIOR TO SEALING THE JOINT.
- ④ HOT POUR JOINT SEALER SPEC. 3725. TOP OF SEALER FLUSH TO 1/8 INCH BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E8H JOINTS FLUSH WITH SURFACE (+ 1/8 INCH OR - 1/8 INCH).
- ⑤ SEAL WITH SELF-LEVELING SILICONE PER MNDOT 3722.

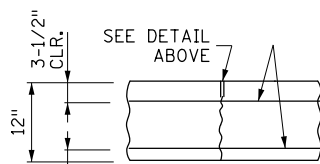
JOINT DETAILS



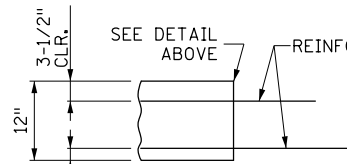
C2H & L1TH WITH
CONCRETE WEARING COURSE ⑥
(SAWED & SEALED PER SPEC. 3725)



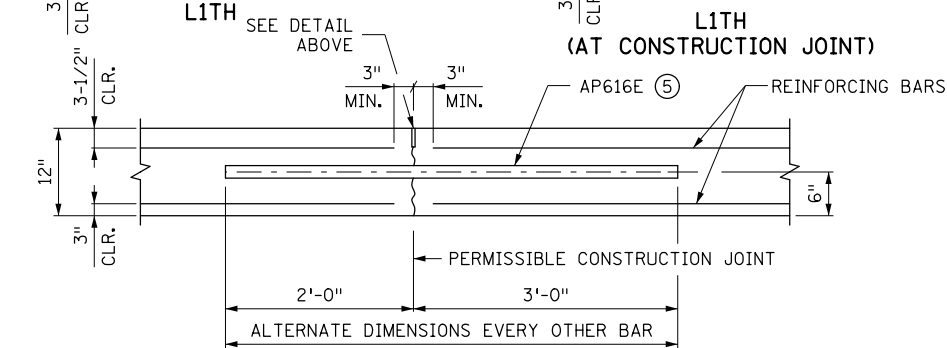
C2H & L1TH WITHOUT
CONCRETE WEARING COURSE ⑥
(SAWED & SEALED PER SPEC. 3725)



L1TH



L1TH
(AT CONSTRUCTION JOINT)



SECTION AT C2H-D JOINT ⑤

JOINT NOTES:

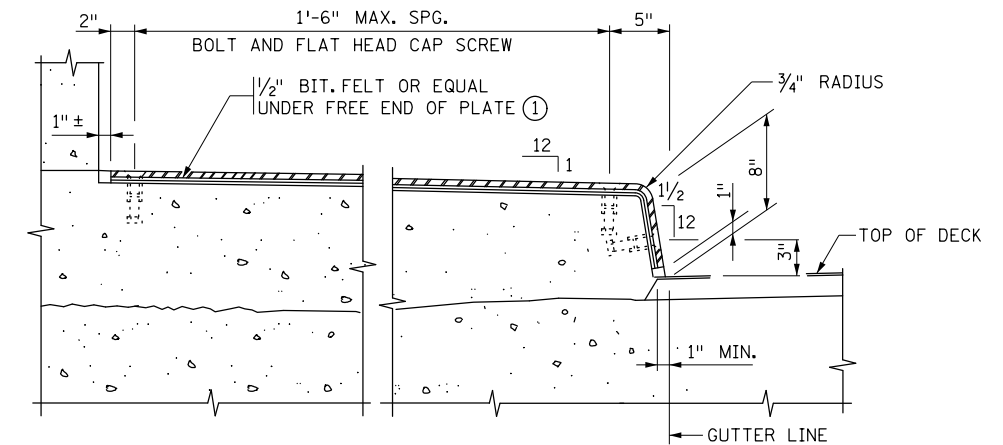
- ⑤ PERMISSIBLE CONSTRUCTION JOINT. AP616E BARS AT 12-INCH SPACING AT MID DEPTH OF SLAB, PARALLEL TO THE CENTERLINE OF THE ROADWAY. AP616E BARS ARE 5'-0" LONG. PLACE THE BAR WITH 2'-0" ON ONE SIDE OF THE JOINT AND 3'-0" ON THE OPPOSITE SIDE OF THE JOINT. ALTERNATE THE 2'-0" AND 3'-0" DIMENSION AS SHOWN ON THE PLAN.
- ⑥ CLEAN AND DRY FULLY CURED JOINT FACES BY SANDBLASTING PRIOR TO SEALING THE JOINT.
- ⑦ WHEN CONSTRUCTING A L1TH JOINT UNDER STAGED CONSTRUCTION, EXTEND NO. 4 BARS 1'-8" AND NO. 5 BARS 2'-1" PAST THE EDGE OF THE FIRST CONCRETE POUR. CONSTRUCT L1TH JOINT ACCORDING TO DETAIL SHOWN AFTER ADJACENT POUR IS COMPLETE.

SIDEWALK COVER PLATE

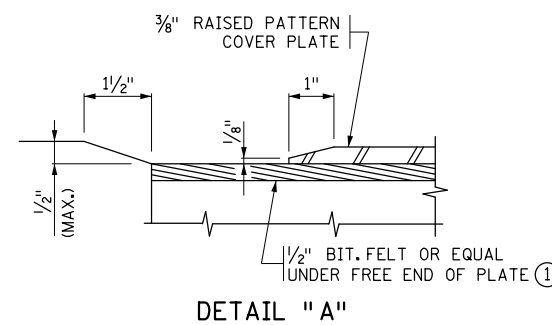
GENERAL NOTES:

- GALVANIZE STRUCTURAL STEEL AFTER FABRICATION PER Mn/DOT SPEC. 3394
- GALVANIZE FASTENERS PER Mn/DOT SPEC.3392.
- STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.
- SHOP DRAWING SUBMITTALS REQUIRED PER Mn/DOT SPEC. 2471.
- CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE.
- FURNISHING AND INSTALLING SIDEWALK COVER PLATE IS INCIDENTAL.

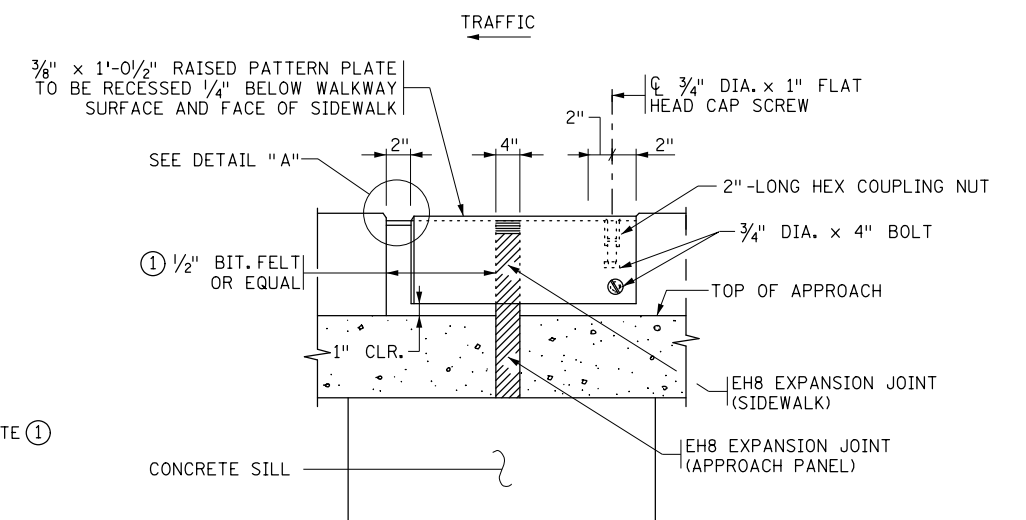
- ① USE LARGEST SINGLE PIECE POSSIBLE. USE OF SMALL PIECES OR SCRAPS SECURED TOGETHER IS PROHIBITED.



SECTION THROUGH SIDEWALK



DETAIL "A"



SIDEWALK ELEVATION

STANDARD PLAN SHEET NO.
5-297.229
STANDARD APPROVED:
DECEMBER 20, 2011

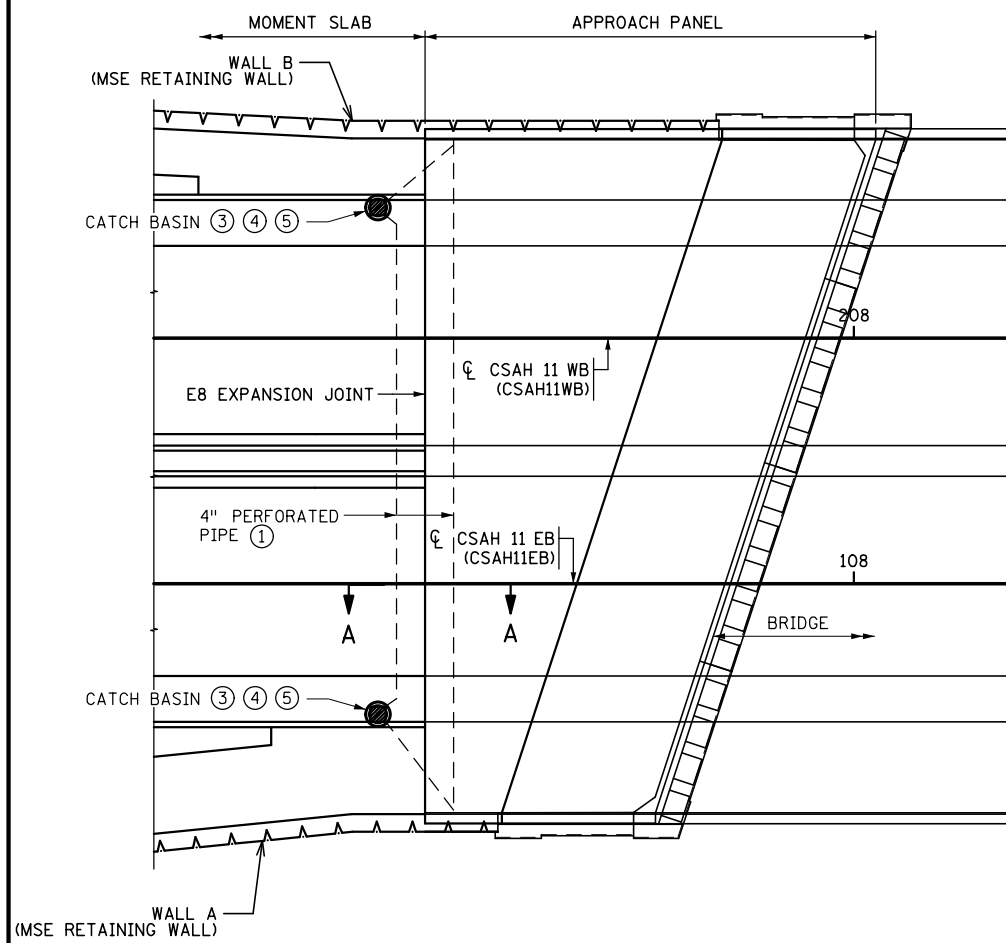
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: DRH
 DRW: DRH
 CHK: L.J.L.
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE

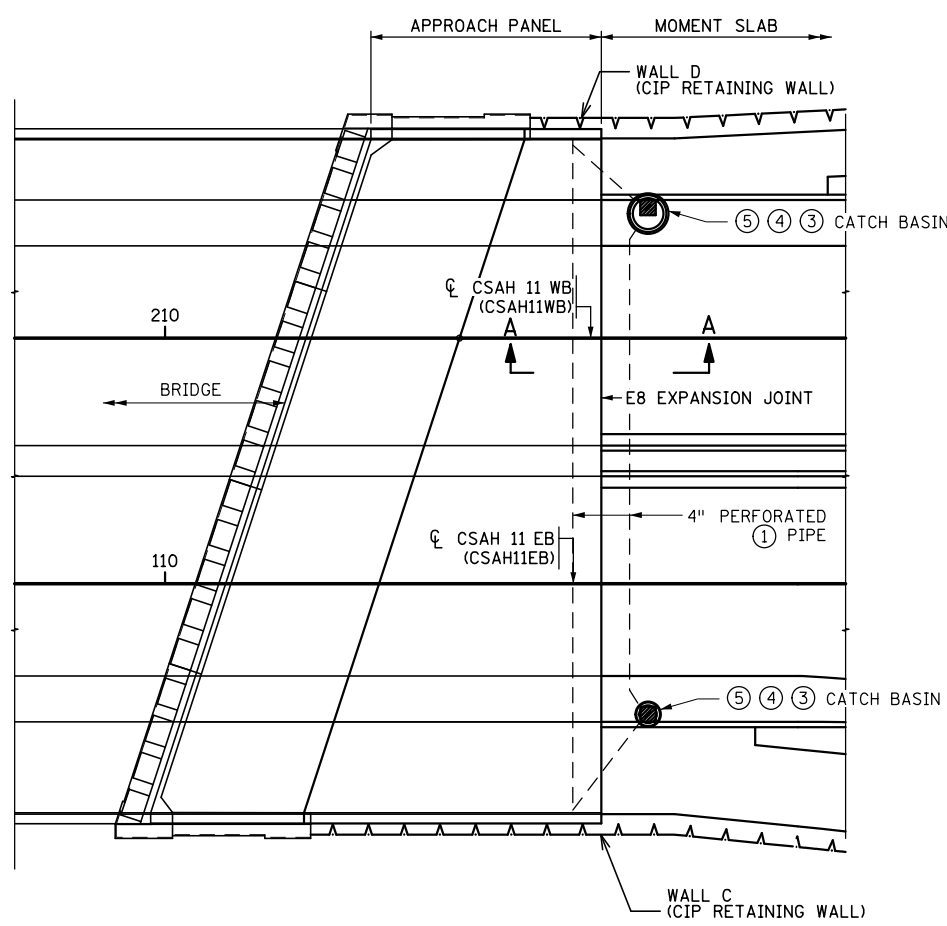


APPROACH PANEL JOINT DETAILS
 STATE PROJ. NO. 002-611-036
 APPROACH PANEL PLANS
 SHEET NO. 73 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:03:32 PM
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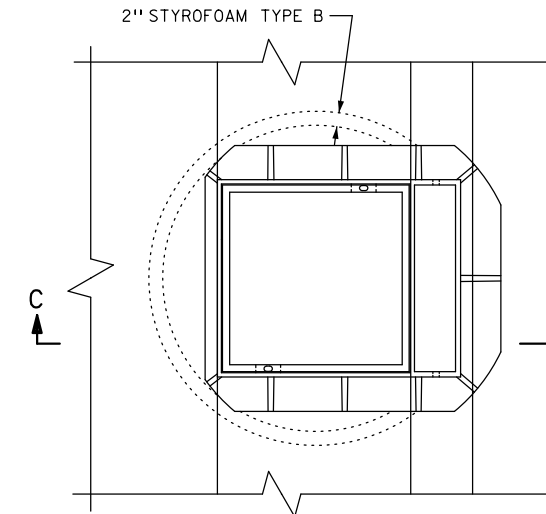
WEST APPROACH PANEL DRAINAGE DETAILS



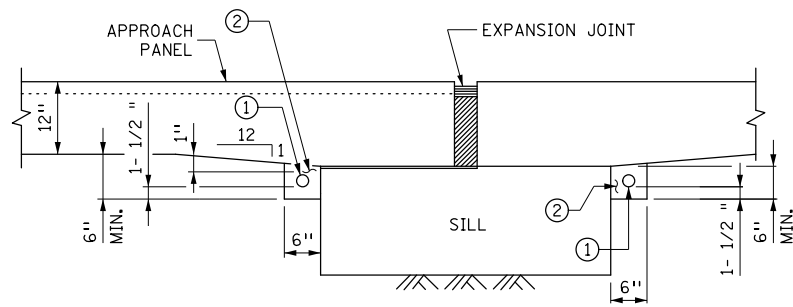
EAST APPROACH PANEL DRAINAGE DETAILS

NOTES:

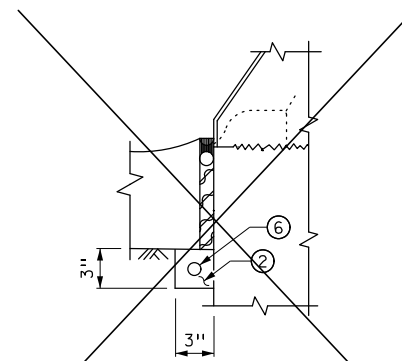
- ① 4-INCH NOMINAL DIAMETER THERMOPLASTIC PIPE, AS PER ASTM D1785M, SCHEDULE 40. SLOPE PIPE TO DITCH. WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER SPEC. 3733. 1/8 INCH PER 12 INCH MINIMUM SLOPE. FURNISHING AND INSTALLING THE DRAIN SYSTEM IS INCIDENTAL.
- ② BACKFILL WITH FINE AGGREGATE (MNDOT 3149) MODIFIED TO 0-3% PASSING A NO. 200 SIEVE (INCIDENTAL).
- ③ SEE ROADWAY PLAN FOR ADDITIONAL CATCH BASIN DETAILS.
- ④ LOCATE BETWEEN GUARDRAIL POST OR AS DETERMINED BY THE DESIGNER.
- ⑤ REFER TO THE DRAINAGE PLAN TO DETERMINE WHETHER A FLUME OR A CATCH BASIN REQUIRED.
- ⑥ 2-INCH NOMINAL DIAMETER THERMOPLASTIC PIPE, AS PER ASTM D1785M, SCHEDULE 40. SLOPE PIPE TO DITCH. WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER SPEC. 3733. 1/8 INCH PER 12 INCH MINIMUM SLOPE. FURNISHING AND INSTALLING THE DRAIN SYSTEM IS INCIDENTAL.
- ⑦ SEE GRADING PLANS FOR PAVEMENT AND SHOULDER WIDTHS AND CONFIGURATION.



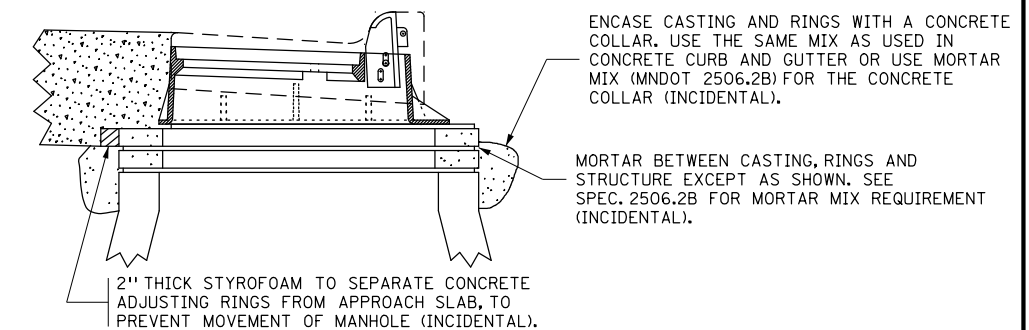
**PLAN VIEW OF C.B. CASTING
(GRATE NOT SHOWN)**



**SECTION A-A
DRAINAGE AT EXPANSION JOINT DETAIL**



**SECTION F-F
DRAINAGE AT PANEL EDGE OF JOINT**



SECTION C-C

STANDARD PLAN SHEET NO.
5-297-231 (1 OF 2)
 STANDARD APPROVED
 MARCH 23, 2011

MODIFIED: SHEET HAS BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.

DES: DRH I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: DRH
 CHK: L.J.L. SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



APPROACH PANEL DRAINAGE DETAILS

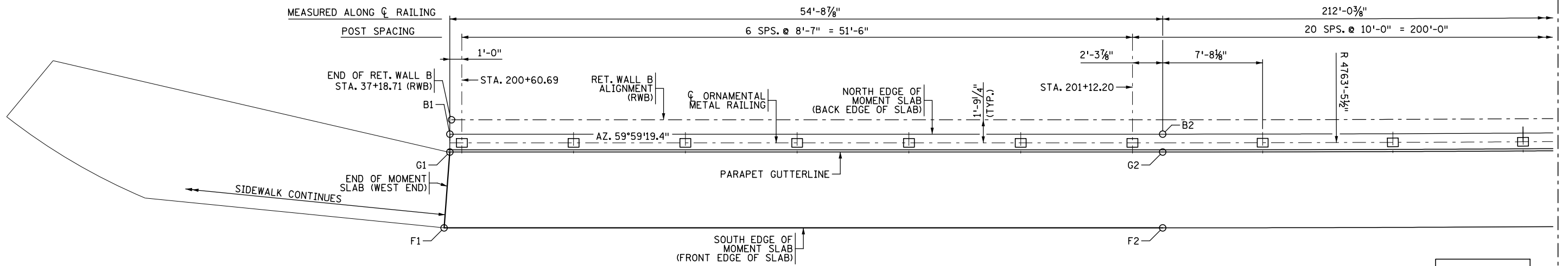
APPROACH PANEL PLANS

STATE PROJ. NO. 002-611-036

SHEET NO. 74 OF 416 SHEETS

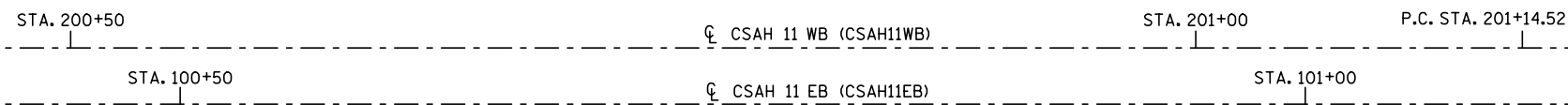
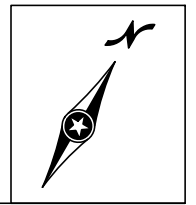
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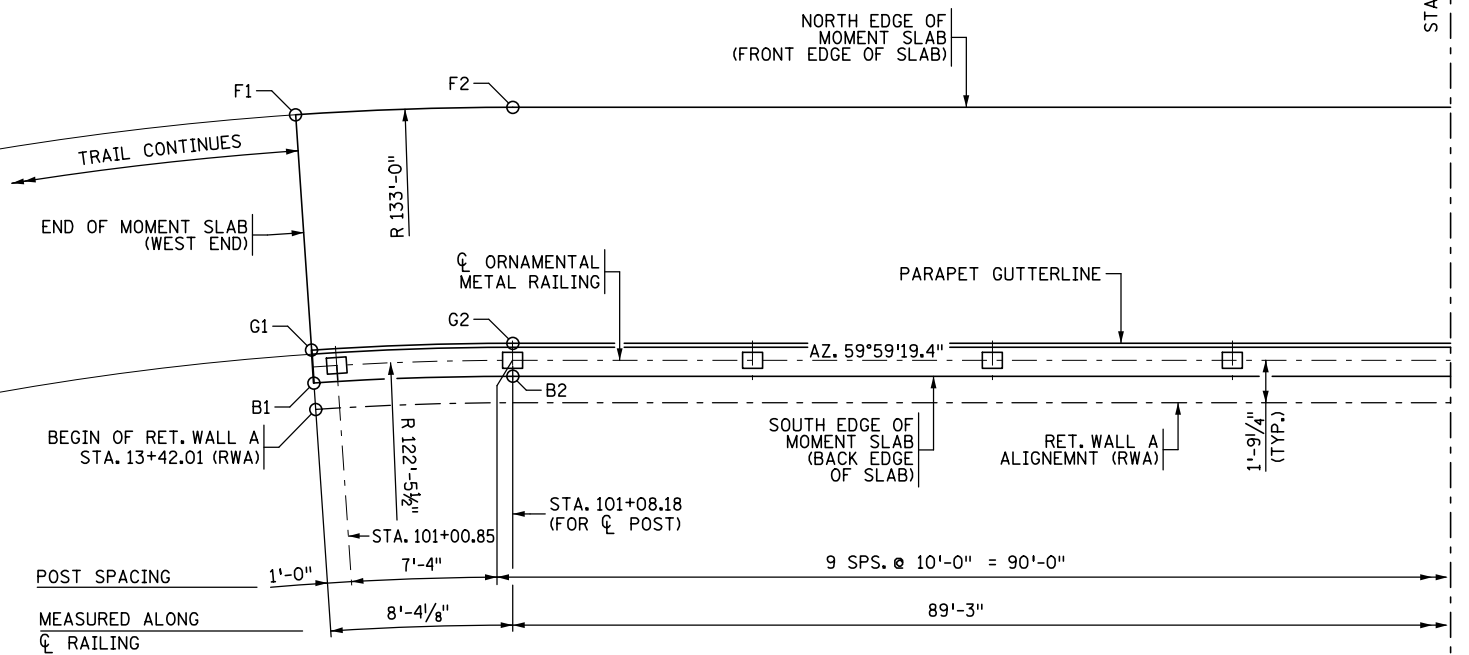
MOMENT SLAB B ON RETAINING WALL B (RWB)								
FRONT EDGE OF SLAB			PARAPET GUTTERLINE			BACK EDGE OF SLAB		
POINT	X	Y	POINT	X	Y	POINT	X	Y
F1	493,630.59	138,313.74	G1	493,628.05	138,319.01	B1	493,627.36	138,320.20
F2	493,678.37	138,341.34	G2	493,627.92	138,318.93	B2	493,674.77	138,347.58

MOMENT SLAB B AND RAILING PLAN - RETAINING WALL B



MOMENT SLAB A ON RETAINING WALL A (RWA)								
FRONT EDGE OF SLAB			PARAPET GUTTERLINE			BACK EDGE OF SLAB		
POINT	X	Y	POINT	X	Y	POINT	X	Y
F1	493,717.44	138,252.69	G1	493,722.93	138,244.53	B1	493,723.70	138,243.38
F2	493,725.13	138,257.48	G2	493,730.05	138,248.97	B2	493,730.74	138,247.78

MOMENT SLAB A AND RAILING PLAN - RETAINING WALL A



STA. 101+40.00 (CSAH11EB) STA. 201+44.60 (CSAH11WB) MATCHLINE "A"

NO.	DATE	BY	DESCRIPTION OF REVISIONS

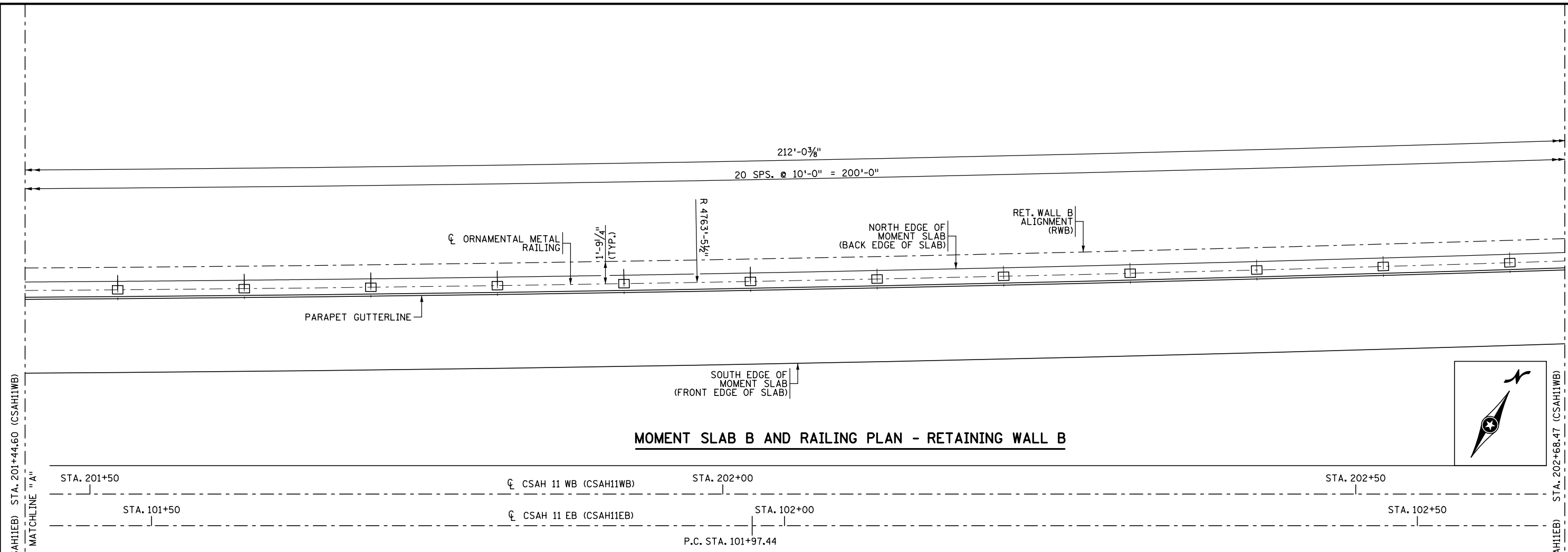
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 DRW: ADL
 CHK: HAP
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



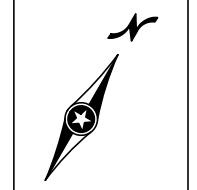
MOMENT SLAB AND RAILING PLAN
 (1 OF 7)
 STATE PROJ. NO. 002-611-036

MISCELLANEOUS DETAILS
 SHEET NO. 75 OF 416 SHEETS

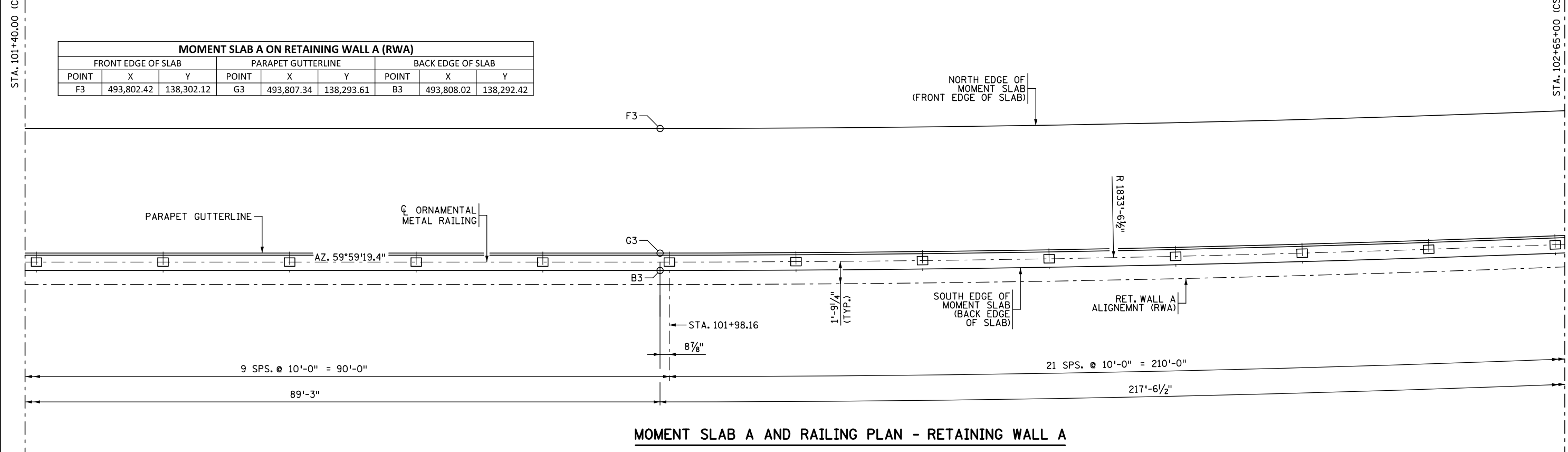
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MOMENT SLAB B AND RAILING PLAN - RETAINING WALL B



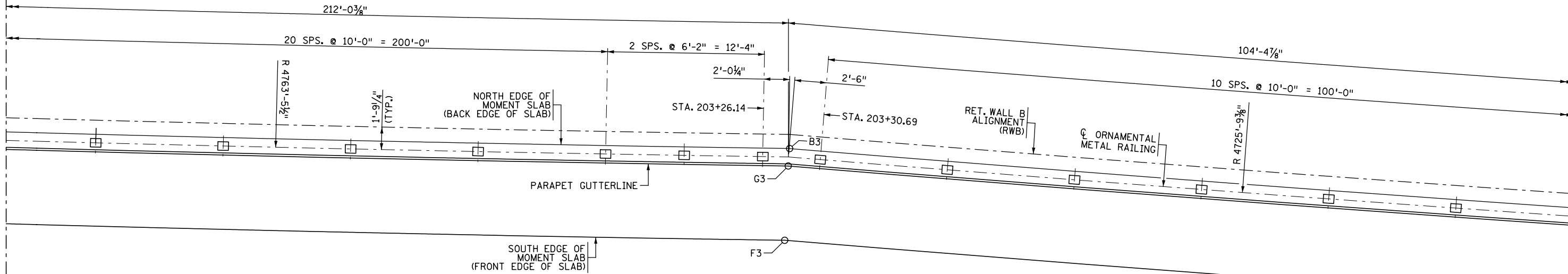
MOMENT SLAB A ON RETAINING WALL A (RWA)								
FRONT EDGE OF SLAB			PARAPET GUTTERLINE			BACK EDGE OF SLAB		
POINT	X	Y	POINT	X	Y	POINT	X	Y
F3	493,802.42	138,302.12	G3	493,807.34	138,293.61	B3	493,808.02	138,292.42



MOMENT SLAB A AND RAILING PLAN - RETAINING WALL A

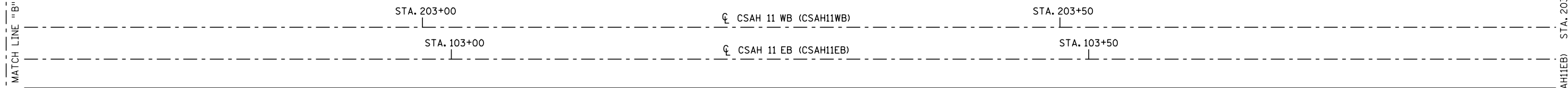
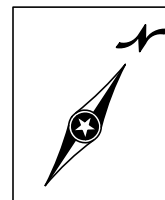
			DES: ADL	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020 LINDSEY J. LAWRENCE		MOMENT SLAB AND RAILING PLAN (2 OF 7)	MISCELLANEOUS DETAILS
			DRW: ADL			STATE PROJ. NO. 002-611-036	SHEET NO. 76 OF 416 SHEETS
			CHK: HAP				
NO.	DATE	BY	DESCRIPTION OF REVISIONS				

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MOMENT SLAB B ON RETAINING WALL B (RWB)								
FRONT EDGE OF SLAB			PARAPET GUTTERLINE			BACK EDGE OF SLAB		
POINT	X	Y	POINT	X	Y	POINT	X	Y
F3	493,859.63	138,451.48	G3	493,856.66	138,456.50	B3	493,855.99	138,457.71

MOMENT SLAB B AND RAILING PLAN - RETAINING WALL B



MOMENT SLAB A AND RAILING PLAN - RETAINING WALL A

NO.	DATE	BY	DESCRIPTION OF REVISIONS

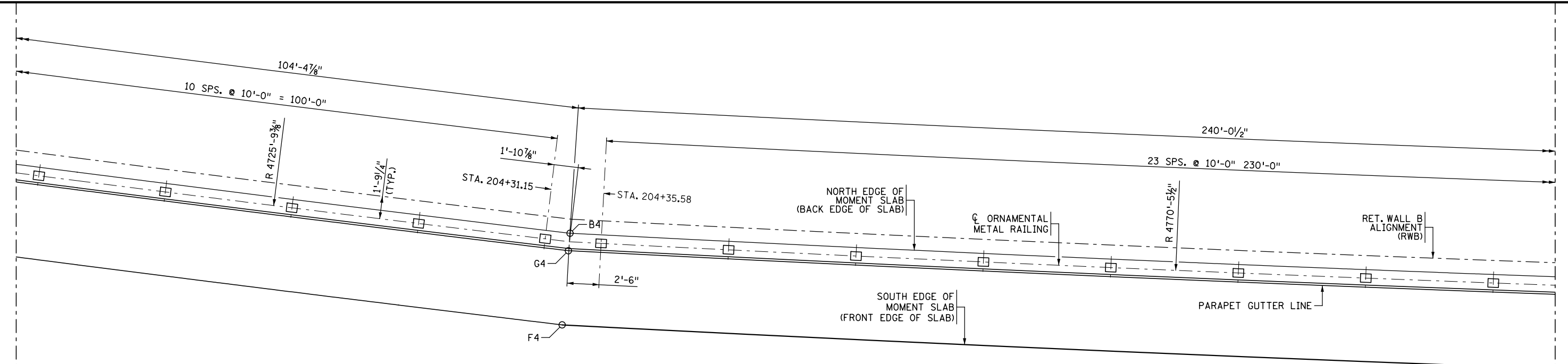
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 DRW: ADL
 CHK: HAP SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



MOMENT SLAB & RAILING PLAN
 (3 OF 7)
 STATE PROJ. NO. 002-611-036

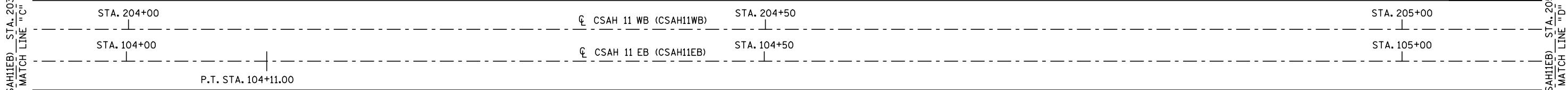
MISCELLANEOUS DETAILS
 SHEET NO. 77 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:05:40 PM
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MOMENT SLAB B ON RETAINING WALL B (RWB)								
FRONT EDGE OF SLAB			PARAPET GUTTERLINE			BACK EDGE OF SLAB		
POINT	X	Y	POINT	X	Y	POINT	X	Y
F4	493,950.75	138,502.71	G4	493,947.66	138,507.66	B4	493,946.94	138,508.83

MOMENT SLAB B AND RAILING PLAN - RETAINING WALL B



MOMENT SLAB A ON RETAINING WALL A (RWA)								
FRONT EDGE OF SLAB			PARAPET GUTTERLINE			BACK EDGE OF SLAB		
POINT	X	Y	POINT	X	Y	POINT	X	Y
F4	493,982.86	138,421.15	G4	493,988.75	138,413.28	B4	493,989.57	138,412.17

MOMENT SLAB A AND RAILING PLAN - RETAINING WALL A

NO.	DATE	BY	DESCRIPTION OF REVISIONS

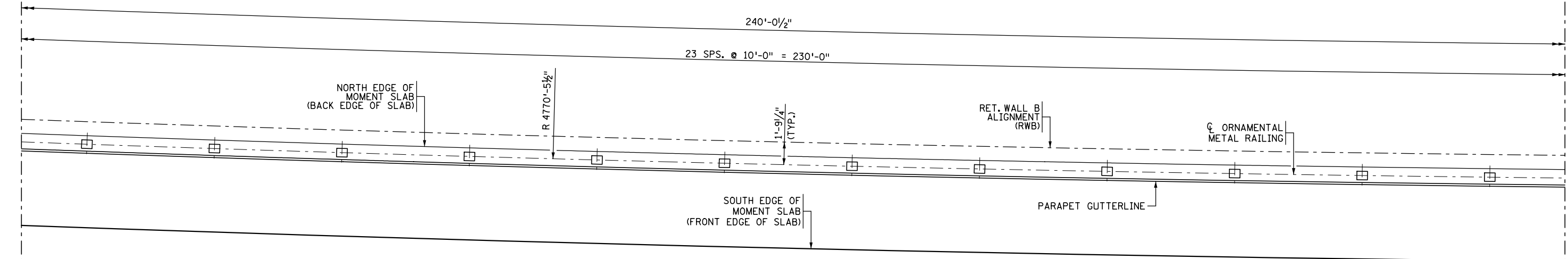
DES: ADL I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: ADL
 CHK: HAP SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



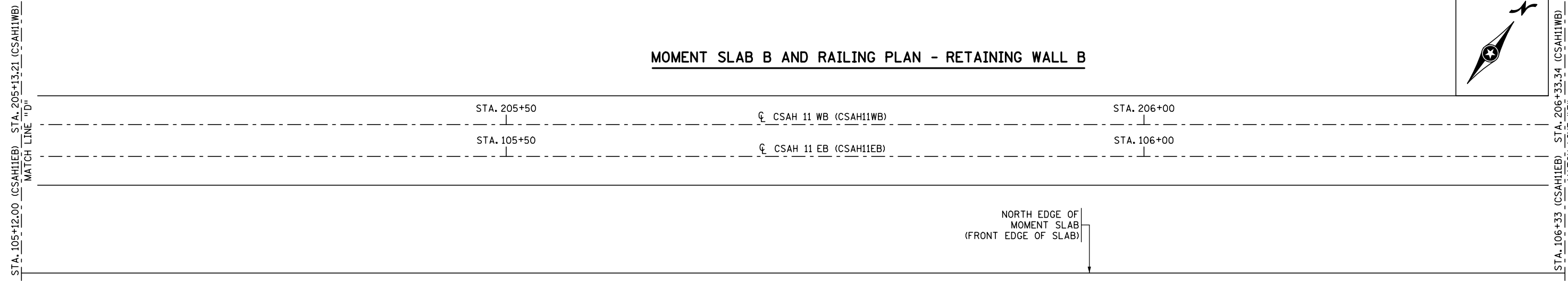
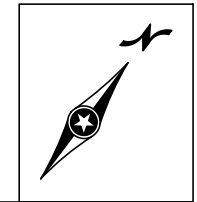
MOMENT SLAB AND RAILING PLAN
 (4 OF 7)
 STATE PROJ. NO. 002-611-036

MISCELLANEOUS DETAILS
 SHEET NO. 78 OF 416 SHEETS


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MOMENT SLAB B AND RAILING PLAN - RETAINING WALL B

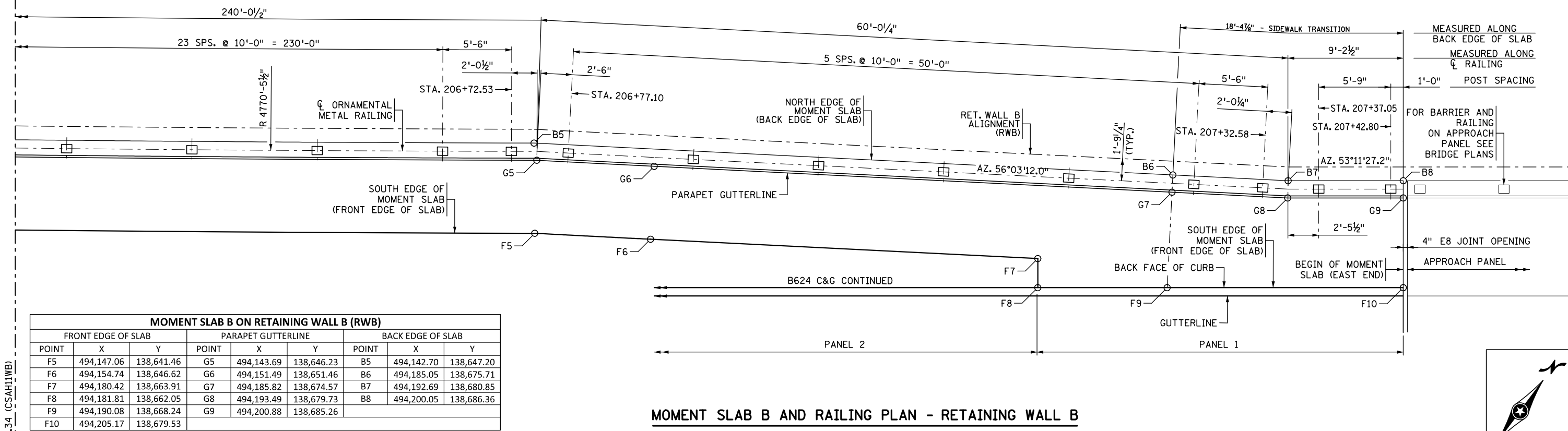


MOMENT SLAB A AND RAILING PLAN - RETAINING WALL A

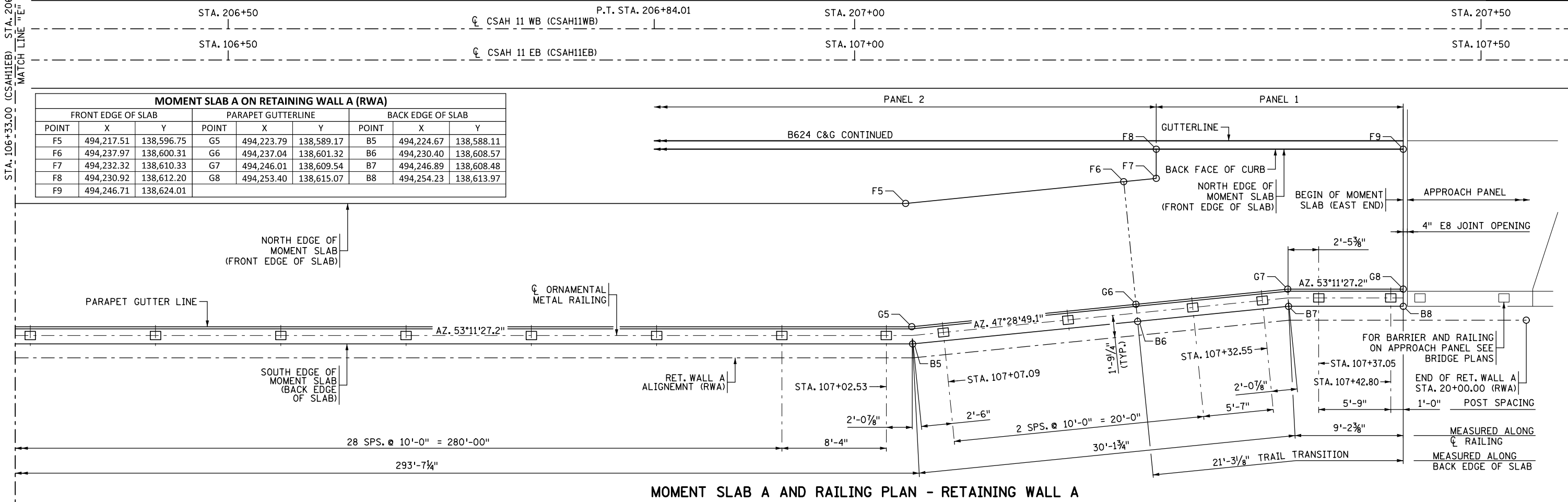
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				DRW: ADL			STATE PROJ. NO. 002-611-036		SHEET NO. 79 OF 416 SHEETS		
				CHK: HAP							
NO.	DATE	BY	DESCRIPTION OF REVISIONS								

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STA. 106+33.00 (CSAH11EB) STA. 206+33.34 (CSAH11WB)
 MATCH LINE "E" MATCH LINE "W"



MOMENT SLAB B AND RAILING PLAN - RETAINING WALL B



MOMENT SLAB A AND RAILING PLAN - RETAINING WALL A

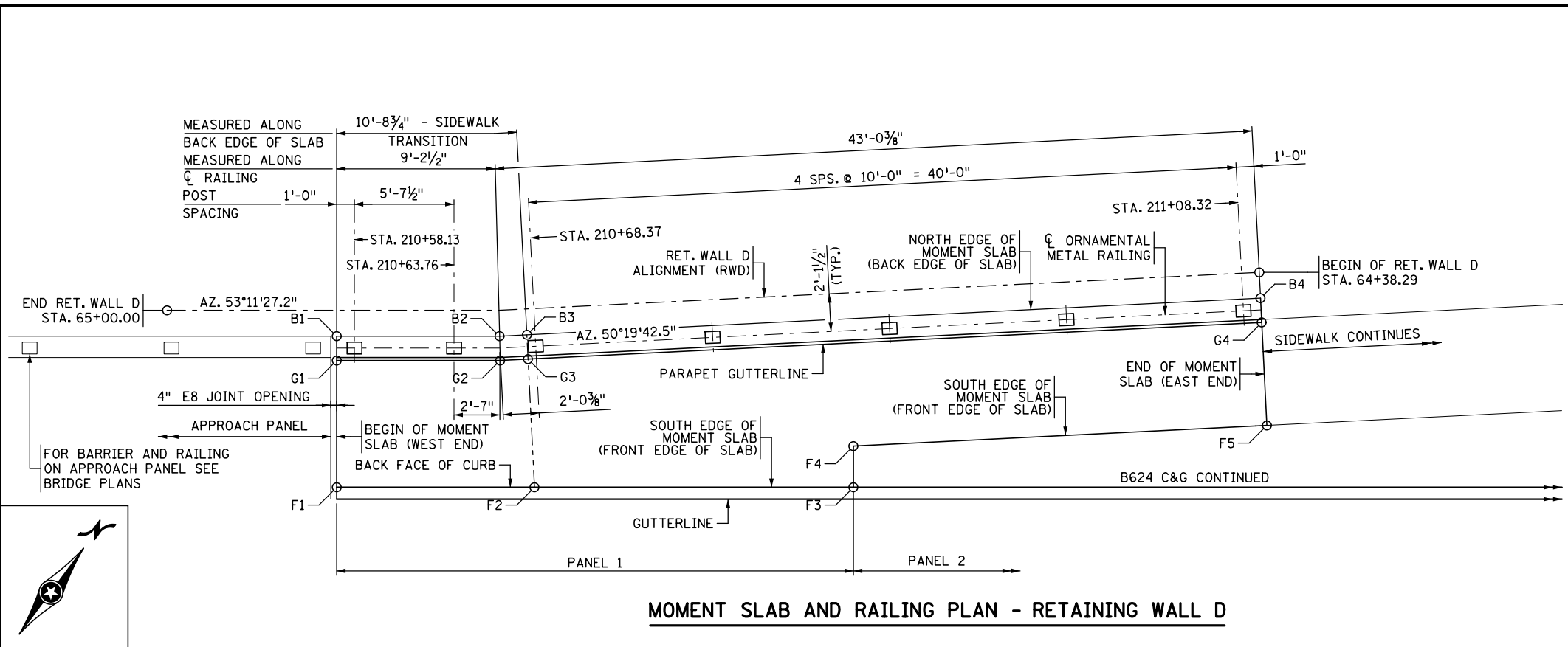
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: ADL I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: ADL
 CHK: HAP SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE

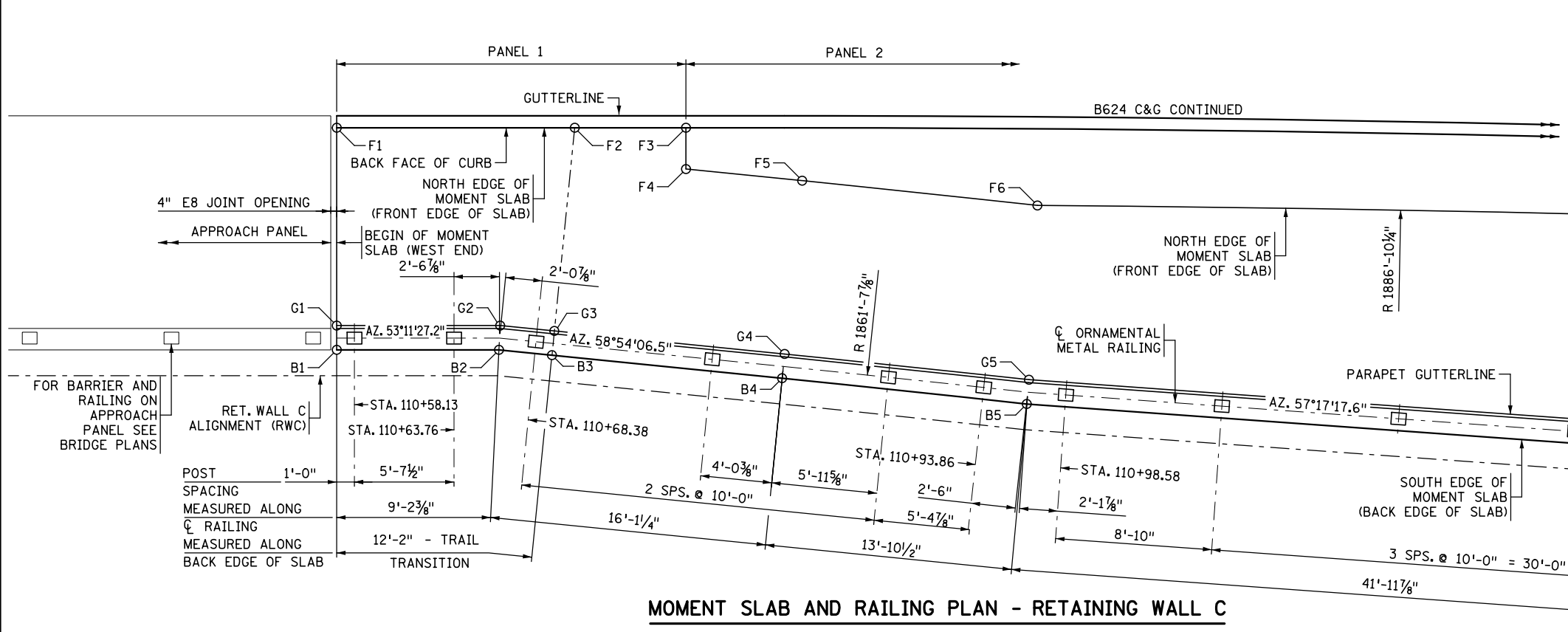
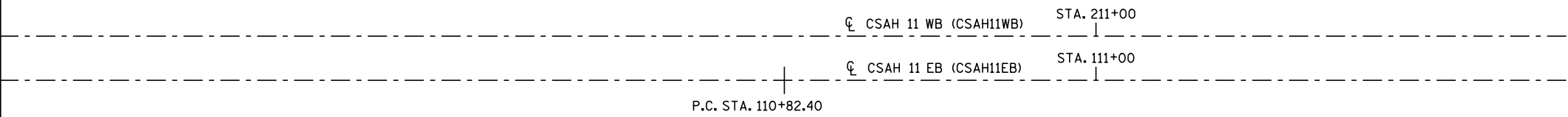


MOMENT SLAB AND RAILING PLAN (6 OF 7)
 STATE PROJ. NO. 002-611-036

MISCELLANEOUS DETAILS
 SHEET NO. 80 OF 416 SHEETS



MOMENT SLAB D ON RETAINING WALL D (RWD)								
FRONT EDGE OF SLAB			PARAPET GUTTERLINE		BACK EDGE OF SLAB			
POINT	X	Y	POINT	X	Y	POINT	X	Y
F1	494,456.03	138,867.26	G1	494,451.74	138,873.00	B1	494,450.92	138,874.10
F2	494,464.97	138,873.95	G2	494,459.13	138,878.52	B2	494,458.28	138,879.60
F3	494,479.39	138,884.74	G3	494,460.34	138,879.53	B3	494,459.46	138,880.59
F3	494,477.99	138,886.60	G4	494,492.27	138,906.01	B4	494,491.39	138,907.07
F4	494,495.98	138,901.52						



MOMENT SLAB C ON RETAINING WALL C (RWC)								
FRONT EDGE OF SLAB			PARAPET GUTTERLINE		BACK EDGE OF SLAB			
POINT	X	Y	POINT	X	Y	POINT	X	Y
F1	494,497.58	138,811.74	G1	494,504.27	138,802.81	B1	494,505.09	138,801.71
F2	494,508.34	138,819.80	G2	494,511.66	138,808.34	B2	494,512.43	138,807.19
F3	494,513.37	138,823.56	G3	494,514.29	138,809.93	B3	494,515.00	138,808.75
F4	494,514.76	138,821.69	G4	494,525.47	138,816.67	B4	494,526.18	138,815.49
F5	494,520.41	138,825.10	G5	494,537.39	138,823.77	B5	494,538.11	138,822.60
F6	494,531.88	138,831.94	G6	494,572.71	138,846.46	B6	494,573.45	138,845.30
F7	494,566.18	138,856.62						

DATE: 11/24/2020 TIME: 10:06:21 PM FILENAME: c:\tkda\proj\tech\wise\hmv\vangstad\dms01247\cd00261036.ms07.dgn

NO.	DATE	BY	DESCRIPTION OF REVISIONS

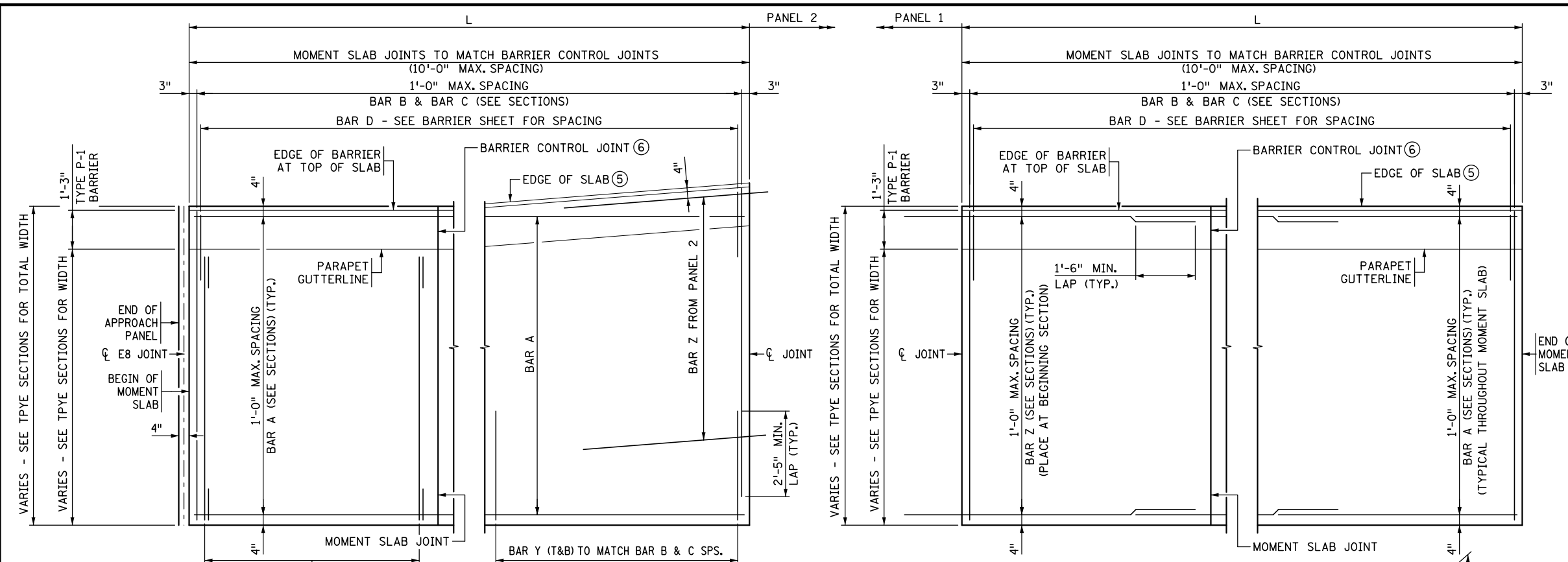
DES: ADL I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: ADL
 CHK: HAP SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



MOMENT SLAB AND RAILING PLAN (7 OF 7)
 STATE PROJ. NO. 002-611-036

MISCELLANEOUS DETAILS
 SHEET NO. 81 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:06:29 PM FILENAME: c:\tkda\proj\tech\wise\hmv\angstad\dms01247\cd00261036.ms08.dgn



MOMENT SLAB A @ RETAINING WALL A (RWA)						
PANEL ID	SECTION TYPE	START STA.	END STA.	START ELEV.	END ELEV.	LENGTH, L
1	A-T	19+90.18	19+70.66	912.49	911.92	19'-9 1/4"
2	B-T	19+70.66	19+69.03	911.92	911.87	628'-4"
	B-R	19+69.03	13+42.01	911.87	883.85	

MOMENT SLAB B @ RETAINING WALL B (RWB)						
PANEL ID	SECTION TYPE	START STA.	END STA.	START ELEV.	END ELEV.	LENGTH, L
1	C-T	30+38.60	30+56.95	912.46	911.87	29'-2 3/8"
	C-R	30+56.95	30+67.67	911.87	911.48	
2	D-R	30+67.67	37+18.71	911.48	882.37	651'-1 3/4"

MOMENT SLAB C @ RETAINING WALL C (RWC)						
PANEL ID	SECTION TYPE	START STA.	END STA.	START ELEV.	END ELEV.	LENGTH, L
1	A-T	50+38.17	50+50.19	909.90	909.28	19'-9 1/4"
	A-R	50+50.19	50+56.66	909.28	908.97	
2	B-R	50+56.66	51+19.18	908.97	905.95	61'-4 1/8"

MOMENT SLAB D @ RETAINING WALL D (RWD)						
PANEL ID	SECTION TYPE	START STA.	END STA.	START ELEV.	END ELEV.	LENGTH, L
1	C-T	64+90.42	64+79.76	909.86	909.28	29'-2 3/8"
	C-R	64+79.76	64+61.37	909.28	908.41	
2	D-R	64+61.37	64+38.29	908.41	907.32	23'-0 1/8"

- STATIONS ARE TAKEN FROM CORRESPONDING RETAINING WALL ALIGNMENTS (RW_)

- STATIONS TAKEN AT PARAPET GUTTERLINE

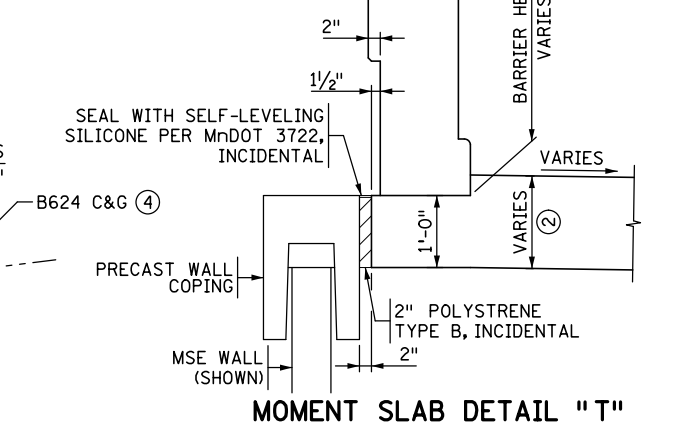
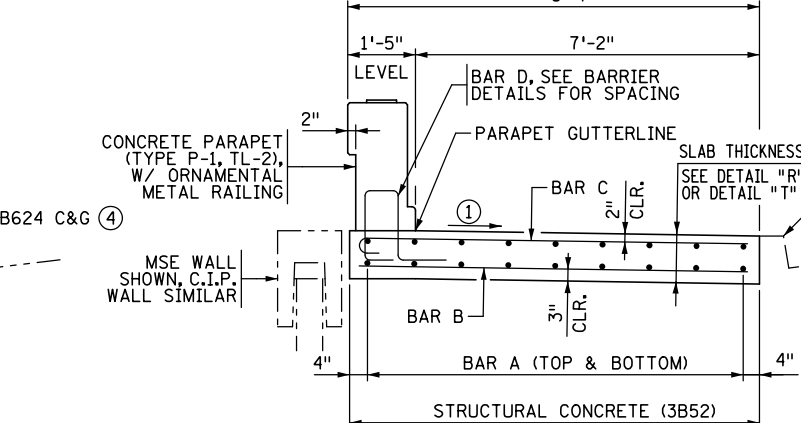
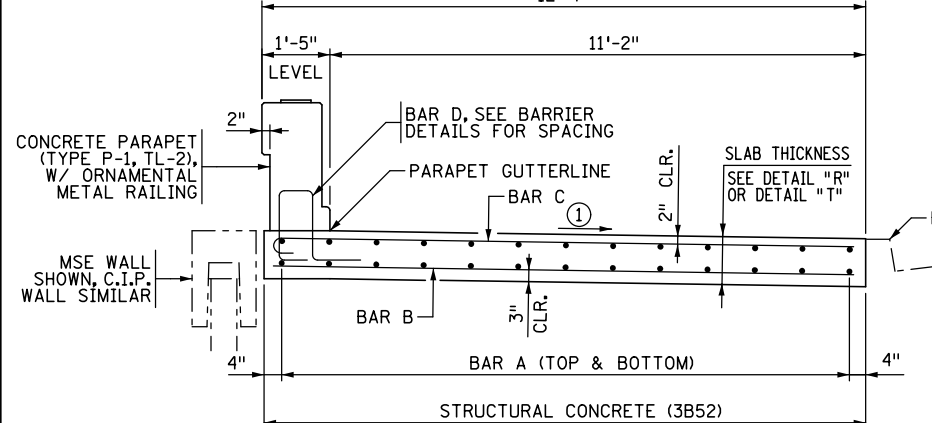
- START STA. FOR PANEL ID 1 IS TAKEN AT BEGIN OF MOMENT SLAB

- ELEVATIONS ARE AT TOP OF SLAB AT PARAPET GUTTERLINE

- LENGTH "L" IS MEASURED ALONG EDGE OF MOMENT SLAB THAT IS NOTED IN PLAN VIEWS

MOMENT SLAB PANEL 1 PLAN

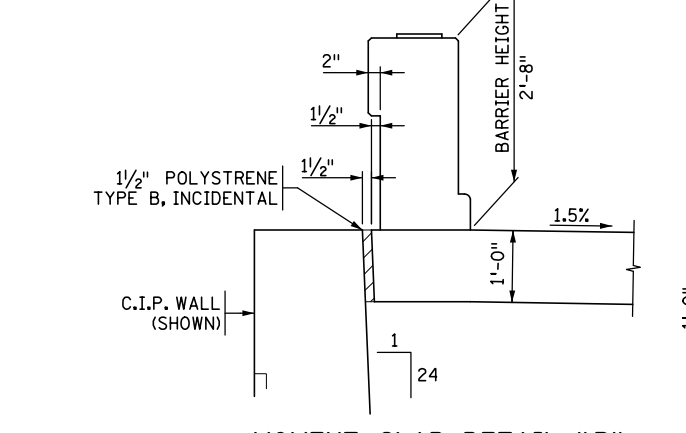
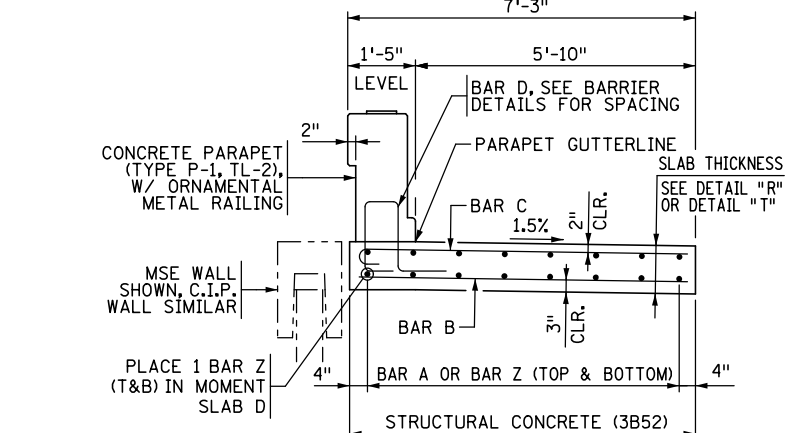
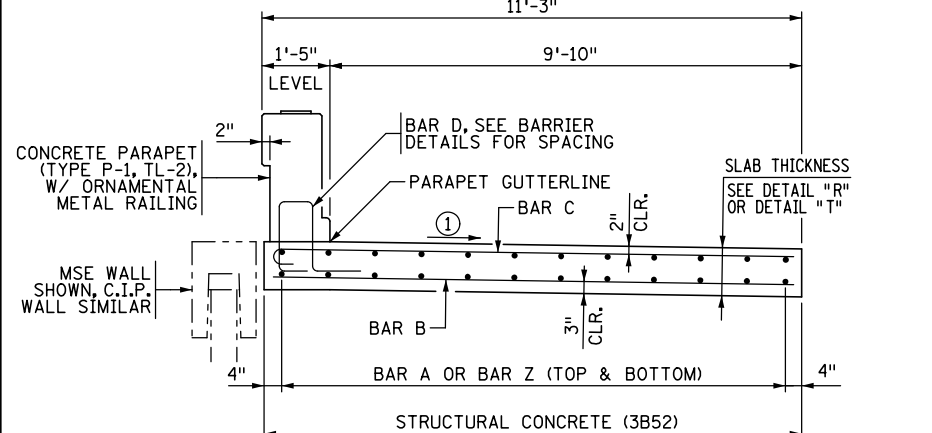
MOMENT SLAB PANEL 2 PLAN



MOMENT SLAB TYPE A SECTION

MOMENT SLAB TYPE C SECTION

MOMENT SLAB DETAIL "T"
(TRANSITION SLAB THICKNESS)



MOMENT SLAB TYP B SECTION

MOMENT SLAB TYPE D SECTION

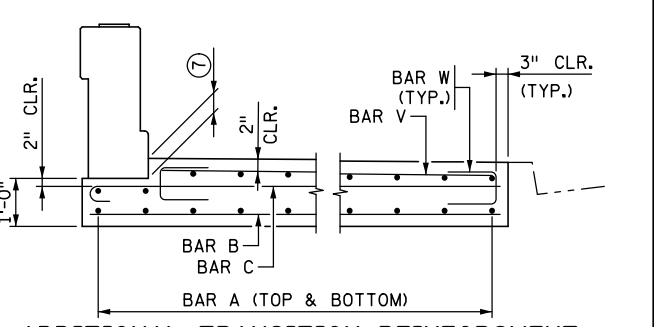
MOMENT SLAB DETAIL "R"
(REGULAR SLAB THICKNESS)

LEGEND:

A-T
DEPTH TYPE, TRANSITION "T"
OR REGULAR "R"

SECTION TYPE

- NOTES:**
- SEE MOMENT SLAB DETAIL "T" OR "R" FOR MOMENT SLAB SLOPE.
 - FOR MOMENT SLAB B AND D VARIES FROM 1'-0" MIN. TO 1'-7" MAX. (MEASURED AT PARAPET GUTTERLINE). FOR MOMENT SLAB A AND C VARIES FROM 1'-0" MIN TO 1'-7 3/8" MAX. (MEASURED AT PARAPET GUTTERLINE).
 - SEE BARRIER DETAILS SHEET FOR TRANSITIONING BARRIER HEIGHTS.
 - SEE ROADWAY PLANS.
 - TOTAL LENGTH OF MOMENT SLAB PANELS MEASURED ALONG THIS EDGE.
 - SEE "ORNAMENTAL METAL RAILING" SHEET IN THESE PLANS FOR CONTROL JOINT SPACING REQUIREMENTS WITH RAILING POSTS.
 - ADD BAR V AND BAR W WHEN THIS DIMENSION EXCEEDS 1/2".



ADDITIONAL TRANSITION REINFORCEMENT

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: ADL
 DRW: ADL
 CHK: HAP

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



MOMENT SLAB DETAILS (1 OF 2)

STATE PROJ. NO. 002-611-036

MISCELLANEOUS DETAILS

SHEET NO. 82 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:06:37 PM
FILENAME: c:\kda\proj\tech\wise\hmv\gangstad\ms01247\cd00261036_ms09.dgn

MOMENT SLAB REINFORCEMENT TABS

MOMENT SLAB A AT RETAINING WALL A
MOMENT SLAB PANEL 1 (L = 19'-9 1/4"), SECTION TYPE A
BAR NO. SIZE LENGTH SHAPE LOCATION
A 26 4 19'-4" LONGITUDINAL - TOP & BOTTOM
B 21 5 12'-1" TRANSVERSE - BOTTOM
C 21 5 12'-8" TRANSVERSE - TOP
① Y 22 5 3'-6" TRANSVERSE FILLER BARS - TOP AND BOTTOM
D 22 5 5'-3" BARRIER DOWEL
V 21 4 10'-8" TRANSVERSE - TRAIL TOP
W 42 4 3'-9" TIE - TRAIL
MOMENT SLAB PANEL 2 (L = 628'-4"), SECTION TYPE B
② A 384 4 40'-0" LONGITUDINAL - TOP & BOTTOM
③ Z 24 4 30'-0" LONGITUDINAL - TOP & BOTTOM
B 650 5 10'-10" TRANSVERSE - BOTTOM
C 650 5 11'-5" TRANSVERSE - TOP
D 649 5 5'-3" BARRIER DOWEL
V 3 4 9'-4" TRANSVERSE - TRAIL TOP
W 6 4 3'-9" TIE - TRAIL

- ① PLACE AT END OF PANEL 1 AT THE NORTH EDGE OF SLAB, LAP WITH B & C BARS (MIN. LAP 2'-5")
- ② FIELD BEND AS NECESSARY
- ③ PLACE AT START OF PANEL 2

MOMENT SLAB B AT RETAINING WALL B
MOMENT SLAB PANEL 1 (L = 29'-2 3/8"), SECTION TYPE C
BAR NO. SIZE LENGTH SHAPE LOCATION
A 18 4 28'-10" LONGITUDINAL - TOP & BOTTOM
B 30 5 8'-1" TRANSVERSE - BOTTOM
C 30 5 8'-8" TRANSVERSE - TOP
① Y 40 5 3'-6" TRANSVERSE FILLER BARS - TOP AND BOTTOM
D 31 5 5'-3" BARRIER DOWEL
V 18 4 6'-8" TRANSVERSE - SIDEWALK TOP
W 36 4 3'-9" TIE - SIDEWALK
MOMENT SLAB PANEL 2 (L = 682'-0 1/2"), SECTION TYPE D
② A 256 4 40'-0" LONGITUDINAL - TOP & BOTTOM
③ Z 32 4 30'-0" LONGITUDINAL - TOP & BOTTOM
B 670 5 6'-10" TRANSVERSE - BOTTOM
C 670 5 7'-5" TRANSVERSE - TOP
D 667 5 5'-3" BARRIER DOWEL

- ① PLACE AT END OF PANEL 1 AT THE SOUTH EDGE OF SLAB, LAP WITH B & C BARS (MIN. LAP 2'-5")
- ② FIELD BEND BARS AS NECESSARY
- ③ PLACE AT START OF PANEL 2 (LAP TOGETHER 2 SETS)

MOMENT SLAB C RETAINING WALL C
MOMENT SLAB PANEL 1 (L = 19'-9 1/4"), SECTION TYPE A
BAR NO. SIZE LENGTH SHAPE LOCATION
A 26 4 19'-4" LONGITUDINAL - TOP & BOTTOM
B 21 5 12'-1" TRANSVERSE - BOTTOM
C 21 5 12'-8" TRANSVERSE - TOP
① Y 22 5 3'-6" TRANSVERSE FILLER BARS - TOP AND BOTTOM
D 22 5 5'-3" BARRIER DOWEL
V 12 4 10'-8" TRANSVERSE - TRAIL TOP
W 24 4 3'-9" TIE - TRAIL
MOMENT SLAB PANEL 2 (L = 61'-4 1/8"), SECTION TYPE B
③ A 28 4 45'-0" LONGITUDINAL - TOP & BOTTOM
② Z 24 4 30'-0" LONGITUDINAL - TOP & BOTTOM
B 70 5 10'-10" TRANSVERSE - BOTTOM
C 70 5 11'-5" TRANSVERSE - TOP
④ Y 84 5 4'-9" TRANSVERSE FILLER BARS - TOP AND BOTTOM
D 71 5 5'-3" BARRIER DOWEL

- ① PLACE AT END OF PANEL 1 AT THE NORTH EDGE OF SLAB, LAP WITH B & C BARS (MIN. LAP 2'-5")
- ② PLACE AT START OF PANEL 2
- ③ PLACE 2 (T & B) @ 12" MAX. SPS. PARALLEL TO NORTH EDGE OF SLAB
- ④ PLACE AT EAST END OF PANEL 2 AT THE NORTH EDGE OF SLAB, LAP WITH B & C BARS (MIN. LAP 2'-5")

MOMENT SLAB D RETAINING WALL D
MOMENT SLAB PANEL 1 (L = 29'-2 3/8"), SECTION TYPE C
BAR NO. SIZE LENGTH SHAPE LOCATION
A 18 4 28'-10" LONGITUDINAL - TOP & BOTTOM
B 30 5 8'-1" TRANSVERSE - BOTTOM
C 30 5 8'-8" TRANSVERSE - TOP
① Y 40 5 3'-6" TRANSVERSE FILLER BARS - TOP AND BOTTOM
D 31 5 5'-3" BARRIER DOWEL
V 10 4 6'-8" TRANSVERSE - SIDEWALK TOP
W 20 4 3'-9" TIE - SIDEWALK
MOMENT SLAB PANEL 2 (L = 23'-0 1/8"), SECTION TYPE D
② A 14 4 30'-0" LONGITUDINAL - TOP & BOTTOM
Z 2 4 42'-6" LONGITUDINAL - TOP & BOTTOM
B 25 5 6'-10" TRANSVERSE - BOTTOM
C 25 5 7'-5" TRANSVERSE - TOP
D 30 5 5'-3" BARRIER DOWEL

- ① PLACE AT END OF PANEL 1 AT THE SOUTH EDGE OF SLAB, LAP WITH B & C BARS (MIN. LAP 2'-5")
- ② FIRST LONGITUDINAL BAR AT THE NORTH EDGE OF SLAB

BARRIER REINFORCEMENT TABS

BARRIER ON MOMENT SLAB A
BAR NO. SIZE LENGTH SHAPE LOCATION
RA 650 5 7'-1" PARAPET VERTICAL
RB 24 5 5'-11" PARAPET VERTICAL
RC 18 5 6'-5" PARAPET VERTICAL
RD 136 4 40'-0" PARAPET LONGITUDINAL
RF 10 4 30'-0" PARAPET LONGITUDINAL
RG 10 4 9'-0" PARAPET LONGITUDINAL
① RX 18 4 6'-0" KINK BARS

- ① FIELD BEND BARS IN BARRIER KINKS, LAP TO LONGITUDINAL BARS (MIN. LAP 2'-6")

BARRIER ON MOMENT SLAB B
BAR NO. SIZE LENGTH SHAPE LOCATION
RA 680 5 7'-1" PARAPET VERTICAL
RB 16 5 5'-11" PARAPET VERTICAL
RC 20 5 6'-5" PARAPET VERTICAL
RD 152 4 37'-0" PARAPET LONGITUDINAL
RF 10 4 26'-0" PARAPET LONGITUDINAL
RG 10 4 9'-0" PARAPET LONGITUDINAL
① RX 42 4 6'-0" KINK BARS

- ① FIELD BEND BARS IN BARRIER KINKS, LAP TO LONGITUDINAL BARS (MIN. LAP 2'-6")

BARRIER ON MOMENT SLAB C
BAR NO. SIZE LENGTH SHAPE LOCATION
RA 80 5 7'-1" PARAPET VERTICAL
RB 14 5 5'-11" PARAPET VERTICAL
RC 12 5 6'-5" PARAPET VERTICAL
RD 16 4 37'-6" PARAPET LONGITUDINAL
RF 10 4 9'-0" PARAPET LONGITUDINAL
① RX 10 4 6'-0" KINK BARS

- ① FIELD BEND BARS IN BARRIER KINKS, LAP TO LONGITUDINAL BARS (MIN. LAP 2'-6")

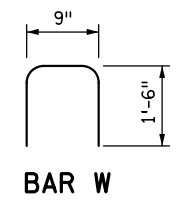
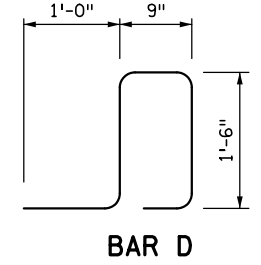
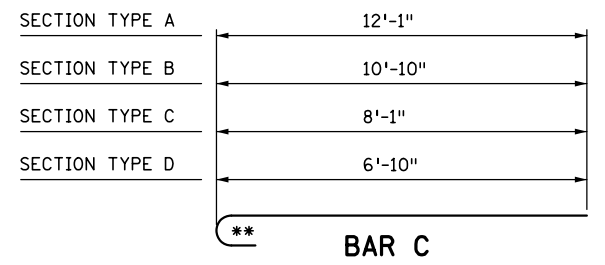
BARRIER ON MOMENT SLAB D
BAR NO. SIZE LENGTH SHAPE LOCATION
RA 50 5 7'-1" PARAPET VERTICAL
RB 12 5 5'-11" PARAPET VERTICAL
RC 10 5 6'-5" PARAPET VERTICAL
RD 16 4 23'-0" PARAPET LONGITUDINAL
RF 10 4 9'-0" PARAPET LONGITUDINAL
① RX 10 4 6'-0" KINK BARS

- ① FIELD BEND BARS IN BARRIER KINKS, LAP TO LONGITUDINAL BARS (MIN. LAP 2'-6")

BAR BENDING NOTE:

BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON THE DETAIL DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS.

** DENOTES STANDARD HOOK



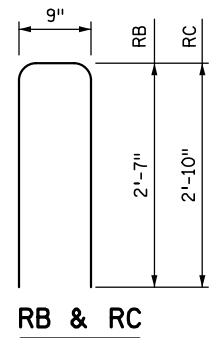
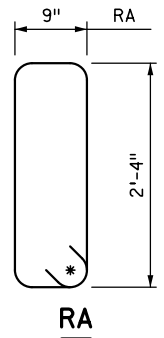
SUMMARY OF QUANTITIES MOMENT SLAB TAB V

ITEM DESCRIPTION	UNIT	QUANTITY
TYPE P-1 BARRIER CONCRETE (3552)	LIN FT	1462
STRUCTURAL CONCRETE (3B52)	CU YD	514
REINFORCEMENT BARS (EPOXY COATED)	POUND	80,894
ORNAMENTAL METAL RAILING	LIN FT	1466

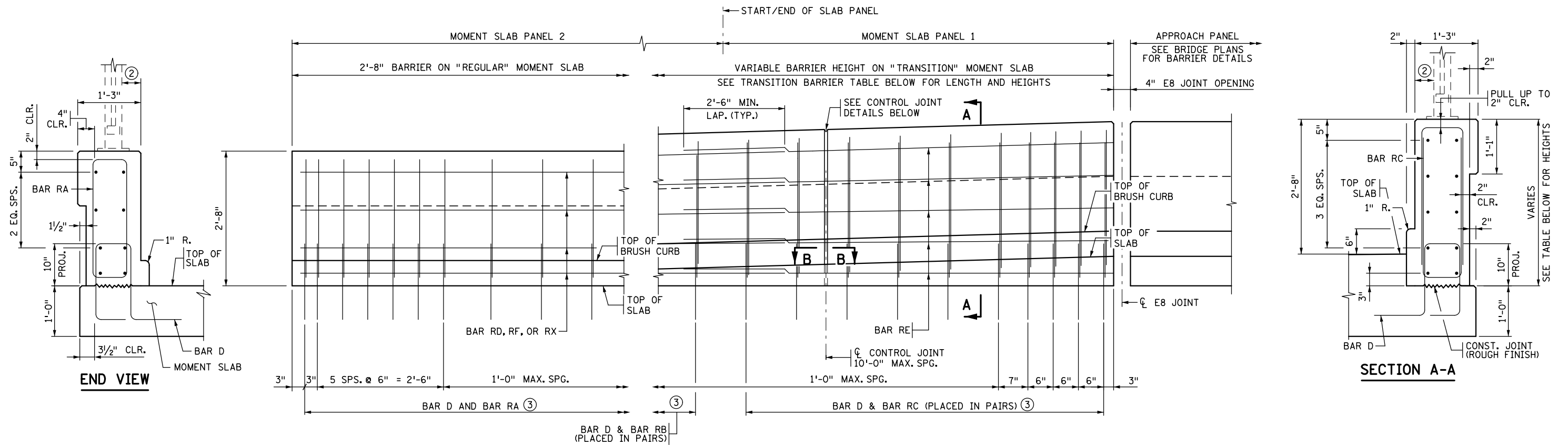
BAR BENDING NOTE:

BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON THE DETAIL DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS.

* DENOTES STANDARD STIRRUP HOOK

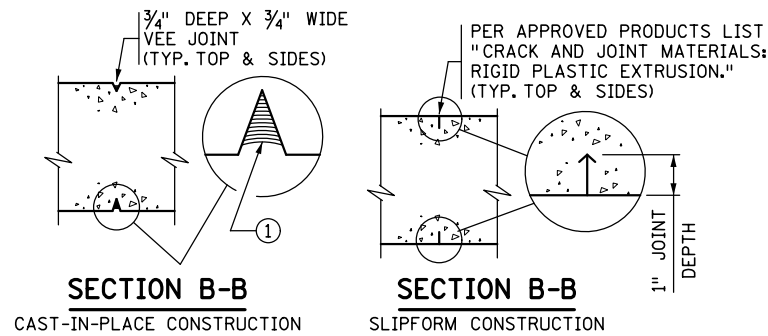


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INSIDE ELEVATION OF PARAPET

PARAPET MEETS MASH TL-2 REQUIREMENTS



CONTROL JOINT DETAILS

FOR SLIPFORM CONSTRUCTION: IMMEDIATELY AFTER CONCRETE IS PLACED AND WHILE IT IS STILL WET, CREATE A ONE INCH STRAIGHT GROOVE USING A TROWEL. INSERT RIGID PLASTIC EXTRUSION INTO GROOVE TO A DEPTH 1/8\"/>

TRANSITION BARRIER TABLE				
BARRIER ON MOMENT SLAB A				
CHAIN	START OF TRAN. BARRIER		END OF TRAN. BARRIER	
	STATION	HEIGHT	STATION	HEIGHT
(RWA)	19+90.18	3'-3 3/8"	19+69.03	2'-8"
(CSAH11EB)	107+43.80		107+22.48	
BARRIER ON MOMENT SLAB B				
CHAIN	START OF TRAN. BARRIER		END OF TRAN. BARRIER	
	STATION	HEIGHT	STATION	HEIGHT
(RWB)	30+38.60	3'-3"	30+56.95	2'-8"
(CSAH11WB)	207+43.80		207+25.34	
BARRIER ON MOMENT SLAB C				
CHAIN	START OF TRAN. BARRIER		END OF TRAN. BARRIER	
	STATION	HEIGHT	STATION	HEIGHT
(RWC)	50+38.17	3'-3 3/8"	50+50.19	2'-8"
(CSAH11EB)	110+57.13		110+69.41	
BARRIER ON MOMENT SLAB D				
CHAIN	START OF TRAN. BARRIER		END OF TRAN. BARRIER	
	STATION	HEIGHT	STATION	HEIGHT
(RWD)	64+90.42	3'-3"	64+79.76	2'-8"
(CSAH11WB)	210+57.13		210+67.92	

- STATIONS TAKEN AT PARAPET GUTTERLINE

MODIFIED:

- BARRIER ELEVATION MODIFIED FOR MOMENT SLAB GEOMETRY.
- E8 JOINT ADDED.
- TRANSITION BARRIER TABLE ADDED.
- NOTE 3 ADDED.
- BAR BENDING DIAGRAMS AND BILL OF REINFORCEMENT REMOVED.
- SECTION A-A MODIFIED FOR MOMENT SLAB GEOMETRY.
- SECTION C-C AND D-D REMOVED.
- REMOVED ISOMETRIC VIEW FOR TRANSITION TO CURB.
- CURB TRANSITION REMOVED FROM ELEVATION AND END VIEW.

GENERAL NOTES

- FOR REINFORCEMENT BARLIST AND BAR BENDING DIAGRAMS, SEE MOMENT SLAB DETAILS (2 OF 2).
- CONTINUOUSLY GROUND ALL METAL RAILINGS; SEE THE SPECIAL PROVISIONS. REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.
- FOR SLIPFORM CONSTRUCTION, TIE 100% OF THE REINFORCEMENT BAR INTERSECTIONS IN THE PARAPET.
- MEASURE PAYMENT LENGTH BETWEEN THE OUTSIDE ENDS OF THE PARAPET.
- NORTH CONCRETE PARAPET W/ADJACENT SIDEWALK (BASED ON A 7\"/>

CODE 69

REVISION:
 APPROVED: APRIL 09, 2020
Lynn Westlund
 STATE BRIDGE ENGINEER

NO.	DATE	BY	DESCRIPTION OF REVISIONS

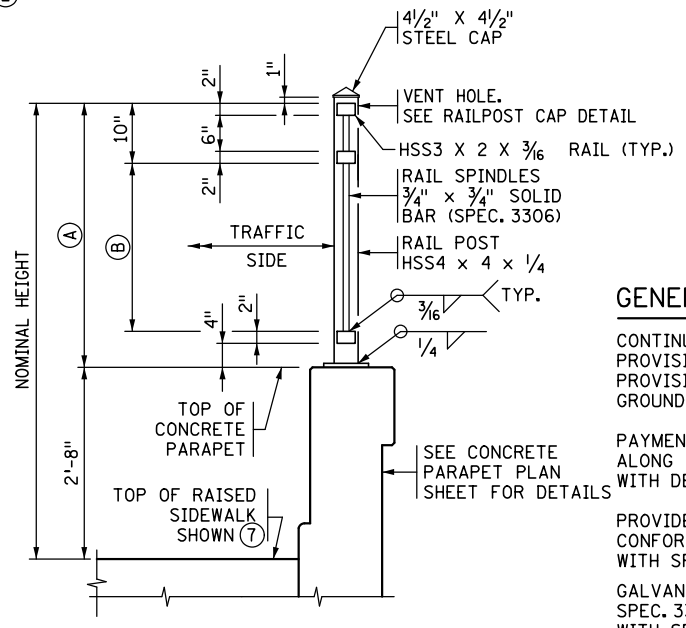
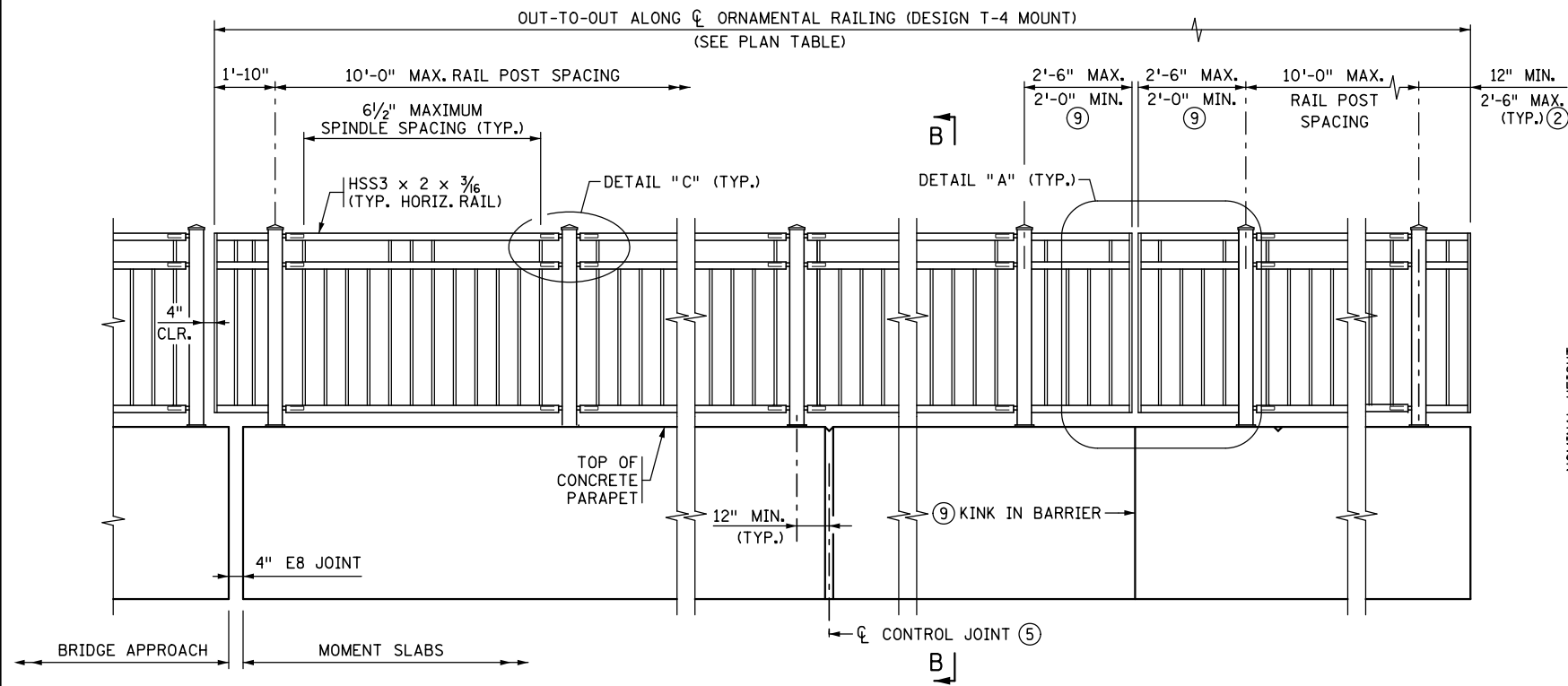
DES: ADL
 DRW: ADL
 CHK: HAP
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



BARRIER DETAILS ON MOMENT SLAB
 CONCRETE PARAPET (TYP P-1, TL-2)
 STATE PROJ. NO. 002-611-036

MISCELLANEOUS DETAILS
 SHEET NO. 84 OF 416 SHEETS
FIG. 5-397.166(A) MOD.

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RAILING HEIGHT TABLE		
NOMINAL HEIGHT	(A)	(B)
6'-0"	3'-4"	2'-0"
8'-0"	5'-4"	4'-0"
10'-0"	7'-4"	6'-0"

RAILING LENGTH	
LOCATION	OUT-TO-OUT LENGTH
MOMENT SLAB A	648'-11"
MOMENT SLAB B	681'-3 3/8"
MOMENT SLAB C	82'-0"
MOMENT SLAB D	53'-0 7/8"

GENERAL NOTES

CONTINUOUSLY GROUND ALL METAL RAILINGS; SEE THE SPECIAL PROVISIONS. REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.

PAYMENT LENGTH SHALL BE MEASURED AS THE OUT TO OUT LENGTH ALONG THE CENTERLINE OF THE RAILING BETWEEN THE OUTSIDE ENDS, WITH DEDUCTIONS FOR THE LENGTH OF CONCRETE POSTS, IF PRESENT.

PROVIDE A500, GRADE B STRUCTURAL STEEL TUBING (HSS) IN THE RAIL CONFORMING TO SPEC. 3361. PROVIDE ALL OTHER STEEL IN ACCORDANCE WITH SPEC. 3306.

GALVANIZE BOLTS, NUTS, WASHERS AND ANCHORS IN ACCORDANCE WITH SPEC. 3392. GALVANIZE ALL OTHER STRUCTURAL STEEL IN ACCORDANCE WITH SPEC. 3394, AFTER FABRICATION.

SEE SPECIAL PROVISIONS FOR COATING TO BE APPLIED TO METAL RAILING.

INSTALL RAIL POSTS AND SPINDLES PLUMB.

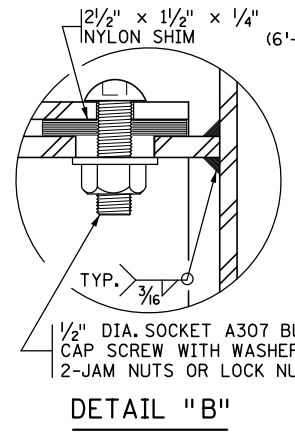
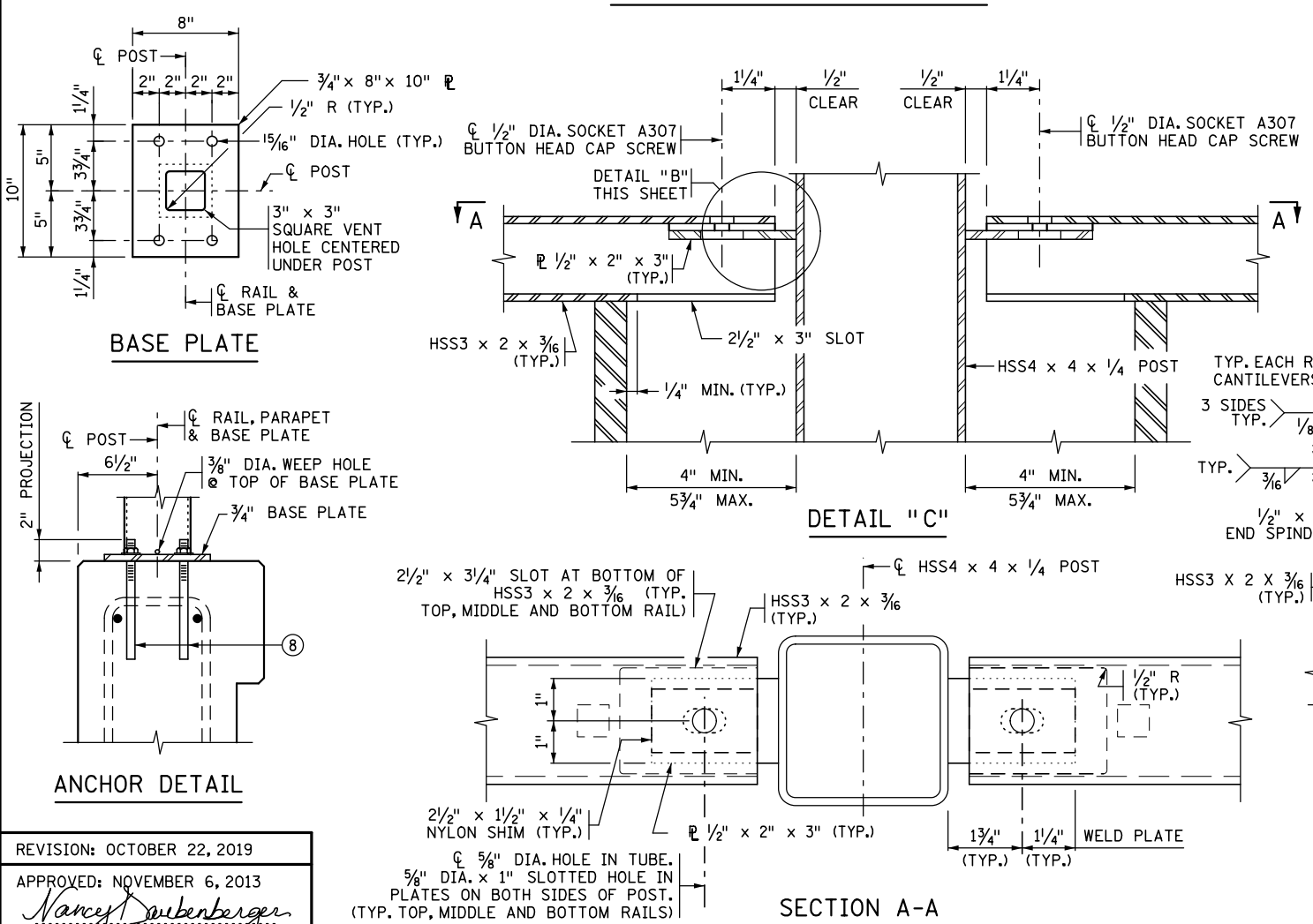
CURVE HORIZONTAL RAILS WHERE APPLICABLE AND PLACE RAILS PARALLEL TO THE EDGE OF SIDEWALK PROFILE.

SEE SPECIAL PROVISIONS FOR REQUIREMENTS NOT INCLUDED ON THIS SHEET.

DRILL 1/2" DIA. MAX. VENT HOLES ON THE UNDERSIDE OF RAIL TUBES AS NECESSARY TO FACILITATE GALVANIZING.

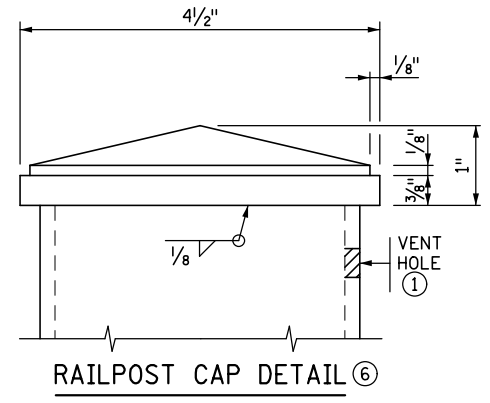
- ① DRILL VENT HOLE IN THE RAIL POST WITHIN 2" OF THE UNDERSIDE OF THE CAP, ON THE NON-TRAFFIC SIDE OF THE POST AS NECESSARY TO FACILITATE GALVANIZING. MAXIMUM HOLE SIZE IS 1/2" DIA.
- ② PLACE ϕ OF END POST 12" FROM END OF CONCRETE PARAPET IF GUARDRAIL CONNECTION PLATE IS PRESENT.
- ③ IF LIGHT POLE IS MOUNTED ON BLISTER, RAILING MAY BE CONTINUOUS IN FRONT OF LIGHT POLE (SEE PARAPET & LIGHT POLE DETAILS).
- ④ CONTRACTOR TO COORDINATE LIGHT POLE DETAILS WITH THE RAILING FABRICATOR TO ENSURE PROPER CLEARANCES AND RAILING CONFIGURATION ADJACENT TO THE POLE.
- ⑤ ~~SEE SUPERSTRUCTURE AND CONCRETE PARAPET PLAN SHEETS FOR CONTROL JOINT SPACING AND DETAILS.~~
- ⑥ PROVIDE A PYRAMID TOP STYLE STEEL CAP WELDED TO TOP OF POST WITH A SURFACE FINISH OF 1000 MICRO-INCH, OR SMOOTHER, PRIOR TO GALVANIZING.
- ⑦ FOR NON-RAISED SIDEWALK, SEE CONCRETE PARAPET PLAN SHEET.
- ⑧ ADHESIVE ANCHORAGE WITH 5/8" DIA. ANCHOR ROD IN ACCORDANCE WITH SPEC. 3385, TYPE A WITH HEX NUT AND WASHER. PROVIDE AN ADHESIVE WITH A MINIMUM CHARACTERISTIC BOND STRENGTH IN UNCRACKED CONCRETE OF 1.5 KSI. EMBED THE ANCHORAGE NO LESS THAN 5" REGARDLESS OF CHARACTERISTIC BOND STRENGTH. DRILL THROUGH REINFORCEMENT (IF ENCOUNTERED) TO ACHIEVE MINIMUM EMBEDMENT. ENSURE HEX NUT IS IN CONTACT WITH THE ADJACENT SURFACE AND TORQUE TO 60 FT-LBS UNLESS A HIGHER TORQUE IS RECOMMENDED BY THE MANUFACTURER. PROOF LOAD TO 6.9 KIPS. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
- ⑨ OPTION A SHOWN FOR POSSIBLE POST AND PANEL CONFIGURATION AT BARRIER KINKS. OPTION B NOT SHOWN. OPTION B WOULD CONSIDER 10' MAX. POST SPACING WITH BENT PANELS. THE RAIL CONNECTIONS WOULD NEED TO CONSIDER EFFECTS FROM TEMPERATURE AND SHRINKAGE AT BARRIER KINKS.

INSIDE ELEVATION OF RAILING



MODIFIED:

- RAILING ELEVATION MODIFIED FOR MOMENT SLAB GEOMETRY.
- RAILING LENGTH TABLE ADDED.
- NOTE 9 ADDED.



REVISION: OCTOBER 22, 2019
 APPROVED: NOVEMBER 6, 2013
Nancy Subenberger
 STATE BRIDGE ENGINEER

DES: ADL	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: ADL	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020
CHK: HAP	LINDSEY J. LAWRENCE



ORNAMENTAL METAL RAILING
 (DESIGN T-4 PARAPET MOUNT)
 STATE PROJ. NO. 002-611-036

MISCELLANEOUS DETAILS
 SHEET NO. 85 OF 416 SHEETS

FIG. 5-397.162 MOD.

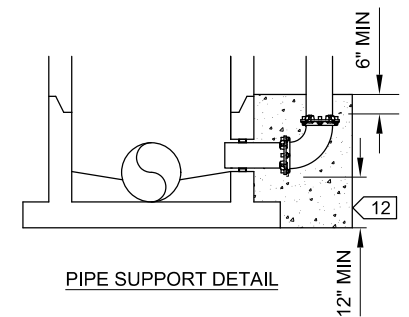
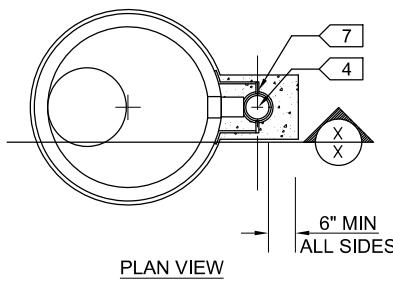
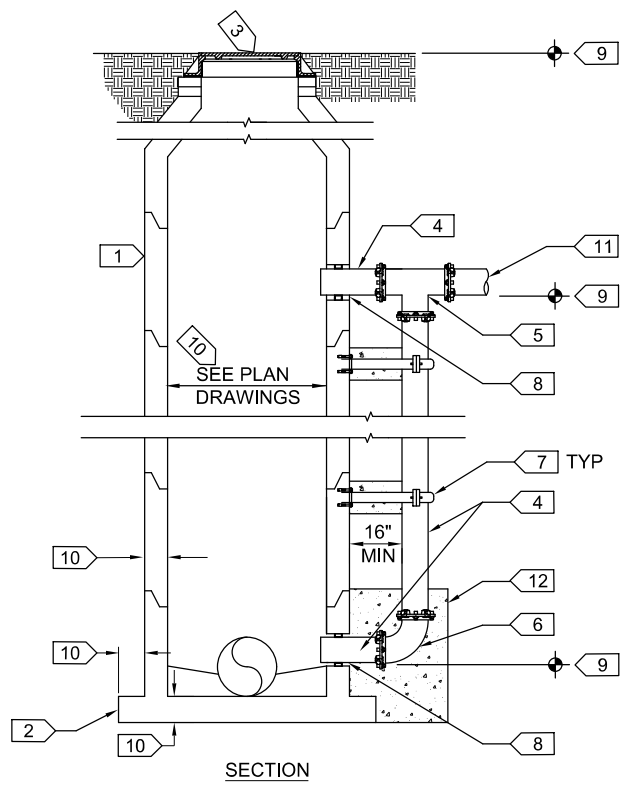
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GENERAL NOTES:

1. THIS DETAIL APPLIES TO DROP CONNECTIONS WITH 8-INCH TO 16-INCH LATERALS/SERVICES
2. DROP PIPE INLET PIPES AND CLEANOUT SHALL BE C900/C905 PVC
3. FITTINGS SHALL BE MJ DIP WITH RESTRAINT GLANDS. ALL DIP FITTINGS SHALL BE WRAPPED IN POLYETHYLENE UNLESS DIRECTED OTHERWISE

KEY NOTES:

1. MH STRUCTURE. SEE PLAN DRAWINGS FOR MATERIAL AND DIMENSIONS
2. MH BASE. SEE PLAN DRAWINGS FOR MATERIAL, DIMENSIONS, ANCHORAGE, AND INVERT REQUIREMENTS
3. MH FRAME AND COVER. NEENAH R-1733. PROVIDE SOLID LID WITH TWO CONCEALED PICK HOLES AND 3/4-INCH RAISED LETTERS READING "INTERCEPTOR SANITARY SEWER"
4. C900/C905 PVC DROP PIPE AND MH INLET PIPES TO MATCH SIZE OF LATERAL
5. MJ DIP TEE
6. MJ DIP ELBOW
7. PIPE CLAMP. SPACE AT 6'-0" OC MAXIMUM. ANCHOR TO CONCRETE MH WITH 4 3/8-INCH KWIK BOLTS. ATTACH TO MH PER MANUFACTURER RECOMMENDATIONS. CLAMPS, STRAPS AND HARDWARE SHALL BE GALVANIZED STEEL. PROVIDE CONCRETE BLOCKING BETWEEN PIPE AND MH AT CLAMP LOCATIONS. SEE PLAN VIEW
8. FABRICATED OR CORE DRILLED OPENING WITH KOR-N-SEAL OR FABRICATED OPENING WITH PIPE STUB TO MATCH LATERAL DIAMETER
9. FOR ELEVATIONS, SEE PLAN DRAWINGS
10. FOR DIMENSIONS, SEE PLAN DRAWINGS
11. LATERAL. SEE PLAN DRAWINGS FOR SIZE AND MATERIAL
12. CONCRETE THRUST BLOCK, 6-INCH MINIMUM COVER ALL SIDES OF PIPE



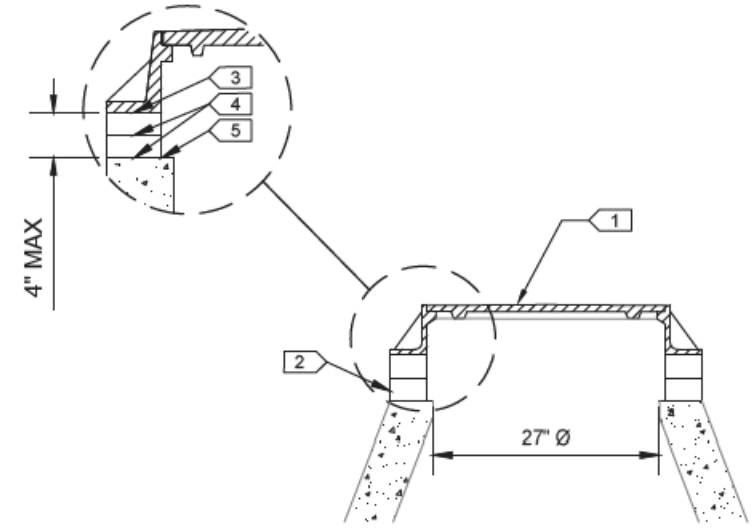
**METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES
MANHOLE OUTSIDE DROP PIPING DETAIL**

GENERAL NOTES:

1. USE SLOPED AND OR 1/4-INCH ADJUSTMENT RINGS TO MATCH GRADE AND CROWN OF ROAD.
2. PAVEMENT AND MANICURED AREAS: ADJUST TO 1/4-INCH BELOW FINISHED SURFACE ELEVATION.
3. NON-SURFACED AREAS: ADJUST TO WITHIN 6-INCHES TO 18-INCHES ABOVE FINISHED GRADE, AND INSTALL MCES SUPPLIED FIBERGLASS STAKE.

KEY NOTES:

1. MH FRAME AND COVER. NEENAH R-1733 OR EAST JORDAN1205Z FRAME AND 1205AGS COVER. PROVIDE GASKETED SOLID LID WITH TWO CONCEALED PICK HOLES AND 3/4" RAISED LETTERS READING "INTERCEPTOR SANITARY SEWER".
2. ADJUSTING RINGS. PRO-RING BY CRETEX, HDPE LIFESAVER MANHOLE ADJUSTMENT UNIT BY IPEX, OR HDPE MANHOLE RING BY LADTECH. MAXIMUM ADJUSTING HEIGHT 4-INCHES. RINGS TO EXTEND TO EDGE OF MH SHOULDER TO PROVIDE LOAD TRANSFER AS REQUIRED TO MAINTAIN MH LOAD RATING, BUT SHALL NOT EXTEND MORE THAN 6-INCHES BEYOND SHOULDER.
3. PROVIDE TWO ROWS OF PRO-STIK BUTYL SEALANT OR APPROVED EQUAL BETWEEN TOP ADJUSTMENT RING AND FRAME.
4. PROVIDE TWO ROWS OF ADJUSTMENT RING MANUFACTURER APPROVED SEALANT BETWEEN ALL RINGS AND CONE.
5. BOTTOM HDPE ADJUSTMENT RING REQUIRES 1/4-INCH SOLID RING BELOW BOTTOM RING. *OMIT KEYNOTE #5 WHEN USING PRO-RING BY CRETEX



**METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES
GRADE RINGS AND CASTING DETAIL**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

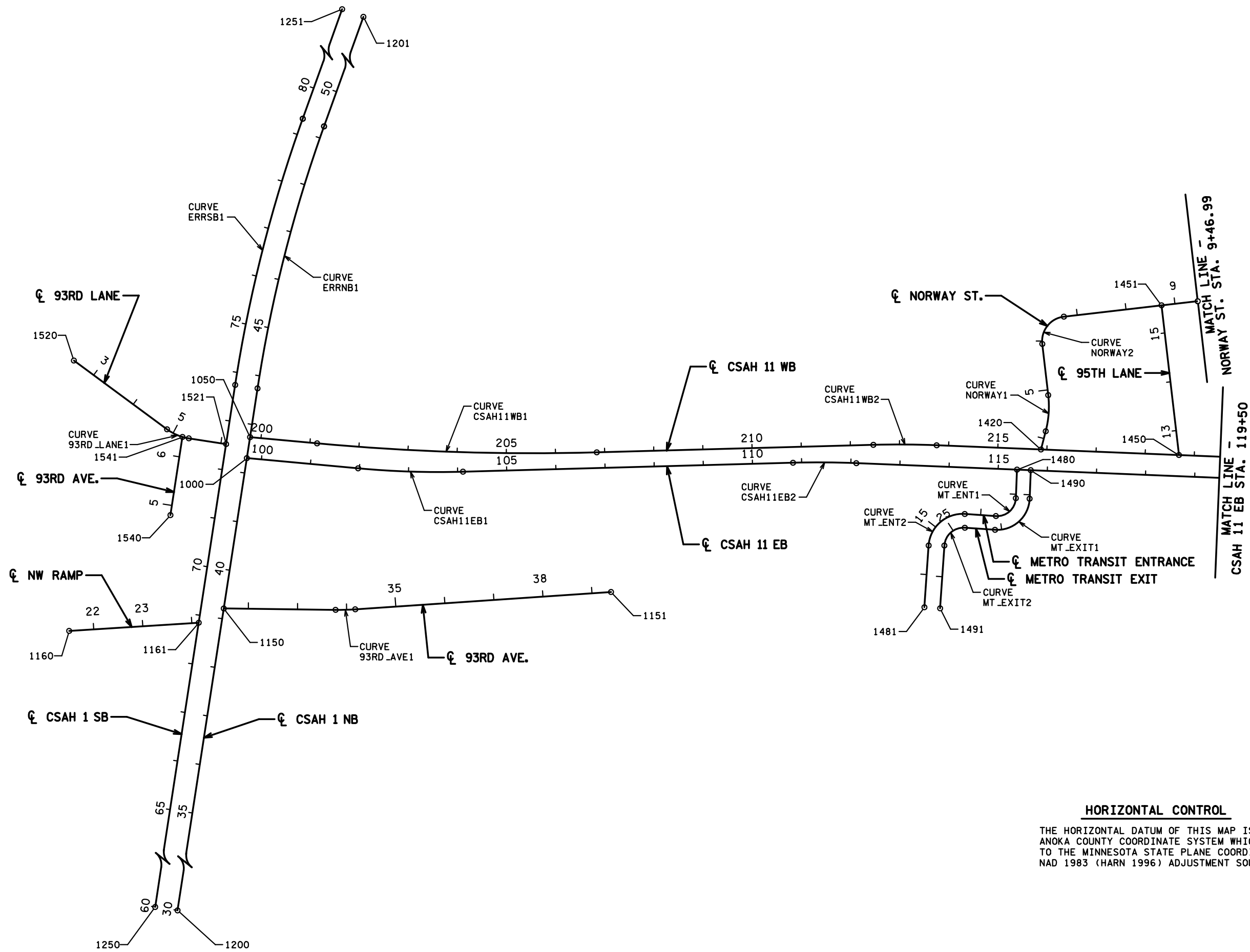
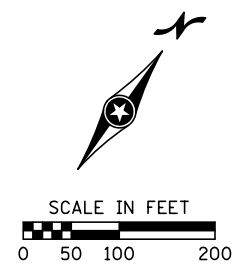
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 DRW: RRC
 CHK: RSQ
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Ronald S. Quanbeck* LIC. NO. 19396 DATE: 11/24/2020
 RONALD S. QUANBECK



MCES MANHOLE DETAILS
 STATE PROJ. NO. 002-611-036

MISCELLANEOUS DETAILS
 SHEET NO. 85A OF 416 SHEETS

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HORIZONTAL CONTROL

THE HORIZONTAL DATUM OF THIS MAP IS BASED ON ANOKA COUNTY COORDINATE SYSTEM WHICH IS RELATED TO THE MINNESOTA STATE PLANE COORDINATE SYSTEM NAD 1983 (HARN 1996) ADJUSTMENT SOUTH ZONE.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

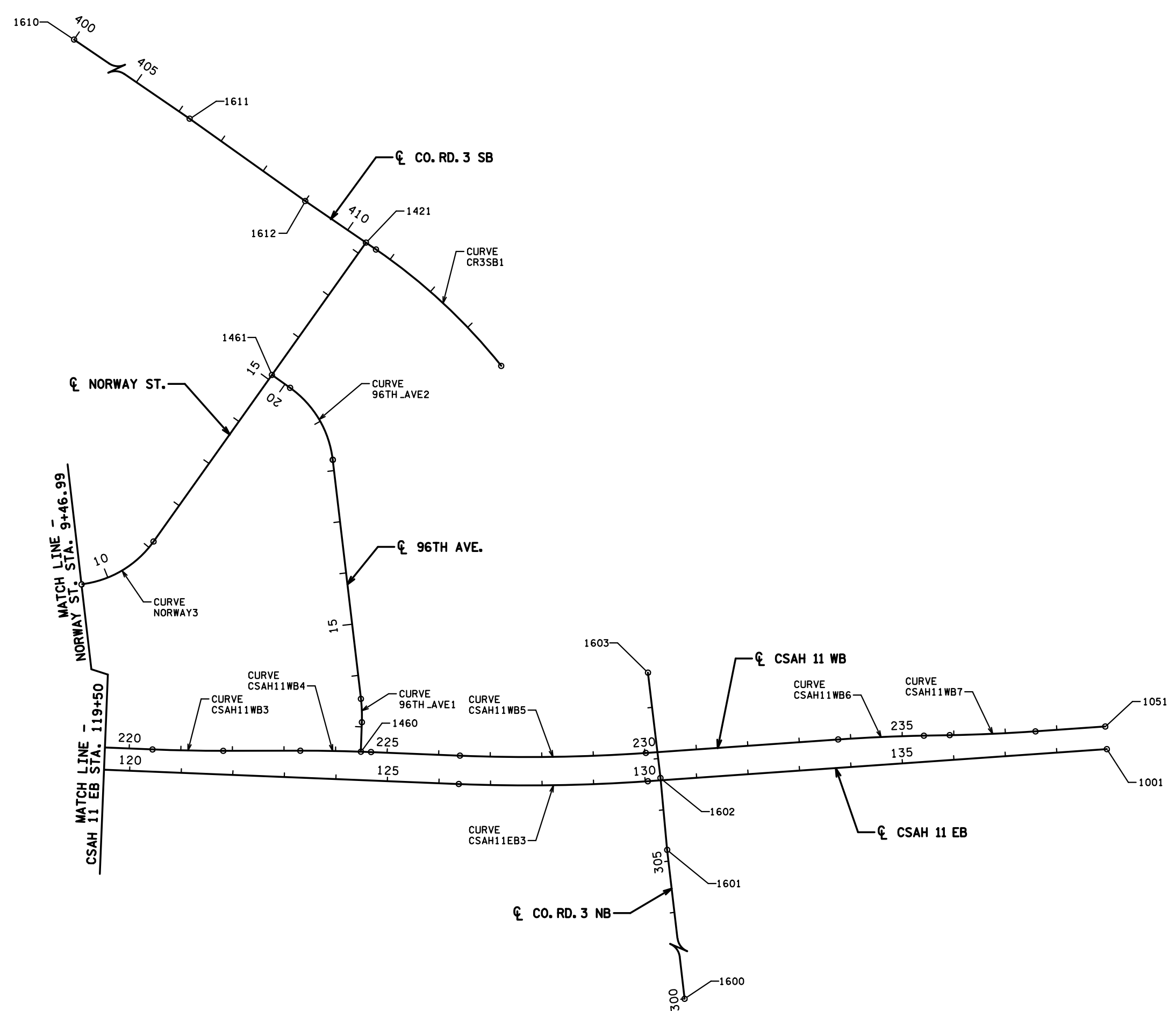
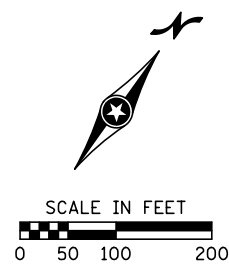
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



ALIGNMENT PLAN

STATE PROJ. NO. 002-611-036 SHEET NO. 86 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:07:16 PM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020
 SHANE A. ORTLEPP



ALIGNMENT PLAN

STATE PROJ. NO. 002-611-036 SHEET NO. 87 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:07:46 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-01\Documents\Projects\AnokaCounty\030000\04_Production\01_CAD\Highway\Sheets\cd00261036_dwg.dgn

ALIGNMENT TABULATION

POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
CSAH 11 EB (CSAH11EB)										
1000	POT	99+70.170						493,594.1125	138,208.3653	59° 59' 19.44"
CURVE CSAH11EB1	PC	101+97.442						493,790.9134	138,322.0400	PI
	PI	103+04.348	6° 47' 52.25" LT	3° 10' 59.16"	1,800.000'	106.906'	213.561'	493,883.4860	138,375.5110	
	CC							492,890.6069	139,880.7087	
	PT	104+11.003						493,969.0786	138,439.5637	
CURVE CSAH11EB2	PC	110+82.399						494,506.6225	138,841.8313	PI
	PI	111+46.828	3° 51' 51.53" RT	3° 00' 00.00"	1,909.859'	64.430'	128.810'	494,558.2072	138,880.4344	
	CC							495,650.9165	137,312.7290	
CURVE CSAH11EB3	PT	112+11.209						494,612.2763	138,915.4732	57° 03' 18.72"
	PC	126+38.540						495,810.0852	139,691.6998	
	PI	128+22.080	6° 18' 41.00" LT	1° 43' 15.92"	3,329.045'	183.540'	366.709'	495,964.1113	139,791.5146	
	CC							493,999.6483	142,485.4170	
1001	PT	130+05.249						496,106.2310	139,907.6569	50° 44' 37.72"
	POT	138+97.203						496,796.8921	140,472.0751	
CSAH 11 WB (CSAH11WB)										
1050	POT	199+77.653						493,574.8655	138,246.9057	59° 59' 19.44"
CURVE CSAH11WB1	PC	201+14.516						493,693.3790	138,315.3606	PI
	PI	203+99.598	6° 47' 52.25" LT	1° 11' 37.18"	4,800.000'	285.082'	569.495'	493,940.2392	138,457.9502	
	CC							491,292.5616	142,471.8105	
	PT	206+84.011						494,168.4862	138,628.7573	
CURVE CSAH11WB2	PC	212+46.698						494,618.9935	138,965.8916	PI
	PI	213+11.128	3° 51' 51.53" RT	3° 00' 00.00"	1,909.859'	64.430'	128.810'	494,670.5782	139,004.4947	
	CC							495,763.2875	137,436.7893	
CURVE CSAH11WB3	PT	213+75.508						494,724.6472	139,039.5335	57° 03' 18.72"
	PC	220+45.081						495,286.5493	139,403.6678	
	PI	221+13.660	2° 23' 59.63" LT	1° 45' 00.00"	3,274.045'	68.579'	137.137'	495,344.1000	139,440.9629	
	CC							493,506.0231	142,151.2294	
CURVE CSAH11WB4	PT	221+82.218						495,400.0386	139,480.6352	54° 39' 19.09"
	PC	223+31.636						495,521.9167	139,567.0726	
	PI	224+00.215	2° 23' 59.63" RT	1° 45' 00.00"	3,274.045'	68.579'	137.137'	495,577.8553	139,606.7448	
CURVE CSAH11WB5	CC							497,415.9323	136,896.4784	57° 03' 18.72"
	PT	224+68.773						495,635.4061	139,644.0399	
	PC	226+41.282						495,780.1745	139,737.8555	
	PI	228+21.790	6° 18' 41.00" LT	1° 45' 00.00"	3,274.045'	180.508'	360.651'	495,931.6559	139,836.0213	
CURVE CSAH11WB6	CC							493,999.6483	142,485.4170	50° 44' 37.72"
	PT	230+01.933						496,071.4276	139,950.2447	
	PC	233+75.585						496,360.7555	140,186.6876	
CURVE CSAH11WB7	PI	234+58.822	2° 54' 45.68" RT	1° 45' 00.00"	3,274.045'	83.238'	166.439'	496,425.2084	140,239.3595	PI
	CC							498,432.5347	137,651.5153	
	PT	235+42.024						496,492.2545	140,288.6882	
CURVE CSAH11WB7	PC	235+92.024						496,532.5284	140,318.3194	PI
	PI	236+75.262	2° 54' 45.68" LT	1° 45' 00.00"	3,274.045'	83.238'	166.439'	496,599.5745	140,367.6481	
	CC							494,592.2482	142,955.4923	
1051	PT	237+58.463						496,664.0275	140,420.3199	50° 44' 37.72"
	POT	238+94.094						496,769.0494	140,506.1454	

ALIGNMENT TABULATION

POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
CSAH 1 NB (CSAH1NB)										
1200	POT	30+00.000						494,143.9333	137,107.4017	333° 27' 44.91"
CURVE ERRNB1	PC	43+74.206						493,529.9603	138,336.8240	PI
	PI	46+50.599	11° 01' 17.80" RT	2° 00' 00.00"	2,864.789'	276.393'	551.080'	493,406.4723	138,584.0969	
	CC							496,092.9207	139,616.7654	
	PT	49+25.286						493,332.5355	138,850.4171	
1201	POT	53+22.511						493,226.2757	139,233.1649	
CSAH 1 SB (CSAH1SB)										
1250	POT	60+00.000						494,102.7798	137,086.8497	333° 27' 44.91"
CURVE ERRSB1	PC	73+74.206						493,488.8068	138,316.2720	PI
	PI	76+55.037	11° 01' 17.80" RT	1° 58' 06.22"	2,910.789'	280.831'	559.929'	493,363.3360	138,567.5153	
	CC							496,092.9207	139,616.7654	
	PT	79+34.135						493,288.2120	138,838.1118	
1251	POT	83+31.359						493,181.9521	139,220.8596	
93RD LANE (93RD_LANE)										
1520	POT	2+50.000						493,192.3042	138,167.4273	91° 11' 19.25"
CURVE 93RD_LANE1	PC	4+85.550						493,427.8038	138,162.5408	PI
	PI	5+10.229	27° 43' 33.18" LT	57° 17' 44.81"	100.000'	24.679'	47.920'	493,452.4774	138,162.0289	
	CC							493,429.8783	138,262.5193	
	PT	5+33.941						493,474.5562	138,173.0549	
1521	POT	6+10.678						493,543.2081	138,207.3391	
93RD AVE. (93RD_AVE)										
1150	POT	31+50.000						493,732.3908	137,931.4763	55° 27' 44.91"
CURVE 93RD_AVE1	PC	33+77.363						493,919.6822	138,060.3788	PI
	PI	33+97.396	4° 35' 19.57" LT	11° 27' 32.96"	500.000'	20.033'	40.045'	493,936.1845	138,071.7364	
	CC							493,636.2093	138,472.2563	
	PT	34+17.408						493,951.7252	138,084.3779	
1151	POT	39+38.908						494,356.2832	138,413.4615	
93RD AVE. (93RD_CON)										
1540	POT	4+80.000						493,534.2004	138,023.9373	333° 27' 44.96"
1541	POT	6+40.938						493,462.2957	138,167.9196	
NW RAMP (NWR)										
1160	POT	21+50.000						493,502.0166	137,712.6135	51° 07' 40.15"
1161	POT	24+13.980						493,707.5380	137,878.2836	

GENERAL NOTES:

- SEE RETAINING WALL PLANS FOR WALL ALIGNMENT INFORMATION.
- (XXXX) DENOTES GEOPAK ALIGNMENT NAME.

DES: TJV I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: RRC
 CHK: SAO SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



ALIGNMENT TABULATION
 STATE PROJ. NO. 002-611-036 SHEET NO. 88 OF 416 SHEETS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/24/2020 TIME: 10:08:20 PM
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ALIGNMENT TABULATION											
POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
			SPIRAL CURVE DATA								
			ANGLE (θs)	DEGREE	ST	LT	LS				
NORWAY ST. (NORWAY)											
1420	POT	3+76.938						494,902.8620	139,155.0236	339° 21' 19.67"	
CURVE NORWAY1	PC	4+15.164						494,889.3848	139,190.7947	318° 06' 29.39"	
	PI	4+52.679	21° 14' 50.28" LT	28° 38' 52.40"	200.000'	37.514'	74.167'	494,876.1583	139,225.9002		
	CC							494,702.2276	139,120.2809		
	PT	4+89.331						494,851.1090	139,253.8262		
CURVE NORWAY2	PC	5+94.199						494,781.0857	139,331.8908	48° 06' 30.60"	
	PI	6+44.200	90° 00' 01.21" RT	14° 35' 29.61"	50.000'	50.000'	78.540'	494,747.6992	139,369.1113		
	CC							494,818.3060	139,365.2771		
	PT	6+72.740						494,784.9199	139,402.4976		
CURVE NORWAY3	PC	9+46.993						494,989.0770	139,585.6226	0° 07' 52.82"	
	PI	10+35.991	47° 58' 37.78" LT	28° 38' 52.40"	200.000'	88.998'	167.472'	495,055.3280	139,645.0485		
	CC							494,855.5325	139,734.5047		
	PT	11+14.465						495,055.5320	139,734.0463		
1421	POT	18+25.348					495,057.1616	140,444.9280			
95TH LANE (95TH_LANE)											
1450	POT	12+50.000					495,138.5629	139,307.7669	318° 06' 30.60"		
1451	POT	15+56.654					494,933.8034	139,536.0432			
96TH AVE. (96TH_AVE)											
1460	POT	12+51.772					495,618.9095	139,633.2789	326° 42' 37.87"		
CURVE 96TH_AVE1	PC	13+08.879						495,587.5654	139,681.0148	318° 01' 50.81"	
	PI	13+31.646	8° 40' 47.05" LT	19° 05' 54.94"	300.000'	22.767'	45.447'	495,575.0692	139,700.0460		
	CC							495,336.7929	139,516.3540		
	PT	13+54.326						495,559.8442	139,716.9734		
CURVE 96TH_AVE2	PC	18+20.950						495,247.7981	140,063.9103	270° 07' 52.82"	
	PI	19+09.785	47° 53' 57.99" LT	28° 38' 52.40"	200.000'	88.836'	167.201'	495,188.3910	140,129.9599		
	CC							495,099.0973	139,930.1641		
	PT	19+88.150						495,099.5557	140,130.1636		
1461	POT	20+31.266					495,056.4403	140,130.2624			

ALIGNMENT TABULATION											
POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
			SPIRAL CURVE DATA								
			ANGLE (θs)	DEGREE	ST	LT	LS				
CO. RD. 3 NB (CR_3_NB)											
1600	POT	300+00.000						496,562.2593	139,431.9519	318° 06' 17.04"	
1601	POT	305+22.087						496,213.6250	139,820.5757	319° 02' 01.55"	
1602	POT	306+62.004						496,122.6019	139,926.8384	317° 59' 20.65"	
1603	POT	308+67.752						495,984.9009	140,079.7122		
CO. RD. 3 SB (CR_3_SB)											
1610	POT	400+00.000						494,014.4561	140,434.6567	89° 09' 39.19"	
1611	POT	406+25.134						494,639.5233	140,443.8117		
1612	POT	409+00.180						494,914.5670	140,442.8395		
CURVE CR_3_SB1	PC	410+66.419						495,080.7889	140,445.2740	106° 08' 06.74"	
	PI	412+33.996	16° 58' 27.55" RT	5° 06' 07.30"	1,123.000'	167.576'	332.697'	495,248.3472	140,447.7282		
	CC							495,097.2350	139,322.3945		
	PT	413+99.117						495,409.3223	140,401.1579		
METRO TRANSIT ENTRANCE (MT_ENT)											
1480	POT	12+50.000						494,886.7760	139,093.3597	147° 03' 18.72"	
CURVE MT_ENT1	PC	13+08.113						494,918.3796	139,044.5916		
	PI	13+47.173	91° 34' 35.60" RT	150° 46' 42.12"	38.000'	39.060'	60.736'	494,939.6218	139,011.8125		
	CC							494,886.4902	139,023.9261		
	PT	13+68.849						494,906.2706	138,991.4802		
CURVE MT_ENT2	PC	14+32.363						494,852.0393	138,958.4185	148° 37' 54.33"	
	PI	15+01.363	90° 00' 00.00" LT	83° 02' 14.50"	69.000'	69.000'	108.385'	494,793.1243	138,922.5014		
	CC							494,887.9563	138,899.5035		
	PT	15+40.748						494,829.0414	138,863.5865		
1481	POT	16+66.733					494,894.6207	138,756.0163			
METRO TRANSIT EXIT (MT_EXIT)											
1490	POT	22+50.000						494,910.2735	139,108.5870	147° 03' 18.72"	
CURVE MT_EXIT1	PC	23+08.113						494,941.8771	139,059.8189		
	PI	23+75.954	91° 34' 35.60" RT	86° 48' 42.43"	66.000'	67.842'	105.489'	494,978.7714	139,002.8866		
	CC							494,886.4902	139,023.9261		
	PT	24+13.602						494,920.8456	138,967.5727		
CURVE MT_EXIT2	PC	24+75.116						494,868.3220	138,935.5520	148° 37' 54.33"	
	PI	25+14.116	90° 00' 00.00" LT	146° 54' 44.12"	39.000'	39.000'	61.261'	494,835.0222	138,915.2511		
	CC							494,888.6229	138,902.2523		
	PT	25+36.377						494,855.3231	138,881.9514		
1491	POT	26+64.361					494,921.9436	138,772.6734			

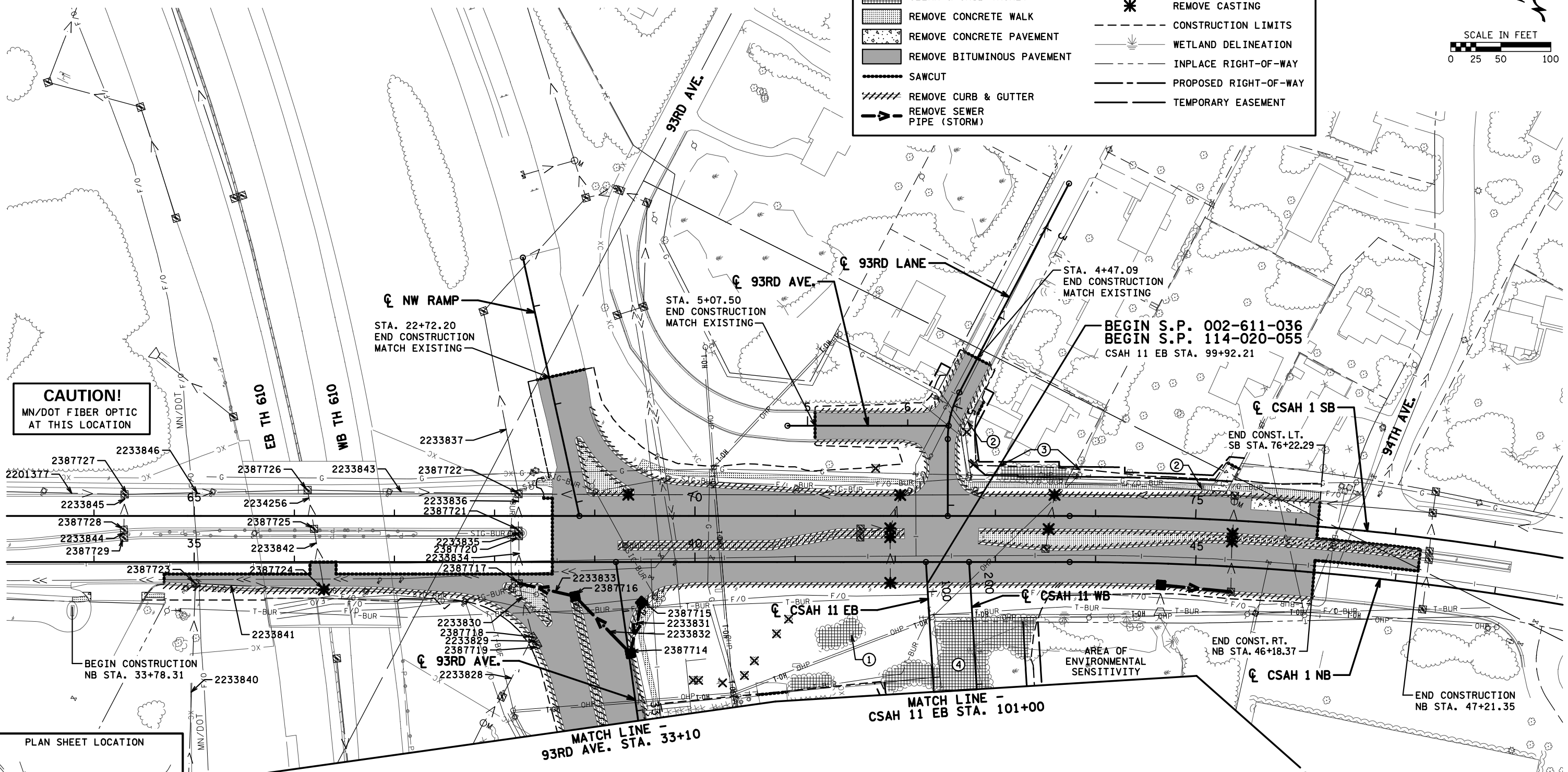
GENERAL NOTES:

- SEE RETAINING WALL PLANS FOR WALL ALIGNMENT INFORMATION.
- (XXXX) DENOTES GEOPAK ALIGNMENT NAME.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: RRC	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020		
CHK: SAO	SHANE A. ORTLEPP		
NO.	DATE	BY	DESCRIPTION OF REVISIONS

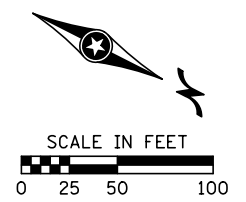
	ALIGNMENT TABULATION
	STATE PROJ. NO. 002-611-036 SHEET NO. 89 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:08:58 PM
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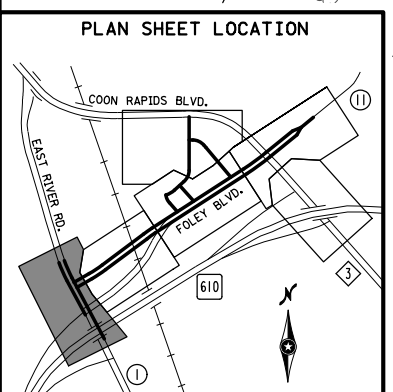


LEGEND

	CLEAR & GRUB (TREE)		REMOVE MANHOLE OR CATCH BASIN
	CLEAR & GRUB (ACRE)		REMOVE CASTING
	REMOVE CONCRETE WALK		CONSTRUCTION LIMITS
	REMOVE CONCRETE PAVEMENT		WETLAND DELINEATION
	REMOVE BITUMINOUS PAVEMENT		INPLACE RIGHT-OF-WAY
	SAWCUT		PROPOSED RIGHT-OF-WAY
	REMOVE CURB & GUTTER		TEMPORARY EASEMENT
	REMOVE SEWER PIPE (STORM)		



CAUTION!
 MN/DOT FIBER OPTIC
 AT THIS LOCATION



GENERAL NOTES:

- SEE WATER MAIN AND SANITARY SEWER PLANS FOR WATERMAIN AND SANITARY SEWER REMOVALS.
- SEE LIGHTING PLANS FOR LIGHTING REMOVALS.
- SEE TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.
- INPLACE STORM SEWER NUMBER CALLOUTS ARE MNDOT TAMS ID NUMBERS.

SPECIFIC NOTES:

- ① REMOVE MISCELLANEOUS STRUCTURES.
- ② REMOVE MAIL BOX SUPPORT.
- ③ REMOVE WOOD FENCE.
- ④ TREES WITHIN THIS AREA TO BE REMOVED BY THE COUNTY. CONTRACTOR TO GRUB ONLY.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: RRC	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020
CHK: SAO	

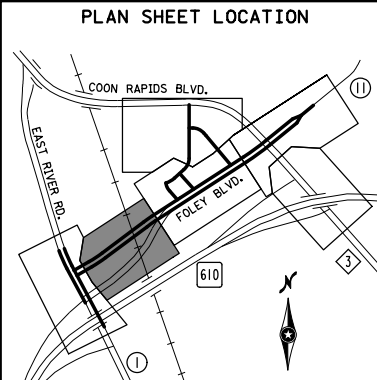
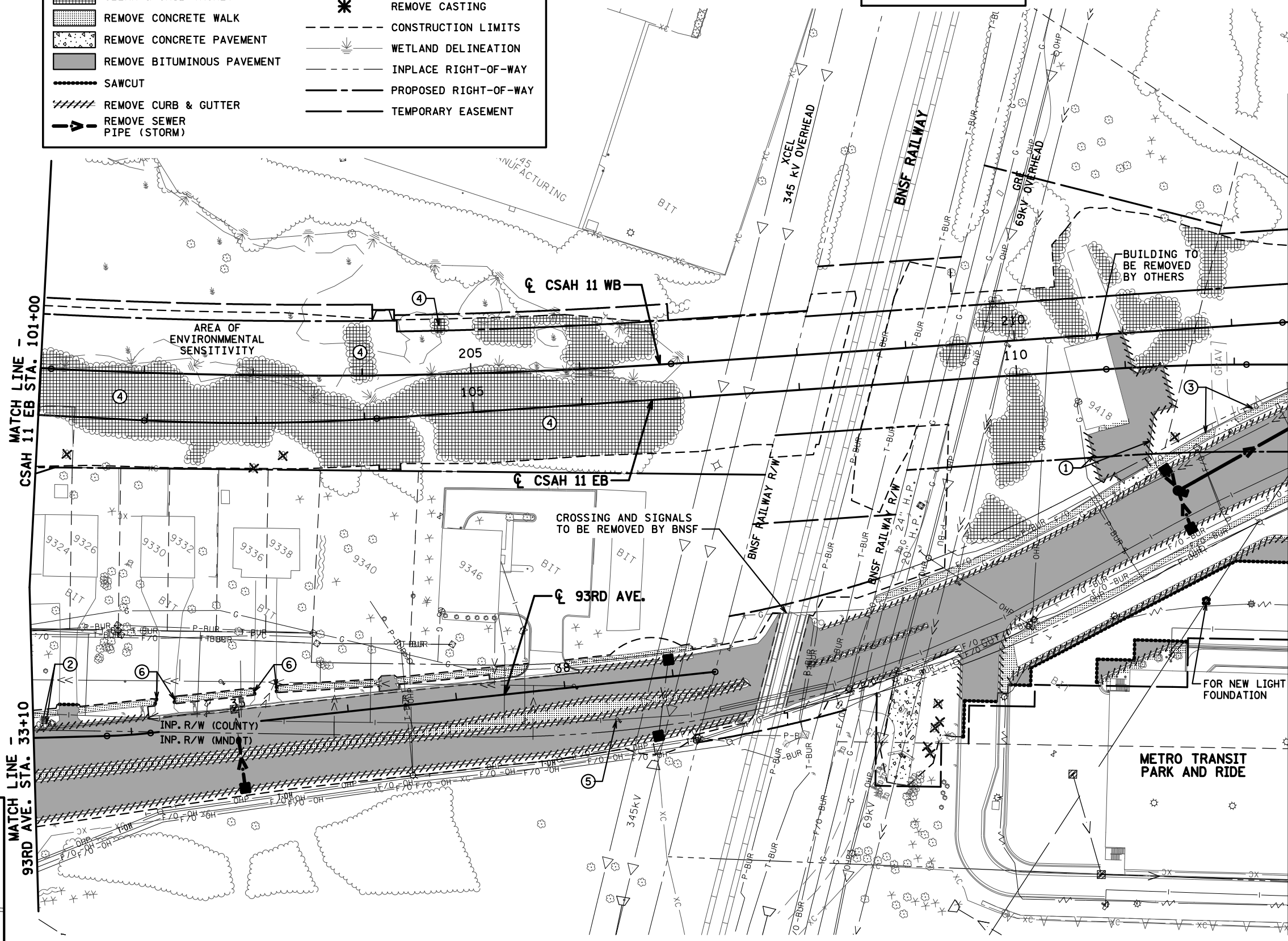
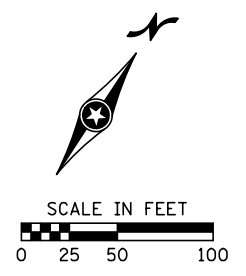


NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/24/2020 TIME: 10:09:35 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000 04_Production\01_CAD\Highway\Sheets\cd00261036_rmb.dgn

LEGEND	
	CLEAR & GRUB (TREE)
	CLEAR & GRUB (ACRE)
	REMOVE CONCRETE WALK
	REMOVE CONCRETE PAVEMENT
	REMOVE BITUMINOUS PAVEMENT
	SAWCUT
	REMOVE CURB & GUTTER
	REMOVE SEWER PIPE (STORM)
	REMOVE MANHOLE OR CATCH BASIN
	REMOVE CASTING
	CONSTRUCTION LIMITS
	WETLAND DELINEATION
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT

WARNING!
 HIGH VOLTAGE
 OVERHEAD ELECTRICAL
 TRANSMISSION LINES



MATCH LINE - 112+50
 CSAH 11 EB STA. 112+50

MATCH LINE - 101+00
 CSAH 11 EB STA. 101+00

MATCH LINE - 33+10
 93RD AVE. STA. 33+10

- GENERAL NOTES:**
- SEE WATER MAIN AND SANITARY SEWER PLANS FOR WATERMAIN AND SANITARY SEWER REMOVALS.
 - SEE LIGHTING PLANS FOR LIGHTING REMOVALS.
- SPECIFIC NOTES:**
- 1 REMOVE CONCRETE CURB.
 - 2 REMOVE MAIL BOX SUPPORT.
 - 3 REMOVE STONE RETAINING WALL.
 - 4 TREES WITHIN THIS AREA TO BE REMOVED BY THE COUNTY. CONTRACTOR TO GRUB ONLY.
 - 5 REMOVE CONCRETE STRUCTURE.
 - 6 SAWCUT BITUMINOUS TO LINE UP DRIVEWAY EDGE.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020

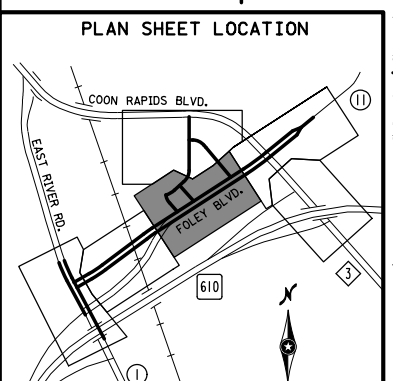
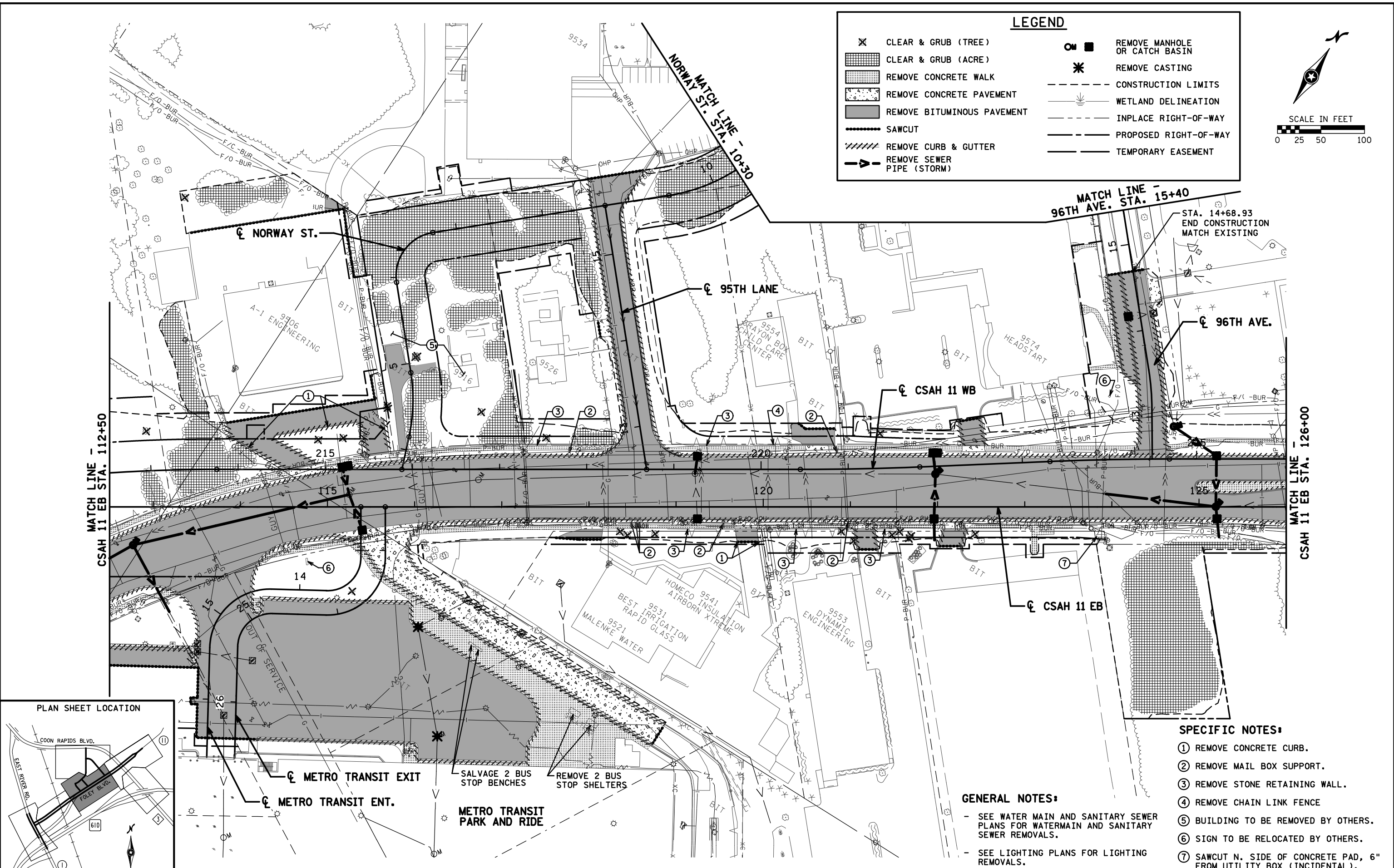
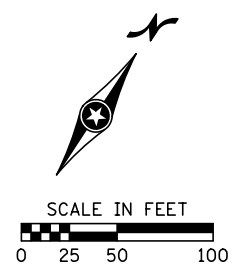


CSAH 11 EB STA. 101+00 TO STA. 112+50
 STATE PROJ. NO. 002-611-036
 INPLACE TOPOGRAPHY, UTILITIES AND REMOVALS
 SHEET NO. 91 OF 416 SHEETS

DATE: 12/15/2020 TIME: 8:26:17 AM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Project\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_rmc.dgn

LEGEND

	CLEAR & GRUB (TREE)		REMOVE MANHOLE OR CATCH BASIN
	CLEAR & GRUB (ACRE)		REMOVE CASTING
	REMOVE CONCRETE WALK		CONSTRUCTION LIMITS
	REMOVE CONCRETE PAVEMENT		WETLAND DELINEATION
	REMOVE BITUMINOUS PAVEMENT		INPLACE RIGHT-OF-WAY
	SAWCUT		PROPOSED RIGHT-OF-WAY
	REMOVE CURB & GUTTER		TEMPORARY EASEMENT
	REMOVE SEWER PIPE (STORM)		



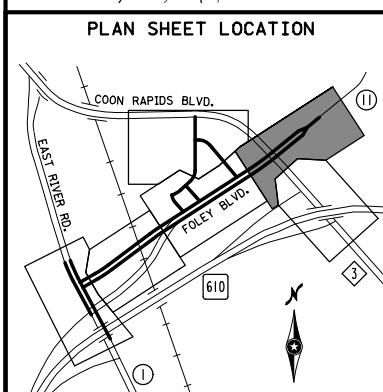
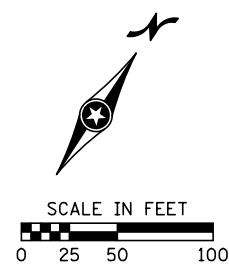
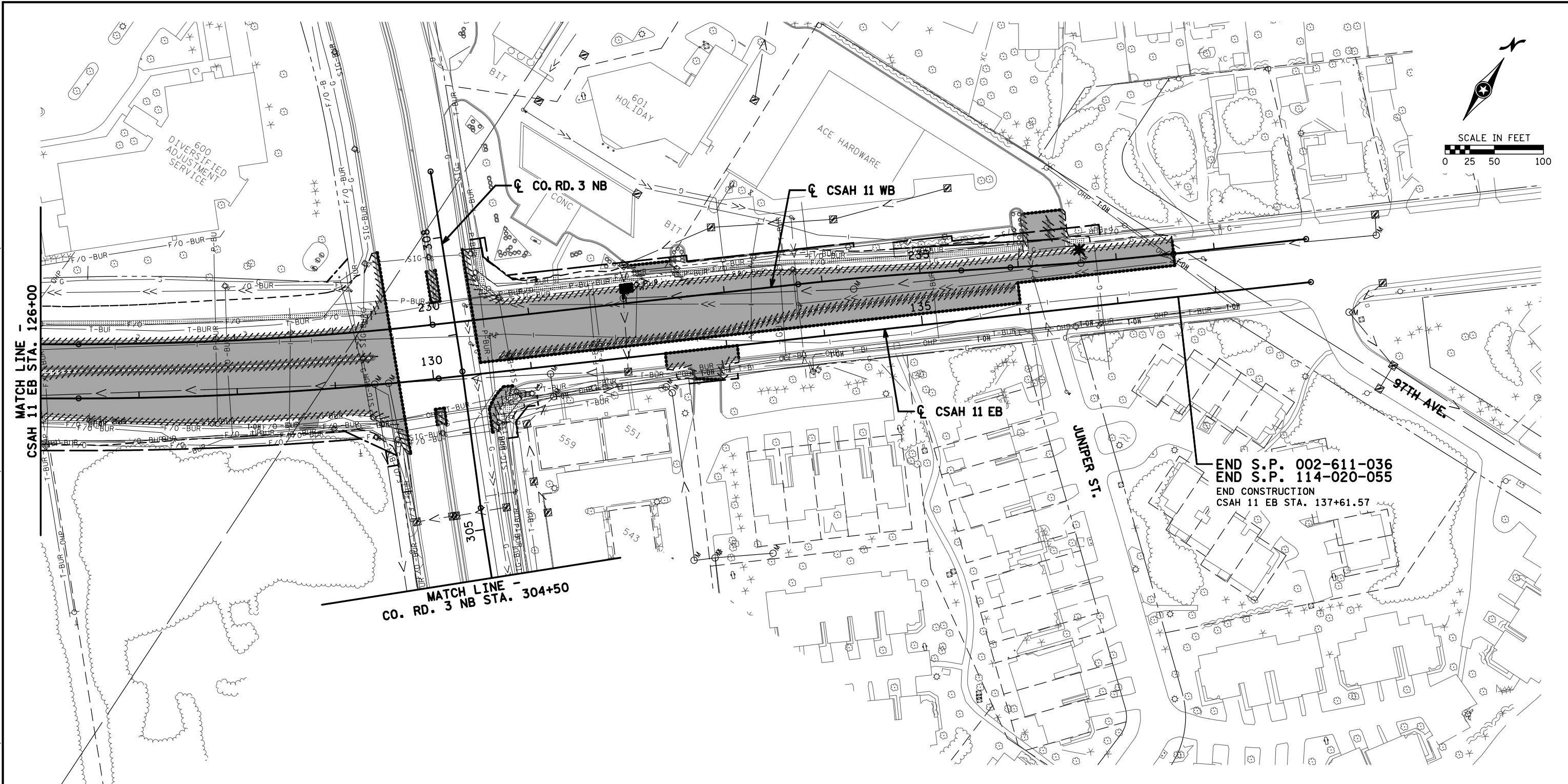
- #### SPECIFIC NOTES:
- ① REMOVE CONCRETE CURB.
 - ② REMOVE MAIL BOX SUPPORT.
 - ③ REMOVE STONE RETAINING WALL.
 - ④ REMOVE CHAIN LINK FENCE
 - ⑤ BUILDING TO BE REMOVED BY OTHERS.
 - ⑥ SIGN TO BE RELOCATED BY OTHERS.
 - ⑦ SAWCUT N. SIDE OF CONCRETE PAD, 6" FROM UTILITY BOX (INCIDENTAL).

GENERAL NOTES:

- SEE WATER MAIN AND SANITARY SEWER PLANS FOR WATERMAIN AND SANITARY SEWER REMOVALS.
- SEE LIGHTING PLANS FOR LIGHTING REMOVALS.

	DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		CSAH 11 EB STA. 112+50 TO STA. 126+00	INPLACE TOPOGRAPHY, UTILITIES, AND REMOVALS
	DRW: RRC	SIGNATURE:		STATE PROJ. NO. 002-611-036	SHEET NO. 92 OF 416 SHEETS
	CHK: SAO	LIC. NO. 48250 DATE: 12/15/2020			
NO.	DATE	BY	DESCRIPTION OF REVISIONS		

DATE: 11/24/2020
 TIME: 10:10:46 PM
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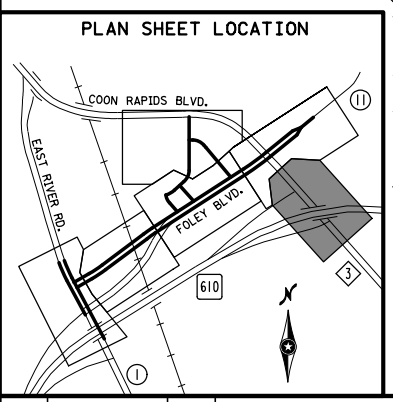
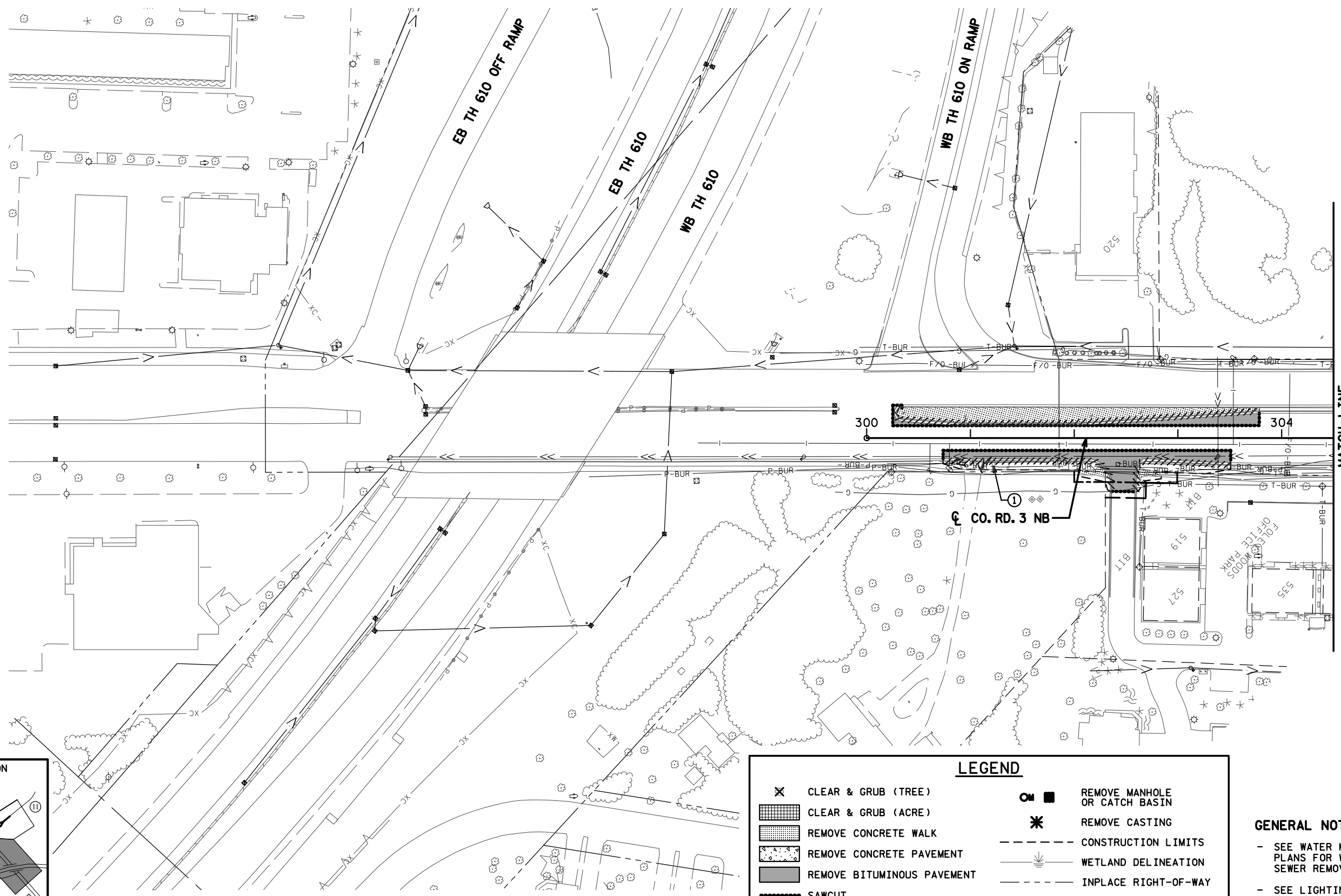
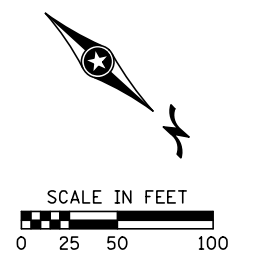
LEGEND	
	CLEAR & GRUB (TREE)
	CLEAR & GRUB (ACRE)
	REMOVE CONCRETE WALK
	REMOVE CONCRETE PAVEMENT
	REMOVE BITUMINOUS PAVEMENT
	SAWCUT
	REMOVE CURB & GUTTER
	REMOVE SEWER PIPE (STORM)
	REMOVE MANHOLE OR CATCH BASIN
	REMOVE CASTING
	CONSTRUCTION LIMITS
	WETLAND DELINEATION
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT

- GENERAL NOTES:**
- SEE WATER MAIN AND SANITARY SEWER PLANS FOR WATERMAIN AND SANITARY SEWER REMOVALS.
 - SEE LIGHTING PLANS FOR LIGHTING REMOVALS.
 - SEE TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: RRC	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020
CHK: SAO	

	CSAH 11 EB STA 126+00 TO STA. 137+61.57	INPLACE TOPOGRAPHY, UTILITIES, AND REMOVALS
	STATE PROJ. NO. 002-611-036	SHEET NO. 93 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:11:20 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000 04_Production\01_CAD\Highway\Sheets\cd00261036_rme.dgn



LEGEND	
	CLEAR & GRUB (TREE)
	CLEAR & GRUB (ACRE)
	REMOVE CONCRETE WALK
	REMOVE CONCRETE PAVEMENT
	REMOVE BITUMINOUS PAVEMENT
	SAWCUT
	REMOVE CURB & GUTTER
	REMOVE SEWER PIPE (STORM)
	REMOVE MANHOLE OR CATCH BASIN
	REMOVE CASTING
	CONSTRUCTION LIMITS
	WETLAND DELINEATION
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT

- GENERAL NOTES:**
- SEE WATER MAIN AND SANITARY SEWER PLANS FOR WATERMAIN AND SANITARY SEWER REMOVALS.
 - SEE LIGHTING PLANS FOR LIGHTING REMOVALS.
- SPECIFIC NOTES:**
- ① REMOVE MAIL BOX SUPPORT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

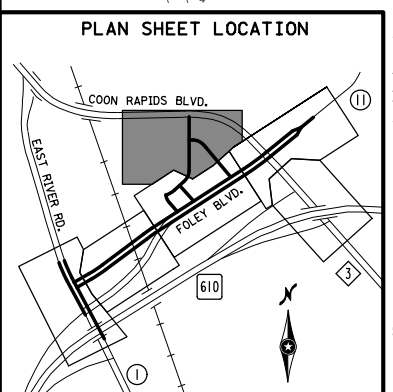
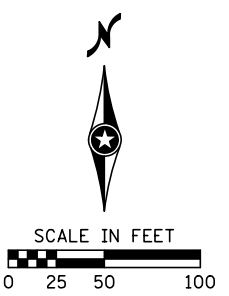
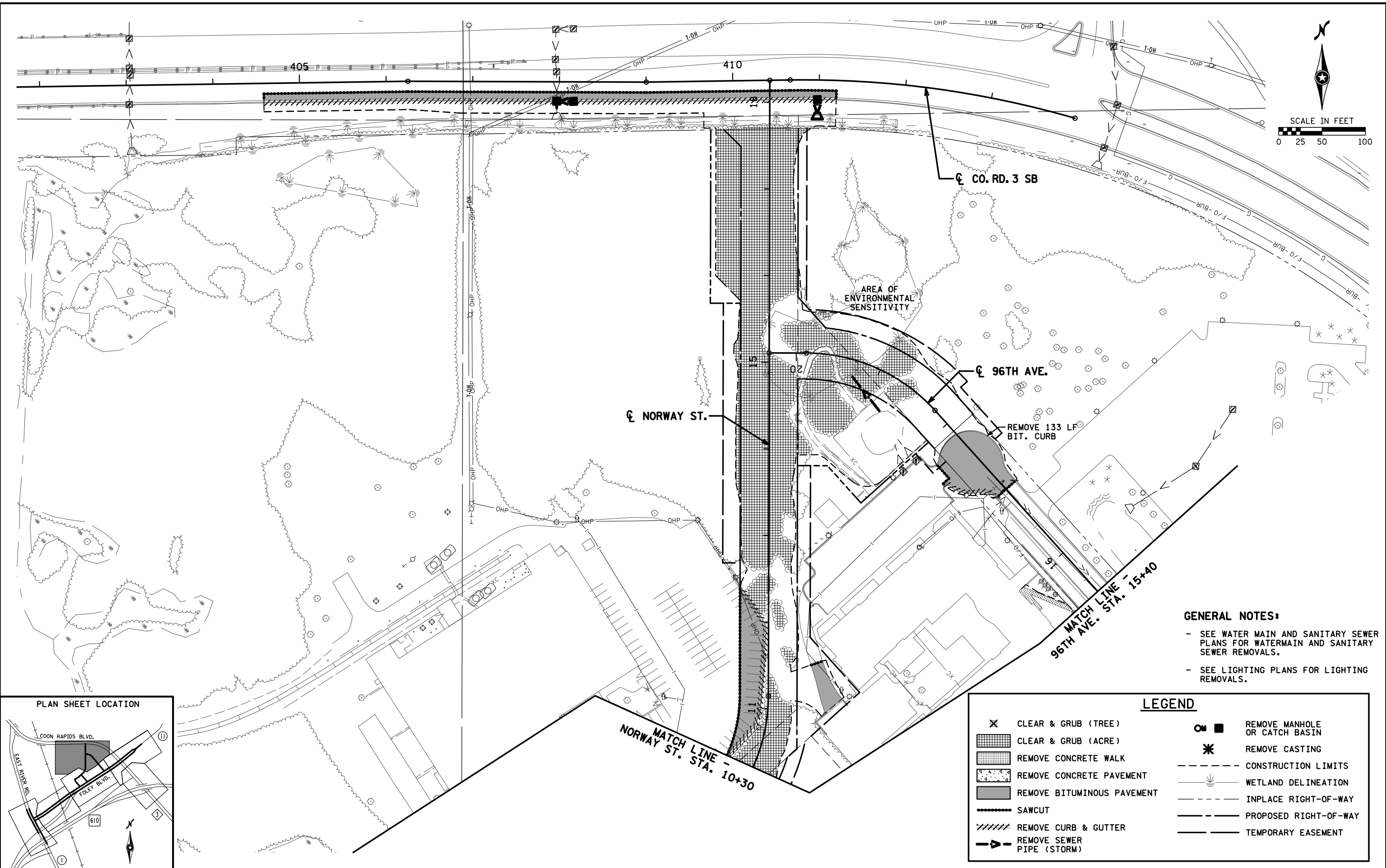
DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



DATE: 11/24/2020 TIME: 10:11:26 PM
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- GENERAL NOTES:**
- SEE WATER MAIN AND SANITARY SEWER PLANS FOR WATERMAIN AND SANITARY SEWER REMOVALS.
 - SEE LIGHTING PLANS FOR LIGHTING REMOVALS.

LEGEND	
	CLEAR & GRUB (TREE)
	CLEAR & GRUB (ACRE)
	REMOVE CONCRETE WALK
	REMOVE CONCRETE PAVEMENT
	REMOVE BITUMINOUS PAVEMENT
	SAWCUT
	REMOVE CURB & GUTTER
	REMOVE SEWER PIPE (STORM)
	REMOVE MANHOLE OR CATCH BASIN
	REMOVE CASTING
	CONSTRUCTION LIMITS
	WETLAND DELINEATION
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

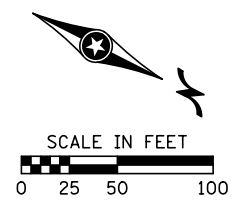
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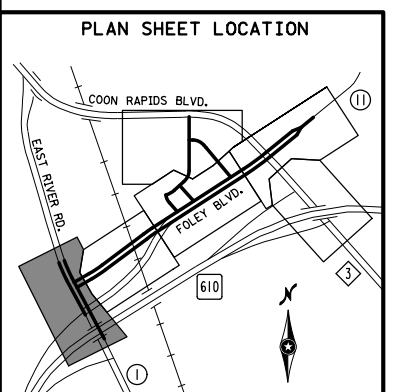
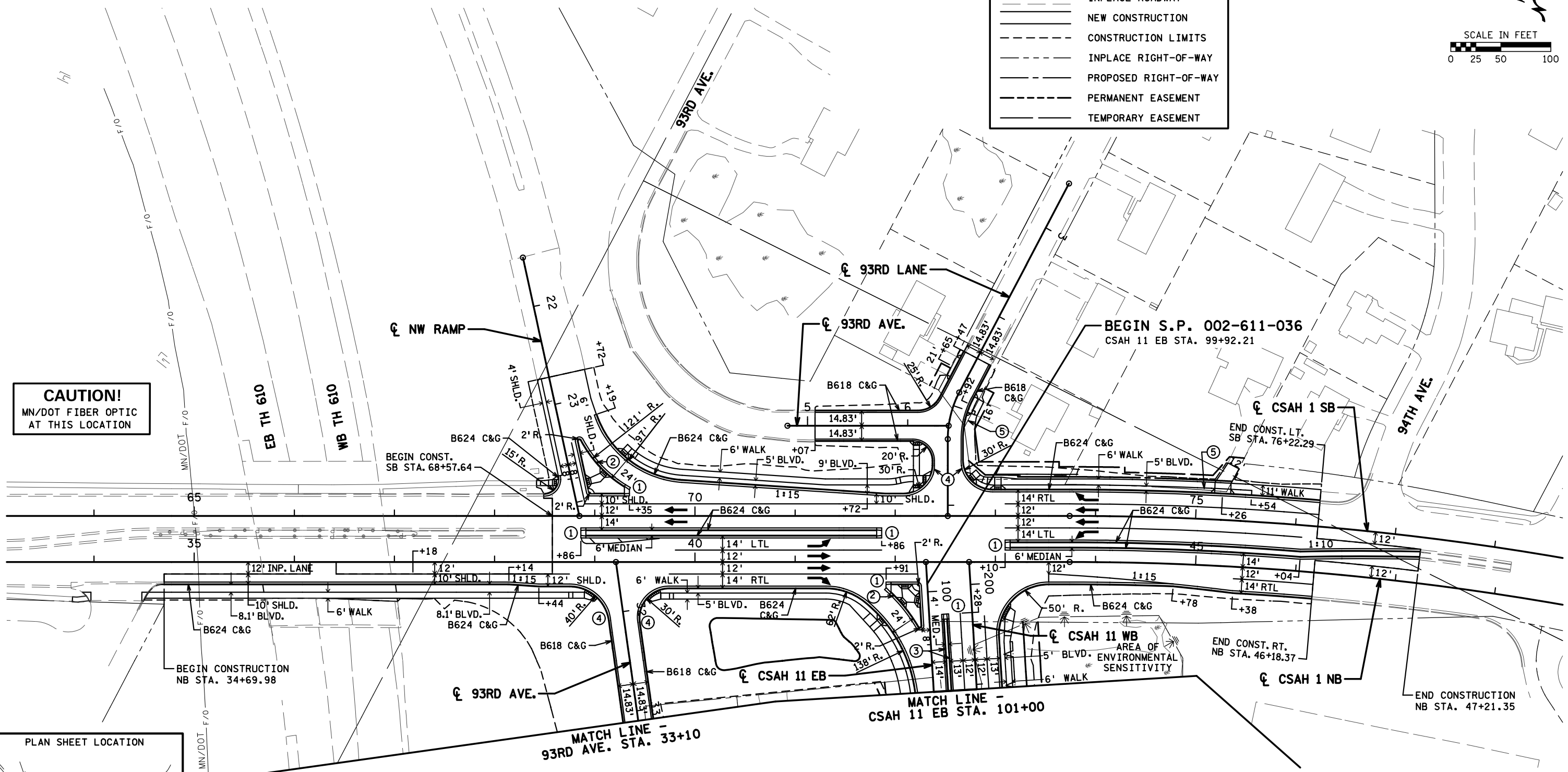
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LEGEND

- TRAFFIC FLOW
- INPLACE ROADWAY
- NEW CONSTRUCTION
- CONSTRUCTION LIMITS
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- PERMANENT EASEMENT
- TEMPORARY EASEMENT



CAUTION!
 MN/DOT FIBER OPTIC
 AT THIS LOCATION



GENERAL NOTES:

- ALL DIMENSIONS ARE TO FACE OF CURB.
- SEE INTERSECTION AND SIDEWALK DETAILS FOR ADA PEDESTRIAN RAMPS.

SPECIFIC NOTES:

- ① CONCRETE APPROACH NOSE. SEE STANDARD PLATE 7113.
- ② B424 C&G.
- ③ B618 C&G (MOD.1).
- ④ 10' TRANSITION B618 C&G TO B624 C&G. PAID FOR AS B624 C&G.
- ⑤ MAIL BOX SUPPORT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



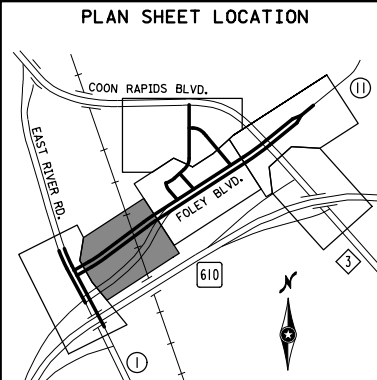
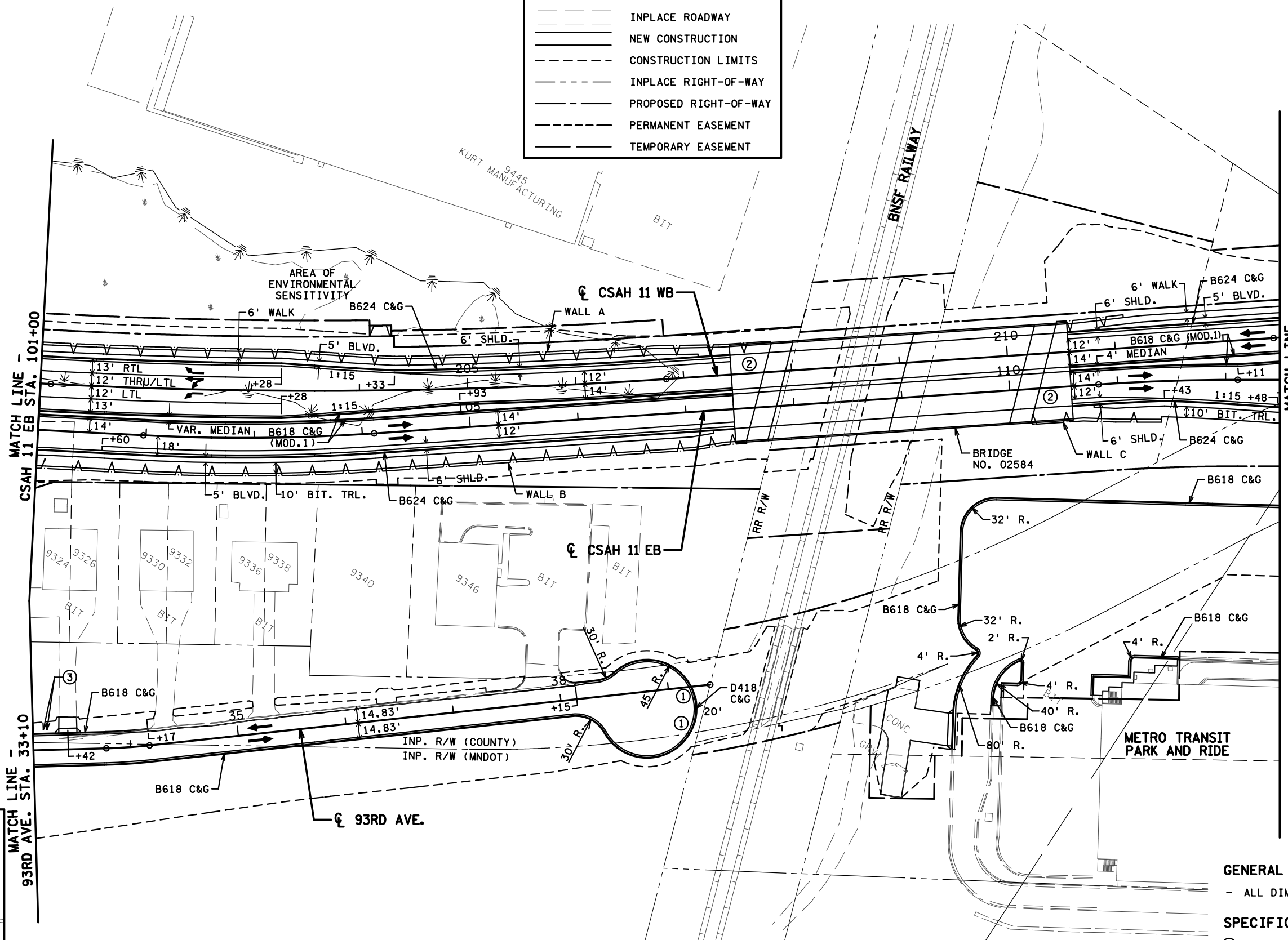
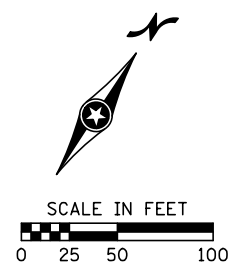
CSAH 1 NB STA. 33+78.31 TO STA. 47+21.35
 STATE PROJ. NO. 002-611-036

CONSTRUCTION PLAN
 SHEET NO. 96 OF 416 SHEETS

DATE: 12/11/2020 TIME: 2:12:57 PM
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LEGEND

- TRAFFIC FLOW
- INPLACE ROADWAY
- NEW CONSTRUCTION
- - - CONSTRUCTION LIMITS
- - - INPLACE RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- - - PERMANENT EASEMENT
- - - TEMPORARY EASEMENT



- GENERAL NOTES:**
- ALL DIMENSIONS ARE TO FACE OF CURB.
- SPECIFIC NOTES:**
- ① 10' TRANSITION B618 C&G TO D418 C&G. PAID FOR AS D418 C&G.
 - ② SEE MISCELLANEOUS DETAILS FOR APPROACH PANEL DETAILS.
 - ③ MAIL BOX SUPPORT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

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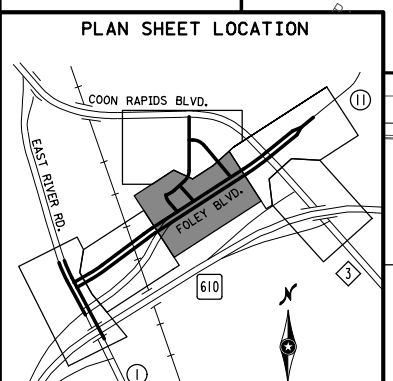
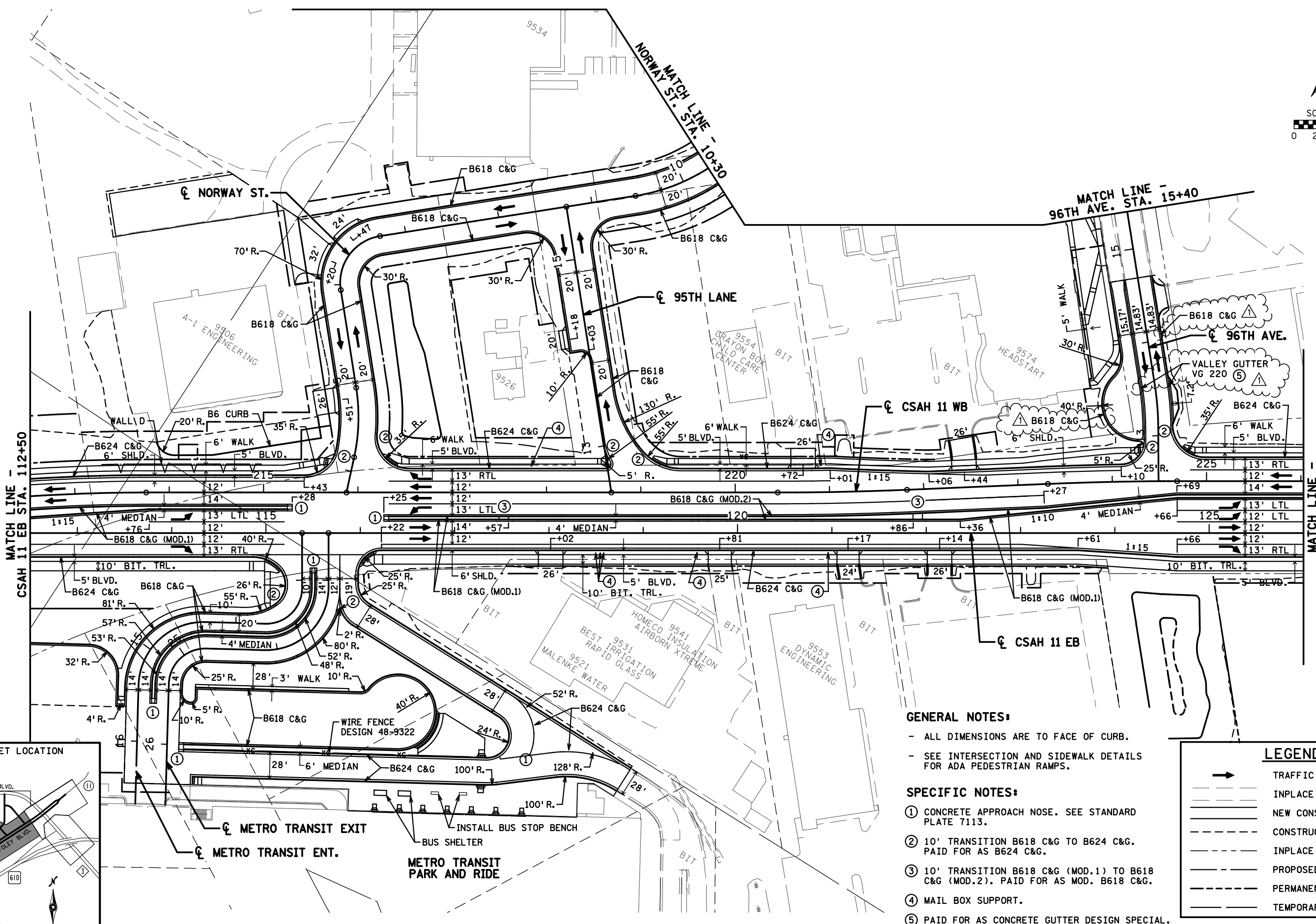
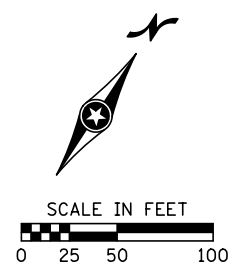
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 12/11/2020



CSAH 11 EB STA. 101+00 TO STA. 112+50
 STATE PROJ. NO. 002-611-036

CONSTRUCTION PLAN
 SHEET NO. 97 OF 416 SHEETS

DATE: 4/9/2021 TIME: 3:51:44 PM
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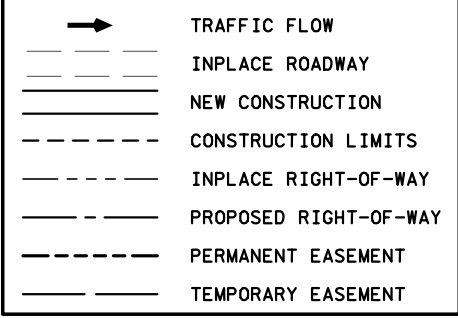
GENERAL NOTES:

- ALL DIMENSIONS ARE TO FACE OF CURB.
- SEE INTERSECTION AND SIDEWALK DETAILS FOR ADA PEDESTRIAN RAMP.

SPECIFIC NOTES:

- ① CONCRETE APPROACH NOSE. SEE STANDARD PLATE 7113.
- ② 10' TRANSITION B618 C&G TO B624 C&G. PAID FOR AS B624 C&G.
- ③ 10' TRANSITION B618 C&G (MOD.1) TO B618 C&G (MOD.2). PAID FOR AS MOD. B618 C&G.
- ④ MAIL BOX SUPPORT.
- ⑤ PAID FOR AS CONCRETE GUTTER DESIGN SPECIAL.

LEGEND



NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	4/9/21	SAO	LABELED CURB AND GUTTER.

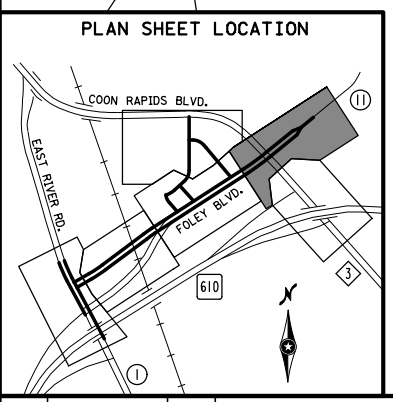
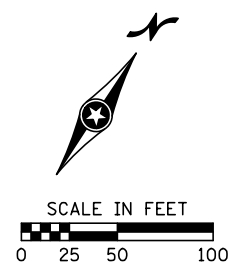
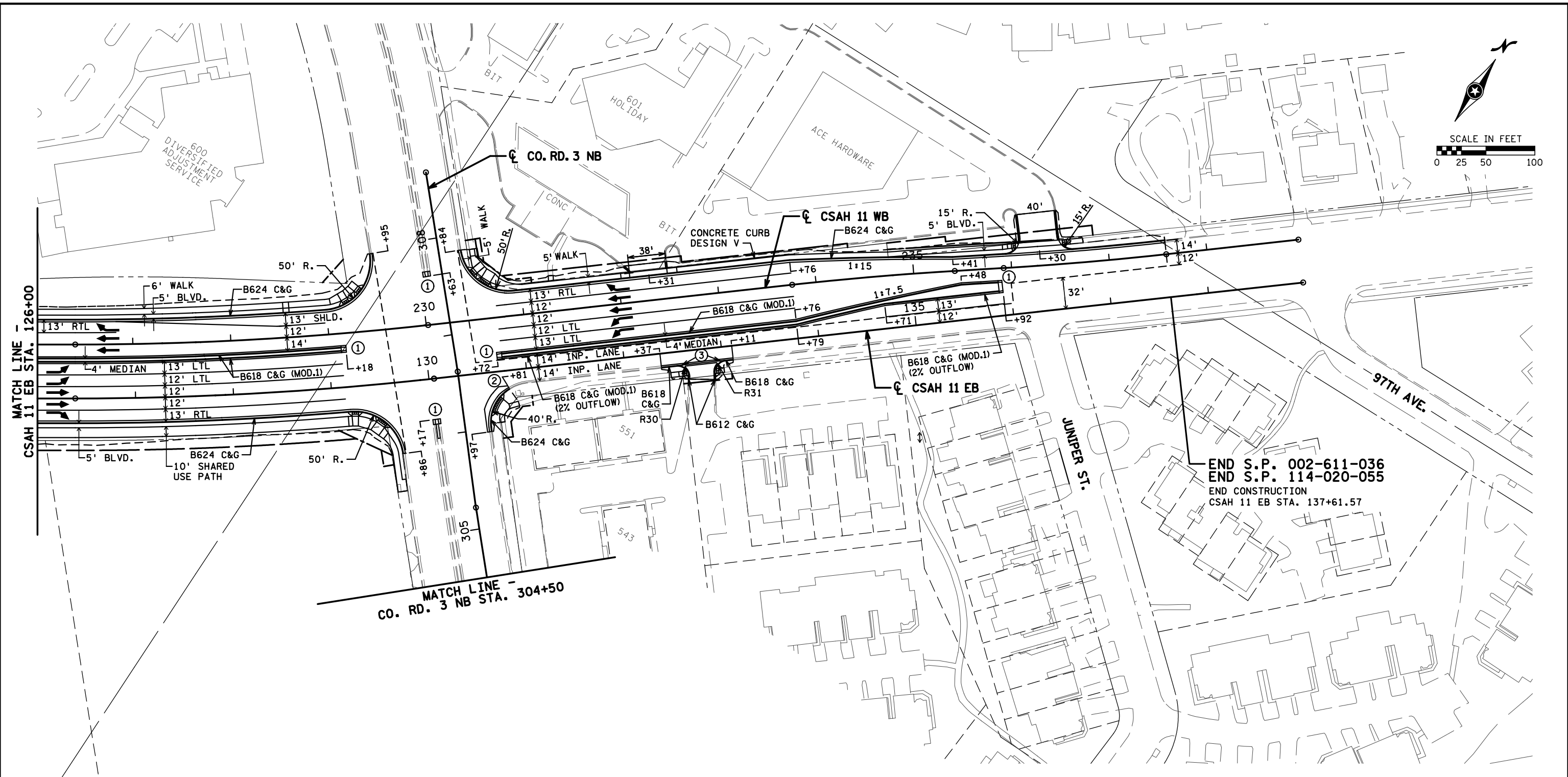
DES: TJV I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: RRC
 CHK: SAO SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 4/9/2021



CSAH 11 EB STA. 112+50 TO STA. 126+00
 STATE PROJ. NO. 002-611-036

CONSTRUCTION PLAN
 SHEET NO. 98R OF 416 SHEETS

DATE: 12/11/2020 TIME: 2:42:23 PM
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MATCH LINE -
 CO. RD. 3 NB STA. 304+50

END S.P. 002-611-036
 END S.P. 114-020-055
 END CONSTRUCTION
 CSAH 11 EB STA. 137+61.57

RADI POINTS			
POINT NO.	X	Y	RADIUS
R30	496313.72	140044.93	12'
R31	496353.03	140075.77	12'

GENERAL NOTES:

- ALL DIMENSIONS ARE TO FACE OF CURB.
- SEE INTERSECTION AND SIDEWALK DETAILS FOR ADA PEDESTRIAN RAMP.
- FOR ALL DRIVEWAY CONSTRUCTION, SEE DRIVEWAY CHART ON SHEET 66.

SPECIFIC NOTES:

- ① CONCRETE APPROACH NOSE. SEE STANDARD PLATE 7113.
- ② 10' TRANSITION B618 C&G TO B624 C&G. PAID FOR AS B624 C&G.
- ③ 10' TRANSITION B618 C&G TO B612 C&G. PAID FOR AS B618 C&G.

LEGEND	
	TRAFFIC FLOW
	INPLACE ROADWAY
	NEW CONSTRUCTION
	CONSTRUCTION LIMITS
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

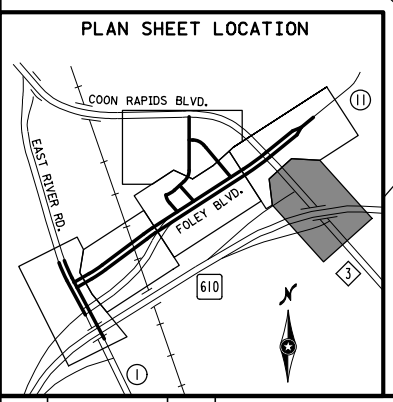
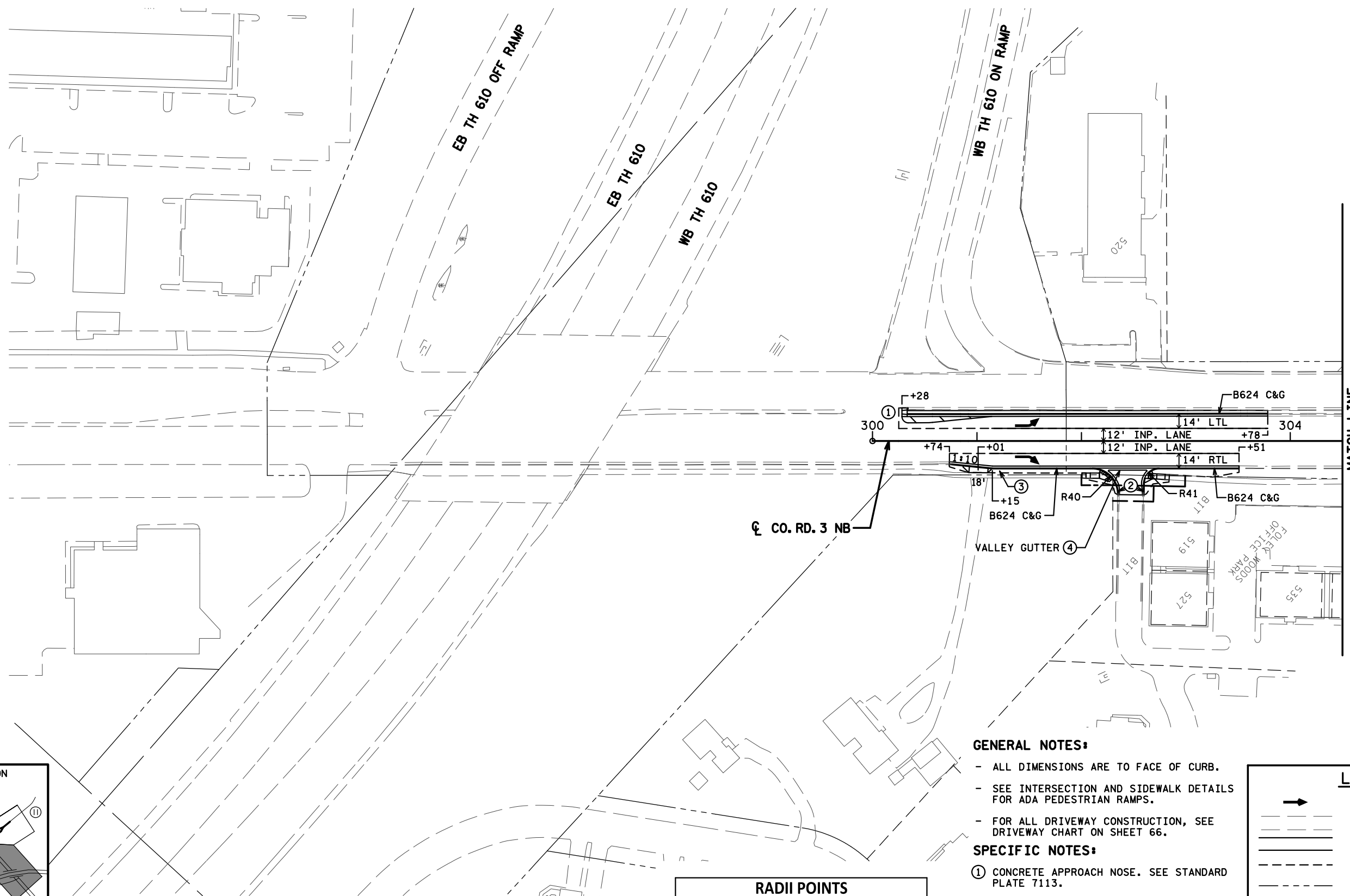
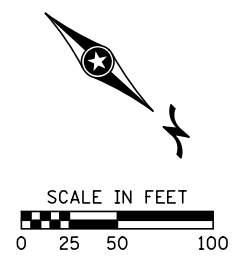
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 12/11/2020



CSAH 11 EB STA. 126+00 TO STA. 137+61.57
 STATE PROJ. NO. 002-611-036

CONSTRUCTION PLAN
 SHEET NO. 99 OF 416 SHEETS

DATE: 12/15/2020 TIME: 7:48:12 AM
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GENERAL NOTES:

- ALL DIMENSIONS ARE TO FACE OF CURB.
- SEE INTERSECTION AND SIDEWALK DETAILS FOR ADA PEDESTRIAN RAMPS.
- FOR ALL DRIVEWAY CONSTRUCTION, SEE DRIVEWAY CHART ON SHEET 66.

SPECIFIC NOTES:

- ① CONCRETE APPROACH NOSE. SEE STANDARD PLATE 7113.
- ② 10' TRANSITION B624 C&G TO B612 C&G. PAID FOR AS B624 C&G.
- ③ MAIL BOX SUPPORT.
- ④ PAID FOR AAS B624 C&G.

RADI POINTS			
POINT NO.	X	Y	RADIUS
R40	496459.77	139622.57	25'
R41	496409.44	139663.69	15'

LEGEND

- TRAFFIC FLOW
- INPLACE ROADWAY
- NEW CONSTRUCTION
- CONSTRUCTION LIMITS
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- PERMANENT EASEMENT
- TEMPORARY EASEMENT

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

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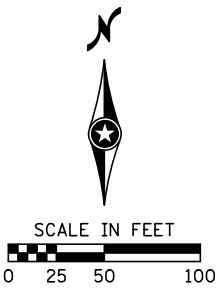
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 12/15/2020



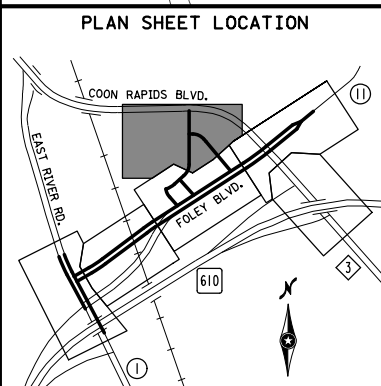
CO. RD. 3 STA. 300+00 TO STA. 304+50
 STATE PROJ. NO. 002-611-036

CONSTRUCTION PLAN
 SHEET NO. 100 OF 416 SHEETS

DATE: 12/11/2020 TIME: 2:43:30 PM
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RADI POINTS			
POINT NO.	X	Y	RADIUS
R50	495084.43	139688.63	45'
R51	495084.43	139688.63	10'
R52	495084.43	139688.63	157'
R53	495281.36	139983.54	10'
R54	495250.89	140015.61	10'
R55	494984.43	140377.86	40'
R56	494916.91	140334.95	120'
R57	495131.99	140367.82	55'



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

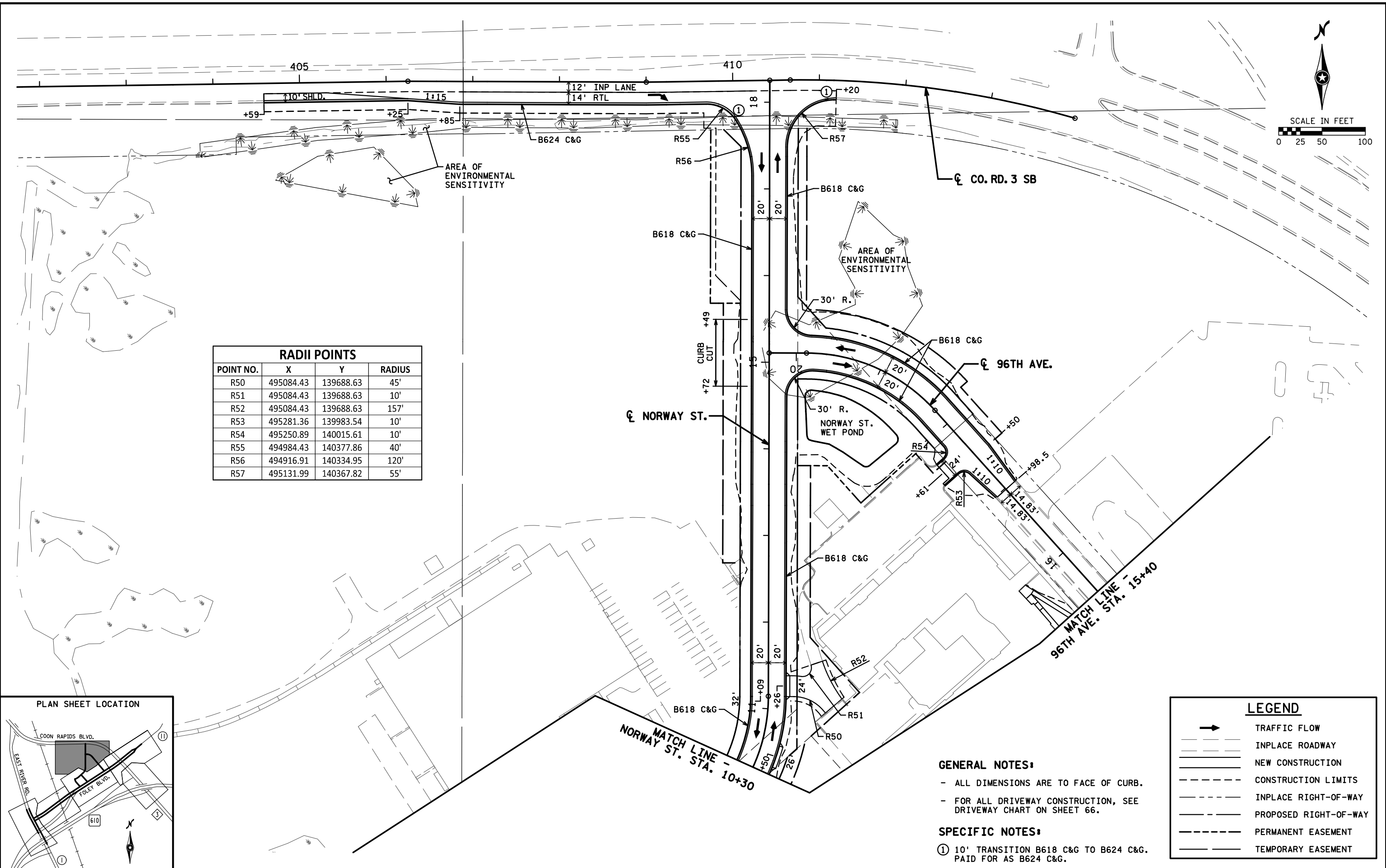
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 12/11/2020



NORWAY ST STA. 10+30 TO STA. 18+24.35
 STATE PROJ. NO. 002-611-036

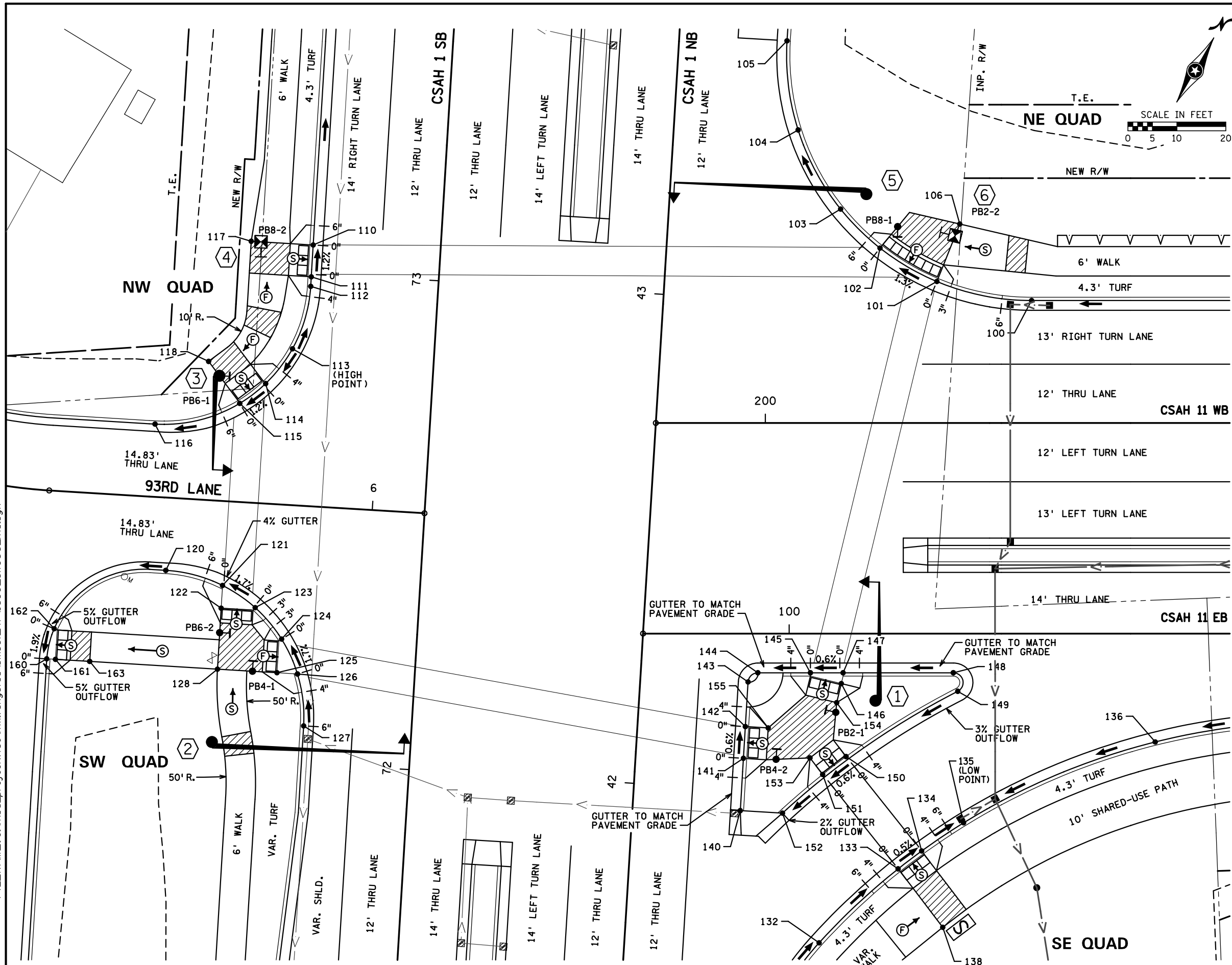
CONSTRUCTION PLAN
 SHEET NO. 101 OF 416 SHEETS



- GENERAL NOTES:**
- ALL DIMENSIONS ARE TO FACE OF CURB.
 - FOR ALL DRIVEWAY CONSTRUCTION, SEE DRIVEWAY CHART ON SHEET 66.
- SPECIFIC NOTES:**
- ① 10' TRANSITION B618 C&G TO B624 C&G. PAID FOR AS B624 C&G.

LEGEND	
	TRAFFIC FLOW
	INPLACE ROADWAY
	NEW CONSTRUCTION
	CONSTRUCTION LIMITS
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT

DATE: 11/29/2020 TIME: 12:08:34 PM
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LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PROPOSED PEDESTAL POLE
- PROPOSED SIGNAL CABINET
- X" CURB HEIGHT
- 0.0% GUTTER SLOPE FLOW DIRECTION
- XXX CONTROL POINT AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

POINT NO.	X	Y	DISTANCE TO	
			FRONT OF LANDING (FT)	BACK OF LANDING (FT)
PB2-1	493636.23	138214.12	2	5.7
PB4-2	493630.47	138199.72	2	6.9
PB4-1	493630.47	138199.72	2	7.2
PB6-2	493519.20	138165.32	2	7.5
PB6-1	ON POLE 3		2	3.7
PB8-2	ON POLE 4		6	2
PB8-1	493597.55	138306.31	2	3.8
PB2-2	ON POLE 6		6.4	2.6
POLE 1	493642.04	138220.22		
POLE 2	493529.00	138145.18		
POLE 3	493492.92	138210.71		
POLE 4	493486.60	138238.63		
POLE 5	493588.70	138308.86		
POLE 6	493608.63	138310.53		

- ### GENERAL NOTES:
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
 - ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
 - BLVD. DIMENSIONS ARE MEASURED FROM BACK OF CURB TO EDGE OF WALK.
 - SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
 - SEE SHEET 96 FOR CONSTRUCTION PLAN INFORMATION.
 - SEE SHEET 115 FOR CONTROL POINT COORDINATES AND ELEVATIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

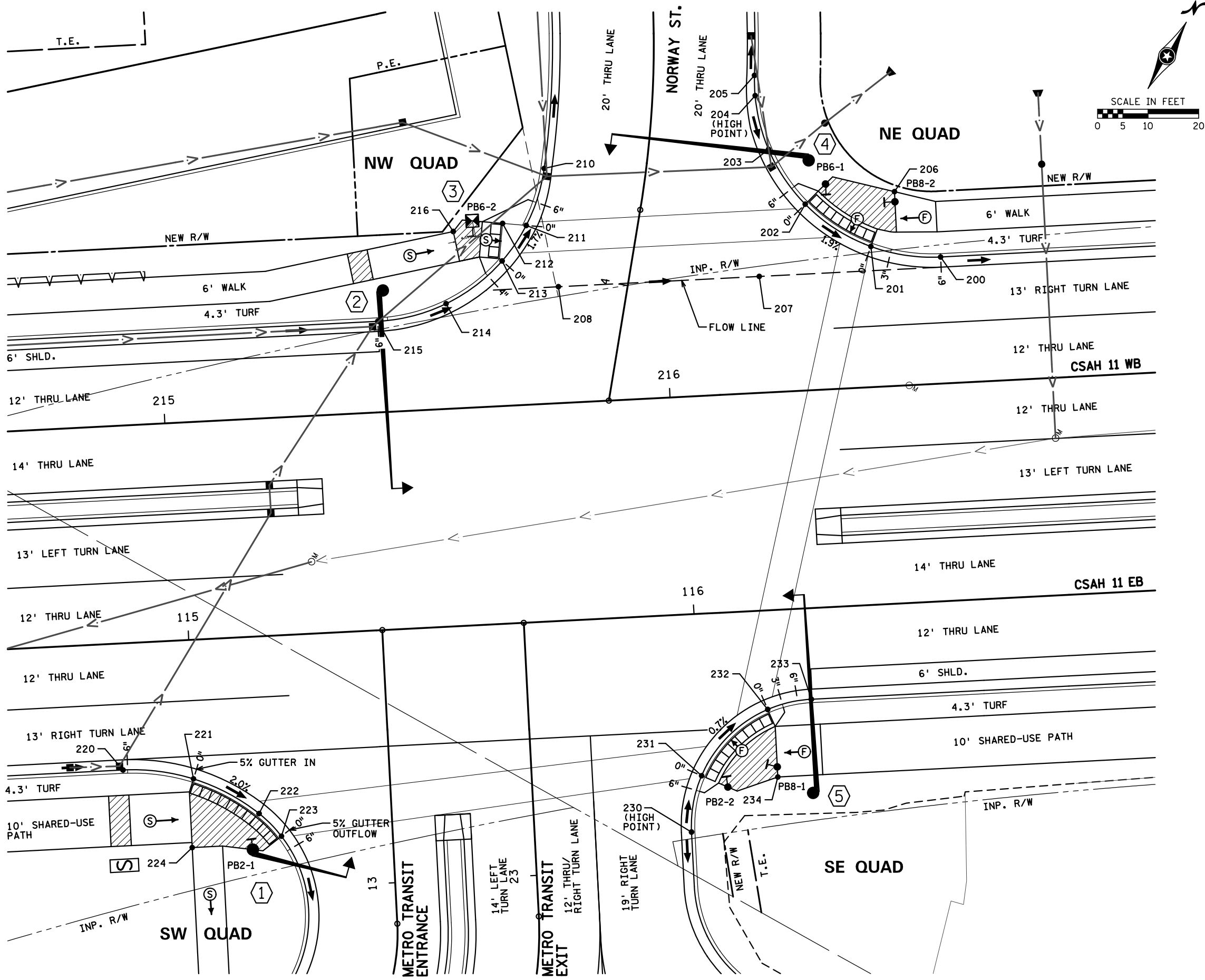
DES: TJV I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: TJV
 CHK: SAO SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/29/2020



CSAH 11 AT CSAH 1
 STATE PROJ. NO. 002-611-036

INTERSECTION AND SIDEWALK DETAILS
 SHEET NO. 102 OF 416 SHEETS

DATE: 11/29/2020 TIME: 12:09:18 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000_04_Production\01_CAD\Highway\Sheets\cd00261036_1nb.dgn



LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PROPOSED PEDESTAL POLE
- PROPOSED SIGNAL CABINET
- X" CURB HEIGHT
- 0.0% GUTTER SLOPE FLOW DIRECTION
- XXX CONTROL POINT AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

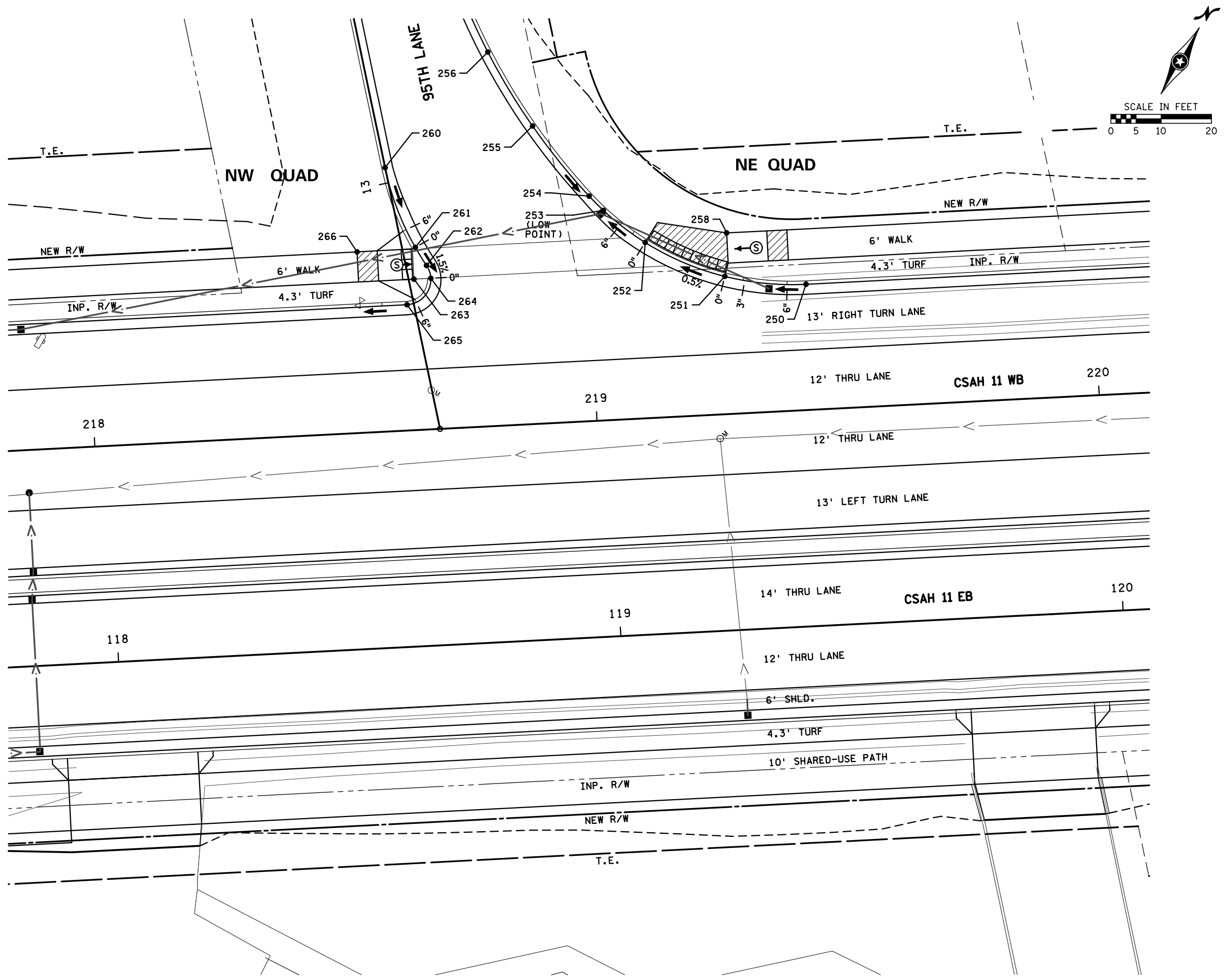
POINT NO.	DISTANCE TO		DISTANCE TO FRONT OF LANDING (FT)	DISTANCE TO BACK OF LANDING (FT)
	X	Y		
PB2-1	ON POLE 1		5.4	11.9
PB6-2	ON POLE 3		2	4.1
PB6-1	494918.54	139213.53	2	2
PB8-2	494932.18	139217.35	6.3	2
PB8-1	494967.91	139108.99	8	2
PB2-2	494961.46	139100.67	2	2
POLE 1	494886.33	139042.98		
POLE 2	494853.30	139151.54		
POLE 3	494861.73	139172.30		
POLE 4	494913.32	139215.91		
POLE 5	494976.62	139108.09		

- #### GENERAL NOTES:
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
 - ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
 - BLVD. DIMENSIONS ARE MEASURED FROM BACK OF CURB TO EDGE OF WALK.
 - SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
 - SEE SHEET 98 FOR CONSTRUCTION PLAN INFORMATION.
 - SEE SHEET 115 FOR CONTROL POINT COORDINATES AND ELEVATIONS.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: TJV	SIGNATURE:
CHK: SAO	LIC. NO. 48250 DATE: 11/29/2020



DATE: 11/29/2020 TIME: 12:09:55 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-01\Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_1.nc.dgn



LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PROPOSED PEDESTAL POLE
- PROPOSED SIGNAL CABINET
- X" CURB HEIGHT
- 0.0% GUTTER SLOPE FLOW DIRECTION
- XXX CONTROL POINT AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

GENERAL NOTES:

- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
- ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
- BLVD. DIMENSIONS ARE MEASURED FROM BACK OF CURB TO EDGE OF WALK.
- SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
- SEE SHEET 98 FOR CONSTRUCTION PLAN INFORMATION.
- SEE SHEET 115 FOR CONTROL POINT COORDINATES AND ELEVATIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: TJV
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

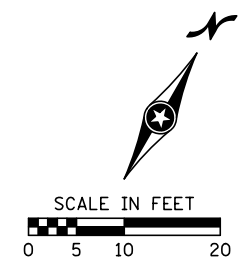
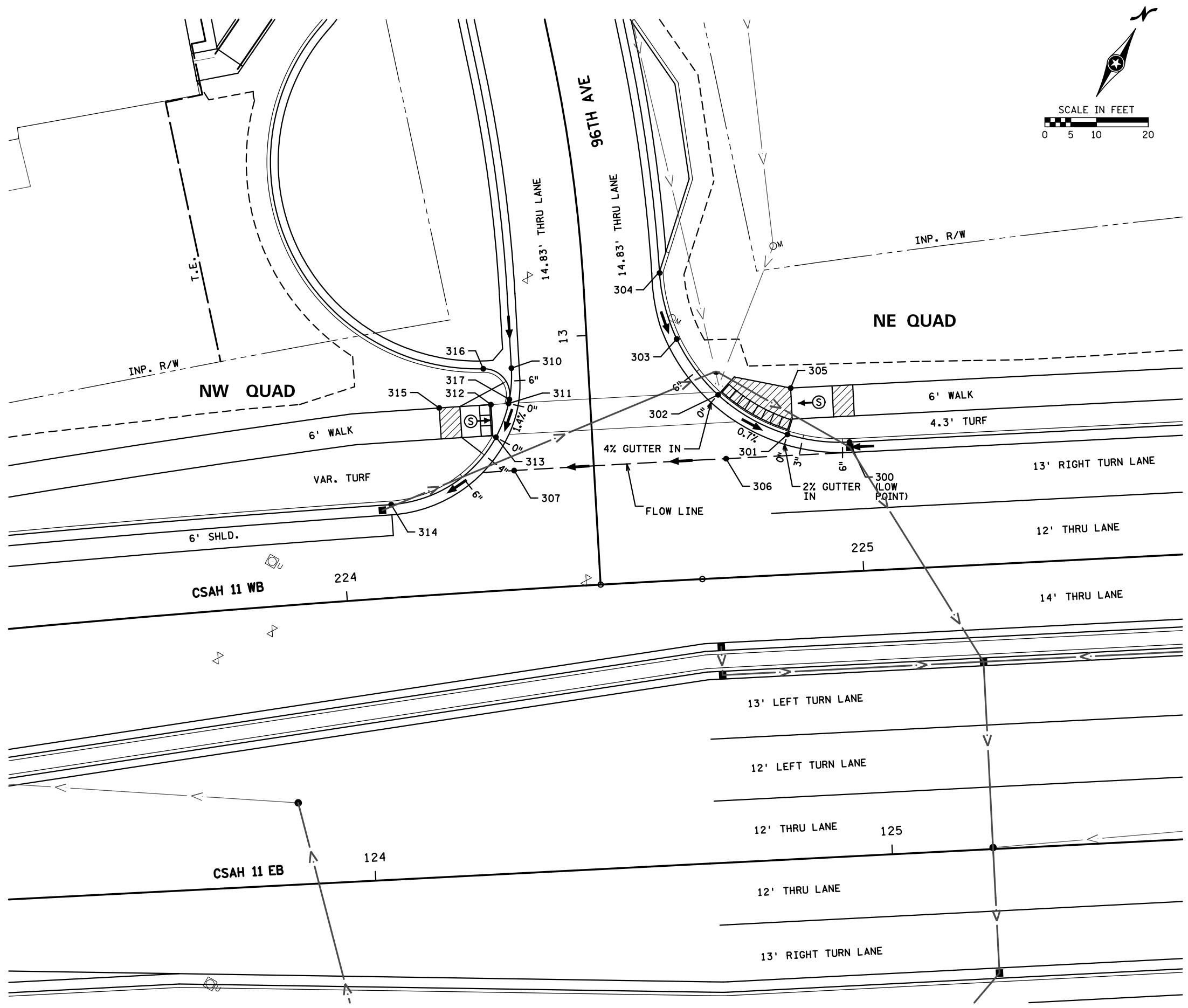
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/29/2020



CSAH 11 AT 95TH LANE
 STATE PROJ. NO. 002-611-036

INTERSECTION AND SIDEWALK DETAILS
 SHEET NO. 104 OF 416 SHEETS

DATE: 11/29/2020 TIME: 12:10:34 PM
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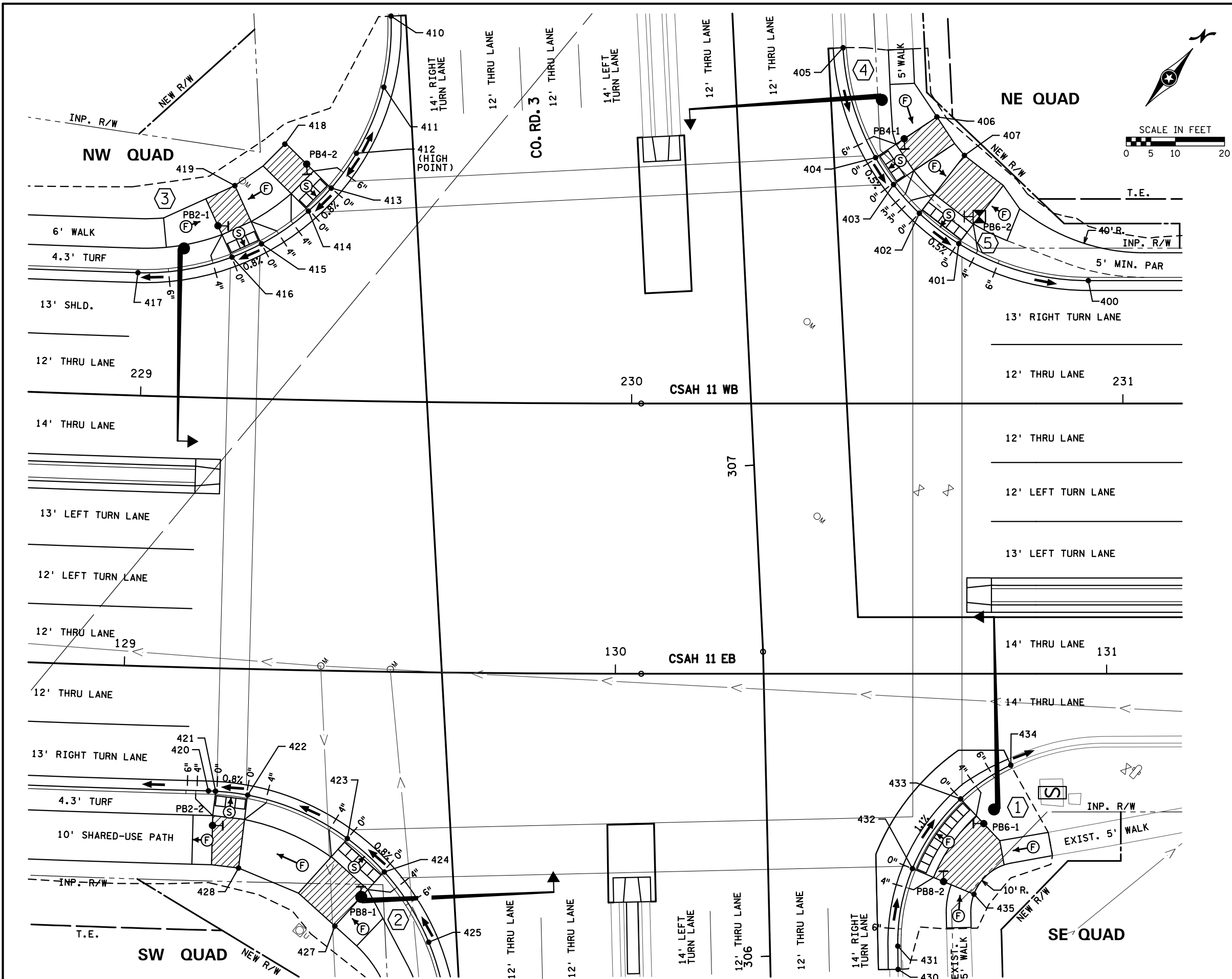


LEGEND	
	PROPOSED SIGNAL POLE
	PEDESTRIAN PUSH BUTTON STATION
	PEDESTRIAN PUSH BUTTON
	PROPOSED PEDESTAL POLE
	PROPOSED SIGNAL CABINET
X"	CURB HEIGHT
0.0%	GUTTER SLOPE FLOW DIRECTION
XXX	CONTROL POINT AT GUTTER FLOW LINE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONCRETE CURB & GUTTER
	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

- GENERAL NOTES:**
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
 - ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
 - BLVD. DIMENSIONS ARE MEASURED FROM BACK OF CURB TO EDGE OF WALK.
 - SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
 - SEE SHEET 98 FOR CONSTRUCTION PLAN INFORMATION.
 - SEE SHEET 115 FOR CONTROL POINT COORDINATES AND ELEVATIONS.

DES: TJV	DRW: TJV	CHK: SAO	
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			
SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/29/2020			
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/29/2020 TIME: 12:11:12 PM
 FILENAME: c:\tkda\proj\tech\wise\hmv\vangstad\dms01247\cd00261036_1.mxd



LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PROPOSED PEDESTAL POLE
- PROPOSED SIGNAL CABINET
- X" CURB HEIGHT
- 0.0% GUTTER SLOPE FLOW DIRECTION
- XXX CONTROL POINT AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
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SIGNAL CONTROL POINTS		DISTANCE TO FRONT OF LANDING (FT)	DISTANCE TO BACK OF LANDING (FT)
PB6-1	496179.52 139928.17	2.2	4.8
PB8-2	496180.65 139913.87	2.2	6.7
PB8-1	ON POLE 2	2	8
PB2-2	496058.18 139828.54	2	8
PB2-1	495981.83 139923.73	2	6
PB4-2	495987.87 139944.88	2	6
PB4-1	496078.80 140025.85	2	6
PB6-2	ON POLE 5	2	8
POLE 1	496179.32 139931.73		
POLE 2	496090.84 139836.43		
POLE 3	495980.25 139915.56		
POLE 4	496070.28 140029.09		
POLE 5	496100.65 140023.25		

- ### GENERAL NOTES:
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
 - ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
 - BLVD. DIMENSIONS ARE MEASURED FROM BACK OF CURB TO EDGE OF WALK.
 - SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
 - SEE SHEET 99 FOR CONSTRUCTION PLAN INFORMATION.
 - SEE SHEET 116 FOR CONTROL POINT COORDINATES AND ELEVATIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: TJV
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

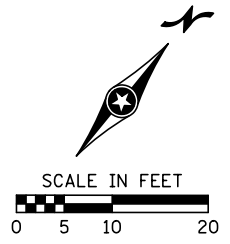
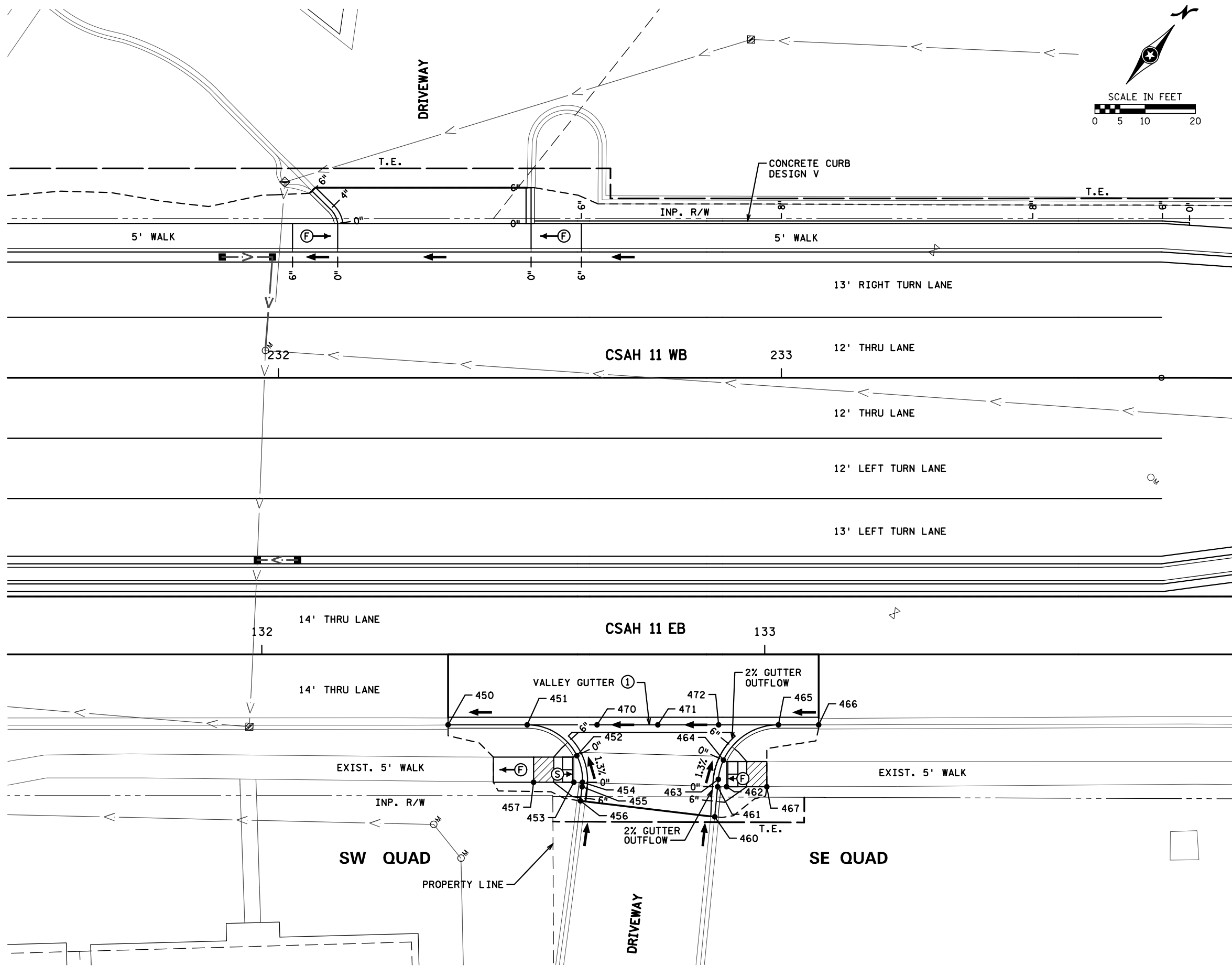
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/29/2020



CSAH 11 AT CO. RD. 3
 STATE PROJ. NO. 002-611-036

INTERSECTION AND SIDEWALK DETAILS
 SHEET NO. 106 OF 416 SHEETS

DATE: 12/14/2020 TIME: 10:25:20 AM
 FILENAME: c:\tkda_proj\tech\wise\hmv\vangstad\dms01247\cd00261036_inf.dgn



LEGEND	
	PROPOSED SIGNAL POLE
	PEDESTRIAN PUSH BUTTON STATION
	PEDESTRIAN PUSH BUTTON
	PROPOSED PEDESTAL POLE
	PROPOSED SIGNAL CABINET
X"	CURB HEIGHT
0.0%	GUTTER SLOPE FLOW DIRECTION
XXX	CONTROL POINT AT GUTTER FLOW LINE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONCRETE CURB & GUTTER
	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

- GENERAL NOTES:**
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
 - ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
 - SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
 - SEE SHEET 99 FOR CONSTRUCTION PLAN INFORMATION.
 - SEE SHEET 116 FOR CONTROL POINT COORDINATES AND ELEVATIONS.

SPECIFIC NOTES:

① PAID FOR AS B624 C&G.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

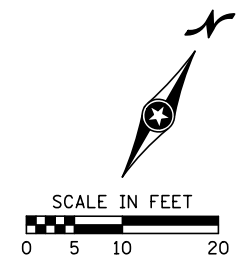
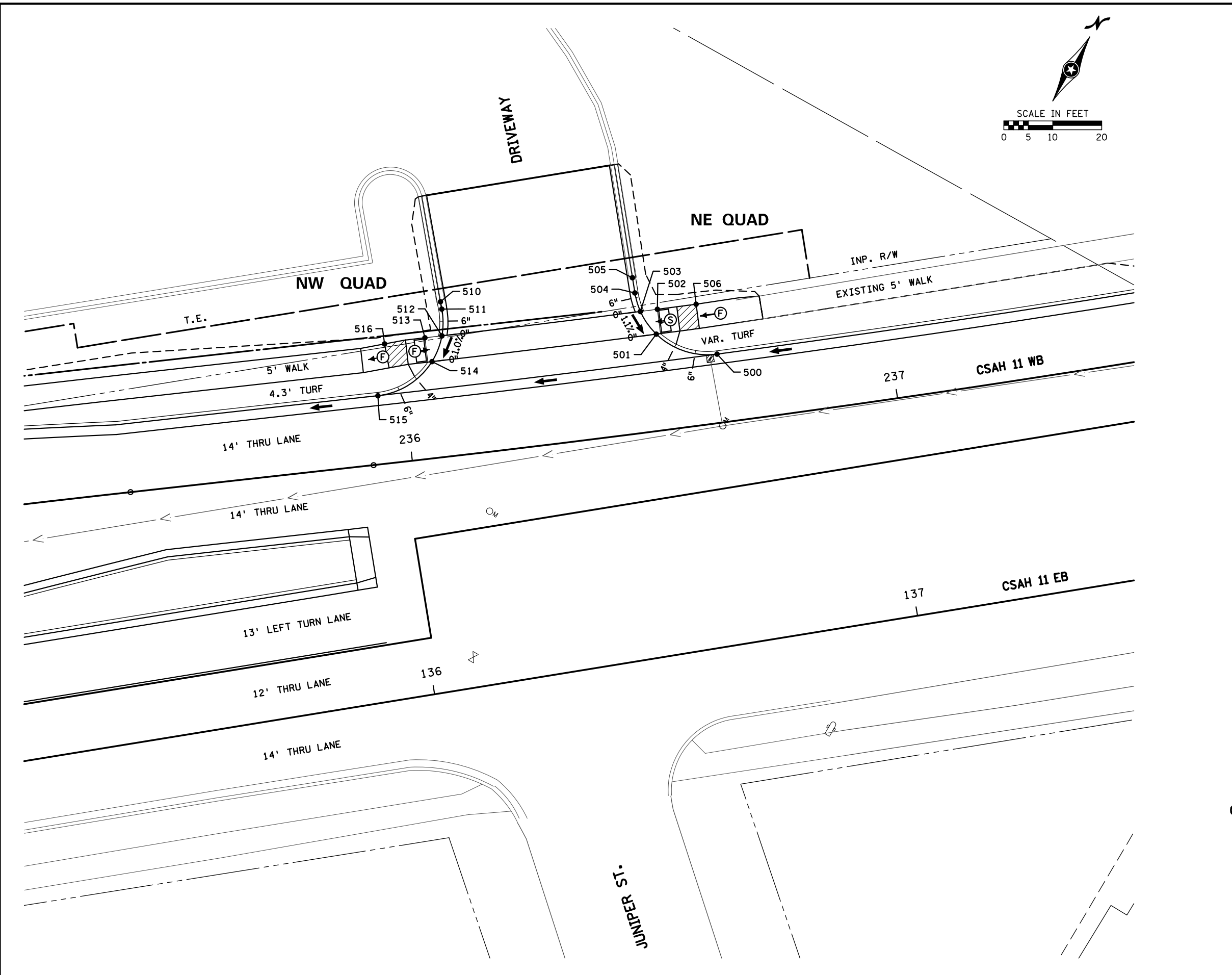
DES: TJV
 DRW: TJV
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 12/14/2020



DATE: 11/29/2020 TIME: 12:24:24 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000_04_Production\01_CAD\Highway\Sheets\cd00261036_1ng.dgn



LEGEND	
	PROPOSED SIGNAL POLE
	PEDESTRIAN PUSH BUTTON STATION
	PEDESTRIAN PUSH BUTTON
	PROPOSED PEDESTAL POLE
	PROPOSED SIGNAL CABINET
X"	CURB HEIGHT
0.0%	GUTTER SLOPE FLOW DIRECTION
XXX	CONTROL POINT AT GUTTER FLOW LINE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONCRETE CURB & GUTTER
	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
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	TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

- GENERAL NOTES:**
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
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 - SEE SHEET 116 FOR CONTROL POINT COORDINATES AND ELEVATIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: TJV
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

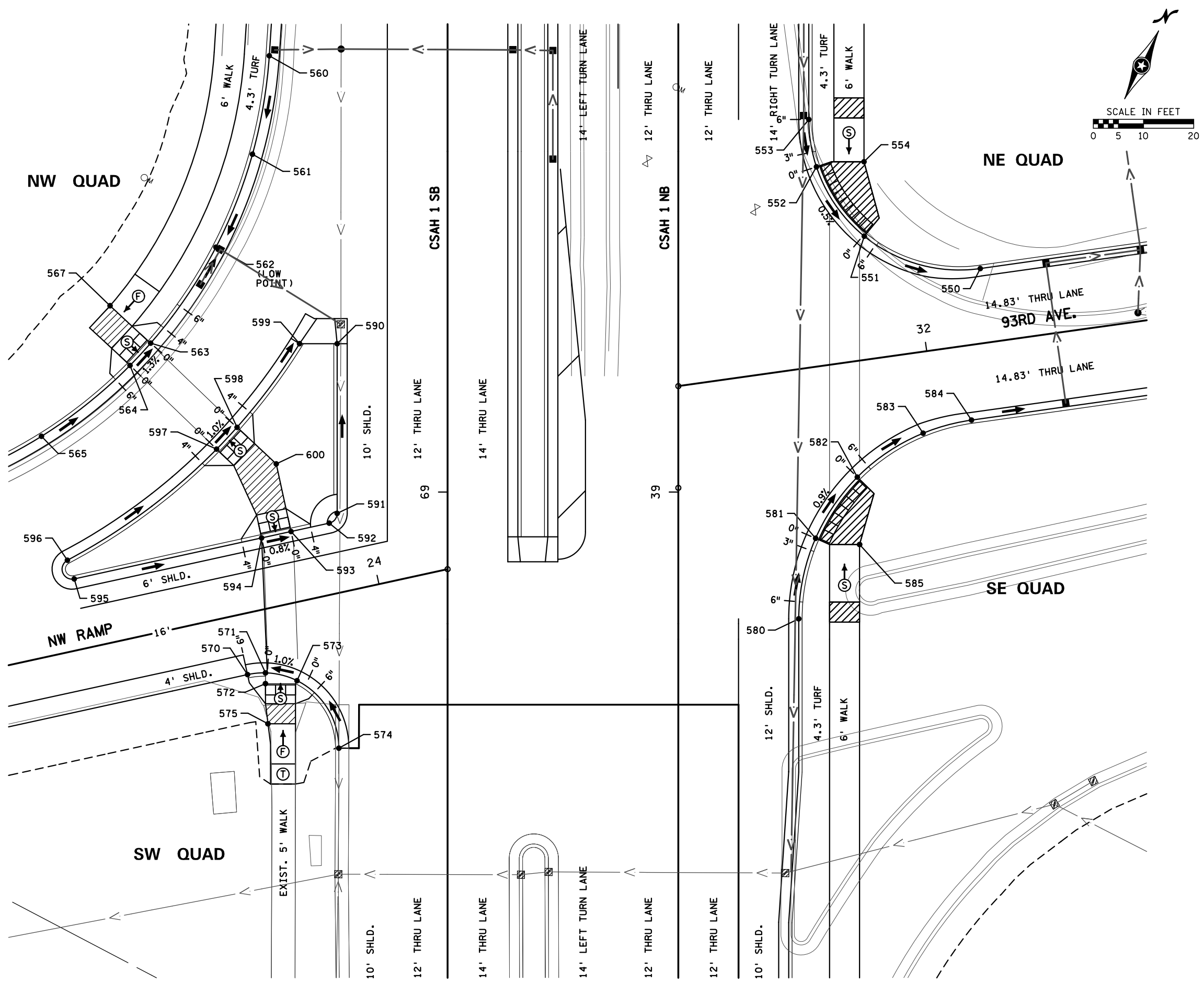
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/29/2020



CSAH 11 AT DRIVEWAY
 STATE PROJ. NO. 002-611-036

INTERSECTION AND SIDEWALK DETAIL
 SHEET NO. 108 OF 416 SHEETS

DATE: 11/29/2020 TIME: 12:13:01 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-01\Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_1.mxd



LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PROPOSED PEDESTAL POLE
- PROPOSED SIGNAL CABINET
- C" CURB HEIGHT
- 0.0% GUTTER SLOPE FLOW DIRECTION
- XXX CONTROL POINT AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
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- (T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

GENERAL NOTES:

- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
- ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
- BLVD. DIMENSIONS ARE MEASURED FROM BACK OF CURB TO EDGE OF WALK.
- SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
- SEE SHEET 96 FOR CONSTRUCTION PLAN INFORMATION.
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: TJV
 CHK: SAO

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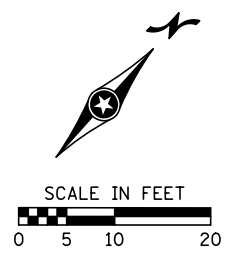
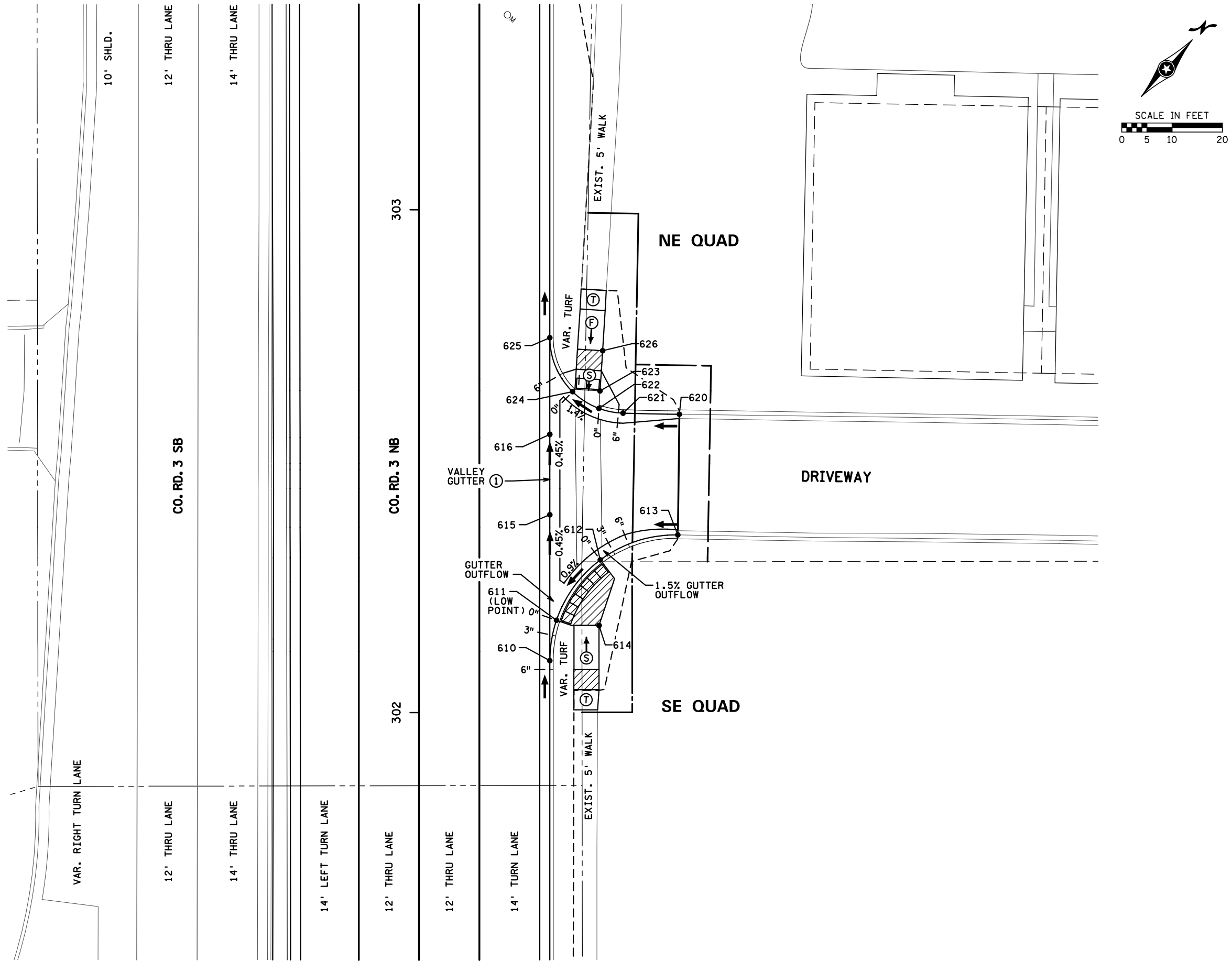
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/29/2020



CSAH 1 AT 93RD AVE.
 STATE PROJ. NO. 002-611-036

INTERSECTION AND SIDEWALK DETAILS
 SHEET NO. 109 OF 416 SHEETS

DATE: 12/14/2020 TIME: 10:30:16 AM
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LEGEND	
	PROPOSED SIGNAL POLE
	PEDESTRIAN PUSH BUTTON STATION
	PEDESTRIAN PUSH BUTTON
	PROPOSED PEDESTAL POLE
	PROPOSED SIGNAL CABINET
X"	CURB HEIGHT
0.0%	GUTTER SLOPE FLOW DIRECTION
XXX	CONTROL POINT AT GUTTER FLOW LINE
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)
	CONCRETE CURB & GUTTER
	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
	TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

- GENERAL NOTES:**
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
 - ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
 - SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
 - SEE SHEET 100 FOR CONSTRUCTION PLAN INFORMATION.
 - SEE SHEET 116 FOR CONTROL POINT COORDINATES AND ELEVATIONS.
- SPECIFIC NOTES:**
- ① PAID FOR AS B624 C&G.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: TJV
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.















SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 12/14/2020



CO. RD. 3 AT DRIVEWAY
 STATE PROJ. NO. 002-611-036

INTERSECTION AND SIDEWALK DETAILS
 SHEET NO. 110 OF 416 SHEETS

LEGEND

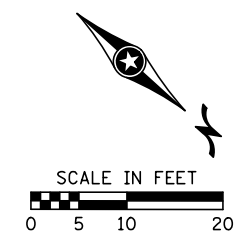
-  PROPOSED SIGNAL POLE
-  PEDESTRIAN PUSH BUTTON STATION
-  PEDESTRIAN PUSH BUTTON
-  PROPOSED PEDESTAL POLE
-  PROPOSED SIGNAL CABINET
-  X" CURB HEIGHT
-  0.0% GUTTER SLOPE FLOW DIRECTION
-  XXX CONTROL POINT AT GUTTER FLOW LINE
-  TRUNCATED DOMES (SEE STANDARD PLATE 7038)
-  CONCRETE CURB & GUTTER
-  LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
-  INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
-  INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
-  TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

GENERAL NOTES:

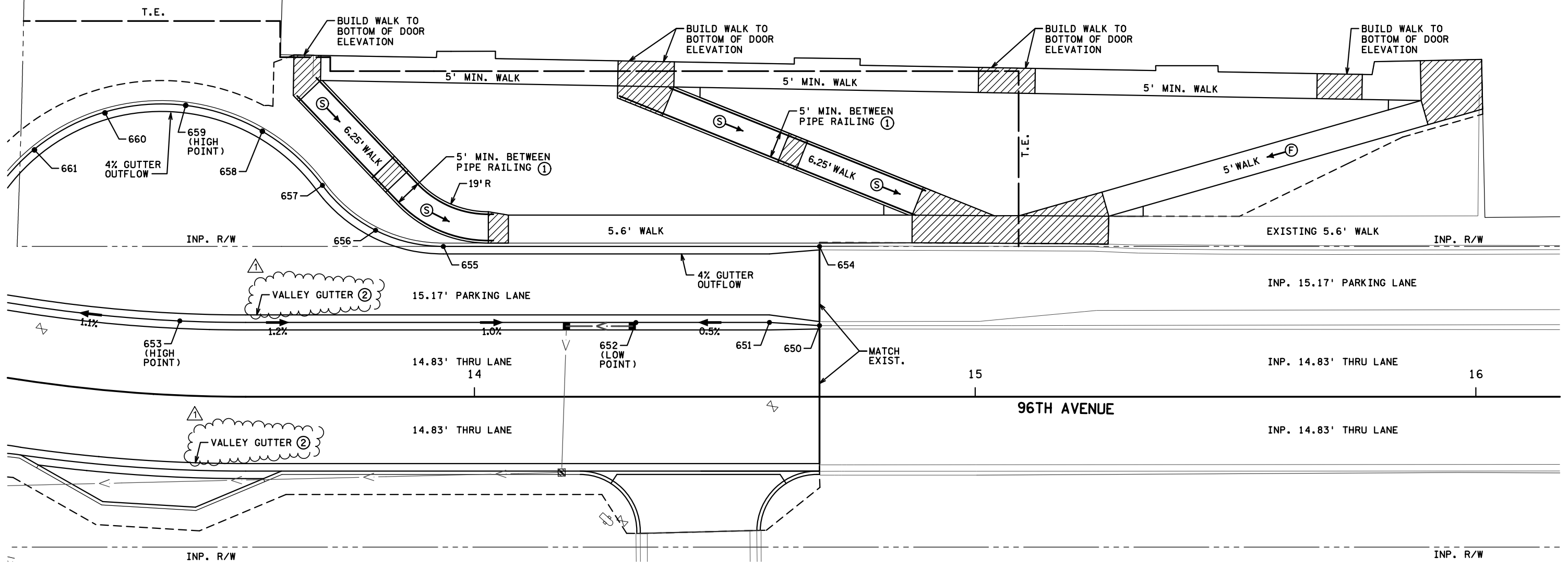
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
- ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
- SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
- SEE SHEETS 98 AND 101 FOR CONSTRUCTION PLAN INFORMATION.
- SEE SHEET 116 FOR CONTROL POINT COORDINATES AND ELEVATIONS.
- SEE STANDARD PLATE 8400 FOR HANDRAIL DETAILS.

SPECIFIC NOTES:


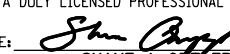
- ① SHOP DRAWINGS ARE REQUIRED FOR THE PIPE RAILING AND THE CONCRETE WALK WITH PIPE RAILINGS FOR APPROVAL OF THE ENGINEER.
- ② VALLEY GUTTER VG 220, SEE DETAIL ON SHEET 42. PAID FOR AS CONCRETE GUTTER DESIGN SPECIAL.



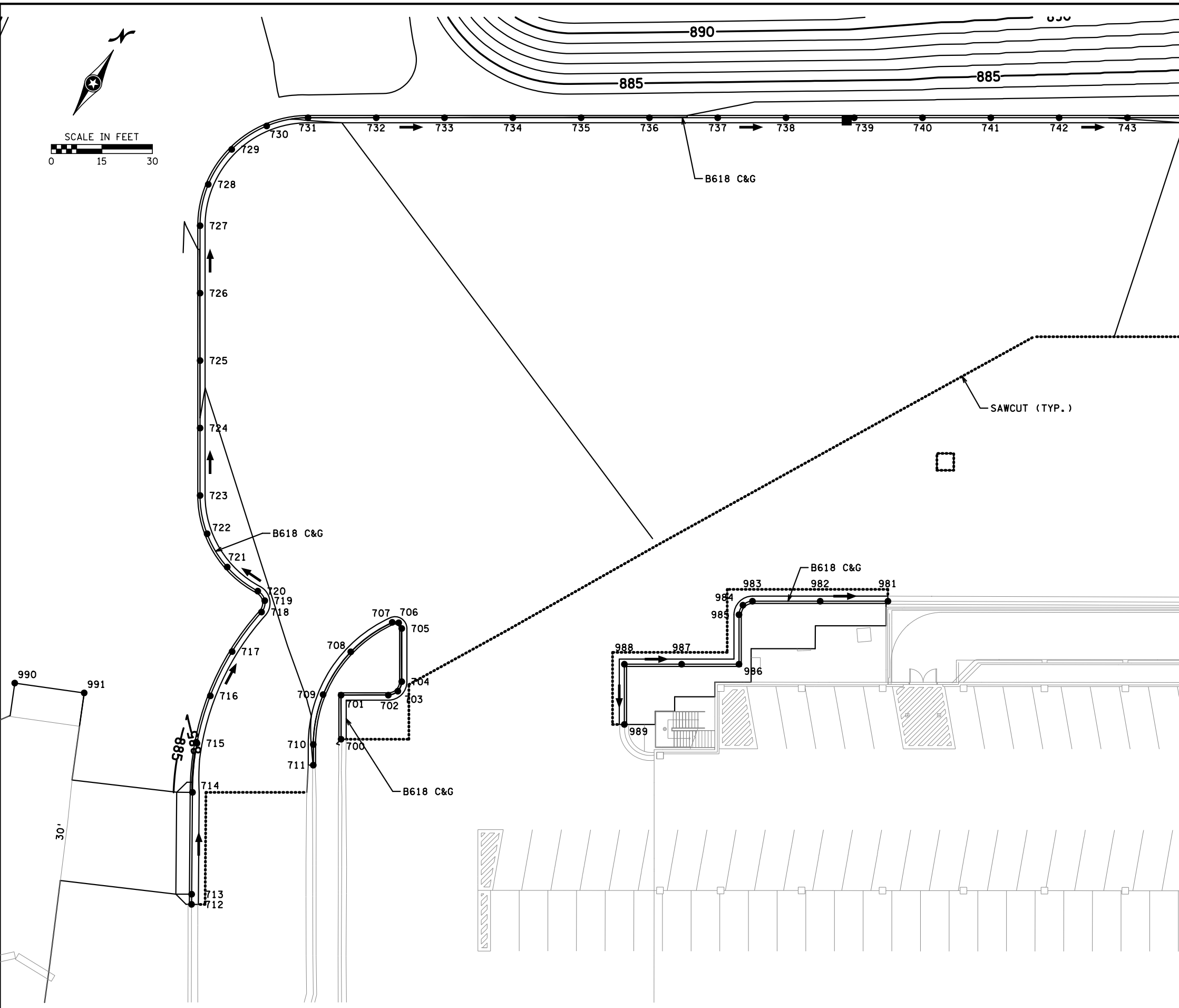
9574 HEADSTART



DATE: 4/9/2021 TIME: 3:56:39 PM FILENAME: c:\nkda\proj\tech\wise\hmv\vangstad\dms01247\cd00261036_in1.dgn

			DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		ACCAP - HEADSTART	INTERSECTION AND SIDEWALK DETAILS
1	4/9/21	SAO	ADDED VALLEY GUTTER CALL OUTS	SIGNATURE:  LIC. NO. 48250 DATE: 4/9/2021		STATE PROJ. NO. 002-611-036	SHEET NO. 111R OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: SAO			

DATE: 11/29/2020 TIME: 12:14:31 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_1nk.dgn



LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PROPOSED PEDESTAL POLE
- PROPOSED SIGNAL CABINET
- X" CURB HEIGHT
- 0.0% → GUTTER SLOPE FLOW DIRECTION
- XXX → CONTROL POINT AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

MATCH LINE - SEE SHEET 113

- #### GENERAL NOTES:
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
 - ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
 - BLVD. DIMENSIONS ARE MEASURED FROM BACK OF CURB TO EDGE OF WALK.
 - SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
 - SEE SHEET 97 FOR CONSTRUCTION PLAN INFORMATION.
 - SEE SHEET 117 FOR CONTROL POINT COORDINATES AND ELEVATIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

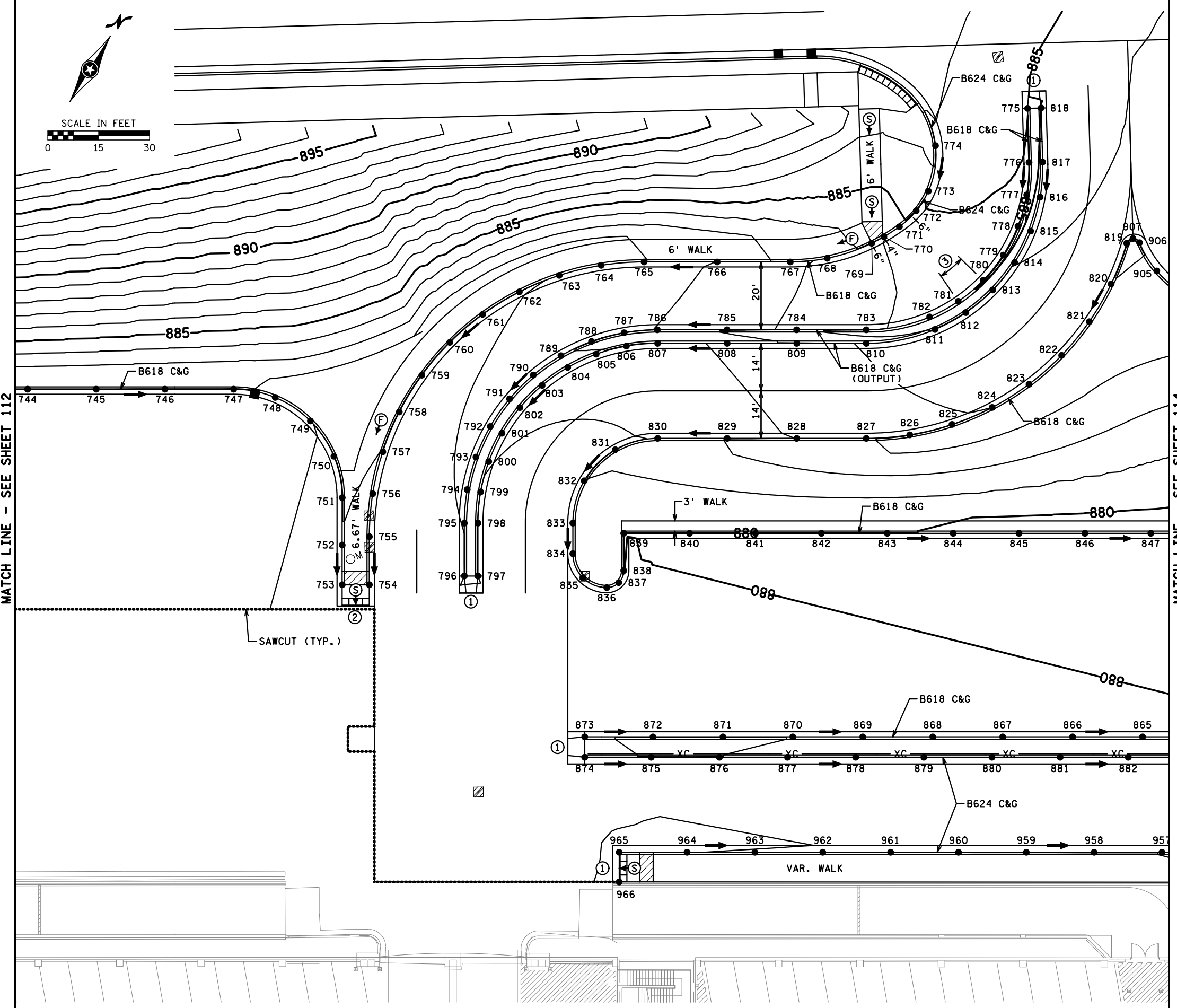
DES: SJS
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/29/2020



DATE: 12/14/2020 TIME: 10:56:25 AM
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LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PROPOSED PEDESTAL POLE
- PROPOSED SIGNAL CABINET
- X" CURB HEIGHT
- 0.0% GUTTER SLOPE FLOW DIRECTION
- XXX CONTROL POINT AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

- #### GENERAL NOTES:
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
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 - BLVD. DIMENSIONS ARE MEASURED FROM BACK OF CURB TO EDGE OF WALK.
 - SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
 - SEE SHEET 98 FOR CONSTRUCTION PLAN INFORMATION.
 - SEE SHEET 117 FOR CONTROL POINT COORDINATES AND ELEVATIONS.
- #### SPECIFIC NOTES:
- ① CONCRETE APPROACH NOSE. SEE STANDARD PLATE 7113.
 - ② 8' WIDE, 6' LONG, LEVEL 1 PERPENDICULAR RAMP.
 - ③ TRANSITION CURB FROM OUTPUT TO INPUT

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: SJS
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 12/14/2020



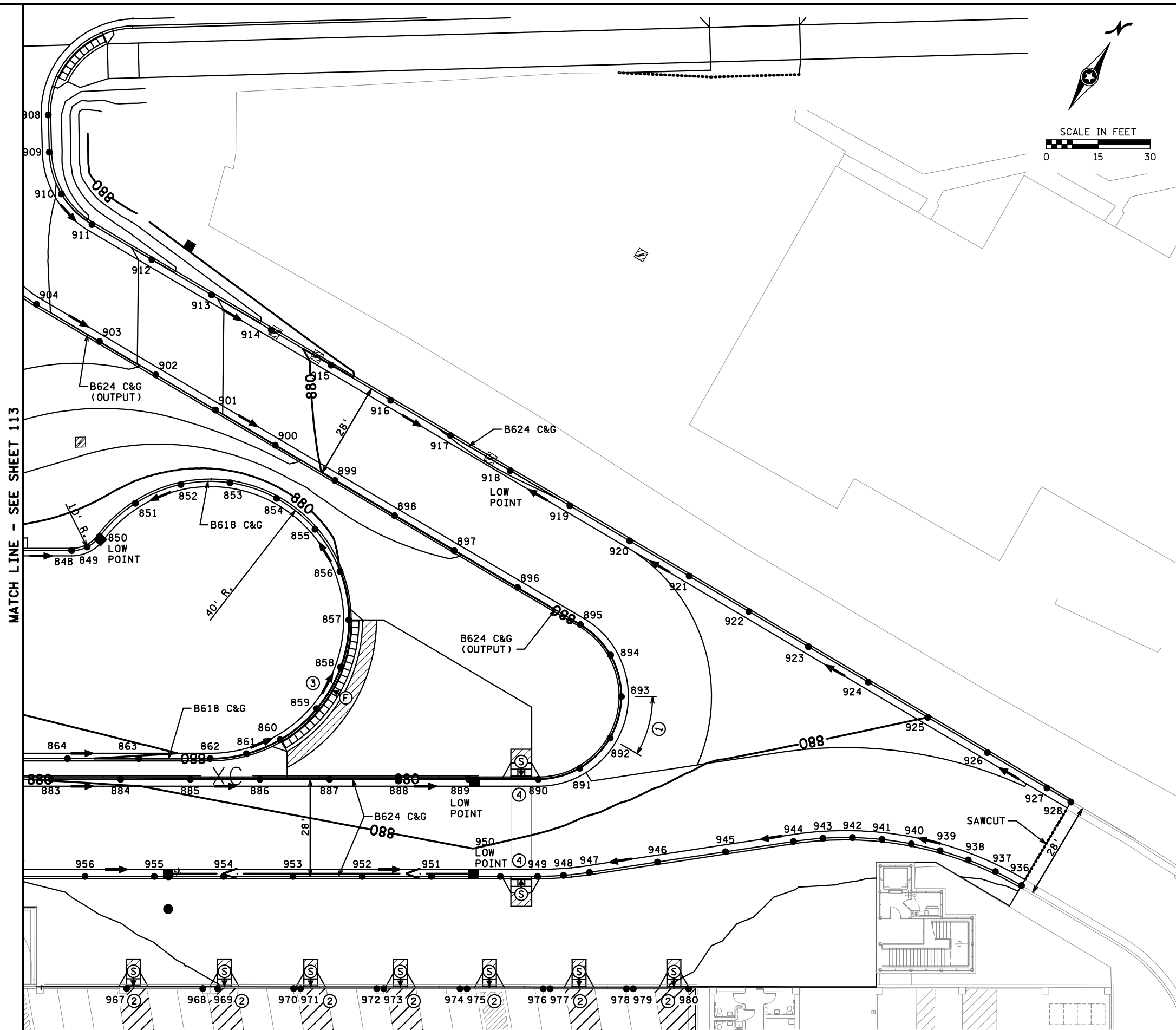
METROPOLITAN TRANSIT COMMISSION

STATE PROJ. NO. 002-611-036

INTERSECTION AND SIDEWALK DETAILS

SHEET NO. 113 OF 416 SHEETS

DATE: 11/29/2020 TIME: 12:15:52 PM
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LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PROPOSED PEDESTAL POLE
- PROPOSED SIGNAL CABINET
- X" CURB HEIGHT
- 0.0% GUTTER SLOPE FLOW DIRECTION
- XXX CONTROL POINT AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.

MATCH LINE - SEE SHEET 113

- ### GENERAL NOTES:
- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION-TO-OBSTRUCTION AND/OR OBSTRUCTION-TO-EDGE OF WALK.
 - ALL INITIAL LANDINGS ARE TO BE POURED SEPARATELY.
 - BLVD. DIMENSIONS ARE MEASURED FROM BACK OF CURB TO EDGE OF WALK.
 - SEE SHEETS 35 THRU 40 FOR PEDESTRIAN RAMP DETAILS.
 - SEE SHEET 98 FOR CONSTRUCTION PLAN INFORMATION.
 - SEE SHEET 117 FOR CONTROL POINT COORDINATES AND ELEVATIONS.
- ### SPECIFIC NOTES:
- ① TRANSITION CURB FROM OUTPUT TO INPUT.
 - ② 4' WIDE, 4' LONG, LEVEL 1 PERPENDICULAR RAMP.
 - ③ 42' WIDE, 4' LONG, 40' RADIAL DOMES, LEVEL 1 PERPENDICULAR RAMP.
 - ④ 6' WIDE, 4' LONG, LEVEL 1 PERPENDICULAR RAMP.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: SJS I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: RRC
 CHK: SAO
 SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/29/2020



METROPOLITAN TRANSIT COMMISSION
 STATE PROJ. NO. 002-611-036

INTERSECTION AND SIDEWALK DETAILS
 SHEET NO. 114 OF 416 SHEETS

CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 102					
NE QUADRANT					
100	493628.77	138306.91	881.51	PC	
101	493610.08	138300.61	881.01	PED RAMP	
102	493596.62	138300.72	880.83	PED RAMP	
103	493585.67	138303.59	880.58	POC	
104	493570.08	138313.25	880.36	POC	
105	493559.02	138327.87	880.14	PT	
106	493608.25	138313.11	881.34	LANDING	
NW QUADRANT					
110	493496.14	138243.40	881.23	PED RAMP	
111	493499.04	138237.58	881.31	PED RAMP	
112	493499.92	138235.83	881.32	PC	
113	493503.07	138222.93	881.42	POC / HIGH PT	
114	493501.88	138214.04	881.34	PED RAMP	
115	493499.33	138207.90	881.26	PED RAMP	
116	493486.48	138195.59	880.36	PT	
117	493484.80	138237.74	881.65	LANDING	
118	493489.54	138212.15	881.66	LANDING	
SW QUADRANT					
120	493503.31	138170.84	880.98	PC	
121	493514.90	138173.94	881.70	PED RAMP	
122	493516.97	138169.79	881.78	PED RAMP	
123	493522.92	138173.35	881.84	PED RAMP	
124	493530.80	138170.49	881.99	PED RAMP	
125	493533.41	138164.07	882.20	PED RAMP	
126	493537.17	138165.95	882.12	PED RAMP	
127	493543.55	138157.40	882.22	PT	
128	493522.54	138158.64	882.09	LANDING	
160	493491.30	138143.05	879.60	PED RAMP	
161	493492.90	138143.84	879.65	PED RAMP	
162	493489.56	138149.12	879.72	PED RAMP	
163	493499.16	138146.97	879.95	LANDING	
SE QUADRANT					
130	493661.92	138130.77	881.99	PC / HIGH PT	
131	493655.87	138150.78	881.85	POC	
132	493656.81	138171.66	881.71	PCC	
133	493663.22	138192.81	881.57	PED RAMP	
134	493665.55	138198.37	881.54	PED RAMP	
135	493670.09	138207.63	881.49	POC / LOW PT	
136	493695.69	138241.49	882.43	POC	
137	493722.63	138261.81	883.26	PT	
138	493677.07	138187.03	882.04	LANDING	
ISLAND					
140	493629.38	138186.99	882.17	BEGIN C&G	
141	493624.60	138196.56	882.12	PED RAMP	
142	493621.70	138202.37	882.08	PED RAMP	
143	493617.62	138210.54	882.01	PC	
144	493618.41	138213.16	882.07	PT	
145	493627.68	138218.52	882.14	PED RAMP	
146	493634.26	138219.77	882.21	PED RAMP	
147	493633.48	138221.86	882.18	PED RAMP	
148	493652.94	138233.11	882.35	PC	
149	493655.62	138230.29	882.33	PT	
150	493642.54	138207.34	882.18	PED RAMP	
151	493640.25	138201.79	882.14	PED RAMP	
152	493637.09	138190.84	882.05	PT/END C&G	
153	493636.30	138203.43	882.44	LANDING	
154	493635.38	138215.94	882.43	LANDING	
155	493625.87	138204.46	882.38	LANDING	

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CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 103					
NE QUADRANT					
200	494945.45	139212.41	882.42	PC	
201	494932.49	139207.32	882.74	PED RAMP	
202	494917.06	139208.06	883.04	PED RAMP	
203	494905.36	139213.83	883.27	POC	
204	494897.76	139221.69	883.35	POC/HIGH PT	
205	494895.65	139225.11	883.34	PT	
206	494931.10	139219.03	883.10	LANDING	
207	494916.33	139191.16	883.41	SWALE PT	
208	494882.97	139169.54	884.66	SWALE PT	
NW QUADRANT					
210	494868.85	139188.38	884.27	PC	
211	494871.41	139176.84	884.52	PED RAMP	
212	494867.16	139174.85	884.58	PED RAMP	
213	494870.79	139168.38	884.64	PED RAMP	
214	494865.43	139155.52	885.17	POC	
215	494855.48	139145.77	885.63	PT	
216	494859.52	139168.60	884.98	LANDING	
SW QUADRANT					
220	494856.22	139043.77	887.63	PC	
221	494869.17	139049.22	886.73	PED RAMP	
222	494883.82	139049.77	886.43	PCC / PED RAMP	
223	494889.90	139048.10	886.31	PED RAMP	
224	494875.75	139037.33	886.58	LANDING	
SE QUAD					
230	494959.67	139089.36	883.35	PC / HIGH PT	
231	494955.83	139100.00	883.28	PED RAMP	
232	494960.59	139117.87	883.14	PED RAMP	
233	494967.06	139123.94	882.92	PT	
234	494968.99	139107.32	883.45	LANDING	

CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 104					
NE QUADRANT					
250	495187.20	139369.08	882.01	PC	
251	495172.42	139362.35	881.91	PED RAMP	
252	495155.33	139360.27	881.77	PED RAMP	
253	495144.95	139361.63	881.72	POC / LOW PT	
254	495141.08	139362.67	881.74	PCC	
255	495124.37	139369.12	881.82	POC	
256	495109.30	139377.41	882.02	POC	
257	495082.61	139400.10	882.60	PT	
258	495168.42	139370.01	882.00	LANDING	
NW QUADRANT					
260	495103.11	139347.29	882.14	PC	
261	495116.25	139336.56	881.80	PED RAMP	
262	495119.99	139334.56	881.74	PRC	
263	495119.17	139330.95	881.76	PED RAMP	
264	495122.00	139332.78	881.70	PED RAMP	
265	495120.52	139325.87	881.52	PT	
266	495106.68	139330.00	882.36	LANDING	

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CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 105					
NE QUADRANT					
300	495646.79	139681.21	882.74	PC	
301	495635.67	139676.48	882.79	PED RAMP	
302	495620.22	139676.40	882.90	PED RAMP	
303	495607.90	139681.76	883.05	POC	
304	495598.64	139691.15	883.28	PT	
305	495631.72	139684.55	882.95	LANDING	
306	495627.74	139666.48	882.85	SWALE	
307	495593.41	139644.01	882.65	SWALE	
NW QUADRANT					
310	495583.04	139660.88	882.85	PC	
311	495585.99	139654.68	882.74	PED RAMP	
312	495583.14	139652.80	882.76	PED RAMP	
313	495587.14	139647.82	882.64	PED RAMP	
314	495576.12	139626.43	882.48	PT	
315	495574.81	139647.24	883.23	LANDING	
316	495578.39	139658.05	883.14	PC	
317	495585.73	139655.46	882.75	PT	

SPECIFIC NOTES:
 ① POINT OUTSIDE SHEET VIEW.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: TJV	SIGNATURE: <i>Shane A. Ortlepp</i>		
CHK: SAO	LIC. NO. 48250 DATE: 11/29/2020		
NO.	DATE	BY	DESCRIPTION OF REVISIONS



DATE: 11/29/2020 TIME: 12:16:02 PM
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CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 106					
NE QUADRANT					
400	496126.09	140027.21	885.41	PC	
401	496100.91	140016.34	885.58	PED RAMP	
402	496090.78	140016.06	885.64	PED RAMP	
403	496083.01	140017.25	885.68	PED RAMP	
404	496076.71	140019.17	885.71	PED RAMP	
405	496057.44	140032.31	885.84	PT	
406	496081.14	140033.50	886.17	LANDING	
407	496090.43	140030.97	886.13	LANDING	
NW QUADRANT					
410	495982.11	139979.06	885.72	PC	
411	495990.13	139966.94	885.79	POC	
412	495994.32	139953.01	885.87	POC / HIGH PT	
413	495994.83	139944.26	885.80	PED RAMP	
414	495994.20	139937.70	885.75	PED RAMP	
415	495991.01	139926.49	885.65	PED RAMP	
416	495988.08	139920.59	885.60	PED RAMP	
417	495975.26	139906.02	885.44	PT	
418	495981.87	139945.45	866.24	LANDING	
419	495979.33	139932.23	886.11	LANDING	
SW QUADRANT					
420	496053.10	139833.44	885.64	PC	
421	496054.26	139834.32	885.65	PED RAMP	
422	496059.83	139837.84	885.70	PED RAMP	
423	496081.13	139843.84	885.86	PED RAMP	
424	496091.25	139843.34	885.94	PED RAMP	
425	496107.30	139837.99	886.07	POC	
426	496121.60	139826.53	886.15	PT	
427	496090.44	139828.44	886.43	LANDING	
428	496067.78	139825.18	886.19	LANDING	
SE QUADRANT					
430	496184.78	139894.18	886.02	BEGIN C&G	
431	496181.75	139897.79	886.00	PC	
432	496174.07	139911.90	885.91	PEDRAMP	
433	496172.71	139929.08	885.73	PEDRAMP	
434	496176.27	139940.88	885.66	POC / END C&G	
435	496187.07	139915.78	886.25	LANDING	

CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 107					
SW QUADRANT					
450	496294.57	140043.49	885.50	BEGIN C&G	
451	496306.76	140053.45	885.59	PC	
452	496318.28	140054.95	885.98	PED RAMP	
453	496321.16	140050.47	886.07	PED RAMP	
454	496322.50	140051.56	886.05	PED RAMP	
455	496323.00	140050.83	886.09	PT	
456	496324.52	140048.45	886.21	END C&G	
456	496314.97	140045.40	886.45	LANDING	
SE QUADRANT					
460	496347.19	140062.88	886.52	BEGIN C&G	
461	496343.86	140067.88	886.27	PED RAMP	
462	496345.24	140069.00	886.29	PED RAMP	
463	496343.04	140069.11	886.25	pc	
464	496341.43	140072.70	886.20	PED RAMP	
465	496345.43	140085.06	885.79	PT	
466	496351.63	140090.12	885.82	END C&G	
467	496351.43	140074.06	886.52	LANDING	
470	496317.52	140062.24	885.64	SWALE	
471	496326.87	140069.89	885.69	SWALE	
472	496336.22	140077.53	885.74	SWALE	

CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 108					
NE QUADRANT					
500	496581.98	140373.08	891.41	PC	
501	496569.19	140370.41	891.72	PED RAMP	
502	496566.84	140374.91	891.81	PED RAMP	
503	496564.06	140372.78	891.77	PED RAMP	
504	496561.19	140375.49	891.74	PT	
505	496559.21	140377.92	891.72	END C&G	
506	496573.18	140379.77	892.07	LANDING	
NW QUADRANT					
510	496527.67	140354.05	891.32	BEGIN C&G	
511	496528.66	140352.90	891.23	PC	
512	496531.41	140348.18	890.90	PED RAMP	
513	496528.61	140346.10	890.93	PED RAMP	
514	496532.28	140342.60	890.84	PED RAMP	
515	496526.19	140331.04	890.08	PT	
516	496522.09	140340.88	891.02	LANDING	

CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 109					
NE QUADRANT					
550	493775.76	137979.33	880.94	PC	
551	493752.20	137974.76	881.02	PED RAMP	
552	493737.49	137982.87	881.09	PED RAMP	
553	493731.91	137990.63	881.25	PT	
554	493745.51	137988.01	881.23	LANDING	
NW QUADRANT					
560	493630.05	137953.94	881.17	PC	
561	493635.81	137934.89	881.12	POC	
562	493637.57	137915.06	881.02	POC / LOW PT	
563	493634.48	137892.14	881.36	PED RAMP	
564	493632.78	137886.34	881.44	PED RAMP	
565	493623.31	137865.82	881.77	POC	
566	493609.34	137848.06	882.10	PT	
567	493623.91	137895.21	881.81	LANDING	
SW QUADRANT					
570	493681.26	137841.69	881.81	PC / BEGIN C&G	
571	493684.30	137843.59	881.85	PED RAMP	
572	493685.26	137841.66	881.88	PED RAMP	
573	493690.63	137845.01	881.91	PED RAMP	
574	493704.10	137836.69	882.14	PT / END C&G	
575	493689.28	137834.73	882.19	LANDING	
SE QUADRANT					
580	493774.58	137900.71	881.57	PC	
581	493770.42	137916.57	881.44	PED RAMP	
582	493772.41	137931.19	881.31	PED RAMP	
583	493780.23	137944.88	881.16	POC	
584	493787.69	137951.53	881.09	PT	
585	493778.81	137919.39	881.51	LANDING	
ISLAND					
590	493667.77	137908.66	881.58	BEGIN C&G	
591	493682.88	137878.41	881.75	PC	
592	493682.35	137875.96	881.77	PT	
593	493676.28	137871.07	881.83	PED RAMP	
594	493671.60	137867.30	881.88	PED RAMP	
595	493641.84	137843.31	882.23	PC	
596	493638.96	137846.03	882.33	PT	
597	493655.67	137879.12	881.92	PED RAMP	
598	493657.37	137884.83	881.86	PED RAMP	
599	493661.06	137905.31	881.59	PT / END C&G	
600	493667.62	137881.80	882.26	LANDING	

CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 110					
NW QUADRANT					
610	496441.16	139605.88	887.05	PC	
611	496436.78	139612.74	887.02	PED RAMP	
612	496435.26	139627.49	887.15	PED RAMP/LOW PT	
613	496443.41	139641.48	887.41	PT / END C&G	
614	496443.78	139617.62	887.16	LANDING	
615	496421.80	139627.46	886.92	SWALE	
616	496411.11	139639.37	886.85	SWALE	
NE QUADRANT					
620	496427.63	139659.55	887.33	BEGIN C&G	
621	496419.13	139652.24	887.09	PC	
622	496414.93	139649.73	887.01	PED RAMP	
623	496412.77	139652.47	887.02	PED RAMP	
624	496408.82	139648.71	886.92	PED RAMP	
625	496398.28	139653.68	886.76	PT	
626	496407.82	139658.75	887.39	LANDING	

CONTROL POINTS					
POINT NO.	X	Y	ELEV.	DESCRIPTION	
POINTS FOUND ON SHEET 111					
650	495472.65	139792.68	882.89	BEGIN C&G	
651	495478.87	139784.82	882.73	GUTTER	
652	495496.73	139765.01	882.63	GUTTER / LOW PT	
653	495557.38	139697.08	883.47	GUTTER / HIGH PT	
654	495460.90	139782.11	883.33	BEGIN C&G	
655	495511.14	139726.26	883.49	PC	
656	495517.79	139714.05	883.83	POC	
657	495518.22	139700.16	884.39	PRC	
658	495518.23	139684.02	884.95	POC	
659	495524.61	139669.20	885.22	POC / HIGH PT	
660	495536.50	139658.19	885.00	POC	
661	495551.42	139652.68	884.41	POC	

SPECIFIC NOTES:
 ① POINT OUTSIDE SHEET VIEW.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: TJV	
CHK: SAO	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/29/2020
NO.	DATE BY DESCRIPTION OF REVISIONS

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/29/2020



CONTROL POINTS

INTERSECTION AND SIDEWALK DETAILS

STATE PROJ. NO. 002-611-036

SHEET NO. 116 OF 416 SHEETS

DATE: 11/29/2020 TIME: 12:16:06 PM
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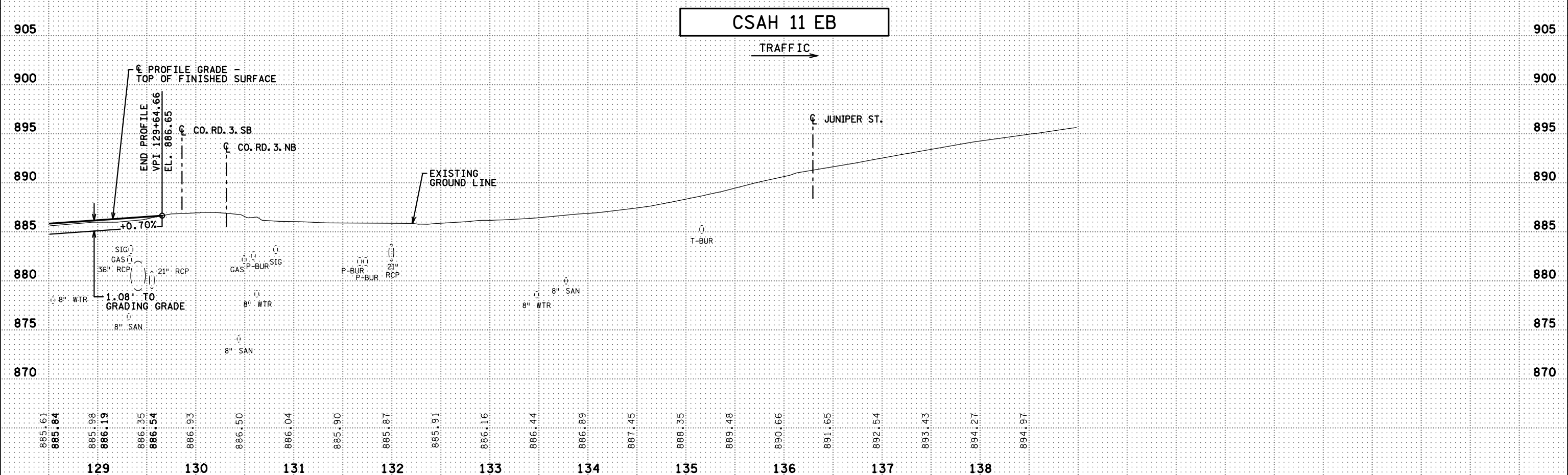
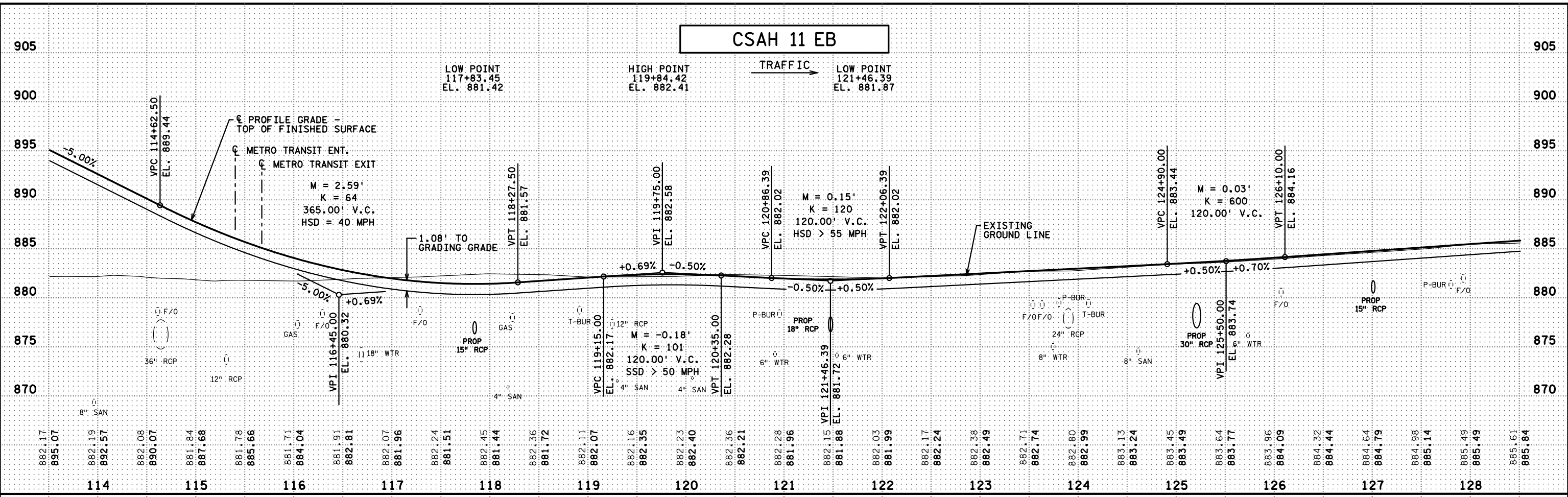
METRO TRANSIT STAKING POINTS			
POINT NO.	X	Y	ELEVATION
700	494588.98	138550.05	883.89
701	494582.17	138561.21	883.81
702	494594.13	138568.50	883.70
703	494595.93	138570.97	883.67
704	494595.46	138574.00	883.64
705	494587.26	138587.45	883.53
706	494585.60	138588.41	883.60
707	494583.90	138587.53	883.66
708	494577.94	138573.67	883.76
709	494577.54	138558.58	883.86
710	494582.76	138544.42	883.96
711	494585.94	138539.21	884.00
712	494576.60	138485.17	885.02
713	494575.06	138487.74	884.99
714	494559.55	138513.66	884.66
715	494553.11	138526.78	884.53
716	494549.17	138540.86	884.40
717	494547.86	138555.41	884.27
718	494549.21	138569.97	884.13
719	494548.27	138573.35	884.09
720	494545.02	138574.69	884.05
721	494533.57	138576.04	884.14
722	494523.34	138581.37	884.20
723	494515.67	138589.97	884.23
724	494505.25	138607.05	884.03
725	494494.84	138624.12	883.83
726	494484.43	138641.20	883.63
727	494474.02	138658.28	883.43
728	494469.73	138670.00	883.31
729	494470.25	138682.48	883.19
730	494475.50	138693.80	883.09
731	494484.69	138702.26	882.95
732	494501.98	138712.80	882.87
733	494519.27	138723.34	882.79
734	494536.56	138733.88	882.71
735	494553.85	138744.42	882.63
736	494571.14	138754.96	882.54
737	494588.43	138765.50	882.46
738	494605.72	138776.04	882.38
739	494623.01	138786.58	882.30
740	494640.30	138797.13	882.22
741	494657.59	138807.67	882.14
742	494674.88	138818.21	882.06
743	494692.17	138828.75	881.98
744	494709.46	138839.29	881.90
745	494726.75	138849.83	881.82
746	494744.04	138860.37	881.73
747	494761.33	138870.91	881.65
748	494773.06	138875.21	881.34
749	494785.53	138874.69	881.03
750	494796.86	138869.43	880.73
751	494805.31	138860.25	880.54
752	494812.58	138848.33	880.46
753	494819.84	138836.42	880.86
754	494826.67	138840.58	880.62
755	494818.13	138854.59	880.38
756	494812.38	138865.93	880.44
757	494808.48	138878.03	880.50
758	494806.52	138890.59	880.56

METRO TRANSIT STAKING POINTS			
POINT NO.	X	Y	ELEVATION
759	494806.55	138903.30	880.63
760	494808.57	138915.84	880.69
761	494812.53	138927.92	880.78
762	494818.32	138939.24	880.90
763	494825.82	138949.50	881.06
764	494834.83	138958.47	881.25
765	494845.13	138965.92	881.48
766	494863.53	138977.13	882.02
767	494881.93	138988.35	882.72
768	494890.66	138994.95	883.16
769	494899.55	139005.56	883.73
770	494901.62	139009.04	883.93
771	494903.98	139013.96	884.33
772	494905.78	139020.54	884.75
773	494905.81	139027.37	885.15
774	494900.65	139039.88	885.63
775	494918.09	139063.43	885.01
776	494926.77	139050.03	884.89
777	494931.15	139041.52	884.82
778	494933.75	139032.30	884.72
779	494934.48	139022.76	884.60
780	494933.29	139013.26	884.52
781	494930.24	139004.18	884.42
782	494925.45	138995.89	884.24
783	494911.48	138982.94	883.89
784	494893.94	138972.25	883.22
785	494876.40	138961.56	882.56
786	494858.86	138950.86	882.03
787	494850.95	138945.03	881.79
788	494844.10	138937.84	881.59
789	494838.59	138929.57	881.43
790	494834.61	138920.46	881.31
791	494832.27	138910.81	881.24
792	494831.64	138900.89	881.18
793	494832.74	138891.02	881.13
794	494835.54	138881.48	881.07
795	494839.95	138872.58	881.02
796	494848.06	138859.28	880.94
797	494851.48	138861.37	880.83
798	494843.37	138874.66	880.92
799	494839.27	138882.94	880.97
800	494836.66	138891.81	881.03
801	494835.64	138900.99	881.10
802	494836.22	138910.21	881.18
803	494838.40	138919.18	881.27
804	494842.10	138927.65	881.36
805	494847.22	138935.34	881.47
806	494853.60	138942.03	881.58
807	494861.03	138947.51	881.71
808	494878.54	138958.18	882.14
809	494896.05	138968.85	882.63
810	494913.56	138979.53	883.07
811	494928.70	138993.55	883.54
812	494933.89	139002.53	883.73
813	494937.19	139012.37	883.88
814	494938.47	139022.66	884.02
815	494937.69	139033.00	884.15
816	494934.87	139042.98	884.28
817	494930.13	139052.21	884.41

METRO TRANSIT STAKING POINTS			
POINT NO.	X	Y	ELEVATION
818	494921.45	139065.60	884.66
819	494963.76	139044.66	883.59
820	494966.08	139032.03	883.49
821	494966.35	139019.19	883.40
822	494964.56	139006.48	883.27
823	494960.77	138994.21	883.17
824	494955.06	138982.71	883.00
825	494947.58	138972.27	882.86
826	494938.53	138963.16	882.66
827	494928.33	138956.22	882.45
828	494910.63	138944.95	882.01
829	494893.12	138934.27	881.52
830	494875.61	138923.60	881.09
831	494866.68	138914.23	880.74
832	494863.63	138901.66	880.48
833	494867.28	138889.24	880.30
834	494871.96	138881.55	880.25
835	494878.14	138877.04	880.15
836	494885.71	138878.22	880.06
837	494887.96	138881.31	880.03
838	494887.37	138885.09	879.99
839	494881.65	138894.49	879.91
840	494898.23	138904.60	879.75
841	494914.81	138914.71	879.68
842	494931.40	138924.82	879.61
843	494947.98	138934.93	879.53
844	494964.57	138945.04	879.46
845	494981.15	138955.15	879.39
846	494997.74	138965.26	879.32
847	495014.32	138975.37	879.24
848	495030.90	138985.48	879.17
849	495034.17	138988.71	879.14
850	495035.65	138993.06	879.11
851	495039.50	139006.73	879.18
852	495047.88	139018.19	879.25
853	495059.74	139026.00	879.32
854	495073.58	139029.18	879.39
855	495087.65	139027.32	879.45
856	495100.20	139020.66	879.52
857	495109.62	139010.05	879.59
858	495114.67	138997.17	879.67
859	495115.03	138983.35	879.74
860	495110.67	138970.22	879.79
861	495104.49	138961.69	879.83
862	495096.29	138955.07	879.87
863	495078.68	138944.34	879.95
864	495061.08	138933.60	880.03
865	495043.47	138922.87	880.11
866	495025.87	138912.14	880.18
867	495008.26	138901.41	880.26
868	494990.66	138890.67	880.34
869	494973.05	138879.94	880.42
870	494955.45	138869.21	880.49
871	494937.84	138858.47	880.57
872	494920.24	138847.74	880.62
873	494903.06	138837.27	880.41
874	494906.18	138832.15	880.34
875	494922.91	138842.35	880.54
876	494940.07	138852.80	880.50

METRO TRANSIT STAKING POINTS			
POINT NO.	X	Y	ELEVATION
877	494957.23	138863.26	880.43
878	494974.38	138873.72	880.35
879	494991.54	138884.18	880.28
880	495008.70	138894.64	880.20
881	495025.86	138905.10	880.13
882	495043.01	138915.56	880.05
883	495060.17	138926.02	879.98
884	495077.33	138936.48	879.90
885	495094.49	138946.94	879.83
886	495111.64	138957.40	879.75
887	495128.80	138967.86	879.68
888	495145.96	138978.32	879.60
889	495163.11	138988.78	879.52
890	495180.27	138999.24	879.69
891	495188.83	139008.20	879.75
892	495191.77	139020.23	879.78
893	495188.33	139032.13	879.83
894	495179.42	139040.72	879.82
895	495167.40	139043.73	879.76
896	495146.31	139043.40	879.65
897	495125.22	139042.93	880.84
898	495105.22	139042.63	880.95
899	495085.22	139042.34	881.07
900	495065.22	139042.05	881.26
901	495045.23	139041.75	881.64
902	495025.23	139041.46	882.08
903	495006.33	139041.18	882.54
904	494985.23	139040.88	883.14
905	494975.57	139042.32	883.39
906	494966.88	139046.78	883.59
907	494964.56	139046.83	883.59
908	494959.67	139089.36	883.36
909	494965.54	139080.31	883.33
910	494974.75	139071.84	882.88
911	494986.91	139068.91	882.44
912	495006.98	139069.22	881.77
913	495026.98	139069.53	881.07
914	495046.98	139069.85	880.37
915	495066.98	139070.16	879.70
916	495086.97	139070.47	879.22
917	495106.97	139070.79	878.97
918	495126.97	139071.10	878.92
919	495146.97	139071.41	879.02
920	495166.96	139071.73	879.12
921	495186.96	139071.99	879.30
922	495206.96	139072.25	879.47
923	495226.96	139072.51	879.65
924	495246.96	139072.78	879.82
925	495266.96	139073.04	880.00
926	495286.95	139073.30	880.17
927			

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NO.	DATE	BY	DESCRIPTION OF REVISIONS

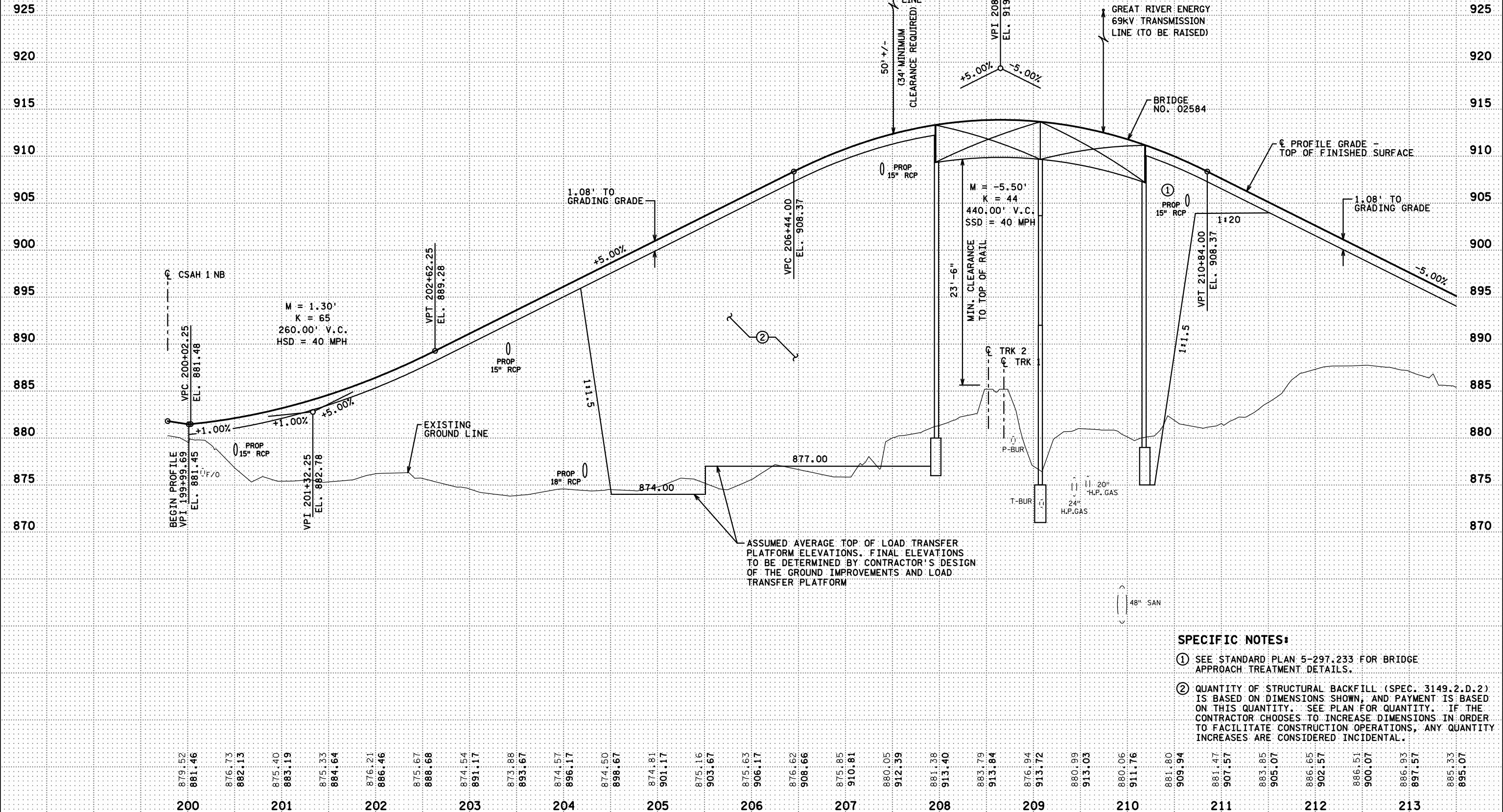
DES: TJV
 DRW: RRC
 CHK: SAO
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020
 SHANE A. ORTLEPP



DATE: 11/24/2020 TIME: 10:18:04 PM
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CSAH 11 WB

← TRAFFIC



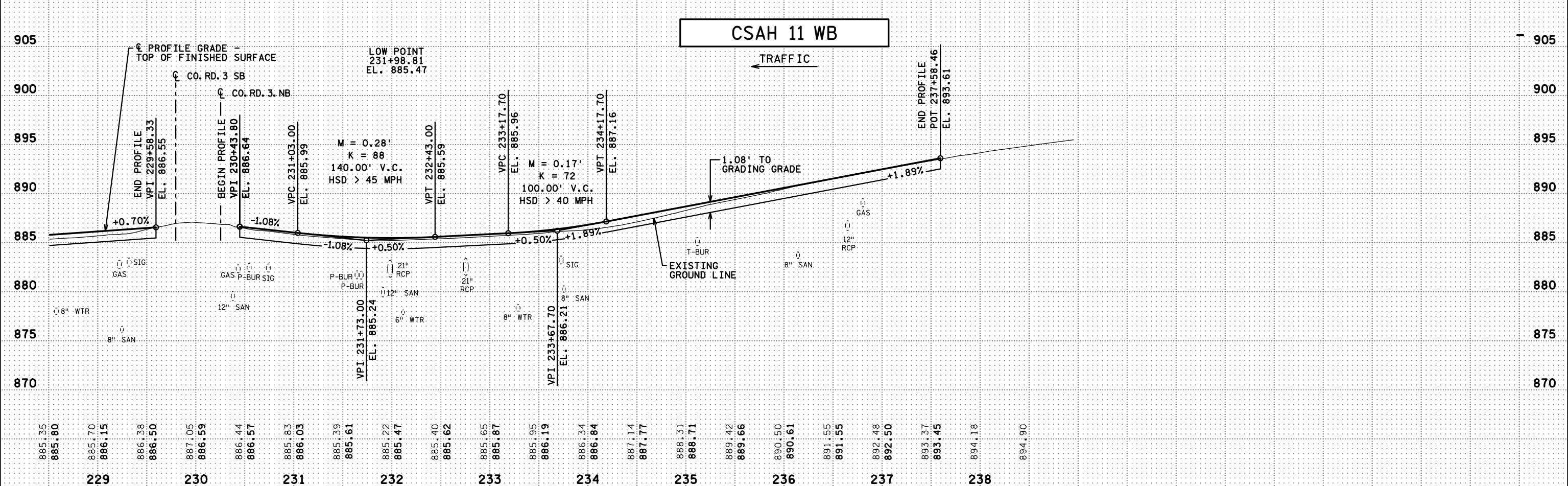
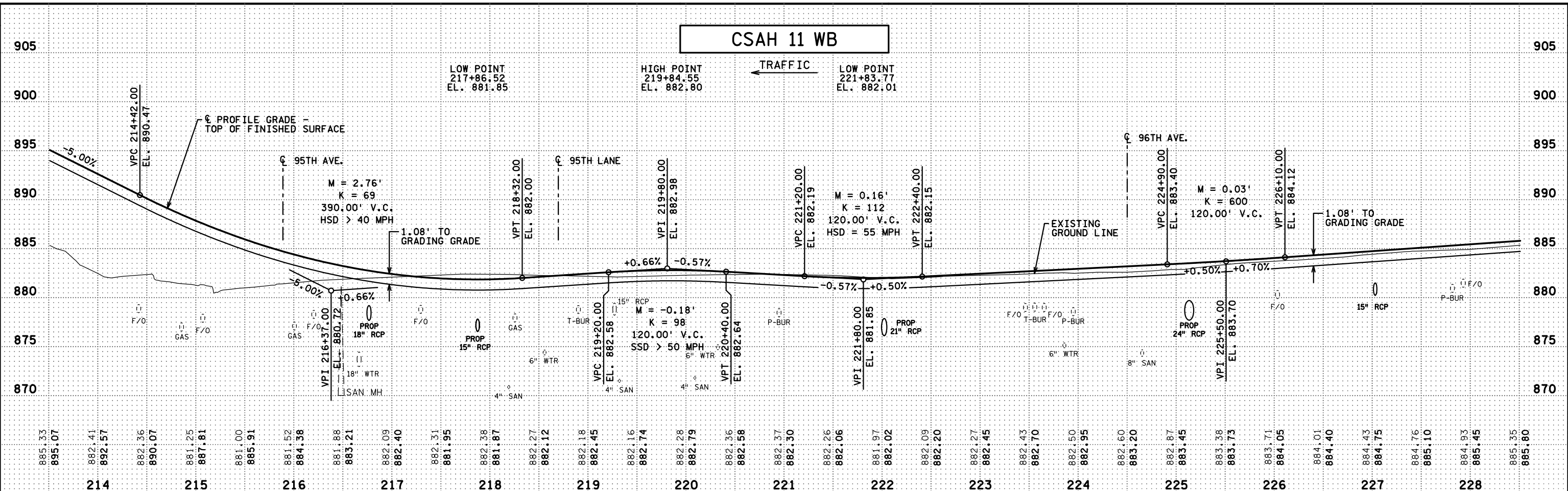
SPECIFIC NOTES:

- ① SEE STANDARD PLAN 5-297.233 FOR BRIDGE APPROACH TREATMENT DETAILS.
- ② QUANTITY OF STRUCTURAL BACKFILL (SPEC. 3149.2.D.2) IS BASED ON DIMENSIONS SHOWN, AND PAYMENT IS BASED ON THIS QUANTITY. SEE PLAN FOR QUANTITY. IF THE CONTRACTOR CHOOSES TO INCREASE DIMENSIONS IN ORDER TO FACILITATE CONSTRUCTION OPERATIONS, ANY QUANTITY INCREASES ARE CONSIDERED INCIDENTAL.

200	201	202	203	204	205	206	207	208	209	210	211	212	213
879.52	876.73	875.20	873.88	874.57	875.16	875.63	876.62	875.85	880.05	881.38	883.79	876.94	880.99
881.46	882.13	883.19	883.67	896.17	903.67	906.17	908.66	910.81	912.39	913.40	913.84	913.72	913.03
		884.64											
		886.46											
		888.68											
		874.54											
		891.17											
		873.88											
		874.57											
		896.17											
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		898.67											
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		908.66											
		875.85											
		910.81											
		880.05											
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		881.38											
		913.40											
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		913.84											
		876.94											
		913.72											
		880.99											
		913.03											
		880.06											
		911.76											
		881.80											
		909.94											
		881.47											
		907.57											
		883.85											
		905.07											
		886.65											
		902.57											
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		886.93											
		897.57											
		885.33											
		895.07											

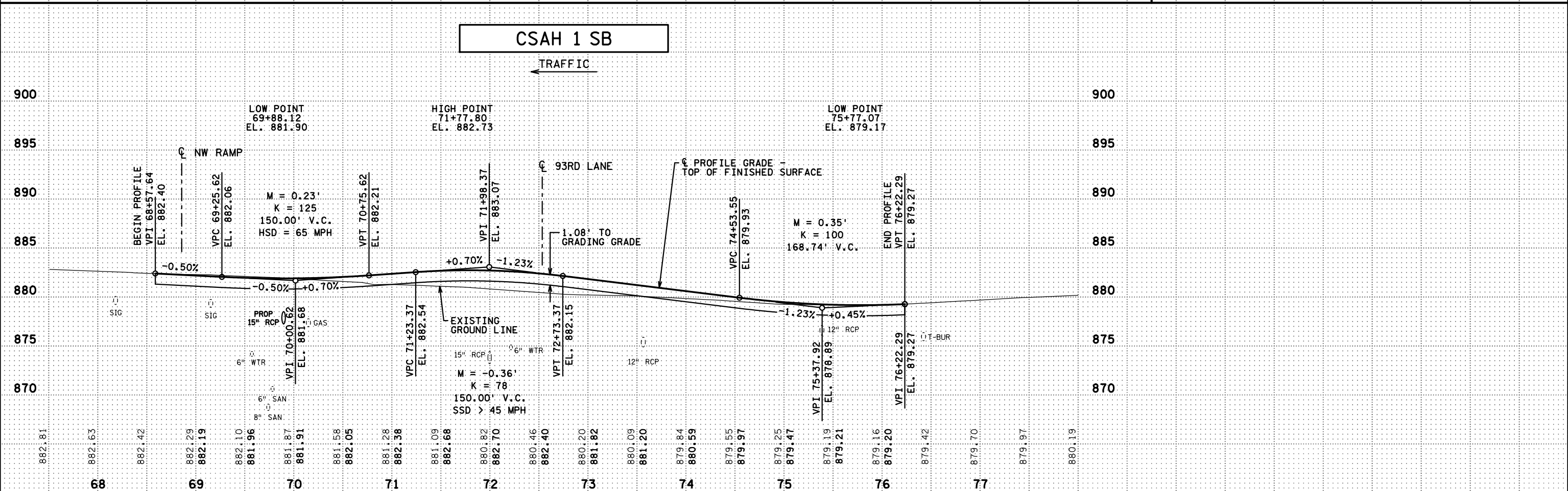
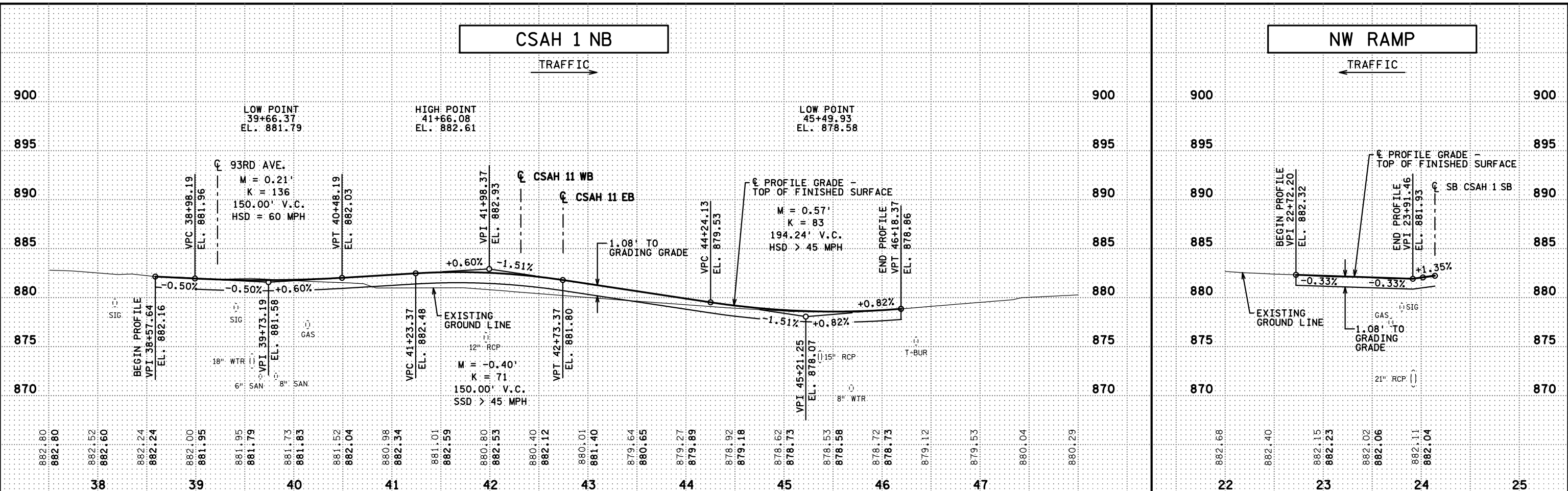
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DRW: RRC														
CHK: SAO			SIGNATURE: <u>Shane A. Ortlepp</u> LIC. NO. <u>48250</u> DATE: <u>11/24/2020</u>											
			TKDA					CSAH 11 WB			PROFILES			
								STATE PROJ. NO. 002-611-036			SHEET NO. 120 OF 416 SHEETS			
NO.	DATE	BY	DESCRIPTION OF REVISIONS											

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	DRW: RRC	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020	
	CHK: SAO		
NO.	DATE	BY	DESCRIPTION OF REVISIONS

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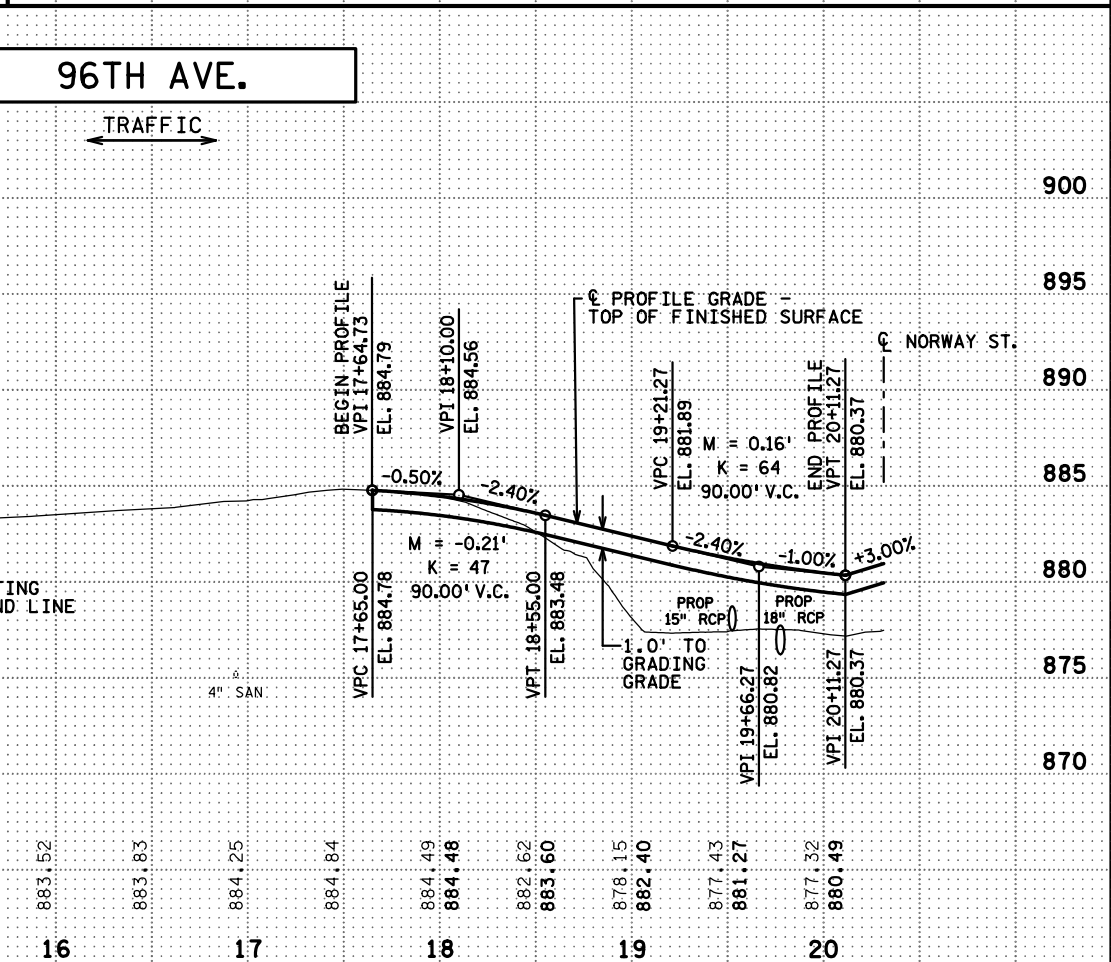
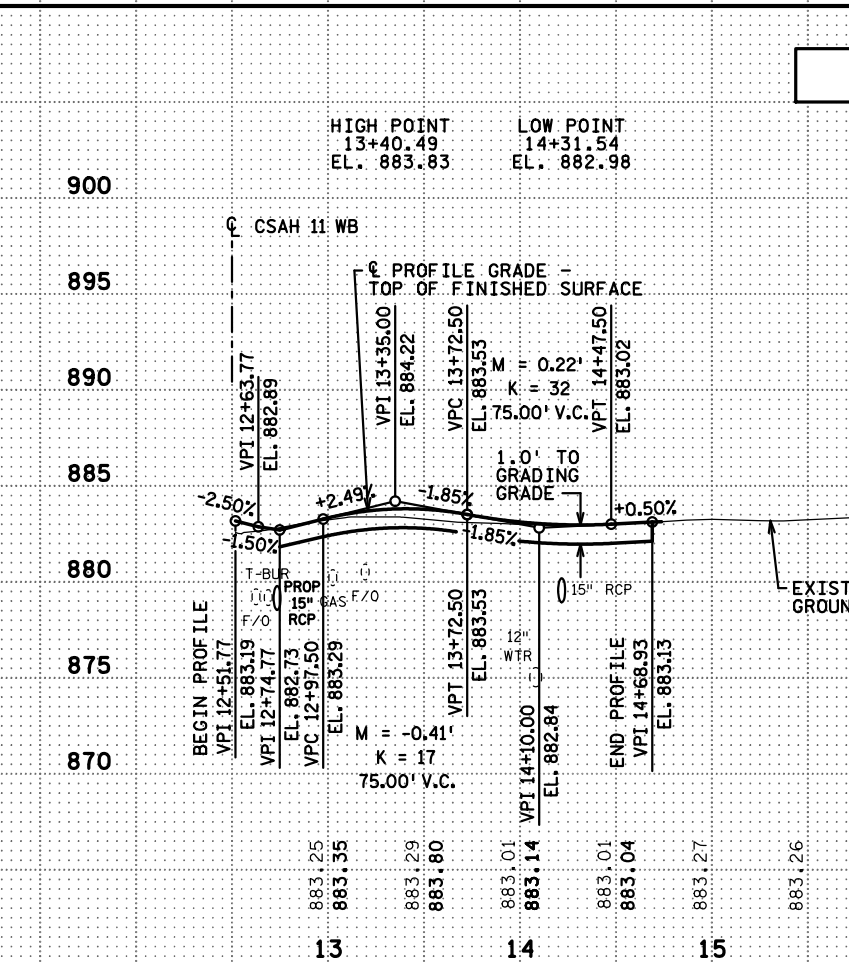
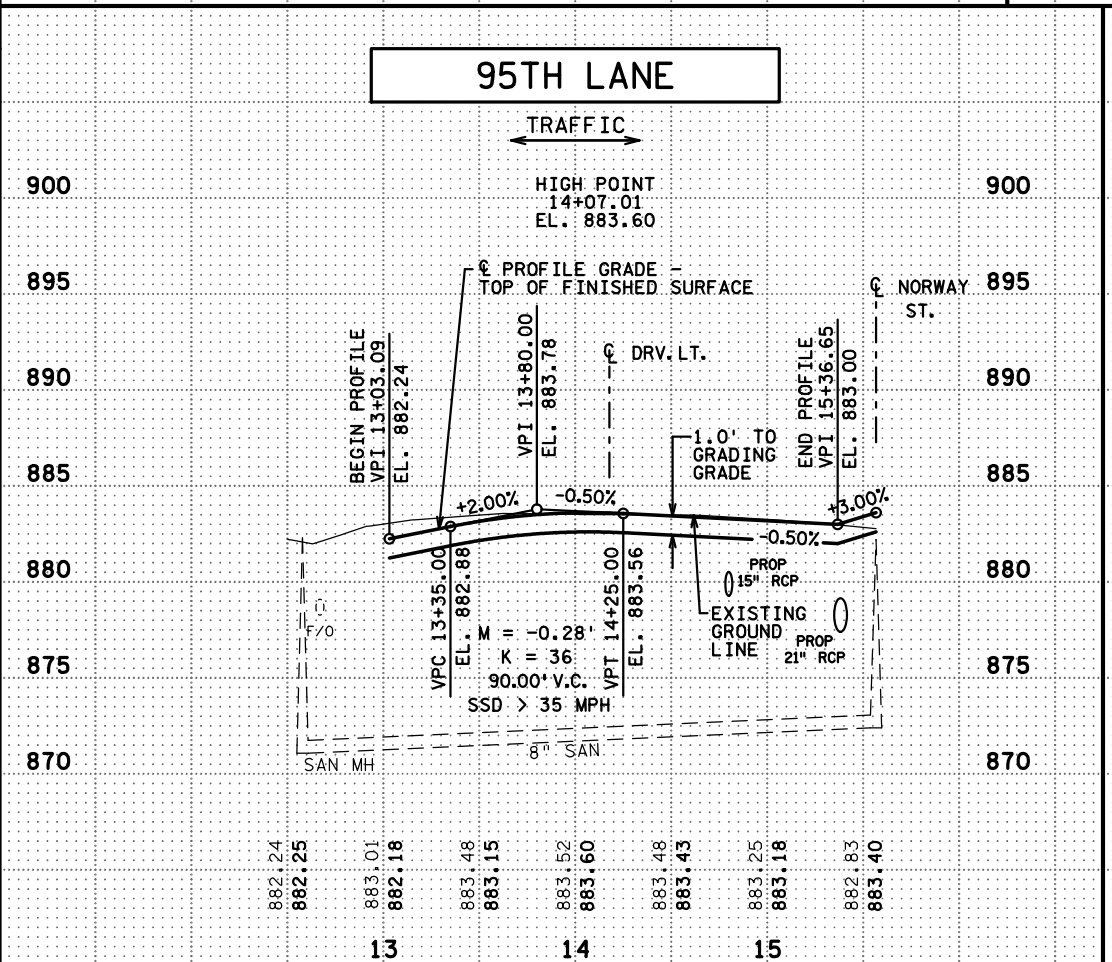
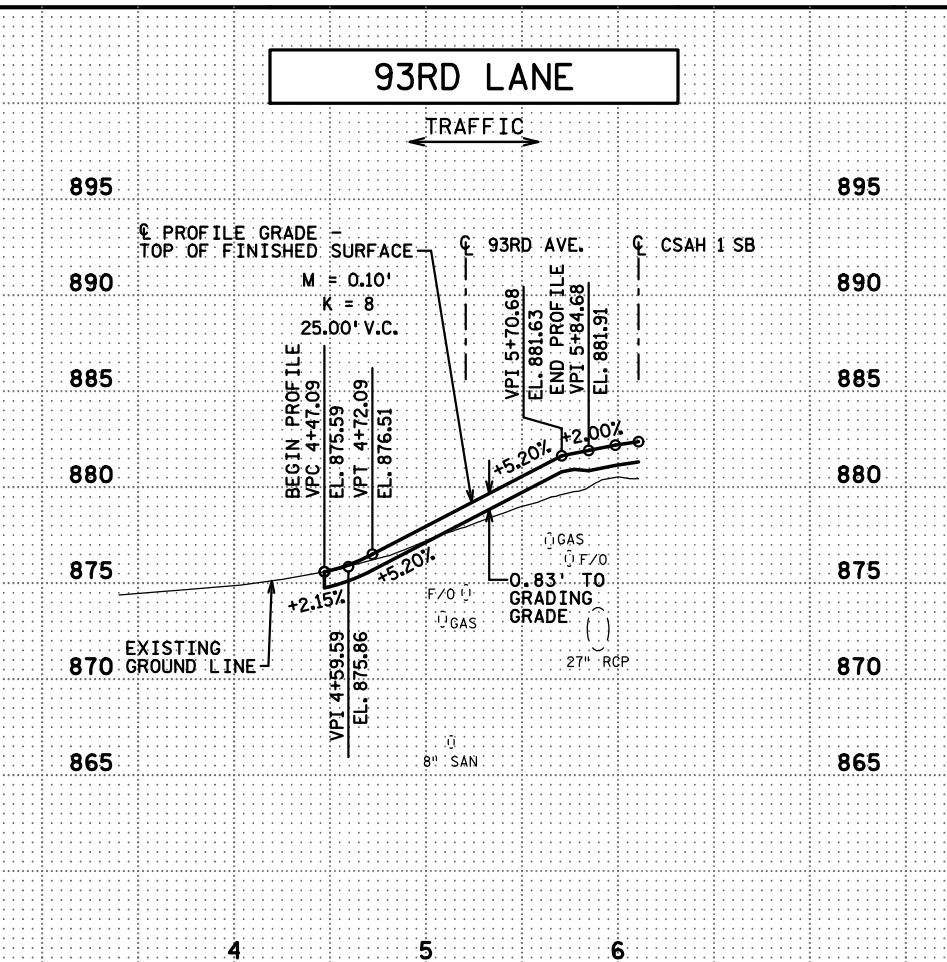
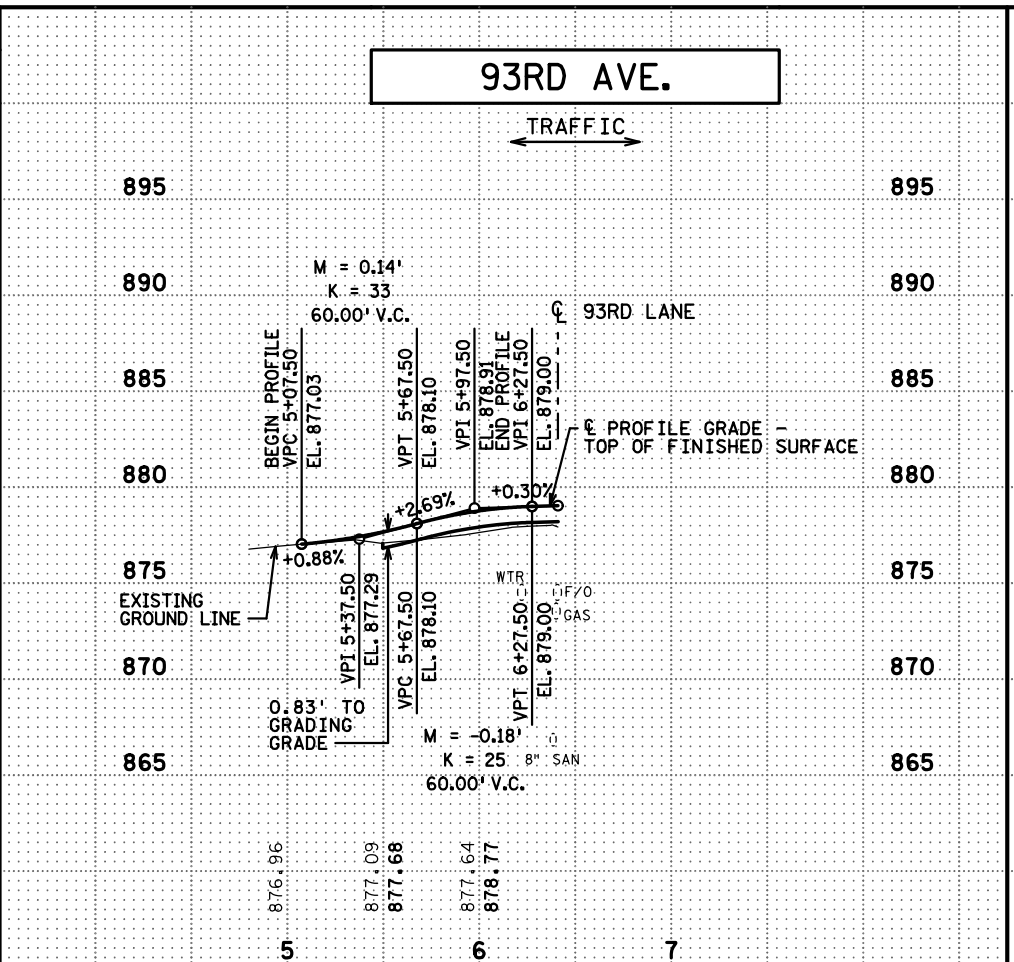


NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: RRC
 CHK: SAO SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



DATE: 11/24/2020 TIME: 10:18:37 PM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

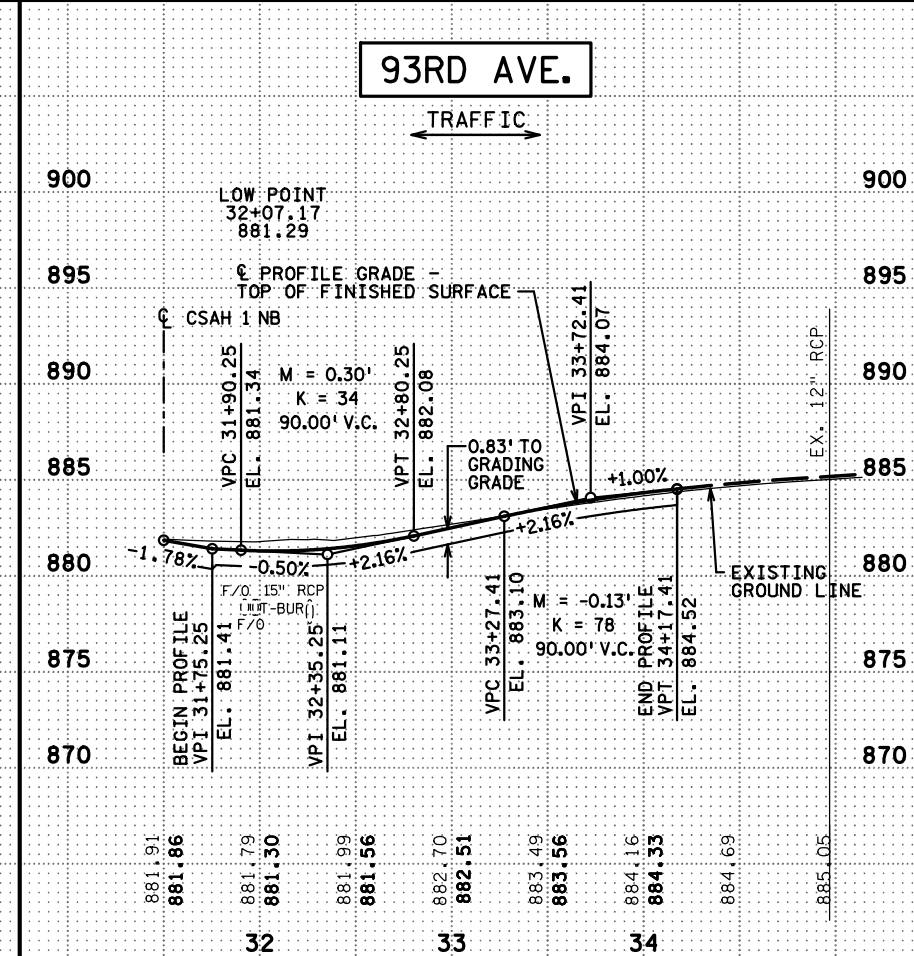
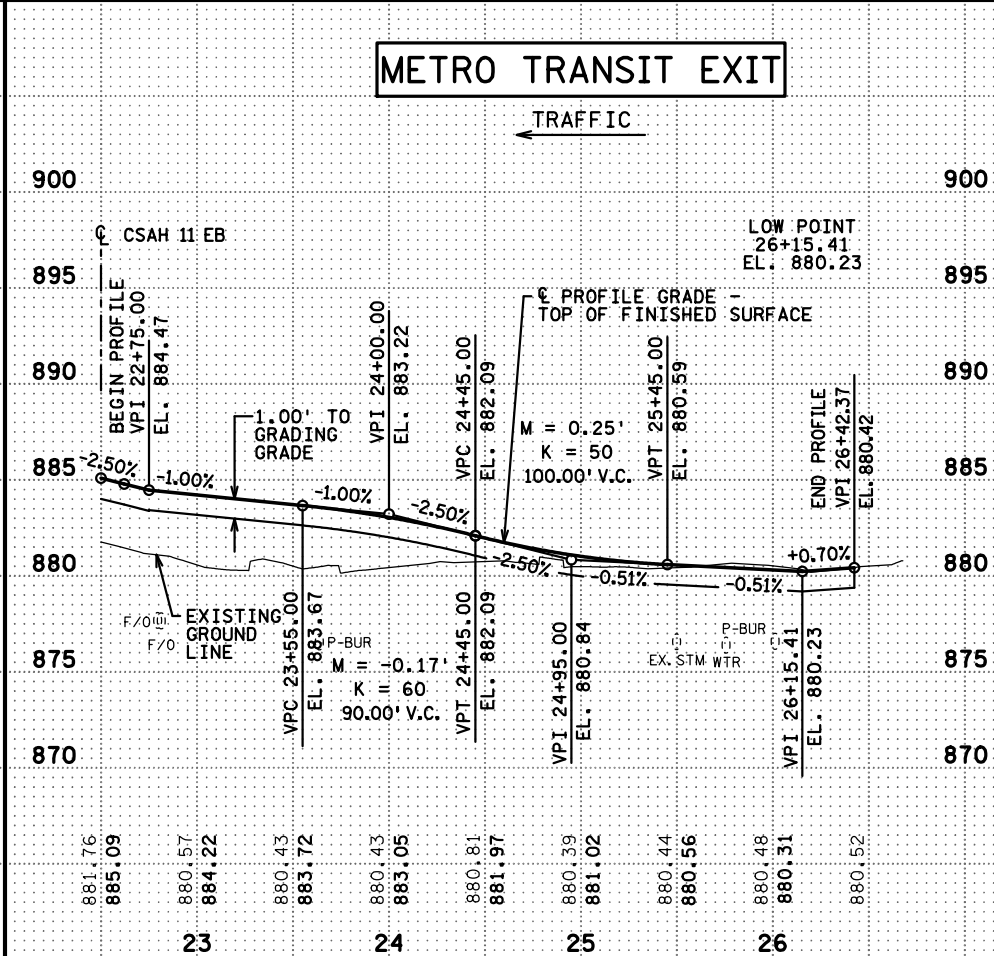
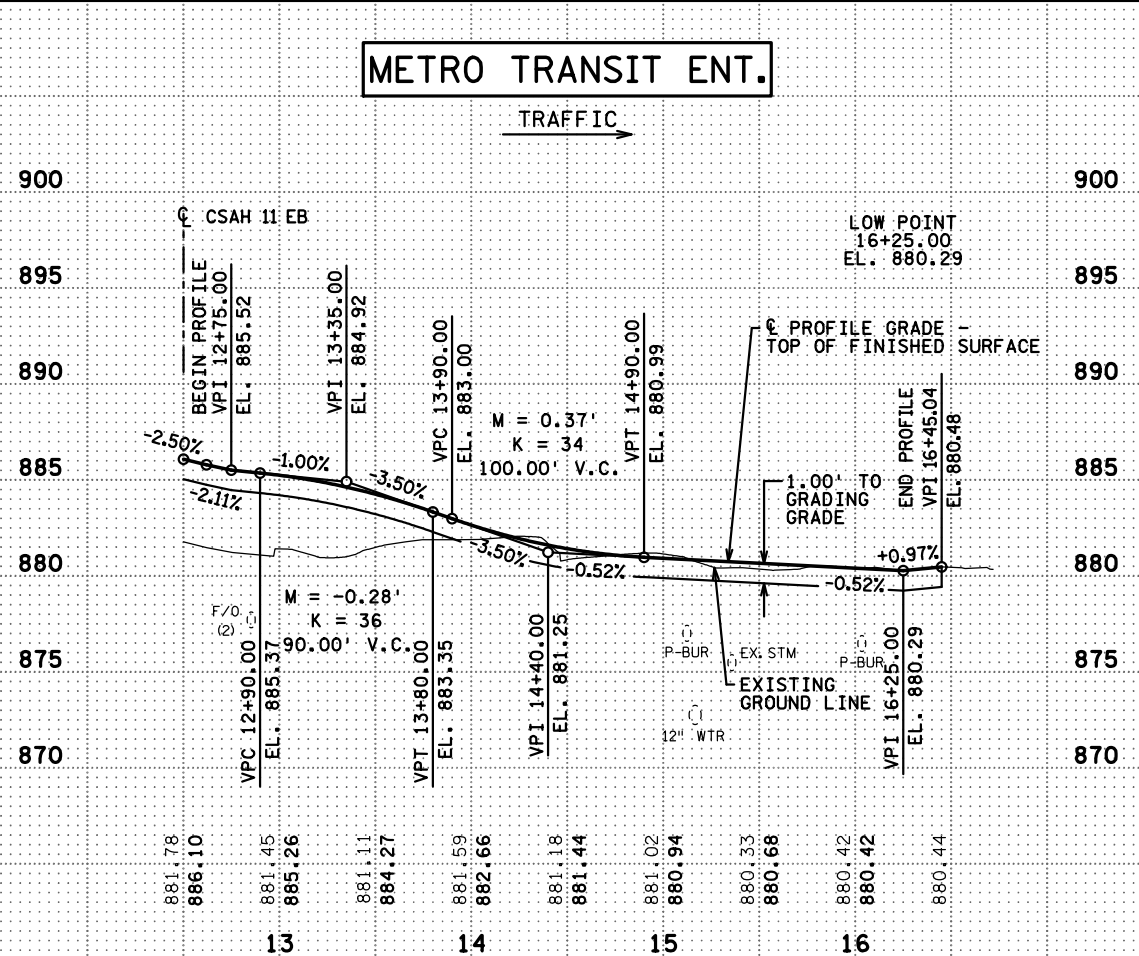
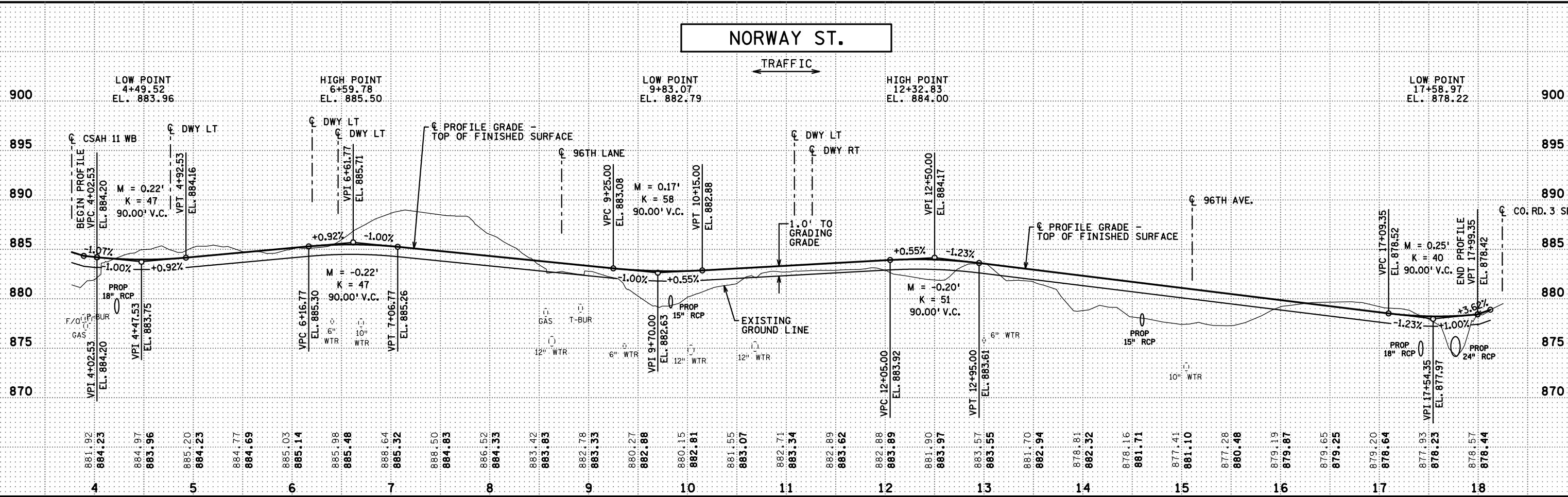
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020

SHANE A. ORTLEPP



DATE: 11/24/2020 TIME: 10:18:49 PM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

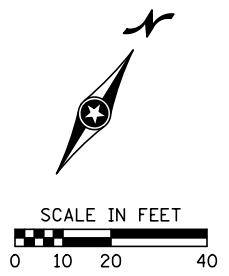
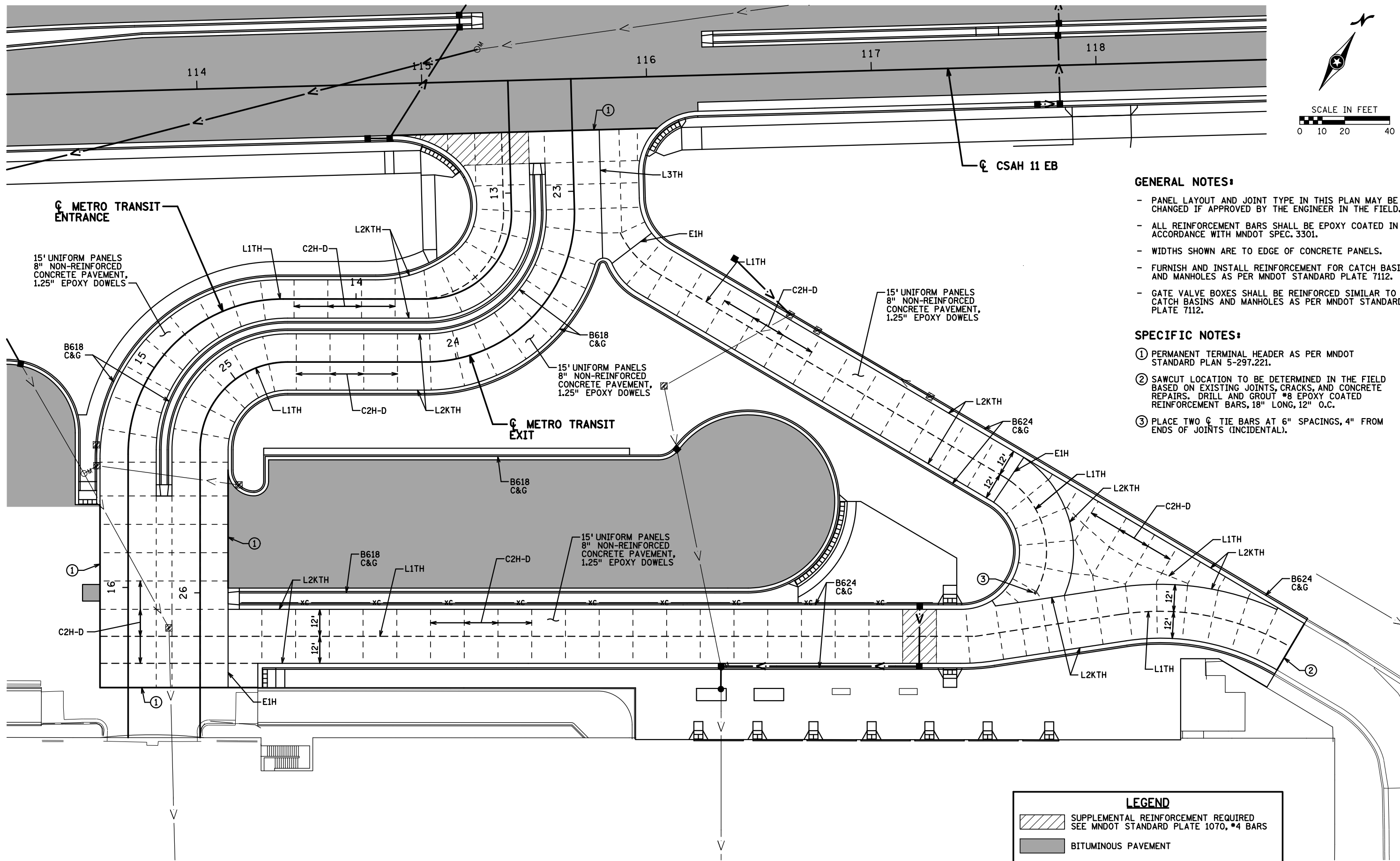
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



NORWAY ST., METRO TRANSIT ENT.,
 METRO TRANSIT EXIT, AND 93RD AVE.
 STATE PROJ. NO. 002-611-036

PROFILES
 SHEET NO. 124 OF 416 SHEETS

DATE: 12/14/2020 TIME: 12:17:15 PM
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GENERAL NOTES:

- PANEL LAYOUT AND JOINT TYPE IN THIS PLAN MAY BE CHANGED IF APPROVED BY THE ENGINEER IN THE FIELD.
- ALL REINFORCEMENT BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH MNDOT SPEC. 3301.
- WIDTHS SHOWN ARE TO EDGE OF CONCRETE PANELS.
- FURNISH AND INSTALL REINFORCEMENT FOR CATCH BASINS AND MANHOLES AS PER MNDOT STANDARD PLATE 7112.
- GATE VALVE BOXES SHALL BE REINFORCED SIMILAR TO CATCH BASINS AND MANHOLES AS PER MNDOT STANDARD PLATE 7112.

SPECIFIC NOTES:

- ① PERMANENT TERMINAL HEADER AS PER MNDOT STANDARD PLAN 5-297.221.
- ② SAWCUT LOCATION TO BE DETERMINED IN THE FIELD BASED ON EXISTING JOINTS, CRACKS, AND CONCRETE REPAIRS. DRILL AND GROUT #8 EPOXY COATED REINFORCEMENT BARS, 18" LONG, 12" O.C.
- ③ PLACE TWO ϕ TIE BARS AT 6" SPACINGS, 4" FROM ENDS OF JOINTS (INCIDENTAL).

LEGEND

SUPPLEMENTAL REINFORCEMENT REQUIRED SEE MNDOT STANDARD PLATE 1070, #4 BARS

BITUMINOUS PAVEMENT

NO.	DATE	BY	DESCRIPTION OF REVISIONS

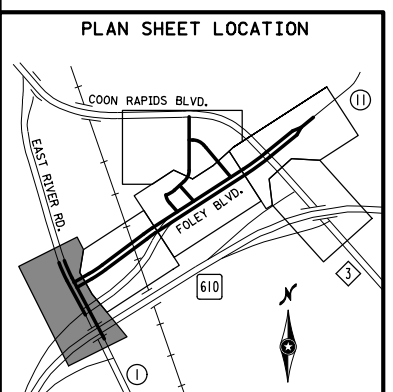
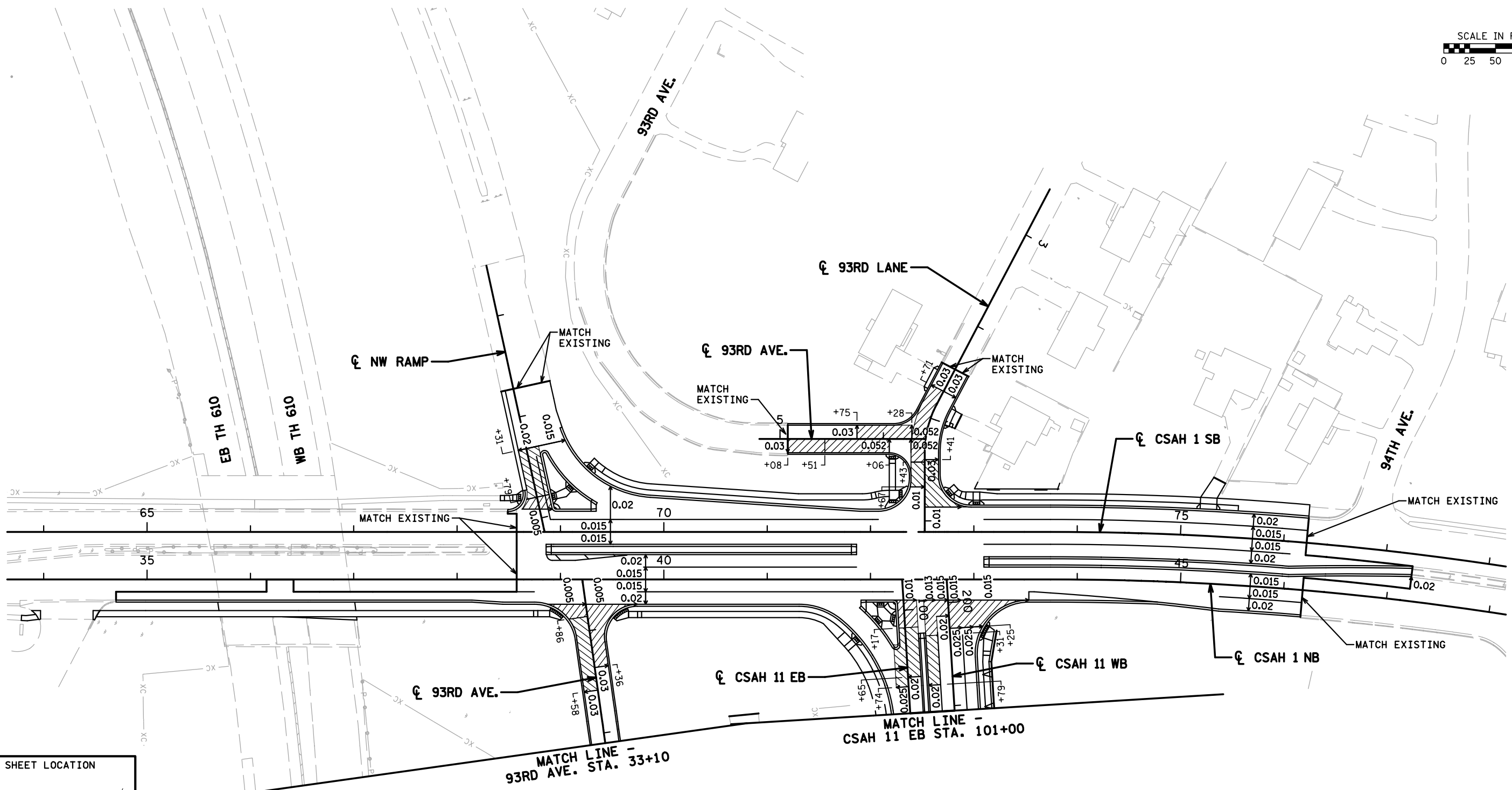
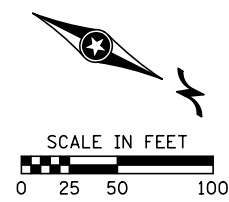
DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp*
 SHANE A. ORTLEPP LIC. NO. 48250 DATE: 12/14/2020



DATE: 11/24/2020 TIME: 10:19:11 PM
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LEGEND

 SUPERELEVATION TRANSITION

GENERAL NOTES:
 - ALL CROSS SLOPES ARE EXPRESSED IN FT/FT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

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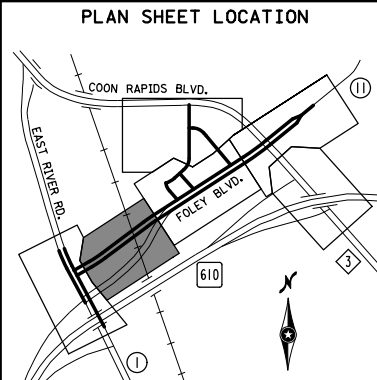
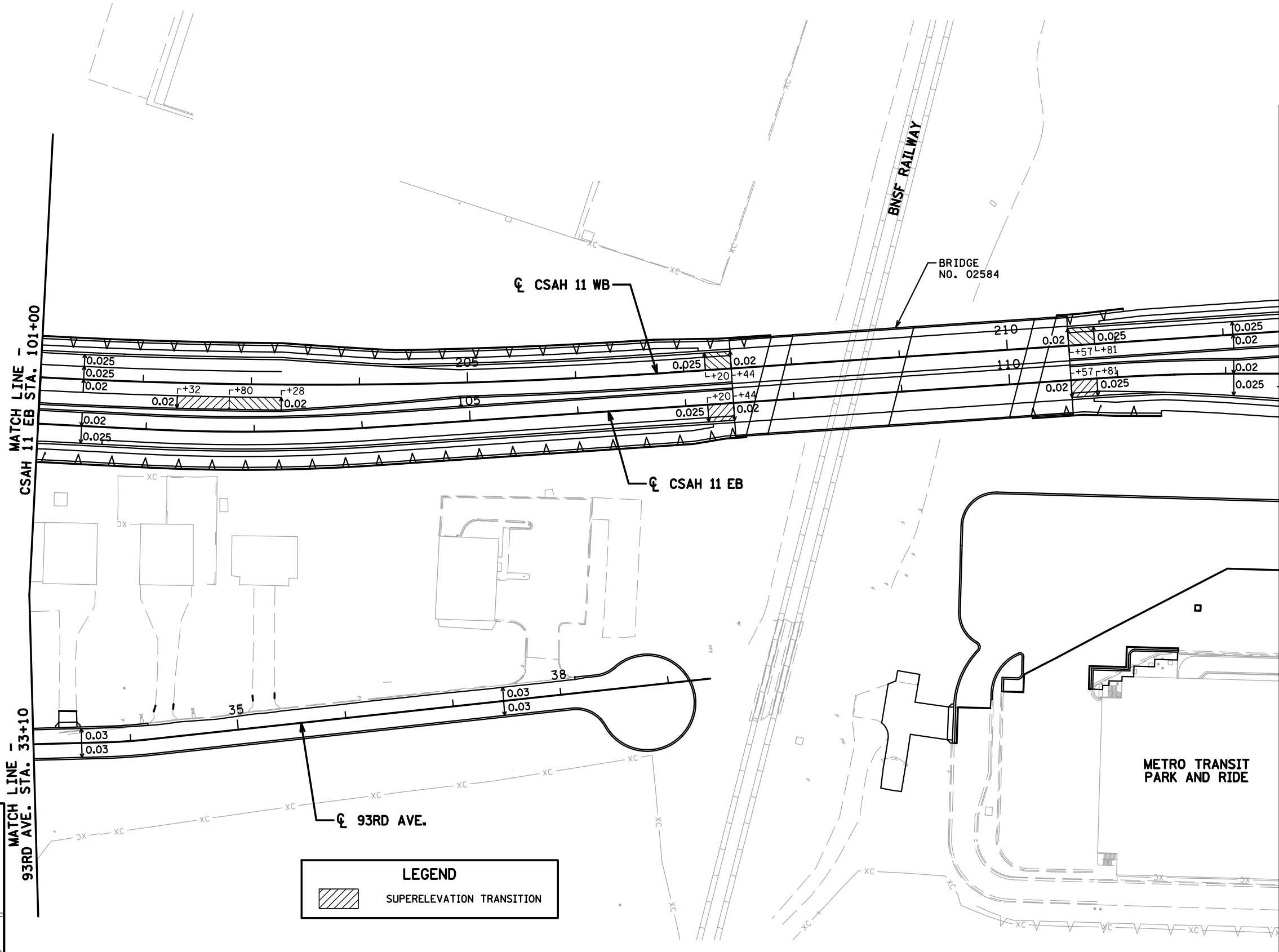
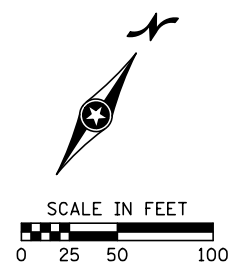
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



CSAH 1 NB STA. 33+78.31 TO STA. 47+21.35
 STATE PROJ. NO. 002-611-036

SUPERELEVATION PLAN
 SHEET NO. 126 OF 416 SHEET 26

DATE: 11/24/2020 TIME: 10:19:25 PM
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LEGEND

SUPERELEVATION TRANSITION

GENERAL NOTES:
 - ALL CROSS SLOPES ARE EXPRESSED IN FT/FT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

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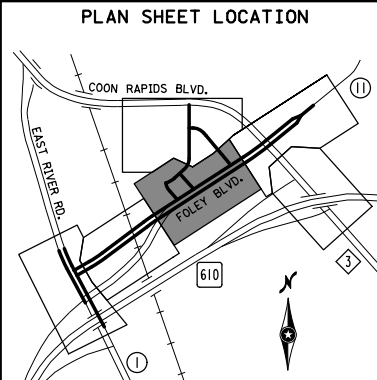
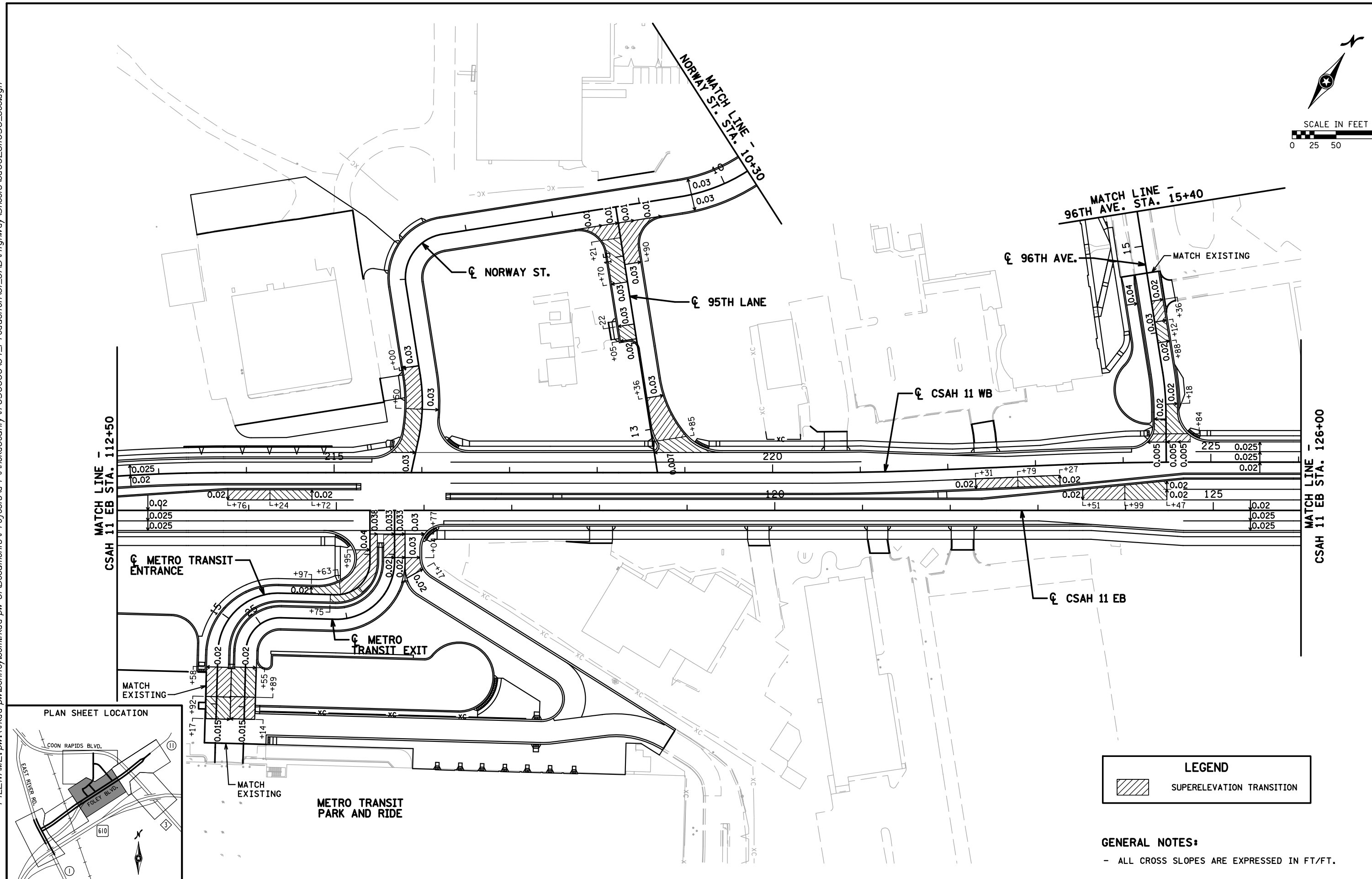
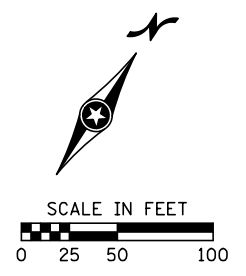
SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



CSAH 11 EB STA. 101+00 TO STA. 112+50
 STATE PROJ. NO. 002-611-036

SUPERELEVATION PLAN
 SHEET NO. 127 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:19:33 PM
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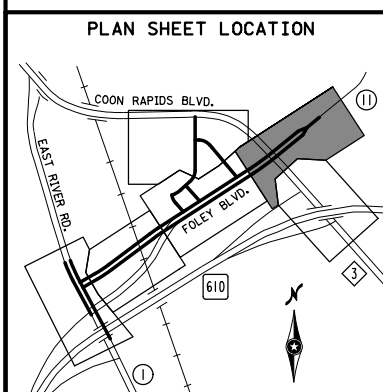
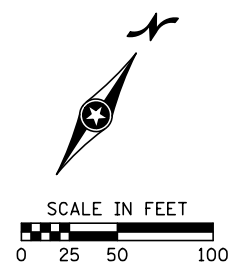
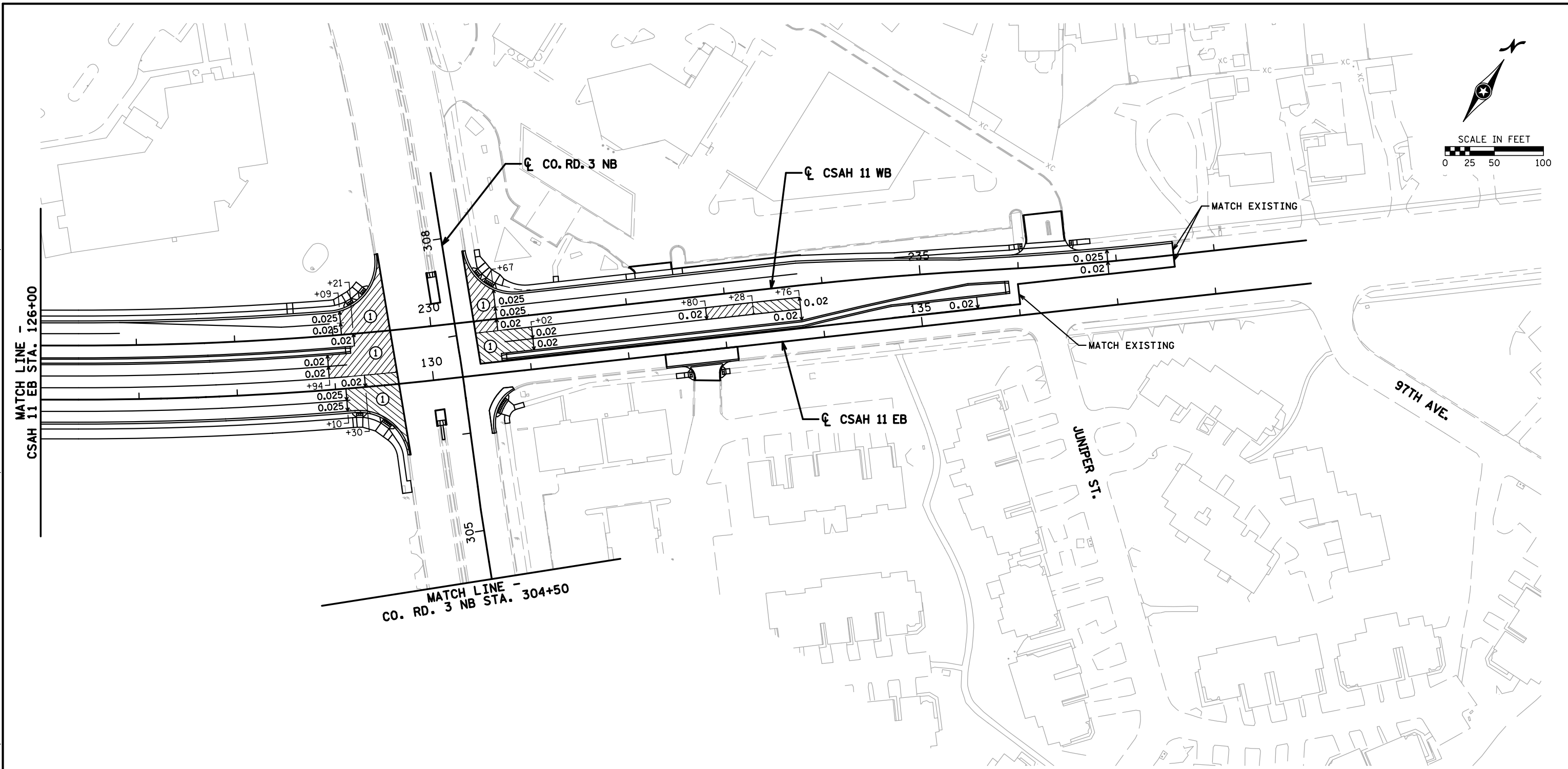
LEGEND

SUPERELEVATION TRANSITION

GENERAL NOTES:
 - ALL CROSS SLOPES ARE EXPRESSED IN FT/FT.

	DES: TJV DRW: RRC CHK: SAO	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Shane A. Ortlepp</i> SHANE A. ORTLEPP LIC. NO. 48250 DATE: 11/24/2020	
CSAH 11 EB STA. 112+50 TO STA. 126+00		SUPERELEVATION PLAN	
STATE PROJ. NO. 002-611-036		SHEET NO. 128 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/24/2020 TIME: 10:19:47 PM
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LEGEND

 SUPERELEVATION TRANSITION

GENERAL NOTES:
 - ALL CROSS SLOPES ARE EXPRESSED IN FT/FT.

SPECIFIC NOTES:
 ① VARIES, WARP TO MATCH EXISTING.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



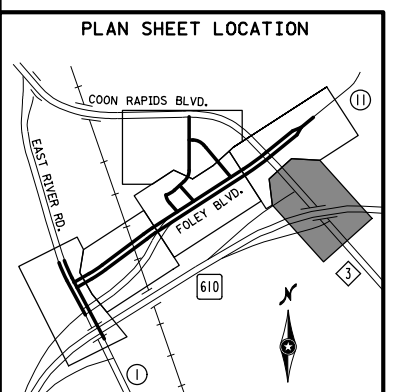
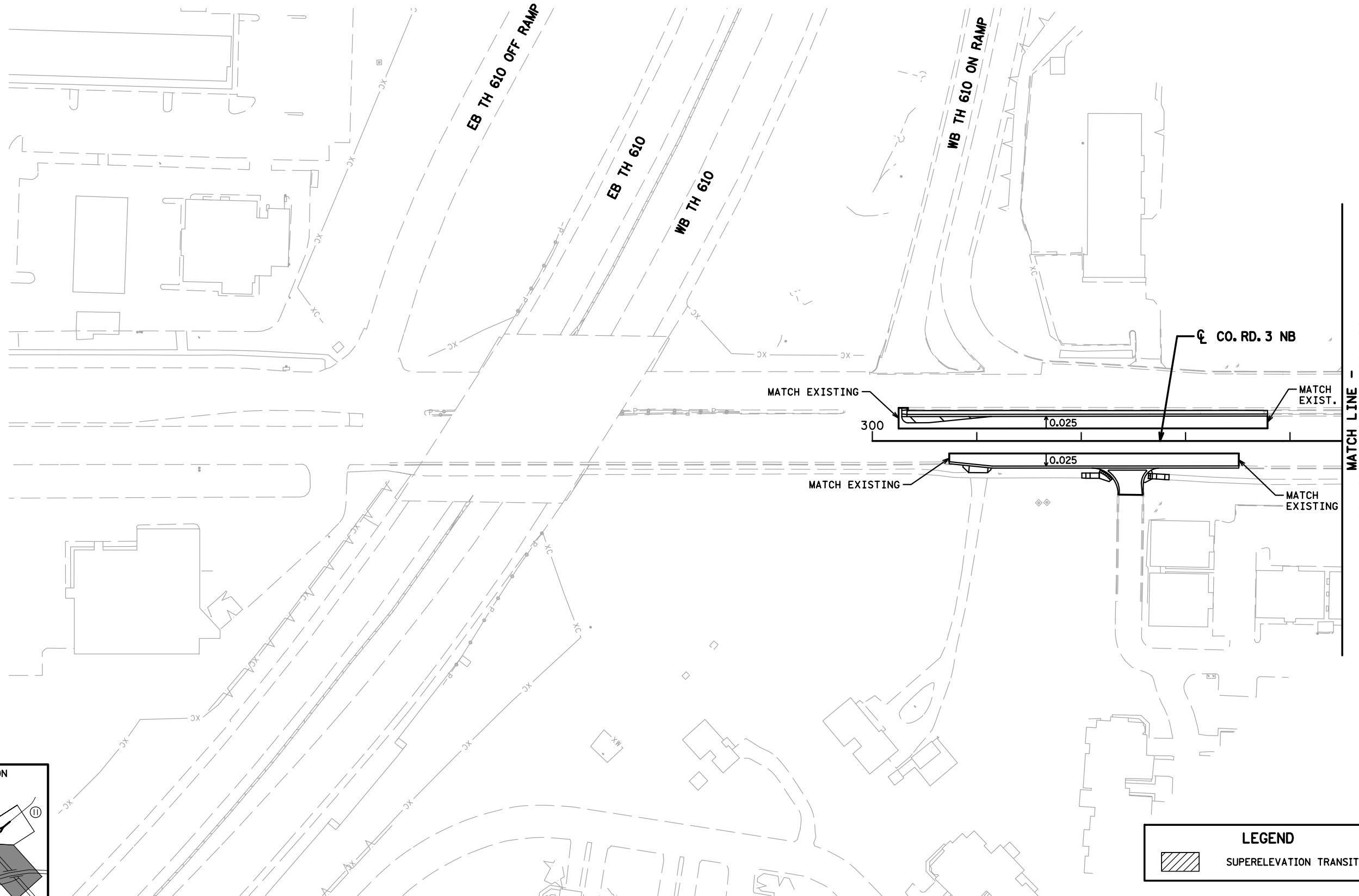
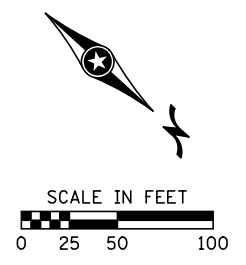
CSAH 11 EB STA. 126+00 TO STA. 137+61.57

STATE PROJ. NO. 002-611-036

SUPERELEVATION PLAN

SHEET NO. 129 OF 416 SHEETS

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LEGEND

SUPERELEVATION TRANSITION

GENERAL NOTES:

- ALL CROSS SLOPES ARE EXPRESSED IN FT/FT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

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SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



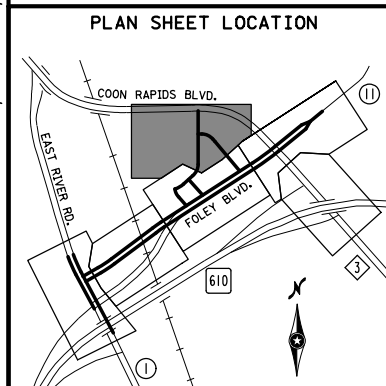
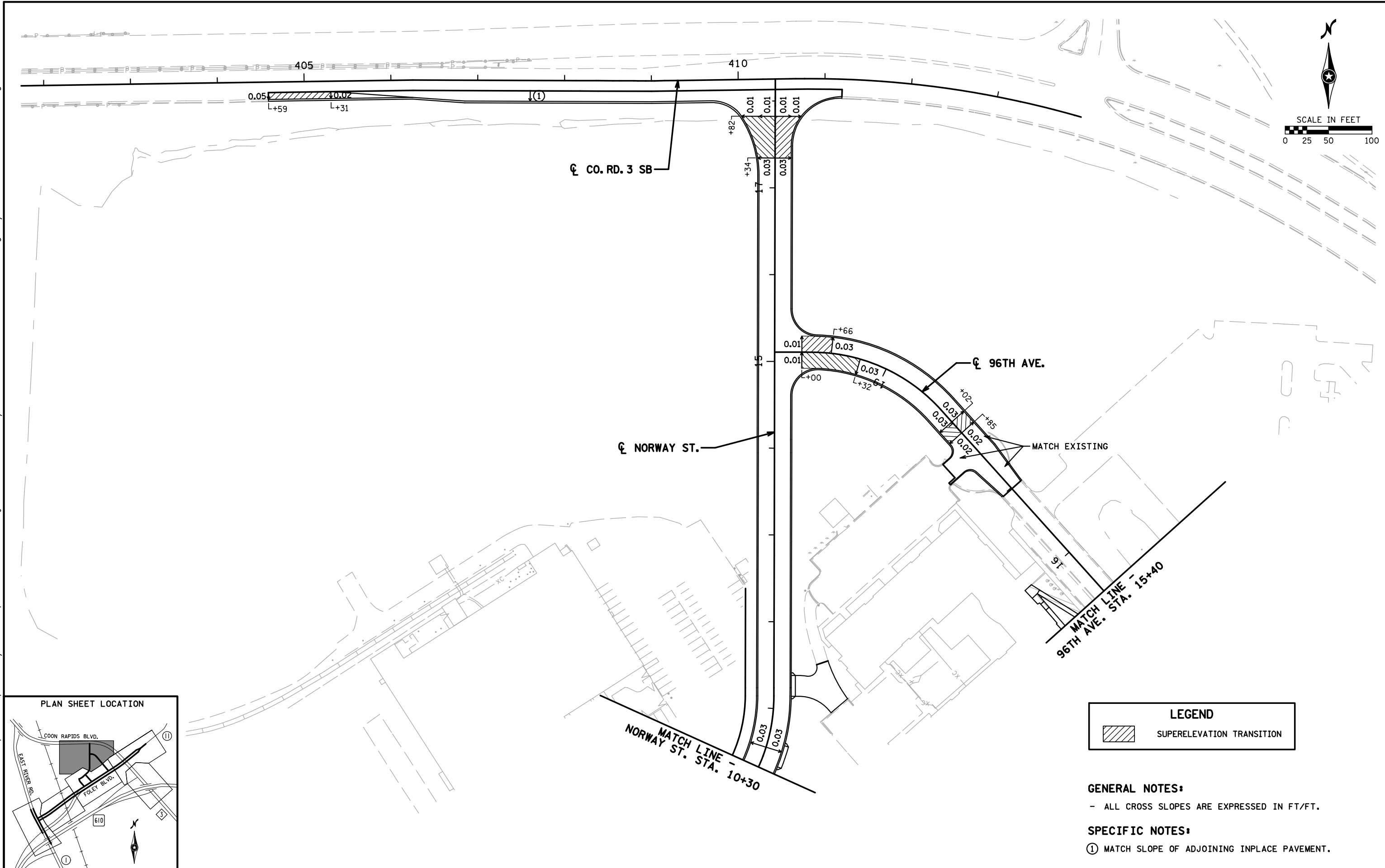
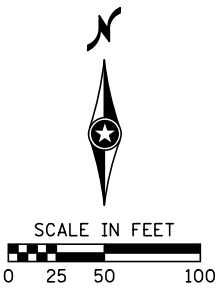
CO. RD. 3 NB STA. 300+00 TO STA. 304+50

STATE PROJ. NO. 002-611-036

SUPERELEVATION PLAN

SHEET NO. 130 OF 416 SHEETS

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LEGEND

SUPERELEVATION TRANSITION

- GENERAL NOTES:**
- ALL CROSS SLOPES ARE EXPRESSED IN FT/FT.
- SPECIFIC NOTES:**
- ① MATCH SLOPE OF ADJOINING INPLACE PAVEMENT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: TJV
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



NORWAY ST. STA. 10+30 TO STA. 18+24.35

STATE PROJ. NO. 002-611-036

SUPERELEVATION PLAN

SHEET NO. 131 OF 416 SHEETS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT DESCRIPTION/LOCATION

THE PROJECT IS LOCATED ON CSAH 11 (FOLEY BOULEVARD) FROM EAST RIVER ROAD (CSAH 1) TO COON RAPIDS BOULEVARD (CSAH 3) IN THE CITY OF COON RAPIDS IN ANOKA COUNTY. THE PLANNED SCOPE OF THE PROJECT INCLUDES: GRADING, BITUMINOUS SURFACING, SIDEWALK, ADA IMPROVEMENTS, TRAFFIC SIGNALS, RETAINING WALLS, WATERMAIN, SANITARY, STORM SEWER, WET PONDS, INFILTRATION, AND FILTRATION BASINS AND BRIDGE NO. 02584

THE SWPPP MUST BE AMENDED TO DOCUMENT ANY CHANGES TO EROSION AND SEDIMENT CONTROLS, METHODS OR PRACTICES. THESE AMENDMENTS MUST BE TIMELY TO KEEP THE SWPPP UPDATED AND NEED TO BE KEPT ON SITE.

PROJECT PERSONNEL AND TRAINING

THIS SWPPP WAS PREPARED BY WATT WASSMAN, PE, CPESC, CPSWQ, WHO IS CERTIFIED IN THE DESIGN OF CONSTRUCTION SWPPPS. COPIES OF THE CERTIFICATIONS ARE ON FILE WITH THE COUNTY AND ARE AVAILABLE UPON REQUEST.

PROVIDE A CERTIFIED EROSION CONTROL SUPERVISOR PER MNDOT SPECIFICATION 2573.3.A.1. EROSION CONTROL SUPERVISOR WILL WORK WITH PROJECT ENGINEER TO OVERSEE IMPLEMENTATION OF SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs BEFORE, DURING AND AFTER CONSTRUCTION UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.

PROVIDE AT LEAST ONE CERTIFIED INSTALLER PER MNDOT SPECIFICATION 2573.3.A.2. FOR EACH CONTRACTOR OR SUBCONTRACTOR THAT PLACES THE PRODUCTS LISTED IN MNDOT SPECIFICATION SECTION 2573.3.A.2.

CHAIN OF RESPONSIBILITY

ANOKA COUNTY AND THE CONTRACTOR ARE CO-PERMITTEES FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION PERMIT. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION PERMIT AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA. THE COUNTY'S CONSTRUCTION PROJECT ENGINEER WILL ENSURE THAT THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL SUPERVISOR FULFILLS THEIR DUTIES.

LAND FEATURE CHANGES

TOTAL DISTURBED AREA	25.93 ACRES
TOTAL EXISTING IMPERVIOUS SURFACE AREA	13.31 ACRES
TOTAL PROPOSED IMPERVIOUS SURFACE AREA	17.46 ACRES
TOTAL PROPOSED NET CHANGE IN IMPERVIOUS SURFACE AREA	4.15 ACRES

LOCATION OF SWPPP REQUIREMENTS

THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MANY PLACES WITHIN THE PLAN SET AS WELL AS IN THE SPECIAL PROVISIONS, MNDOT SPEC BOOK (REFER TO PLAN TITLE SHEET FOR VERSION), OR ON FILE WITH THE COUNTY. THE NOTES AND TABLE BELOW ARE INTENDED TO BE A QUICK REFERENCE FOR THE CONTRACTOR AND PROJECT ENGINEER TO USE IN THE FIELD. THERE MAY BE ADDITIONAL REQUIRED SWPPP ELEMENTS INCLUDED ON THE PROJECT THAT ARE NOT LISTED ON THIS SHEET.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

SWPPP SHEET DESCRIPTIONS	LOCATION
TEMPORARY EROSION CONTROL MEASURES	SHEETS NO. 177-200
PERMANENT EROSION CONTROL MEASURES	SHEETS NO. 201-206
DIRECTION OF FLOW	SHEETS NO. 135-140, 177-200
FINAL STABILIZATION	SHEETS NO. 201-206
SOILS AND CONSTRUCTION NOTES	SHEETS NO. 10
DRAINAGE STRUCTURES	SHEETS NO. 135-140
DRAINAGE TABULATION	SHEETS NO. 141-158
STORM SEWER PROFILE SHEETS	SHEETS NO. 141-158
STORM SEWER TABULATION	SHEETS NO. 141-158
EROSION AND SEDIMENT CONTROL DETAILS	SHEETS NO. 45-55
EROSION CONTROL TABULATION	SHEETS NO. 15
TURF ESTABLISHMENT TABULATION	SHEETS NO. 15
SITE MAP	SHEETS NO. 134
STORMWATER TREATMENT CONSTRUCTION STAGING	SHEETS NO. 134
STORMWATER CALCULATIONS	AVAILABLE UPON REQUEST
SWPPP	SHEETS NO. 132-134

SOIL TYPES

SOIL TYPES TYPICALLY FOUND ON THIS PROJECT PER BRAUN INTERTEC'S MATERIAL DESIGN RECOMMENDATION REPORT ARE GRANULAR SOILS ORIGINATING AS ALLUVIUM. THESE SP AND SP-SM SOILS ARE GENERALLY FINE-TO-MEDIUM-GRAINED AND LOOSE TO MEDIUM DENSE IN RELATIVE DENSITY.

ENVIRONMENTAL REVIEW

THERE ARE NO STORMWATER MITIGATION MEASURES REQUIRED AS A RESULT OF AN ENVIRONMENTAL, ARCHEOLOGICAL OR AGENCY REVIEW. ALL MITIGATION MEASURES HAVE BEEN ADDRESSED IN THIS PLAN SET OR THE SPECIAL PROVISIONS.

THIS PROJECT IS NOT LOCATED IN A WELL HEAD PROTECTION AREA.

THIS PROJECT IS NOT LOCATED IN A DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA).

THIS PROJECT IS NOT LOCATED IN A KARST AREA.

THIS PROJECT IS NOT LOCATED IN AN EMERGENCY RESPONSE AREA (ERA) PER DEPARTMENT OF HEALTH.

THIS PROJECT IS LOCATED WITHIN AREAS OF KNOWN SOIL AND GROUNDWATER CONTAMINATION. SEE SPECIAL PROVISIONS FOR MORE INFORMATION.

WATER RELATED PERMITS

AGENCY	TYPE OF PERMIT	REQUIRED (YES/NO)
MINNESOTA POLLUTION CONTROL AGENCY (MPCA)	NPDES CONSTRUCTION STORMWATER GENERAL PERMIT	YES
WATERSHED DISTRICT	COON CREEK WATERSHED DISTRICT	YES
DEPARTMENT OF NATURAL RESOURCES (DNR)	PUBLIC WATERS WORK PERMIT	NO
ARMY CORPS OF ENGINEERS	TRANSPORTATION REGIONAL GENERAL PERMIT (TRGP)	NO

READ AND REVIEW ALL PERMITS FOR SPECIAL CONDITIONS THAT WILL AFFECT CONSTRUCTION OF THE PROJECT.

NOTIFY COON CREEK WATERSHED DISTRICT AT LEAST 24 HOURS BEFORE THE CONSTRUCTION OF STORMWATER BMPs AND DEWATERING ACTIVITIES.

IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS, OPERATIONS SHOULD CEASE AND DETERMINATION MADE IF ADDITIONAL PERMITS ARE NEEDED OR EXISTING PERMITS NEED TO BE MODIFIED.

TEMPORARY DEWATERING ACTIVITIES MAY BE REQUIRED FOR ROADWAY, MSE WALL, AND POND CONSTRUCTION, AND UTILITY WORK. CONTRACTOR IS RESPONSIBLE FOR OBTAINING WATER APPROPRIATIONS PERMIT. SUBMIT A SITE MANAGEMENT PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING DEWATERING ACTIVITIES.

SPECIAL AND IMPAIRED WATERS THAT ARE LOCATED WITHIN ONE MILE (AERIAL RADIUS) OF THE PROJECT LIMITS AND RECEIVE RUNOFF FROM THE PROJECT SITE.

WATERBODY NAME	IMPAIRMENT(S) OR SPECIAL STATUS
COON CREEK	BENTHIC MACROINVERTEBRATE BIOASSESSMENTS
MISSISSIPPI RIVER	NUTRIENTS, PCB IN FISH TISSUE
PLEASURE CREEK (COUNTY DITCH 17)	BENTHIC MACROINVERTEBRATE BIOASSESSMENTS

AREAS OF ENVIRONMENTAL SENSITIVITY (AES)

THERE ARE WETLANDS WITHIN AND NEAR THE PROJECT BOUNDARY WHICH ARE SHOWN ON DRAINAGE PLANS.

THERE ARE AREAS OF KNOWN SOIL AND GROUNDWATER CONTAMINATION WITHIN THE PROJECT LIMITS. THESE AREAS HAVE BEEN IDENTIFIED ON THE STAGED DRAINAGE AND EROSION CONTROL PLANS AS ENVIRONMENTALLY SENSITIVE AREAS REQUIRING A SITE MANAGEMENT PLAN. SEE SPECIAL PROVISIONS FOR INFORMATION ON HANDLING CONTAMINATED MATERIALS.

PROJECT ORGANIZATION CONTACTS	NAME	PHONE
CONTRACTOR'S EROSION AND SEDIMENT CONTROL SUPERVISOR		
CONTRACTOR'S EROSION AND SEDIMENT CONTROL INSTALLER		
ANOKA COUNTY CONSTRUCTION PROJECT ENGINEER OR REPRESENTATIVE	CHRIS OSTERHUS	763-324-3189
COON CREEK WATERSHED DISTRICT	MATT DANZL	763-755-0975
MPCA DUTY OFFICER 24 HR EMERGENCY NOTIFICATION	651-649-5451 OR 1(800)-422-0798	
CERTIFIED SWPPP DESIGNER AND WRE ENGINEER	MATT WASSMAN	651-292-4631

SITE INSPECTION AND MAINTENANCE

INSPECT THE ENTIRE CONSTRUCTION SITE A MINIMUM OF ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECT ALL TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT, EROSION PREVENTION AND SEDIMENT CONTROL BMPs UNTIL THE SITE HAS UNDERGONE FINAL STABILIZATION AND THE NOT HAS BEEN SUBMITTED. INSPECT SURFACE WATER INCLUDING DRAINAGE DITCHES FOR SIGNS OF EROSION AND SEDIMENT DEPOSITION. INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF TRACKING ONTO PAVED SURFACES. INSPECT SURROUNDING PROPERTIES FOR EVIDENCE OF OFF SITE SEDIMENT ACCUMULATION. INSPECT INFILTRATION AREAS FOR SIGNS OF SEDIMENT DEPOSITION AND COMPACTION (TO ENSURE THAT EQUIPMENT IS NOT BEING DRIVEN ACROSS THE AREA).

INSPECT DAILY THE FOLLOWING: CONSTRUCTION EXITS FOR SIGNS OF TRACKOUT, DEWATERING AREAS, FLOOD PRONE INLETS, SURROUNDING PROPERTIES (STAY WITHIN PROJECT LIMITS), INFILTRATION AREAS, AND ALL SITE MANAGEMENT PLAN LOCATIONS IN ACTIVE CONSTRUCTION.

RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES IN WRITING WITHIN 24 HOURS. SUBMIT INSPECTION REPORTS IN A FORMAT THAT IS ACCEPTABLE TO THE PROJECT ENGINEER. INCLUDE THE FOLLOWING IN THE RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY:

- DATE AND TIME OF INSPECTIONS
- NAME OF PERSONS CONDUCTING INSPECTIONS
- FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS
- CORRECTIVE ACTIONS TAKEN, INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES
- DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCHES IN 24 HOURS
- ANY DISCHARGES DURING INSPECTIONS MUST BE PHOTOGRAPHED AND DESCRIBED.
- ANY AMENDMENTS TO THE SWPPP AS A RESULT OF INSPECTIONS MUST BE DOCUMENTED WITHIN 7 DAYS.

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DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020
DRW: RJR	
CHK: MAW	



STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (CONTINUED)

EROSION AND SEDIMENT CONTROL MEASURES

AREA	TIMEFRAME
ESTABLISH SEDIMENT CONTROL DEVICES ON ALL DOWN GRADIENT PERIMETERS AND UPGRADIENT OF ANY BUFFER ZONES	BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN
REPAIR, REPLACE OR SUPPLEMENT PERIMETER CONTROL BMPS	WHEN BMP BECOMES NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT OF THE BMP BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY.
REPLACE, REPAIR OR SUPPLEMENT ALL NONFUNCTIONAL BMPS	BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY.
REPAIR, REPLACE, OR SUPPLEMENT INLET PROTECTION BMPS	WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT AND/OR DEPTH OF THE BMP BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY.
REMOVE TRACKED SEDIMENT FROM PAVED SURFACES BOTH ON AND OFF SITE (LIGHTLY WET PRIOR TO SWEEPING)	WITHIN 24 HOURS OF DISCOVERY
REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS AND RESTABILIZE	WITHIN 7 DAYS OF DISCOVERY

1. PROVIDE PERIMETER CONTROL AROUND ALL STOCKPILES AND DO NOT PLACE THEM IN NATURAL BUFFER AREAS, SURFACE WATERS OR STORMWATER CONVEYANCES. TOPSOIL BERMS MUST BE STABILIZED IN ORDER TO BE CONSIDERED PERIMETER CONTROL BMPS.
2. PROTECT STORM SEWER INLETS AT ALL TIMES WITH THE APPROPRIATE INLET PROTECTION BMP AND PROVIDE EMERGENCY OVERFLOW CAPABILITIES. SILT FENCE PLACED IN THE INLET GRATE IS NOT AN ACCEPTABLE INLET PROTECTION BMP FOR GRADING OPERATIONS.
3. PLACE AND MAINTAIN CONSTRUCTION EXITS OF SUFFICIENT SIZE TO PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES BOTH ON AND OFF THE PROJECT SITE. REGULAR STREET SWEEPING IS NOT AN ACCEPTABLE ALTERNATIVE TO PROPER CONSTRUCTION EXIT INSTALLATION AND MAINTENANCE.
4. PROVIDE SCOUR PROTECTION AT OUTFALL OF DEWATERING ACTIVITIES. PROVIDE STABILIZATION IN TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES.
5. PREPARE AND SUBMIT A SITE MANAGEMENT PLAN AND CONTACT ALL APPROPRIATE AUTHORITIES PRIOR TO WORKING IN SURFACE WATERS.
6. MAINTAIN ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION FOR PERMIT TERMINATION, AND THE NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.

STABILIZATION

AREA	TIMEFRAME	NOTES
LAST 200 LINEAL FEET OF DRAINAGE DITCH OR SWALE	WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER OR PROPERTY EDGE	2A, 3A
REMAINING PORTIONS OF DRAINAGE DITCH OR SWALE	7 DAYS	3A
PIPE AND CULVERT OUTLETS	24 HOURS	
EXPOSED SOILS AND STOCKPILES	7 DAYS	1A
WHEN CONSTRUCTION HAS TEMP. OR PERM. CEASED	IMMEDIATELY	4A

- 1A. TEMPORARY SOIL STOCKPILES WITHOUT SIGNIFICANT CLAY OR SILT AND STOCKPILED AND CONSTRUCTED ROAD BASE ARE EXEMPT FROM THE STABILIZATION REQUIREMENT.
- 2A. STABILIZE WETTED PERIMETER OF DITCH (I.E. WHERE THE DITCH GETS WET).
- 3A. APPLICATION OF MULCH, HYDROMULCH (SLOPE>2%), DISANCHORED MULCH (SLOPE>2%), TACKIFIER AND POLYACRYLAMIDE ARE NOT ACCEPTABLE STABILIZATION METHODS IN DITCHES AND SWALES.
- 4A. STABILIZATION MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHEN CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 7 DAYS AFTER THE CONSTRUCTION ACTIVITY HAS CEASED. TEMPORARY STABILIZATION NOT REQUIRED FOR AREAS WHERE PERMANENT COVER CAN BE PLACED WITHIN 7 DAYS.

NPDES PERMIT TERMINATION CONDITIONS

CONTRACTOR MUST COMPLETE ALL CONSTRUCTION ACTIVITY AND MUST INSTALL PERMANENT COVER OVER ALL AREAS PRIOR TO SUBMITTING THE NOT. VEGETATIVE COVER MUST CONSIST OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70 PERCENT OF ITS EXPECTED FINAL GROWTH.

CONTRACTOR MUST CLEAN THE PERMANENT STORMWATER TREATMENT SYSTEM OF ANY ACCUMULATED SEDIMENT AND MUST ENSURE THE SYSTEM IS OPERATING AS DESIGNED.

CONTRACTOR MUST REMOVE ALL SEDIMENT FROM CONVEYANCE SYSTEMS PRIOR TO SUBMITTING THE NOT.

CONTRACTOR MUST REMOVE ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPS PRIOR TO SUBMITTING THE NOT. CONTRACTORS MAY LEAVE BMPS DESIGNED TO DECOMPOSE ON SITE IN PLACE.

TEMPORARY SEDIMENT BASINS

1. PROVIDE TEMPORARY SEDIMENT BASIN FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OF MORE ACRES DISTURBED AT ONE TIME.
2. THE TEMPORARY BASIN MUST PROVIDE LIVE STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A TWO (2)-YEAR, 24-HOUR STORM FROM EACH ACRE DRAINED TO THE BASIN OR 1,800 CUBIC FEET OF LIVE STORAGE PER ACRE DRAINED, WHICHEVER IS GREATER.

TEMPORARY SEDIMENT BASINS (CONT.)

3. WHERE CONTRACTOR HAS NOT CALCULATED THE TWO (2)-YEAR, 24-HOUR STORM RUNOFF AMOUNT, THE TEMPORARY BASIN MUST PROVIDE 3,600 CUBIC FEET OF LIVE STORAGE PER ACRE OF THE BASIN'S DRAINAGE AREA.
4. DESIGN BASIN OUTLETS TO PREVENT SHORT-CIRCUITING AND THE DISCHARGE OF FLOATING DEBRIS.
5. DESIGN THE OUTLET STRUCTURE TO WITHDRAW WATER FROM THE SURFACE TO MINIMIZE THE DISCHARGE OF POLLUTANTS. THE BASIN MUST INCLUDE A STABILIZED EMERGENCY OVERFLOW TO PREVENT FAILURE OF POND INTEGRITY.
6. PROVIDE ENERGY DISSIPATION FOR THE BASIN OUTLET WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.
7. LOCATE TEMPORARY BASINS OUTSIDE OF SURFACE WATERS AND ANY BUFFER ZONE REQUIRED UNLESS OTHERWISE SHOWN IN THE PLANS.

MATERIAL STORAGE, WASTE MANAGEMENT, FUELING AND DUST CONTROL

1. PROVIDE A SPILL KIT AT EACH WORK LOCATION ON THE SITE. ENSURE ALL SPILLS ARE CLEANED UP IMMEDIATELY.
2. STORE ALL LIQUID CHEMICALS UNDER COVER WITH SECONDARY CONTAINMENT. CREATE AND FOLLOW A WRITTEN DISPOSAL PLAN FOR ALL WASTE MATERIALS. STORE, COLLECT AND DISPOSE OF ALL SOLID WASTE.
3. FUEL AND MAINTAIN VEHICLES IN A DESIGNATED CONTAINED AREA WHENEVER FEASIBLE. USE DRIP PANS OR ABSORBENT MATERIALS TO PREVENT SPILLS OR LEAKED CHEMICALS FROM DISCHARGING TO SURFACE WATER OR STORMWATER CONVEYANCES.
4. PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS. LIQUID AND SOLID WASHOUT WASTES MUST NOT CONTACT THE GROUND. DESIGN THE CONTAINMENT SO THAT IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR CONTAINMENT AREA.
5. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS GRINDINGS, CUTTINGS, MILLINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS AND FROM ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.
6. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT CONCRETE DUST, STREET SWEEPING DUST, SAWCUT SLURRY, PLANING WASTE, CONCRETE WASH OUT, AND OTHER CONCRETE WASTES FROM LEAVING THE RIGHT OF WAY, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS, AND FROM ENTERING STORMWATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.
7. PORTABLE TOILETS MUST BE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OR KNOCKED OVER. SANITARY WASTE MUST BE DISPOSED OF PROPERLY IN ACCORDANCE WITH MINN. R. CHAPTER 7041.

IMPORTANT SWPPP NOTES FOR CONSTRUCTION ACTIVITY

1. PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR THE ENGINEER'S ACCEPTANCE FOR CONCRETE MANAGEMENT, CONCRETE SLURRY APPLICATION AREAS, WORK IN AND NEAR AREAS OF ENVIRONMENTAL SENSITIVITY, AREAS IDENTIFIED IN THE PLANS AS "SITE MANAGEMENT PLAN AREA", ANY WORK THAT WILL REQUIRE DEWATERING, AND AS REQUESTED BY THE ENGINEER. SUBMIT ALL SITE MANAGEMENT PLANS TO THE ENGINEER IN WRITING. ALLOW A MINIMUM OF 7 DAYS FOR THE ENGINEER TO REVIEW AND ACCEPT SITE MANAGEMENT PLAN SUBMITTALS. WORK WILL NOT BE ALLOWED TO COMMENCE IF A SITE MANAGEMENT PLAN IS REQUIRED UNTIL ACCEPTANCE HAS BEEN GRANTED BY THE ENGINEER. THERE WILL BE NO EXTRA TIME ADDED TO THE CONTRACT DUE TO THE UNTIMELY SUBMITTAL.
2. DO NOT BUILD INFILTRATION AREAS OR PLACE FINAL FILTRATION MEDIA UNTIL THE PROJECT IS NEARLY COMPLETE. PROTECT THESE AREAS FROM COMPACTION AND FROM CONSTRUCTION STORMWATER RUNOFF.
3. ROUTE STORMWATER AROUND UNSTABILIZED AREAS OF THE SITE WHENEVER FEASIBLE.
4. CONSTRUCTION PROJECT SHOULD BE PHASED TO MINIMIZE THE DURATION OF EXPOSED SOILS.
5. MINIMIZE COMPACTION OF SOILS AND PRESERVE TOPSOIL IN AREAS WHERE VEGETATION WILL BE ESTABLISHED.
6. DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS WHENEVER FEASIBLE. PROVIDE VELOCITY DISSIPATION DEVICES AS NEEDED TO PREVENT EROSION.
7. DISCHARGE TURBID OR SEDIMENT LADEN WATER TO TEMPORARY SEDIMENT BASINS WHENEVER FEASIBLE (REQUIRED IF DRAINAGE AREA IS 5 ACRES OR LARGER). IN THE EVENT THAT IT IS NOT FEASIBLE TO DISCHARGE THE SEDIMENT LADEN WATER TO A TEMPORARY SEDIMENT BASIN, THE WATER MUST BE TREATED SO THAT IT DOES NOT CAUSE A NUISANCE CONDITION IN THE RECEIVING WATERS OR DOWNSTREAM LANDOWNERS. MUST DOCUMENT WHY SEDIMENT BASIN IS NOT FEASIBLE.
8. PROVIDE STABILIZATION IN ANY TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES.
9. REMOVE SEDIMENT FROM STORMWATER SYSTEM AND BMPS AT THE END OF PROJECT.
10. PROVIDE A 50 FOOT NATURAL BUFFER OR, IF BUFFER IS INFEASIBLE, PROVIDE A DOUBLE ROW OF SEDIMENT CONTROLS SPACED AT LEAST 5' APART WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF LAND DISTURBANCE AND STORMWATER FLOWS TO THE SURFACE WATER.
11. SUBSOIL ALL DISTURBED GREEN SPACES EXCEPT AS LISTED IN 2574.3A.5.

PIPE AND STRUCTURE NOTES

1. SIZE AND ELEVATION OF STORM SEWER PIPES, CATCH BASINS, STORMWATER TREATMENT SYSTEMS, AND OVERFLOW DEVICES HAVE BEEN SPECIFICALLY DESIGNED TO CONFORM TO COUNTY DESIGN STANDARDS AND PERMIT REQUIREMENTS. THE DESIGN COMPUTATIONS ARE ON FILE WITH ANOKA COUNTY. CHANGING THESE ITEMS OR THE DIRECTION OF FLOW FROM WHAT IS SHOWN ON THE PLANS MAY CAUSE PROBLEMS OFF THE PROJECT AND COULD MEAN THE PROJECT IS OUT OF COMPLIANCE WITH APPROVED DRAINAGE PERMITS. ANY CHANGES OF THE DRAINAGE SYSTEM MUST BE APPROVED BY THE WATER RESOURCES DESIGNER.
2. PERFORM POST INSTALLATION MANDREL TESTING OF ALL PLASTIC PIPE.
3. SUBSURFACE DRAINAGE TILES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED, REPLACED OR REROUTED, AND CONNECTED TO THE EXISTING TILE OR DRAINAGE SYSTEM TO ENSURE THAT EXISTING UPLAND DRAINAGE IS PERPETUATED. THIS SHALL BE DONE TO THE APPROVAL AND SATISFACTION OF THE ENGINEER.

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DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		STATE PROJ. NO. 002-611-036	STORM WATER POLLUTION PREVENTION PLAN	
DRW: RJR	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020				
CHK: MAW	MATTHEW A. WASSMAN				
NO.	DATE	BY	DESCRIPTION OF REVISIONS	STATE PROJ. NO. 002-611-036	SHEET NO. 133 OF 416 SHEETS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (CONTINUED)

TREATMENT BMPs INCLUDED WITH THIS PROJECT ARE:

STORM DRAIN INLET PROTECTION, SILT FENCE, SEDIMENT CONTROL LOGS, EIGHT PRE-TREATMENT STORM SEDIMENT TRAP MANHOLES, TWO WET PONDS, ONE FILTRATION BASIN, AND ONE INFILTRATION BASIN.

POND CONSTRUCTION NOTES

- DO NOT STOCKPILE MATERIALS OR PARK EQUIPMENT OR VEHICLES IN AN (IN)FILTRATION BASIN.
- WET PONDS MAY BE USED AS TEMPORARY SEDIMENT TRAPS OR TEMPORARY SEDIMENT BASINS AS LONG AS SEDIMENT IS REMOVED AT THE END OF CONSTRUCTION.
- THE CONTRACTOR MAY NOT DRIVE ANY EQUIPMENT ON FINISHED POND BOTTOMS OR POND CORNERS. IF DISTURBED, POND BOTTOM AND POND CORNERS MUST BE RESTORED TO PRE-EXISTING CONDITIONS WITHIN 24 HOURS. ANY RUTS OR DAMAGED TURF THAT COULD CREATE SEDIMENT DISCHARGE TO POND BOTTOMS MUST BE REPAIRED WITHIN 24 HOURS.

(IN)FILTRATION SYSTEM CONSTRUCTION NOTES

- DURING CONSTRUCTION, REPORT ANY SIGNS OF HIGH WATER TABLE OR COMPACTION OF THE INPLACE SOILS TO THE ENGINEER.
- PROTECT CONSTRUCTION (IN)FILTRATION AREAS FROM COMPACTION. DO NOT STOCKPILE MATERIALS, DRIVE OR PARK EQUIPMENT OR VEHICLES IN A CONSTRUCTED (IN)FILTRATION AREA. EXCAVATION OF (IN)FILTRATION AREAS SHALL BE DONE USING A BACKHOE WITH A TOOTHED BUCKET.
- DO NOT EXCAVATE (IN)FILTRATION MEDIA SECTION OR PLACE MEDIA UNTIL THE PROJECT IS NEARLY COMPLETE AND ALL AREAS THAT DRAIN TO THE SYSTEM ARE COMPLETELY PERENNIALY STABILIZED WITH ACTIVE GROWTH VEGETATION.
- PLACE SEDIMENT CONTROL BMPs AT THE TOE OF THE ADJACENT SLOPE IMMEDIATELY AFTER PLACEMENT OF AMENDED TOPSOIL. STABILIZE SIDE SLOPES PRIOR TO PLACING ANY AMENDED TOPSOIL IN THE BOTTOM OF THE (IN)FILTRATION AREA.
- SUBMIT A SITE MANAGEMENT PLAN TO THE ENGINEER FOR THE CONSTRUCTION OF THE (IN)FILTRATION SYSTEM.
- DO NOT DRAIN TURBID OR SEDIMENT LADEN WATER TO THE (IN)FILTRATION AREA ONCE THE AREA HAS BEEN EXCAVATED TO WITHIN 3 FEET OF THE FINAL BOTTOM ELEVATION.
- WHEN BUILDING, USE ONLY LOW IMPACT VEHICLES WITHIN (IN)FILTRATION AREAS TO LIMIT COMPACTION.
- EXCAVATE ANY SEDIMENT THAT WASHES INTO (IN)FILTRATION AREAS. IF DISTURBED REPAIR WITHIN 24 HOURS.

(IN)FILTRATION SYSTEM CONSTRUCTION SEQUENCING NOTES

- EXCAVATE (IN)FILTRATION AREAS TO BASIN BOTTOM ELEVATION (TOP OF MEDIA). THIS AREA CAN THEN BE USED AS A TEMPORARY SEDIMENT BASIN DURING THE CONSTRUCTION. DO NOT EXCAVATE FINAL 2 FEET OR PLACE MEDIA.
- CONSTRUCT PRETREATMENT STORM SEDIMENT TRAP MANHOLE.
- CONSTRUCT UPSTREAM STORM SEWER SYSTEMS.
- COMPLETE ALL CONSTRUCTION (ROADWAY AND BRIDGE) WITHIN CONTRIBUTING DRAINAGE AREA TO THE (IN)FILTRATION AREAS.
- STABILIZE AND VEGETATE ALL SOIL AREAS THAT DRAIN TO THE (IN)FILTRATION AREAS.
- PLACE TEMPORARY PIPES TO CONVEY STORMWATER RUNOFF FROM BASIN INLET PIPES TO OUTLET PIPE.
- NOW THAT THE (IN)FILTRATION AREA IS OFFLINE, EXCAVATE TO FINAL MEDIA BOTTOM ELEVATION.
- PERFORM A MINIMUM OF FOUR DOUBLE-RING INFILTRMETER TESTS IN BOTTOM OF EXCAVATION FOR INFILTRATION BASIN. PROVIDE TEST RESULTS TO THE ENGINEER AND COON CREEK WATERSHED DISTRICT FOR REVIEW AND APPROVAL.
- PLACE THE FILTRATION MEDIA AND UNDERDRAIN SYSTEM.
- ONCE THE SYSTEM IS FULLY CONSTRUCTED AND OPERATIONAL AND THE AREAS DRAINING TO THE SYSTEM ARE COMPLETELY PERENNIALY STABILIZED WITH ACTIVE GROWTH, REMOVE THE TEMPORARY PIPES TO PUT THE SYSTEM ONLINE.

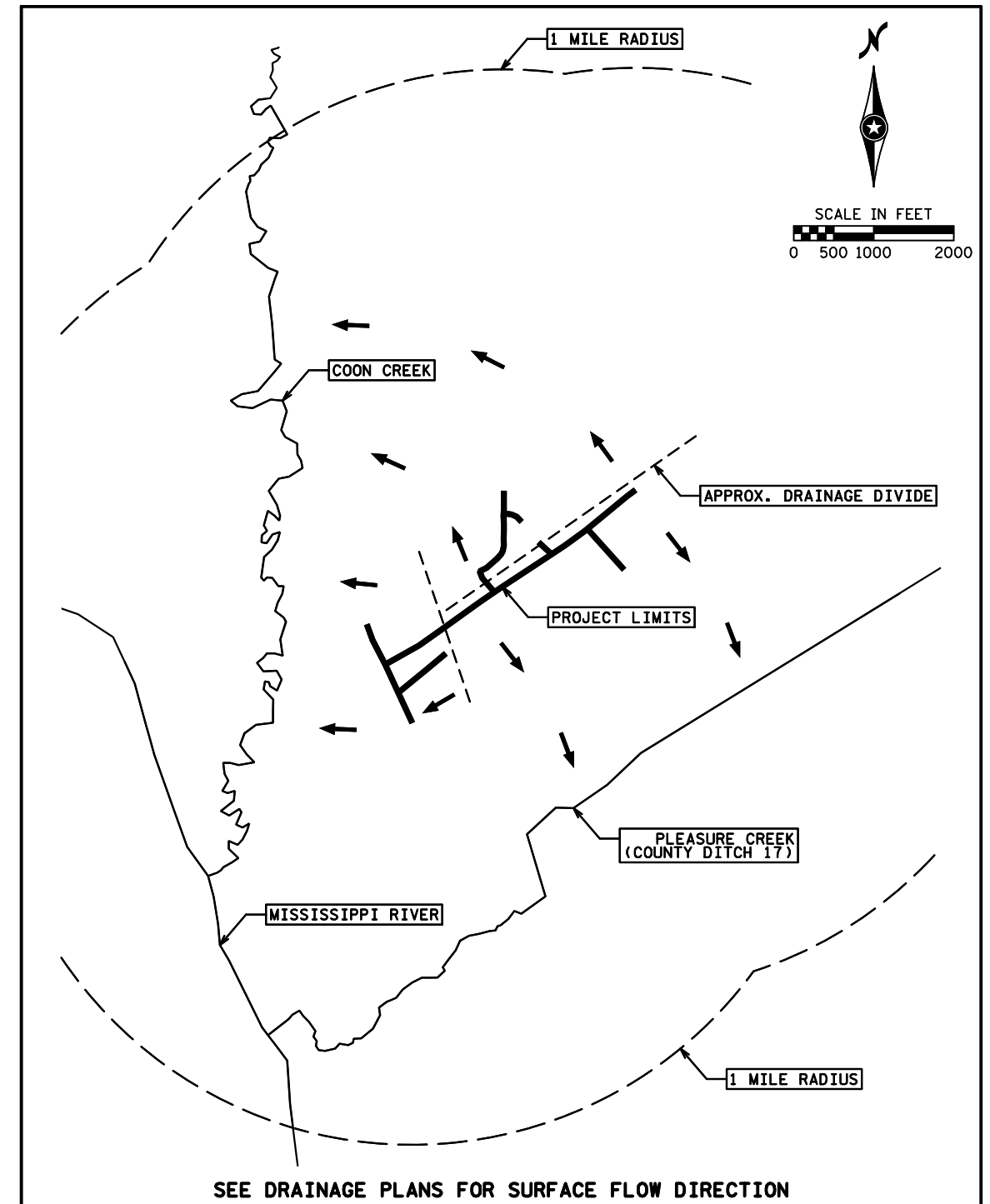
LANDSCAPING NOTES

- FILTER LOGS SHALL BE PLACED, AS NEEDED, TO TRAP SEDIMENT ON THE LOWER EDGE OF BEDS OF TREE HOLES. FILTER LOGS WILL BE CUT AND MATERIALS LEFT TO ACT AS SEDIMENT TRAPS.
- TILLING FOR BEDS OF TREE HOLES MUST BE PLANTED AND MULCHED WITH WOOD CHIP WITHIN 7 DAYS OR STABILIZED UNTIL PLANTING OPERATIONS CAN BE COMPLETED.
- ANY POND CORNERS OPENED DUE TO TILLING FOR SHRUB BEDS OR TREE HOLES MUST BE PLANTED AND MULCHED WITH WOOD CHIP WITHIN 24 HOURS OR STRAW MULCHED UNTIL PLANTING OPERATIONS CAN BE COMPLETED.

LONG TERM MAINTENANCE AND OPERATION

PRIOR TO FINAL ACCEPTANCE, CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL MAINTENANCE. THE CITY OF COON RAPIDS MAINTENANCE STAFF ARE RESPONSIBLE FOR THE LONG TERM MAINTENANCE AND OPERATION OF THE PERMANENT STORMWATER SYSTEM INCLUDING ALL STORMWATER PONDS/BASINS, OUTLET CONTROL STRUCTURES, AND GRIT CHAMBERS UPSTREAM OF THE (IN)FILTRATION BASINS. METRO TRANSIT IS RESPONSIBLE FOR MAINTAINING THE GRIT CHAMBER WITHIN THE PARK AND RIDE. ANOKA COUNTY IS RESPONSIBLE FOR MAINTAINING THE TWO GRIT CHAMBERS BEHIND THE CURB ALONG COON RAPIDS BLVD. NEAR WETLAND 4.

OFFSITE FLOW INFORMATION DRAWING



SEE DRAINAGE PLANS FOR SURFACE FLOW DIRECTION

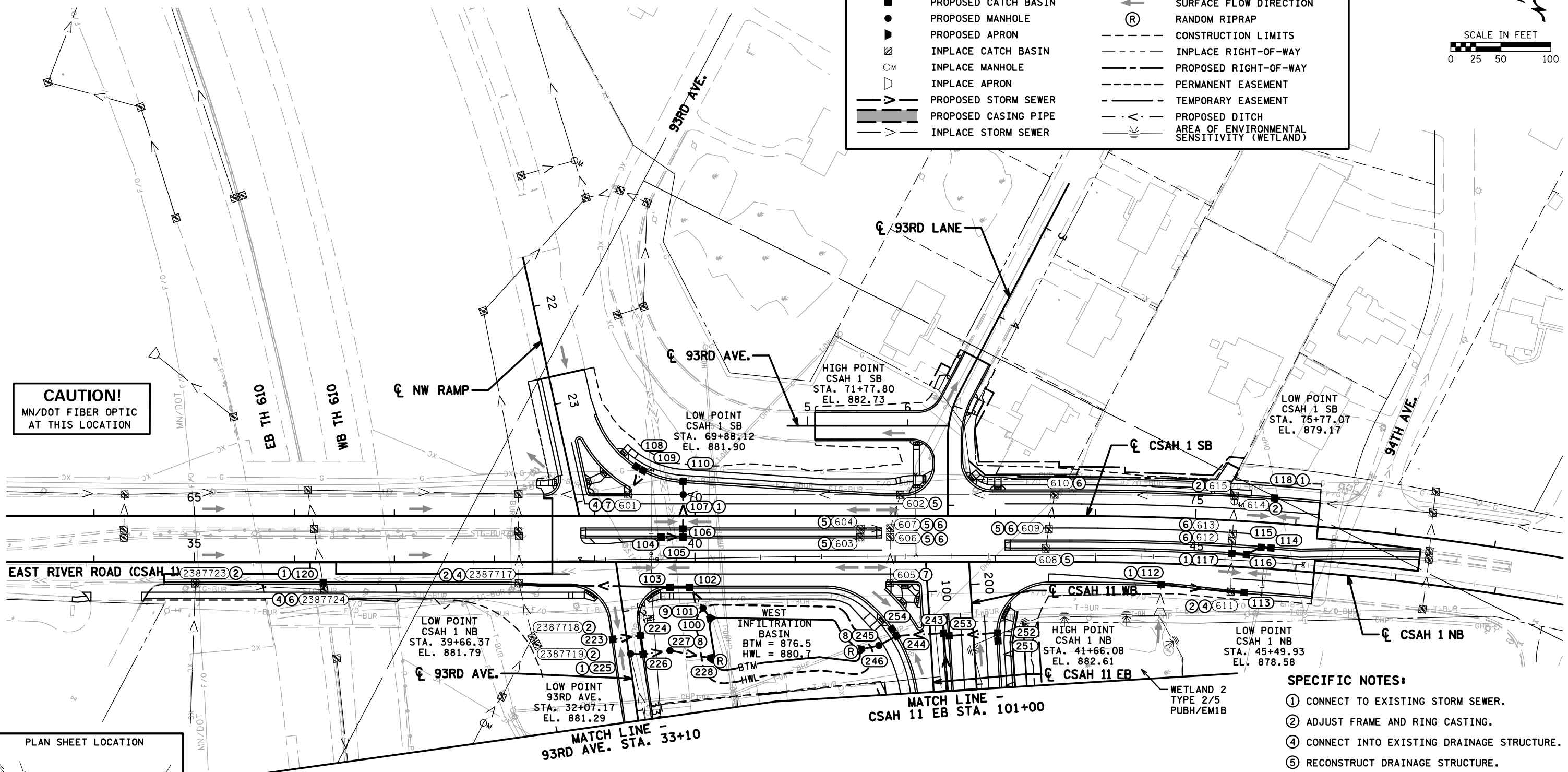
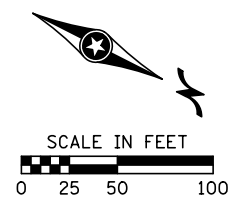
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				DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020	TKDA	STORM WATER POLLUTION PREVENTION PLAN			
				DRW: RJR			STATE PROJ. NO. 002-611-036		SHEET NO. 134 OF 416 SHEETS	
				CHK: MAW						
NO.	DATE	BY	DESCRIPTION OF REVISIONS							

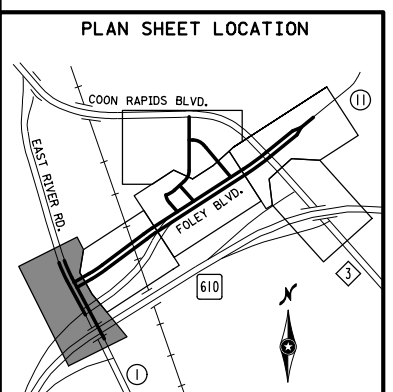
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LEGEND

(XXX)	PROPOSED STRUCTURE NUMBER	- - - - -	SANITARY SEWER
(6XX)	EXISTING STRUCTURE NUMBER	- - - - -	WATERMAIN
■	PROPOSED CATCH BASIN	←	SURFACE FLOW DIRECTION
●	PROPOSED MANHOLE	(R)	RANDOM RIPRAP
▼	PROPOSED APRON	- - - - -	CONSTRUCTION LIMITS
▣	INPLACE CATCH BASIN	- - - - -	INPLACE RIGHT-OF-WAY
○	INPLACE MANHOLE	- - - - -	PROPOSED RIGHT-OF-WAY
▽	INPLACE APRON	- - - - -	PERMANENT EASEMENT
—	PROPOSED STORM SEWER	- - - - -	TEMPORARY EASEMENT
—	PROPOSED CASING PIPE	- - - - -	PROPOSED DITCH
—	INPLACE STORM SEWER	—	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)



CAUTION!
 MN/DOT FIBER OPTIC
 AT THIS LOCATION



GENERAL NOTES: (APPLY TO ALL DRAINAGE PLAN SHEETS)

- HIGH AND LOW POINTS ARE ON THE ROADWAY PROFILE GRADE UNLESS OTHERWISE NOTED.
- HWL IS THE 100-YEAR HIGH WATER LEVEL.

GUTTER LOW POINTS			
ALIGNMENT	STATION	OFFSET	T.C. ELEV.
CSAH 11 EB	100+35.00	37.8' RT.	881.45
CSAH 1 SB	69+48.35	45.3' LT.	880.98
93RD AVE.	32+26.00	14.1' RT.	880.98
93RD AVE.	32+26.00	14.1' LT.	880.85

- SPECIFIC NOTES:**
- CONNECT TO EXISTING STORM SEWER.
 - ADJUST FRAME AND RING CASTING.
 - CONNECT INTO EXISTING DRAINAGE STRUCTURE.
 - RECONSTRUCT DRAINAGE STRUCTURE.
 - REMOVE CASTING. FURNISH AND INSTALL CASTING ASSEMBLY A-7D.
 - REMOVE CASTING. FURNISH AND INSTALL CASTING ASSEMBLY B-9.
 - DRAINAGE STRUCTURE DESIGN SPECIAL 1. SEE SHEET 160 FOR GRIT CHAMBER DETAILS.
 - DRAINAGE STRUCTURE DESIGN SPECIAL 2. SEE SHEET 162 FOR OUTLET CONTROL STRUCTURE DETAILS.

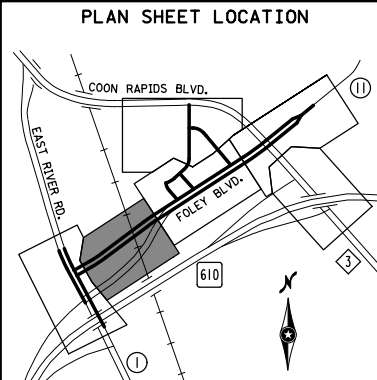
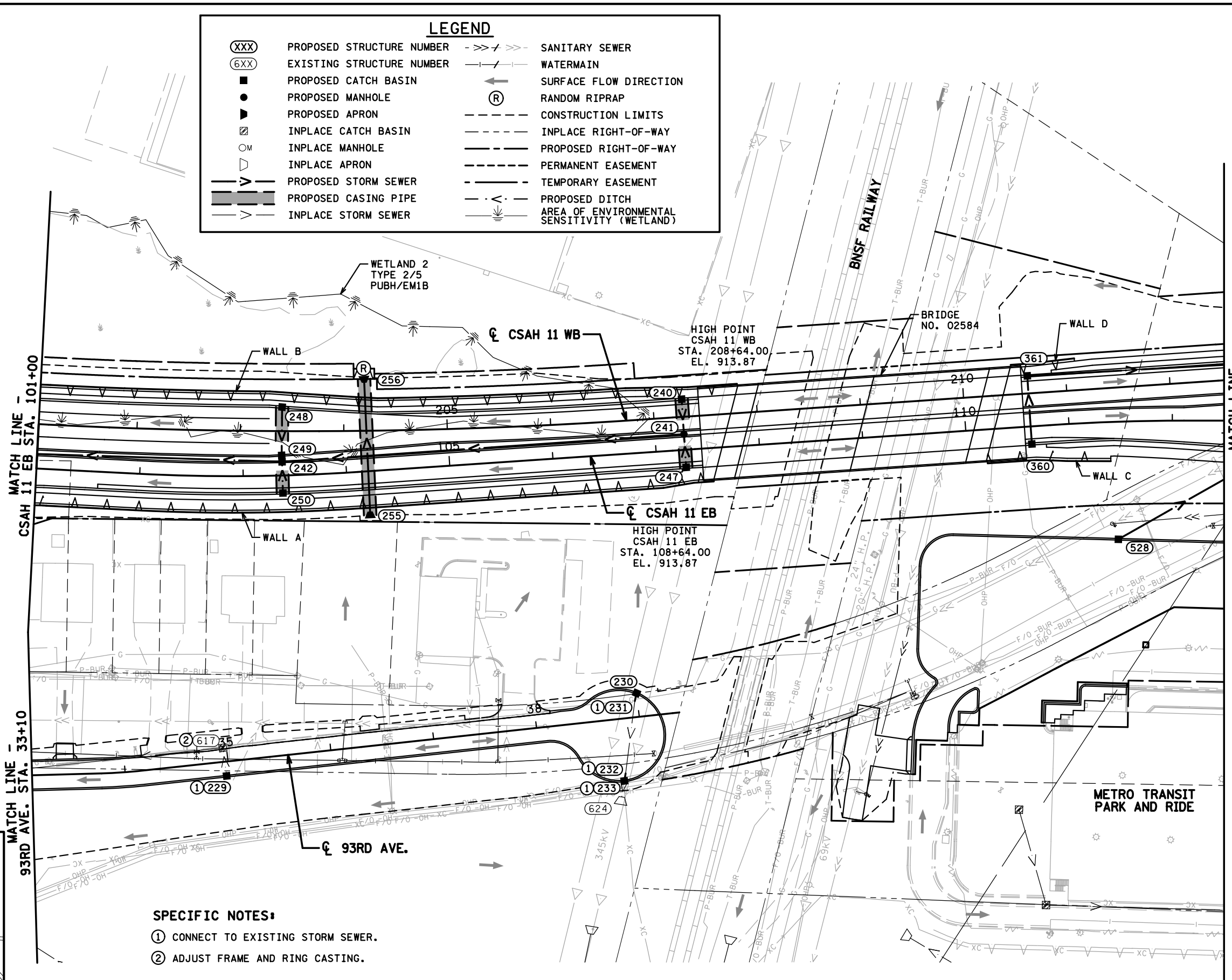
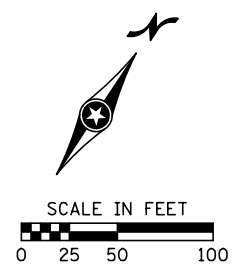
DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020
CHK: MAW	MATTHEW A. WASSMAN



DATE: 11/24/2020 TIME: 10:28:36 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000 04_Production\01_CAD\Highway\Sheets\cd00261036_dr.dgn

LEGEND

(XXX)	PROPOSED STRUCTURE NUMBER	- - - - -	SANITARY SEWER
(6XX)	EXISTING STRUCTURE NUMBER	- - - - -	WATERMAIN
■	PROPOSED CATCH BASIN	←	SURFACE FLOW DIRECTION
●	PROPOSED MANHOLE	(R)	RANDOM RIPRAP
▼	PROPOSED APRON	- - - - -	CONSTRUCTION LIMITS
▣	INPLACE CATCH BASIN	- - - - -	INPLACE RIGHT-OF-WAY
○	INPLACE MANHOLE	- - - - -	PROPOSED RIGHT-OF-WAY
▽	INPLACE APRON	- - - - -	PERMANENT EASEMENT
—	PROPOSED STORM SEWER	- - - - -	TEMPORARY EASEMENT
—	PROPOSED CASING PIPE	- - - - -	PROPOSED DITCH
—	INPLACE STORM SEWER	—	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)



- SPECIFIC NOTES:**
- ① CONNECT TO EXISTING STORM SEWER.
 - ② ADJUST FRAME AND RING CASTING.

	DES: CEH DRW: CEH CHK: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020 MATTHEW A. WASSMAN	
NO. DATE BY DESCRIPTION OF REVISIONS		CSAH 11 EB STA. 101+00 TO STA. 112+50	DRAINAGE PLAN
		STATE PROJ. NO. 002-611-036	SHEET NO. 136 OF 416 SHEETS

SPECIFIC NOTES:

- ① CONNECT TO EXISTING STORM SEWER.
- ② ADJUST FRAME AND RING CASTING.
- ④ CONNECT INTO EXISTING DRAINAGE STRUCTURE.
- ⑤ RECONSTRUCT DRAINAGE STRUCTURE.
- ⑥ REMOVE CASTING, FURNISH AND INSTALL CASTING ASSEMBLY A-7D.
- ⑧ DRAINAGE STRUCTURE DESIGN SPECIAL 1. SEE SHEETS 160/161 FOR GRIT CHAMBER DETAILS.
- ⑨ DRAINAGE STRUCTURE DESIGN SPECIAL 5. SEE SHEET 165 FOR OUTLET CONTROL STRUCTURE DETAILS.
- ⑩ DRAINAGE STRUCTURE DESIGN SPECIAL 3. SEE SHEET 163 FOR OUTLET CONTROL STRUCTURE DETAILS.
- ⑪ RIPRAP TO POND BOTTOM. SEE DETAIL ON SHEET 166.

HIGH POINT
NORWAY ST.
STA. 6+59.78
EL. 885.50

LOW POINT
NORWAY ST.
STA. 9+83.07
EL. 882.79

LOW POINT
NORWAY ST.
STA. 4+49.52
EL. 883.96

LOW POINT
CSAH 11 WB
STA. 217+86.52
EL. 881.85

HIGH POINT
CSAH 11 WB
STA. 219+84.55
EL. 882.80

LOW POINT
CSAH 11 EB
STA. 117+83.45
EL. 881.42

HIGH POINT
CSAH 11 EB
STA. 119+84.42
EL. 882.41

LOW POINT
CSAH 11 EB
STA. 121+46.39
EL. 881.87

LOW POINT
CSAH 11 WB
STA. 221+83.77
EL. 882.01

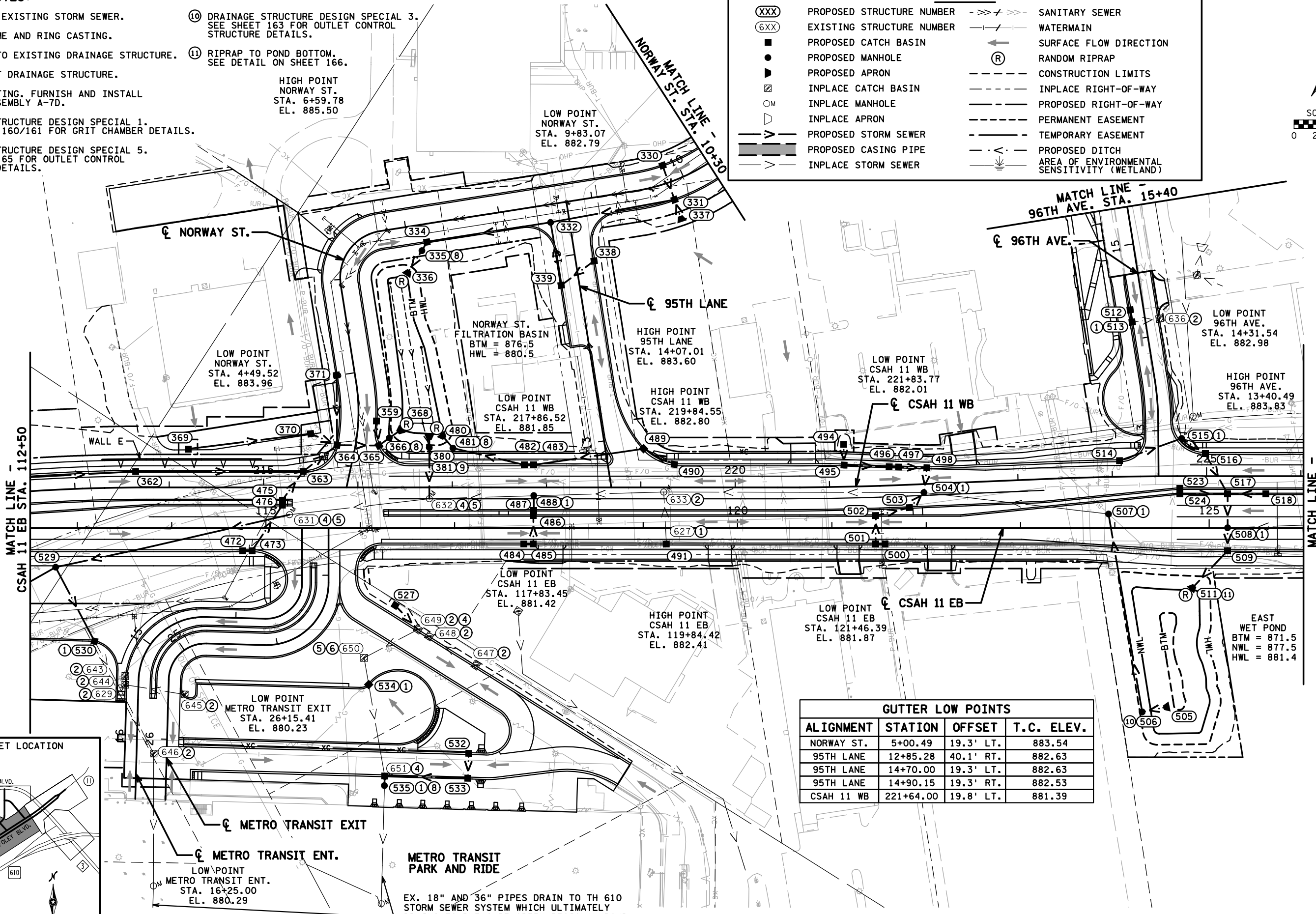
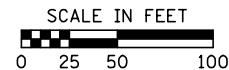
LOW POINT
96TH AVE.
STA. 14+31.54
EL. 882.98

HIGH POINT
96TH AVE.
STA. 13+40.49
EL. 883.83

EAST
WET POND
BTM = 871.5
NWL = 877.5
HWL = 881.4

LEGEND

- (XXX) PROPOSED STRUCTURE NUMBER
- (6XX) EXISTING STRUCTURE NUMBER
- PROPOSED CATCH BASIN
- PROPOSED MANHOLE
- ▲ PROPOSED APRON
- ▨ INPLACE CATCH BASIN
- INPLACE MANHOLE
- ▽ INPLACE APRON
- PROPOSED STORM SEWER
- PROPOSED CASING PIPE
- INPLACE STORM SEWER
- >>> SANITARY SEWER
- WATERMAIN
- ← SURFACE FLOW DIRECTION
- (R) RANDOM RIPRAP
- - - CONSTRUCTION LIMITS
- - - INPLACE RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- - - PERMANENT EASEMENT
- - - TEMPORARY EASEMENT
- - - PROPOSED DITCH
- AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)



MATCH LINE - CSAH 11 EB STA. 112+50

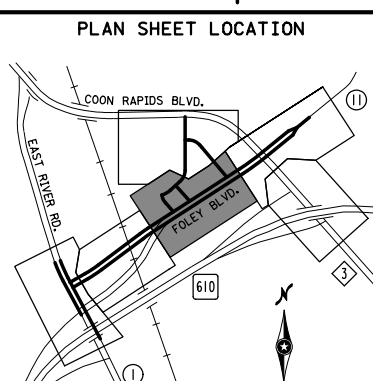
MATCH LINE - CSAH 11 EB STA. 126+00

MATCH LINE - 96TH AVE. STA. 15+40

MATCH LINE - NORWAY ST. STA. 10+30

GUTTER LOW POINTS

ALIGNMENT	STATION	OFFSET	T.C. ELEV.
NORWAY ST.	5+00.49	19.3' LT.	883.54
95TH LANE	12+85.28	40.1' RT.	882.63
95TH LANE	14+70.00	19.3' LT.	882.63
95TH LANE	14+90.15	19.3' RT.	882.53
CSAH 11 WB	221+64.00	19.8' LT.	881.39



LOW POINT
METRO TRANSIT EXIT
STA. 26+15.41
EL. 880.23

LOW POINT
METRO TRANSIT ENT.
STA. 16+25.00
EL. 880.29

**METRO TRANSIT
PARK AND RIDE**

EX. 18" AND 36" PIPES DRAIN TO TH 610
STORM SEWER SYSTEM WHICH ULTIMATELY
DRAINS TO PLEASURE CREEK REGIONAL POND.

DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: CEH	
CHK: MAW	

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 12/11/2020
MATTHEW A. WASSMAN

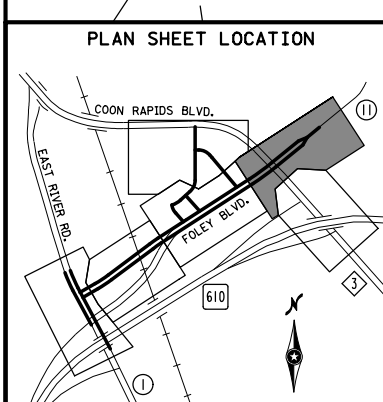
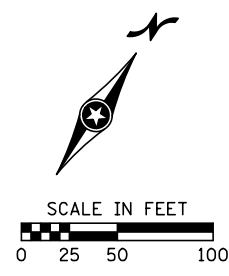
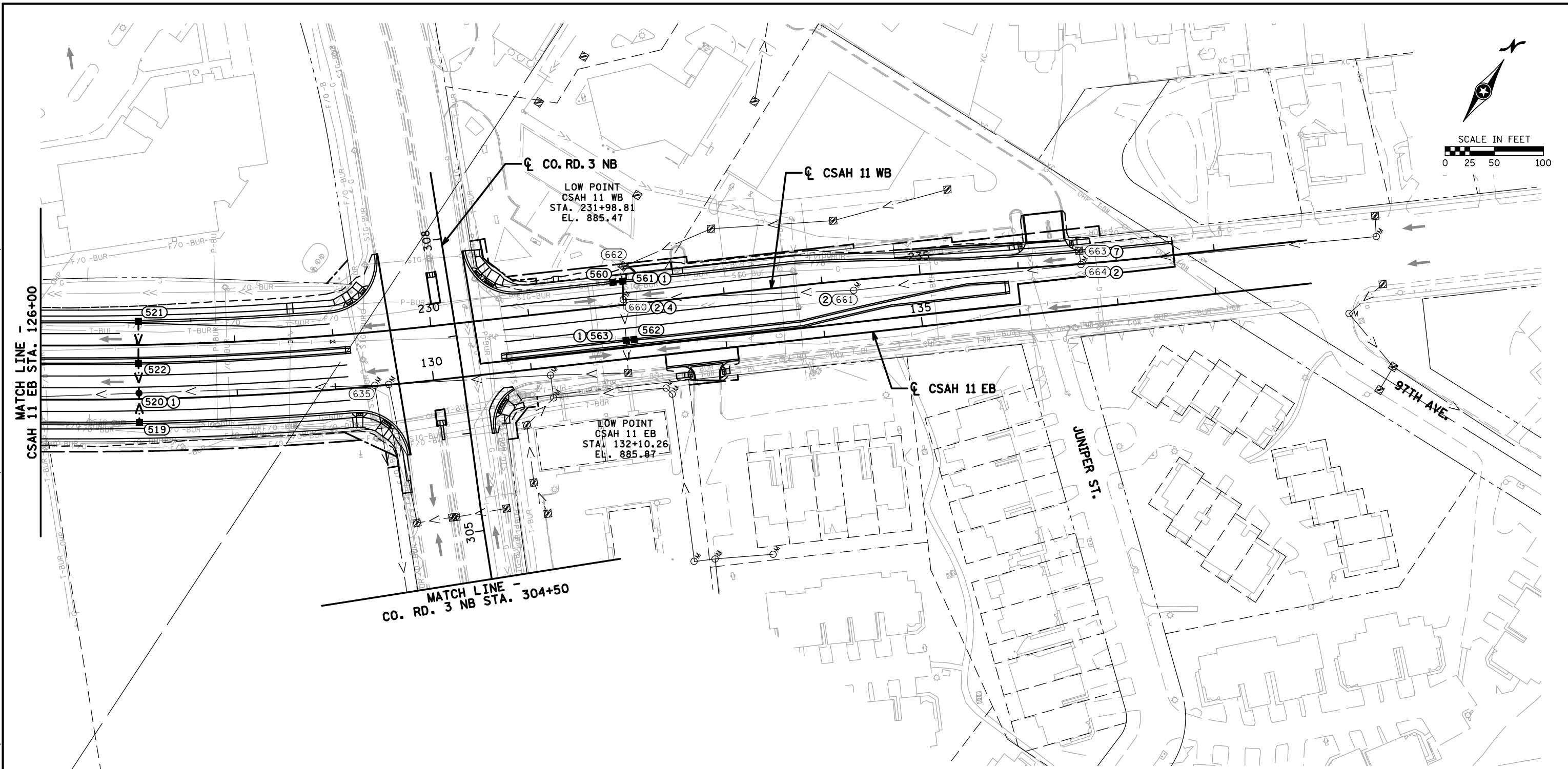


CSAH 11 EB STA. 112+50 TO STA. 126+00
STATE PROJ. NO. 002-611-036

DRAINAGE PLAN
SHEET NO. 137 OF 416 SHEETS

DATE: 12/11/2020 TIME: 1:51:17 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd0261036_drc.dgn

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LEGEND			
(XXX)	PROPOSED STRUCTURE NUMBER	- - - - -	SANITARY SEWER
(6XX)	EXISTING STRUCTURE NUMBER	- - - - -	WATERMAIN
■	PROPOSED CATCH BASIN	←	SURFACE FLOW DIRECTION
●	PROPOSED MANHOLE	(R)	RANDOM RIPRAP
▴	PROPOSED APRON	- - - - -	CONSTRUCTION LIMITS
◻	INPLACE CATCH BASIN	- - - - -	INPLACE RIGHT-OF-WAY
○	INPLACE MANHOLE	- - - - -	PROPOSED RIGHT-OF-WAY
▽	INPLACE APRON	- - - - -	PERMANENT EASEMENT
—	PROPOSED STORM SEWER	- - - - -	TEMPORARY EASEMENT
—	PROPOSED CASING PIPE	- - - - -	PROPOSED DITCH
—	INPLACE STORM SEWER	—	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)

- SPECIFIC NOTES:**
- ① CONNECT TO EXISTING STORM SEWER.
 - ② ADJUST FRAME AND RING CASTING.
 - ④ CONNECT INTO EXISTING DRAINAGE STRUCTURE.
 - ⑦ REMOVE CASTING. FURNISH AND INSTALL CASTING ASSEMBLY B-9.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

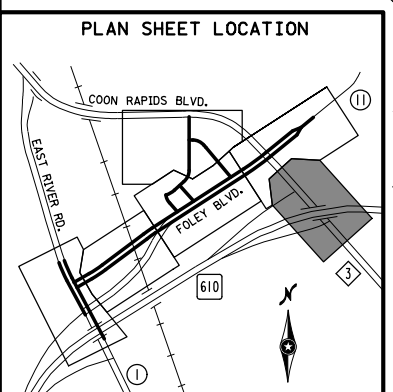
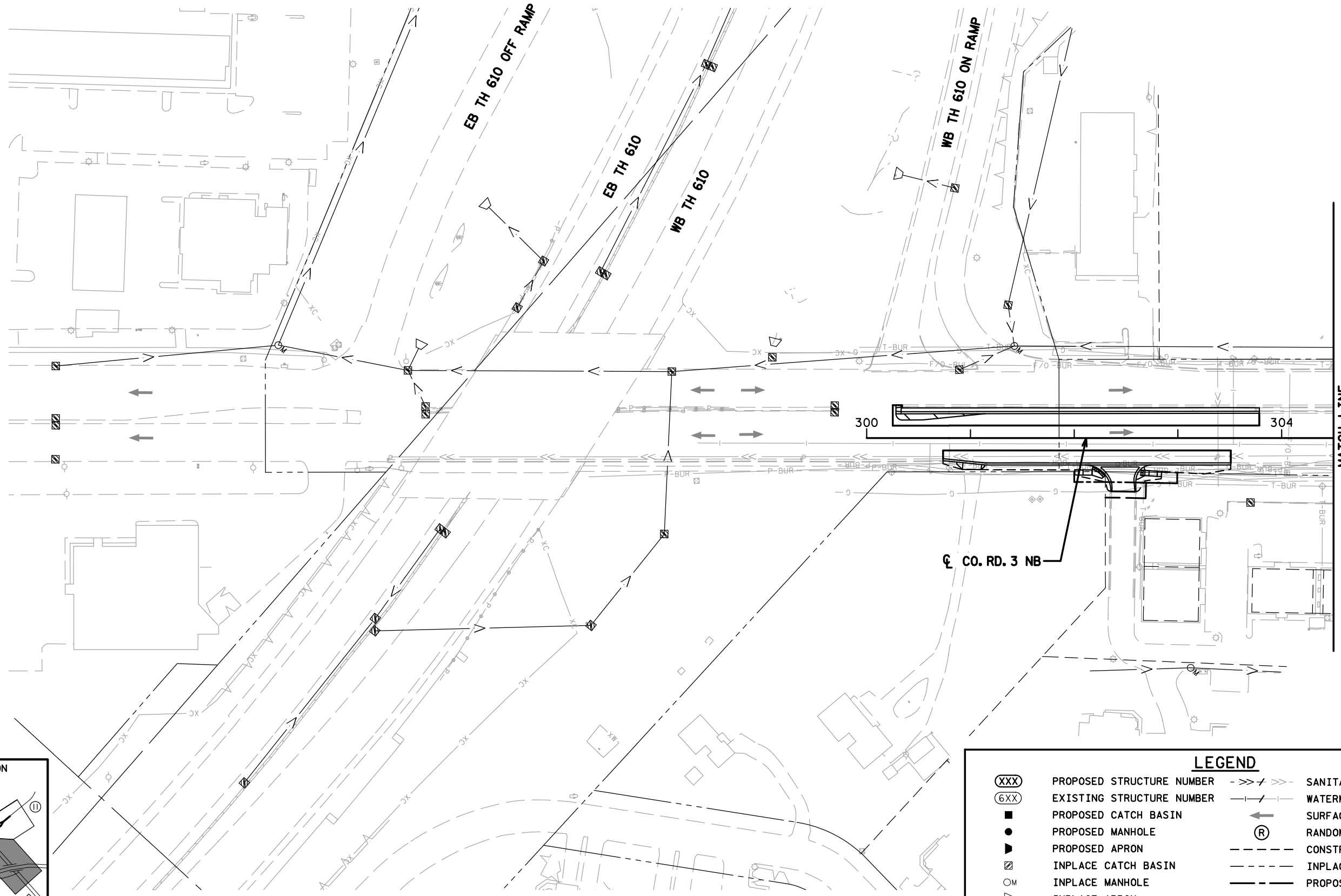
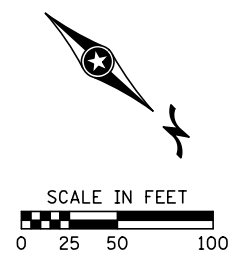
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



CSAH 11 EB STA. 126+00 TO STA. 137+61.57
 STATE PROJ. NO. 002-611-036

DRAINAGE PLAN
 SHEET NO. 138 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:30:08 PM
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LEGEND			
(XXX)	PROPOSED STRUCTURE NUMBER	- - - - -	SANITARY SEWER
(6XX)	EXISTING STRUCTURE NUMBER	- - - - -	WATERMAIN
■	PROPOSED CATCH BASIN	←	SURFACE FLOW DIRECTION
●	PROPOSED MANHOLE	(R)	RANDOM RIPRAP
▼	PROPOSED APRON	- - - - -	CONSTRUCTION LIMITS
▣	INPLACE CATCH BASIN	- - - - -	INPLACE RIGHT-OF-WAY
○	INPLACE MANHOLE	- - - - -	PROPOSED RIGHT-OF-WAY
▽	INPLACE APRON	- - - - -	PERMANENT EASEMENT
—	PROPOSED STORM SEWER	- - - - -	TEMPORARY EASEMENT
—	PROPOSED CASING PIPE	- - - - -	PROPOSED DITCH
—	INPLACE STORM SEWER	—	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

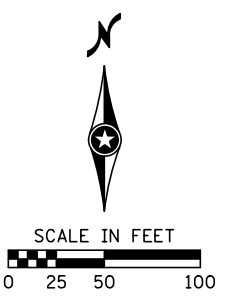
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



CO. RD. 3 NB STA. 300+00 TO STA. 304+50
 STATE PROJ. NO. 002-611-036

DRAINAGE PLAN
 SHEET NO. 139 OF 416 SHEETS

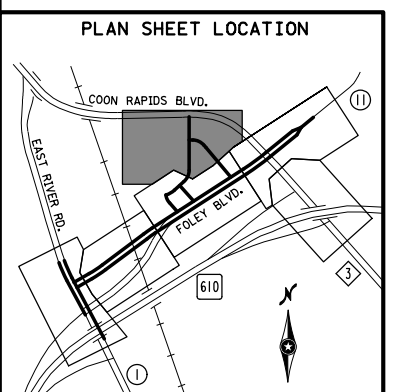
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SPECIFIC NOTES:

- ① CONNECT TO EXISTING STORM SEWER.
- ⑧ DRAINAGE STRUCTURE DESIGN SPECIAL 1. SEE SHEET 161 FOR GRIT CHAMBER DETAILS.
- ⑩ DRAINAGE STRUCTURE DESIGN SPECIAL 4. SEE SHEET 164 FOR OUTLET CONTROL STRUCTURE DETAILS.
- ⑪ RIPRAP TO POND BOTTOM. SEE DETAIL ON SHEET 166.
- ⑫ SEE SHEET 49 FOR STANDARD PLAN SHEET THAT INCLUDES FILTER BERM TYPE 3 (ROCK WEEPER) DETAILS.

GUTTER LOW POINTS			
ALIGNMENT	STATION	OFFSET	T.C. ELEV.
NORWAY ST.	17+36.00	19.3' RT.	877.60
NORWAY ST.	17+50.00	24.4' LT.	877.53
CO. RD. 3 SB	407+96.90	25.0' RT.	877.84



DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020		
DRW: CEH			
CHK: MAW			
NO.	DATE	BY	DESCRIPTION OF REVISIONS

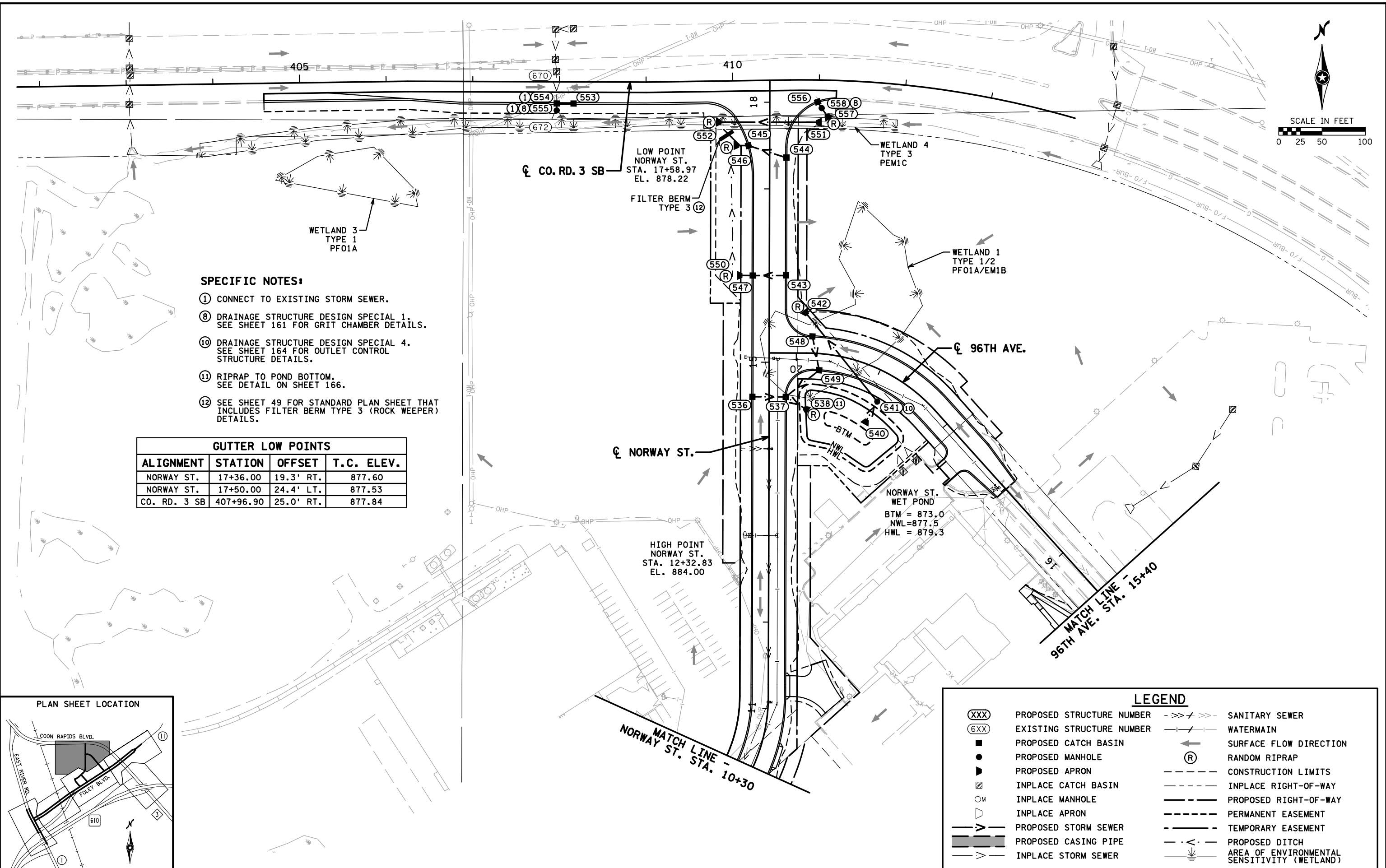
DES: CEH
 DRW: CEH
 CHK: MAW



NORWAY ST. STA. 10+30 TO STA. 18+24.35
 STATE PROJ. NO. 002-611-036

DRAINAGE PLAN
 SHEET NO. 140 OF 416 SHEETS

LEGEND	
(XXX)	PROPOSED STRUCTURE NUMBER
(6XX)	EXISTING STRUCTURE NUMBER
■	PROPOSED CATCH BASIN
●	PROPOSED MANHOLE
▼	PROPOSED APRON
▣	INPLACE CATCH BASIN
○	INPLACE MANHOLE
▽	INPLACE APRON
—V—	PROPOSED STORM SEWER
—■—	PROPOSED CASING PIPE
—V—	INPLACE STORM SEWER
- - - - -	SANITARY SEWER
- - - - -	WATERMAIN
←	SURFACE FLOW DIRECTION
(R)	RANDOM RIPRAP
- - - - -	CONSTRUCTION LIMITS
- - - - -	INPLACE RIGHT-OF-WAY
- - - - -	PROPOSED RIGHT-OF-WAY
- - - - -	PERMANENT EASEMENT
- - - - -	TEMPORARY EASEMENT
- - - - -	PROPOSED DITCH
⊕	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)



DATE: 11/30/2020 TIME: 4:55:24 PM
 FILENAME: c:\nkda\proj\tech\se\chris\horismann\dms01247\cod00261036_dpa.dgn

DRAINAGE TABULATION

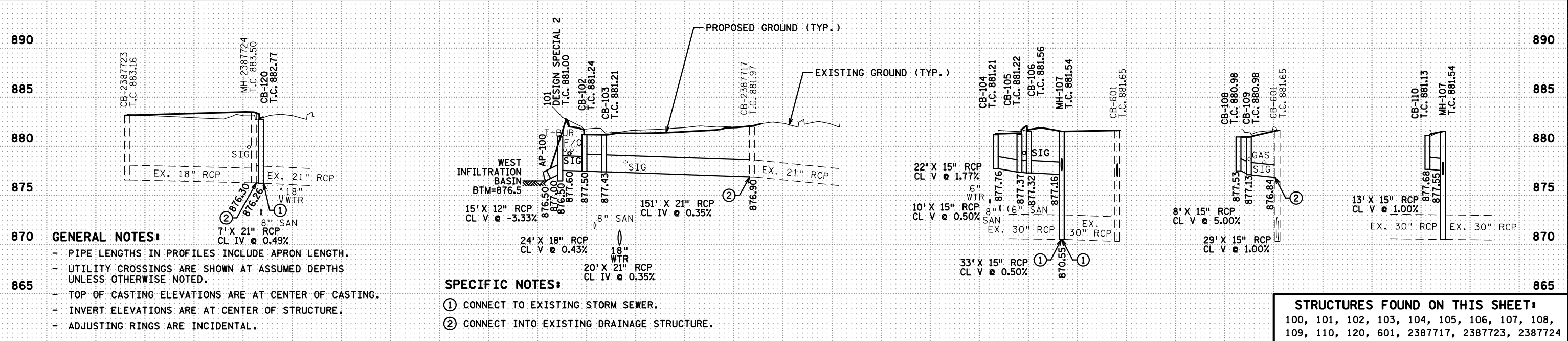
UPSTREAM STRUCTURE LOCATION (1)				NEW STRUCTURE CONSTRUCTION											PIPE SEWER (12)				DRAINS TO			PIPE APRON		GUIDE POST TYPE B	CONN. TO EX. STORM SEWER	CONN. INTO EX. DRAIN. STRUC.	NOTES											
STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	STATION	OFFSET	COORDINATES		TOP OF CASTING ELEV.	OUTLET ELEV. (2)	CASTING ASSEMBLY (3)		PAY HEIGHT					STEPS REQ'D (4)	12" RC DES 3006 CL V	15" RC DES 3006 CL V	18" RC DES 3006 CL V	21" RC DES 3006 CL V	STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %	INLET ELEV. (2)	12" RC															
				X	Y			EACH (E)	TYPE	DESIGN H	DESIGN SD-48	DESIGN 48-4020	DESIGN 60-4020	DESIGN SPECIAL 2														LIN FT	LIN FT	LIN FT	LIN FT	EACH (E)	LIN FT	LIN FT	LIN FT	LIN FT	EACH (E)	EACH (E)
100	CSAH1NB	40+17.00	58.18 RT	493741.61	138043.25		876.50	APRON											101	-3.33	877.00	1	1				(5)(6)(8)											
101	CSAH1NB	40+08.09	46.09 RT	493734.77	138029.87	881.00	877.60							1				24		102	0.43	877.50					(10)											
102	CSAH1NB	39+95.00	25.00 RT	493721.75	138008.74	881.24	877.50	B-5	1		3.7								20		103	0.35	877.43															
103	CSAH1NB	39+75.00	25.00 RT	493730.69	137990.85	881.21	877.43	B-5	1		3.7							151		600	0.35	876.90																
104	CSAH1NB	39+66.37	25.00 LT	493689.81	137960.79	881.21	877.76	B-5	1	3.4						22				105	1.77	877.37																
105	CSAH1NB	39+88.00	25.00 LT	493680.14	137980.14	881.22	877.37	B-5	1		3.8					10				106	0.50	877.32																
106	CSAH1SB	69+88.12	13.00 RT	493672.93	137976.67	881.56	877.32	B-5	1			4.2				33				107	0.50	877.16																
107	CSAH1SB	69+87.00	21.21 LT	493642.83	137960.38	881.54	870.55	A-7D	1				10.9	YES						601					2													
108	CSAH1SB	69+41.40	49.25 LT	493638.12	137907.06	880.98	877.53	B-5	1	3.4						8				109	5.00	877.13																
109	CSAH1SB	69+48.35	45.29 LT	493638.55	137915.05	880.98	877.13	B-5	1		3.8					29				601	1.00	876.84																
110	CSAH1SB	69+88.12	34.44 LT	493630.49	137955.48	881.13	877.68	B-5	1	3.4						13				107	1.00	877.55																
120	CSAH1NB	36+28.66	21.00 RT	493881.84	137679.21	882.77	876.26	B-5	1			6.4		YES											1													
2387717	CSAH1NB	38+24.35	21.67 RT	493795.01	137854.58	881.97	876.90																			1												
601	CSAH1SB	69+33.43	21.14 LT	493666.83	137912.49	881.65		B-9	1																	1												
2387724	CSAH1NB	36+29.67	27.42 RT	493887.14	137682.98	883.50	876.30	A-7D	1										7		120	0.49	876.26				1											
TOTALS (THIS SHEET ONLY)																		9	115	24	178				1	1	3	3										

NOTES:

- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
- (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
- (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
- (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
- (5) LENGTH GIVEN TO END OF BARREL (DOES NOT INCLUDE APRON LENGTH).
- (6) FOR CONCRETE SEWERS, TIE THE THREE END SECTIONS (INCLUDING APRON) OF A FREE END (NO MANHOLE). TIE PER STANDARD PLATE 3145 (INCIDENTAL).
- (7) PLACE ROLLED EROSION PREVENTION AT APRON ENDS PER STANDARD PLAN 5-297.404 (SHEET 2 OF 3) (INCIDENTAL).
- (8) PLACE ROLLED EROSION PREVENTION AT APRON ENDS PER STANDARD PLAN 5-297.404 (SHEET 2 OF 3) (INCIDENTAL).
- (9) SEE SHEET 162 FOR OUTLET CONTROL STRUCTURE DETAILS.
- (10) SEE SHEET 162 FOR OUTLET CONTROL STRUCTURE DETAILS.
- (11) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
- (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).

COST PARTICIPATION NOTES:

(E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.



	DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DRAINAGE TABULATIONS AND PROFILES
	DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/30/2020		STATE PROJ. NO. 002-611-036
	CHK: MAW	MATTHEW A. WASSMAN		SHEET NO. 141 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	

DATE: 11/24/2020 TIME: 10:31:27 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\TO30000_04_Production\01_CAD\Highway\Sheets\cd00261036_dpbdgn

DRAINAGE TABULATION

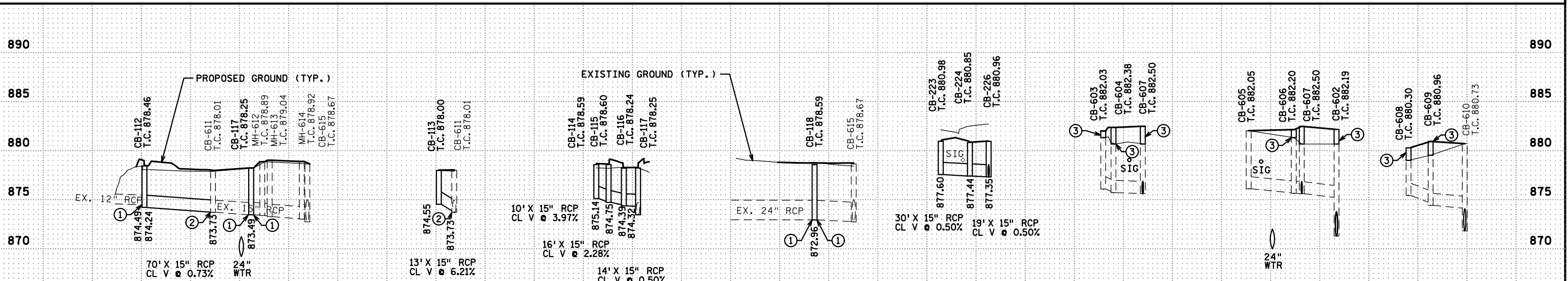
STRUCTURE OR APRON INLET POINT NO.	UPSTREAM STRUCTURE LOCATION (1)				NEW STRUCTURE CONSTRUCTION					PIPE SEWER (12)	DRAINS TO				CONN. TO EX. STORM SEWER	INSTALL CASTING	RECONSTR. DRAINAGE STRUCTURE	CONN. INTO EX. DRAIN. STRUC.	NOTES					
	ALIGNMENT	STATION	OFFSET	COORDINATES		TOP OF CASTING ELEV.	OUTLET ELEV. (2)	CASTING ASSEMBLY (3)	PAY HEIGHT				STEPS REQ'D (4)	15" RC DES 3006 CL V						STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %	INLET ELEV. (2)		
				X	Y				DESIGN H		DESIGN SD-48	DESIGN 48-4020											DESIGN 60-4020	
				(E)	(E)				(E)		(E)	(E)											(E)	
112	CSAH1NB	44+66.16	21.00 RT	493509.28	138428.51	878.46	874.24	B-5	1					70	611	0.73	873.73	1						
113	CSAH1NB	44+66.16	21.79 RT	493510.00	138428.84	878.00	874.55	B-5	1	3.4				13	611	6.21	873.73							
114	CSAH1SB	75+77.07	25.00 RT	493427.66	138510.36	878.59	875.14	B-5	1	3.4				10	115	3.97	874.75							
115	CSAH1SB	75+67.07	25.00 RT	493431.47	138501.21	878.60	874.75	B-5	1		3.8			16	116	2.28	874.39							
116	CSAH1NB	45+49.93	13.00 LT	493444.35	138491.26	878.24	874.39	B-5	1		3.8			14	117	0.50	874.32							
117	CSAH1NB	45+35.56	13.00 LT	493450.04	138477.98	878.25	873.49	B-5	1			4.7	YES		612									
118	CSAH1SB	75+77.07	25.00 LT	493381.48	138491.19	878.59	872.96	B-5	1					5.6	YES									
223	93RD_AVE	32+26.00	14.08 RT	493802.98	137962.96	880.98	877.60	C-1	1		3.3			30	224	0.50	877.44							
224	93RD_AVE	32+26.00	14.08 LT	493787.01	137986.16	880.85	877.44	C-1	1		3.3			19	226	0.50	877.35							
602	CSAH1SB	72+04.99	20.99 LT	493545.63	138155.51	882.19									107					1	2.1			
603	CSAH1NB	41+65.00	25.00 LT	493601.06	138138.49	882.03									604					1	1.8			
604	CSAH1SB	71+65.32	13.00 RT	493593.76	138135.20	882.38									607					1	2.0			
605	CSAH1NB	41+95.00	21.00 RT	493628.81	138185.88	882.05		B-9	1						606									
606	CSAH1NB	41+94.97	25.00 LT	493587.68	138165.30	882.20		A-7D	1						607							2.1		
607	CSAH1SB	71+95.07	13.00 RT	493580.47	138161.82	882.50		A-7D	1						602							2.1		
608	CSAH1NB	43+50.20	13.00 LT	493529.06	138309.54	880.30									609				1		1.3			
609	CSAH1SB	73+53.22	13.24 RT	493510.03	138303.41	880.96		A-7D	1						610						1.4			
610	CSAH1SB	73+59.04	21.07 LT	493476.73	138293.29	880.73		A-7D	1						602									
611	CSAH1NB	45+36.60	24.89 RT	493484.42	138493.93	878.01	873.73								117							2		
612	CSAH1SB	75+37.46	20.82 RT	493439.12	138472.54	878.89		A-7D	1						613									
613	CSAH1SB	75+37.77	13.36 RT	493432.15	138469.86	879.04		A-7D	1						614									
TOTALS (THIS SHEET ONLY)									16	6.8	18.3	4.7	5.6		172				5	4	12.8	2		

NOTES:

- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
- (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
- (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
- (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
- (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).

COST PARTICIPATION NOTES:

(E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.



665 GENERAL NOTES:

- PIPE LENGTHS IN PROFILES INCLUDE APRON LENGTH.
- UTILITY CROSSINGS ARE SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED.
- TOP OF CASTING ELEVATIONS ARE AT CENTER OF CASTING.
- INVERT ELEVATIONS ARE AT CENTER OF STRUCTURE.
- ADJUSTING RINGS ARE INCIDENTAL.

SPECIFIC NOTES:

- ① CONNECT TO EXISTING STORM SEWER.
- ② CONNECT INTO EXISTING DRAINAGE STRUCTURE.
- ③ RECONSTRUCT DRAINAGE STRUCTURE.

STRUCTURES FOUND ON THIS SHEET:

112, 113, 114, 115, 116, 117, 118, 223, 224, 226, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613

DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020
CHK: MAW	MATTHEW A. WASSMAN



STATE PROJ. NO. 002-611-036

DRAINAGE TABULATIONS AND PROFILES

SHEET NO. 142 OF 416 SHEETS

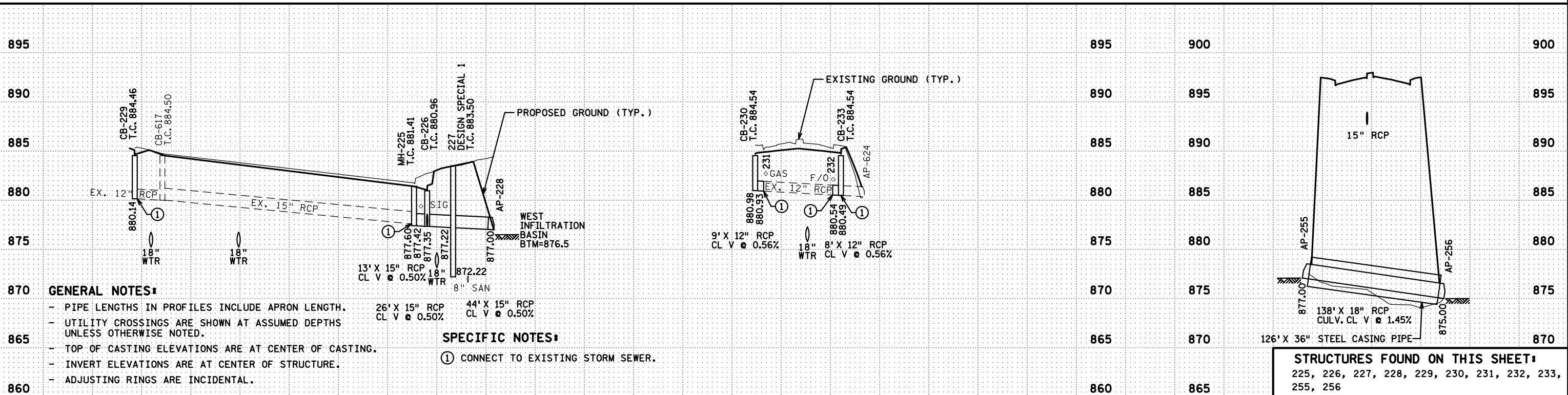
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DRAINAGE TABULATION																										
UPSTREAM STRUCTURE LOCATION (1)				NEW STRUCTURE CONSTRUCTION						PIPE SEWER (12)		PIPE CULVERT (11)		DRAINS TO			PIPE APRON		RANDOM RIPRAP CLASS II		CONN. TO EX. STORM SEWER	NOTES				
STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	STATION	OFFSET	COORDINATES		TOP OF CASTING ELEV.	OUTLET ELEV. (2)	CASTING ASSEMBLY (3)	PAY HEIGHT			STEPS REQ'D (4)	12" RC DES 3006 CL V	15" RC DES 3006 CL V	18" RC DES 3006 CL V	36" STEEL CASING PIPE (13)	STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %	INLET ELEV. (2)	15" RC		GUIDE POST TYPE B	GEOTEXTILE FILTER TYPE 3	RANDOM RIPRAP CLASS II	CONN. TO EX. STORM SEWER	NOTES
				X	Y				DESIGN SD-48	DESIGN 48-4020	DESIGN SPECIAL 1									EACH (E)	LIN FT (E)					
225	93RD_AVE	32+42.75	2.50 LT	493807.38	137986.12	881.41	877.42	A-7D	1	3.9							226	0.50	877.35						1	
	93RD_AVE	32+42.75	1.71 LT	493807.82	137985.47																					
226	93RD_AVE	32+45.00	14.08 LT	493802.66	137996.93	880.96	877.35	C-1	1	3.5							227	0.50	877.22							
	93RD_AVE	32+45.00	14.87 LT	493802.22	137997.59																					
227	93RD_AVE	32+45.00	41.20 LT	493787.29	138019.27	883.50	877.22										228	0.50	877.00							(5)(6)(14)
	93RD_AVE	32+45.00	41.20 LT	493787.29	138019.27																					
228	93RD_AVE	32+59.00	83.00 LT	493775.12	138061.65		877.00	APRON												1		1	18.0	3.2		(8)(9)
229	93RD_AVE	34+97.25	14.08 RT	494022.55	138123.84	884.46	880.14	C-1	1		4.2						617								1	
	93RD_AVE	34+97.25	14.87 RT	494023.05	138123.23																					
230	93RD_AVE	38+99.82	22.94 LT	494311.49	138406.59	884.54	880.98	C-1	1	3.5							231	0.56	880.93							
	93RD_AVE	39+00.22	23.62 LT	494311.36	138407.37																					
231	93RD_AVE	38+97.41	15.40 LT	494314.38	138399.22		880.93																			1
232	93RD_AVE	38+80.89	52.75 RT	494344.56	138335.93		880.54										233	0.56	880.49							1
233	93RD_AVE	38+79.02	60.07 RT	494347.73	138329.07	884.54	880.49	C-1	1	4.0							624									1
	93RD_AVE	38+79.02	60.86 RT	494348.23	138328.46																					
255	CSAH11EB	104+20.00	45.49 RT	494003.54	138408.53		877.00	APRON									256	1.45	875.00		1	1				(5)(7)(8)(11)(19)
256	CSAH11WB	204+20.00	53.00 LT	493923.49	138520.58		875.00	APRON													1	1	22.4	4.3		(8)(9)
TOTALS (THIS SHEET ONLY)									5	14.9	4.2	1		17	77	126	126			1	2	3	40.4	7.5	5	

NOTES:

- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
- (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
- (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
- (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
- (5) LENGTH GIVEN TO END OF BARREL (DOES NOT INCLUDE APRON LENGTH).
- (6) FOR CONCRETE SEWERS, TIE THE THREE END SECTIONS (INCLUDING APRON) OF A FREE END (NO MANHOLE). TIE PER STANDARD PLATE 3145 (INCIDENTAL).
- (7) FOR CONCRETE CULVERTS, PIPE TIES SHALL BE REQUIRED FOR ALL JOINTS. TIE PER STANDARD PLATE 3145 (INCIDENTAL).
- (8) PLACE ROLLED EROSION PREVENTION AT APRON ENDS PER STANDARD PLAN 5-297.404 (SHEET 2 OF 3) (INCIDENTAL).
- (9) PLACE RIPRAP AT RCP OUTLET PER STANDARD PLATE 3133.
- (11) PLACE CULVERT BEDDING PER STANDARD PLAN 5-297.441 UNLESS NOTED OTHERWISE (INCIDENTAL).
- (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
- (13) SEE SHEET 159 FOR STEEL CASING PIPE DETAILS.
- (14) SEE SHEETS 160/161 FOR PRE-TREATMENT GRIT CHAMBER DETAILS.
- (19) SEE SHEET 171 FOR MSE WALL PIPE PENETRATION DETAIL.

COST PARTICIPATION NOTES:
 (E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.



GENERAL NOTES:

- PIPE LENGTHS IN PROFILES INCLUDE APRON LENGTH.
- UTILITY CROSSINGS ARE SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED.
- TOP OF CASTING ELEVATIONS ARE AT CENTER OF CASTING.
- INVERT ELEVATIONS ARE AT CENTER OF STRUCTURE.
- ADJUSTING RINGS ARE INCIDENTAL.

SPECIFIC NOTES:

- ① CONNECT TO EXISTING STORM SEWER.

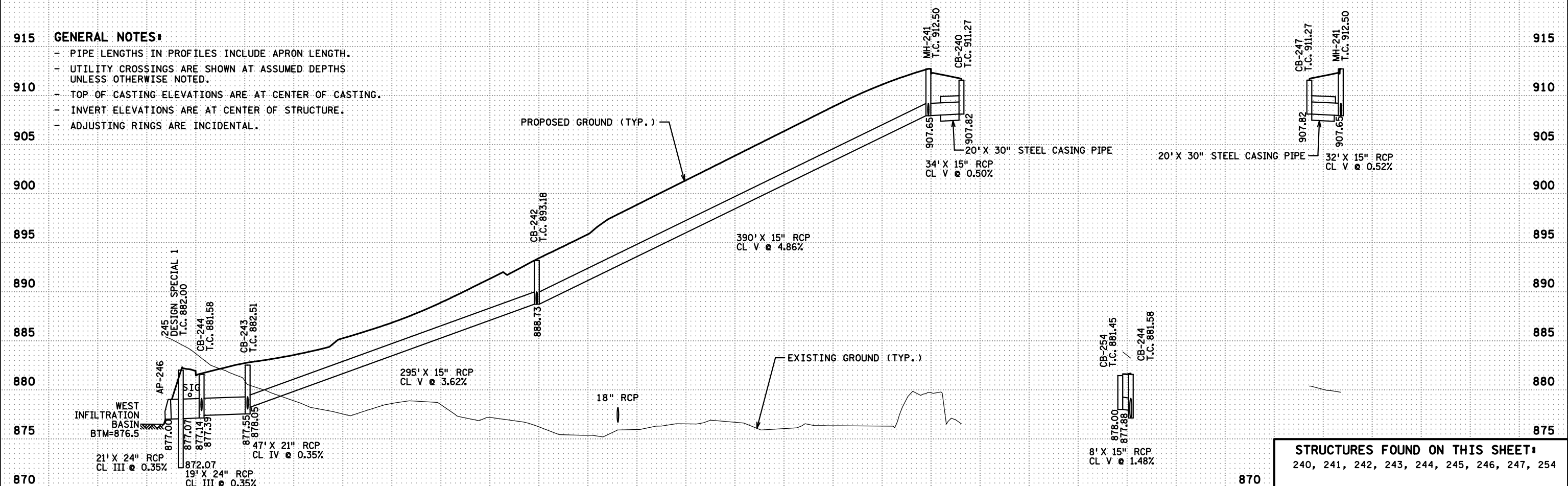
STRUCTURES FOUND ON THIS SHEET:
 225, 226, 227, 228, 229, 230, 231, 232, 233, 255, 256

			DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TKDA	DRAINAGE TABULATIONS AND PROFILES	
			DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS		CHK: MAW		SHEET NO. 143 OF 416 SHEETS	

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DRAINAGE TABULATION																																		
STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	STATION	OFFSET	UPSTREAM STRUCTURE LOCATION (1)		NEW STRUCTURE CONSTRUCTION							PIPE SEWER (12)				DRAINS TO			PIPE APRON		GUIDE POST TYPE B	GEOTEXTILE FILTER TYPE 3	RANDOM RIPRAP CLASS II	NOTES									
				X	Y	TOP OF CASTING ELEV.	OUTLET ELEV. (2)	CASTING ASSEMBLY (3)	PAY HEIGHT				STEPS REQ'D (4)	15" RC DES 3006 CL V	21" RC DES 3006 CL IV	24" RC DES 3006 CL III	30" STEEL CASING PIPE (13)	STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %	INLET ELEV. (2)	24" RC													
									DESIGN H	DESIGN SD-48	DESIGN 48-4020	DESIGN SPECIAL 1														24" RC								
				TYPE	EACH (E)	LIN FT (E)	LIN FT (E)	LIN FT (E)	EACH (E)	LIN FT (E)	LIN FT (E)	LIN FT (E)	LIN FT (E)	LIN FT (E)	LIN FT (E)	LIN FT (E)	EACH (E)	EACH (E)	SQ YD (E)	CU YD (E)														
240	CSAH11WB	207+28.00	17.00 LT	494193.52	138668.72	911.27	907.82	B-9	1	3.4										34			20	241	0.50	907.65								
241	CSAH11EB	107+28.00	16.00 LT	494213.29	138642.30	912.50	907.65	A-7D	1											390				242	4.86	888.73								
242	CSAH11EB	103+38.00	13.25 LT	493902.26	138407.94	893.18	888.73	C-2	1															243	3.62	878.05								
243	CSAH11EB	100+42.00	13.25 LT	493649.68	138255.77	882.51	877.55	C-2	1															244	0.35	877.39								
244	CSAH11EB	100+42.00	12.46 LT	493650.08	138255.08																													
244	CSAH11EB	100+42.05	33.76 RT	493673.24	138215.08	881.58	877.14	B-5	1		4.4													245	0.35	877.07								
245	CSAH11EB	100+42.42	34.46 RT	493673.91	138214.67																													
245	CSAH11EB	100+50.50	51.90 RT	493689.63	138203.60	882.00	877.07																	246	0.35	877.00							(5)(6)(14)	
245	CSAH11EB	100+50.50	51.90 RT	493689.63	138203.60																													
246	CSAH11EB	100+53.69	72.50 RT	493702.70	138187.36		877.00	APRON																									(8)(9)	
247	CSAH11EB	107+28.00	17.00 RT	494233.06	138615.88	911.27	907.82	B-9	1	3.4										32			20	241	0.52	907.65								
254	CSAH11EB	100+35.00	37.82 RT	493669.17	138208.04	881.45	878.00	B-5	1	3.4										8				244	1.48	877.88								
TOTALS (THIS SHEET ONLY)									7	10.2	4.4	14.1	1		759	47	34	40					1	1	29.7	6.2								

- NOTES:**
- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
 - (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
 - (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
 - (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
 - (5) LENGTH GIVEN TO END OF BARREL (DOES NOT INCLUDE APRON LENGTH).
 - (6) FOR CONCRETE SEWERS, TIE THE THREE END SECTIONS (INCLUDING APRON) OF A FREE END (NO MANHOLE). TIE PER STANDARD PLATE 3145 (INCIDENTAL).
 - (8) PLACE ROLLED EROSION PREVENTION AT APRON ENDS PER STANDARD PLAN 5-297.404 (SHEET 2 OF 3) (INCIDENTAL).
 - (9) PLACE RIPRAP AT RCP OUTLET PER STANDARD PLATE 3133.
 - (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
 - (13) SEE SHEET 159 FOR STEEL CASING PIPE DETAILS.
 - (14) SEE SHEETS 160/161 FOR PRE-TREATMENT GRIT CHAMBER DETAILS.
- COST PARTICIPATION NOTES:**
- (E) 58% ANOKA COUNTY LOCAL FUNDS, 42% CITY OF COON RAPIDS LOCAL FUNDS.



915 GENERAL NOTES:

- PIPE LENGTHS IN PROFILES INCLUDE APRON LENGTH.
- UTILITY CROSSINGS ARE SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED.
- TOP OF CASTING ELEVATIONS ARE AT CENTER OF CASTING.
- INVERT ELEVATIONS ARE AT CENTER OF STRUCTURE.
- ADJUSTING RINGS ARE INCIDENTAL.

STRUCTURES FOUND ON THIS SHEET:
 240, 241, 242, 243, 244, 245, 246, 247, 254

			DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TKDA	DRAINAGE TABULATIONS AND PROFILES	
			DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS			CHK: MAW		SHEET NO. 144 OF 416 SHEETS

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DRAINAGE TABULATION

STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	UPSTREAM STRUCTURE LOCATION (1)				NEW STRUCTURE CONSTRUCTION					PIPE SEWER (12)		DRAINS TO			NOTES					
		STATION	OFFSET	COORDINATES		TOP OF CASTING ELEV.	OUTLET ELEV. (2)	CASTING ASSEMBLY (3)	PAY HEIGHT			15" RC DES 3006 CL V	30" STEEL CASING PIPE (13)	STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %		INLET ELEV. (2)				
				X	Y				DESIGN H	DESIGN SD-48	DESIGN 48-4020							STEPS REQ'D (4)	LIN FT (E)	LIN FT (E)	LIN FT (E)
248	CSAH11WB	203+40.21	23.20	LT	493873.55	138452.32	892.46	889.01	B-9	1	3.4			46	20	249	0.50	888.78			
249	CSAH11WB	203+40.00	23.43	RT	493898.57	138412.97	893.50	888.78	C-2	1				8		242	0.75	888.73			
	CSAH11WB	203+39.94	22.64	RT	493898.10	138413.60															
250	CSAH11EB	103+38.00	17.00	RT	493919.38	138383.01	892.51	889.06	B-9	1	3.4			30	20	242	1.13	888.73			
251	CSAH11WB	200+58.00	24.00	LT	493632.44	138307.88	881.54	878.27	B-9	1	3.2			8		252	0.35	878.24			
252	CSAH11WB	200+50.00	24.20	LT	493625.41	138304.05	881.38	878.24	B-9	1		3.1		49		253	0.35	878.07			
	CSAH11WB	200+50.08	24.99	LT	493625.08	138304.77															
253	CSAH11WB	200+50.00	24.25	RT	493649.64	138262.09	882.13	878.07	C-2	1		4.0		8		243	0.35	878.04			
	CSAH11WB	200+50.00	23.46	RT	493649.25	138262.78															
369	CSAH11WB	214+20.00	40.93	LT	494739.73	139098.08	883.10	879.67	C-1	1		3.4		131		370	0.50	879.01			
	CSAH11WB	214+20.00	40.14	LT	494740.16	139097.41															
370	CSAH11WB	215+50.00	57.00	LT	494840.08	139182.26	883.20	879.01	C-1	1		4.1		29		364	0.50	878.87			
	CSAH11WB	215+50.12	56.22	LT	494840.61	139181.67															
371	NORWAY	5+00.49	19.25	LT	494829.33	139249.28	883.54	879.50	C-1	1		4.0		74		364	0.50	879.13			
	NORWAY	5+00.49	20.04	LT	494828.74	139248.75															
TOTALS (THIS SHEET ONLY)										9	10.0	18.6	4.6		383	40					

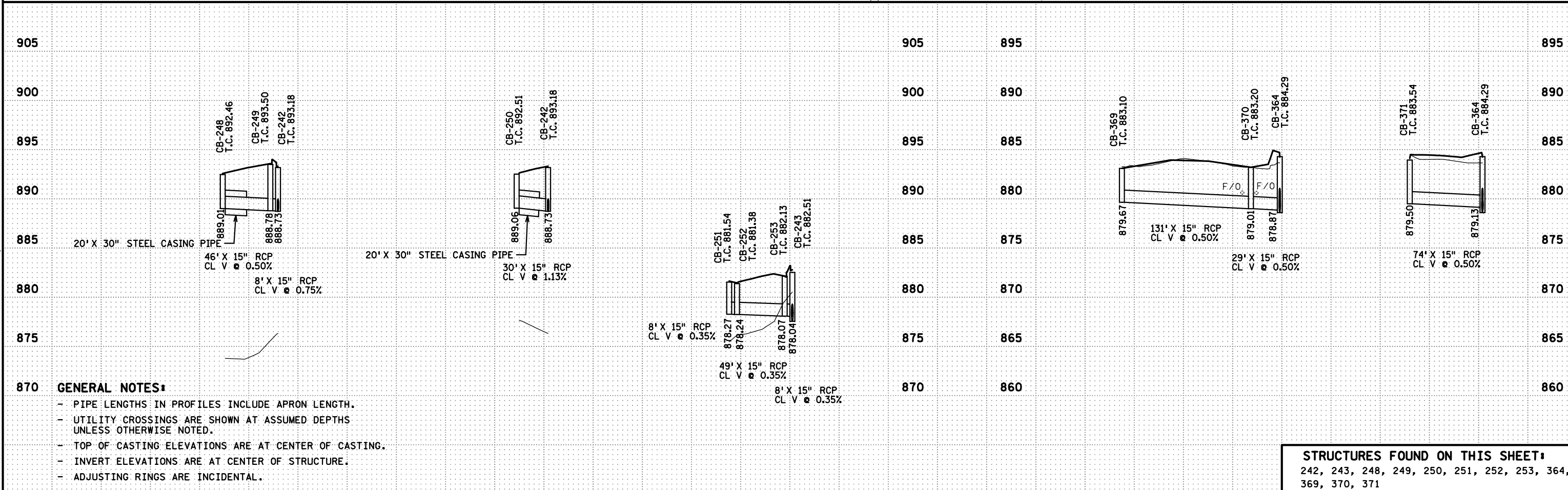
NOTES:

- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
- (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON

- (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
- (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
- (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
- (13) SEE SHEET 159 FOR STEEL CASING PIPE DETAILS.

COST PARTICIPATION NOTES:

(E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.



870 GENERAL NOTES:

- PIPE LENGTHS IN PROFILES INCLUDE APRON LENGTH.
- UTILITY CROSSINGS ARE SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED.
- TOP OF CASTING ELEVATIONS ARE AT CENTER OF CASTING.
- INVERT ELEVATIONS ARE AT CENTER OF STRUCTURE.
- ADJUSTING RINGS ARE INCIDENTAL.

STRUCTURES FOUND ON THIS SHEET:
 242, 243, 248, 249, 250, 251, 252, 253, 364, 369, 370, 371

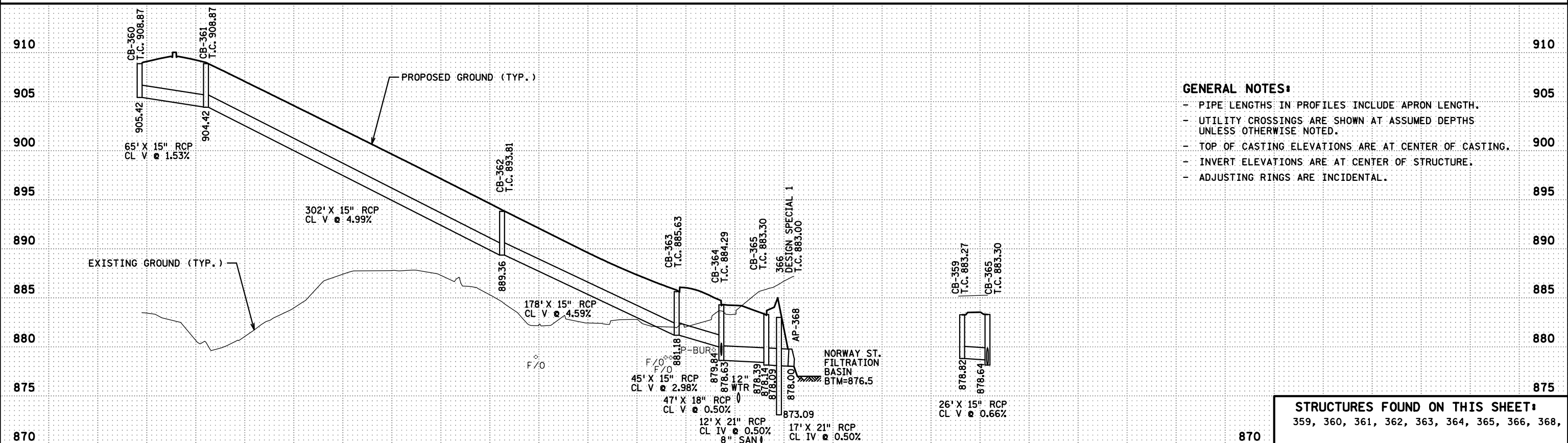
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DRAINAGE TABULATION																																		
STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	STATION	OFFSET	UPSTREAM STRUCTURE LOCATION (1)		NEW STRUCTURE CONSTRUCTION						PIPE SEWER (12)			DRAINS TO		PIPE APRON		GUIDE POST TYPE B	GEOTEXTILE FILTER TYPE 3	RANDOM RIPRAP CLASS II	NOTES												
				COORDINATES		TOP OF CASTING ELEV. (2)	OUTLET ELEV. (2)	CASTING ASSEMBLY (3)	PAY HEIGHT					15" RC DES 3006 CL V	18" RC DES 3006 CL V	21" RC DES 3006 CL IV	STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %					INLET ELEV. (2)	21" RC										
				X	Y				DESIGN H	DESIGN 48-4020	DESIGN 60-4020	DESIGN 72-4020	DESIGN SPECIAL 1												STEPS REQ'D (4)	EACH (E)	LIN FT (E)	LIN FT (E)	LIN FT (E)	LIN FT (E)	EACH (E)	LIN FT (E)	LIN FT (E)	LIN FT (E)
359	NORWAY	4+49.52	19.25 RT	494891.17	139231.51	883.27	878.82	C-1	1		4.4						26			365	0.66	878.64												
	NORWAY	4+49.52	18.46 RT	494890.48	139231.11																													
360	CSAH11EB	110+62.90	17.00 RT	494501.20	138816.54	908.87	905.42	B-9	1	3.4							65			361	1.53	904.42												
361	CSAH11WB	210+62.90	17.00 LT	494461.65	138869.38	908.87	904.42	B-9	1		4.4						302			362	4.99	889.36												
	CSAH11WB	210+62.90	16.21 LT	494462.13	138868.75																													
362	CSAH11WB	213+64.00	17.00 LT	494705.68	139047.46	893.81	889.36	B-9	1		4.4						178			363	4.59	881.18												
	CSAH11WB	213+64.00	16.21 LT	494706.11	139046.80																													
363	CSAH11WB	215+42.00	17.00 LT	494855.12	139144.34	885.63	881.18	B-9	1			4.4					45			364	2.98	879.84												
	CSAH11WB	215+42.00	16.21 LT	494855.55	139143.68																													
364	95TH_AVE	12+92.13	19.25 LT	494870.09	139187.30	884.29	878.63	C-1	1			5.6		YES		47				365	0.50	878.39												
	95TH_AVE	12+92.18	20.54 LT	494868.88	139186.86																													
365	95TH_AVE	12+99.42	24.56 RT	494907.61	139211.08	883.30	878.14	B-9	1				5.1	YES		12				366	0.50	878.09												
	95TH_AVE	13+00.33	26.03 RT	494908.54	139212.62																													
366	CSAH11WB	216+33.35	52.60 LT	494912.42	139223.90	883.00	878.09									11				368	0.50	878.00				(5)(6)(14)								
	CSAH11WB	216+33.35	52.60 LT	494912.42	139223.90																													
368	CSAH11WB	216+47.25	62.40 LT	494918.76	139239.68		878.00	APRON													1	1	24.1	4.7	(8)(9)									
TOTALS (THIS SHEET ONLY)									7	3.4	13.2	5.6	9.5	1			616	47	23			1	1	24.1	4.7									

NOTES:

- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
- (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
- (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
- (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
- (5) LENGTH GIVEN TO END OF BARREL (DOES NOT INCLUDE APRON LENGTH).
- (6) FOR CONCRETE SEWERS, TIE THE THREE END SECTIONS (INCLUDING APRON) OF A FREE END (NO MANHOLE). TIE PER STANDARD PLATE 3145 (INCIDENTAL).
- (8) PLACE ROLLED EROSION PREVENTION AT APRON ENDS PER STANDARD PLAN 5-297.404 (SHEET 2 OF 3) (INCIDENTAL).
- (9) PLACE RIPRAP AT RCP OUTLET PER STANDARD PLATE 3133.
- (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
- (14) SEE SHEETS 160/161 FOR PRE-TREATMENT GRIT CHAMBER DETAILS.

COST PARTICIPATION NOTES:
 (E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.



- GENERAL NOTES:**
- PIPE LENGTHS IN PROFILES INCLUDE APRON LENGTH.
 - UTILITY CROSSINGS ARE SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED.
 - TOP OF CASTING ELEVATIONS ARE AT CENTER OF CASTING.
 - INVERT ELEVATIONS ARE AT CENTER OF STRUCTURE.
 - ADJUSTING RINGS ARE INCIDENTAL.

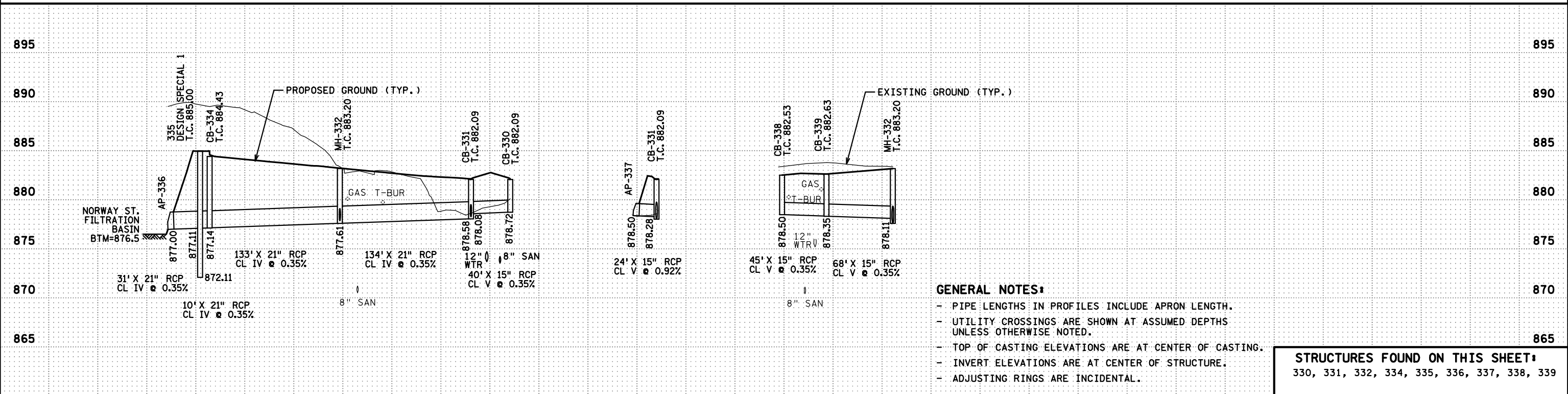
STRUCTURES FOUND ON THIS SHEET:
 359, 360, 361, 362, 363, 364, 365, 366, 368,

DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				STATE PROJ. NO. 002-611-036	DRAINAGE TABULATIONS AND PROFILES
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020					
CHK: MAW	MATTHEW A. WASSMAN					
NO.	DATE	BY	DESCRIPTION OF REVISIONS	SHEET NO. 146 OF 416 SHEETS		

DATE: 11/24/2020 TIME: 10:34:08 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000 04_Production\01_CAD\Highway\Sheets\cd00261036.dwg

DRAINAGE TABULATION																															
UPSTREAM STRUCTURE LOCATION (1)						NEW STRUCTURE CONSTRUCTION								PIPE SEWER (12)		DRAINS TO			PIPE APRON		RANDOM RIPRAP CLASS II		NOTES								
STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	STATION	OFFSET	COORDINATES		TOP OF CASTING ELEV.	OUTLET ELEV. (2)	CASTING ASSEMBLY (3)		PAY HEIGHT				STEPS REQ'D (4)	15" RC DES 3006 CL V	21" RC DES 3006 CL IV	STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %	INLET ELEV. (2)	15" RC	21" RC	GUIDE POST TYPE B		GEOTEXTILE FILTER TYPE 3	RANDOM RIPRAP CLASS II						
				TYPE	EACH (D)			LIN FT (D)	LIN FT (D)	LIN FT (D)	EACH (D)	LIN FT (D)	LIN FT (D)		EACH (D)	LIN FT (D)				EACH (D)	EACH (D)					EACH (D)	EACH (D)	EACH (D)	EACH (D)	EACH (D)	EACH (D)
330	NORWAY	9+83.07	19.25 LT	494998.40	139623.79	882.09	878.72	C-1	1	3.3								40			331	0.35	878.58								
	NORWAY	9+83.07	20.04 LT	494997.78	139624.27																										
331	NORWAY	9+83.07	19.25 RT	495028.84	139600.21	882.09	878.08	C-1	1	3.9																					
	NORWAY	9+83.07	20.04 RT	495029.46	139599.72																										
332	NORWAY	8+52.00	19.00 RT	494931.05	139508.05	883.20	877.61	A-7D	1																						
	NORWAY	8+52.79	19.00 RT	494931.64	139508.58																										
334	NORWAY	7+20.00	19.25 RT	494832.95	139419.72	884.43	877.14	C-1	1																						
	NORWAY	7+20.00	20.04 RT	494833.48	139419.14																										
335	NORWAY	7+13.40	27.35 RT	494833.45	139409.28	885.00	877.11																								(5)(6)(14)
	NORWAY	7+13.40	27.35 RT	494833.45	139409.28																										
336	NORWAY	6+92.69	50.68 RT	494833.61	139378.09		877.00	APRON																							(8)(9)
337	NORWAY	9+83.07	44.00 RT	495048.40	139585.05		878.50	APRON																							(5)(6)(8)
338	95TH_LANE	14+90.15	19.25 RT	494992.54	139499.39	882.53	878.50	C-1	1	3.9																					
	95TH_LANE	14+90.15	20.04 RT	494993.13	139499.92																										
339	95TH_LANE	14+70.00	19.25 LT	494977.33	139458.68	882.63	878.35	C-1	1																						
	95TH_LANE	14+70.00	20.54 LT	494976.37	139457.82																										
TOTALS (THIS SHEET ONLY)									6	11.1	4.2	12.7	1				171	302						1	1	2	24.1	4.7			

- NOTES:**
- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
 - (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
 - (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
 - (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
 - (5) LENGTH GIVEN TO END OF BARREL (DOES NOT INCLUDE APRON LENGTH).
 - (6) FOR CONCRETE SEWERS, TIE THE THREE END SECTIONS (INCLUDING APRON) OF A FREE END (NO MANHOLE). TIE PER STANDARD PLATE 3145 (INCIDENTAL).
 - (8) PLACE ROLLED EROSION PREVENTION AT APRON ENDS PER STANDARD PLAN 5-297.404 (SHEET 2 OF 3) (INCIDENTAL).
 - (9) PLACE RIPRAP AT RCP OUTLET PER STANDARD PLATE 3133.
 - (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
 - (14) SEE SHEETS 160/161 FOR PRE-TREATMENT GRIT CHAMBER DETAILS.
- COST PARTICIPATION NOTES:**
- (D) 50% ANOKA COUNTY LOCAL FUNDS, 50% CITY OF COON RAPIDS LOCAL FUNDS.

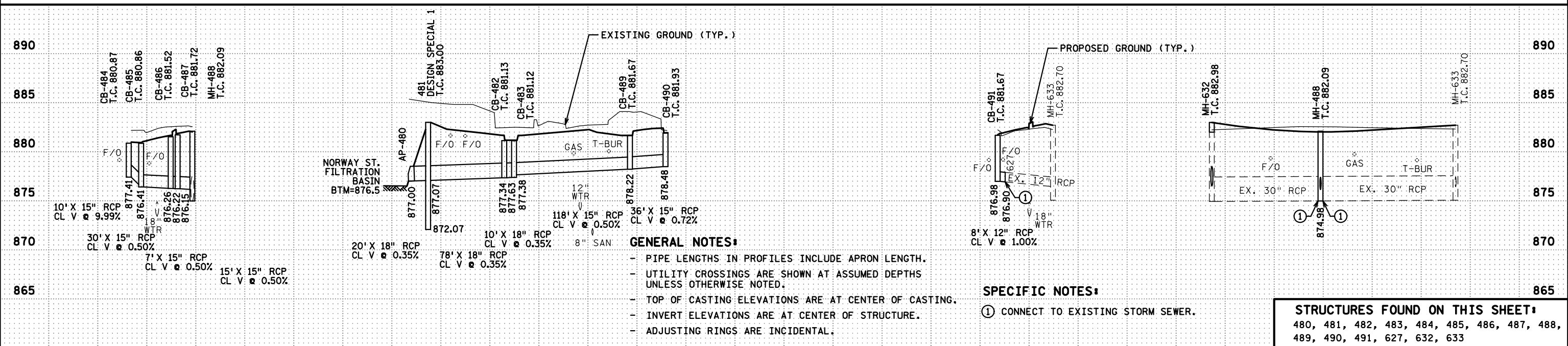


DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DRAINAGE TABULATIONS AND PROFILES		
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020			STATE PROJ. NO. 002-611-036	SHEET NO. 147 OF 416 SHEETS
CHK: MAW	MATTHEW A. WASSMAN				
NO.	DATE	BY	DESCRIPTION OF REVISIONS		

DATE: 11/24/2020 TIME: 10:34:47 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000_04_Production\01_CAD\Highway\Sheets\cd00261036_dph.dgn

DRAINAGE TABULATION																														
UPSTREAM STRUCTURE LOCATION (1)				NEW STRUCTURE CONSTRUCTION											PIPE SEWER (12)			DRAINS TO			PIPE APRON				NOTES					
STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	STATION	OFFSET	COORDINATES		TOP OF CASTING ELEV.	OUTLET ELEV. (2)	CASTING ASSEMBLY (3)		PAY HEIGHT					STEPS REQ'D (4)	12" RC DES 3006 CL V	15" RC DES 3006 CL V	18" RC DES 3006 CL V	STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %	INLET ELEV. (2)	18" RC	GUIDE POST TYPE B	GEOTEXTILE FILTER TYPE 3		RANDOM RIPRAP CLASS II	CONN. TO EX. STORM SEWER			
				TYPE	EACH (E)			DESIGN H	DESIGN SD-48	DESIGN 48-4020	DESIGN 60-4020	DESIGN SPECIAL 1	LIN FT	LIN FT														LIN FT	LIN FT	EACH (E)
								(E)	(E)	(E)	(E)	(E)																		
480	CSAH11WB	216+87.75	57.00	LT	494955.68	139257.17		APRON													1	1	22.4	4.3		(8)(9)				
481	CSAH11WB	217+00.74	41.79	LT	494974.86	139251.48	883.00											14	480	0.35	877.00					(5)(6)(14)				
482	CSAH11WB	217+76.52	24.00	LT	495048.12	139277.76	881.13	B-5	1		3.7							78	481	0.35	877.07									
483	CSAH11WB	217+86.52	24.00	LT	495056.51	139283.19	881.12	B-5	1		3.7							10	482	0.35	877.34									
484	CSAH11EB	117+73.45	17.00	RT	495093.35	139206.97	880.87	B-5	1	3.4					10				485	9.99	876.41									
485	CSAH11EB	117+83.45	17.00	RT	495101.74	139212.41	880.86	B-5	1			4.4			30				486	0.50	876.26									
486	CSAH11EB	117+83.45	17.79	RT	495102.17	139211.75																								
487	CSAH11EB	117+83.45	13.25	LT	495085.29	139237.79	881.52	C-2	1			5.2			7				487	0.50	876.22									
487	CSAH11WB	217+86.52	24.25	RT	495082.75	139242.70	881.72	C-2	1			5.4			15				488	0.50	876.15									
488	CSAH11WB	217+85.20	8.50	RT	495073.08	139255.20	882.09	A-7D	1				7.0						632							2				
489	95TH_LANE	12+85.28	40.12	RT	495144.87	139360.82	881.67	C-1	1		3.4				118				483	0.50	877.63									
490	CSAH11WB	219+35.50	24.49	LT	495181.27	139364.63	881.93	B-9	1	3.4					36				489	0.72	878.22									
491	CSAH11WB	219+35.50	24.49	LT	495181.27	139364.63																								
491	CSAH11EB	119+24.43	17.00	RT	495220.06	139289.08	881.67	B-9	1			4.6							627	1.00	876.90									
627	CSAH11EB	119+24.43	17.79	RT	495220.49	139288.42																								
627	CSAH11EB	119+24.22	10.22	RT	495216.19	139294.66																				1				
TOTALS (THIS SHEET ONLY)								10	6.8	10.8	19.6	7.0	1		8	216	102				1	1	22.4	4.3	3					

- NOTES:**
- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
 - (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
 - (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
 - (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
 - (5) LENGTH GIVEN TO END OF BARREL (DOES NOT INCLUDE APRON LENGTH).
 - (6) FOR CONCRETE SEWERS, TIE THE THREE END SECTIONS (INCLUDING APRON) OF A FREE END (NO MANHOLE). TIE PER STANDARD PLATE 3145 (INCIDENTAL).
 - (8) PLACE ROLLED EROSION PREVENTION AT APRON ENDS PER STANDARD PLAN 5-297.404 (SHEET 2 OF 3) (INCIDENTAL).
 - (9) PLACE RIPRAP AT RCP OUTLET PER STANDARD PLATE 3133.
 - (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
 - (14) SEE SHEETS 160/161 FOR PRE-TREATMENT GRIT CHAMBER DETAILS.
- COST PARTICIPATION NOTES:**
 (E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.



- GENERAL NOTES:**
- PIPE LENGTHS IN PROFILES INCLUDE APRON LENGTH.
 - UTILITY CROSSINGS ARE SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED.
 - TOP OF CASTING ELEVATIONS ARE AT CENTER OF CASTING.
 - INVERT ELEVATIONS ARE AT CENTER OF STRUCTURE.
 - ADJUSTING RINGS ARE INCIDENTAL.
- SPECIFIC NOTES:**
- ① CONNECT TO EXISTING STORM SEWER.

STRUCTURES FOUND ON THIS SHEET:
 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 627, 632, 633

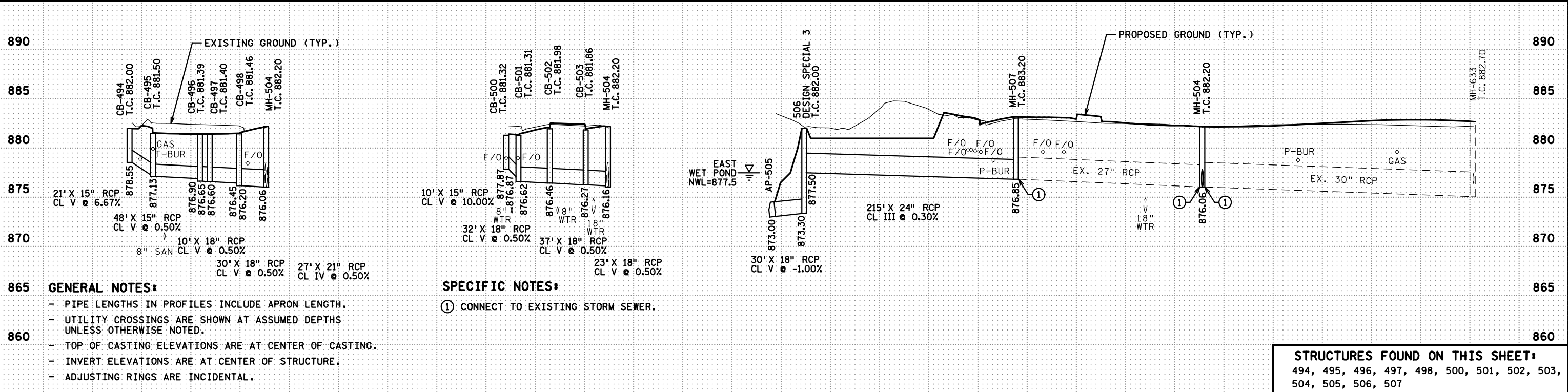
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DRAINAGE TABULATION

STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	STATION	OFFSET	UPSTREAM STRUCTURE LOCATION (1)		NEW STRUCTURE CONSTRUCTION					PIPE SEWER (12)				DRAINS TO			PIPE APRON		GEOTEXTILE FILTER TYPE 4	RANDOM RIPRAP CLASS III	CONN. TO EX. STORM SEWER										
				COORDINATES		CASTING ASSEMBLY (3)	PAY HEIGHT					15" RC DES 3006 CL V	18" RC DES 3006 CL V	21" RC DES 3006 CL IV	24" RC DES 3006 CL III	STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %	INLET ELEV. (2)	18" RC													
				X	Y		TOP OF CASTING ELEV.	OUTLET ELEV. (2)	DESIGN H	DESIGN 48-4020	DESIGN 60-4020												DESIGN 108-4020	DESIGN SPECIAL 3	STEPS REQ'D (4)	LIN FT	LIN FT	LIN FT	LIN FT	EACH	SQ YD	CU YD
494	CSAH11WB	221+16.00	45.00	LT	495320.36	139480.10	882.00	878.55	M-11	1	3.4							495	6.67	877.13												
495	CSAH11WB	221+16.00	23.00	LT	495332.72	139461.90	881.50	877.13	B-9	1		4.3						496	0.50	876.90												
496	CSAH11WB	221+16.05	23.79	LT	495332.32	139462.58																										
497	CSAH11WB	221+64.00	19.80	LT	495373.78	139486.35	881.39	876.65	B-5	1	4.7			10				497	0.50	876.60												
498	CSAH11WB	221+74.00	19.15	LT	495382.29	139491.54	881.40	876.60	B-5	1	4.7			30				498	0.50	876.45												
500	CSAH11WB	222+04.00	17.15	LT	495407.88	139507.22	881.46	876.20	B-9	1	5.2			27				504	0.50	876.06												
501	CSAH11WB	222+04.06	17.94	LT	495407.47	139507.90																										
502	CSAH11WB	221+56.39	17.00	RT	495414.71	139415.23	881.32	877.87	B-5	1	3.4			10				501	10.00	876.87												
503	CSAH11WB	221+46.39	17.00	RT	495406.32	139409.79	881.31	876.62	B-5	1	4.6			32				502	0.50	876.46												
504	CSAH11WB	221+46.39	17.79	RT	495406.75	139409.12																										
505	CSAH11WB	221+46.39	13.25	LT	495389.87	139435.17	881.98	876.46	C-2	1	5.4			37				503	0.50	876.27												
506	CSAH11WB	221+46.39	14.04	LT	495389.44	139435.84																										
507	CSAH11WB	221+83.77	24.25	RT	495415.33	139461.75	881.86	876.27	C-2	1	5.5			23				504	0.50	876.16												
508	CSAH11WB	221+83.77	25.04	RT	495415.79	139461.11																										
509	CSAH11WB	221+96.50	9.00	RT	495416.90	139481.55	882.20	876.06	A-7D	1		6.1						633							2							
510	CSAH11WB	221+99.79	9.00	RT	495419.58	139483.46																										
511	CSAH11WB	124+58.00	189.20	RT	495761.47	139434.74		873.00	APRON																							
512	CSAH11WB	124+28.47	195.04	RT	495739.86	139413.78	882.00	877.50						24				506	-1.00	873.30	1		8.0	7.0		(17)						
513	CSAH11WB	124+28.47	195.04	RT	495739.86	139413.78					1							507	0.30	876.85												
514	CSAH11WB	123+92.00	14.90	LT	495595.09	139570.13	883.20	876.85	A-7D	1		6.3						504							1							
515	CSAH11WB	123+93.29	14.90	LT	495596.17	139570.83																										
TOTALS (THIS SHEET ONLY)										11	6.8	34.4	6.3	6.1	1		79	156	27	215				1	8.0	7.0	3					

NOTES:

- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
 - (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
 - (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
 - (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
 - (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
 - (17) SEE SHEET 163 FOR OUTLET CONTROL STRUCTURE DETAILS.
- COST PARTICIPATION NOTES:**
 (E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.



GENERAL NOTES:

- PIPE LENGTHS IN PROFILES INCLUDE APRON LENGTH.
- UTILITY CROSSINGS ARE SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED.
- TOP OF CASTING ELEVATIONS ARE AT CENTER OF CASTING.
- INVERT ELEVATIONS ARE AT CENTER OF STRUCTURE.
- ADJUSTING RINGS ARE INCIDENTAL.

SPECIFIC NOTES:

- ① CONNECT TO EXISTING STORM SEWER.

STRUCTURES FOUND ON THIS SHEET:
 494, 495, 496, 497, 498, 500, 501, 502, 503, 504, 505, 506, 507

DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DRAINAGE TABULATIONS AND PROFILES		
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 12/11/2020				
CHK: MAW					
NO.	DATE	BY	DESCRIPTION OF REVISIONS	STATE PROJ. NO. 002-611-036	SHEET NO. 149 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:36:46 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON\Documents\Projects\AnokaCounty\7030000_04_Production\01_CAD\Highway\Sheets\cd00261036_dpk.dgn

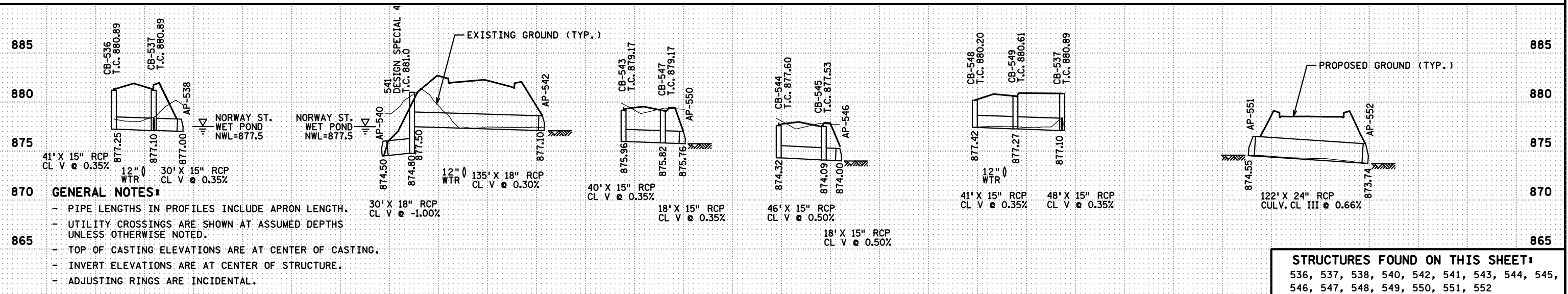
DRAINAGE TABULATION

STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	UPSTREAM STRUCTURE LOCATION (1)		NEW STRUCTURE CONSTRUCTION			PIPE SEWER (12)	PIPE CULVERT (11)	DRAINS TO			PIPE APRON			GUIDE POST TYPE B	GEOTEXTILE FILTER TYPE 3	GEOTEXTILE FILTER TYPE 4	RANDOM RIPRAP CLASS II	RANDOM RIPRAP CLASS III	NOTES						
		STATION	OFFSET	CASTING ASSEMBLY (3)	PAY HEIGHT			15" RC DES 3006 CL V	18" RC DES 3006 CL V	24" RC DES 3006 CL III	STRUCT OR APRON OUTLET POINT NO.	SLOPE OF PIPE %	INLET ELEV. (2)	15" RC							18" RC	24" RC				
		COORDINATES	TOP OF CASTING ELEV.		OUTLET ELEV. (2)	DESIGN SD-48	DESIGN SD-60																DESIGN SPECIAL 4	15" RC	18" RC	24" RC
		X	Y	TYPE	EACH (D)	LIN FT (D)	LIN FT (D)	EACH (D)	LIN FT (D)	LIN FT (D)	LIN FT (D)	EACH (D)	EACH (D)	EACH (D)							EACH (D)	SQ YD (D)	SQ YD (D)	CU YD (D)	CU YD (D)	
536	NORWAY	14+60.00	19.25 LT	495037.07	140079.62	880.89	877.25	C-1	1	3.6			41													
	NORWAY	14+60.00	20.04 LT	495036.28	140079.63																					
537	NORWAY	14+60.00	19.25 RT	495075.57	140079.54	880.89	877.10	C-1	1		3.7		24								(5)(6)(15)					
	NORWAY	14+60.00	20.54 RT	495076.86	140079.53																					
538	NORWAY	14+44.00	45.62 RT	495101.91	140063.48		877.00	APRON							1		1		35.3	11.8	(8)(16)					
540	96TH_AVE	18+85.00	64.50 LT	495166.19	140047.89		874.50	APRON					24								(5)(6)					
541	96TH_AVE	18+85.00	34.29 LT	495181.15	140074.13	881.00	877.50				1		135					8.0		7.0	(5)(6)(18)					
	96TH_AVE	18+85.00	34.29 LT	495181.15	140074.13																					
542	NORWAY	15+59.69	39.87 RT	495096.43	140179.18		877.10	APRON								1		1	22.4		4.3	(8)(9)				
543	NORWAY	16+00.00	19.25 RT	495075.89	140219.54	879.17	875.96	C-1	1	3.1			40													
	NORWAY	16+00.00	20.04 RT	495076.69	140219.53																					
544	NORWAY	17+36.00	19.25 RT	495076.21	140355.54	877.60	874.32	C-1	1	3.2			46													
	NORWAY	17+36.00	20.04 RT	495077.00	140355.53																					
545	NORWAY	17+50.00	24.42 LT	495032.56	140369.64	877.53	874.09	C-1	1	3.4			12								(5)(6)					
	NORWAY	17+50.23	23.67 LT	495033.32	140369.87																					
546	NORWAY	17+50.00	41.67 LT	495015.32	140369.68		874.00	APRON							1		1	18.0		3.2	(8)(9)					
547	NORWAY	16+00.00	19.25 LT	495037.40	140219.62	879.17	875.82	C-1	1	3.3			12								(5)(6)					
	NORWAY	16+00.00	20.04 LT	495036.61	140219.63																					
548	96TH_AVE	19+82.00	19.25 RT	495106.34	140149.29	880.20	877.42	C-1	1	2.7			41													
	96TH_AVE	19+82.00	20.04 RT	495106.37	140150.08																					
549	96TH_AVE	19+72.00	19.25 LT	495114.09	140110.29	880.61	877.27	C-1	1	3.3			48													
	96TH_AVE	19+72.00	20.04 LT	495114.02	140109.50																					
550	NORWAY	16+00.00	37.58 LT	495019.07	140219.67		875.76	APRON							1		1	18.0		3.2	(8)(9)					
551	NORWAY	17+77.00	60.00 RT	495117.05	140396.44		874.55	APRON								1	1	29.7		6.2	(5)(7)(8)					
552	NORWAY	17+77.00	62.00 LT	494995.05	140396.72		873.74	APRON								1	1	29.7		6.2	(8)(9)					
TOTALS (THIS SHEET ONLY)									8	22.6	3.7	1	264	159	110				3	2	2	6	88.1	43.3	24.4	7.0

NOTES:

- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
- (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
- (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
- (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
- (5) LENGTH GIVEN TO END OF BARREL (DOES NOT INCLUDE APRON LENGTH).
- (6) FOR CONCRETE SEWERS, TIE THE THREE END SECTIONS (INCLUDING APRON) OF A FREE END (NO MANHOLE). TIE PER STANDARD PLATE 3145 (INCIDENTAL).
- (7) FOR CONCRETE CULVERTS, PIPE TIES SHALL BE REQUIRED FOR ALL JOINTS. TIE PER STANDARD PLATE 3145 (INCIDENTAL).
- (8) PLACE ROLLED EROSION PREVENTION AT APRON ENDS PER STANDARD PLAN 5-297.404 (SHEET 2 OF 3) (INCIDENTAL).
- (9) PLACE RIPRAP AT RCP OUTLET PER STANDARD PLATE 3133.
- (11) PLACE CULVERT BEDDING PER STANDARD PLAN 5-297.441 UNLESS NOTED OTHERWISE (INCIDENTAL).
- (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
- (15) SEE SHEET 159 FOR SD-60 STRUCTURE DETAILS.
- (16) SEE SHEET 166 FOR RIPRAP TO POND BOTTOM DETAILS.
- (18) SEE SHEET 164 FOR OUTLET CONTROL STRUCTURE DETAILS.

COST PARTICIPATION NOTES:
(D) 50% ANOKA COUNTY LOCAL FUNDS, 50% CITY OF COON RAPIDS LOCAL FUNDS.



DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DRAINAGE TABULATIONS AND PROFILES		
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020				
CHK: MAW	MATTHEW A. WASSMAN				
NO.	DATE	BY	DESCRIPTION OF REVISIONS	STATE PROJ. NO. 002-611-036	SHEET NO. 151 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:38:01 PM
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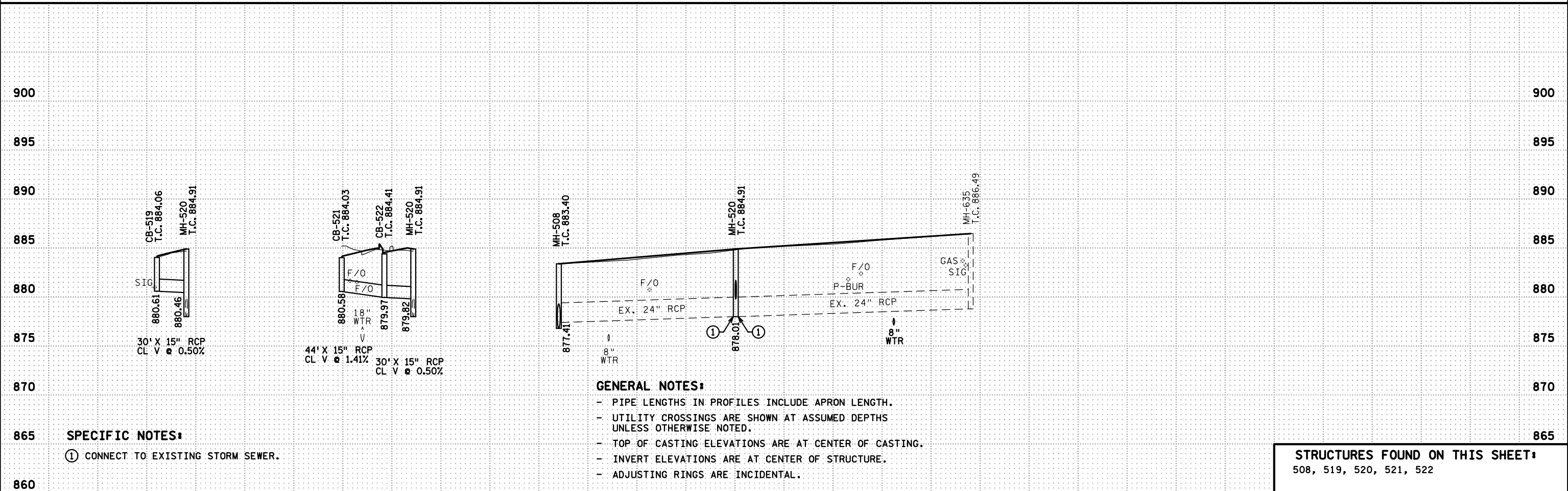
DRAINAGE TABULATION																		
STRUCTURE OR APRON INLET POINT NO.	ALIGNMENT	STATION	OFFSET	COORDINATES		TOP OF CASTING ELEV.	OUTLET ELEV. (2)	NEW STRUCTURE CONSTRUCTION			PIPE SEWER (12)	DRAINS TO			CONN. TO EX. STORM SEWER	NOTES		
				X	Y			CASTING ASSEMBLY (3)	PAY HEIGHT			STEPS REQ'D (4)	15" RC DES 3006 CL V	STRUCT OR APRON OUTLET POINT NO.			SLOPE OF PIPE %	INLET ELEV. (2)
									DESIGN H	DESIGN 48-4020								
				TYPE	EACH (E)			DESIGN H (E)	DESIGN 48-4020 (E)	DESIGN 48-4020 (E)		DESIGN 48-4020 (E)	DESIGN 48-4020 (E)	DESIGN 48-4020 (E)				
519	CSAH11EB	127+00.00	24.00 RT	495874.77	139705.70	884.06	880.61	B - 9	1	3.4			30	520	0.50	880.46		
520	CSAH11EB	126+99.25	6.00 LT	495857.37	139730.15	884.91	878.01	A - 7D	1		6.8	YES		508			2	
	CSAH11EB	127+00.04	6.00 LT	495858.03	139730.59													
521	CSAH11WB	227+02.50	24.00 LT	495817.81	139791.52	884.03	880.58	B - 9	1	3.4			44	522	1.41	879.97		
522	CSAH11EB	127+00.00	36.25 LT	495841.08	139755.65	884.41	879.97	C - 2	1		4.4		30	520	0.50	879.82		
	CSAH11EB	127+00.00	35.46 LT	495841.52	139754.99													
TOTALS (THIS SHEET ONLY)									4	6.8	11.2		104			2		

NOTES:

- STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
- OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
- SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
- STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
- PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).

COST PARTICIPATION NOTES:

(E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.



- GENERAL NOTES:**
- PIPE LENGTHS IN PROFILES INCLUDE APRON LENGTH.
 - UTILITY CROSSINGS ARE SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED.
 - TOP OF CASTING ELEVATIONS ARE AT CENTER OF CASTING.
 - INVERT ELEVATIONS ARE AT CENTER OF STRUCTURE.
 - ADJUSTING RINGS ARE INCIDENTAL.

SPECIFIC NOTES:

① CONNECT TO EXISTING STORM SEWER.

STRUCTURES FOUND ON THIS SHEET:
 508, 519, 520, 521, 522

DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	TKDA	STATE PROJ. NO. 002-611-036	DRAINAGE TABULATIONS AND PROFILES	
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020				
CHK: MAW	MATTHEW A. WASSMAN			SHEET NO. 154 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS		

DATE: 11/24/2020 TIME: 10:38:40 PM
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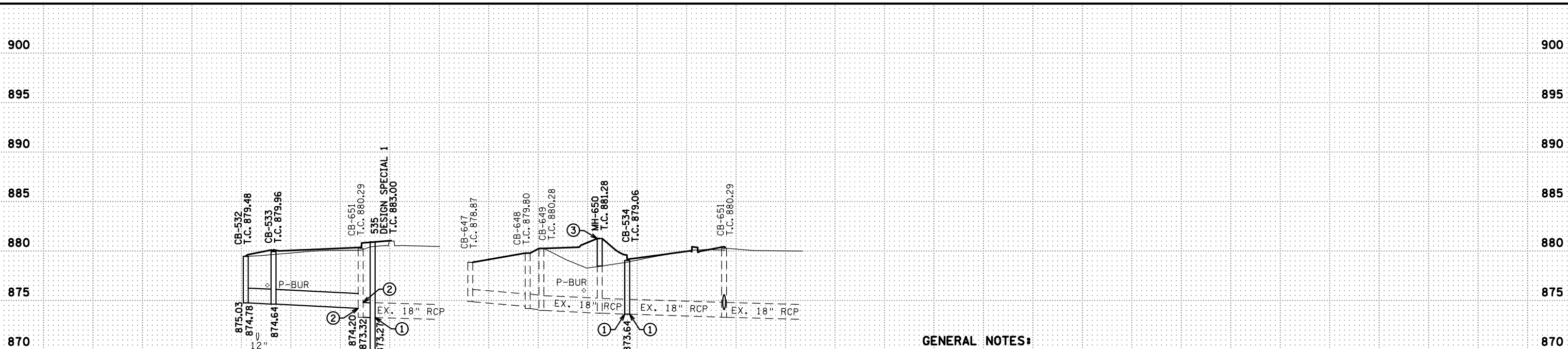
DRAINAGE TABULATION																				
STRUCTURE OR APRON INLET POINT NO.	UPSTREAM STRUCTURE LOCATION (1)				NEW STRUCTURE CONSTRUCTION				PIPE SEWER (12)			DRAINS TO			CONN. TO EX. STORM SEWER	RECONSTR. DRAINAGE STRUCTURE	CONN. INTO EX. DRAIN. STRUC.	NOTES		
	ALIGNMENT	STATION	OFFSET	COORDINATES		TOP OF CASTING ELEV.	OUTLET ELEV. (2)	CASTING ASSEMBLY (3)		PAY HEIGHT		STEPS REQ'D (4)	18" RC DES 3006 CL V	STRUCT OR APRON OUTLET POINT NO.					SLOPE OF PIPE %	INLET ELEV. (2)
				X	Y			TYPE	EACH (E)	DESIGN 48-4020	DESIGN SPECIAL 1									
532	CSAH11EB	117+15.00	239.09 RT	495165.08	138988.81	879.48	874.78	C - 1	1	4.6		YES	28	533	0.50	874.64				
	CSAH11EB	117+15.02	238.30 RT	495164.67	138989.48															
533	CSAH11EB	117+14.00	265.07 RT	495178.37	138966.46	879.96	874.64	C - 1	1	5.2		YES	88	651	0.50	874.20				
	CSAH11EB	117+13.98	265.86 RT	495178.78	138965.79															
534	CSAH11EB	116+08.97	165.96 RT	495036.33	138992.51	879.06	873.64	C - 1	1	5.3		YES					2			
	CSAH11EB	116+08.72	165.21 RT	495035.71	138993.01															
535	CSAH11EB	116+25.58	273.09 RT	495108.53	138911.65	880.90	873.27				1						1		(14)	
	CSAH11EB	116+25.58	273.09 RT	495108.53	138911.65															
650	CSAH11EB	116+04.11	137.72 RT	495016.89	139013.57	881.28		A - 7D	1									3.3		
651	CSAH11EB	116+25.90	262.65 RT	495103.12	138920.58	880.29		C - 1	1				10	535	0.50	873.27			2	
TOTALS (THIS SHEET ONLY)									5	15.1	1		126				3	3.3	2	

NOTES:

- (1) STATION, OFFSET, COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT:
 - CENTER OF GRATE OR COVER CASTING UNLESS NOTED OTHERWISE
 - END OF RC APRON
 - ADDITIONAL STATION, OFFSET AND COORDINATES GIVEN AT CENTER OF BASE FOR DESIGN 4020 AND SD STRUCTURES.
- (2) OUTLET AND INLET ELEVATIONS ARE GIVEN AT:
 - CENTER OF STRUCTURE
 - END OF RC APRON
- (3) SEE SHEET 157 FOR CASTING ASSEMBLY SUMMARY.
- (4) STRUCTURES WITH PAY HEIGHT GREATER THAN 4.5' SHALL INCLUDE MANHOLE STEPS 16" ON CENTER UNLESS OTHERWISE NOTED (CONSIDERED INCIDENTAL). SEE STANDARD PLATE 4180.
- (12) PLACE STORM SEWER BEDDING PER STANDARD PLAN 5-297.442 UNLESS NOTED OTHERWISE (INCIDENTAL).
- (14) SEE SHEET 163 FOR PRE-TREATMENT GRIT CHAMBER DETAILS.

COST PARTICIPATION NOTES:

(E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.



SPECIFIC NOTES:

- ① CONNECT TO EXISTING STORM SEWER.
- ② CONNECT INTO EXISTING DRAINAGE STRUCTURE.
- ③ RECONSTRUCT DRAINAGE STRUCTURE.

GENERAL NOTES:

- PIPE LENGTHS IN PROFILES INCLUDE APRON LENGTH.
- UTILITY CROSSINGS ARE SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED.
- TOP OF CASTING ELEVATIONS ARE AT CENTER OF CASTING.
- INVERT ELEVATIONS ARE AT CENTER OF STRUCTURE.
- ADJUSTING RINGS ARE INCIDENTAL.

STRUCTURES FOUND ON THIS SHEET:
 532, 533, 534, 535, 650, 651

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.


SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



DATE: 11/24/2020 TIME: 10:39:18 PM
 FILENAME: c:\tkda\proj\tech\wise\hmv\angstad\dms01247\cd00261036_dpp.dgn

DRAINAGE SUMMARY																		TAB H	
ITEM DESCRIPTION	UNIT	QUANTITIES FROM DRAINAGE TABULATION SHEETS															TAB H TOTALS		
		SHEET 141	SHEET 142	SHEET 143	SHEET 144	SHEET 145	SHEET 146	SHEET 147	SHEET 148	SHEET 149	SHEET 150	SHEET 151	SHEET 152	SHEET 153		SHEET 154	SHEET 155	(E)	(D)
		(E)	(E)	(E)	(E)	(E)	(E)	(D)	(E)	(E)	(E)	(D)	(E)	(E)	(D)	(E)	(E)	(E)	(D)
12" RC PIPE APRON	EACH	1																1	
15" RC PIPE APRON	EACH			1				1					3			1		1	5
18" RC PIPE APRON	EACH			2				1	1	1		2						4	2
21" RC PIPE APRON	EACH						1	1										1	1
24" RC PIPE APRON	EACH				1							2						1	2
30" RC PIPE APRON	EACH										1							1	
18" RC PIPE CULVERT DESIGN 3006 CL V	LIN FT			126														126	
24" RC PIPE CULVERT DESIGN 3006 CL III	LIN FT											110							110
12" RC PIPE SEWER DESIGN 3006 CL V	LIN FT	9		17					8									34	
15" RC PIPE SEWER DESIGN 3006 CL V	LIN FT	115	172	77	759	383	616	171	216	79	184	264	260	18	37	104		2983	472
18" RC PIPE SEWER DESIGN 3006 CL V	LIN FT	24					47		102	156	30	159	5		8		126	490	167
21" RC PIPE SEWER DESIGN 3006 CL IV	LIN FT	178			47		23	302		27				20				295	302
24" RC PIPE SEWER DESIGN 3006 CL III	LIN FT				34					215	85							334	
30" RC PIPE SEWER DESIGN 3006 CL III	LIN FT										77		58					135	
36" RC PIPE SEWER DESIGN 3006 CL V	LIN FT												344					344	
CONNECT TO EXISTING STORM SEWER	EACH	3	5	5					3	3	4		1	3	2	2	3	32	2
30" STEEL CASING PIPE	LIN FT				40	40												80	
36" STEEL CASING PIPE	LIN FT			126														126	
CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1	EACH			1	1		1	1	1						2		1	5	3
CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2	EACH	1																1	
CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 3	EACH									1								1	
CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 4	EACH											1							1
CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 5	EACH												1					1	
CASTING ASSEMBLY	EACH	12	16	5	7	9	7	6	10	11	11	8	7	5	3	4	5	109	17
INSTALL CASTING	EACH		4										2					6	
CONSTRUCT DRAINAGE STRUCTURE DESIGN H	LIN FT	10.2	6.8		10.2	10.0	3.4		6.8	6.8	3.4			2.9	3.4	6.8		67.3	3.4
CONSTRUCT DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	15.0	18.3	14.9	4.4	18.6			11.1	10.8		6.5	22.6		11.1	3.3		99.6	37.0
CONSTRUCT DRAINAGE STRUCTURE DESIGN SD-60	LIN FT								4.2				3.7						7.9
CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	10.6	4.7	4.2	14.0	4.6	13.2	12.7	19.6	34.4	18.1		38.3			11.2	15.1	188.0	12.7
CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT	10.9	5.6				5.6		7.0	6.3	6.1		7.3					48.8	
CONSTRUCT DRAINAGE STRUCTURE DESIGN 72-4020	LIN FT						9.5					12.2			4.7			21.7	4.7
CONSTRUCT DRAINAGE STRUCTURE DESIGN 96-4020	LIN FT										4.6		8.0					12.6	
CONSTRUCT DRAINAGE STRUCTURE DESIGN 108-4020	LIN FT									6.1								6.1	
RECONSTRUCT DRAINAGE STRUCTURE	LIN FT		12.8										6.3				3.3	22.4	
CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	3	2										2	1			2	10	
GEOTEXTILE FILTER TYPE 3	SQ YD			40.4	29.7			24.1	24.1	22.4			88.1			18.0		116.6	130.2
GEOTEXTILE FILTER TYPE 4	SQ YD									8.0	59.0	43.3						67.0	43.3
RANDOM RIPRAP CLASS II	CU YD			7.5	6.2			4.7	4.7	4.3					3.2			34.6	32.3
RANDOM RIPRAP CLASS III	CU YD										7.0	11.7	7.0					18.7	7.0
GUIDE POST TYPE B	EACH	1		3	1			1	2	1		1	6			1		8	9

COST PARTICIPATION NOTES:
 (D) 50% ANOKA COUNTY LOCAL FUNDS , 50% CITY OF COON RAPIDS LOCAL FUNDS.
 (E) 58% ANOKA COUNTY LOCAL FUNDS , 42% CITY OF COON RAPIDS LOCAL FUNDS.


DES: CEH		I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			DRAINAGE SUMMARY		DRAINAGE TABULATIONS	
DRW: CEH		SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020			STATE PROJ. NO. 002-611-036		SHEET NO. 156 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: MAW				

DATE: 11/24/2020 TIME: 10:39:58 PM
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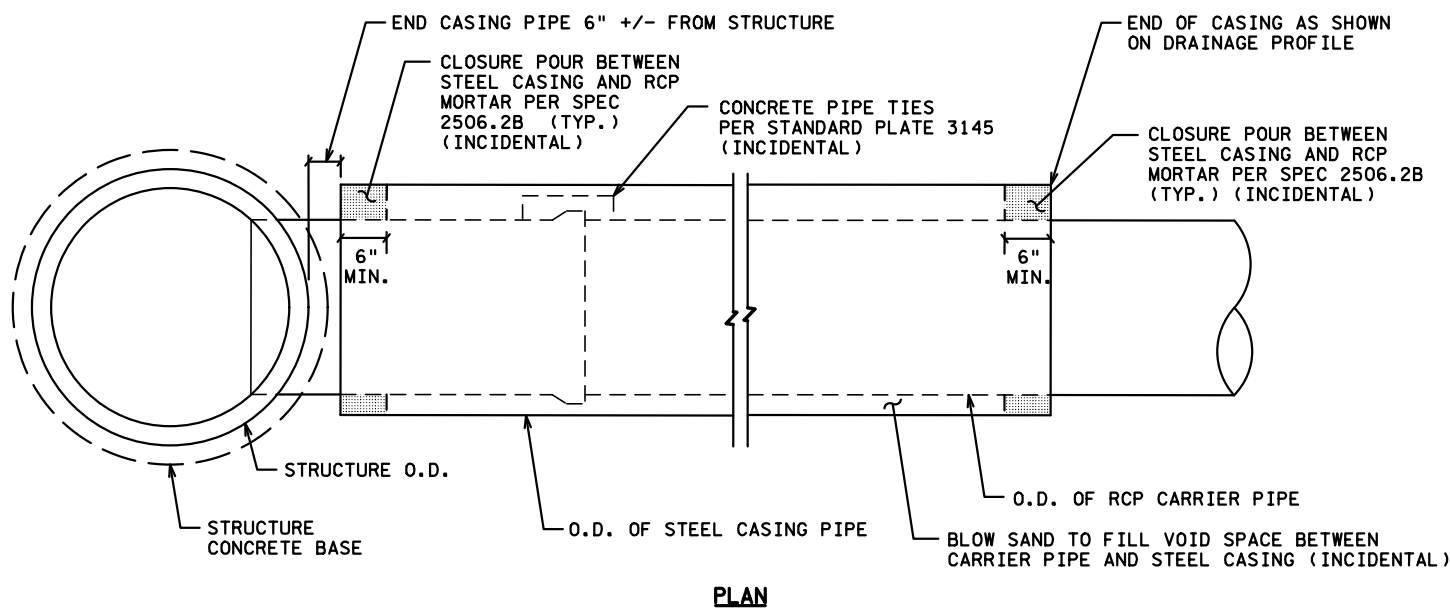
CASTING ASSEMBLIES SUMMARY					
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	MNDOT STANDARD PLATE NO.	TOTAL
MANHOLES					
A-7D	700-7			4101	19
			715	4110	
CATCH BASINS					
B-5	(B)			(B)	30
			816 (A)	4154	
				823 4160	
B-9	(C)			(C)	25
			816 (A)	4154	
				N/A N/A	
C-1	(D)		(D)	(D)	32
				(D)	
C-2	(E)			(E)	17
			(E)	(E)	
				N/A	
C-4	(F)			(F)	2
			(F)	(F)	
				N/A N/A	
AREA DRAINS					
M-11	ROUND CONC.			4143	1
			731	4143	

NOTES:

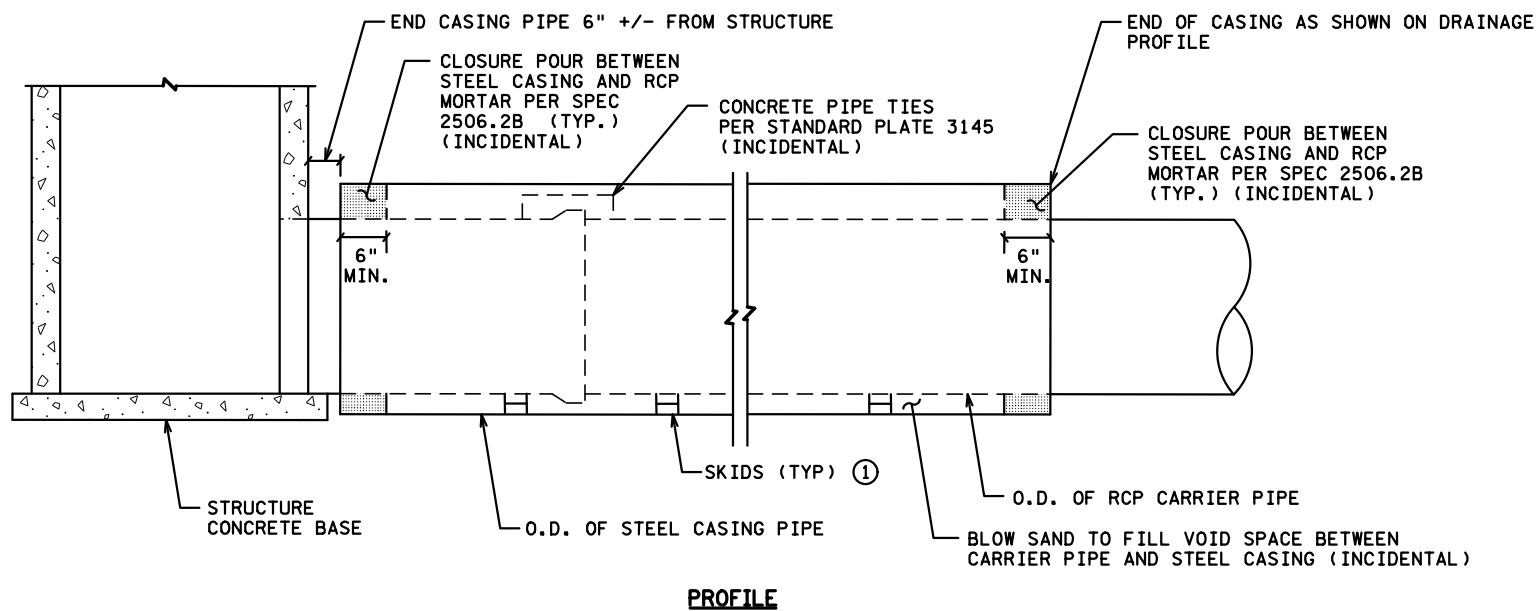
- (A) USE BENT BOLT WITH 816 GRATE.
- (B) NEENAH R-3250-DVSP OR APPROVED EQUAL PER ANOKA COUNTY STANDARDS.
- (C) NEENAH R-3250-EVSP OR APPROVED EQUAL PER ANOKA COUNTY STANDARDS.
- (D) NEENAH R-3067-L OR APPROVED EQUAL PER CITY OF COON RAPIDS STANDARDS.
- (E) NEENAH R-3015-R OR APPROVED EQUAL WITH CURB PLATE (NO CURB BOX) PER ANOKA COUNTY STANDARDS.
- (F) NEENAH R-3067-C OR APPROVED EQUAL PER CITY OF COON RAPIDS STANDARDS.

				DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020 MATTHEW A. WASSMAN		CASTING ASSEMBLIES SUMMARY	DRAINAGE TABULATIONS
				DRW: CEH			STATE PROJ. NO. 002-611-036	SHEET NO. 157 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: MAW				

DATE: 11/24/2020 TIME: 10:40:36 PM
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PLAN



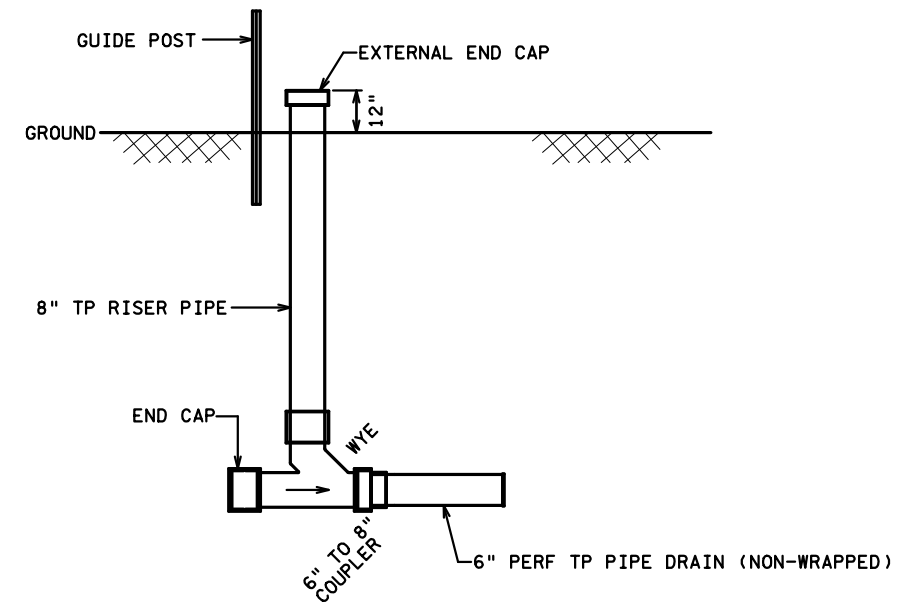
PROFILE

SPECIFIC NOTES:

- ① SKIDS SHALL BE DESIGNED BY CONTRACTOR SUCH THAT RCP CARRIER PIPE CAN BE PLACED AT THE LINE AND GRADE PER PLAN. SKIDS SHALL BE CAPABLE OF SUPPORTING THE RCP CARRIER PIPE. SKIDS SHALL NOT BE WOOD (INCIDENTAL).

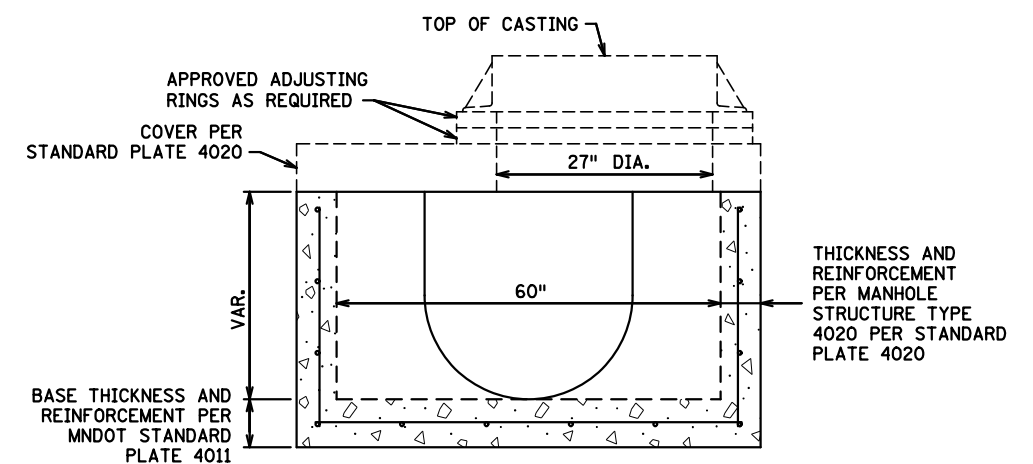
STEEL CASING PIPE

NOT TO SCALE



8\"/>

NOT TO SCALE



NOTES: SEE MNDOT STANDARD PLATE 4024 FOR ADDITIONAL INFORMATION.

DRAINAGE STRUCTURE DESIGN SD-60

NOT TO SCALE

DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020		
CHK: MAW	MATTHEW A. WASSMAN		
NO.	DATE	BY	DESCRIPTION OF REVISIONS



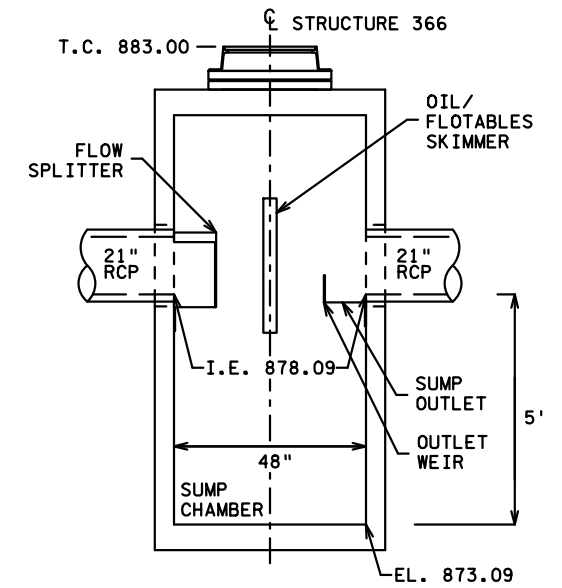
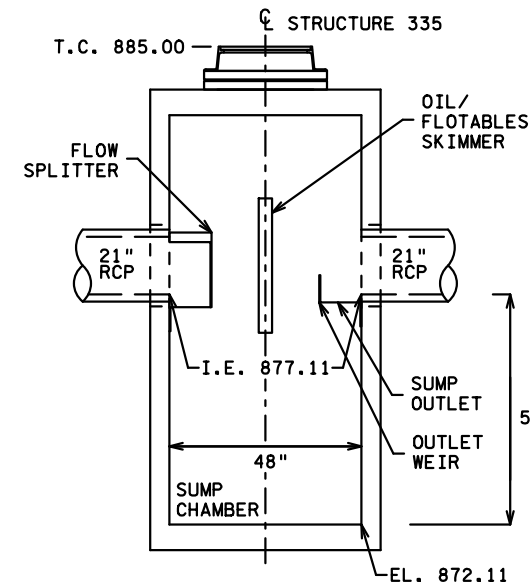
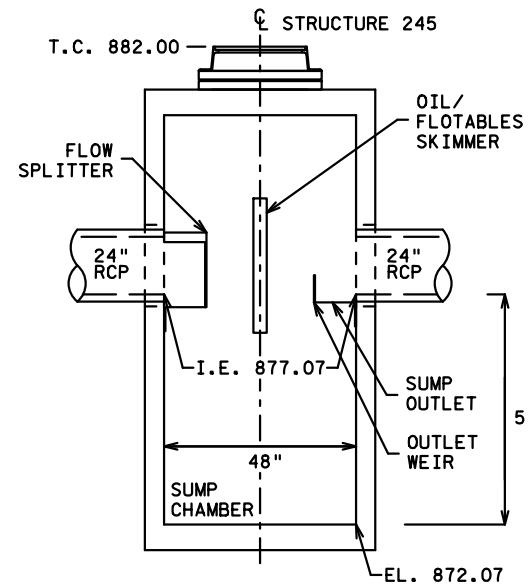
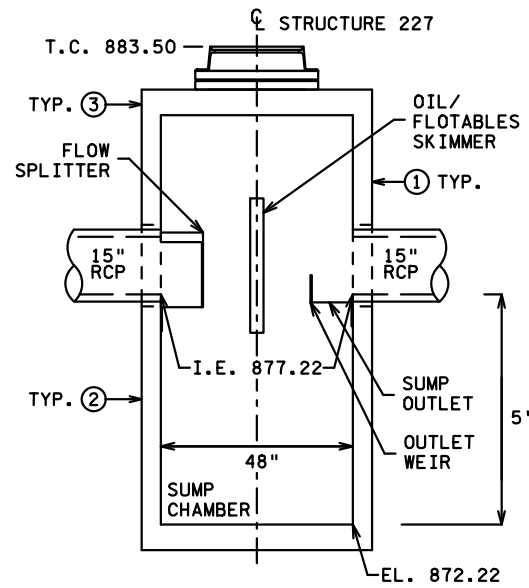
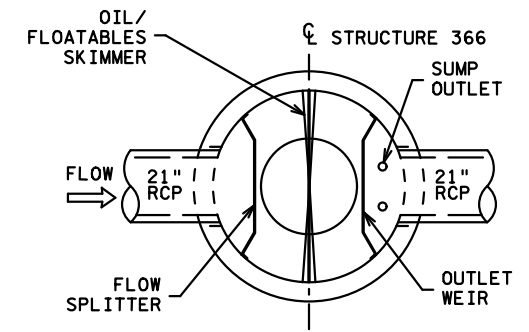
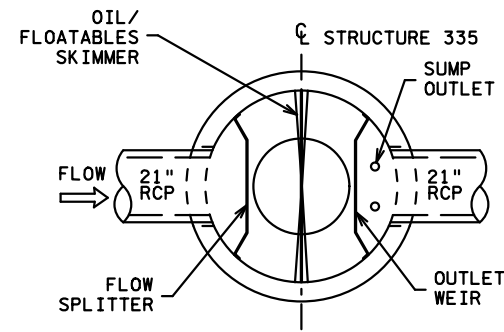
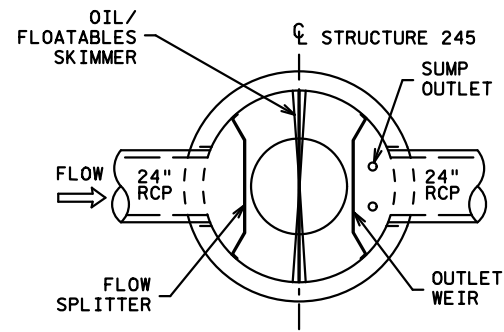
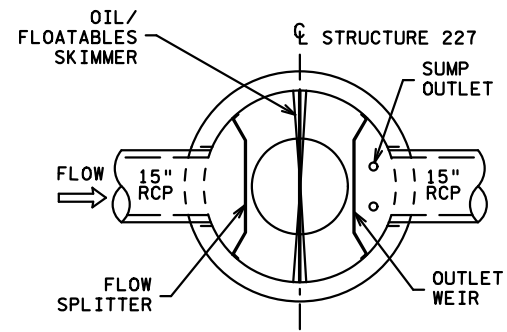
MISCELLANEOUS

DRAINAGE DETAILS

STATE PROJ. NO. 002-611-036

SHEET NO. 159 OF 416 SHEETS

DATE: 12/11/2020 TIME: 10:30:00 PM
 FILENAME: c:\tkda\proj\tech\wise\hmv\angstad\dms01247\cd00261036_ddb.dgn



GENERAL NOTES:

- PRE-TREATMENT DEVICE MUST BE ABLE TO TRAP SEDIMENTS, CAPTURE AND RETAIN DEBRIS AND FLOATABLES, PREVENT SCOUR AND RESUSPENSION OF SEDIMENTS, AND HAVE NO MOVING PARTS.
- THE TOTAL SUSPENDED SOLIDS (TSS) AVERAGE ANNUAL REMOVAL RATE USING SEDIMENT WITH A MEDIAN PARTICLE SIZE DISTRIBUTION EQUIVALENT TO MNDOT ROAD SAND SHALL BE AT LEAST 80% USING SHAZAM SOFTWARE.

STRUCTURE	CONTRIBUTING DRAINAGE AREA	CONTRIBUTING IMPERVIOUS AREA	10-YEAR FLOW RATE
227	1.38 AC	0.76 AC	4.1 CFS
245	2.11 AC	1.96 AC	9.8 CFS
335	3.16 AC	1.61 AC	8.3 CFS
366	2.81 AC	2.22 AC	11.1 CFS

DRAINAGE STRUCTURE DESIGN SPECIAL 1 ④ ⑤
PRE-TREATMENT GRIT CHAMBER

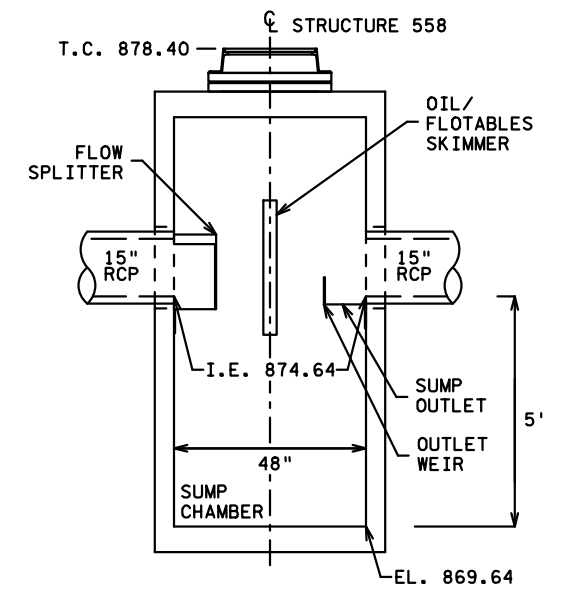
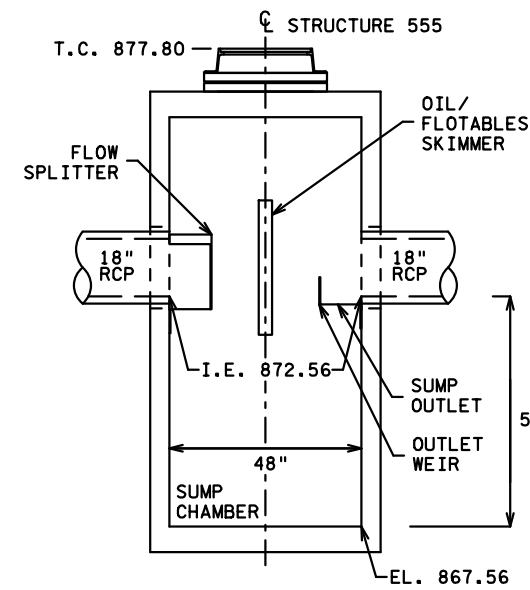
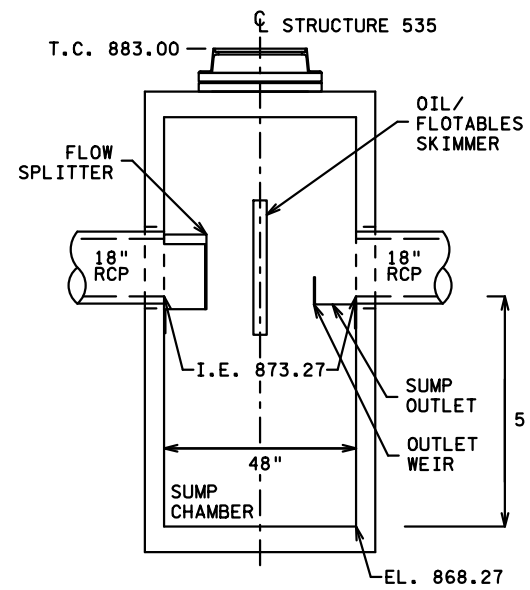
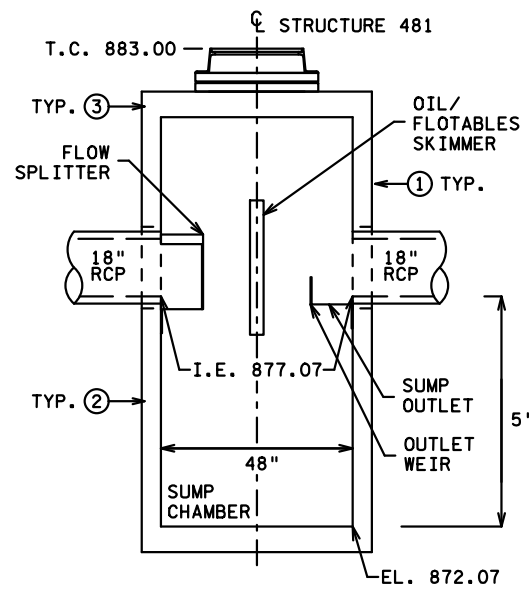
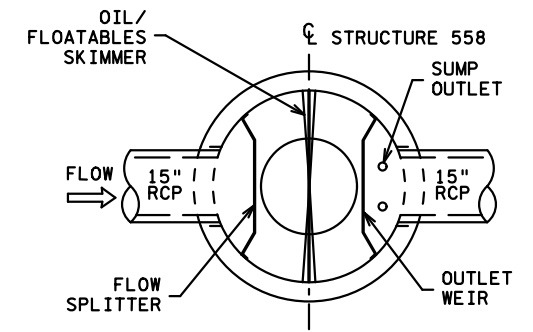
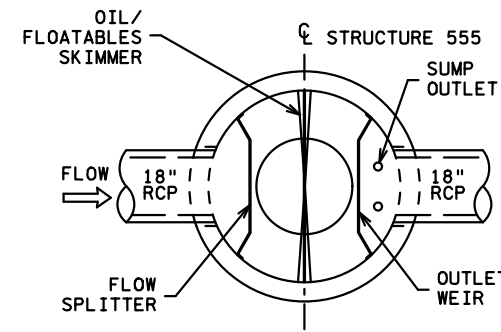
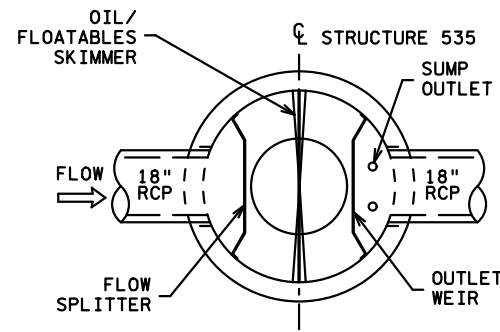
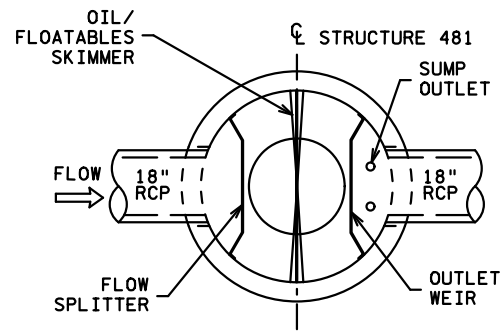
NO SCALE

SPECIFIC NOTES:

- ① PRECAST MANHOLE STRUCTURE TYPE 4020 PER STANDARD PLATE 4020.
- ② CONCRETE BASE PER STANDARD PLATE 4011.
- ③ COVER PER STANDARD PLATE 4020.
- ④ SCICLONE HYDRODYNAMIC SEPARATOR OR APPROVED EQUAL.
- ⑤ CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1 PAY ITEM CONSISTS OF CONCRETE STRUCTURE AND BASE, FLOW SPLITTER, SKIMMER, OUTLET WEIR, AND ALL REQUIRED HARDWARE FOR A COMPLETE PLACEMENT. PAY ITEM DOES NOT INCLUDE INLET AND OUTLET PIPES.

				DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 12/11/2020	TKDA	DRAINAGE STRUCTURE DESIGN SPECIAL 1		DRAINAGE DETAILS	
				DRW: CEH			STATE PROJ. NO. 002-611-036		SHEET NO. 160 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: MAW						

DATE: 12/11/2020 TIME: 10:30:03 PM
 FILENAME: c:\tkda\proj\tech\wise\hmv\angstad\dms01247\cd00261036_ddc.dgn



GENERAL NOTES:

- PRE-TREATMENT DEVICE MUST BE ABLE TO TRAP SEDIMENTS, CAPTURE AND RETAIN DEBRIS AND FLOATABLES, PREVENT SCOUR AND RESUSPENSION OF SEDIMENTS, AND HAVE NO MOVING PARTS.
- THE TOTAL SUSPENDED SOLIDS (TSS) AVERAGE ANNUAL REMOVAL RATE USING SEDIMENT WITH A MEDIAN PARTICLE SIZE DISTRIBUTION EQUIVALENT TO MNDOT ROAD SAND SHALL BE AT LEAST 80% USING SHAZAM SOFTWARE.

STRUCTURE	CONTRIBUTING DRAINAGE AREA	CONTRIBUTING IMPERVIOUS AREA	10-YEAR FLOW RATE
481	0.97 AC	0.54 AC	3.3 CFS
535	2.01 AC	1.63 AC	8.7 CFS
555	1.99 AC	1.83 AC	9.1 CFS
558	0.37 AC	0.37 AC	2.2 CFS

DRAINAGE STRUCTURE DESIGN SPECIAL 1 (4) (5)
PRE-TREATMENT GRIT CHAMBER

NO SCALE

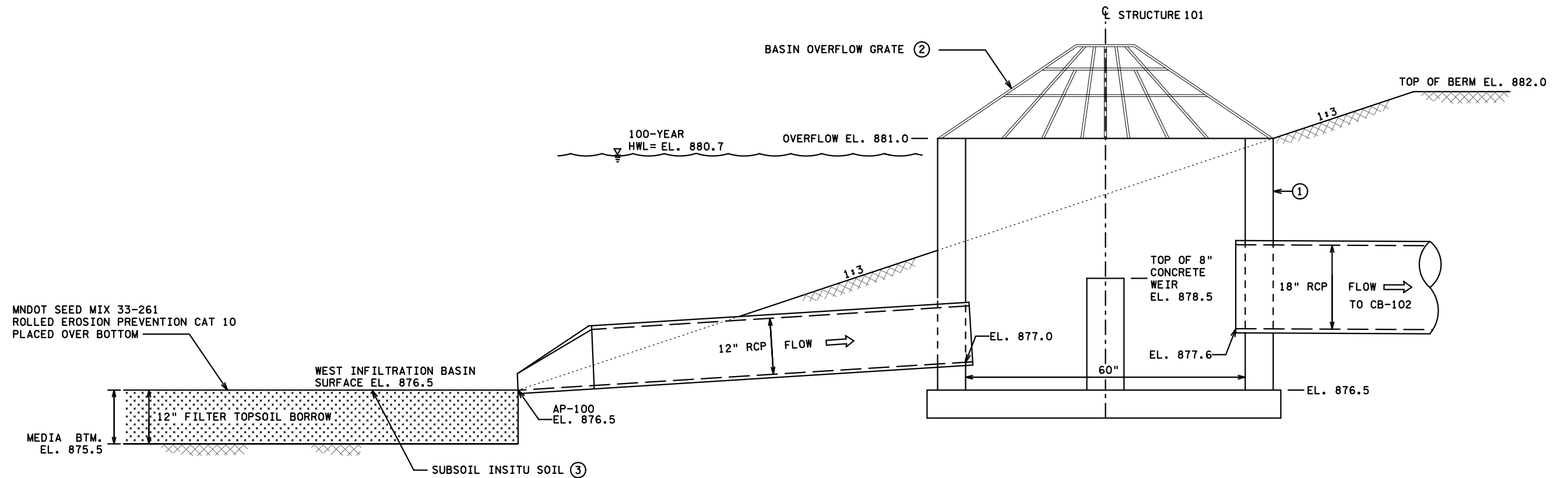
SPECIFIC NOTES:

- ① PRECAST MANHOLE STRUCTURE TYPE 4020 PER STANDARD PLATE 4020.
- ② CONCRETE BASE PER STANDARD PLATE 4011.
- ③ COVER PER STANDARD PLATE 4020.
- ④ SCICLONE HYDRODYNAMIC SEPARATOR OR APPROVED EQUAL.
- ⑤ CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1 PAY ITEM CONSISTS OF CONCRETE STRUCTURE AND BASE, FLOW SPLITTER, SKIMMER, OUTLET WEIR, AND ALL REQUIRED HARDWARE FOR A COMPLETE PLACEMENT. PAY ITEM DOES NOT INCLUDE INLET AND OUTLET PIPES.

			DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 12/11/2020	TKDA	DRAINAGE STRUCTURE DESIGN SPECIAL 1		DRAINAGE DETAILS		
			DRW: CEH			STATE PROJ. NO. 002-611-036		SHEET NO. 161 OF 416 SHEETS		
NO.	DATE	BY	DESCRIPTION OF REVISIONS			CHK: MAW				

SPECIFIC NOTES:

- ① PRECAST MANHOLE STRUCTURE TYPE 4020 PER STANDARD PLATE 4020.
- ② GALVANIZED STEEL CONE GRATE, TOP MOUNT STYLE.
- ③ SUBSOILING REQUIRED PER MNDOT SPEC. 2574 PRIOR TO PLACING FILTER TOPSOIL BORROW.
- ④ CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2. PAY ITEM CONSIST OF CONCRETE STRUCTURE AND BASE, CONE GRATE, AND ALL HARDWARE REQUIRED FOR A COMPLETE PLACEMENT. PAY ITEM DOES NOT INCLUDE INLET AND OUTLET PIPES.



**DRAINAGE STRUCTURE DESIGN SPECIAL 2④
WEST INFILTRATION BASIN OUTLET CONTROL STRUCTURE**

NO SCALE

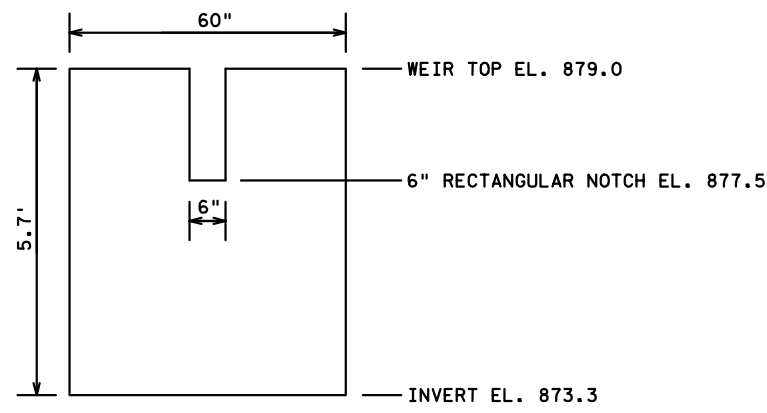
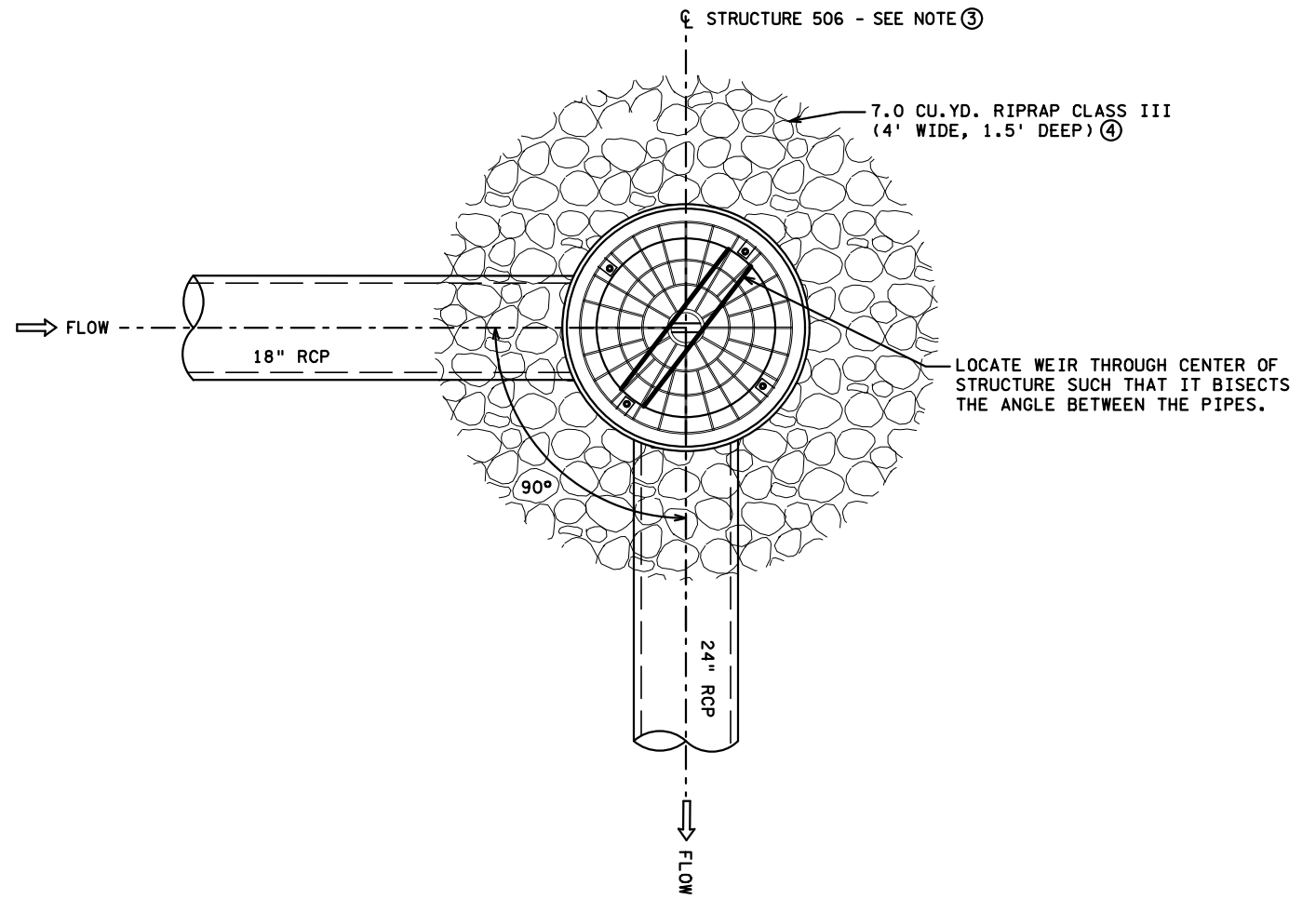
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	DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DRAINAGE STRUCTURE DESIGN SPECIAL 2	DRAINAGE DETAILS
	DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i>	LIC. NO. 26883 DATE: 11/24/2020	STATE PROJ. NO. 002-611-036	
	CHK: MAW	MATTHEW A. WASSMAN		SHEET NO. 162 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS		

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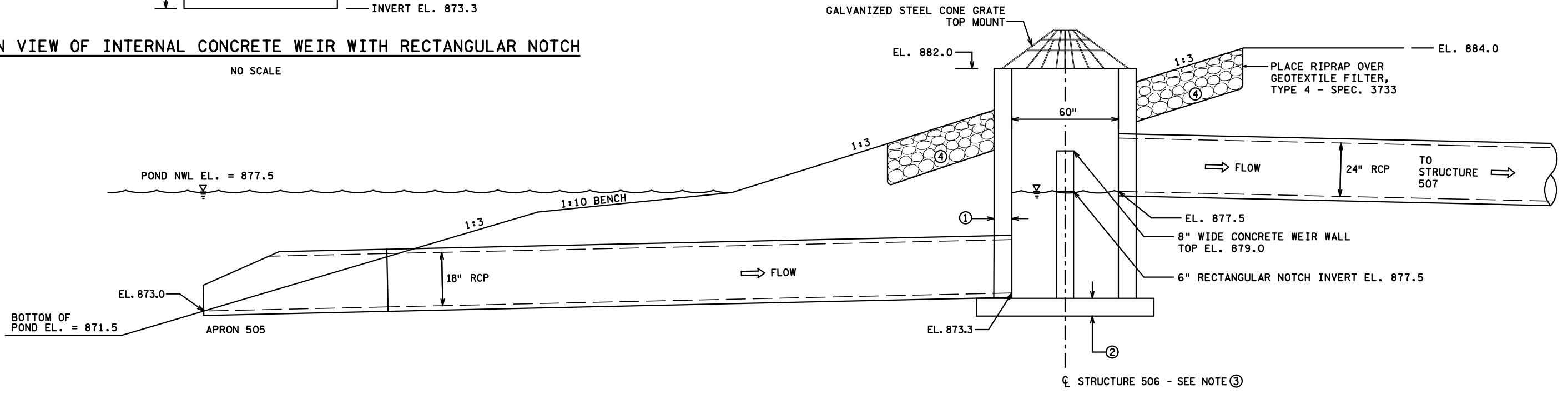
SPECIFIC NOTES:

- ① PRECAST MANHOLE STRUCTURE TYPE 4020 PER STANDARD PLATE 4020.
- ② CONCRETE BASE PER STANDARD PLATE 4011.
- ③ PAID FOR AS CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 3. PAY ITEM CONSISTS OF CONCRETE STRUCTURE AND BASE, GRATE, STEPS, INTERNAL WEIR, AND ALL HARDWARE REQUIRED FOR A COMPLETE PLACEMENT. PAY ITEM DOES NOT INCLUDE INLET AND OUTLET PIPE, APRONS, OR RIPRAP.
- ④ RIPRAP PLACED AROUND THE PERIMETER OF GRATE MUST BE FLUSH WITH FINISHED SOIL GRADE AS SHOWN IN DETAIL.



SECTION VIEW OF INTERNAL CONCRETE WEIR WITH RECTANGULAR NOTCH

NO SCALE



DRAINAGE STRUCTURE DESIGN SPECIAL 3 - EAST WET POND OUTLET CONTROL STRUCTURE ③

NO SCALE

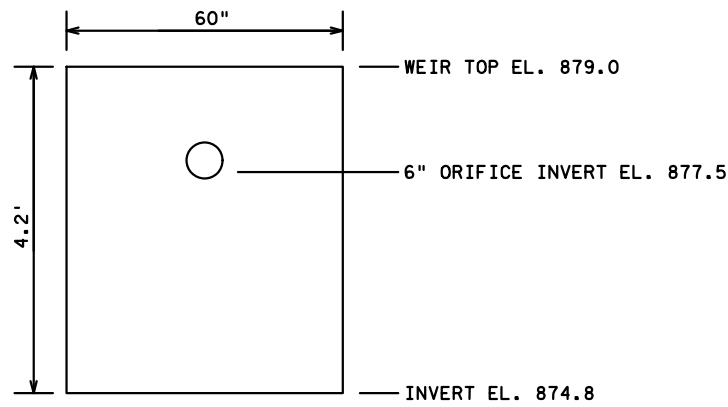
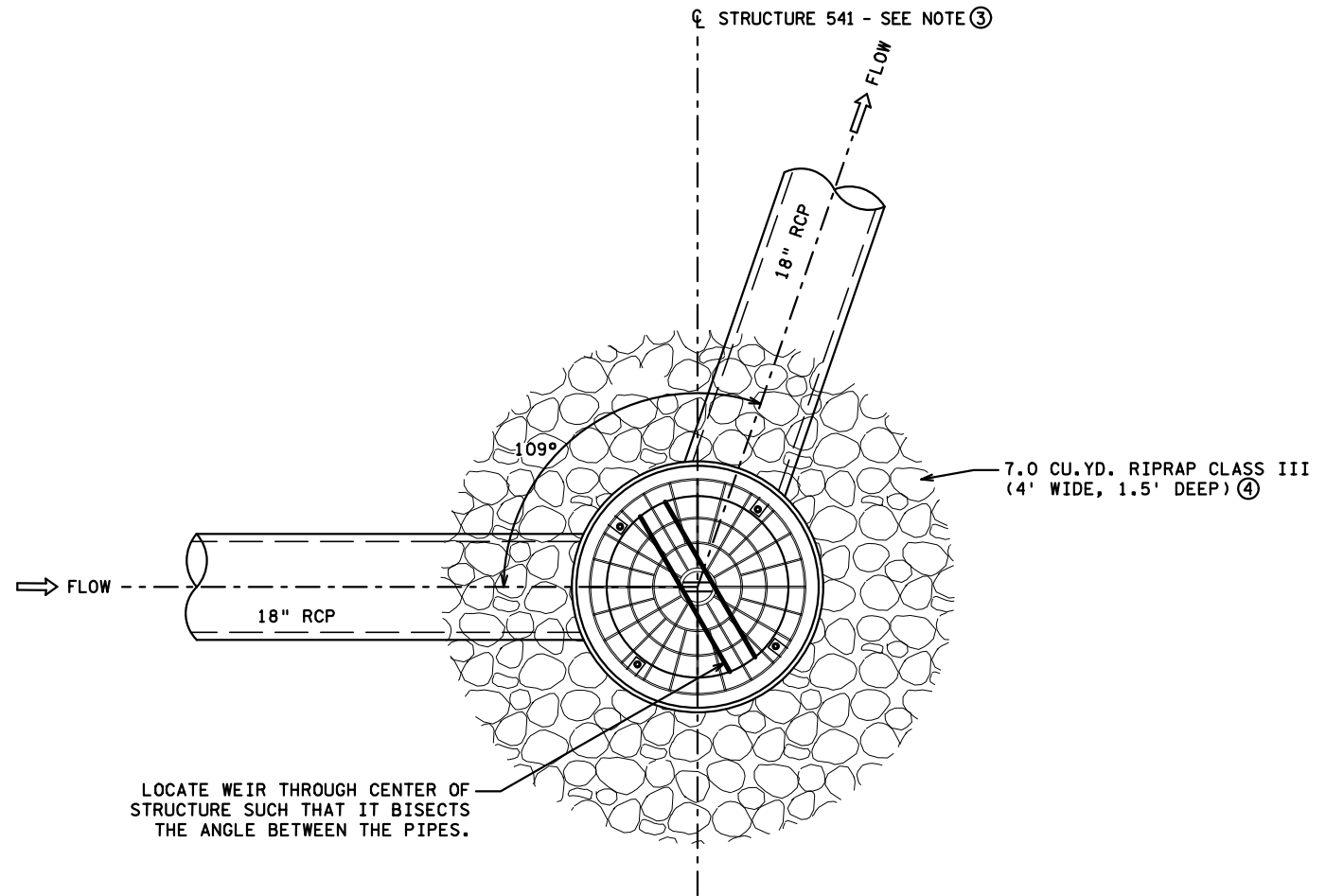
DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020						
CHK: MAW	MATTHEW A. WASSMAN						
NO.	DATE	BY	DESCRIPTION OF REVISIONS				
			DRAINAGE STRUCTURE DESIGN SPECIAL 3				DRAINAGE DETAILS
			STATE PROJ. NO. 002-611-036				SHEET NO. 163 OF 416 SHEETS



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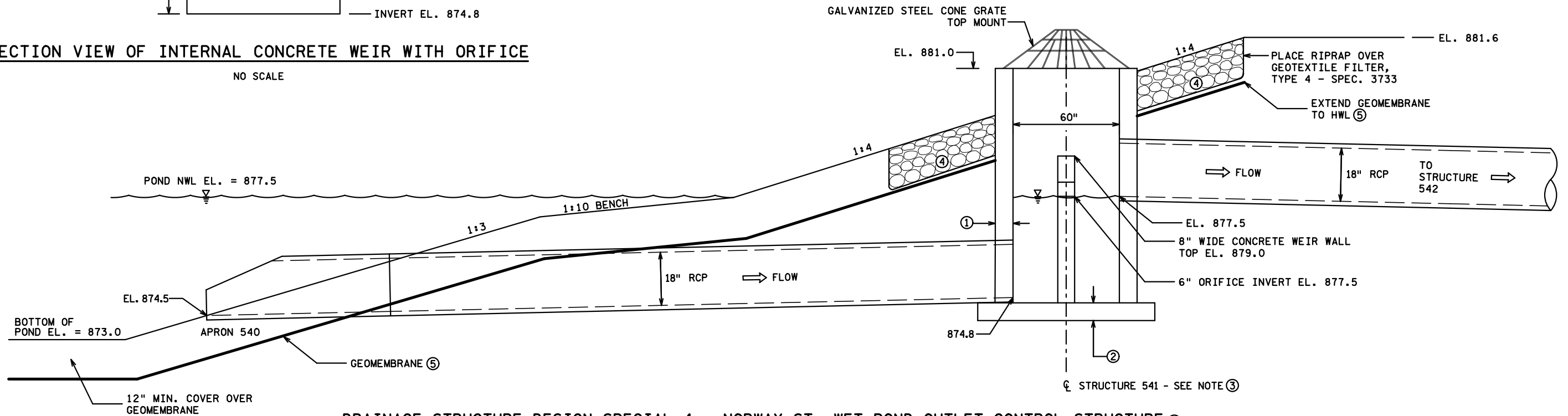
SPECIFIC NOTES:

- ① PRECAST MANHOLE STRUCTURE TYPE 4020 PER STANDARD PLATE 4020.
- ② CONCRETE BASE PER STANDARD PLATE 4011.
- ③ PAID FOR AS CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 4. PAY ITEM CONSISTS OF CONCRETE STRUCTURE AND BASE, GRATE, STEPS, INTERNAL WEIR, AND ALL HARDWARE REQUIRED FOR A COMPLETE PLACEMENT. PAY ITEM DOES NOT INCLUDE INLET AND OUTLET PIPE, APRONS, OR RIPRAP.
- ④ RIPRAP PLACED AROUND THE PERIMETER OF GRATE MUST BE FLUSH WITH FINISHED SOIL GRADE AS SHOWN IN DETAIL.
- ⑤ SEE SHEET 165 FOR GEOMEMBRANE PENETRATION AND ANCHOR TRENCH DETAILS.



SECTION VIEW OF INTERNAL CONCRETE WEIR WITH ORIFICE

NO SCALE



DRAINAGE STRUCTURE DESIGN SPECIAL 4 - NORWAY ST. WET POND OUTLET CONTROL STRUCTURE ③

NO SCALE

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: CEH	
CHK: MAW	
SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020	
MATTHEW A. WASSMAN	

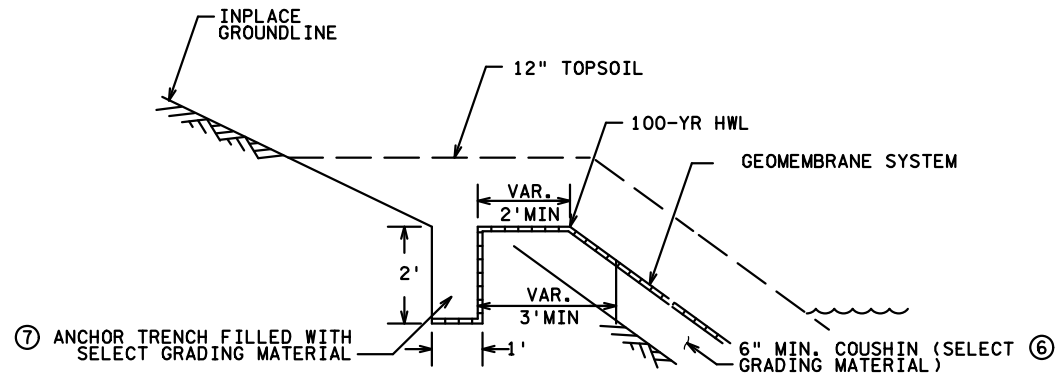


DRAINAGE STRUCTURE DESIGN SPECIAL 4
STATE PROJ. NO. 002-611-036

DRAINAGE DETAILS
SHEET NO. 164 OF 416 SHEETS

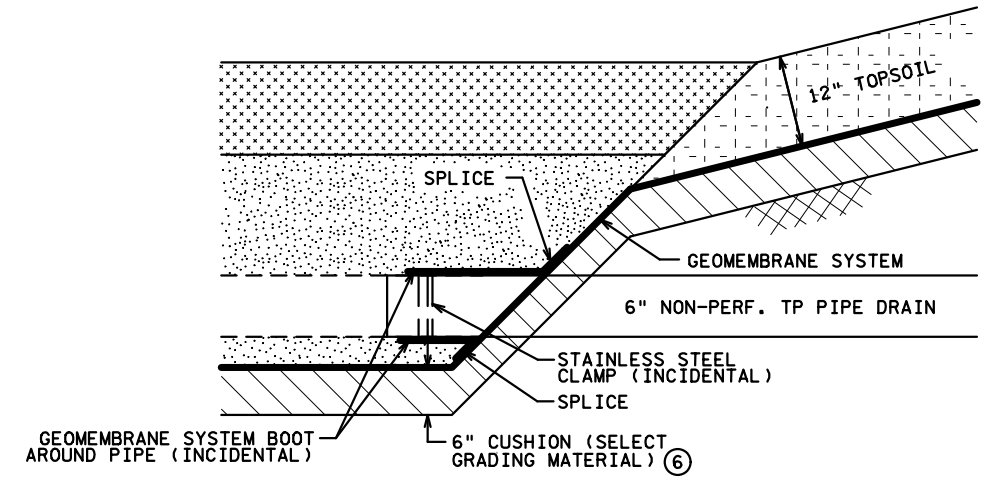
SPECIFIC NOTES:

- ① PRECAST MANHOLE STRUCTURE TYPE 4020 PER STANDARD PLATE 4020.
- ② GALVANIZED STEEL CONE GRATE, TOP MOUNT STYLE.
- ③ 6" PERF TP PIPE DRAIN NON-WRAPPED SHALL TRANSITION TO NON-PERF TP PIPE PRIOR TO PENETRATING LINER.
- ④ CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 5. PAY ITEM CONSIST OF CONCRETE STRUCTURE AND BASE, CONE GRATE, AND ALL HARDWARE REQUIRED FOR A COMPLETE PLACEMENT. PAY ITEM DOES NOT INCLUDE INLET AND OUTLET PIPES.
- ⑤ PIPE DRAIN CONNECTION TO DRAINAGE STRUCTURE IS INCIDENTAL.
- ⑥ SELECT GRADING MATERIAL MUST BE FREE OF ROOTS, ROCKS, ETC. THAT MAY PUNCTURE GEOMEMBRANE.



ANCHOR TRENCH DETAIL

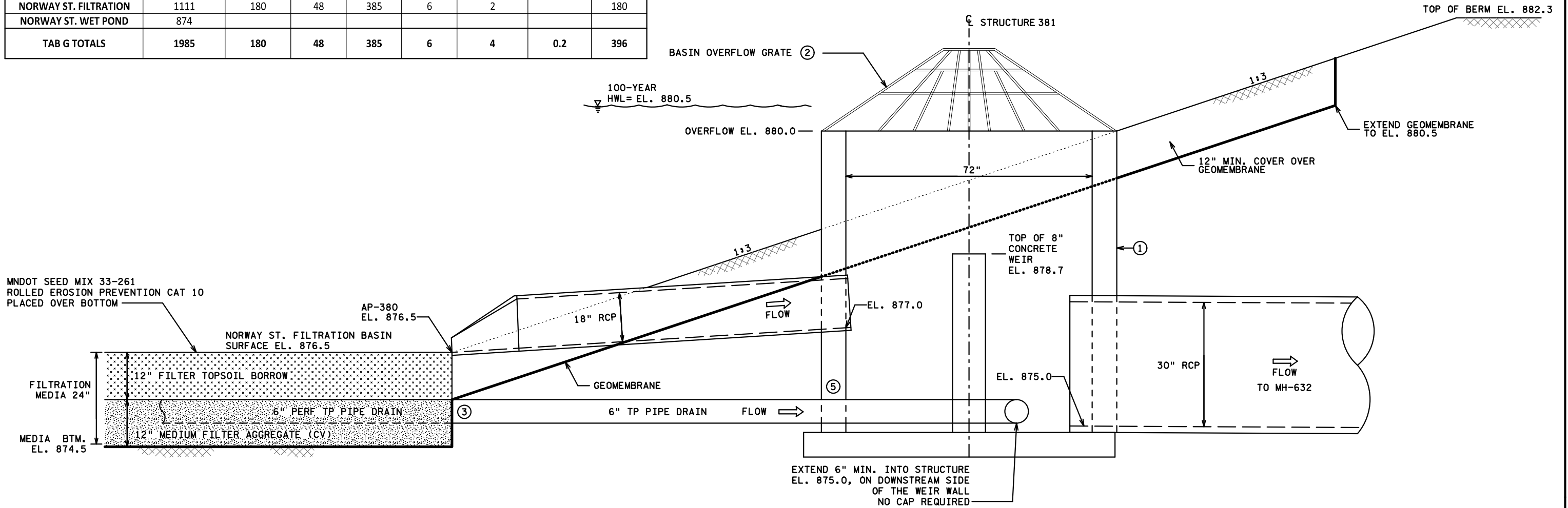
NO SCALE



GEOMEMBRANE PENETRATION DETAIL

NO SCALE

WATER QUALITY BASINS								TAB G
BASIN NAME	GEOMEMBRANE SYSTEM	MEDIUM FILTER AGGREGATE (CV)	6" TP PIPE DRAIN	6" PERF TP PIPE DRAIN	8" TP PIPE DRAIN CLEANOUT	INFILTRATION AREA MARKER X3-6A	SUBSOILING	FILTER TOPSOIL BORROW
	SQ YD	CU YD	LIN FT	LIN FT	EACH	EACH	ACRE	CU YD
WEST INFILTRATION						2	0.2	216
NORWAY ST. FILTRATION	1111	180	48	385	6	2		180
NORWAY ST. WET POND	874							
TAB G TOTALS	1985	180	48	385	6	4	0.2	396



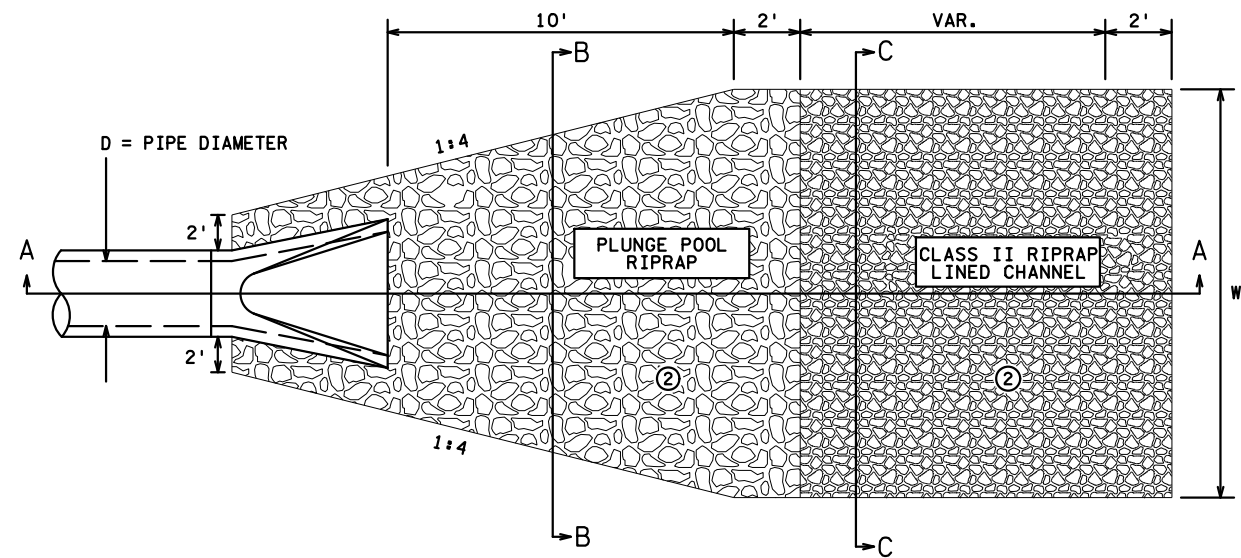
DRAINAGE STRUCTURE DESIGN SPECIAL 5④
NORWAY ST. FILTRATION BASIN OUTLET CONTROL STRUCTURE

NO SCALE

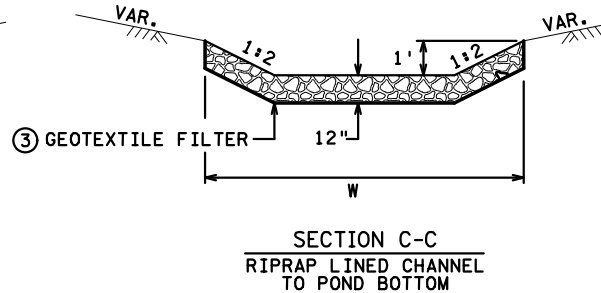
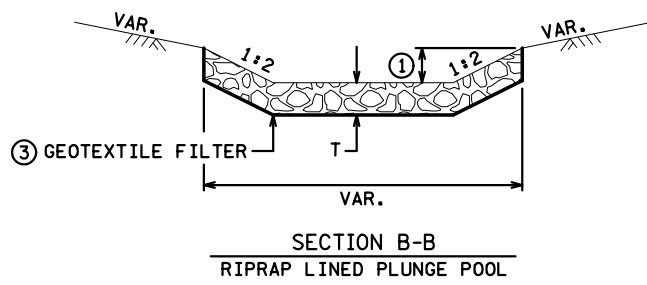
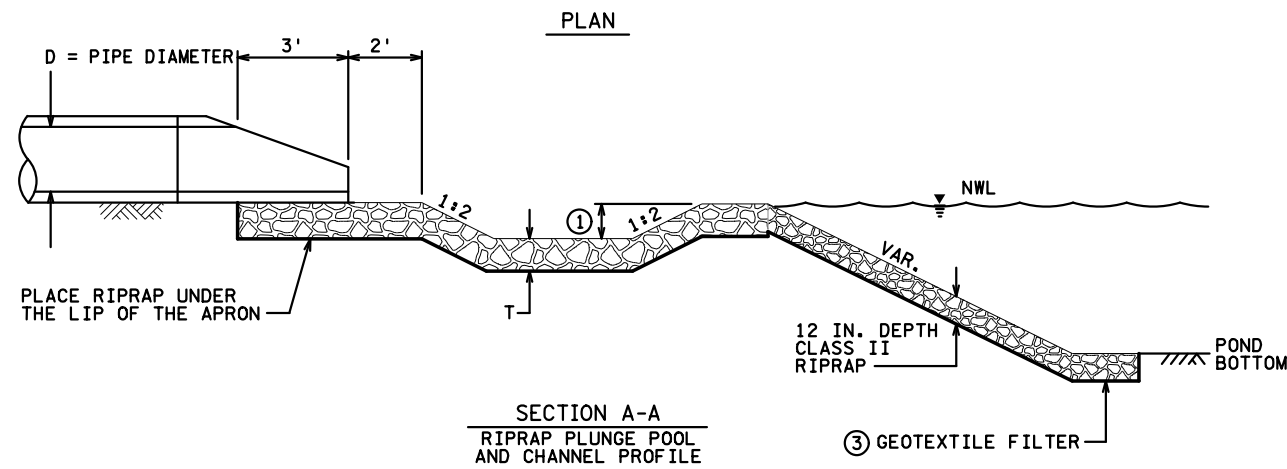
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DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	TKDA	DRAINAGE STRUCTURE DESIGN SPECIAL 5	DRAINAGE DETAILS
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020			
CHK: MAW			STATE PROJ. NO. 002-611-036	SHEET NO. 165 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	

DATE: 11/24/2020 TIME: 10:44:34 PM
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APRON NUMBER	PIPE DIAM. (D)	RIPRAP APRON WIDTH (W)	RIPRAP THICKNESS (T)	PLUNGE POOL RIPRAP CLASS
	IN	FT	FT	
EAST WET POND				
511	30	15.2	1.5	III
NORWAY ST. WET POND				
538	15	13.7	1	II



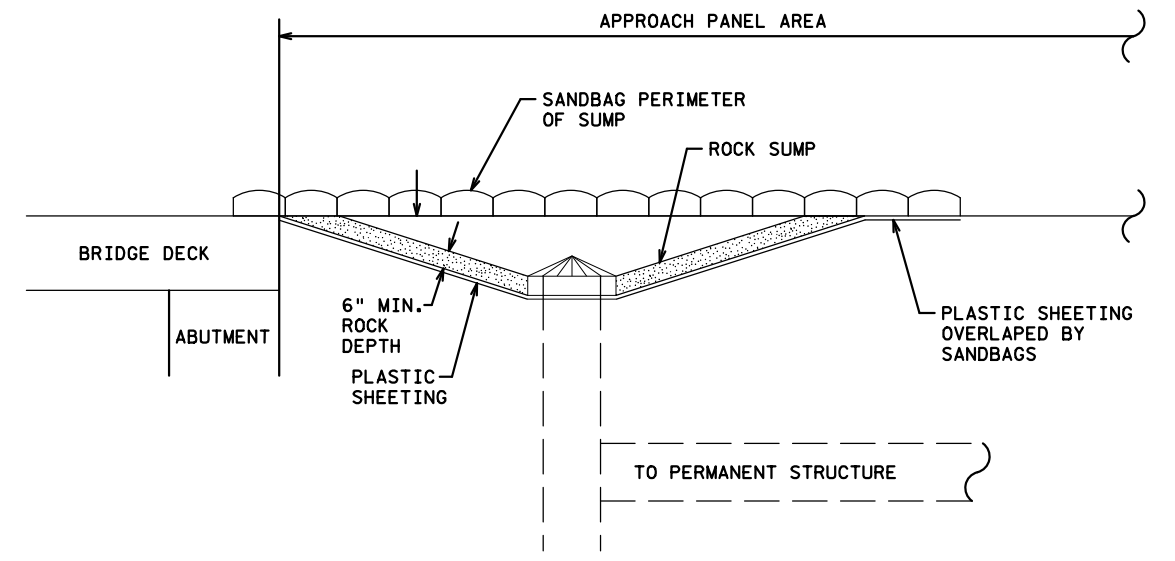
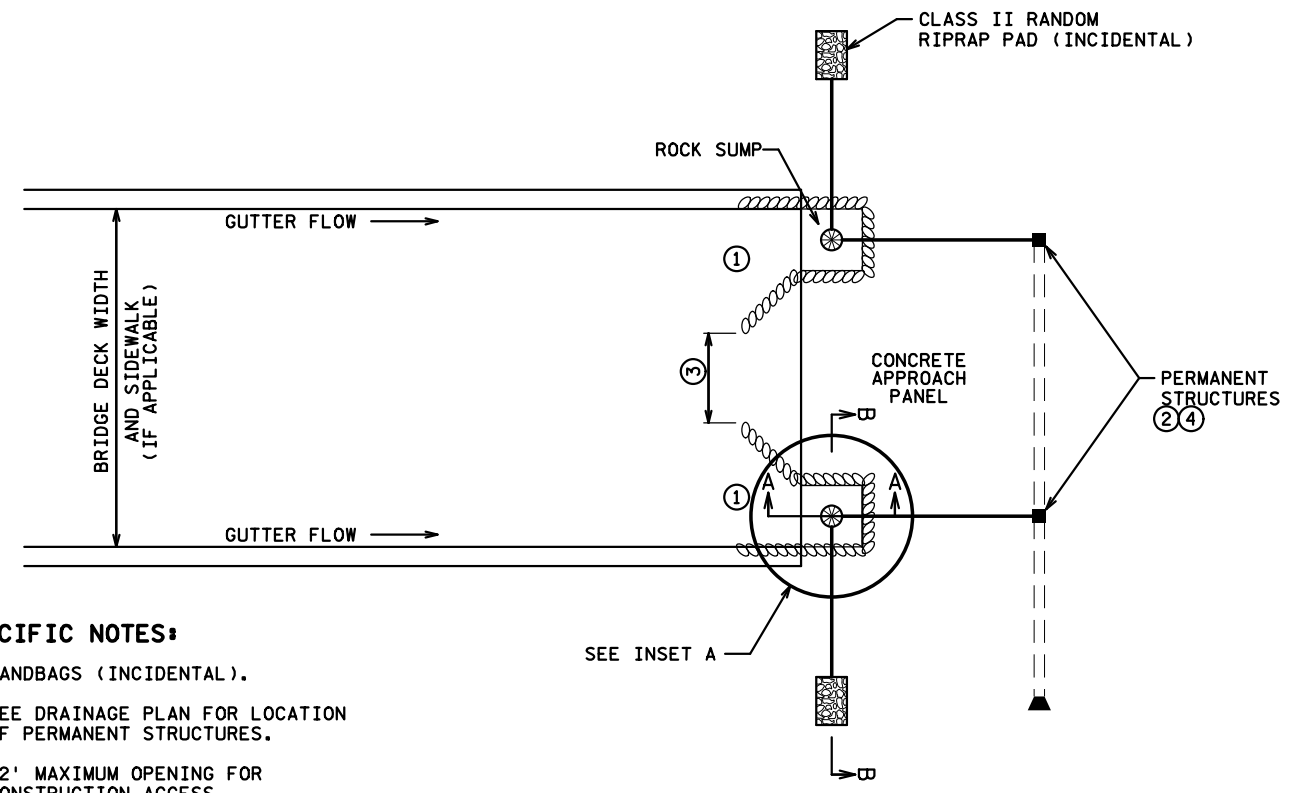
SPECIFIC NOTES:

- ① FOR PIPES LESS THAN 30", USE 1.0' FOR PLUNGE POOL DEPTH.
- ② FOR RIPRAP QUANTITIES, SEE DRAINAGE TABULATION.
- ③ GEOTEXTILE FILTER TYPE 4 (SPEC. 3733) SHOULD COVER THE AREA OF THE RIPRAP AND EXTEND UNDER THE CULVERT APRON 3 FT. SEE DRAINAGE TABULATION FOR QUANTITIES.

RIPRAP AT APRON OUTLET TO POND
 NOT TO SCALE

				DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020 MATTHEW A. WASSMAN		RIPRAP AT APRON OUTLET TO POND	DRAINAGE DETAILS
				DRW: CEH			STATE PROJ. NO. 002-611-036	SHEET NO. 166 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: MAW				

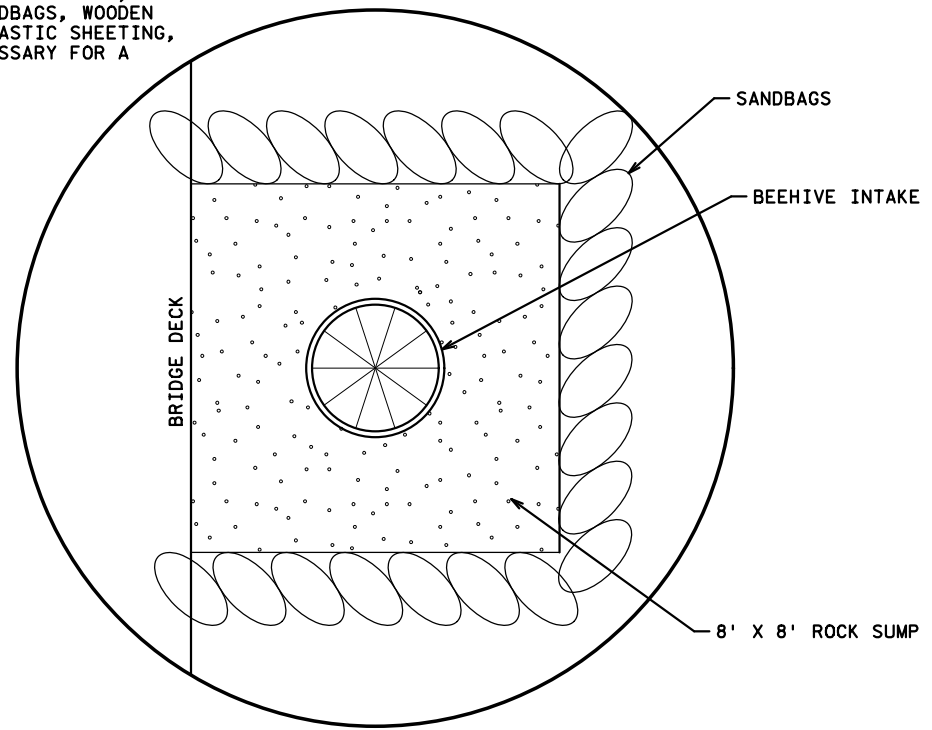
DATE: 11/24/2020 TIME: 10:45:12 PM
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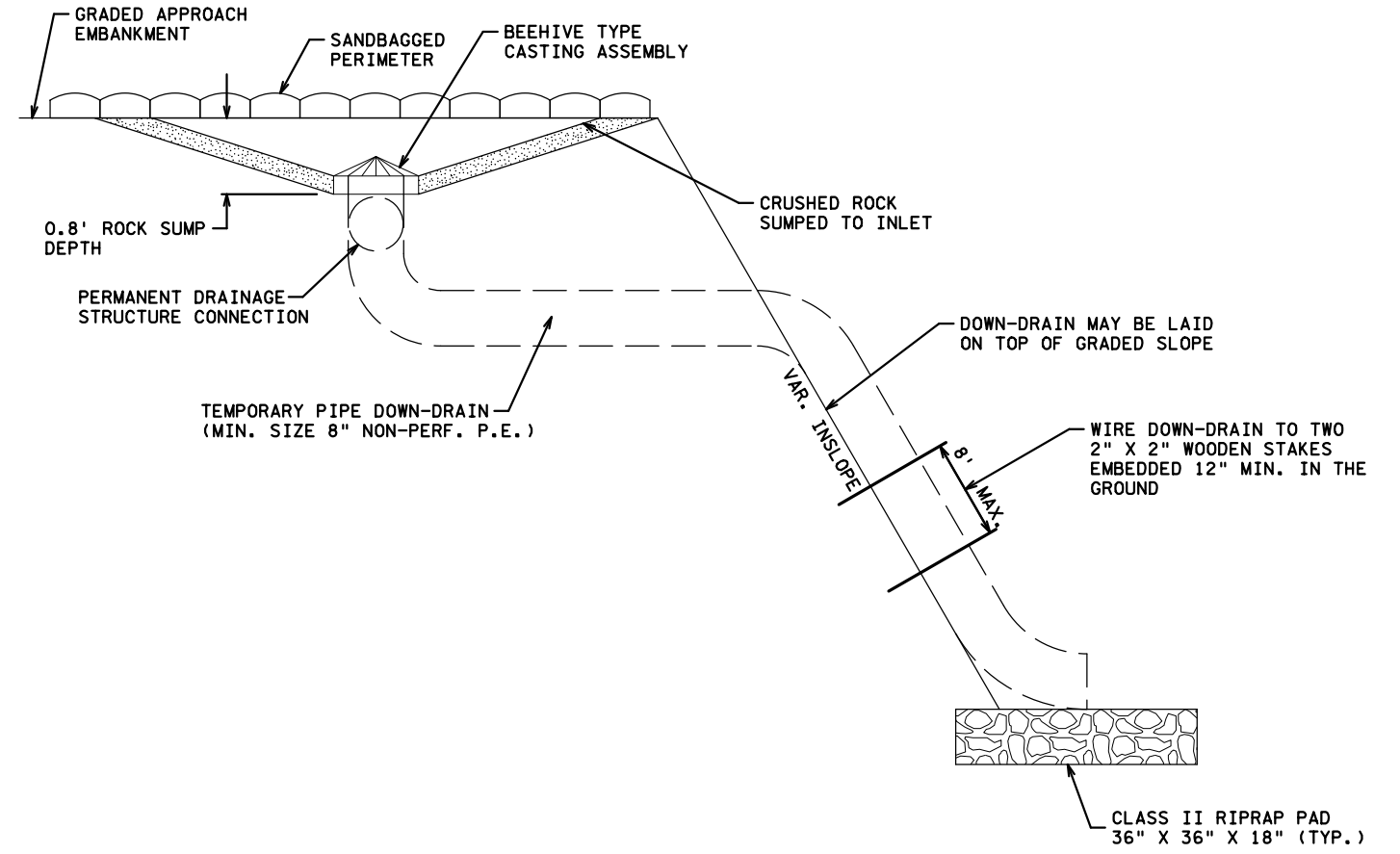
- SPECIFIC NOTES:**
- ① SANDBAGS (INCIDENTAL).
 - ② SEE DRAINAGE PLAN FOR LOCATION OF PERMANENT STRUCTURES.
 - ③ 12' MAXIMUM OPENING FOR CONSTRUCTION ACCESS.
 - ④ 4 OPENINGS IN PERMANENT DRAINAGE STRUCTURES THAT RECEIVE TEMPORARY DOWN-DRAINS SHALL BE GROUTED SHUT AT TIME OF TEMPORARY DOWN-DRAIN REMOVAL (INCIDENTAL).

DECK DRAINAGE PLAN VIEW

- GENERAL NOTES:**
- I. PAID FOR AS TEMPORARY SLOPE DRAIN. PAY ITEM INCLUDES CASTING ASSEMBLY, PIPE, RANDOM RIPRAP, SANDBAGS, WOODEN STAKES, CRUSHED ROCK, PLASTIC SHEETING, AND ALL OTHER ITEMS NECESSARY FOR A COMPLETE PLACEMENT.
 - II. TEMPORARY SLOPE DRAIN ALTERNATIVES ALLOWED WITH ENGINEER APPROVAL.



INSET A



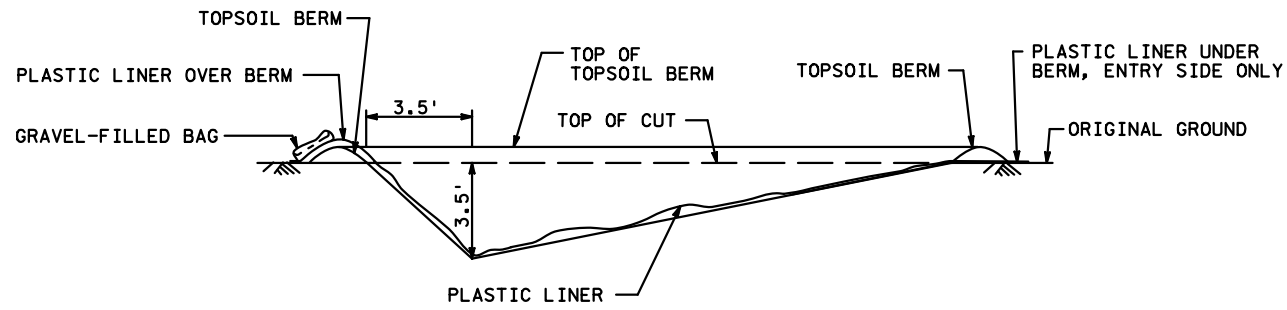
SECTION B - B

DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020
CHK: MAW	MATTHEW A. WASSMAN

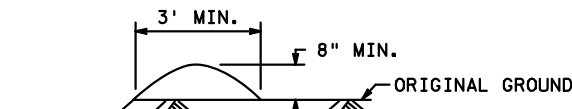


TEMPORARY SLOPE DRAIN	DRAINAGE DETAILS
STATE PROJ. NO. 002-611-036	SHEET NO. 167 OF 416 SHEETS

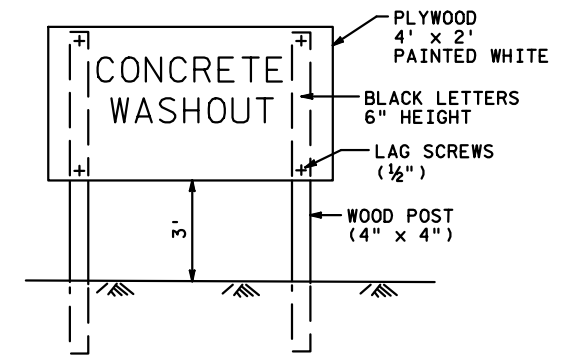
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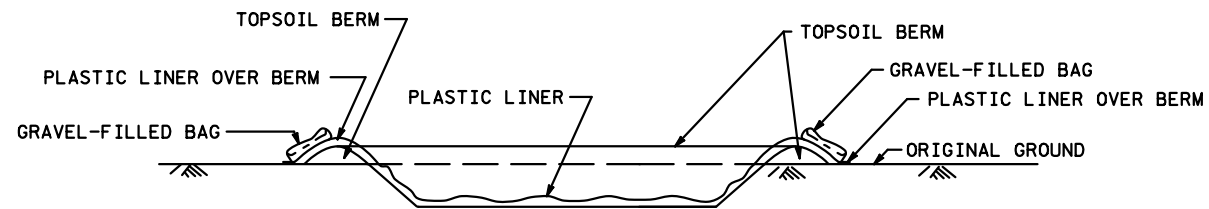
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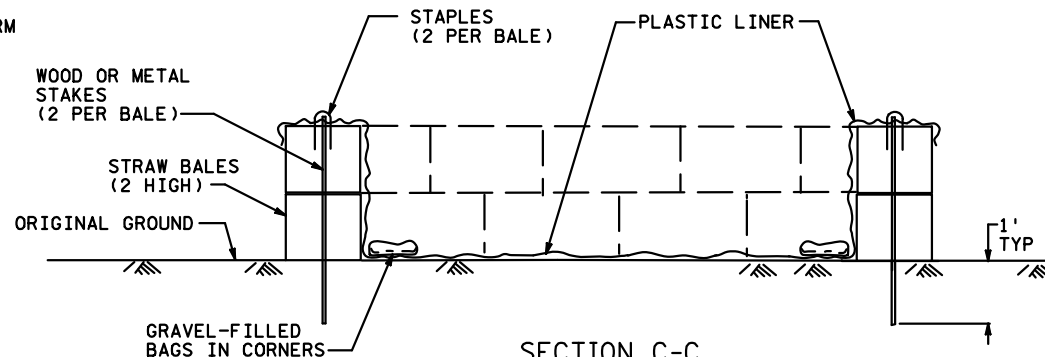
TOPSOIL BERM TYPICAL SECTION



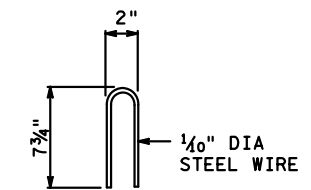
SIGN DETAIL



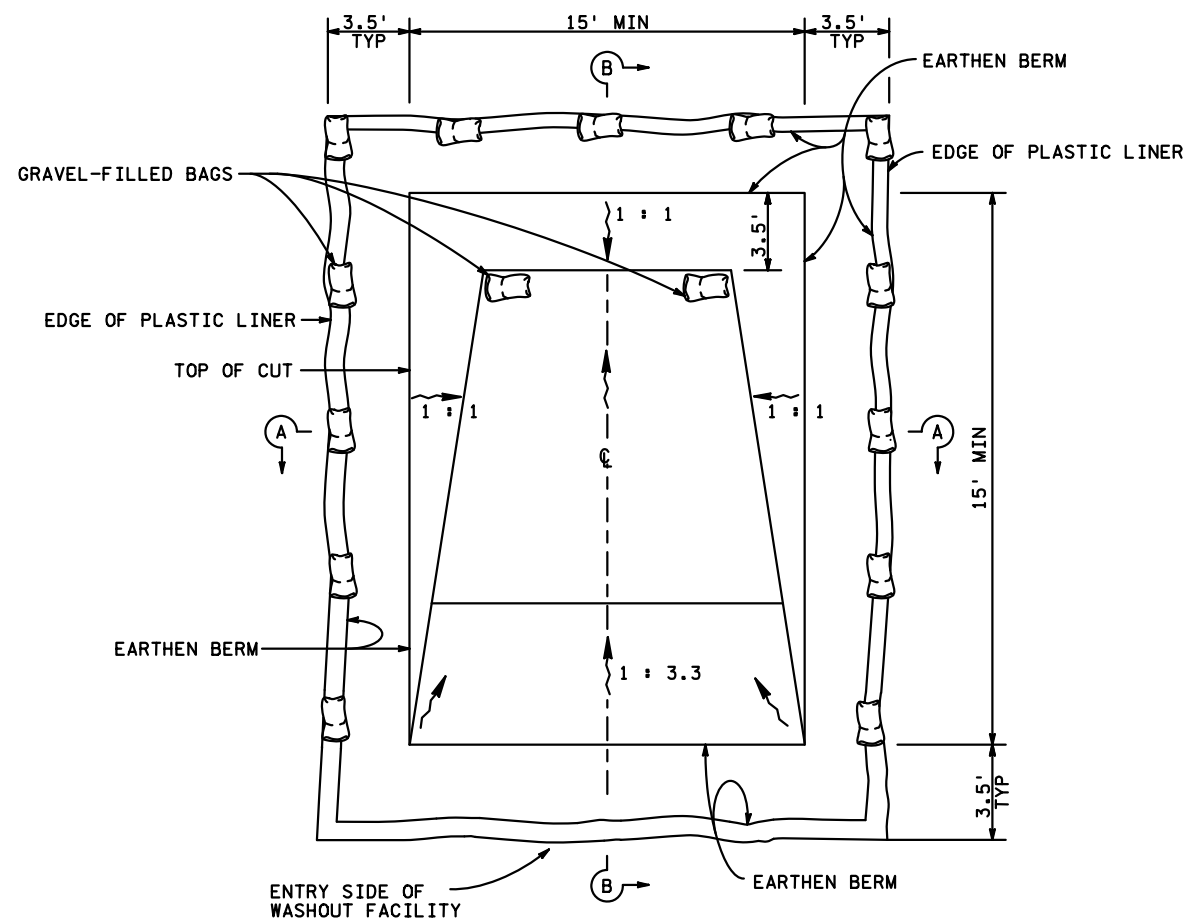
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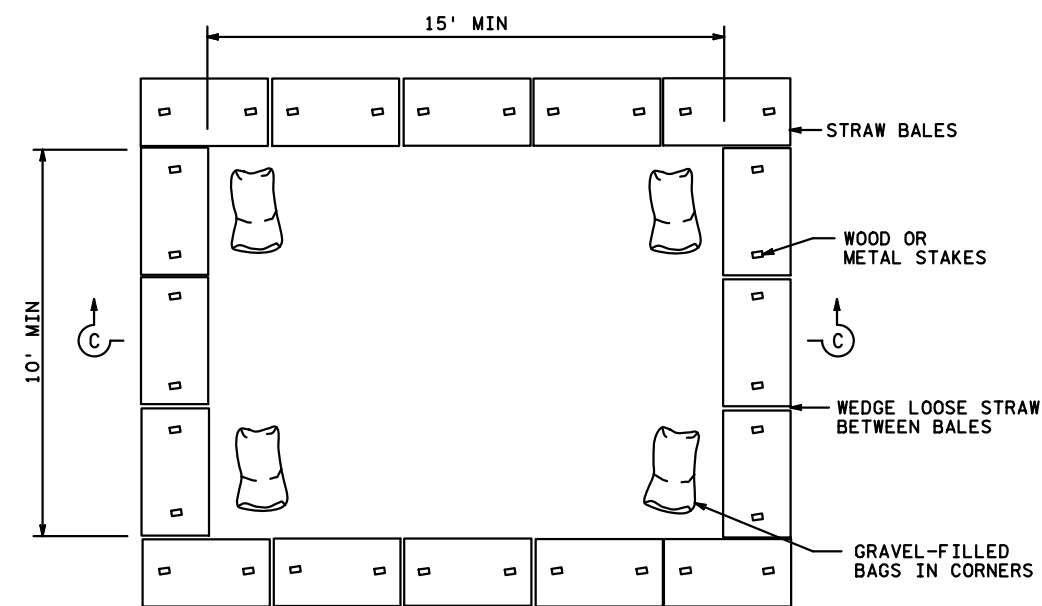
SECTION C-C



STAPLE DETAIL



PLAN
TEMPORARY CONCRETE WASHOUT
(BELOW GRADE)



PLAN
TEMPORARY CONCRETE WASHOUT
(ON GRADE)

GENERAL NOTES:

- I. THE CONCRETE WASHOUT SIGN SHALL BE PLACED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
- II. PLASTIC LINER ANCHORED WITH GRAVEL-FILLED BAGS IS OPTIONAL FOR BELOW GRADE CONCRETE WASHOUT INSTALLATIONS.
- III. OTHER METHODS WILL BE ALLOWED IF APPROVED BY THE ENGINEER.

CONCRETE WASHOUT IS INCIDENTAL

NO.	DATE	BY	DESCRIPTION OF REVISIONS

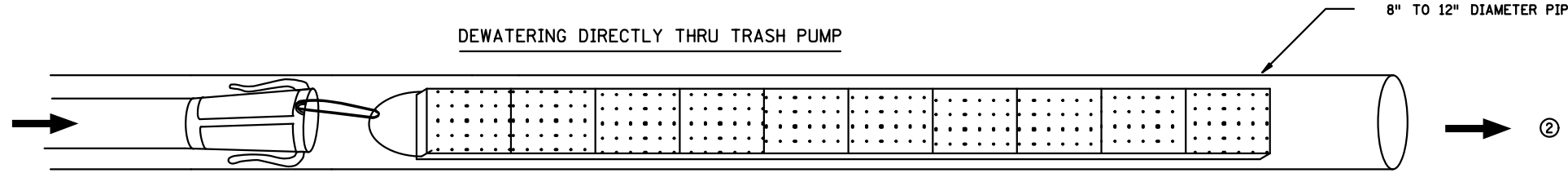
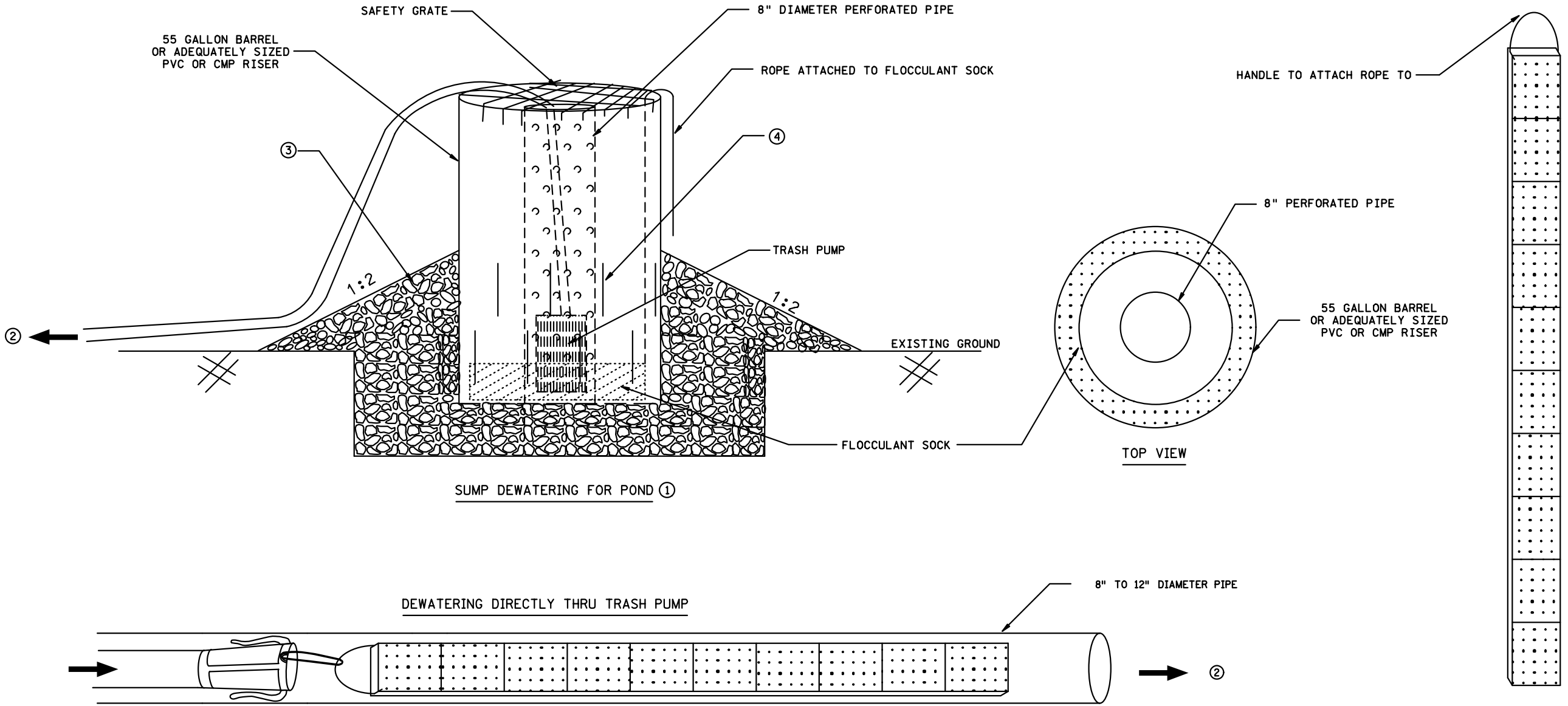
DES: MAW
 DRW: CEH
 CHK: MAW
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



TEMPORARY CONCRETE WASHOUT
 STATE PROJ. NO. 002-611-036

DRAINAGE DETAILS
 SHEET NO. 168 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:46:10 PM
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FLOW FROM TRASH PUMP
DISCHARGE HOSE

SECURE FLOCCULANT SOCK TO
COUPLER CONNECT ON HOSE

SPECIFIC NOTES:

- ① DEWATERING DEVICE SHOULD BE PLACED AT THE LOW POINT OF THE AREA TO DRAIN.
- ② MUST DISCHARGE WATER TO AN APPROPRIATE LOCATION SUCH AS A SMALL SETTLING BASIN. DO NOT DISCHARGE TO AN EXISTING SURFACE WATER. MUST USE APPROPRIATE ENERGY DISSIPATION TO PREVENT SOIL SCOUR OR TRANSPORT.
- ③ 1" - 2" DIAMETER CLEAN ROCK. ROCK IS TO BE PLACED 2" ABOVE HIGHEST SILT BARREL.
- ④ 0.25" TO 0.5" X 12" SLITS CUT INTO LOWER HALF OF BARREL.

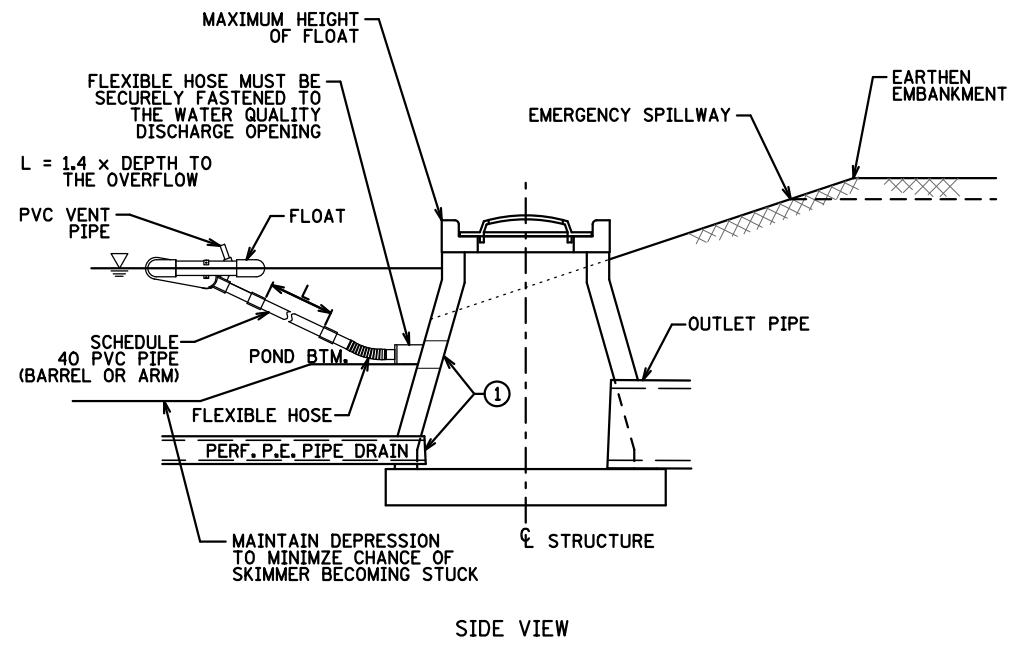
GENERAL NOTES:

- I. OTHER METHODS WILL BE ALLOWED IF APPROVED BY THE ENGINEER.

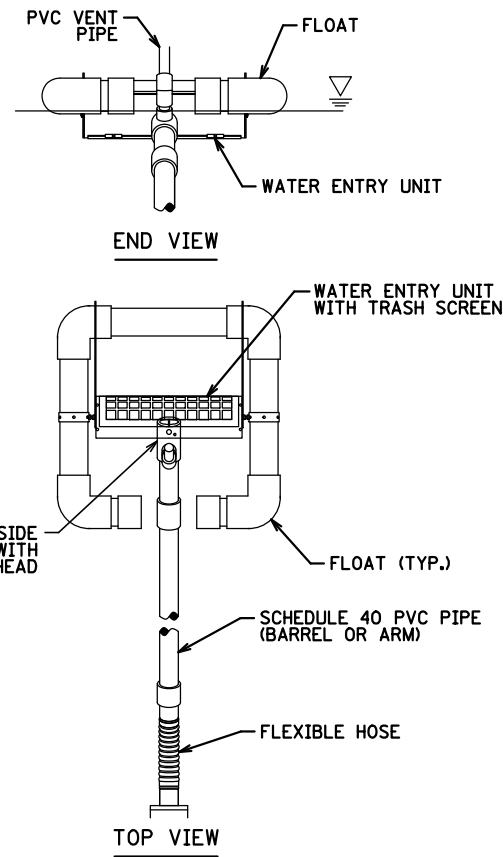
TYPICAL FLOCCULANT SOCK

DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.							
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020							
CHK: MAW	MATTHEW A. WASSMAN							
					DEWATERING		DRAINAGE DETAILS	
					STATE PROJ. NO. 002-611-036		SHEET NO. 169 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

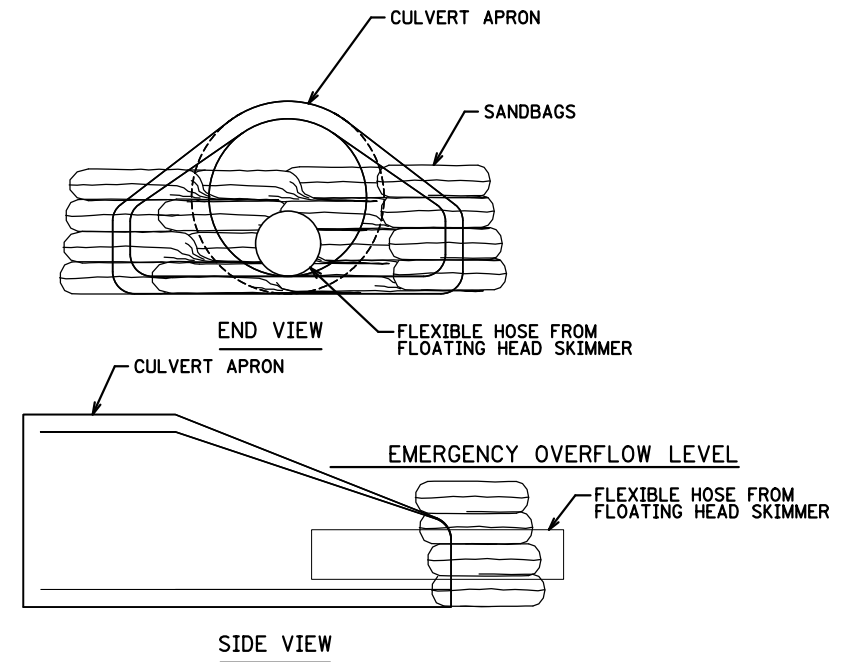
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SKIMMER CONNECTION TO STRUCTURE



**WATER TREATMENT TYPE SKIMMER
(FLOATING HEAD SKIMMER)**



SKIMMER CONNECTION TO APRON

SKIMMER INLET DIAMETER	MAX. CAPACITY	
	CFS	AC-FT/DAY
2 INCHES	0.04	0.08
2.5	0.06	0.13
3	0.10	0.20
4	0.21	0.42
5	0.38	0.75
6	0.60	1.18

GENERAL NOTES:

- I. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE PONDS DRAIN IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
- II. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.

SPECIFIC NOTES:

- ① CORE HOLE IN OUTLET CONTROL STRUCTURE TO RECEIVE SKIMMER DISCHARGE PIPE (INCIDENTAL). THE CONTRACTOR MAY USE SAME HOLE FOR PIPE DRAIN.

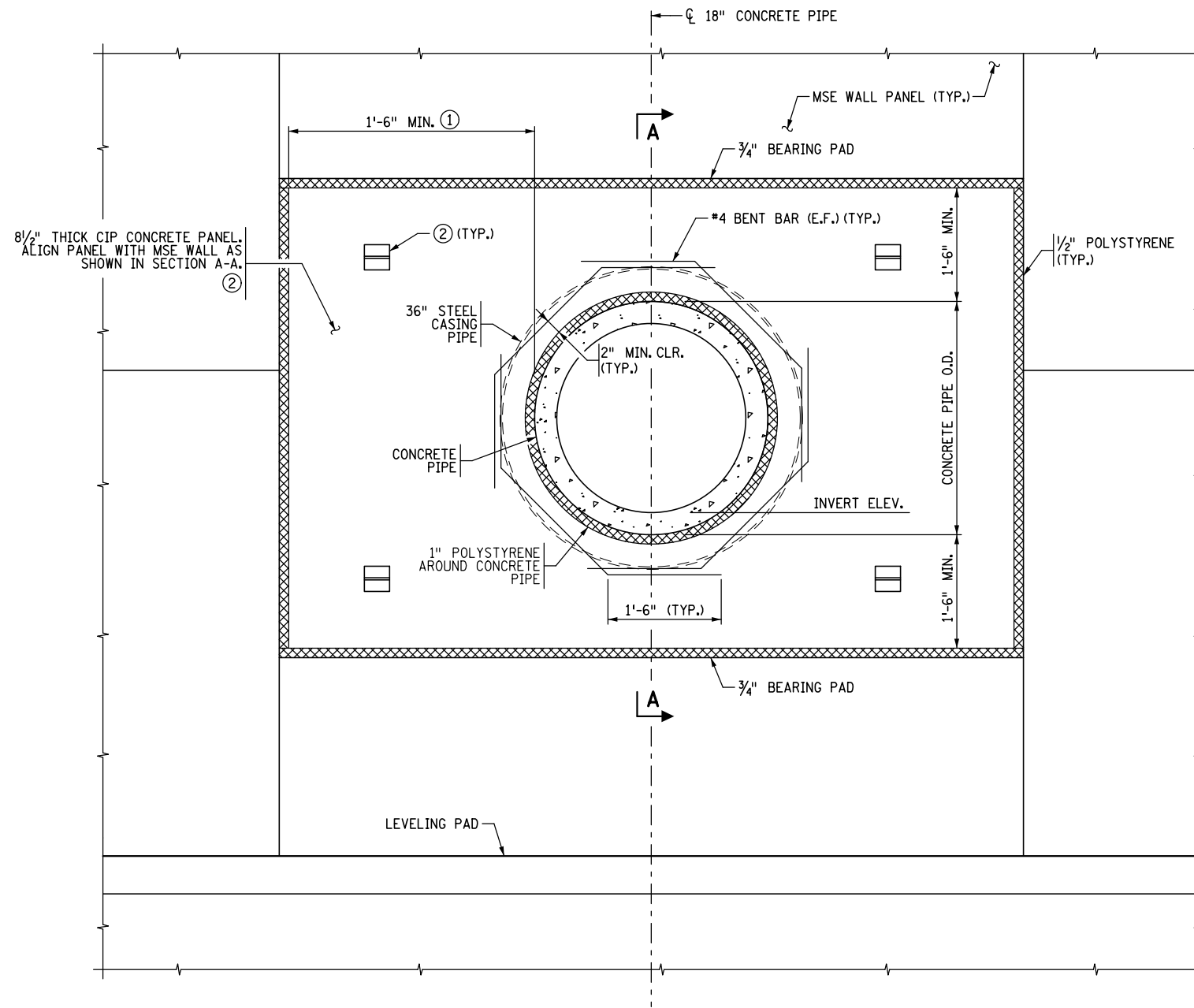
DES: MAW	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: CEH			
CHK: MAW			
SIGNATURE: <i>Matthew A. Wassman</i>	LIC. NO. 26883 DATE: 11/24/2020		
NO.	DATE	BY	DESCRIPTION OF REVISIONS



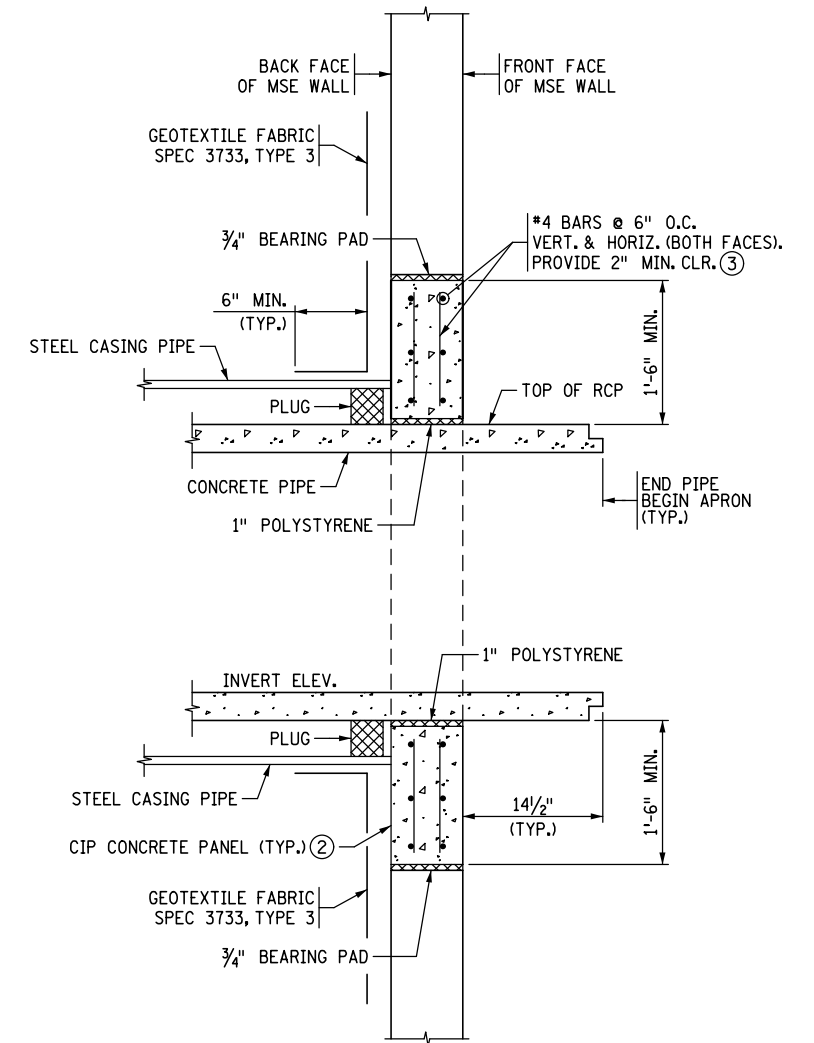
WATER TREATMENT TYPE SKIMMER
STATE PROJ. NO. 002-611-036

DRAINAGE DETAILS
SHEET NO. 170 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:47:06 PM
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TYPICAL MSE WALL PIPE PENETRATION ELEVATION VIEW



SECTION A-A

CONSTRUCTION NOTES:

ASHLAR STONE ARCHITECTURAL CONCRETE TEXTURE NEED NOT BE INCORPORATED INTO CIP WALL PANEL. CIP PANEL TO RECEIVE ARCHITECTURAL SURFACE FINISH (SINGLE COLOR). SEE SPECIAL PROVISIONS.

CIP WALL PANEL CONCRETE SHALL BE AIR-ENTRAINED, HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI, AND BE APPROVED BY THE ENGINEER.

NOTES:

- ① WALL SUPPLIER TO DETERMINE REQUIRED ACTUAL DIMENSION.
- ② PROVIDE ANCHORAGES IN THE BACK FACE OF THE CAST-IN-PLACE WALL PANEL TO ACCOMMODATE REQUIRED MSE WALL SOIL REINFORCEMENT SPACING. PROVIDE ANCHORAGES PER TIE STRIP CONNECTION DETAIL AND PER MSE WALL SUPPLIER RECOMMENDATIONS. SEE MSE WALL DRAWINGS FOR QUANTITY AND SPACING WITHIN CAST-IN-PLACE WALL PANEL.
- ③ ADJUST REINFORCEMENT AS NECESSARY TO PROVIDE 2" MIN. CLEAR TO TIE STRIPS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: HAP
 DRW: HAP
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



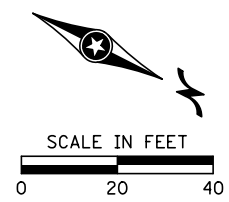
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LEGEND

- | | | | |
|-------|--|-----|---|
| (XXX) | STRUCTURE NUMBER | --- | EXISTING R/W |
| ■/●/▲ | PROPOSED CATCH BASIN/
MANHOLE/APRON | --- | PROPOSED R/W |
| —> | PROPOSED STORM SEWER | --- | TEMPORARY EASEMENT |
| OM/□ | INPLACE MANHOLE /
CATCH BASIN | --- | CONSTRUCTION LIMITS |
| —> | INPLACE STORM SEWER | ⊕ | AREA OF ENVIRONMENTAL
SENSITIVITY (WETLAND) |
| | | (R) | RANDOM RIPRAP PLACED
PER STANDARD PLATE 3133 |

GENERAL NOTES:

- I. CONTOUR INTERVAL = 1.0'
- II. CONTOURS SHOWN ARE TO FINISHED GROUND.
- III. POND HWL IS THE 100-YR HIGH WATER LEVEL.
POND SHW IS THE SEASONAL HIGH GROUNDWATER LEVEL.
- IV. SEDIMENT ACCUMULATED IN PONDS DURING CONSTRUCTION
MUST BE REMOVED TO RESTORE PLAN BOTTOM ELEVATION.

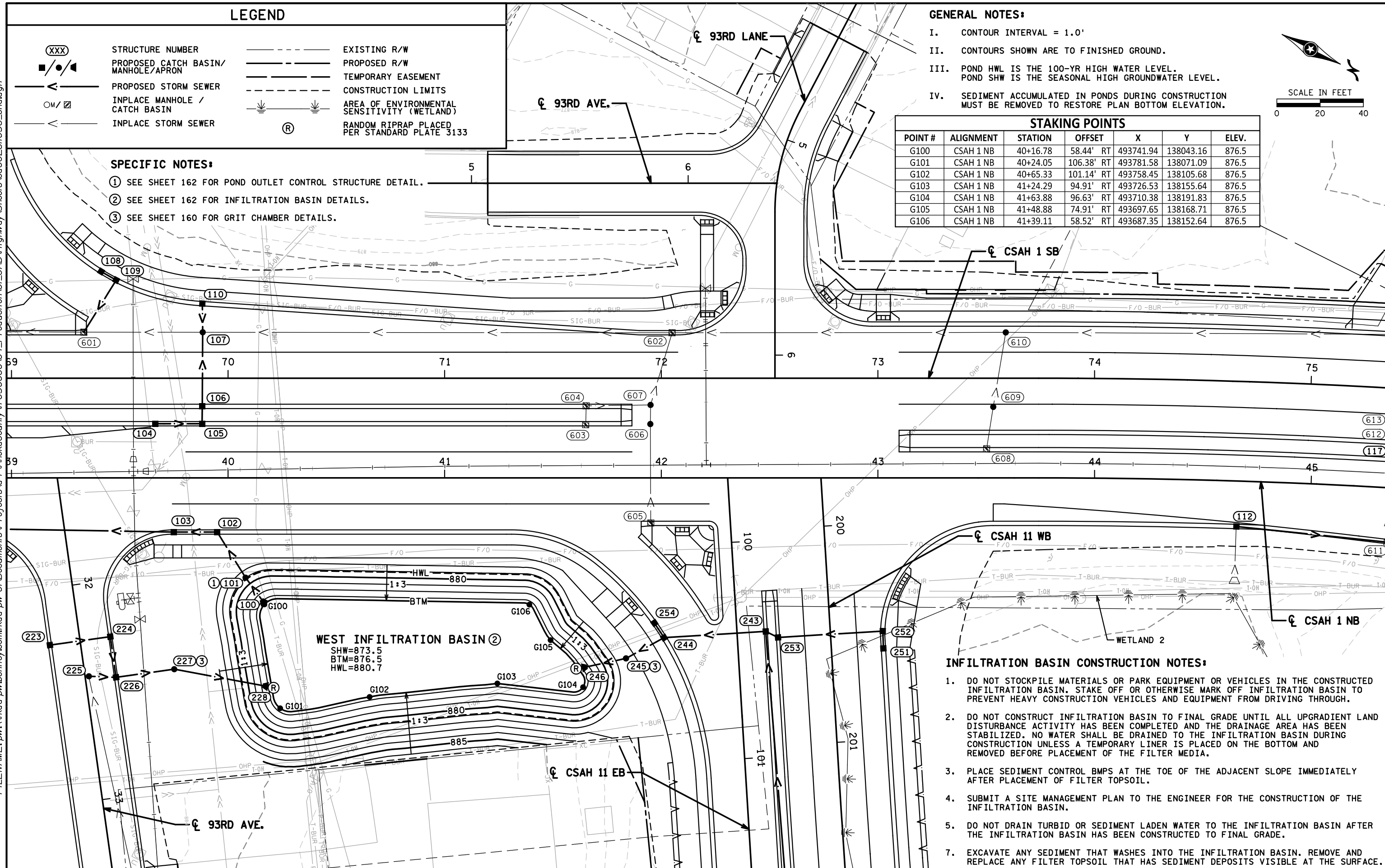


STAKING POINTS

POINT #	ALIGNMENT	STATION	OFFSET	X	Y	ELEV.
G100	CSAH 1 NB	40+16.78	58.44' RT	493741.94	138043.16	876.5
G101	CSAH 1 NB	40+24.05	106.38' RT	493781.58	138071.09	876.5
G102	CSAH 1 NB	40+65.33	101.14' RT	493758.45	138105.68	876.5
G103	CSAH 1 NB	41+24.29	94.91' RT	493726.53	138155.64	876.5
G104	CSAH 1 NB	41+63.88	96.63' RT	493710.38	138191.83	876.5
G105	CSAH 1 NB	41+48.88	74.91' RT	493697.65	138168.71	876.5
G106	CSAH 1 NB	41+39.11	58.52' RT	493687.35	138152.64	876.5

SPECIFIC NOTES:

- ① SEE SHEET 162 FOR POND OUTLET CONTROL STRUCTURE DETAIL.
- ② SEE SHEET 162 FOR INFILTRATION BASIN DETAILS.
- ③ SEE SHEET 160 FOR GRIT CHAMBER DETAILS.



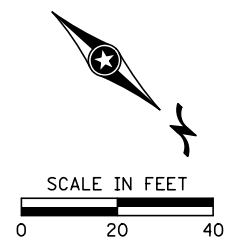
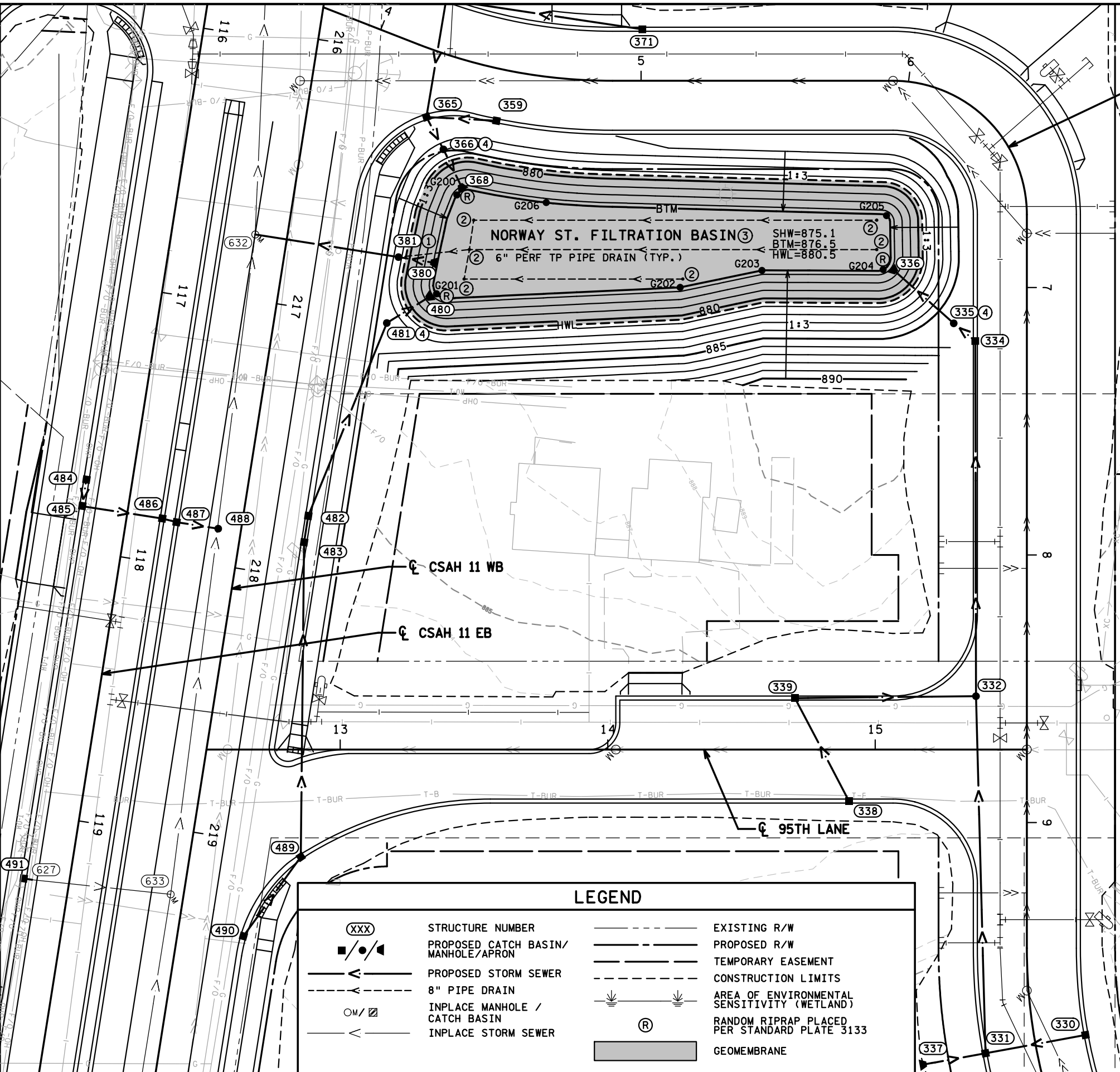
INFILTRATION BASIN CONSTRUCTION NOTES:

1. DO NOT STOCKPILE MATERIALS OR PARK EQUIPMENT OR VEHICLES IN THE CONSTRUCTED INFILTRATION BASIN. STAKE OFF OR OTHERWISE MARK OFF INFILTRATION BASIN TO PREVENT HEAVY CONSTRUCTION VEHICLES AND EQUIPMENT FROM DRIVING THROUGH.
2. DO NOT CONSTRUCT INFILTRATION BASIN TO FINAL GRADE UNTIL ALL UPGRADIENT LAND DISTURBANCE ACTIVITY HAS BEEN COMPLETED AND THE DRAINAGE AREA HAS BEEN STABILIZED. NO WATER SHALL BE DRAINED TO THE INFILTRATION BASIN DURING CONSTRUCTION UNLESS A TEMPORARY LINER IS PLACED ON THE BOTTOM AND REMOVED BEFORE PLACEMENT OF THE FILTER MEDIA.
3. PLACE SEDIMENT CONTROL BMPs AT THE TOE OF THE ADJACENT SLOPE IMMEDIATELY AFTER PLACEMENT OF FILTER TOPSOIL.
4. SUBMIT A SITE MANAGEMENT PLAN TO THE ENGINEER FOR THE CONSTRUCTION OF THE INFILTRATION BASIN.
5. DO NOT DRAIN TURBID OR SEDIMENT LADEN WATER TO THE INFILTRATION BASIN AFTER THE INFILTRATION BASIN HAS BEEN CONSTRUCTED TO FINAL GRADE.
7. EXCAVATE ANY SEDIMENT THAT WASHES INTO THE INFILTRATION BASIN. REMOVE AND REPLACE ANY FILTER TOPSOIL THAT HAS SEDIMENT DEPOSITS VISIBLE AT THE SURFACE.

WEST INFILTRATION BASIN ②
 SHW=873.5
 BTM=876.5
 HWL=880.7

	DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		WEST INFILTRATION BASIN		CONTOUR PLAN
	DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i>		STATE PROJ. NO. 002-611-036		SHEET NO. 172 OF 416 SHEETS
	CHK: MAW	LIC. NO. 26883 DATE: 11/24/2020				
NO.	DATE	BY	DESCRIPTION OF REVISIONS			

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STAKING POINTS						
POINT #	ALIGNMENT	STATION	OFFSET	X	Y	ELEV.
G200	NORWAY	4+42.49	49.01' RT	494921.12	139239.00	876.5
G201	NORWAY	4+42.98	87.10' RT	494954.26	139257.78	876.5
G202	NORWAY	5+14.63	77.24' RT	494891.71	139324.24	876.5
G203	NORWAY	5+45.09	70.91' RT	494866.66	139342.68	876.5
G204	NORWAY	6+92.60	52.63' RT	494834.85	139376.58	876.5
G205	NORWAY	5+92.06	50.60' RT	494820.18	139364.08	876.5
G206	NORWAY	4+69.23	46.77' RT	494901.53	139265.80	876.5

GENERAL NOTES:

- I. CONTOUR INTERVAL = 1.0'
- II. CONTOURS SHOWN ARE TO FINISHED GROUND.
- III. POND HWL IS THE 100-YR HIGH WATER LEVEL.
POND SHW IS THE SEASONAL HIGH GROUNDWATER LEVEL.
- IV. SEDIMENT ACCUMULATED IN PONDS DURING CONSTRUCTION MUST BE REMOVED TO RESTORE PLAN BOTTOM ELEVATION.

SPECIFIC NOTES:

- ① SEE SHEET 165 FOR POND OUTLET CONTROL STRUCTURE DETAIL.
- ② SEE SHEET 159 FOR 8" TP PIPE DRAIN CLEANOUT DETAIL.
- ③ SEE SHEET 165 FOR FILTRATION BASIN DETAILS.
- ④ SEE SHEETS 160/161 FOR GRIT CHAMBER DETAILS.

FILTRATION BASIN CONSTRUCTION NOTES:

- 1. DO NOT STOCKPILE MATERIALS OR PARK EQUIPMENT OR VEHICLES IN THE CONSTRUCTED FILTRATION BASIN. STAKE OFF OR OTHERWISE MARK OFF FILTRATION BASIN TO PREVENT HEAVY CONSTRUCTION VEHICLES AND EQUIPMENT FROM DRIVING THROUGH.
- 2. DO NOT PLACE FILTER MATERIAL IN FILTRATION BASIN UNTIL ALL UPGRADIENT LAND DISTURBANCE ACTIVITY HAS BEEN COMPLETED AND THE DRAINAGE AREA HAS BEEN STABILIZED. NO WATER SHALL BE DRAINED TO THE FILTRATION BASIN DURING CONSTRUCTION UNLESS A TEMPORARY LINER IS PLACED ON THE BOTTOM AND REMOVED BEFORE PLACEMENT OF THE FILTER MEDIA.
- 3. PLACE SEDIMENT CONTROL BMPS AT THE TOE OF THE ADJACENT SLOPE IMMEDIATELY AFTER PLACEMENT OF FILTER TOPSOIL.
- 4. SUBMIT A SITE MANAGEMENT PLAN TO THE ENGINEER FOR THE CONSTRUCTION OF THE FILTRATION BASIN.
- 5. DO NOT DRAIN TURBID OR SEDIMENT LADEN WATER TO THE FILTRATION BASIN AFTER THE FILTER MATERIAL HAS BEEN PLACED.
- 7. EXCAVATE ANY SEDIMENT THAT WASHES INTO THE FILTRATION BASIN. REMOVE AND REPLACE ANY FILTER TOPSOIL THAT HAS SEDIMENT DEPOSITS VISIBLE AT THE SURFACE.

LEGEND			
(XXX)	STRUCTURE NUMBER	---	EXISTING R/W
■/●/▲	PROPOSED CATCH BASIN/ MANHOLE/APRON	---	PROPOSED R/W
—>	PROPOSED STORM SEWER	---	TEMPORARY EASEMENT
- - ->	8" PIPE DRAIN	---	CONSTRUCTION LIMITS
○/□	INPLACE MANHOLE / CATCH BASIN	⊕	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
—>	INPLACE STORM SEWER	Ⓡ	RANDOM RIPRAP PLACED PER STANDARD PLATE 3133
		■	GEOMEMBRANE

NO.	DATE	BY	DESCRIPTION OF REVISIONS

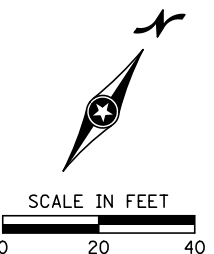
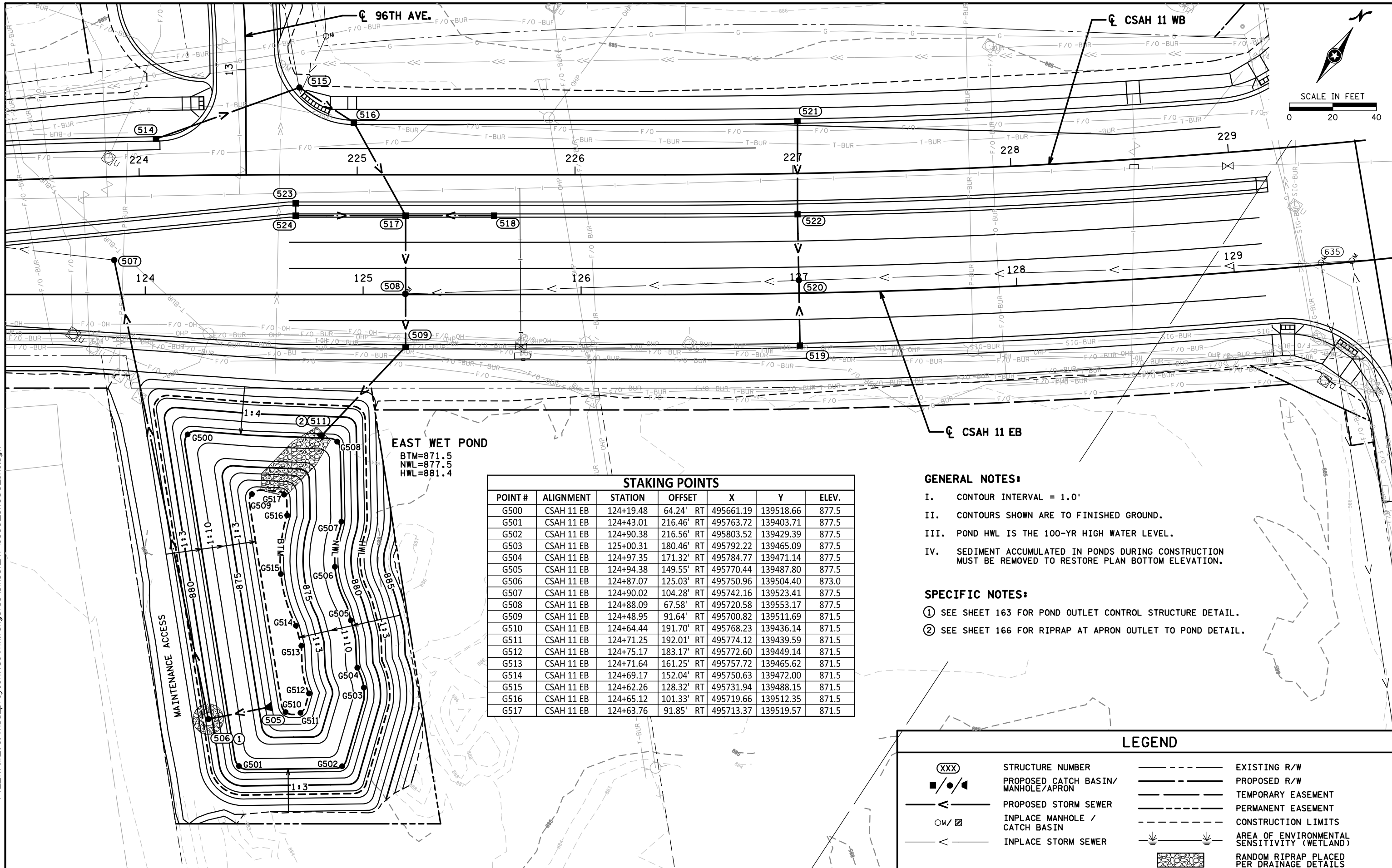
DES: CEH
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



DATE: 11/24/2020 TIME: 10:48:12 PM
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EAST WET POND
 BTM=871.5
 NWL=877.5
 HWL=881.4

STAKING POINTS						
POINT #	ALIGNMENT	STATION	OFFSET	X	Y	ELEV.
G500	CSAH 11 EB	124+19.48	64.24' RT	495661.19	139518.66	877.5
G501	CSAH 11 EB	124+43.01	216.46' RT	495763.72	139403.71	877.5
G502	CSAH 11 EB	124+90.38	216.56' RT	495803.52	139429.39	877.5
G503	CSAH 11 EB	125+00.31	180.46' RT	495792.22	139465.09	877.5
G504	CSAH 11 EB	124+97.35	171.32' RT	495784.77	139471.14	877.5
G505	CSAH 11 EB	124+94.38	149.55' RT	495770.44	139487.80	877.5
G506	CSAH 11 EB	124+87.07	125.03' RT	495750.96	139504.40	873.0
G507	CSAH 11 EB	124+90.02	104.28' RT	495742.16	139523.41	877.5
G508	CSAH 11 EB	124+88.09	67.58' RT	495720.58	139553.17	877.5
G509	CSAH 11 EB	124+48.95	91.64' RT	495700.82	139511.69	871.5
G510	CSAH 11 EB	124+64.44	191.70' RT	495768.23	139436.14	871.5
G511	CSAH 11 EB	124+71.25	192.01' RT	495774.12	139439.59	871.5
G512	CSAH 11 EB	124+75.17	183.17' RT	495772.60	139449.14	871.5
G513	CSAH 11 EB	124+71.64	161.25' RT	495757.72	139465.62	871.5
G514	CSAH 11 EB	124+69.17	152.04' RT	495750.63	139472.00	871.5
G515	CSAH 11 EB	124+62.26	128.32' RT	495731.94	139488.15	871.5
G516	CSAH 11 EB	124+65.12	101.33' RT	495719.66	139512.35	871.5
G517	CSAH 11 EB	124+63.76	91.85' RT	495713.37	139519.57	871.5

GENERAL NOTES:

- I. CONTOUR INTERVAL = 1.0'
- II. CONTOURS SHOWN ARE TO FINISHED GROUND.
- III. POND HWL IS THE 100-YR HIGH WATER LEVEL.
- IV. SEDIMENT ACCUMULATED IN PONDS DURING CONSTRUCTION MUST BE REMOVED TO RESTORE PLAN BOTTOM ELEVATION.

SPECIFIC NOTES:

- ① SEE SHEET 163 FOR POND OUTLET CONTROL STRUCTURE DETAIL.
- ② SEE SHEET 166 FOR RIPRAP AT APRON OUTLET TO POND DETAIL.

LEGEND

(XXX)	STRUCTURE NUMBER	---	EXISTING R/W
■/●/▲	PROPOSED CATCH BASIN/ MANHOLE/APRON	---	PROPOSED R/W
←	PROPOSED STORM SEWER	---	TEMPORARY EASEMENT
OM/□	INPLACE MANHOLE / CATCH BASIN	---	PERMANENT EASEMENT
←	INPLACE STORM SEWER	---	CONSTRUCTION LIMITS
		⊕	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
		⊕	RANDOM RIPRAP PLACED PER DRAINAGE DETAILS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



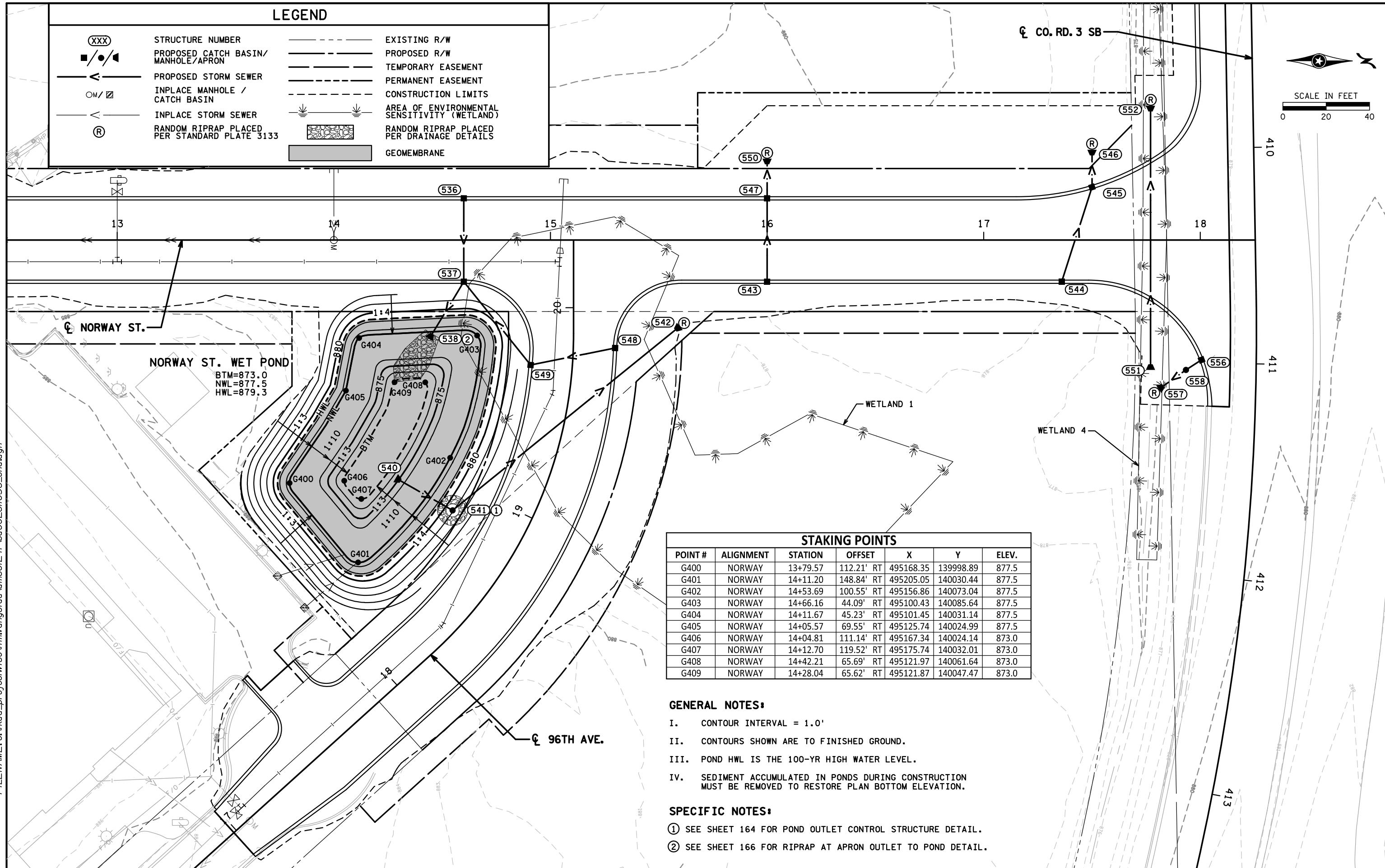
LEGEND

(XXX)	STRUCTURE NUMBER	---	EXISTING R/W
■/●/▲	PROPOSED CATCH BASIN/ MANHOLE/APRON	---	PROPOSED R/W
←	PROPOSED STORM SEWER	---	TEMPORARY EASEMENT
OM/☒	INPLACE MANHOLE / CATCH BASIN	---	PERMANENT EASEMENT
←	INPLACE STORM SEWER	---	CONSTRUCTION LIMITS
(R)	RANDOM RIPRAP PLACED PER STANDARD PLATE 3133	---	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
		---	RANDOM RIPRAP PLACED PER DRAINAGE DETAILS
		---	GEOMEMBRANE

☒ CO. RD. 3 SB



SCALE IN FEET
0 20 40



NORWAY ST. WET POND
BTM=873.0
NWL=877.5
HWL=879.3

STAKING POINTS

POINT #	ALIGNMENT	STATION	OFFSET	X	Y	ELEV.
G400	NORWAY	13+79.57	112.21' RT	495168.35	139998.89	877.5
G401	NORWAY	14+11.20	148.84' RT	495205.05	140030.44	877.5
G402	NORWAY	14+53.69	100.55' RT	495156.86	140073.04	877.5
G403	NORWAY	14+66.16	44.09' RT	495100.43	140085.64	877.5
G404	NORWAY	14+11.67	45.23' RT	495101.45	140031.14	877.5
G405	NORWAY	14+05.57	69.55' RT	495125.74	140024.99	877.5
G406	NORWAY	14+04.81	111.14' RT	495167.34	140024.14	873.0
G407	NORWAY	14+12.70	119.52' RT	495175.74	140032.01	873.0
G408	NORWAY	14+42.21	65.69' RT	495121.97	140061.64	873.0
G409	NORWAY	14+28.04	65.62' RT	495121.87	140047.47	873.0

GENERAL NOTES:

- I. CONTOUR INTERVAL = 1.0'
- II. CONTOURS SHOWN ARE TO FINISHED GROUND.
- III. POND HWL IS THE 100-YR HIGH WATER LEVEL.
- IV. SEDIMENT ACCUMULATED IN PONDS DURING CONSTRUCTION MUST BE REMOVED TO RESTORE PLAN BOTTOM ELEVATION.

SPECIFIC NOTES:

- ① SEE SHEET 164 FOR POND OUTLET CONTROL STRUCTURE DETAIL.
- ② SEE SHEET 166 FOR RIPRAP AT APRON OUTLET TO POND DETAIL.

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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
DRW: CEH
CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

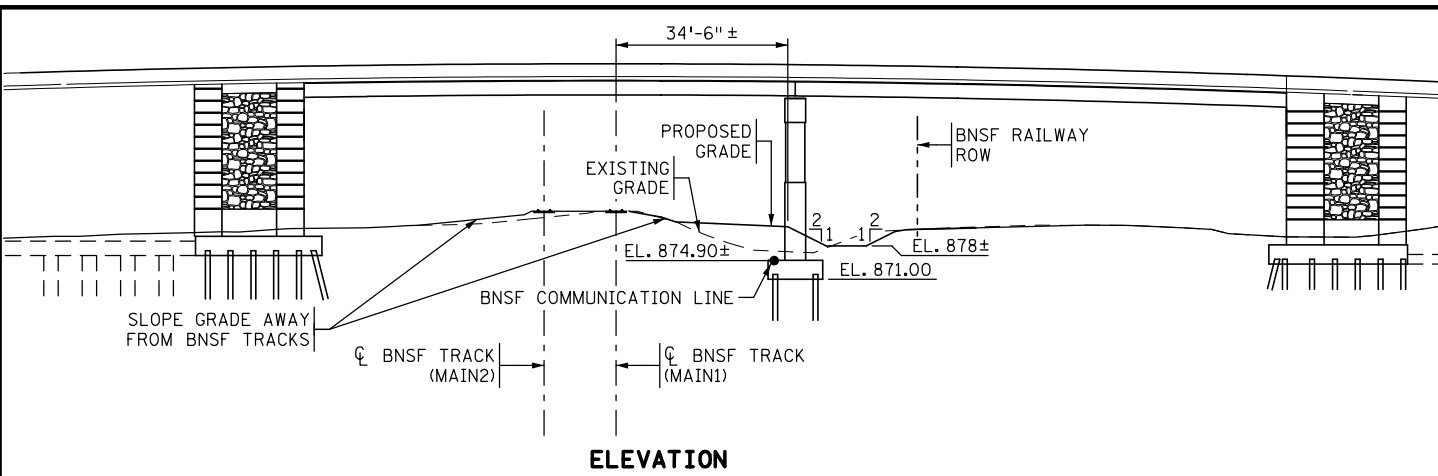
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
MATTHEW A. WASSMAN



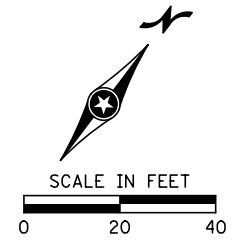
NORWAY ST. WET POND
STATE PROJ. NO. 002-611-036

CONTOUR PLAN
SHEET NO. 175 OF 416 SHEETS

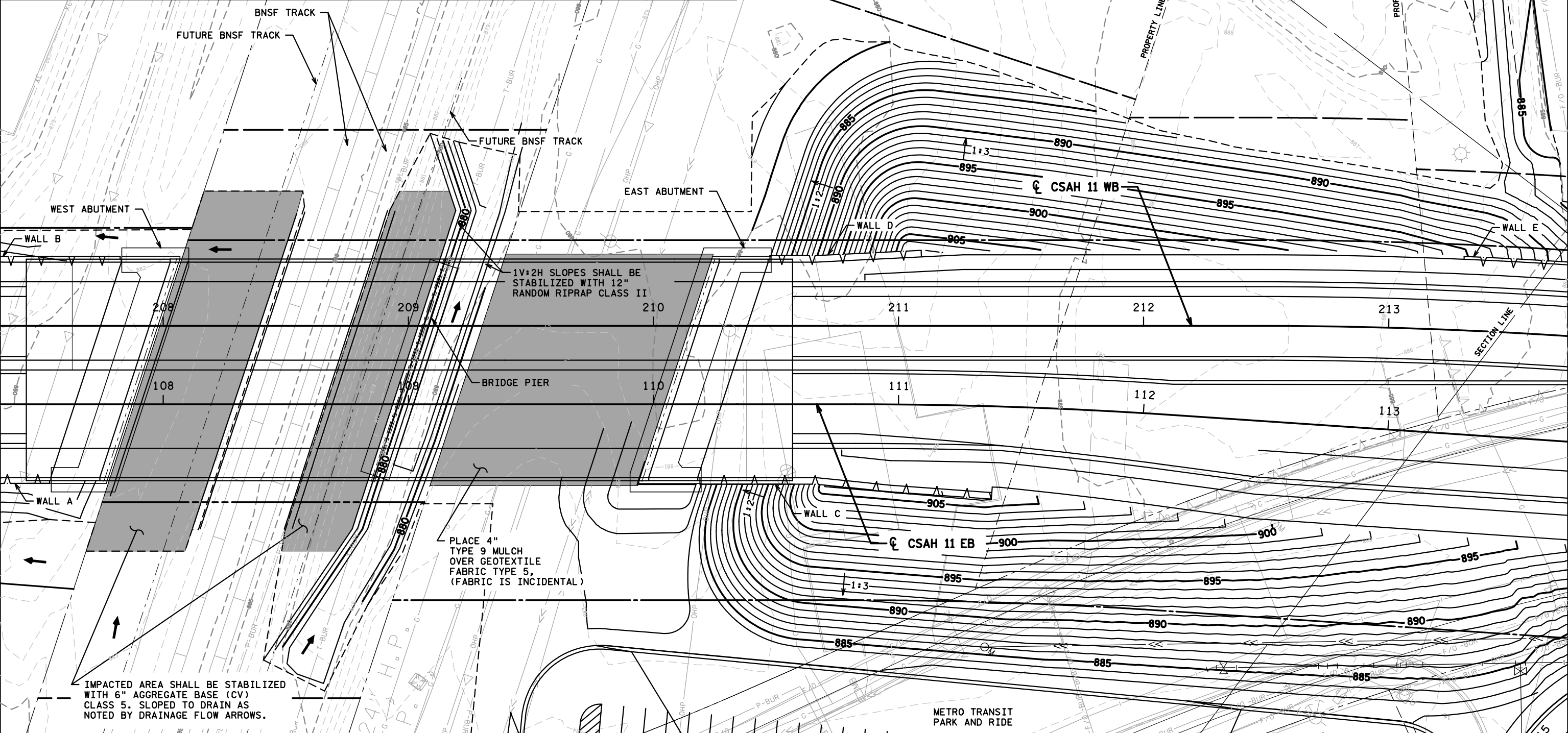
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LEGEND	
	EXISTING R/W
	PROPOSED R/W
	TEMPORARY EASEMENT
	PERMANENT EASEMENT
	CONSTRUCTION LIMITS



- GENERAL NOTES:**
- I. CONTOUR INTERVAL = 1.0'
 - II. CONTOURS SHOWN ARE TO FINISHED GROUND.



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: PWA
 DRW: PWA
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 12/14/2020
 MATTHEW A. WASSMAN



RAILROAD AND EAST ABUTMENT

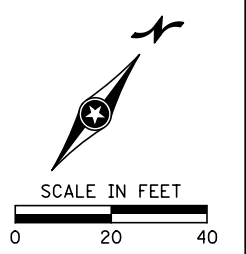
STATE PROJ. NO. 002-611-036

CONTOUR PLAN

SHEET NO. 176 OF 416 SHEETS

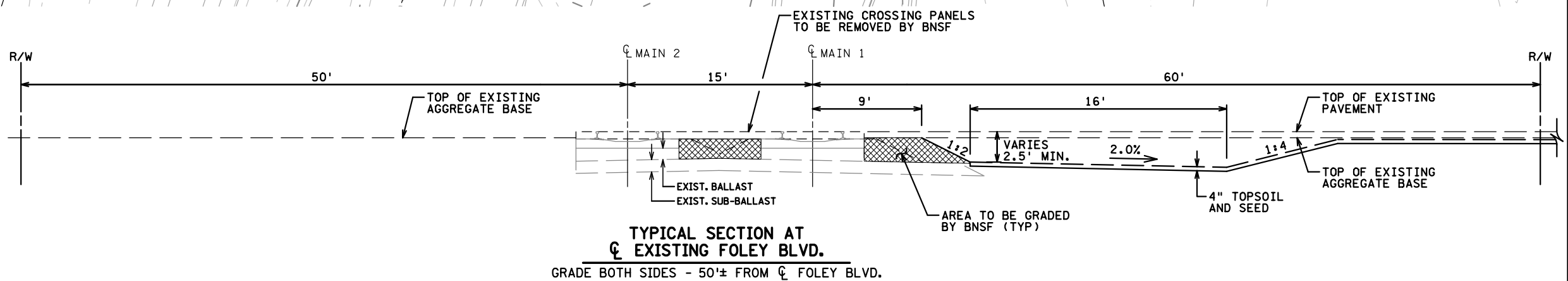
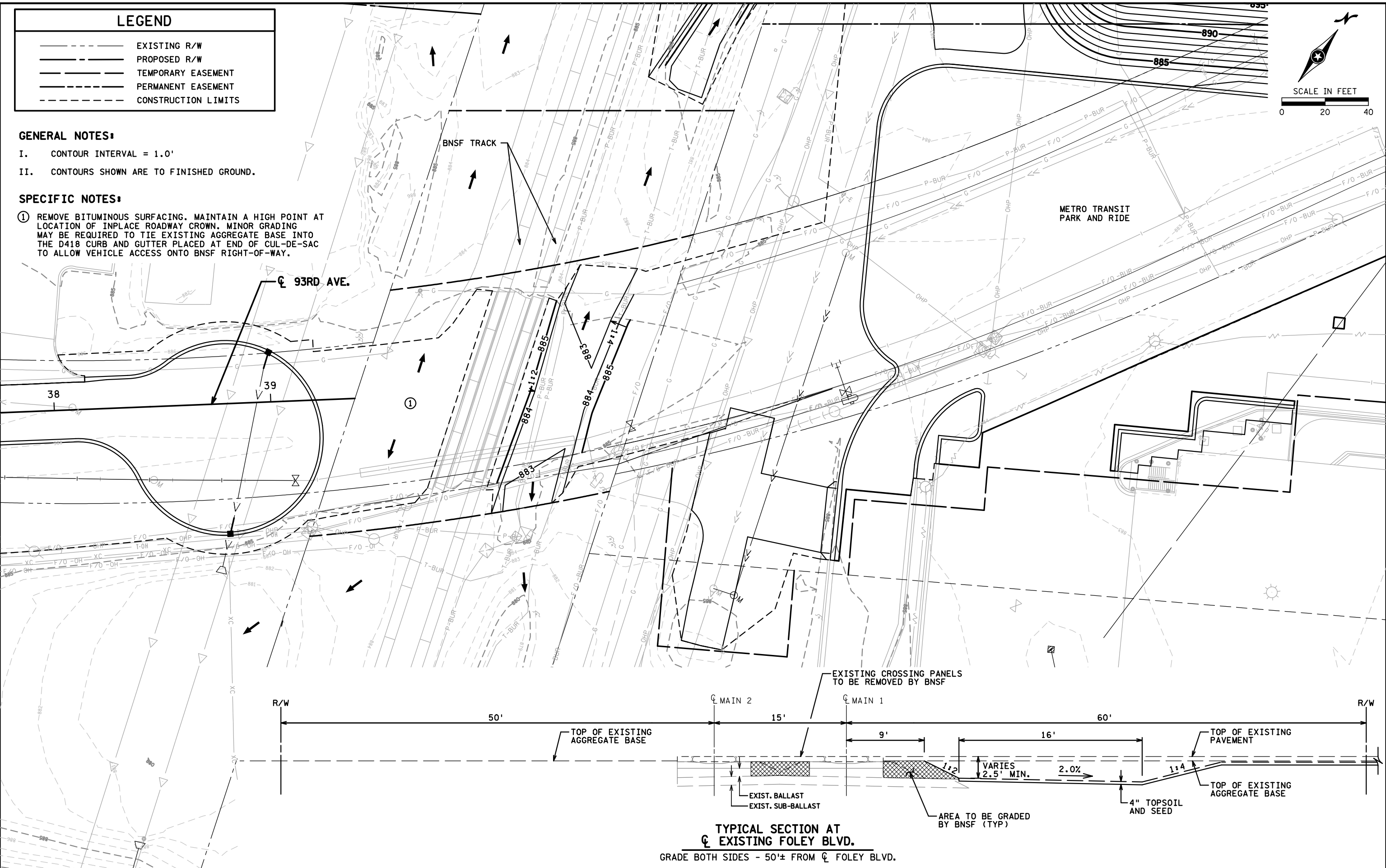
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LEGEND	
	EXISTING R/W
	PROPOSED R/W
	TEMPORARY EASEMENT
	PERMANENT EASEMENT
	CONSTRUCTION LIMITS



- GENERAL NOTES:**
- I. CONTOUR INTERVAL = 1.0'
 - II. CONTOURS SHOWN ARE TO FINISHED GROUND.

- SPECIFIC NOTES:**
- ① REMOVE BITUMINOUS SURFACING. MAINTAIN A HIGH POINT AT LOCATION OF INPLACE ROADWAY CROWN. MINOR GRADING MAY BE REQUIRED TO TIE EXISTING AGGREGATE BASE INTO THE D418 CURB AND GUTTER PLACED AT END OF CUL-DE-SAC TO ALLOW VEHICLE ACCESS ONTO BNSF RIGHT-OF-WAY.



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: MJC
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

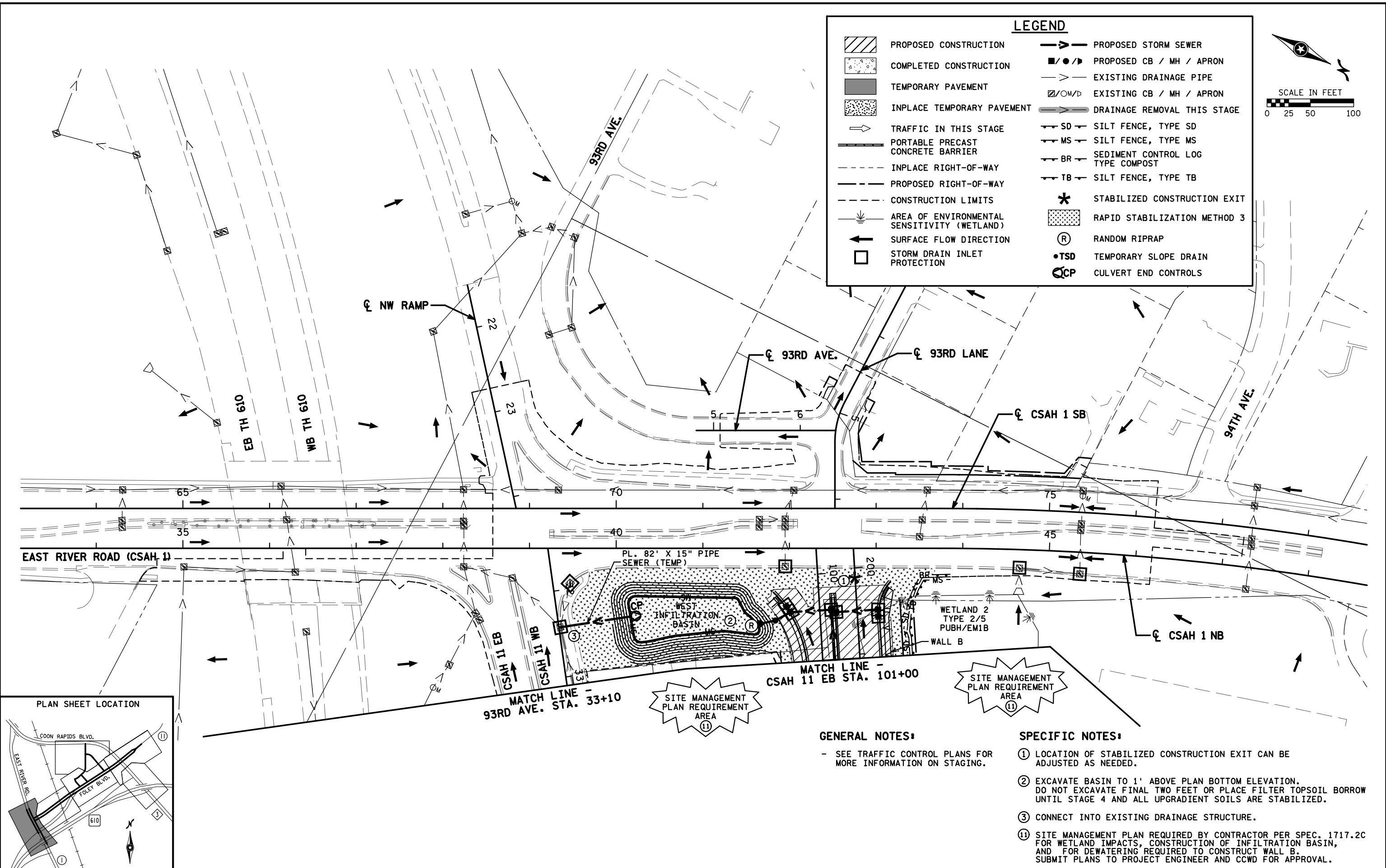
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



RAILROAD AT OLD FOLEY
 STATE PROJ. NO. 002-611-036

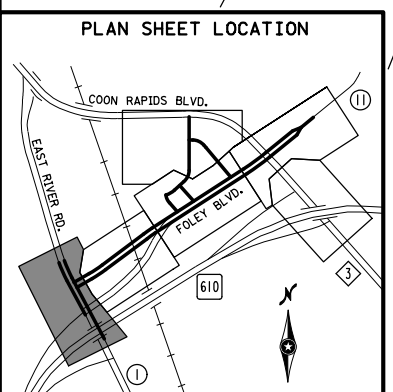
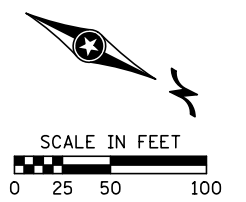
CONTOUR PLAN
 SHEET NO. 176A OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:50:21 PM
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LEGEND

	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SD - SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		MS - SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		BR - SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		TB - SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS



MATCH LINE -
 93RD AVE. STA. 33+10

MATCH LINE -
 CSAH 11 EB STA. 101+00

SITE MANAGEMENT
 PLAN REQUIREMENT
 AREA
 (1)

SITE MANAGEMENT
 PLAN REQUIREMENT
 AREA
 (1)

GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

- ① LOCATION OF STABILIZED CONSTRUCTION EXIT CAN BE ADJUSTED AS NEEDED.
- ② EXCAVATE BASIN TO 1' ABOVE PLAN BOTTOM ELEVATION. DO NOT EXCAVATE FINAL TWO FEET OR PLACE FILTER TOPSOIL BORROW UNTIL STAGE 4 AND ALL UPGRADIENT SOILS ARE STABILIZED.
- ③ CONNECT INTO EXISTING DRAINAGE STRUCTURE.
- ⑪ SITE MANAGEMENT PLAN REQUIRED BY CONTRACTOR PER SPEC. 1717.2C FOR WETLAND IMPACTS, CONSTRUCTION OF INFILTRATION BASIN, AND FOR DEWATERING REQUIRED TO CONSTRUCT WALL B. SUBMIT PLANS TO PROJECT ENGINEER AND CCWD FOR APPROVAL.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.


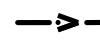



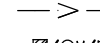

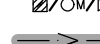

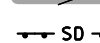

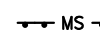

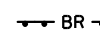

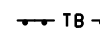





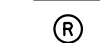

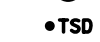

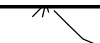
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



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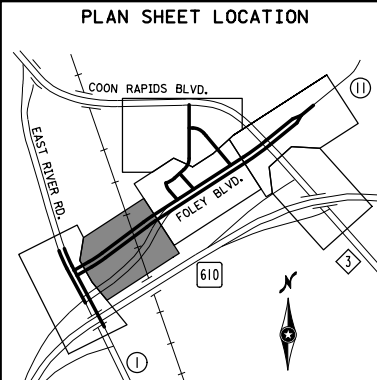
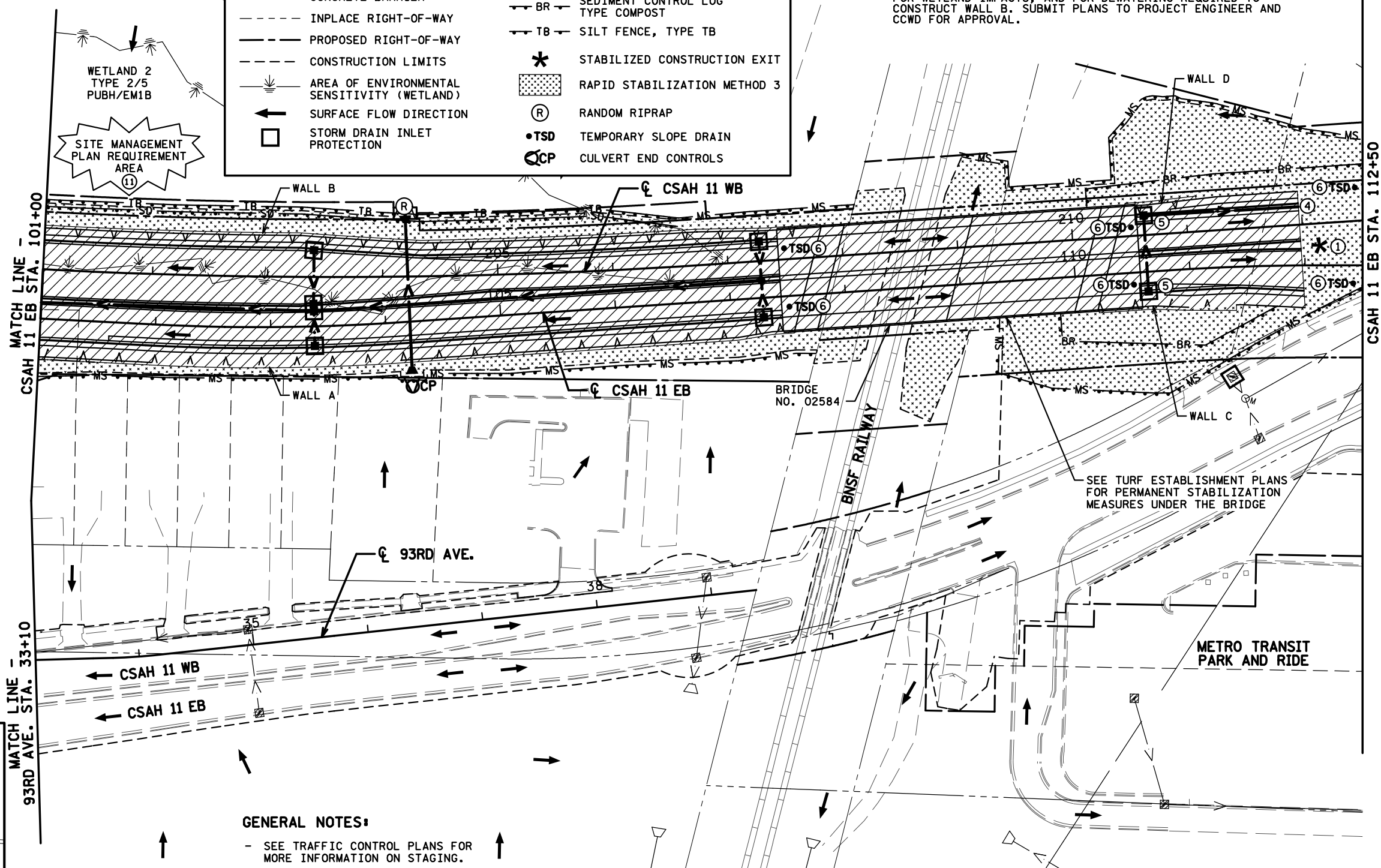
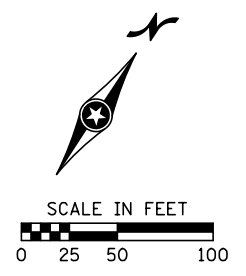
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LEGEND


- | | |
|---|---|
|  PROPOSED CONSTRUCTION |  PROPOSED STORM SEWER |
|  COMPLETED CONSTRUCTION |  PROPOSED CB / MH / APRON |
|  TEMPORARY PAVEMENT |  EXISTING DRAINAGE PIPE |
|  INPLACE TEMPORARY PAVEMENT |  EXISTING CB / MH / APRON |
|  TRAFFIC IN THIS STAGE |  DRAINAGE REMOVAL THIS STAGE |
|  PORTABLE PRECAST CONCRETE BARRIER |  SILT FENCE, TYPE SD |
|  INPLACE RIGHT-OF-WAY |  SILT FENCE, TYPE MS |
|  PROPOSED RIGHT-OF-WAY |  SEDIMENT CONTROL LOG TYPE COMPOST |
|  CONSTRUCTION LIMITS |  SILT FENCE, TYPE TB |
|  AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND) |  STABILIZED CONSTRUCTION EXIT |
|  SURFACE FLOW DIRECTION |  RAPID STABILIZATION METHOD 3 |
|  STORM DRAIN INLET PROTECTION |  RANDOM RIPRAP |
| |  TEMPORARY SLOPE DRAIN |
| |  CULVERT END CONTROLS |

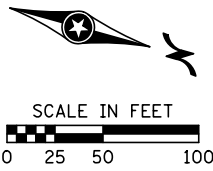
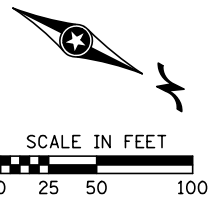
SPECIFIC NOTES:

- ① LOCATION OF STABILIZED CONSTRUCTION EXIT CAN BE ADJUSTED AS NEEDED.
- ④ CONSTRUCT TEMPORARY PIPE PLUG (INCIDENTAL).
- ⑤ TEMPORARILY PLATE STRUCTURE TO PREVENT RUNOFF FROM ENTERING PIPE (INCIDENTAL).
- ⑥ PROVIDE TEMPORARY SLOPE DRAIN FOR TEMPORARY DISCHARGE OF BRIDGE RUNOFF. SEE DRAINAGE DETAILS.
- ⑪ SITE MANAGEMENT PLAN REQUIRED BY CONTRACTOR PER SPEC. 1717.2C FOR WETLAND IMPACTS, AND FOR DEWATERING REQUIRED TO CONSTRUCT WALL B. SUBMIT PLANS TO PROJECT ENGINEER AND CCWD FOR APPROVAL.

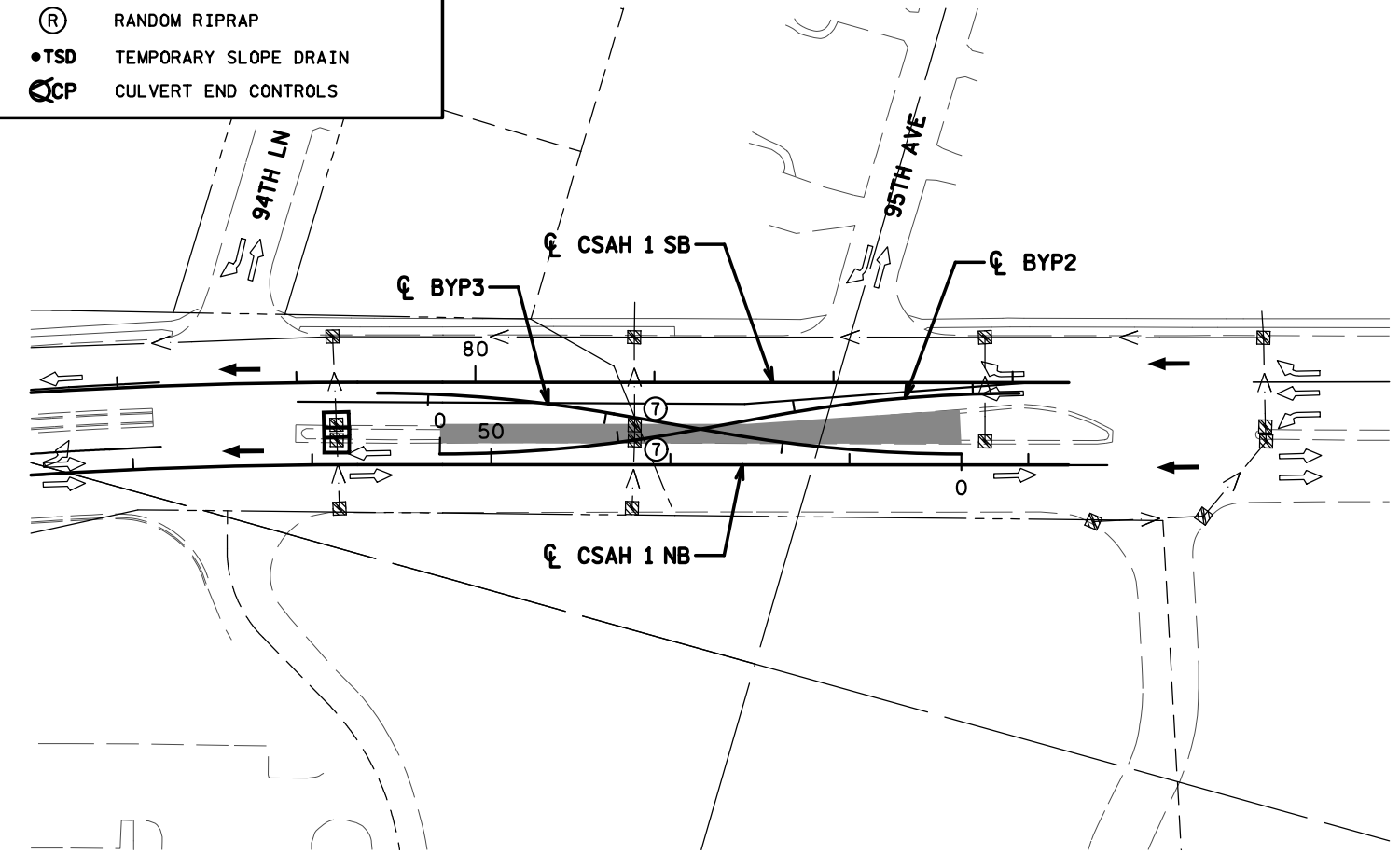
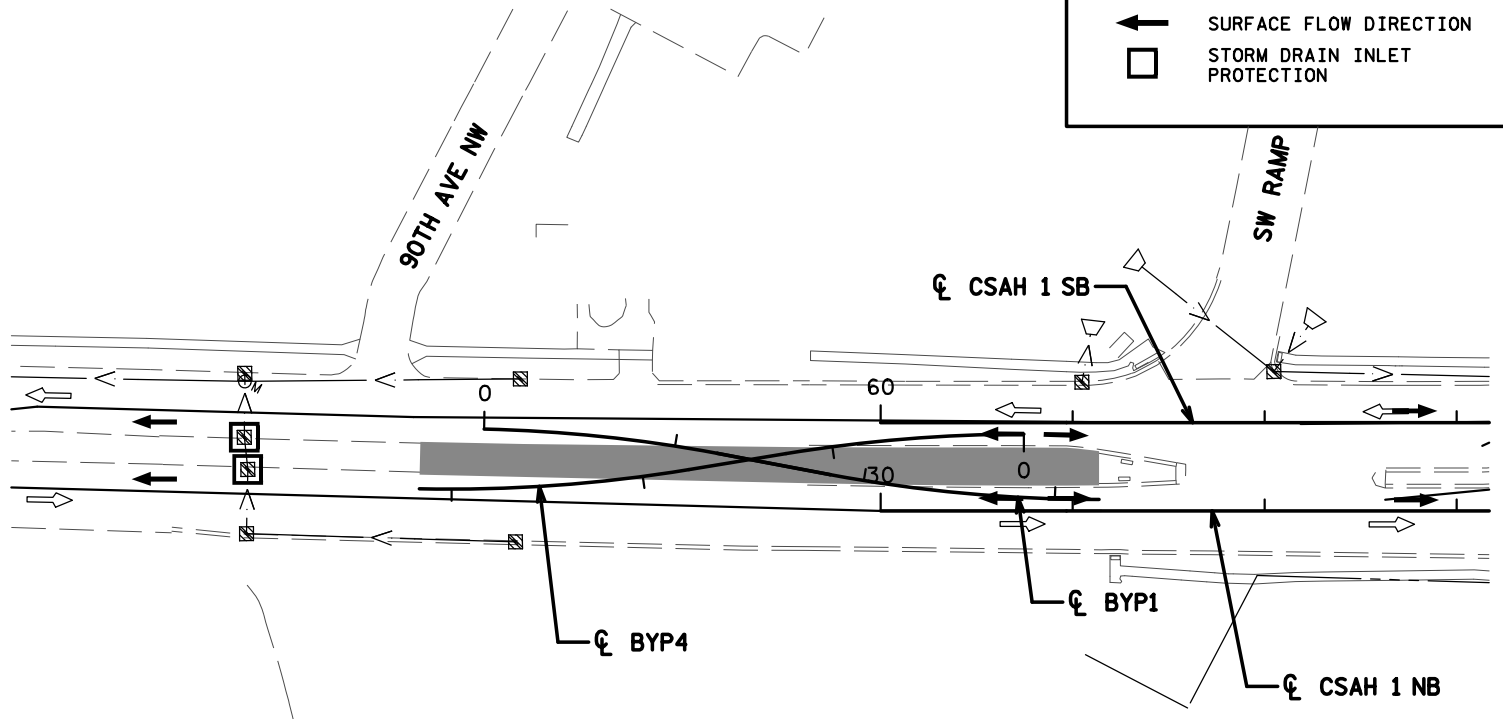


GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

	DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		STAGE 1	STAGED DRAINAGE AND EROSION CONTROL
	DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020		STATE PROJ. NO. 002-611-036	SHEET NO. 178 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: MAW	



LEGEND			
	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS



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GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

⑦ SALVAGE CASTING. TEMPORARILY PLATE STRUCTURE (INCIDENTAL).

GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

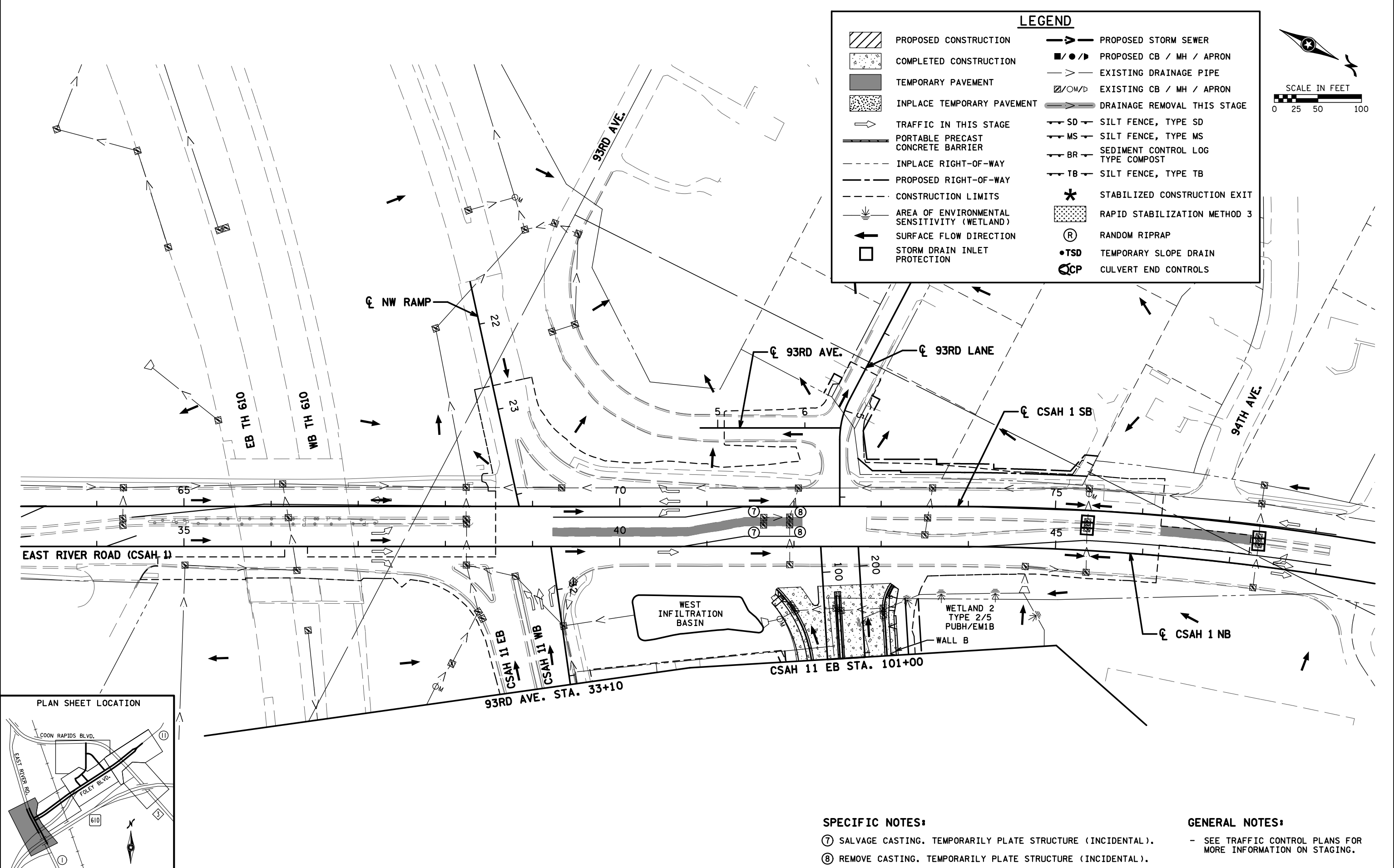
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DRW: CEH
CHK: MAW

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SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
MATTHEW A. WASSMAN

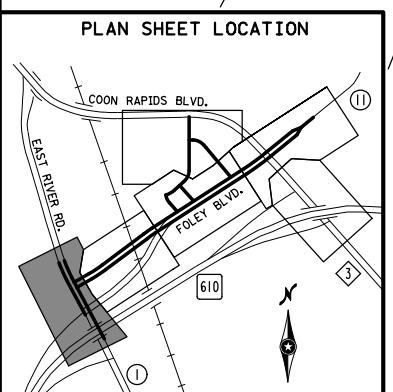
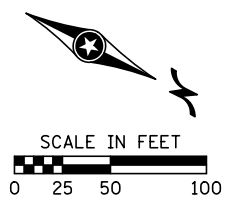


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LEGEND

	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS



SPECIFIC NOTES:

- ⑦ SALVAGE CASTING. TEMPORARILY PLATE STRUCTURE (INCIDENTAL).
- ⑧ REMOVE CASTING. TEMPORARILY PLATE STRUCTURE (INCIDENTAL).

GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



PRIOR TO STAGE 2A



























STATE PROJ. NO. 002-611-036

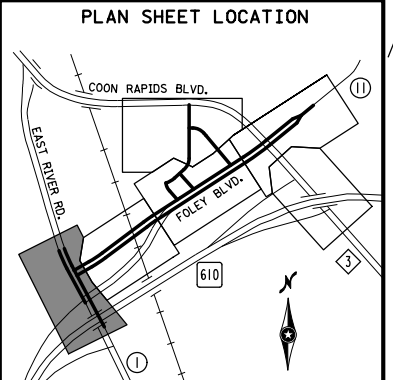
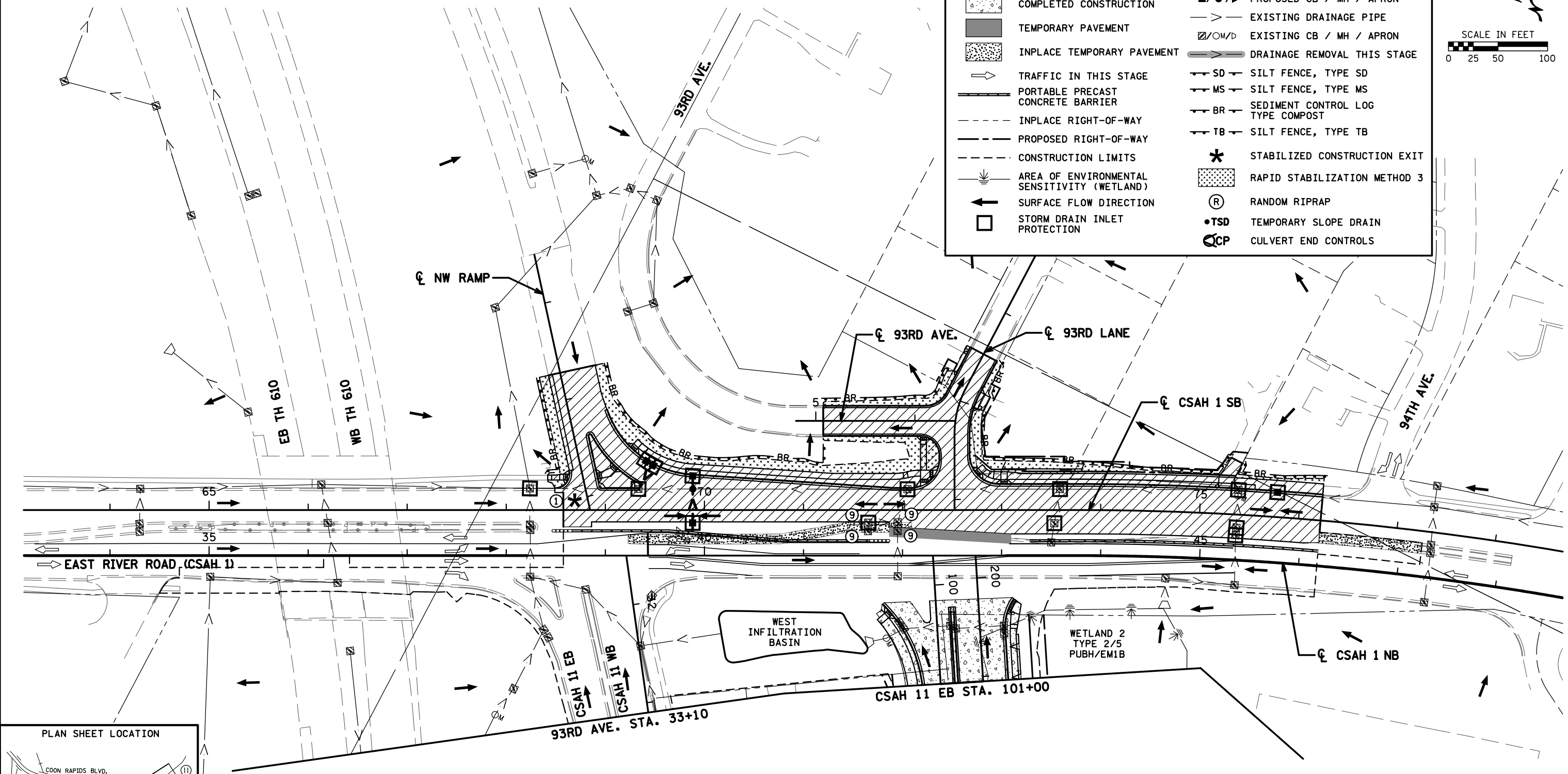
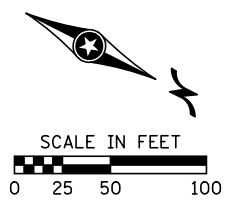
STAGED DRAINAGE AND EROSION CONTROL

SHEET NO. 180 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:51:46 PM
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LEGEND

	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SD - SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		MS - SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		BR - SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		TB - SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS



GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

- ① LOCATION OF STABILIZED CONSTRUCTION EXIT CAN BE ADJUSTED AS NEEDED.
- ⑨ CASTING REMOVED AND DRAINAGE STRUCTURE PLATED IN PRIOR STAGE/PHASE.

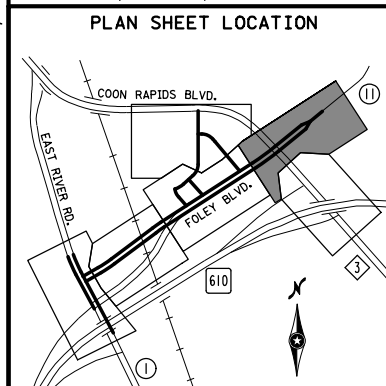
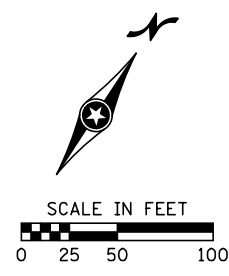
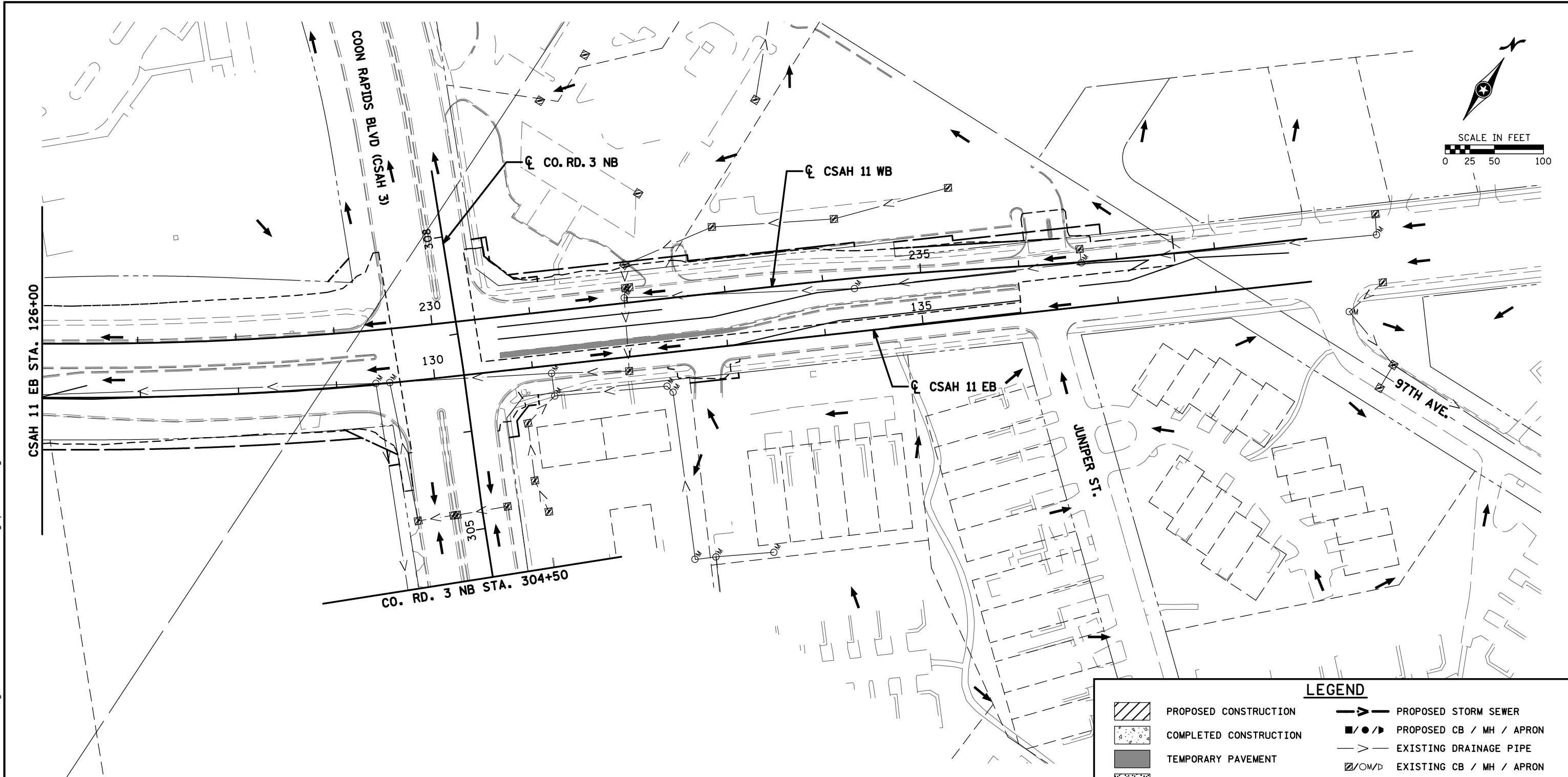
DES: CEH	DRW: CEH	CHK: MAW
NO. DATE BY DESCRIPTION OF REVISIONS		

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



DATE: 11/24/2020 TIME: 10:52:49 PM
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GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

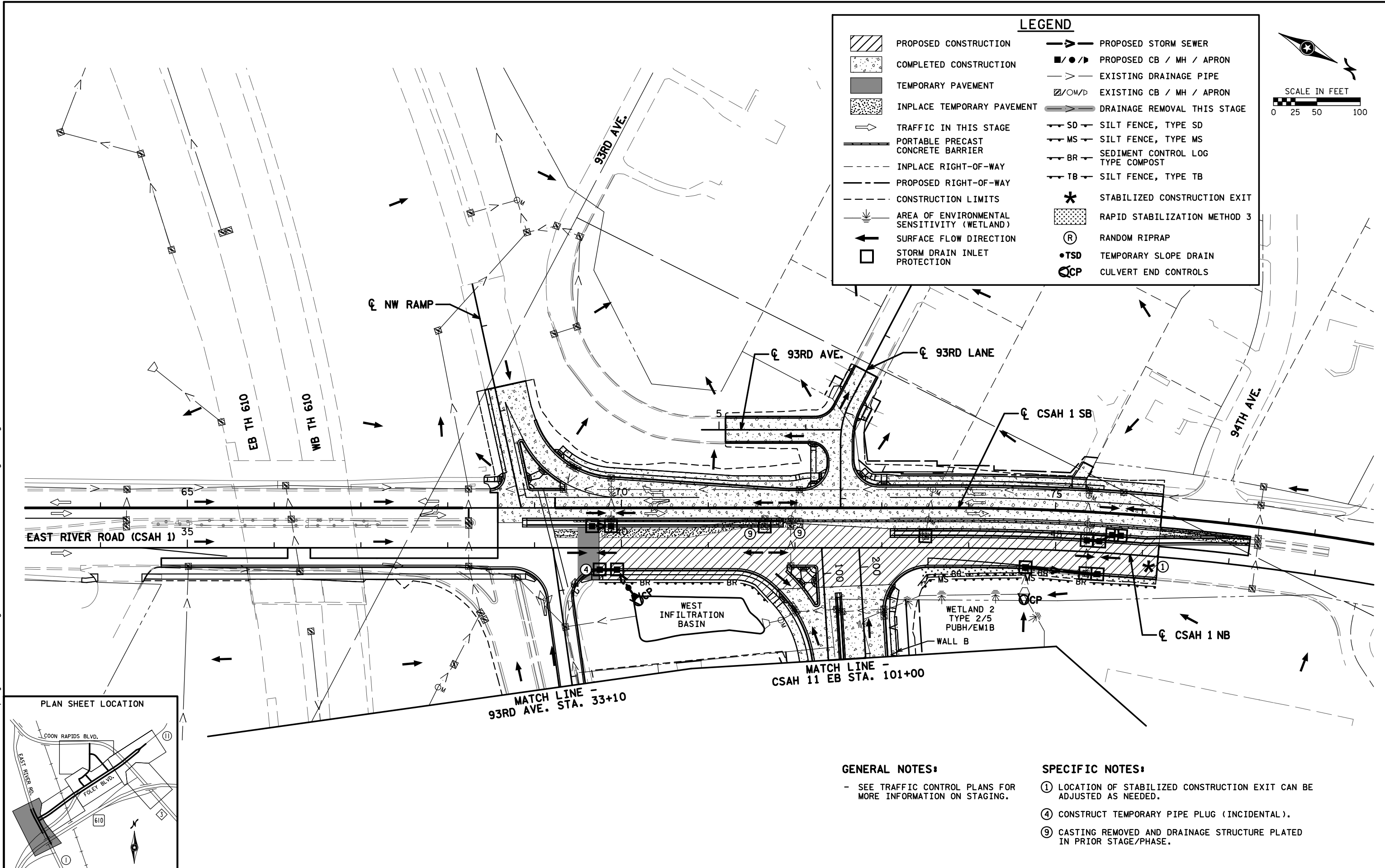
LEGEND			
	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SD - SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		MS - SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		BR - SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		TB - SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN

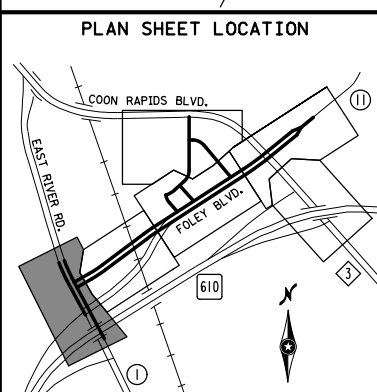
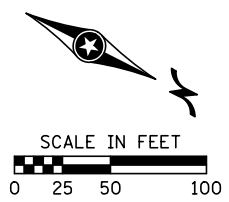


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LEGEND

	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SD - SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		MS - SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		BR - SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		TB - SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS



GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

- ① LOCATION OF STABILIZED CONSTRUCTION EXIT CAN BE ADJUSTED AS NEEDED.
- ④ CONSTRUCT TEMPORARY PIPE PLUG (INCIDENTAL).
- ⑨ CASTING REMOVED AND DRAINAGE STRUCTURE PLATED IN PRIOR STAGE/PHASE.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

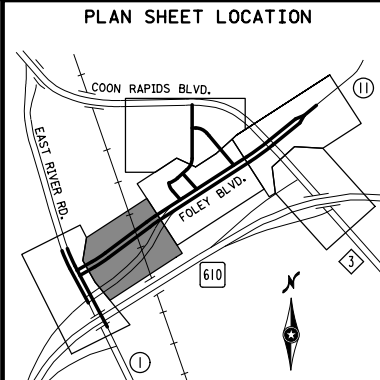
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



DATE: 11/24/2020 TIME: 10:53:07 PM
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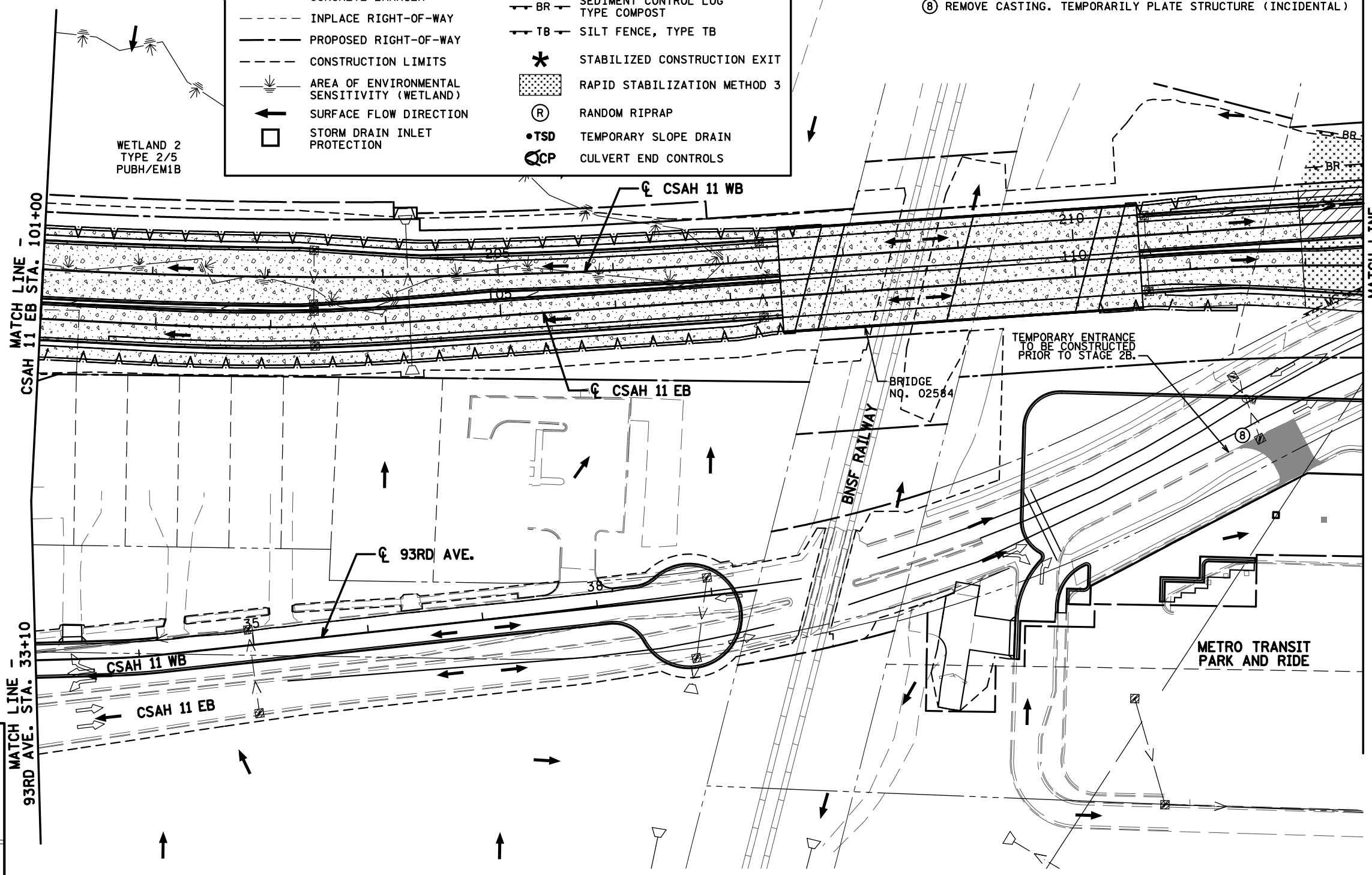
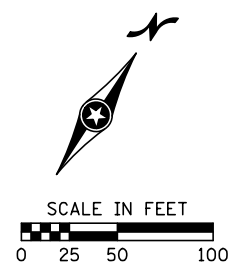


LEGEND

	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS

GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:
 (8) REMOVE CASTING. TEMPORARILY PLATE STRUCTURE (INCIDENTAL)



MATCH LINE -
CSAH 11 EB STA. 101+00

MATCH LINE -
93RD AVE. STA. 33+10

MATCH LINE -
CSAH 11 EB STA. 112+50

DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: CEH	
CHK: MAW	
SIGNATURE: <i>Matthew A. Wassman</i>	LIC. NO. 26883 DATE: 11/24/2020

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020



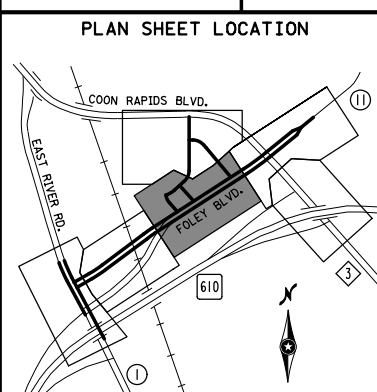
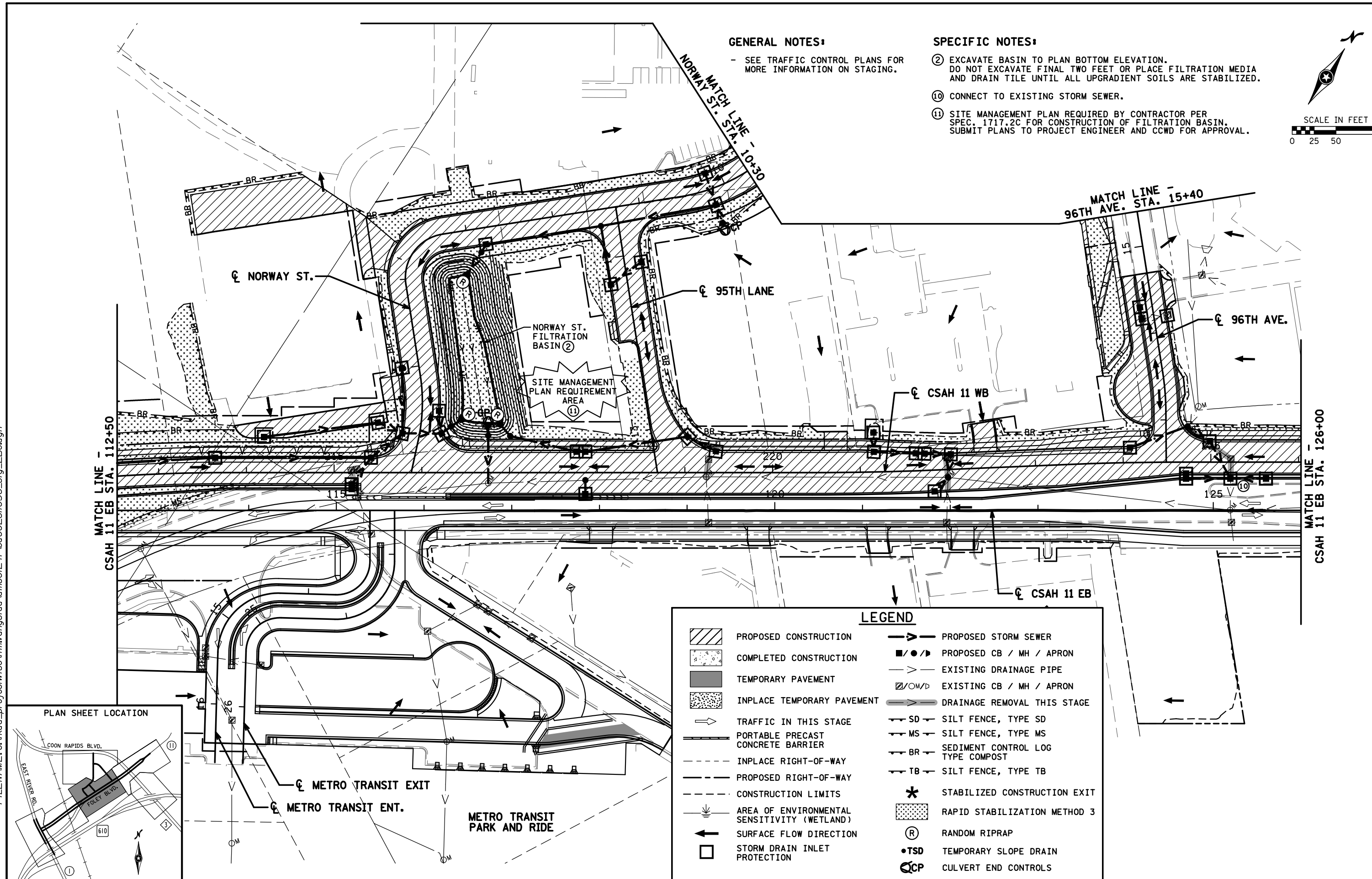
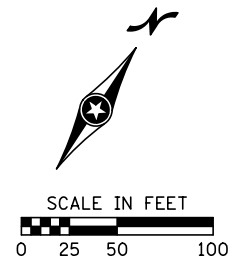
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GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

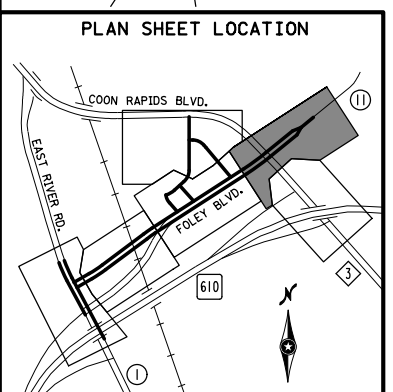
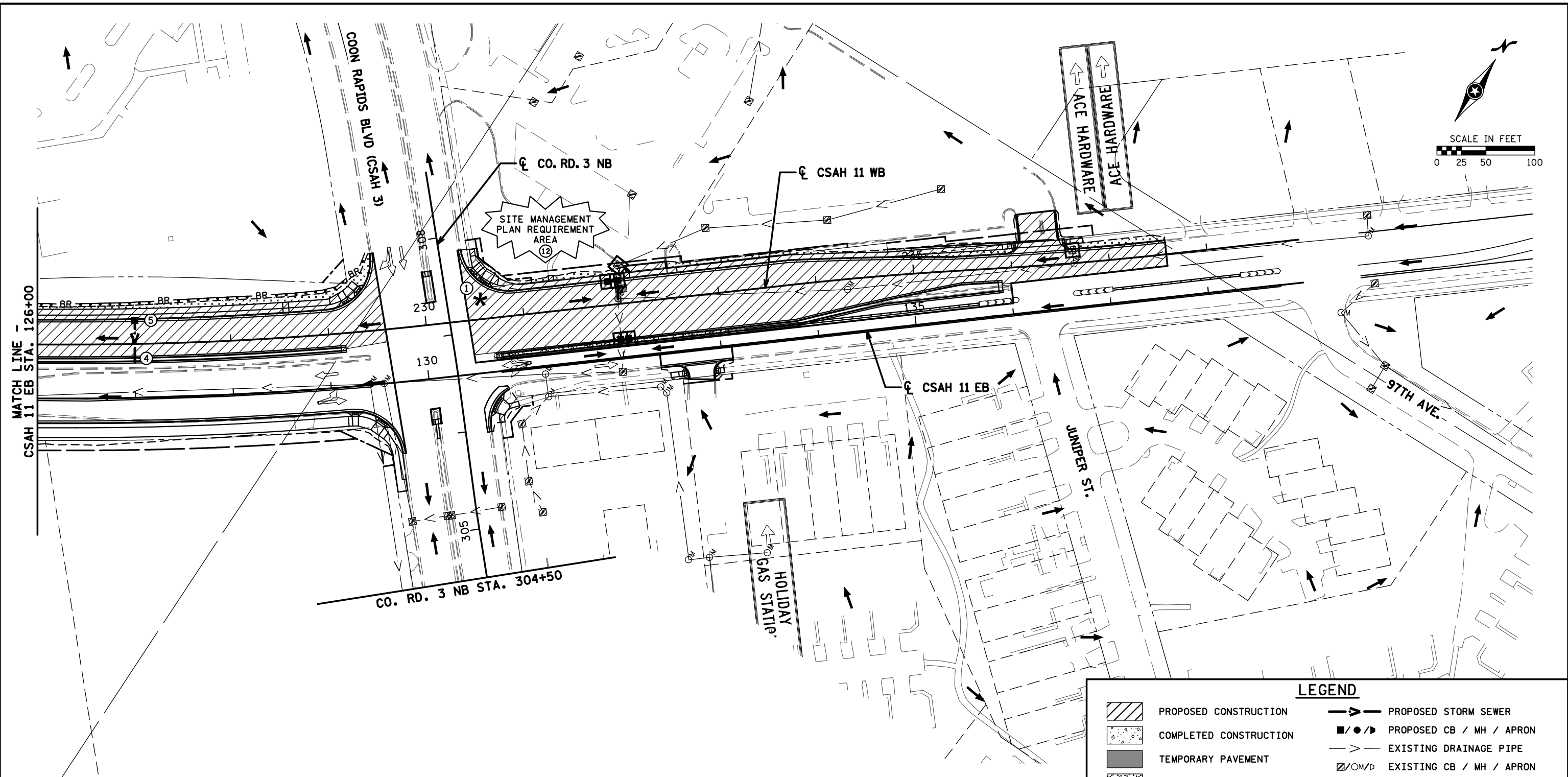
- ② EXCAVATE BASIN TO PLAN BOTTOM ELEVATION. DO NOT EXCAVATE FINAL TWO FEET OR PLACE FILTRATION MEDIA AND DRAIN TILE UNTIL ALL UPGRADIENT SOILS ARE STABILIZED.
- ⑩ CONNECT TO EXISTING STORM SEWER.
- ⑪ SITE MANAGEMENT PLAN REQUIRED BY CONTRACTOR PER SPEC. 1717.2C FOR CONSTRUCTION OF FILTRATION BASIN. SUBMIT PLANS TO PROJECT ENGINEER AND CCWD FOR APPROVAL.



LEGEND

	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS

DATE: 11/24/2020 TIME: 10:54:08 PM
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GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

- ① LOCATION OF STABILIZED CONSTRUCTION EXIT CAN BE ADJUSTED AS NEEDED.
- ④ CONSTRUCT TEMPORARY PIPE PLUG (INCIDENTAL).
- ⑤ TEMPORARILY PLATE STRUCTURE TO PREVENT RUNOFF FROM ENTERING PIPE (INCIDENTAL).
- ⑫ KNOWN AREA OF SOIL AND GROUNDWATER CONTAMINATION. SITE MANAGEMENT PLAN REQUIRED. SEE SPECIAL PROVISIONS FOR INFORMATION ON HANDLING CONTAMINATED MATERIALS.

LEGEND

	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

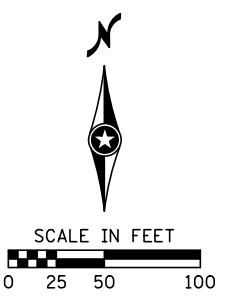
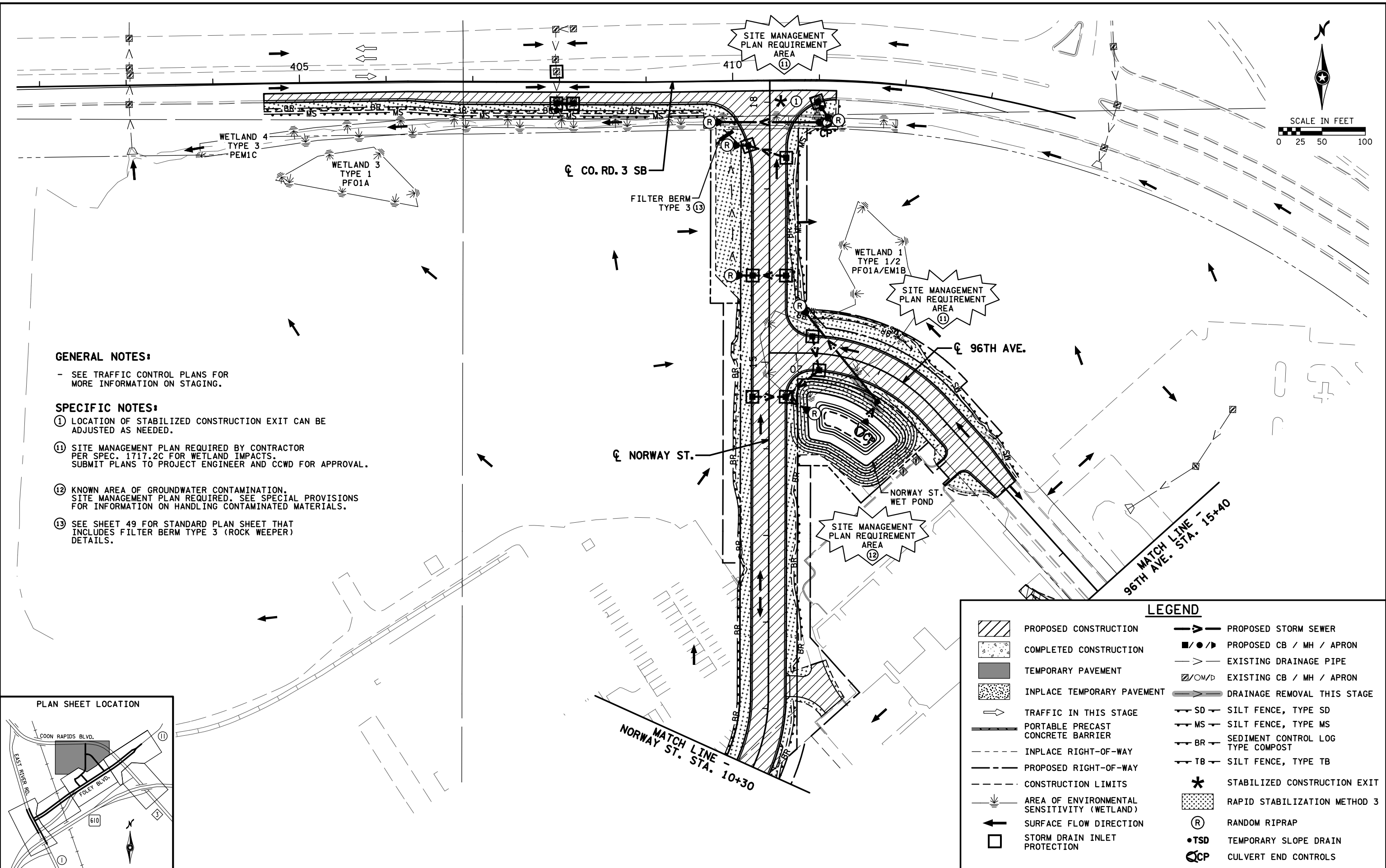
DES: CEH
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



DATE: 11/24/2020 TIME: 10:54:16 PM
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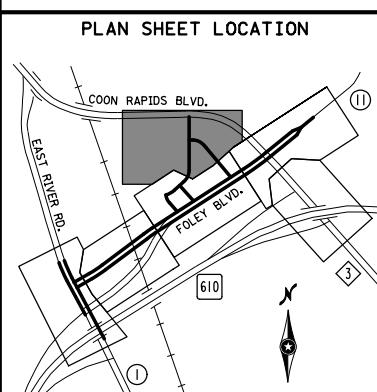


GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

- ① LOCATION OF STABILIZED CONSTRUCTION EXIT CAN BE ADJUSTED AS NEEDED.
- ⑪ SITE MANAGEMENT PLAN REQUIRED BY CONTRACTOR PER SPEC. 1717.2C FOR WETLAND IMPACTS. SUBMIT PLANS TO PROJECT ENGINEER AND CCWD FOR APPROVAL.
- ⑫ KNOWN AREA OF GROUNDWATER CONTAMINATION. SITE MANAGEMENT PLAN REQUIRED. SEE SPECIAL PROVISIONS FOR INFORMATION ON HANDLING CONTAMINATED MATERIALS.
- ⑬ SEE SHEET 49 FOR STANDARD PLAN SHEET THAT INCLUDES FILTER BERM TYPE 3 (ROCK WEEPER) DETAILS.



LEGEND	
	PROPOSED CONSTRUCTION
	COMPLETED CONSTRUCTION
	TEMPORARY PAVEMENT
	INPLACE TEMPORARY PAVEMENT
	TRAFFIC IN THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	CONSTRUCTION LIMITS
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	SURFACE FLOW DIRECTION
	STORM DRAIN INLET PROTECTION
	PROPOSED STORM SEWER
	PROPOSED CB / MH / APRON
	EXISTING DRAINAGE PIPE
	EXISTING CB / MH / APRON
	DRAINAGE REMOVAL THIS STAGE
	SD - SILT FENCE, TYPE SD
	MS - SILT FENCE, TYPE MS
	BR - SEDIMENT CONTROL LOG TYPE COMPOST
	TB - SILT FENCE, TYPE TB
	STABILIZED CONSTRUCTION EXIT
	RAPID STABILIZATION METHOD 3
	RANDOM RIPRAP
	TEMPORARY SLOPE DRAIN
	CULVERT END CONTROLS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW



























I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



DATE: 11/24/2020 TIME: 10:54:20 PM
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LEGEND

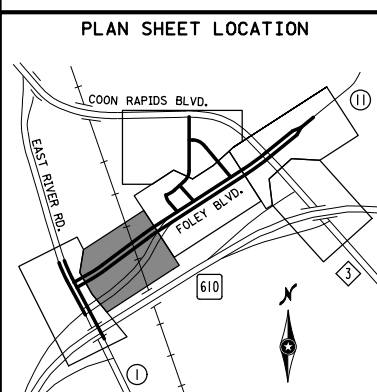
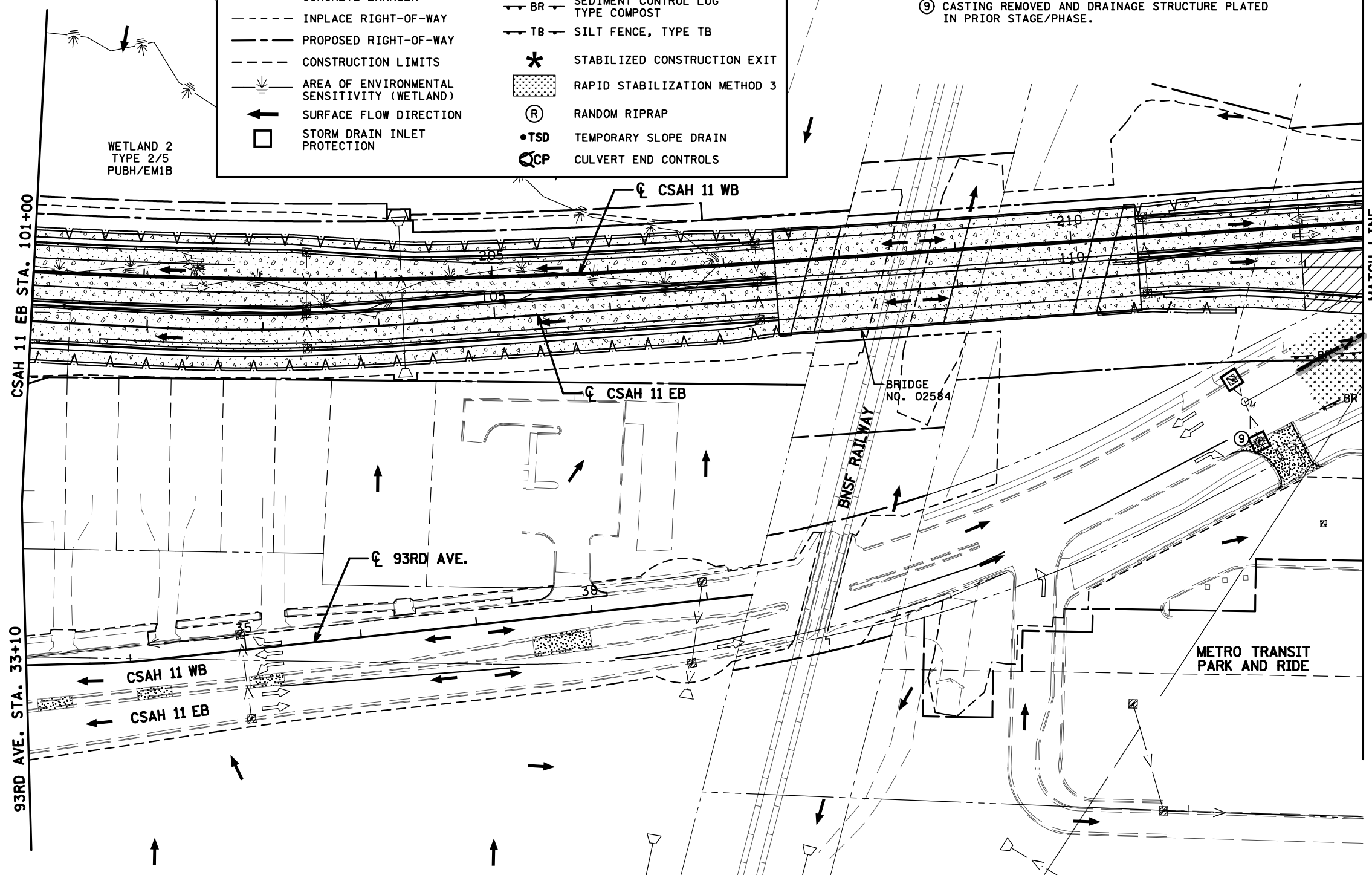
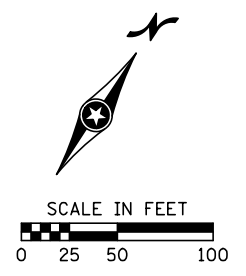
- | | |
|---|---|
|  PROPOSED CONSTRUCTION |  PROPOSED STORM SEWER |
|  COMPLETED CONSTRUCTION |  PROPOSED CB / MH / APRON |
|  TEMPORARY PAVEMENT |  EXISTING DRAINAGE PIPE |
|  INPLACE TEMPORARY PAVEMENT |  EXISTING CB / MH / APRON |
|  TRAFFIC IN THIS STAGE |  DRAINAGE REMOVAL THIS STAGE |
|  PORTABLE PRECAST CONCRETE BARRIER |  SILT FENCE, TYPE SD |
|  INPLACE RIGHT-OF-WAY |  SILT FENCE, TYPE MS |
|  PROPOSED RIGHT-OF-WAY |  SEDIMENT CONTROL LOG TYPE COMPOST |
|  CONSTRUCTION LIMITS |  SILT FENCE, TYPE TB |
|  AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND) |  STABILIZED CONSTRUCTION EXIT |
|  SURFACE FLOW DIRECTION |  RAPID STABILIZATION METHOD 3 |
|  STORM DRAIN INLET PROTECTION |  RANDOM RIPRAP |
| |  TEMPORARY SLOPE DRAIN |
| |  CULVERT END CONTROLS |

GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

⑨ CASTING REMOVED AND DRAINAGE STRUCTURE PLATED IN PRIOR STAGE/PHASE.



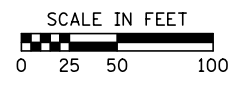
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

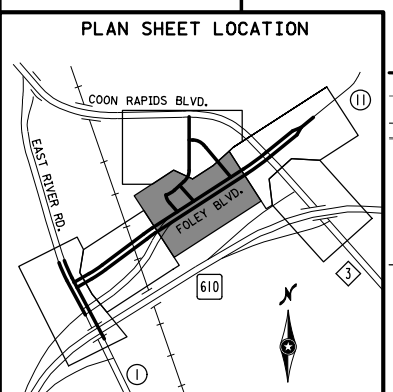
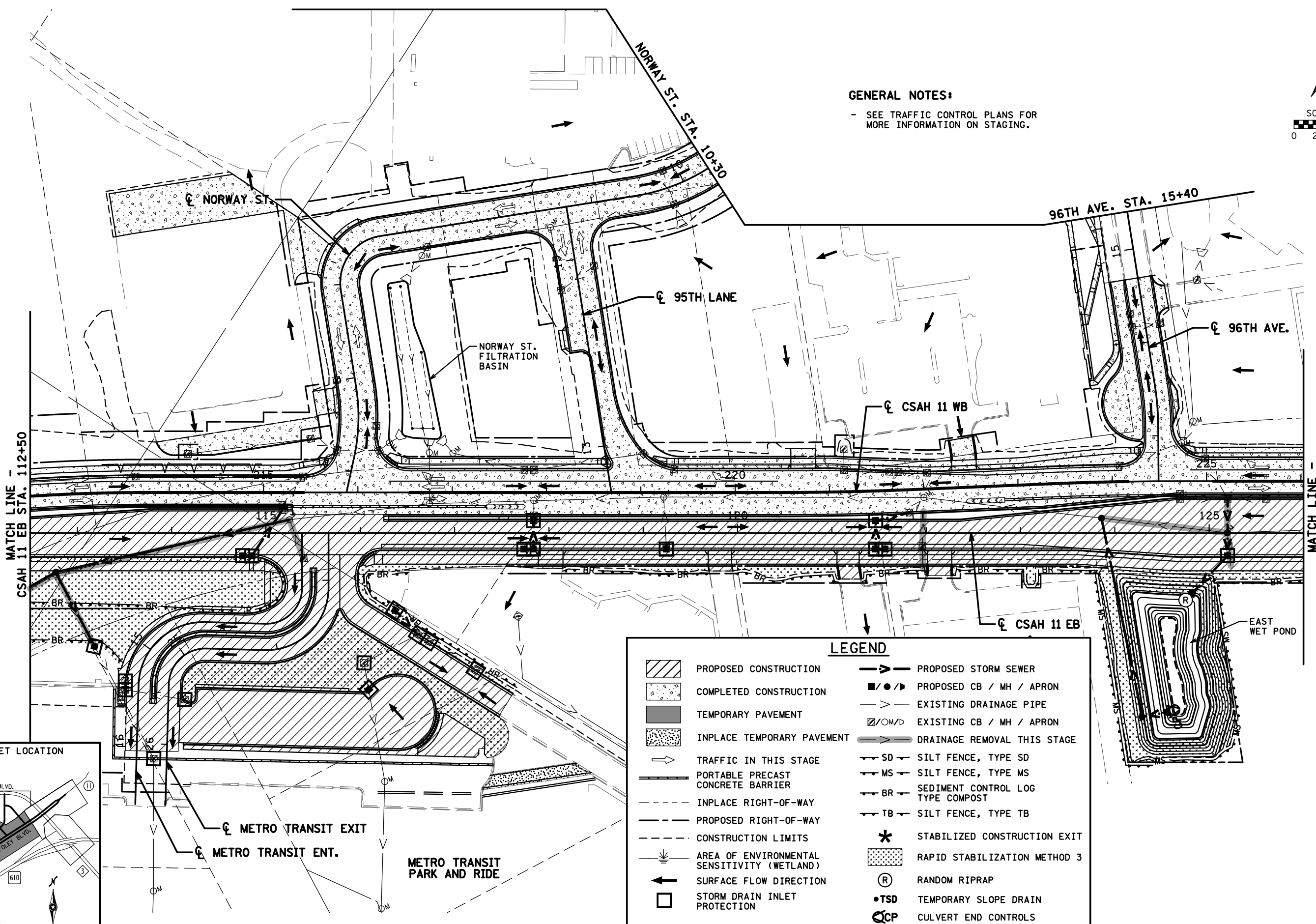
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN





GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.



LEGEND	
	PROPOSED CONSTRUCTION
	COMPLETED CONSTRUCTION
	TEMPORARY PAVEMENT
	INPLACE TEMPORARY PAVEMENT
	TRAFFIC IN THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	CONSTRUCTION LIMITS
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	SURFACE FLOW DIRECTION
	STORM DRAIN INLET PROTECTION
	PROPOSED STORM SEWER
	PROPOSED CB / MH / APRON
	EXISTING DRAINAGE PIPE
	EXISTING CB / MH / APRON
	DRAINAGE REMOVAL THIS STAGE
	SD - SILT FENCE, TYPE SD
	MS - SILT FENCE, TYPE MS
	BR - SEDIMENT CONTROL LOG TYPE COMPOST
	TB - SILT FENCE, TYPE TB
	STABILIZED CONSTRUCTION EXIT
	RAPID STABILIZATION METHOD 3
	RANDOM RIPRAP
	TEMPORARY SLOPE DRAIN
	CULVERT END CONTROLS

DATE: 11/24/2020 TIME: 10:54:25 PM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

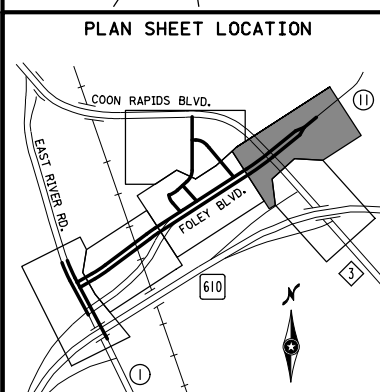
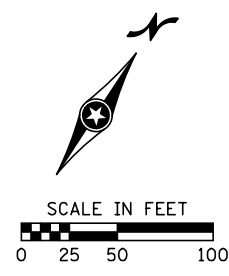
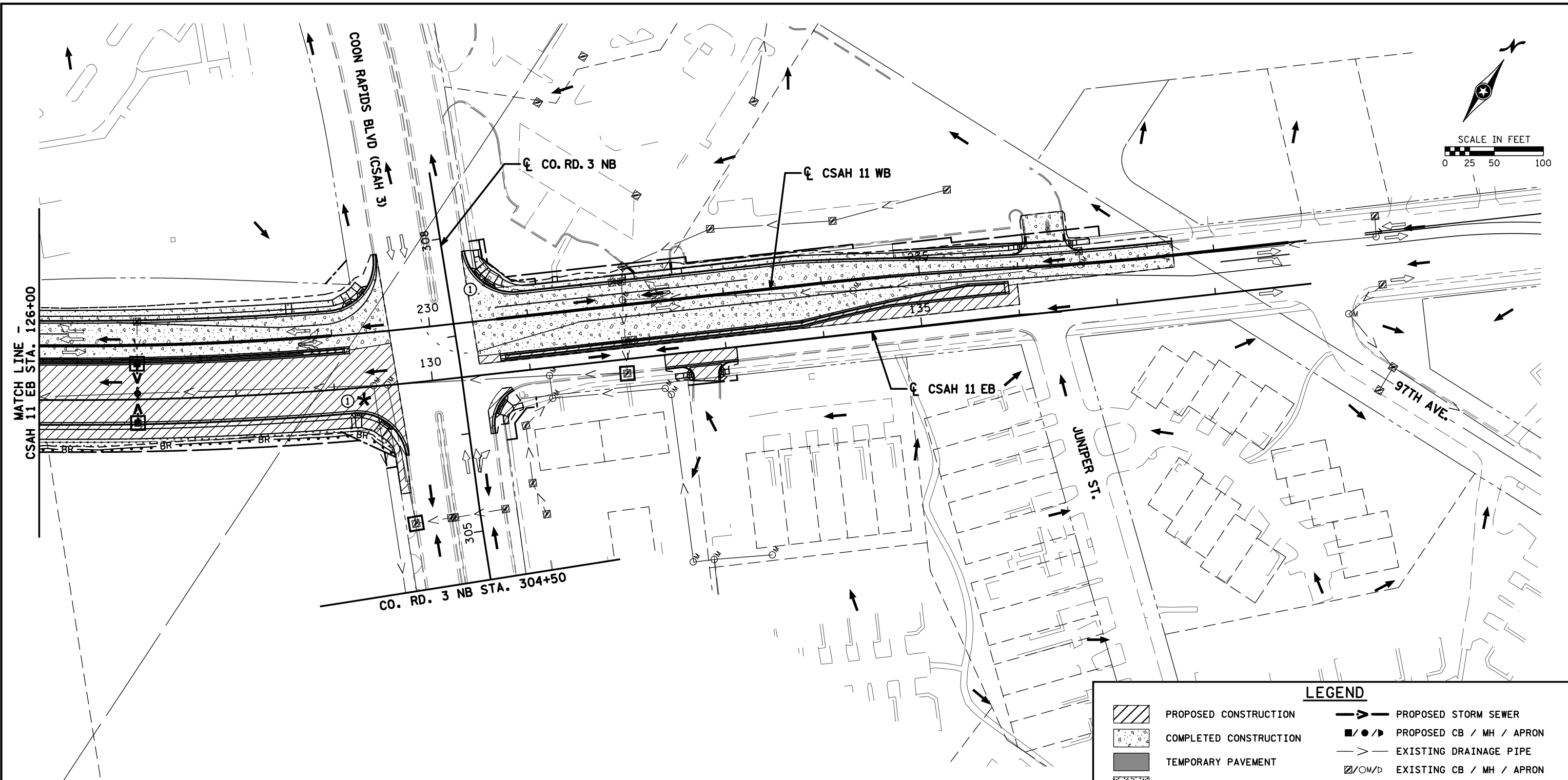
DES: CEH
 DRW: CEH
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



DATE: 11/24/2020 TIME: 10:54:30 PM
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GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

① LOCATION OF STABILIZED CONSTRUCTION EXIT CAN BE ADJUSTED AS NEEDED.

LEGEND			
	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SD - SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		MS - SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		BR - SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		TB - SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS

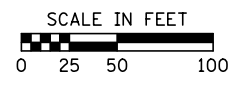
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
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 CHK: MAW

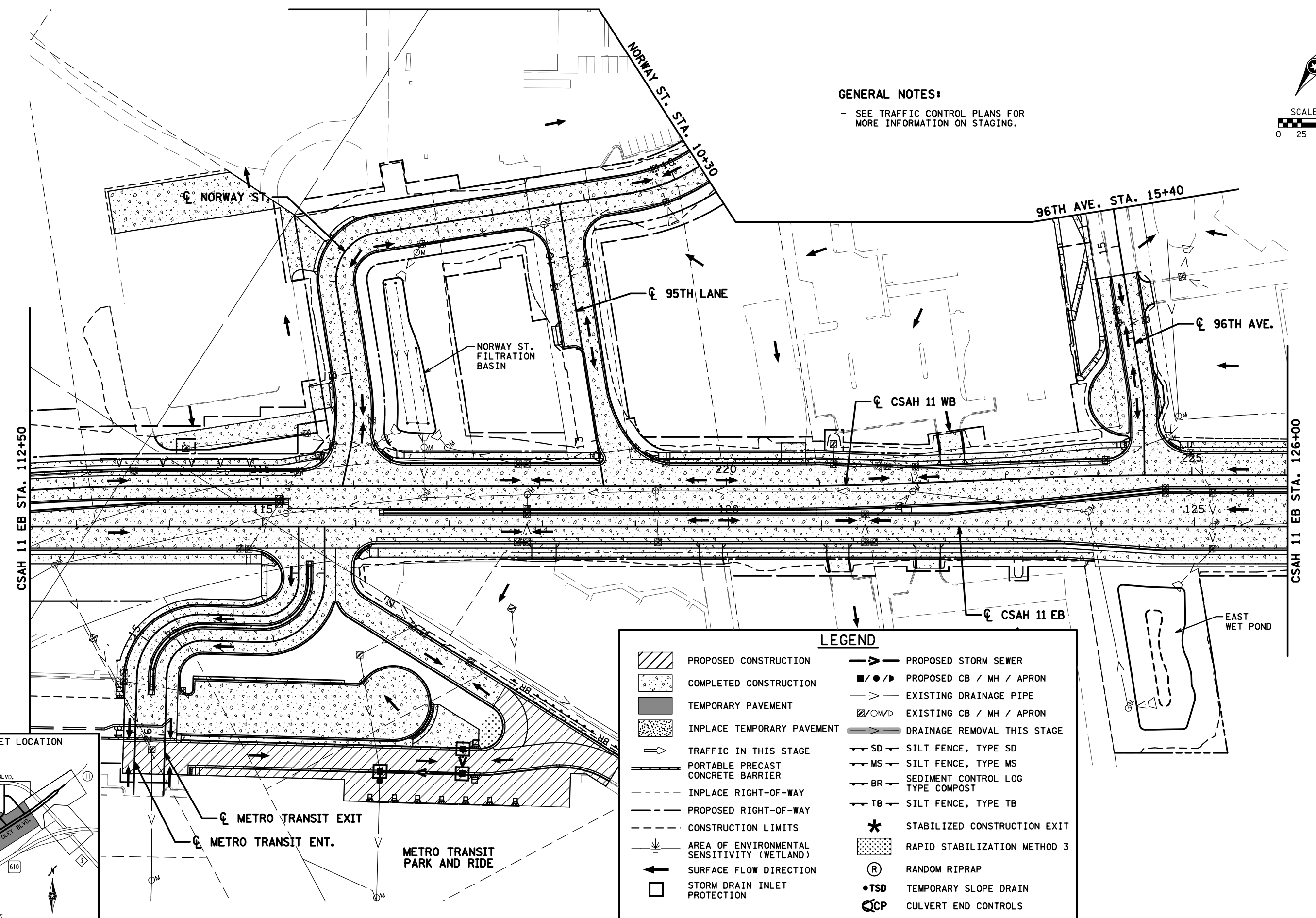
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN

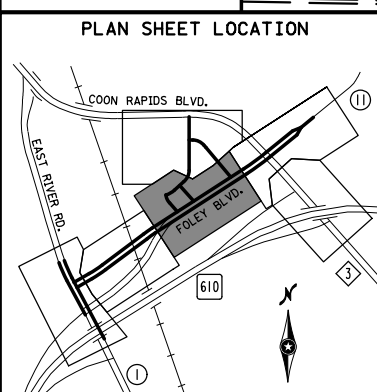




GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.



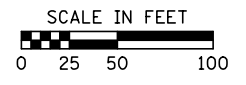
LEGEND	
	PROPOSED CONSTRUCTION
	COMPLETED CONSTRUCTION
	TEMPORARY PAVEMENT
	INPLACE TEMPORARY PAVEMENT
	TRAFFIC IN THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	CONSTRUCTION LIMITS
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	SURFACE FLOW DIRECTION
	STORM DRAIN INLET PROTECTION
	PROPOSED STORM SEWER
	PROPOSED CB / MH / APRON
	EXISTING DRAINAGE PIPE
	EXISTING CB / MH / APRON
	DRAINAGE REMOVAL THIS STAGE
	SD - SILT FENCE, TYPE SD
	MS - SILT FENCE, TYPE MS
	BR - SEDIMENT CONTROL LOG TYPE COMPOST
	TB - SILT FENCE, TYPE TB
	STABILIZED CONSTRUCTION EXIT
	RAPID STABILIZATION METHOD 3
	RANDOM RIPRAP
	TEMPORARY SLOPE DRAIN
	CULVERT END CONTROLS



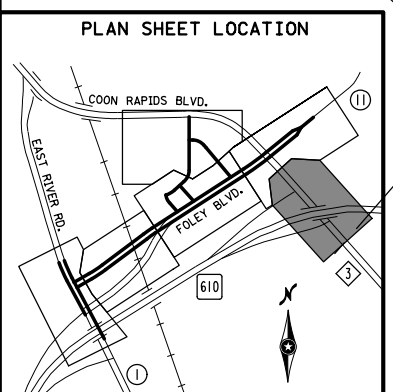
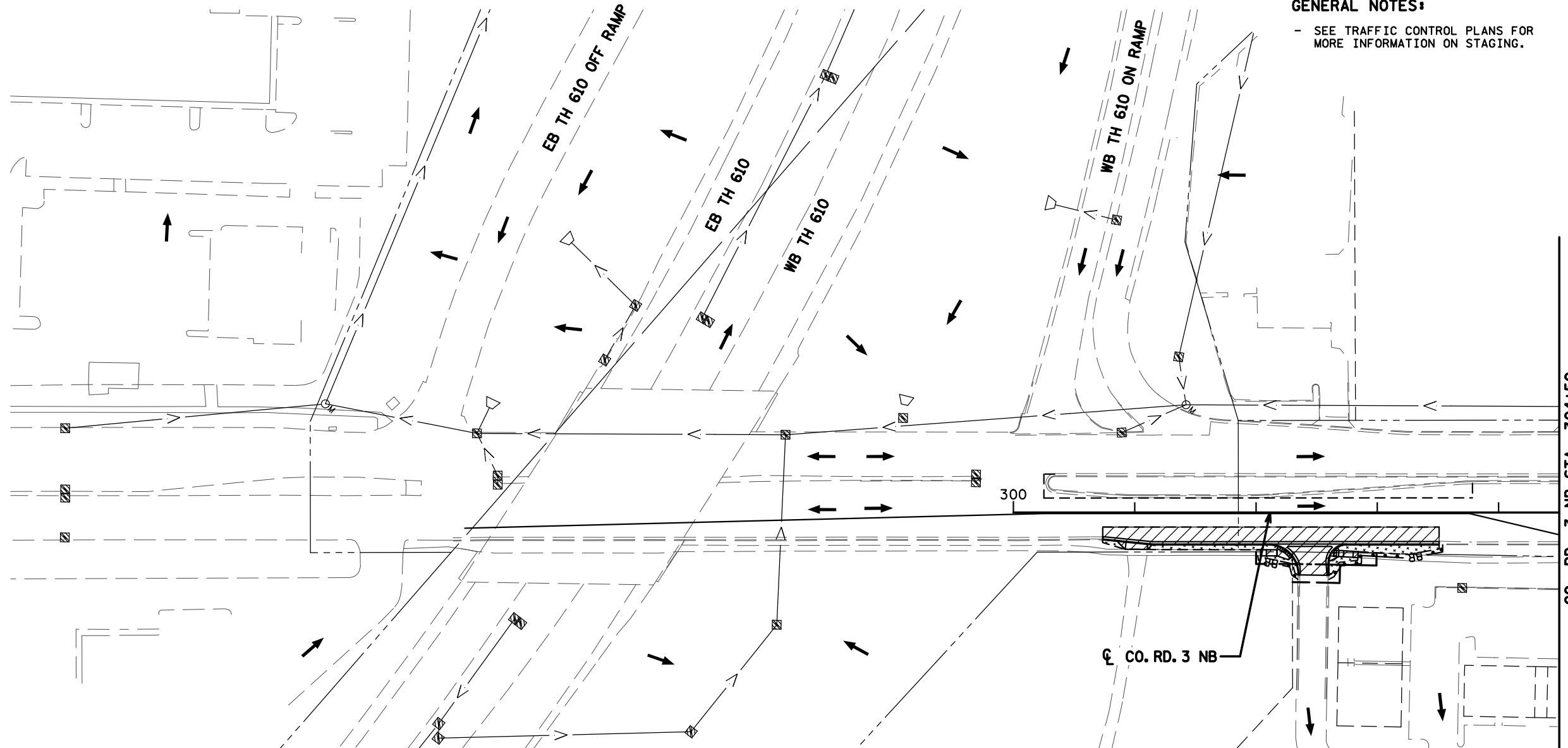
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DES: CEH				I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				TKDA		STAGE 3B		STAGED DRAINAGE AND EROSION CONTROL	
DRW: CEH				SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020						STATE PROJ. NO. 002-611-036		SHEET NO. 191 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: MAW									

DATE: 11/24/2020 TIME: 10:54:43 PM
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GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.



LEGEND	
	PROPOSED CONSTRUCTION
	COMPLETED CONSTRUCTION
	TEMPORARY PAVEMENT
	INPLACE TEMPORARY PAVEMENT
	TRAFFIC IN THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	CONSTRUCTION LIMITS
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	SURFACE FLOW DIRECTION
	STORM DRAIN INLET PROTECTION
	PROPOSED STORM SEWER
	PROPOSED CB / MH / APRON
	EXISTING DRAINAGE PIPE
	EXISTING CB / MH / APRON
	DRAINAGE REMOVAL THIS STAGE
	SD - SILT FENCE, TYPE SD
	MS - SILT FENCE, TYPE MS
	BR - SEDIMENT CONTROL LOG TYPE COMPOST
	TB - SILT FENCE, TYPE TB
	STABILIZED CONSTRUCTION EXIT
	RAPID STABILIZATION METHOD 3
	RANDOM RIPRAP
	TSD - TEMPORARY SLOPE DRAIN
	CPC - CULVERT END CONTROLS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

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SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN

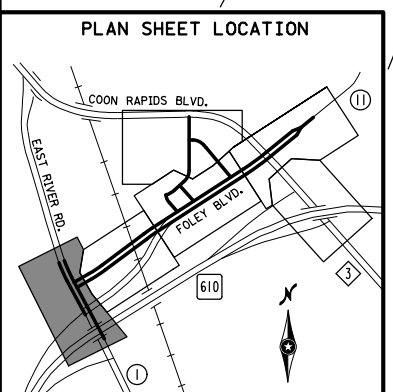
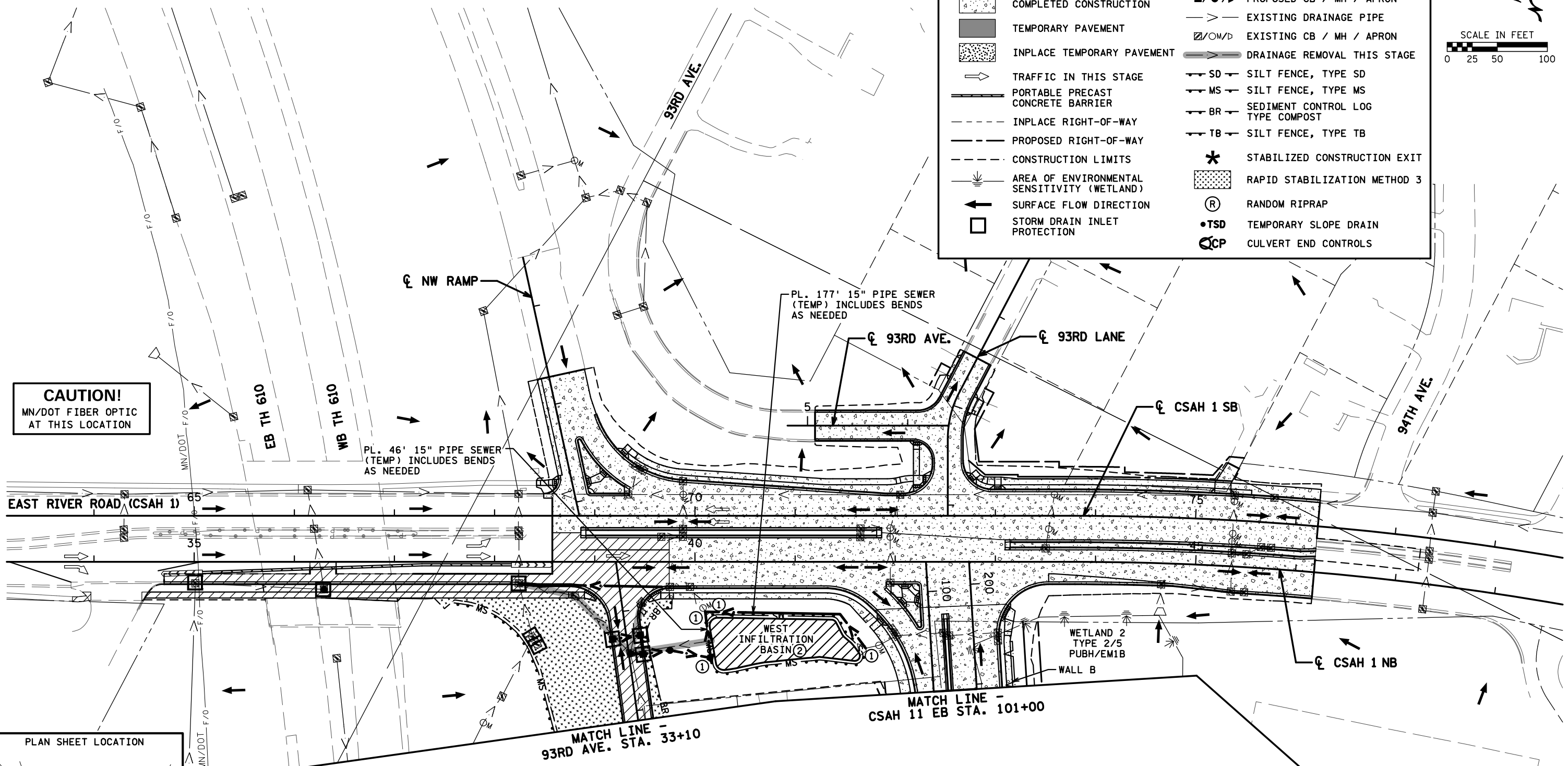
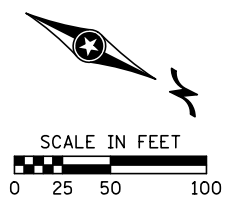


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CAUTION!
 MN/DOT FIBER OPTIC
 AT THIS LOCATION

LEGEND

	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SD - SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		MS - SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		BR - SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		TB - SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS



GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

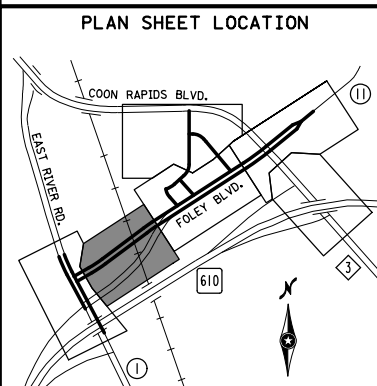
- CONNECT TO EXISTING STORM SEWER.
- EXCAVATE FINAL 2'. PLACE 12" OF FILTER TOPSOIL BORROW. TEMPORARY PIPES SHALL BE USED TO CONVEY RUNOFF THROUGH BASIN UNTIL VEGETATION IS ESTABLISHED.

DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: CEH	SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020
CHK: MAW	MATTHEW A. WASSMAN



DATE: 11/24/2020 TIME: 10:54:59 PM
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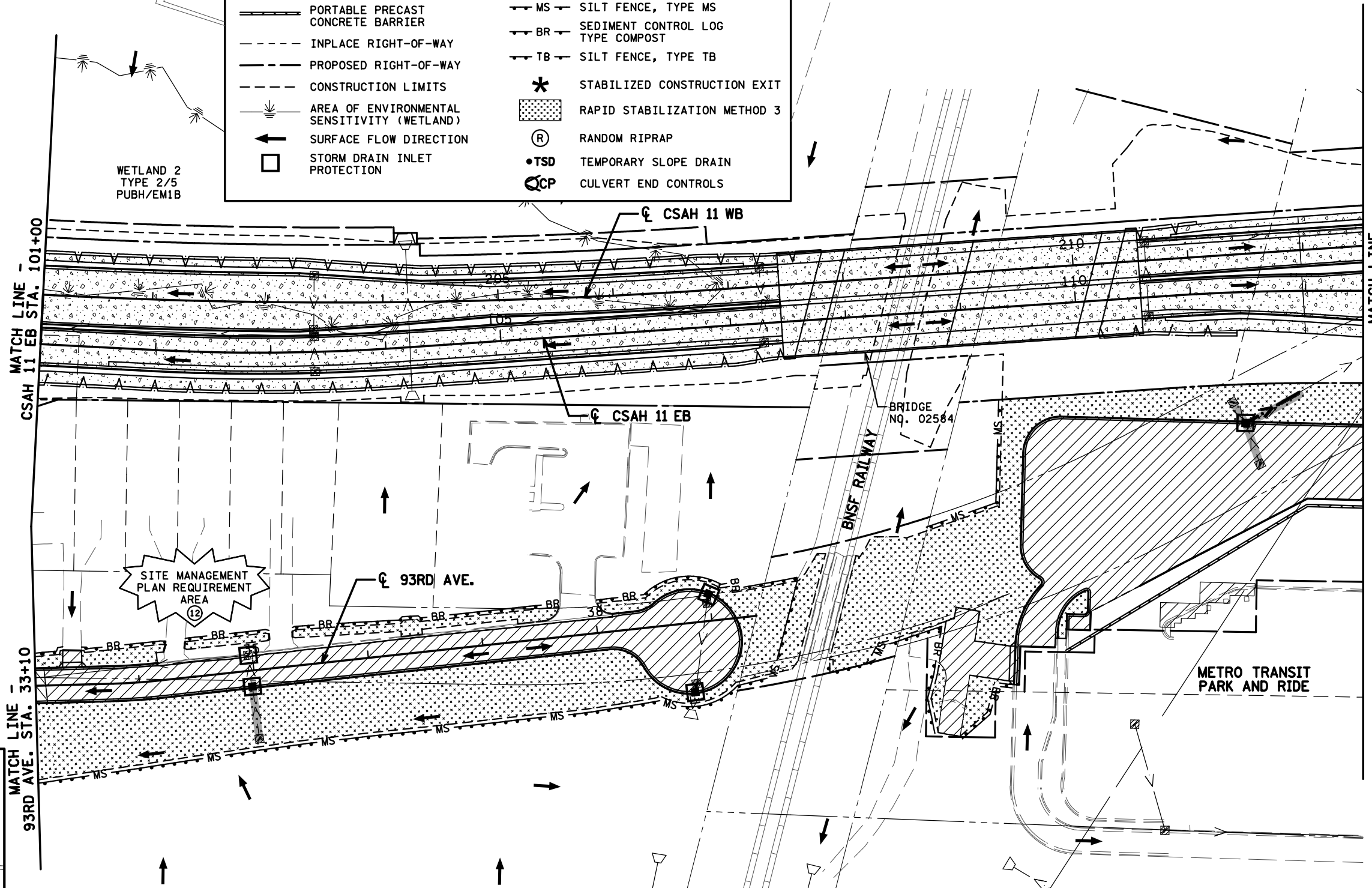
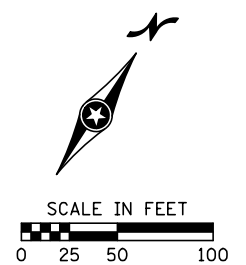
LEGEND			
	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS

GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

SPECIFIC NOTES:

12 KNOWN AREA OF SOIL CONTAMINATION. SITE MANAGEMENT PLAN REQUIRED. SEE SPECIAL PROVISIONS FOR INFORMATION ON HANDLING CONTAMINATED MATERIALS.



MATCH LINE - CSAH 11 EB STA. 101+00

MATCH LINE - CSAH 11 EB STA. 112+50

MATCH LINE - 93RD AVE. STA. 33+10

SITE MANAGEMENT PLAN REQUIREMENT AREA 12

NO.	DATE	BY	DESCRIPTION OF REVISIONS

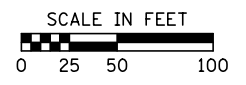
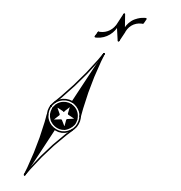
DES: CEH
 DRW: CEH
 CHK: MAW

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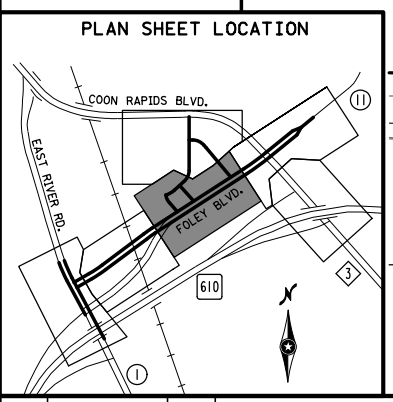
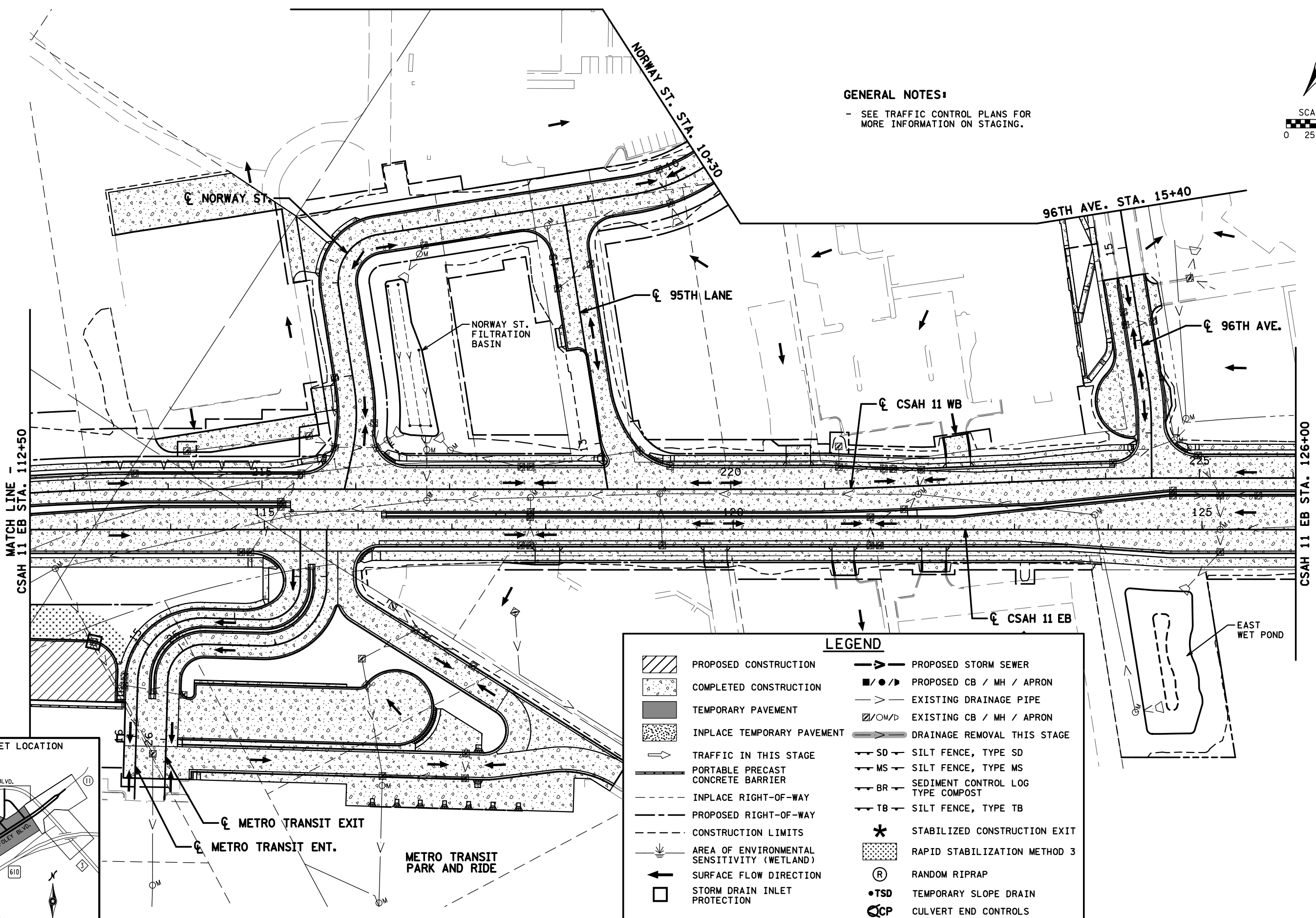
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



STAGE 4
 STATE PROJ. NO. 002-611-036
 STAGED DRAINAGE AND EROSION CONTROL
 SHEET NO. 194 OF 416 SHEETS



GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.



LEGEND	
	PROPOSED CONSTRUCTION
	COMPLETED CONSTRUCTION
	TEMPORARY PAVEMENT
	INPLACE TEMPORARY PAVEMENT
	TRAFFIC IN THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	CONSTRUCTION LIMITS
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	SURFACE FLOW DIRECTION
	STORM DRAIN INLET PROTECTION
	PROPOSED STORM SEWER
	PROPOSED CB / MH / APRON
	EXISTING DRAINAGE PIPE
	EXISTING CB / MH / APRON
	DRAINAGE REMOVAL THIS STAGE
	SILT FENCE, TYPE SD
	SILT FENCE, TYPE MS
	SEDIMENT CONTROL LOG TYPE COMPOST
	SILT FENCE, TYPE TB
	STABILIZED CONSTRUCTION EXIT
	RAPID STABILIZATION METHOD 3
	RANDOM RIPRAP
	TEMPORARY SLOPE DRAIN
	CULVERT END CONTROLS

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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

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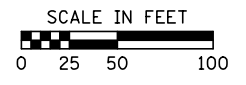
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



STAGE 4
 STATE PROJ. NO. 002-611-036

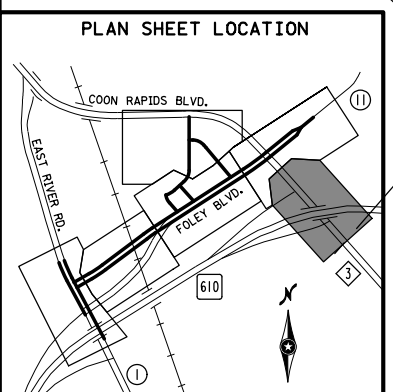
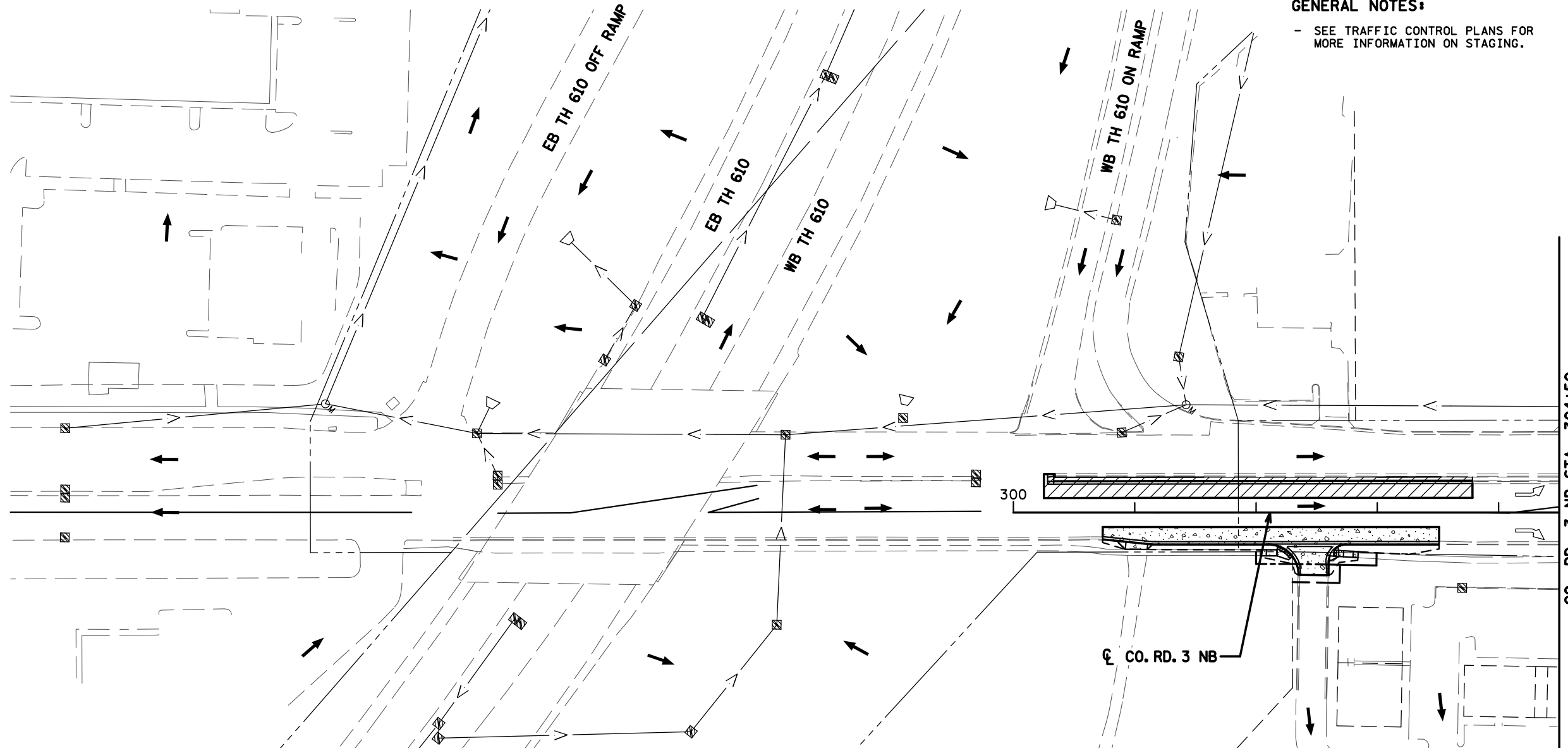
STAGED DRAINAGE AND EROSION CONTROL
 SHEET NO. 195 OF 416 SHEETS

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GENERAL NOTES:

- SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.



LEGEND	
	PROPOSED CONSTRUCTION
	COMPLETED CONSTRUCTION
	TEMPORARY PAVEMENT
	INPLACE TEMPORARY PAVEMENT
	TRAFFIC IN THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	CONSTRUCTION LIMITS
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	SURFACE FLOW DIRECTION
	STORM DRAIN INLET PROTECTION
	PROPOSED STORM SEWER
	PROPOSED CB / MH / APRON
	EXISTING DRAINAGE PIPE
	EXISTING CB / MH / APRON
	DRAINAGE REMOVAL THIS STAGE
	SD - SILT FENCE, TYPE SD
	MS - SILT FENCE, TYPE MS
	BR - SEDIMENT CONTROL LOG TYPE COMPOST
	TB - SILT FENCE, TYPE TB
	STABILIZED CONSTRUCTION EXIT
	RAPID STABILIZATION METHOD 3
	RANDOM RIPRAP
	TSD - TEMPORARY SLOPE DRAIN
	CPC - CULVERT END CONTROLS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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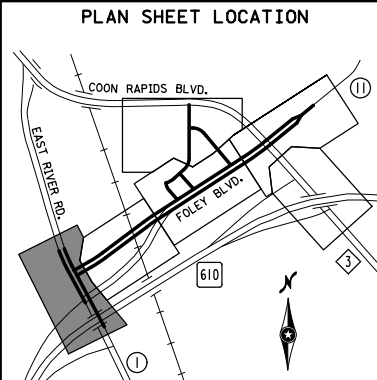
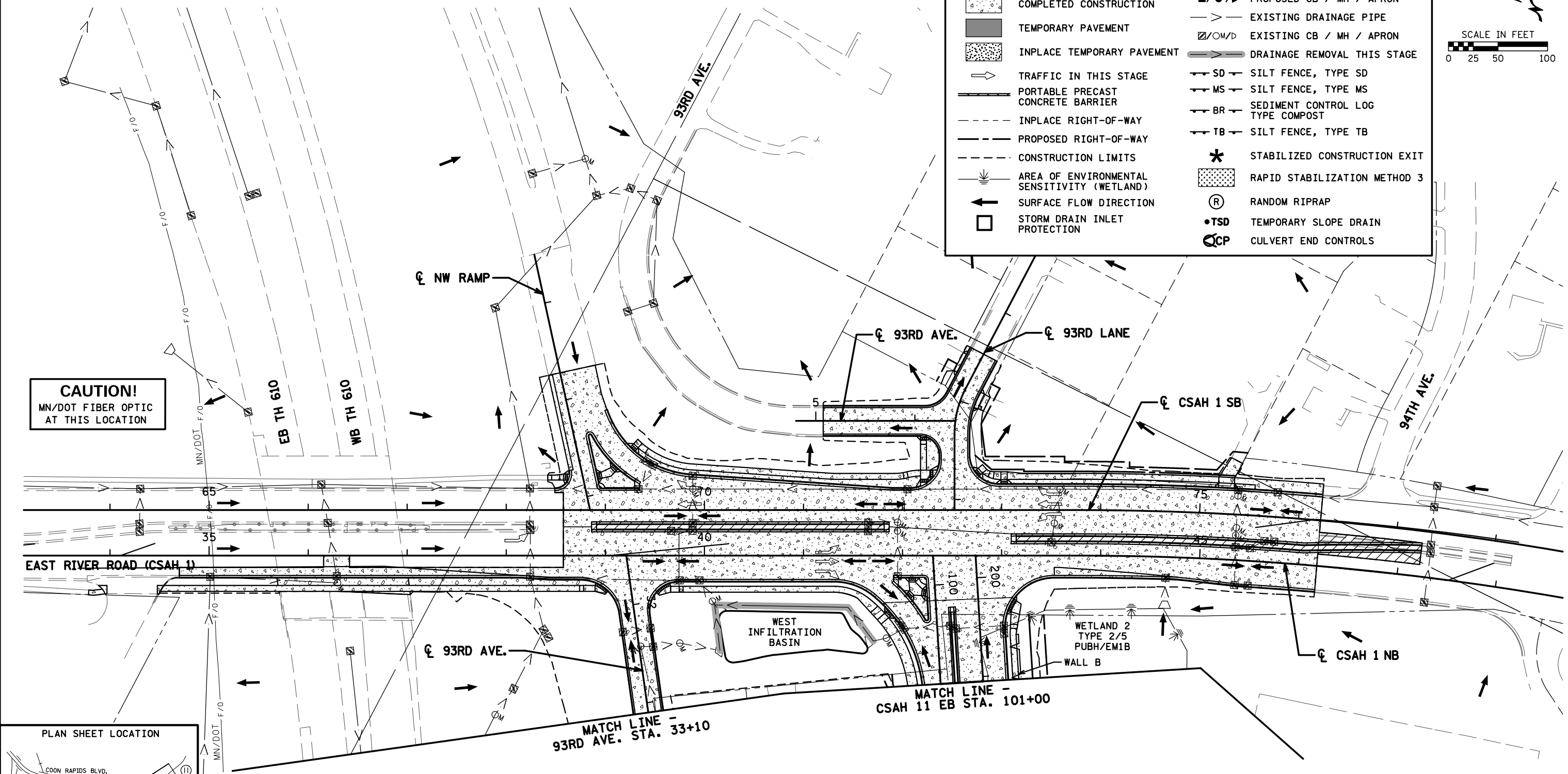
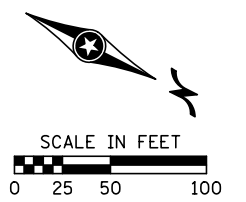


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CAUTION!
 MN/DOT FIBER OPTIC
 AT THIS LOCATION

LEGEND

	PROPOSED CONSTRUCTION		PROPOSED STORM SEWER
	COMPLETED CONSTRUCTION		PROPOSED CB / MH / APRON
	TEMPORARY PAVEMENT		EXISTING DRAINAGE PIPE
	INPLACE TEMPORARY PAVEMENT		EXISTING CB / MH / APRON
	TRAFFIC IN THIS STAGE		DRAINAGE REMOVAL THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER		SD - SILT FENCE, TYPE SD
	INPLACE RIGHT-OF-WAY		MS - SILT FENCE, TYPE MS
	PROPOSED RIGHT-OF-WAY		BR - SEDIMENT CONTROL LOG TYPE COMPOST
	CONSTRUCTION LIMITS		TB - SILT FENCE, TYPE TB
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		STABILIZED CONSTRUCTION EXIT
	SURFACE FLOW DIRECTION		RAPID STABILIZATION METHOD 3
	STORM DRAIN INLET PROTECTION		RANDOM RIPRAP
			TEMPORARY SLOPE DRAIN
			CULVERT END CONTROLS





























GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

			DES: CEH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020 MATTHEW A. WASSMAN		STAGE 5	STAGED DRAINAGE AND EROSION CONTROL
			DRW: CEH			STATE PROJ. NO. 002-611-036	SHEET NO. 197 OF 416 SHEETS
			CHK: MAW				
NO.	DATE	BY	DESCRIPTION OF REVISIONS				

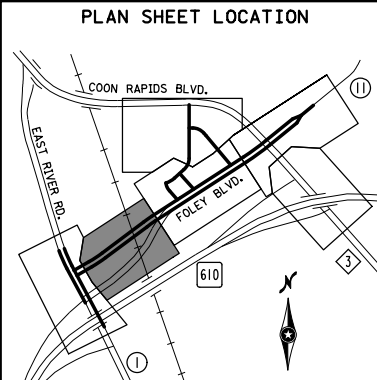
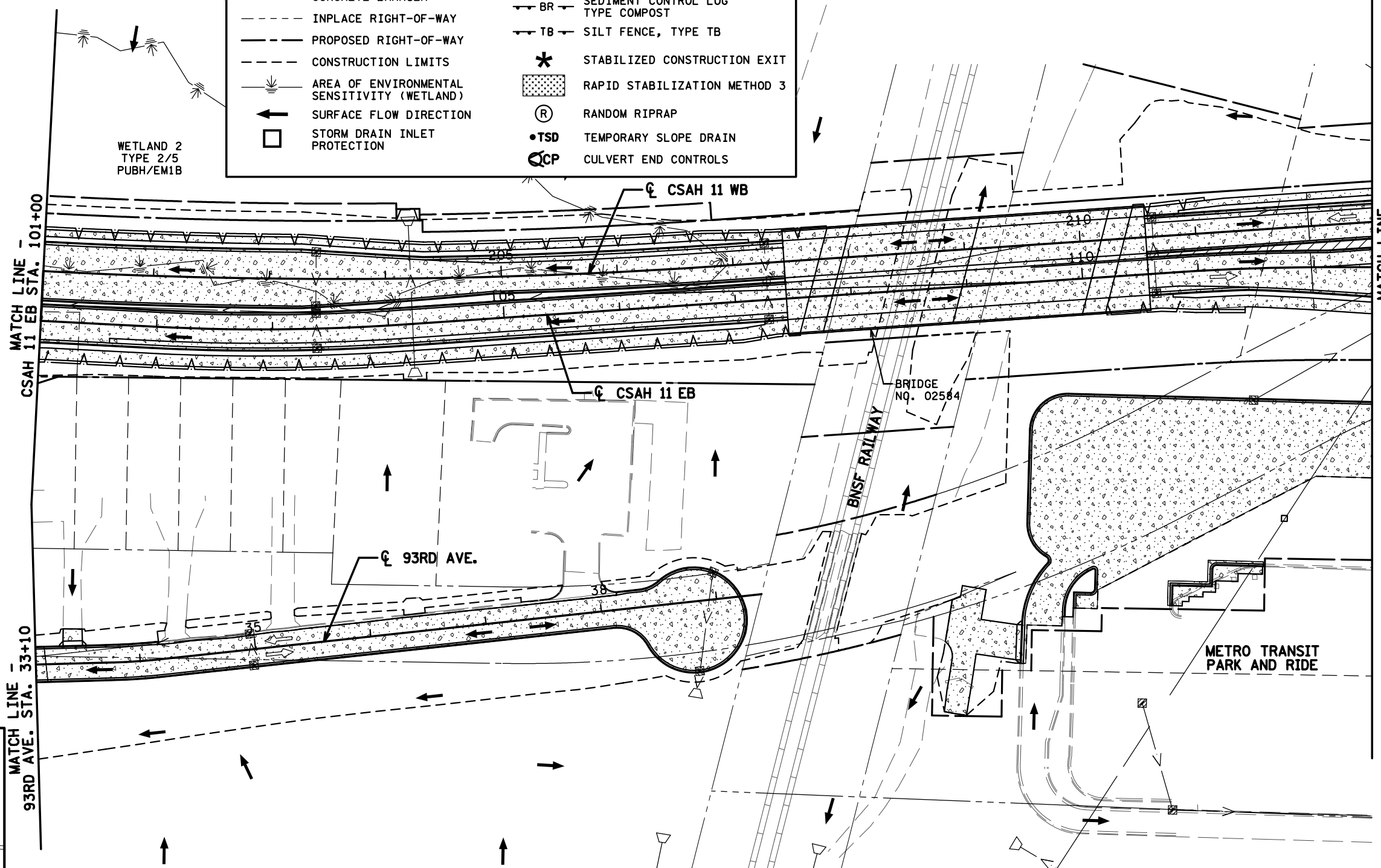
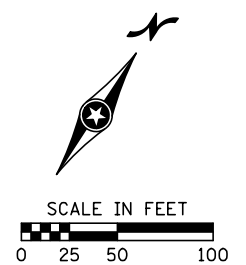
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LEGEND

- | | |
|---|--|
|  PROPOSED CONSTRUCTION |  PROPOSED STORM SEWER |
|  COMPLETED CONSTRUCTION |  PROPOSED CB / MH / APRON |
|  TEMPORARY PAVEMENT |  EXISTING DRAINAGE PIPE |
|  INPLACE TEMPORARY PAVEMENT |  EXISTING CB / MH / APRON |
|  TRAFFIC IN THIS STAGE |  DRAINAGE REMOVAL THIS STAGE |
|  PORTABLE PRECAST CONCRETE BARRIER |  SD - SILT FENCE, TYPE SD |
|  INPLACE RIGHT-OF-WAY |  MS - SILT FENCE, TYPE MS |
|  PROPOSED RIGHT-OF-WAY |  BR - SEDIMENT CONTROL LOG TYPE COMPOST |
|  CONSTRUCTION LIMITS |  TB - SILT FENCE, TYPE TB |
|  AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND) |  STABILIZED CONSTRUCTION EXIT |
|  SURFACE FLOW DIRECTION |  RAPID STABILIZATION METHOD 3 |
|  STORM DRAIN INLET PROTECTION |  RANDOM RIPRAP |
| |  TEMPORARY SLOPE DRAIN |
| |  CULVERT END CONTROLS |

GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.



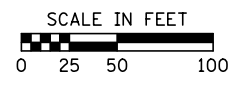
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

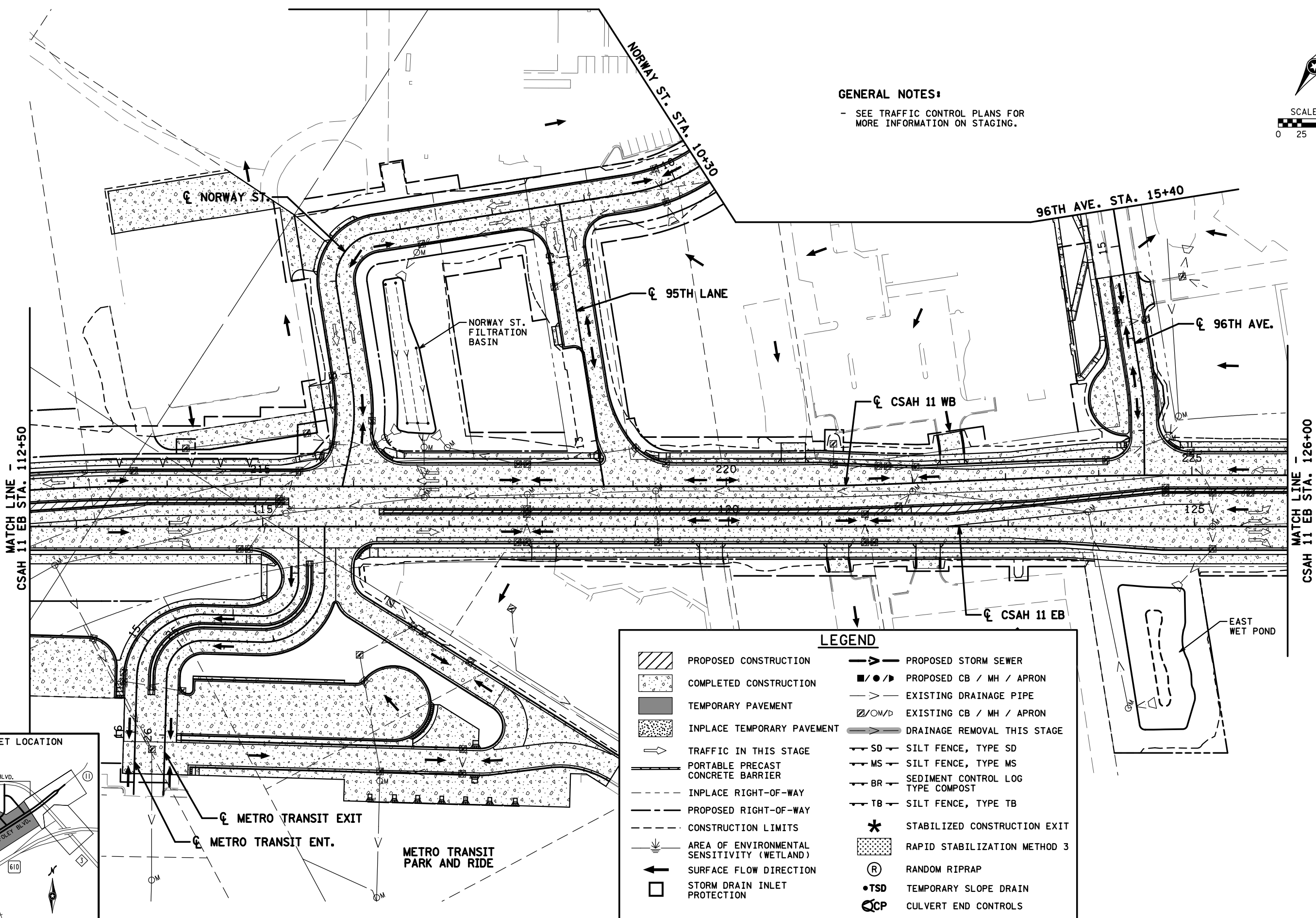
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN

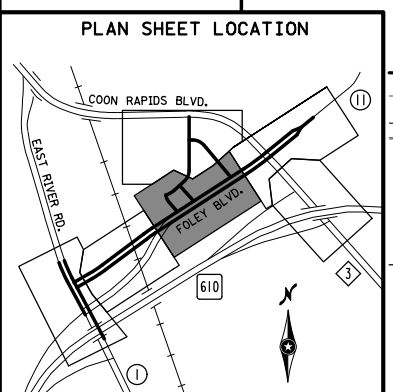




GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.



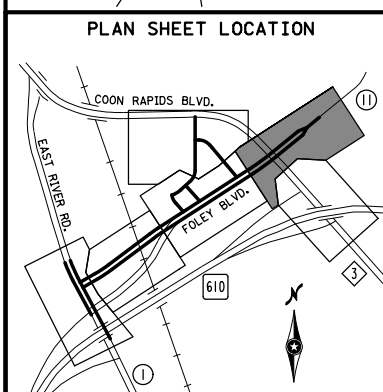
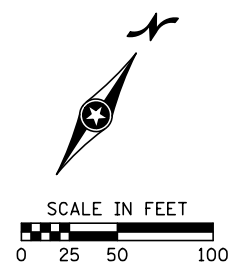
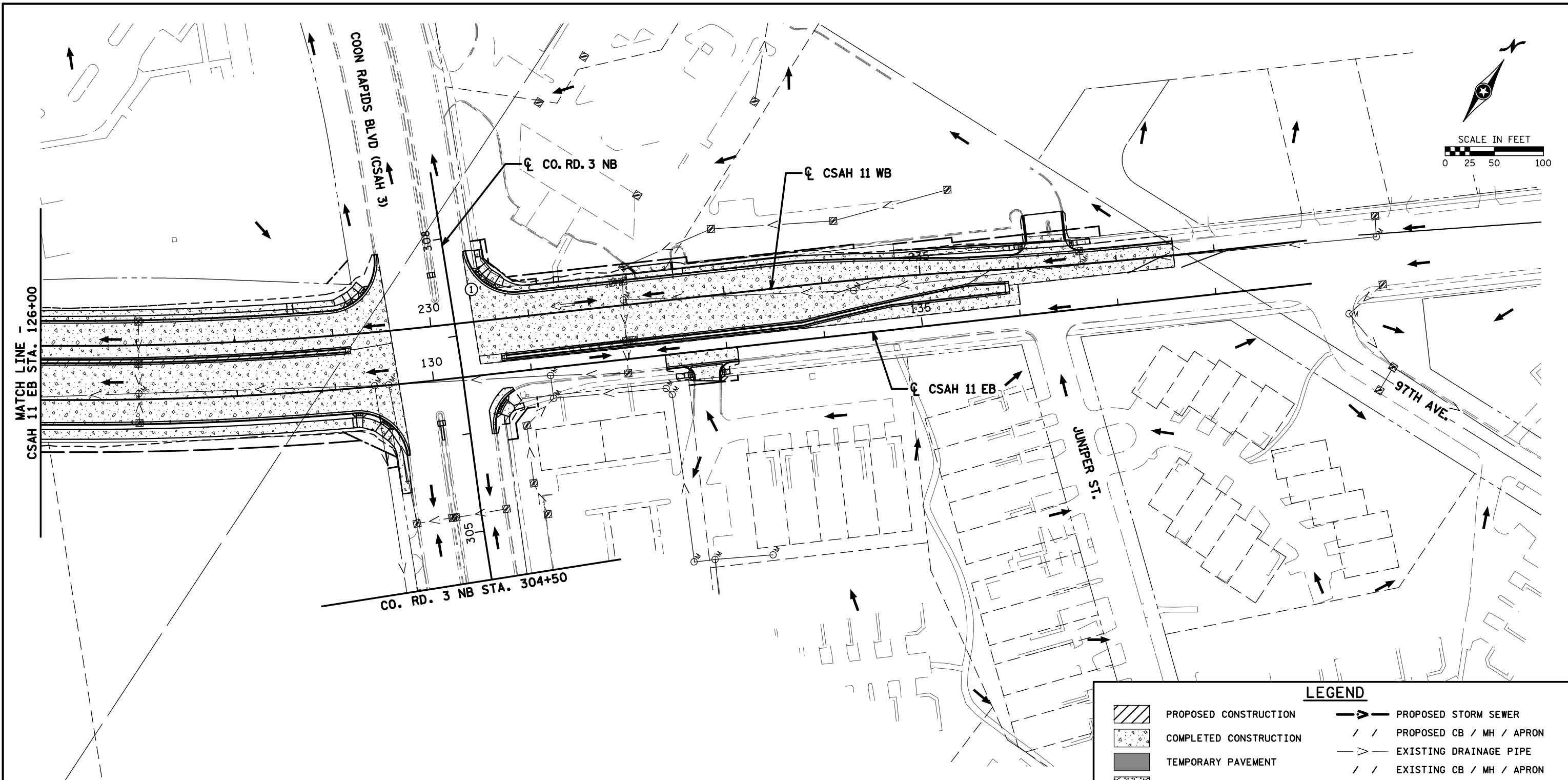
LEGEND	
	PROPOSED CONSTRUCTION
	COMPLETED CONSTRUCTION
	TEMPORARY PAVEMENT
	INPLACE TEMPORARY PAVEMENT
	TRAFFIC IN THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	CONSTRUCTION LIMITS
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	SURFACE FLOW DIRECTION
	STORM DRAIN INLET PROTECTION
	PROPOSED STORM SEWER
	PROPOSED CB / MH / APRON
	EXISTING DRAINAGE PIPE
	EXISTING CB / MH / APRON
	DRAINAGE REMOVAL THIS STAGE
	SD - SILT FENCE, TYPE SD
	MS - SILT FENCE, TYPE MS
	BR - SEDIMENT CONTROL LOG TYPE COMPOST
	TB - SILT FENCE, TYPE TB
	STABILIZED CONSTRUCTION EXIT
	RAPID STABILIZATION METHOD 3
	RANDOM RIPRAP
	TEMPORARY SLOPE DRAIN
	CULVERT END CONTROLS



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DES: CEH				I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						STAGE 5		STAGED DRAINAGE AND EROSION CONTROL	
DRW: CEH				SIGNATURE: <i>Matthew A. Wassman</i> LIC. NO. 26883 DATE: 11/24/2020						STATE PROJ. NO. 002-611-036		SHEET NO. 199 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS									CHK: MAW	

DATE: 11/24/2020 TIME: 10:58:29 PM
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GENERAL NOTES:
 - SEE TRAFFIC CONTROL PLANS FOR MORE INFORMATION ON STAGING.

LEGEND	
	PROPOSED CONSTRUCTION
	COMPLETED CONSTRUCTION
	TEMPORARY PAVEMENT
	INPLACE TEMPORARY PAVEMENT
	TRAFFIC IN THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	CONSTRUCTION LIMITS
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	SURFACE FLOW DIRECTION
	STORM DRAIN INLET PROTECTION
	PROPOSED STORM SEWER
	PROPOSED CB / MH / APRON
	EXISTING DRAINAGE PIPE
	EXISTING CB / MH / APRON
	DRAINAGE REMOVAL THIS STAGE
	SD - SILT FENCE, TYPE SD
	MS - SILT FENCE, TYPE MS
	BR - SEDIMENT CONTROL LOG TYPE COMPOST
	TB - SILT FENCE, TYPE TB
	STABILIZED CONSTRUCTION EXIT
	RAPID STABILIZATION METHOD 3
	RANDOM RIPRAP
	TEMPORARY SLOPE DRAIN
	CULVERT END CONTROLS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: CEH
 DRW: CEH
 CHK: MAW

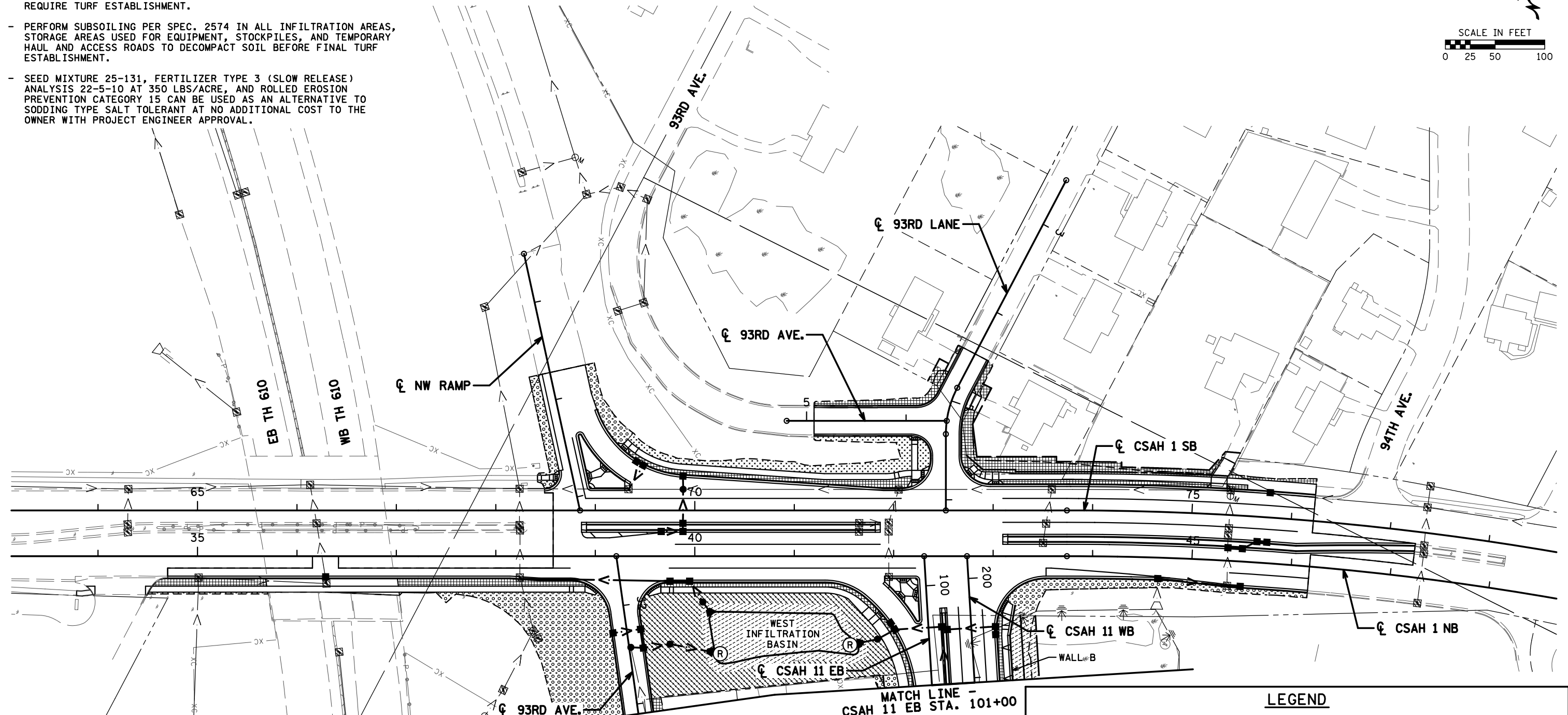
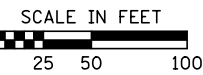
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN

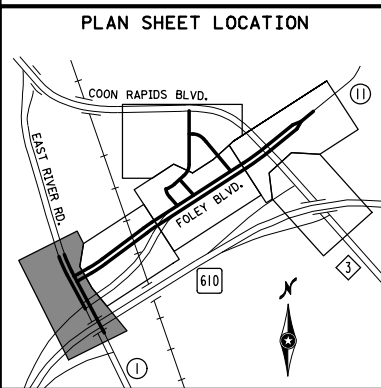


GENERAL NOTES: (APPLY TO ALL TURF ESTABLISHMENT PLAN SHEETS)

- ESTABLISH TURF OVER A MINIMUM OF 6-INCHES OF TOPSOIL.
- PERFORM SOIL BED PREPARATION PER SPEC. 2574 IN ALL AREAS THAT REQUIRE TURF ESTABLISHMENT.
- PERFORM SUBSOILING PER SPEC. 2574 IN ALL INFILTRATION AREAS, STORAGE AREAS USED FOR EQUIPMENT, STOCKPILES, AND TEMPORARY HAUL AND ACCESS ROADS TO DECOMPACT SOIL BEFORE FINAL TURF ESTABLISHMENT.
- SEED MIXTURE 25-131, FERTILIZER TYPE 3 (SLOW RELEASE) ANALYSIS 22-5-10 AT 350 LBS/ACRE, AND ROLLED EROSION PREVENTION CATEGORY 15 CAN BE USED AS AN ALTERNATIVE TO SODDING TYPE SALT TOLERANT AT NO ADDITIONAL COST TO THE OWNER WITH PROJECT ENGINEER APPROVAL.



DATE: 11/24/2020 TIME: 10:59:07 PM FILENAME: pw:\kda-pw-bentley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000 04_Production\01_CAD\Highway\Sheets\cd00261036_turf.dgn



LEGEND	
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	CONSTRUCTION LIMITS
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	RANDOM RIPRAP
	6" AGGREGATE BASE (CV) CLASS 5
	12" RANDOM RIPRAP CLASS II
	SEED MIXTURE 25-121 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
	SEED MIXTURE 25-131 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
	SEED MIXTURE 33-261 ROLLED EROSION PREVENTION CAT 10 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
	SEED MIXTURE 35-221 ROLLED EROSION PREVENTION CAT 20 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
	SODDING TYPE SALT TOLERANT FERT. TYPE 3 (22-5-10 AT 200 LB/AC)
	4" MULCH MATERIAL TYPE 9 OVER GEOTEXTILE FABRIC TYPE 5

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: MAW
 DRW: RJR
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN


















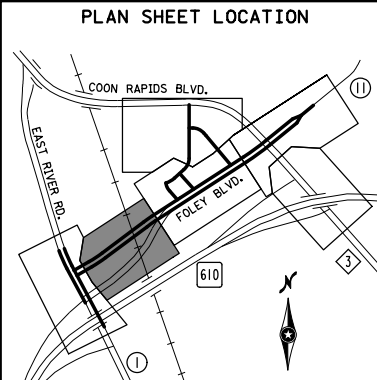
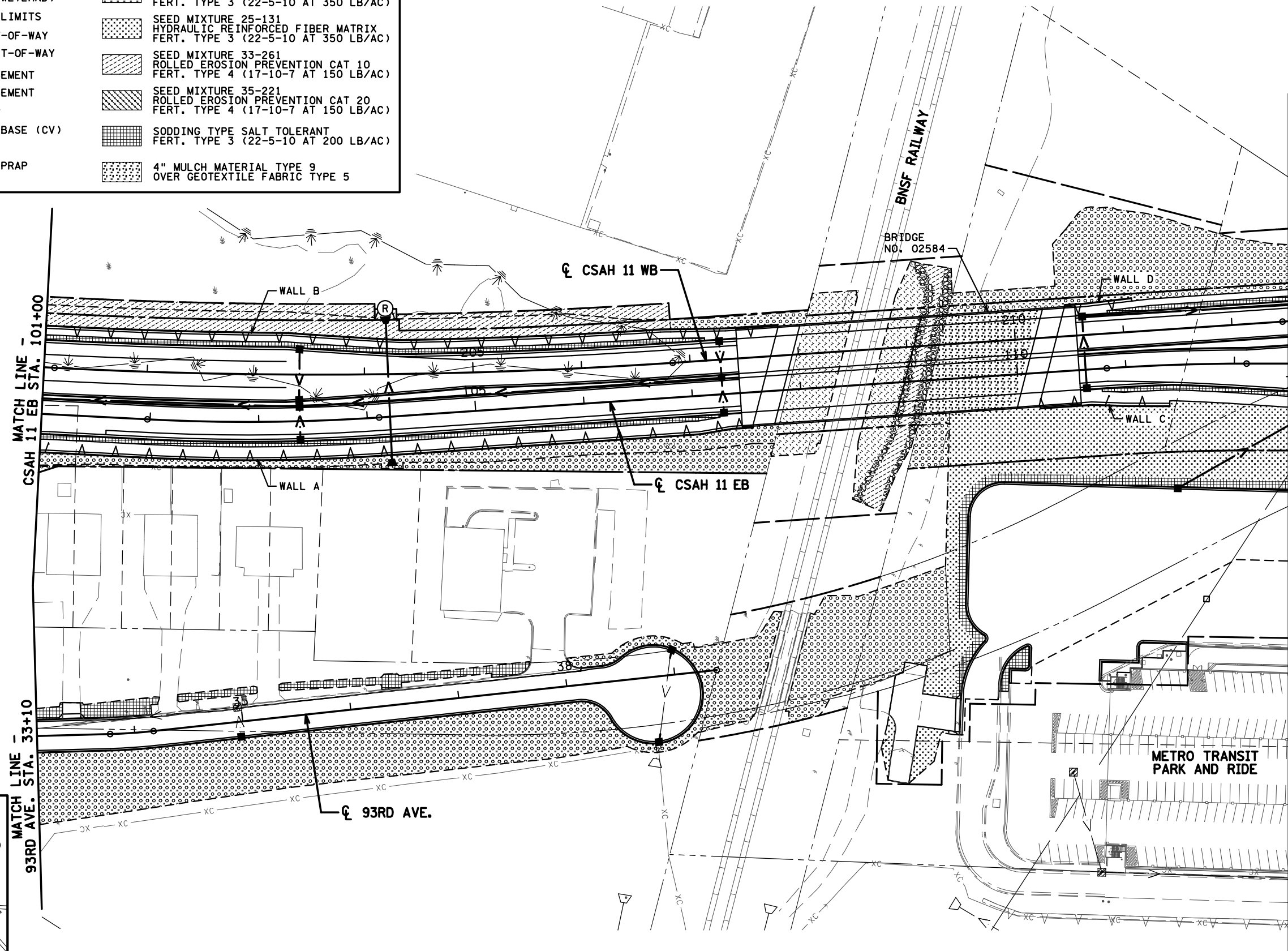
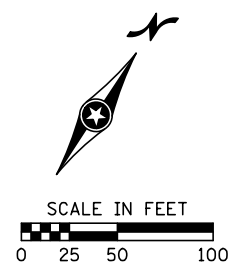
CSAH 1 NB STA. 34+69.98 TO STA. 47+21.35
 STATE PROJ. NO. 002-611-036

TURF ESTABLISHMENT PLAN
 SHEET NO. 201 OF 416 SHEETS

DATE: 11/24/2020 TIME: 10:59:47 PM
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LEGEND

-  AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
-  CONSTRUCTION LIMITS
-  INPLACE RIGHT-OF-WAY
-  PROPOSED RIGHT-OF-WAY
-  PERMANENT EASEMENT
-  TEMPORARY EASEMENT
-  RANDOM RIPRAP
-  6" AGGREGATE BASE (CV) CLASS 5
-  12" RANDOM RIPRAP CLASS II
-  SEED MIXTURE 25-121 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
-  SEED MIXTURE 25-131 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
-  SEED MIXTURE 33-261 ROLLED EROSION PREVENTION CAT 10 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
-  SEED MIXTURE 35-221 ROLLED EROSION PREVENTION CAT 20 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
-  SODDING TYPE SALT TOLERANT FERT. TYPE 3 (22-5-10 AT 200 LB/AC)
-  4" MULCH MATERIAL TYPE 9 OVER GEOTEXTILE FABRIC TYPE 5



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: MAW
 DRW: RJR
 CHK: MAW

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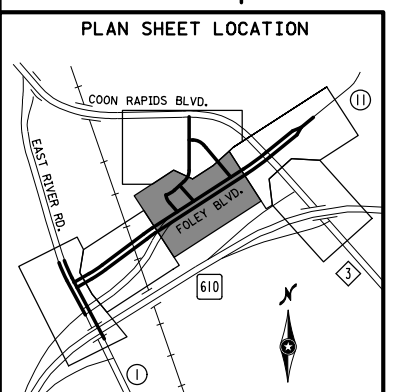
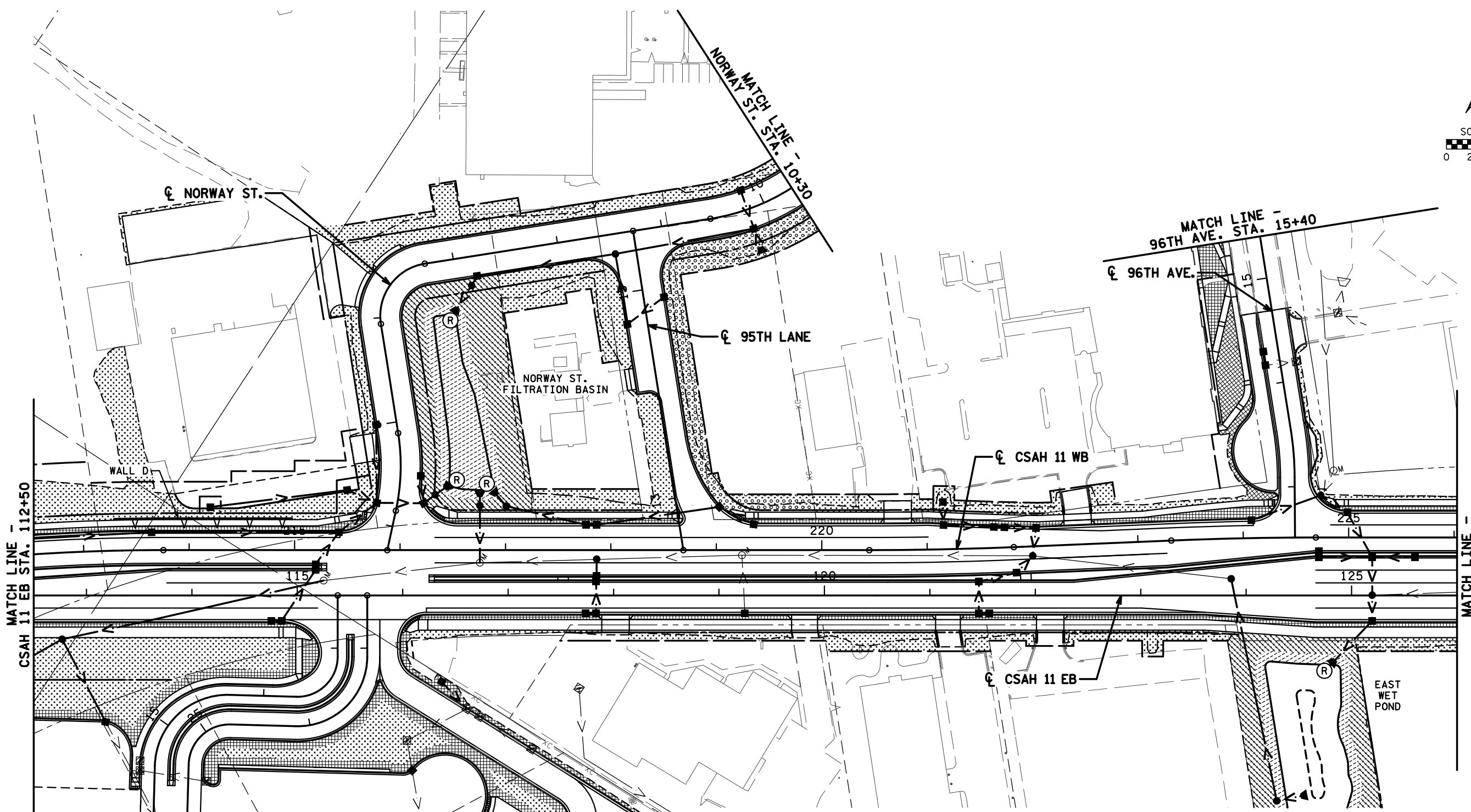
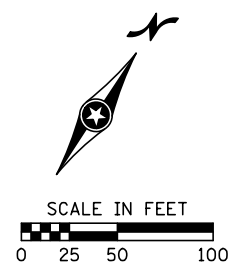
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



CSAH 11 EB STA. 101+00 TO STA. 112+50
 STATE PROJ. NO. 002-611-036

TURF ESTABLISHMENT PLAN
 SHEET NO. 202 OF 416 SHEETS

DATE: 11/24/2020 TIME: 11:00:28 PM
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LEGEND					
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		SEED MIXTURE 25-121 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)		SODDING TYPE SALT TOLERANT FERT. TYPE 3 (22-5-10 AT 200 LB/AC)
	CONSTRUCTION LIMITS		SEED MIXTURE 25-131 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)		6" AGGREGATE BASE (CV) CLASS 5
	INPLACE RIGHT-OF-WAY		SEED MIXTURE 33-261 ROLLED EROSION PREVENTION CAT 10 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)		12" RANDOM RIPRAP CLASS II
	PROPOSED RIGHT-OF-WAY		SEED MIXTURE 35-221 ROLLED EROSION PREVENTION CAT 20 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)		4" MULCH MATERIAL TYPE 9 OVER GEOTEXTILE FABRIC TYPE 5
	PERMANENT EASEMENT		RANDOM RIPRAP		
	TEMPORARY EASEMENT				

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: MAW
 DRW: RJR
 CHK: MAW

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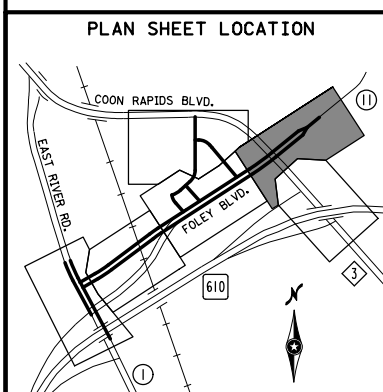
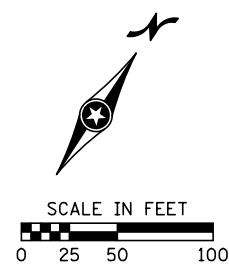
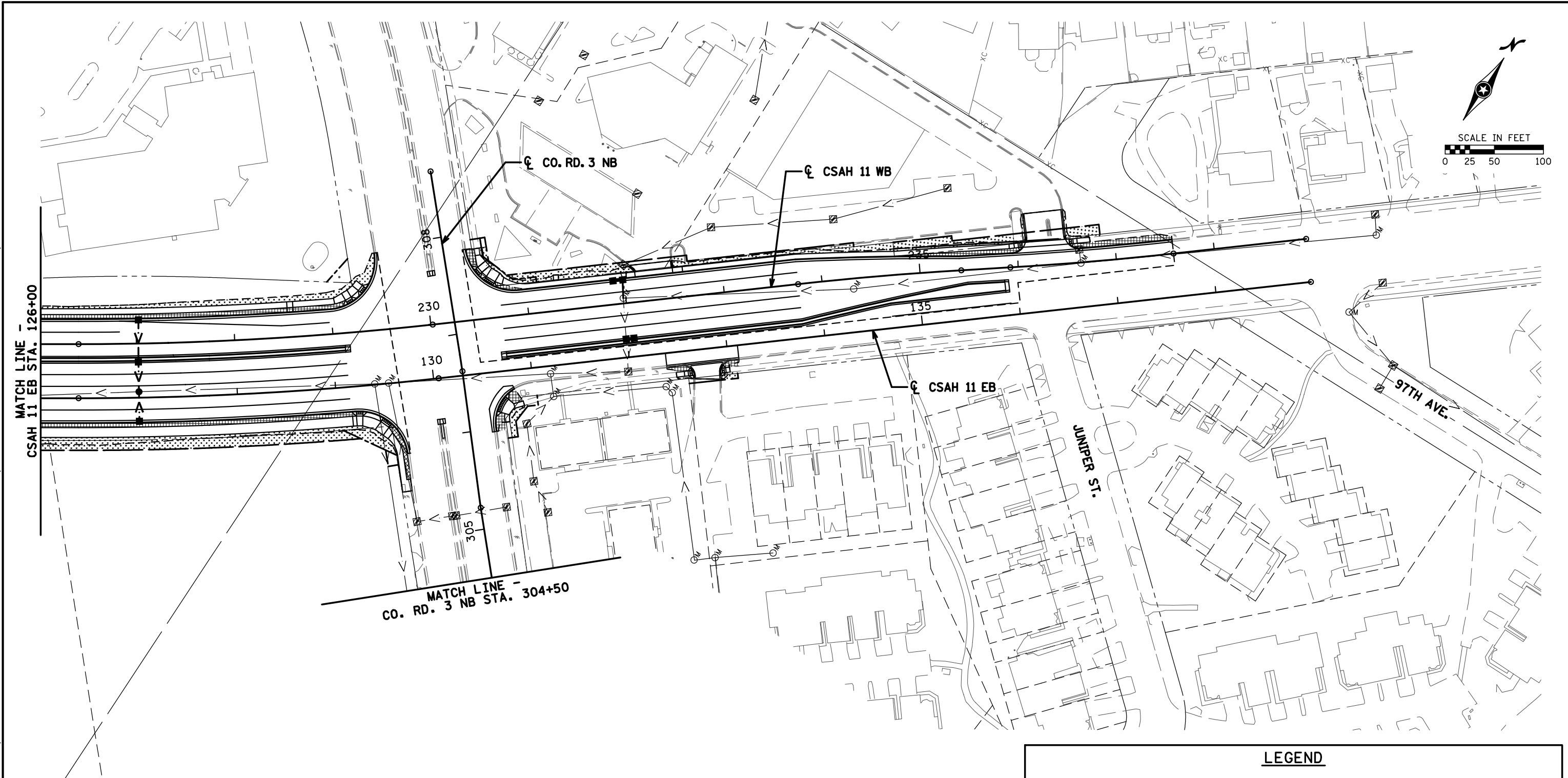
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



CSAH 11 EB STA. 112+50 TO STA. 126+00
 STATE PROJ. NO. 002-611-036

TURF ESTABLISHMENT PLAN
 SHEET NO. 203 OF 416 SHEETS

DATE: 11/24/2020 TIME: 11:01:01 PM
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LEGEND	
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	CONSTRUCTION LIMITS
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	RANDOM RIPRAP
	6" AGGREGATE BASE (CV) CLASS 5
	12" RANDOM RIPRAP CLASS II
	SEED MIXTURE 25-121 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
	SEED MIXTURE 25-131 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
	SEED MIXTURE 33-261 ROLLED EROSION PREVENTION CAT 10 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
	SEED MIXTURE 35-221 ROLLED EROSION PREVENTION CAT 20 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
	SODDING TYPE SALT TOLERANT FERT. TYPE 3 (22-5-10 AT 200 LB/AC)
	4" MULCH MATERIAL TYPE 9 OVER GEOTEXTILE FABRIC TYPE 5

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: MAW
 DRW: RJR
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

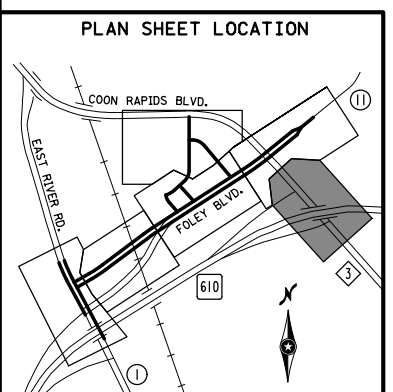
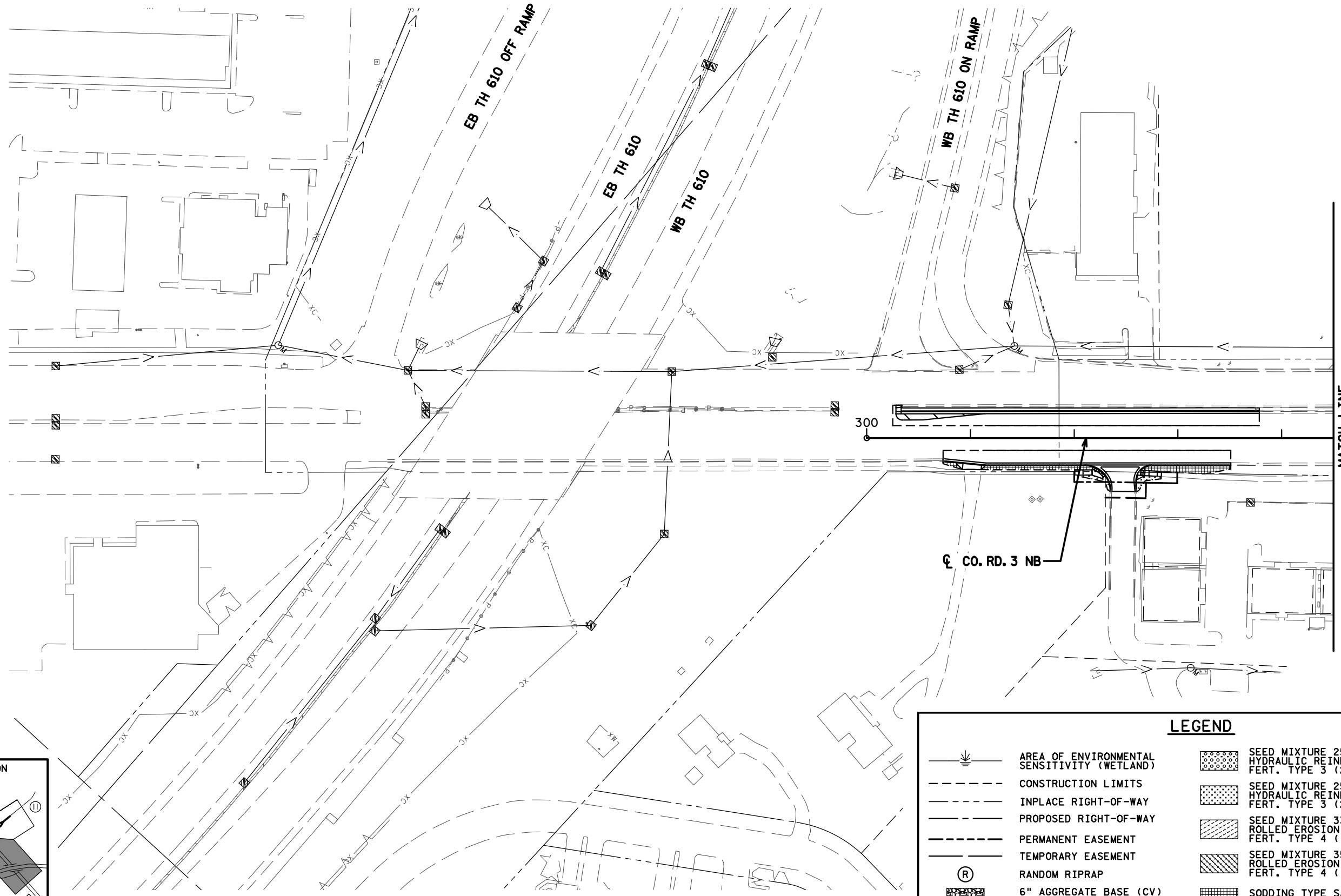
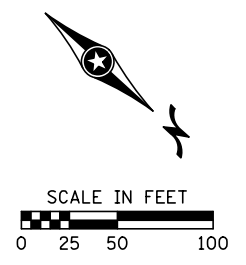
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



CSAH 11 EB STA. 126+00 TO STA. 137+61.57
 STATE PROJ. NO. 002-611-036

TURF ESTABLISHMENT PLAN
 SHEET NO. 204 OF 416 SHEETS

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LEGEND			
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)		SEED MIXTURE 25-121 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
	CONSTRUCTION LIMITS		SEED MIXTURE 25-131 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
	INPLACE RIGHT-OF-WAY		SEED MIXTURE 33-261 ROLLED EROSION PREVENTION CAT 10 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
	PROPOSED RIGHT-OF-WAY		SEED MIXTURE 35-221 ROLLED EROSION PREVENTION CAT 20 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
	PERMANENT EASEMENT		SODDING TYPE SALT TOLERANT FERT. TYPE 3 (22-5-10 AT 200 LB/AC)
	TEMPORARY EASEMENT		4" MULCH MATERIAL TYPE 9 OVER GEOTEXTILE FABRIC TYPE 5
	RANDOM RIPRAP		
	6" AGGREGATE BASE (CV) CLASS 5		
	12" RANDOM RIPRAP CLASS II		

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: MAW
 DRW: RJR
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

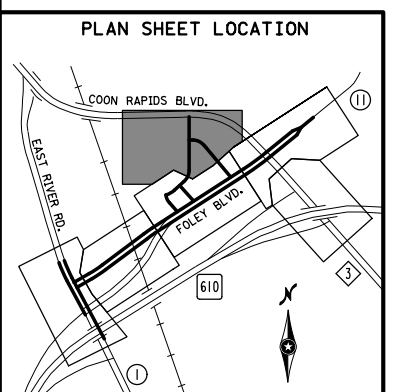
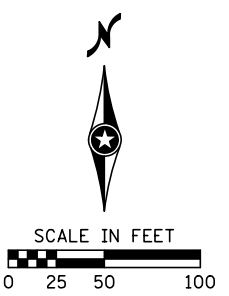
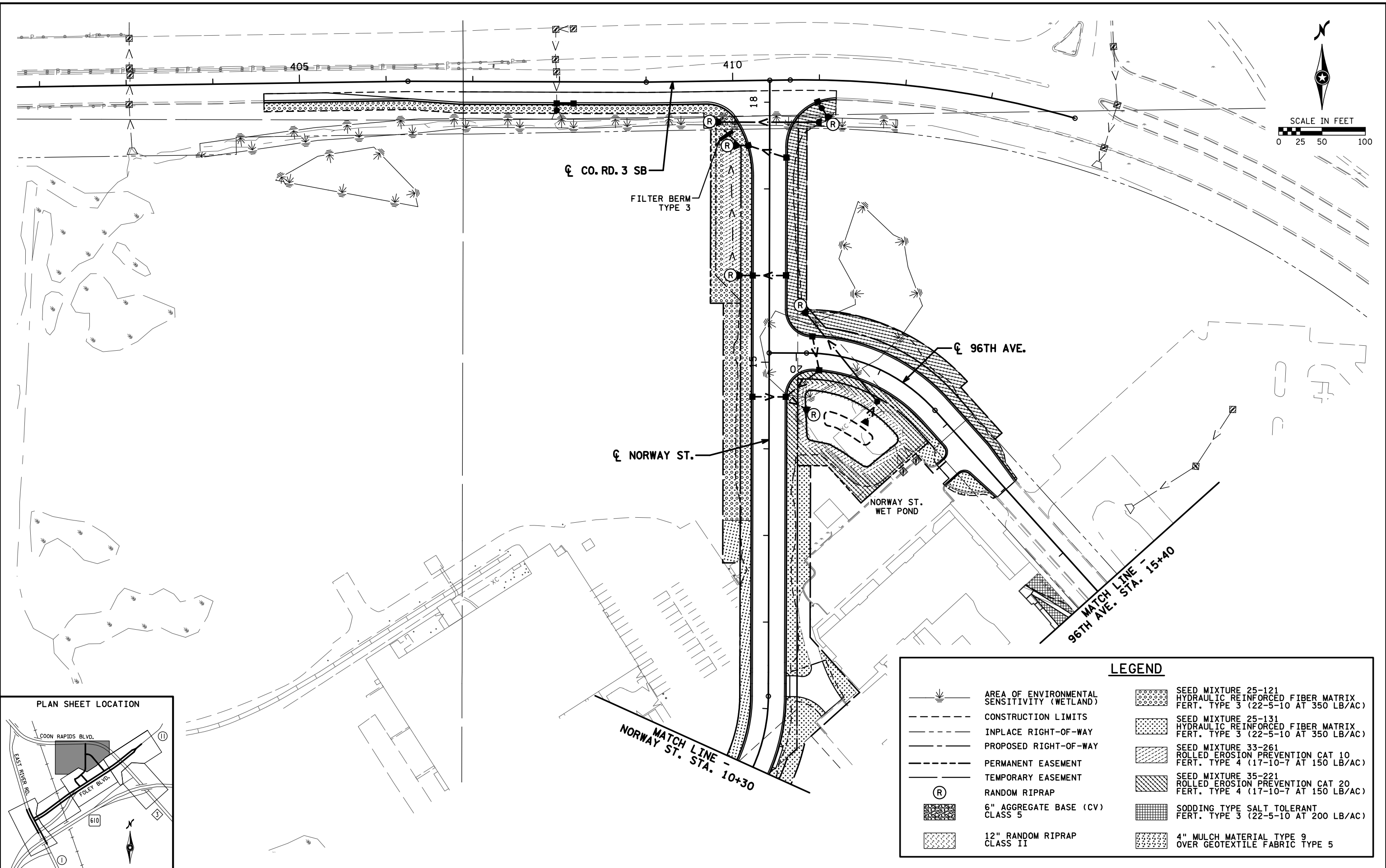
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



CO. RD. 3 NB STA. 300+00 TO STA. 304+50
 STATE PROJ. NO. 002-611-036

TURF ESTABLISHMENT PLAN
 SHEET NO. 205 OF 416 SHEETS

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LEGEND	
	AREA OF ENVIRONMENTAL SENSITIVITY (WETLAND)
	CONSTRUCTION LIMITS
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	RANDOM RIPRAP
	6" AGGREGATE BASE (CV) CLASS 5
	12" RANDOM RIPRAP CLASS II
	SEED MIXTURE 25-121 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
	SEED MIXTURE 25-131 HYDRAULIC REINFORCED FIBER MATRIX FERT. TYPE 3 (22-5-10 AT 350 LB/AC)
	SEED MIXTURE 33-261 ROLLED EROSION PREVENTION CAT 10 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
	SEED MIXTURE 35-221 ROLLED EROSION PREVENTION CAT 20 FERT. TYPE 4 (17-10-7 AT 150 LB/AC)
	SODDING TYPE SALT TOLERANT FERT. TYPE 3 (22-5-10 AT 200 LB/AC)
	4" MULCH MATERIAL TYPE 9 OVER GEOTEXTILE FABRIC TYPE 5

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: MAW
 DRW: RJR
 CHK: MAW

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

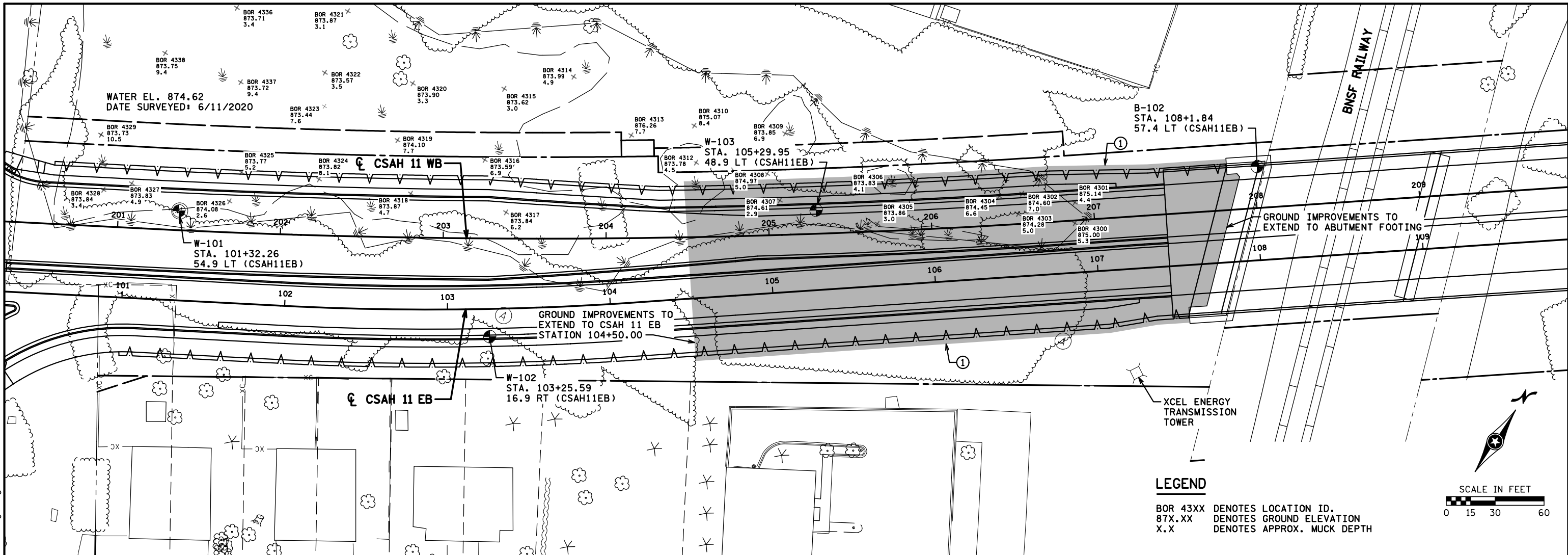
SIGNATURE: *Matthew A. Wassman* LIC. NO. 26883 DATE: 11/24/2020
 MATTHEW A. WASSMAN



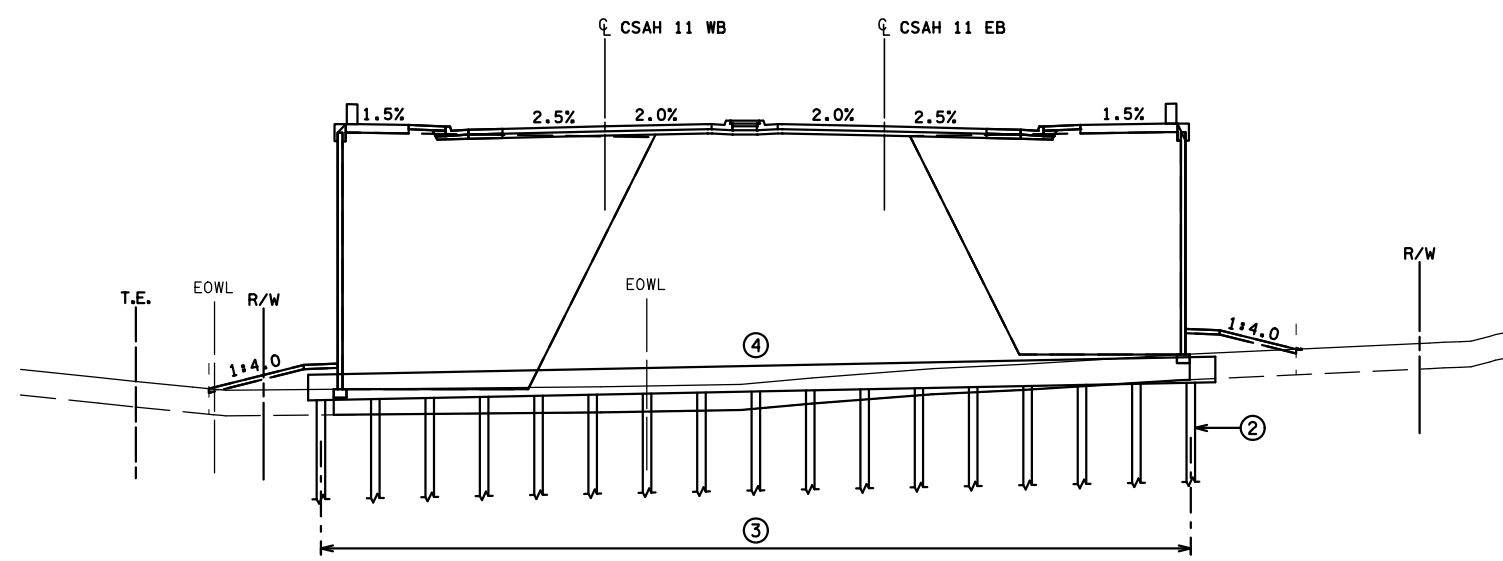
NORWAY ST. STA. 10+30 TO STA. 18+24.35
 STATE PROJ. NO. 002-611-036

TURF ESTABLISHMENT PLAN
 SHEET NO. 206 OF 416 SHEETS

DATE: 12/18/2020 TIME: 1:2:07 PM
 FILENAME: c:\nkda_proj\techwise\lndsey\lawrence\dms01247\cd002611036_gla.dgn



SUMMARY OF QUANTITIES - GROUND IMPROVEMENTS		TAB Y
DESCRIPTION	UNIT	TOTAL EST. QTY.
GROUND IMPROVEMENT TEST	EACH	2
GROUND IMPROVEMENT COLUMNS	SQ. YD.	3,802
GROUND IMPROVEMENT LOAD TRANSFER PLATFORM	SQ. YD.	3,802



TYPICAL SECTION

GENERAL NOTES:

■ DENOTES MINIMUM LIMITS OF GROUND IMPROVEMENTS.

SPECIFIC NOTES:

- ① GROUND IMPROVEMENT DISTANCE FROM FACE OF WALL TO BE DETERMINED BY CONTRACTOR. GROUND IMPROVEMENT QUANTITY ASSUMES 3- FEET.
- ② GROUND IMPROVEMENT COLUMN, SEE SPECIAL PROVISIONS FOR REQUIREMENTS.
- ③ COLUMN SPACING PER CONTRACTOR DESIGN.
- ④ TOP OF LOAD TRANSFER PLATFORM, 2% MAXIMUM SLOPE.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: MJC
 DRW: ATM
 CHK: MJC

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Matthew J. Christensen* LIC. NO. 43076 DATE: 12/18/2020
 MATTHEW J. CHRISTENSEN



DATE: 11/24/2020 TIME: 11:02:30 PM
 FILENAME: pw:\kda-pw-bentley.com\kda-pw-01\Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_wra.dgn

ALIGNMENT TABULATION										
POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
WALL A (RWA)										
CURVE RWA1	PC	13+42.010						493,724.3137	138,242.4676	56° 05' 02.71"
	PI	13+46.124	3° 54' 16.73" RT	47° 28' 28.27"	120.687'	4.114'	8.225'	493,727.7277	138,244.7630	PI
	CC							493,791.6544	138,142.3142	
	PT	13+50.235						493,731.2901	138,246.8207	59° 59' 19.44"
CURVE RWA2	PC	14+39.487						493,808.5757	138,291.4619	
	PI	15+48.490	6° 47' 52.25" LT	3° 07' 18.67"	1,835.313'	109.003'	217.750'	493,902.9644	138,345.9819	PI
	CC							492,890.6069	139,880.7087	
	PT	16+57.237						493,990.2362	138,411.2912	53° 11' 27.19"
1711	POT	19+50.926						494,225.3743	138,587.2554	
1712	POT	19+81.076						494,247.5959	138,607.6318	47° 28' 49.06"
1713	POT	20+00.000						494,262.7471	138,618.9701	53° 11' 26.83"
WALL B (RWB)										
1730	POT	30+00.000						494,230.2943	138,710.3736	233° 11' 27.19"
1731	POT	30+47.763						494,192.0534	138,681.7563	236° 03' 11.97"
CURVE RWB1	PC	31+08.030						494,142.0589	138,648.1022	233° 18' 21.05"
	PI	32+27.898	2° 52' 47.41" RT	1° 12' 05.40"	4,768.687'	119.869'	239.687'	494,045.9438	138,576.4755	PI
	CC							491,292.5616	142,471.8105	
	PCC	33+47.716						493,946.3515	138,509.7682	236° 11' 08.47"
CURVE RWB2	PCC	33+47.716						493,946.3515	138,509.7682	240° 01' 30.98"
	PI	33+99.891	1° 15' 55.98" RT	1° 12' 46.30"	4,724.015'	52.174'	104.344'	493,901.1559	138,483.7011	PI
	CC							491,586.1490	142,601.9264	241° 17' 26.96"
CURVE RWB3	PCC	34+52.060						493,855.3955	138,458.6385	237° 26' 14.90"
	PI	35+58.092	2° 33' 04.54" RT	1° 12' 11.76"	4,761.687'	106.031'	212.028'	493,766.0317	138,401.5703	PI
	CC							491,292.5616	142,471.8105	
	PT	36+64.088						493,674.2162	138,348.5365	239° 59' 19.44"
1732	POT	37+18.705						493,626.9220	138,321.2188	253° 02' 02.68"
WALL C (RWC)										
1750	POT	50+00.000						494,475.4066	138,777.6702	53° 11' 27.19"
1751	POT	50+47.254						494,513.2403	138,805.9827	58° 54' 06.49"
1752	POT	50+63.247						494,526.9341	138,814.2428	58° 59' 45.22"
CURVE RWC1	PC	50+63.247						494,526.9342	138,814.2429	
	PI	50+70.197	0° 25' 42.16" RT	3° 04' 54.08"	1,859.234'	6.950'	13.901'	494,532.8916	138,817.8230	PI
	CC							495,484.6246	137,220.6371	
	PT	50+77.148						494,538.8757	138,821.3585	59° 25' 27.38"
1753	POT	51+19.176						494,574.2385	138,844.0714	

ALIGNMENT TABULATION										
POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
WALL D (RWD)										
1760	POT	64+38.286						494,490.4561	138,908.1871	230° 19' 42.53"
1761	POT	64+81.266						494,457.3733	138,880.7490	
1762	POT	65+00.000						494,442.3745	138,869.5247	233° 11' 27.19"
WALL E (RWE)										
1770	POT	70+00.000						494,810.6419	139,131.2086	237° 03' 18.72"
CURVE RWE1	PC	71+22.022						494,708.2416	139,064.8493	
	PI	71+45.390	1° 22' 48.75" LT	2° 57' 12.06"	1,940.026'	23.368'	46.734'	494,688.6314	139,052.1411	PI
	CC							495,763.2875	137,436.7893	
	PT	71+68.756						494,669.3329	139,038.9642	235° 40' 29.97"

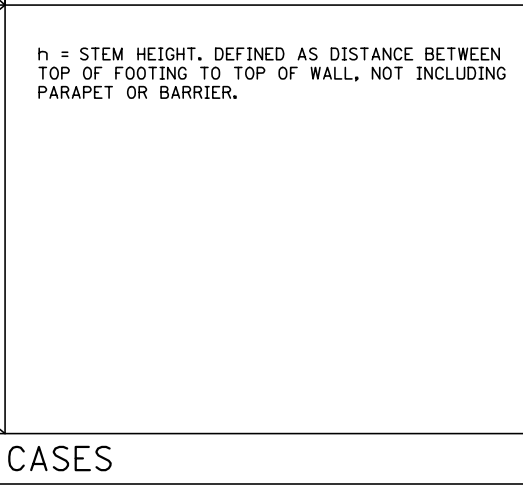
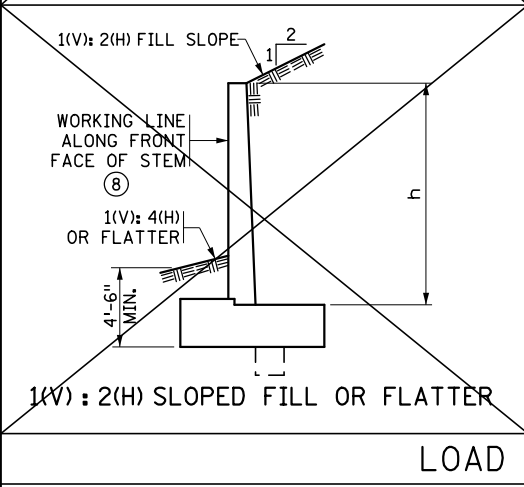
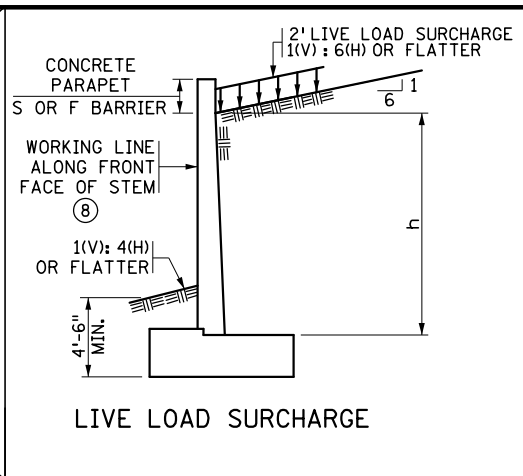
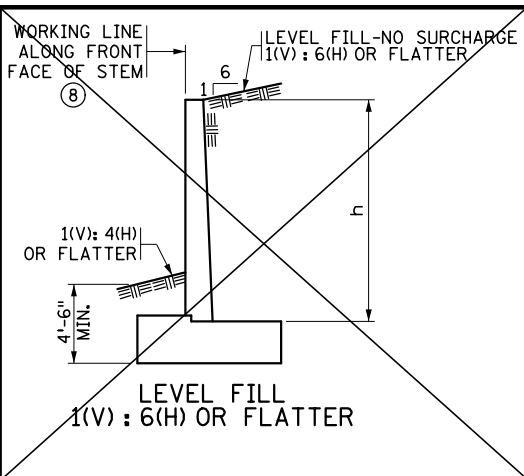
GENERAL NOTES:
 - (XXXX) DENOTES GEOPAK ALIGNMENT NAME.

DES: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: RRC	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020
CHK: L.JL	LINDSEY J. LAWRENCE



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/30/2020 TIME: 4:15:37 PM FILENAME: c:\nkda_proj\ctw\se\shelly.matsuda\dms01247\cd00261036_wt_gen01.dgn



DESIGN CRITERIA

THESE LRFD CIP RETAINING WALL STANDARDS HAVE BEEN DEVELOPED BASED ON THE FIFTH EDITION WITH 2010 INTERIMS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND MnDOT DESIGN POLICIES AS STATED IN THE MnDOT LRFD BRIDGE DESIGN MANUAL. ALL SPECIAL DESIGN RETAINING WALLS STANDARDS HAVE BEEN DEVELOPED BASED ON THE 2017 EIGHTH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND MnDOT DESIGN POLICIES AS STATED IN THE MnDOT LRFD BRIDGE DESIGN MANUAL.

$f'_c = 4 \text{ ksi}$
 $f_y = 60 \text{ ksi}$
 $n = 8$

REFER TO STANDARD FIGURE 5-297.639 FOR ADDITIONAL DESIGN CRITERIA.

BAR LAP

BAR SIZE	PLAIN	EPOXY
5	2'-5"	2'-1"
6	2'-11"	3'-1"
7	3'-7"	3'-10"
8	4'-9"	5'-1"
9	6'-0"	6'-5"
10	7'-7"	8'-2"
11	9'-4"	10'-0"

RETAINING WALLS TABULATION **TAB W**

ITEM	UNIT	MSE WALLS		CIP WALLS			TOTAL
		A	B	C	D	E	
TYPE P-1 BARRIER CONCRETE (3S52)	LF					169	169
STRUCTURAL CONCRETE (1G52)	CU YD			107	67	77	251
STRUCTURAL CONCRETE (3G52)	CU YD			196	138	100	434
AGGREGATE BACKFILL (CV)	CU YD					37	37
STRUCTURAL EXCAVATION	LUMP SUM					1	1
REINFORCEMENT BAR	POUND			9642	6377	6624	22643
REINFORCEMENT BAR (EPOXY)	POUND			26595	18635	11349	56579
DRAINAGE SYSTEM	LUMP SUM			PART	PART	PART	1
MECHANICALLY STABILIZED EARTH WALL	SQ YD	1421	1909				3330
ARCHITECTURAL SURFACE FINISH (SINGLE COLOR)	SQ FT			733	648		1381
ARCHITECTURAL CONCRETE TEXTURE (ASHLAR STONE)	SQ FT			733	648		1381
SUBSURFACE DRAINS	LUMP SUM	PART	PART				1

GENERAL NOTES:

UTILITIES:
 EXISTING AND PROPOSED UTILITIES ARE SHOWN IN THE GRADING PLANS. PRIOR TO EXCAVATION VERIFY THE LOCATION OF EXISTING FACILITIES AND EXERCISE CARE IN ADJACENT CONSTRUCTION.

EXCAVATION AND EARTHWORK:
 ALL EXCAVATION AND EMBANKMENT WORK SHALL CONFORM TO SPEC. 2451.

CONCRETE:
 ALL CONCRETE SHALL CONFORM TO SPEC. 2461.
 TRANSVERSE CONSTRUCTION JOINTS IN FOOTING ARE PERMISSIBLE. KEYWAYS AND CONTINUOUS REINFORCEMENT ARE REQUIRED THROUGH THESE JOINTS.

POURING SEQUENCE:
 THE POURING SEQUENCE SHALL BE AT THE CONTRACTOR'S OPTION. SUBMIT SEQUENCE (WITHIN 7 CALENDAR DAYS) TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING THE FIRST POUR.

CONSTRUCTION:
 CONSTRUCT IN ACCORDANCE WITH SPEC. 2411, EXCEPT AS NOTED.
 REFER TO STANDARD PLAN 5-297.624 (2 OF 6) FOR WALL CORNER DETAILS AND STEPPED FOOTING DETAILS.
 REFER TO STANDARD PLAN 5-297.625 FOR WALL SHEAR LUG DETAILS.
 APPLY MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481 TO BACK SIDE OF WALL TO COVER ALL THRU-BOLT FORM HOLES.
 FOR WALLS WITH CONDUIT INSIDE THE STEM, PLACE CONDUIT EXPANSION FITTINGS AT 200' MAX. SPACING, AT CORK AND DOWEL JOINT LOCATION.

REINFORCING STEEL:
 USE REINFORCEMENT BARS CONFORMING TO SPEC. 3301, GRADE 60.
 BARS MARKED WITH THE SUFFIX "E" TO BE EPOXY COATED.
 ALL BARS WHICH EXTEND OUT OF THE FOOTING AND ALL BARS WHICH ARE ABOVE THE FOOTING TO BE EPOXY COATED.
 ALL BENT BAR DIMENSIONS ARE GIVEN OUT-TO-OUT.

MAINTAIN CLEAR DISTANCE BETWEEN REINFORCEMENT BARS AND FACE OF CONCRETE OF 3 INCHES IN FOOTINGS, 5 INCHES IN BOTTOM OF SPREAD FOOTINGS, AND 2 INCHES ELSEWHERE UNLESS OTHERWISE NOTED. REFER TO STANDARD PLAN 5-297.624 (1 OF 6) DETAIL "C" FOR COVER REQUIREMENTS ON WALLS WITH ARCHITECTURAL CONCRETE TEXTURE OR RUSTICATION.

THE CONTRACTOR HAS THE OPTION OF SUBSTITUTING 60'-0" LONG BARS FOR THE LONGITUDINAL FOOTING STEEL SHOWN. CHANGES IN THE BILL OF REINFORCEMENT ARE THE RESPONSIBILITY OF THE CONTRACTOR. PAYMENT WILL BE BASED ON QUANTITIES SHOWN.

THE CONSTRUCTION JOINT FOR CONCRETE PARAPET OR BARRIER MAY BE LOCATED AT TOP OR BOTTOM OF COPING, AT THE CONTRACTOR'S OPTION. PAYMENT WILL BE BASED ON QUANTITIES SHOWN, WHICH IS BASED ON CONSTRUCTION JOINT ABOVE COPING.

FOR VARIABLE STEM HEIGHTS, VARY THE LAP LENGTH OF THE VERTICAL REINFORCEMENT. MINIMUM LAP LENGTHS ARE GIVEN IN THE TABLE ON THIS SHEET. SMALLER BAR GOVERNS LAP LENGTH.

DOWEL BAR ASSEMBLIES:
 DOWELED JOINTS/CONSTRUCTION JOINTS ARE SHOWN ON STANDARD PLAN 5-297.624 (3 OF 6). THESE JOINTS ARE INCIDENTAL.

AT THE CONTRACTOR'S OPTION, CONSTRUCTION JOINTS MAY BE SUBSTITUTED IN LIEU OF CORK AND DOWEL JOINTS. REINFORCEMENT QUANTITIES WERE COMPUTED ASSUMING A CORK AND DOWEL JOINT BETWEEN EVERY PANEL. CHANGES IN THE BILL OF REINFORCEMENT ARE THE RESPONSIBILITY OF THE CONTRACTOR, AND NO ADDITIONAL PAYMENT WILL BE MADE. AT A MINIMUM, PLACE CORK AND DOWEL JOINTS EVERY 91'-6". PLACE A CORK AND DOWEL JOINT AT ALL VERTICAL FOOTING STEPS.

GEOMETRICS AND GRADES:
 DATA FOR BASELINE GEOMETRY IS TABULATED FOR WALL ALIGNMENT, SEE LAYOUT SHEETS. WALL ALIGNMENT REFERENCE IS ALONG FRONT FACE OF WALL.

ON UP TO 10% SLOPES, THE CONTRACTOR HAS THE OPTION OF POURING⁽⁸⁾ FOOTINGS SLOPED OR STEPPED. ADDITIONAL CONCRETE VOLUMES AND CHANGES TO THE BILL OF REINFORCEMENT WHICH MAY RESULT FROM CONTRACTOR REQUESTED OPTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL PAYMENT WILL BE MADE.

QUANTITIES ARE BASED ON ASSUMED TOP OF ROCK ELEVATION. ACTUAL TOP OF ROCK TO BE DETERMINED BY ENGINEER. SEE SHEET 5-297.624 (4 OF 6) FOR PAY LIMITS.

~~PILE LOADS:~~
 THE PILE LOADS SHOWN IN THE PLANS AND THE CORRESPONDING NOMINAL PILE BEARING RESISTANCES (R_p) WERE COMPUTED USING LRFD METHODOLOGY.

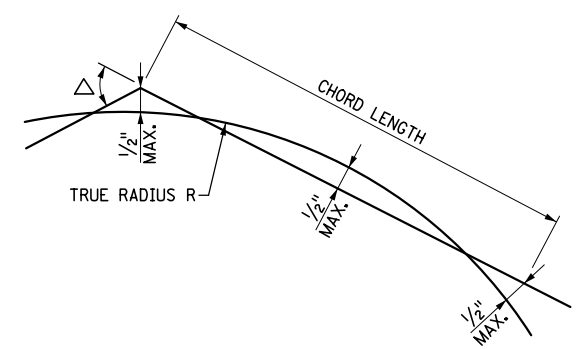
- NOTES:**
- ~~(1) STRUCTURAL BACKFILL SPEC. 3149.2.D.2.~~
 - (2) COMPACT TO 100% DENSITY IN ACCORDANCE WITH SPEC. 2105.3.F.1 UNLESS RECOMMENDED OTHERWISE BY THE SOILS ENGINEER.
 - (3) LIMITING CRITERIA.
 - (4) CURVED FORMS MAY BE USED FOR ANY WALL WITH A RADIUS, BUT MUST BE USED ON WALLS WITH RADIUS LESS THAN 23 FEET.
 - (5) DOES NOT INCLUDE DOWELED JOINT/CONSTRUCTION JOINT QUANTITIES, WHICH ARE INCIDENTAL. DOWELED JOINT/CONSTRUCTION JOINT DETAILS ARE SHOWN ON STANDARD PLAN 5-297.624 (3 OF 6).
 - (6) QUANTITIES FOR THE FOUNDATION WITH AGGREGATE BACKFILL OPTION ONLY.
 - (7) DOES NOT INCLUDE ADDITIONAL REINFORCING BARS AND STRUCTURAL CONCRETE (1G52) REQUIRED FOR STEPPED FOOTINGS, WHICH IS INCIDENTAL.
 - (8) FOR RETAINING WALLS THAT ABUT A BRIDGE OR BRIDGE WING WALL, NOTE THAT THE DESIGNATION OF "FRONT FACE" MAY VARY FROM THE BRIDGE PLANS TO THE RETAINING WALL PLANS.

SHEET INDEX

NO.	TITLE
210	GENERAL NOTES & SUMMARY OF QUANTITIES
211-212	WALL A PLANS
213-214	WALL B PLANS
215	MSE WALL AESTHETIC DETAILS
216-219	WALL C PLANS
220-223	WALL D PLANS
224-226	WALL E PLANS
227-236	STANDARD PLANS
237	CIP WALL AESTHETIC DETAILS

CURVED RETAINING WALLS ALLOWABLE CHORD LENGTH ⁽⁴⁾

MAXIMUM DEGREE OF CURVE	RADIUS	ALLOWABLE CHORD LENGTH	DEVIATION FROM TRUE RADIUS	MAXIMUM DEFLECTION ANGLE Δ
4°-00'	1432'	30'-6"	$\pm 1/2"$ (3)	1°-15'
8°-00'	716'	21'-10"	$\pm 1/2"$ (3)	1°-45'
16°-30'	347'	15'-3"	$\pm 1/2"$ (3)	2°-30'
23°-00'	249'	12'-11"	$\pm 1/2"$ (3)	2°-57'
65°-30'	87'	7'-7 1/2"	$\pm 1/2"$	5°-00' (3)
114°-30'	50'	4'-4 5/16"	$\pm 1/4"$	5°-00' (3)
250°-00'	23'	2'-0"	$\pm 1/8"$	5°-00' (3)



*** DENOTES MODIFICATION FROM STANDARD PLAN**

REVISION: SEPTEMBER 1, 2016

APPROVED: AUGUST 27, 2014

Nancy M. Berger
 STATE BRIDGE ENGINEER

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/30/2020
 LINDSEY J. LAWRENCE

STANDARD SHEET NO. 5-297.620

STANDARD APPROVED: AUGUST 27, 2014

REVISION DATE: 9-1-16

RETAINING WALL GENERAL NOTES AND SUMMARY OF QUANTITIES

DATE: 11/24/2020 TIME: 11:02:45 PM
 FILENAME: c:\tkda\proj\techwise\hlm\vangstad\dms01247\cd00261036_wrA2.dgn

RETAINING WALL DATA - WALL A					
POINT NO.	STATION	COORDINATES		FINISHED GRADE (FRONT FACE)	TOP OF WALL
		X	Y		
A01	13+42.01	493,724.314	138,242.468	883.85	883.85
A02	13+47.01	493,728.520	138,245.171	883.74	883.98
A03	13+52.01	493,732.827	138,247.709	883.63	884.11
A04	13+57.01	493,737.157	138,250.210	883.52	884.24
A05	13+62.01	493,741.487	138,252.710	883.41	884.37
A06	13+67.01	493,745.816	138,255.211	883.30	884.50
A07	13+72.01	493,750.146	138,257.712	883.19	884.63
A08	13+77.01	493,754.476	138,260.213	883.08	884.77
A09	13+82.01	493,758.805	138,262.714	882.97	884.91
A10	13+87.01	493,763.135	138,265.215	882.86	885.05
A11	13+92.01	493,767.464	138,267.716	882.75	885.20
A12	13+97.01	493,771.794	138,270.216	882.62	885.36
A13	14+02.01	493,776.124	138,272.717	882.49	885.52
A14	14+07.01	493,780.453	138,275.218	882.36	885.68
A15	14+12.01	493,784.783	138,277.719	882.23	885.85
A16	14+17.01	493,789.113	138,280.220	882.10	886.02
A17	14+22.01	493,793.442	138,282.721	881.97	886.19
A18	14+27.01	493,797.772	138,285.221	881.84	886.37
A19	14+32.01	493,802.102	138,287.722	881.71	886.54
A20	14+37.01	493,806.431	138,290.223	881.58	886.73
A21	14+42.01	493,810.760	138,292.726	881.45	886.91
A22	14+47.01	493,815.083	138,295.238	881.34	887.11
A23	14+52.01	493,819.399	138,297.763	881.23	887.30
A24	14+57.01	493,823.708	138,300.299	881.12	887.49
A25	14+62.01	493,828.010	138,302.847	881.01	887.69
A26	14+67.01	493,832.305	138,305.406	880.90	887.89
A27	14+72.01	493,836.593	138,307.978	880.79	888.10
A28	14+77.01	493,840.874	138,310.561	880.68	888.31
A29	14+82.01	493,845.148	138,313.155	880.57	888.52
A30	14+87.01	493,849.415	138,315.762	880.46	888.74
A31	14+92.01	493,853.675	138,318.380	880.35	888.97
A32	14+97.01	493,857.928	138,321.009	880.29	889.19
A33	15+02.01	493,862.173	138,323.650	880.25	889.42
A34	15+07.01	493,866.412	138,326.303	880.22	889.66
A35	15+12.01	493,870.643	138,328.967	880.18	889.89
A36	15+17.01	493,874.867	138,331.643	880.14	890.13
A37	15+22.01	493,879.083	138,334.330	880.10	890.37
A38	15+27.01	493,883.292	138,337.029	880.06	890.62
A39	15+32.01	493,887.494	138,339.739	880.02	890.86
A40	15+37.01	493,891.689	138,342.460	879.99	891.11
A41	15+42.01	493,895.875	138,345.193	879.95	891.36
A42	15+47.01	493,900.055	138,347.938	879.91	891.60
A43	15+52.01	493,904.227	138,350.694	879.87	891.85
A44	15+57.01	493,908.392	138,353.461	879.83	892.09
A45	15+62.01	493,912.548	138,356.239	879.80	892.34
A46	15+67.01	493,916.698	138,359.029	879.76	892.58
A47	15+72.01	493,920.840	138,361.830	879.72	892.83
A48	15+77.01	493,924.974	138,364.642	879.68	893.07
A49	15+82.01	493,929.100	138,367.466	879.64	893.32
A50	15+87.01	493,933.219	138,370.301	879.60	893.56

RETAINING WALL DATA - WALL A					
POINT NO.	STATION	COORDINATES		FINISHED GRADE (FRONT FACE)	TOP OF WALL
		X	Y		
A51	15+92.01	493,937.330	138,373.147	879.57	893.81
A52	15+97.01	493,941.433	138,376.004	879.54	894.05
A53	16+02.01	493,945.528	138,378.872	879.53	894.30
A54	16+07.01	493,949.616	138,381.752	879.51	894.54
A55	16+12.01	493,953.696	138,384.642	879.50	894.79
A56	16+17.01	493,957.768	138,387.544	879.49	895.03
A57	16+22.01	493,961.831	138,390.457	879.48	895.28
A58	16+27.01	493,965.887	138,393.381	879.47	895.52
A59	16+32.01	493,969.935	138,396.316	879.46	895.77
A60	16+37.01	493,973.975	138,399.262	879.45	896.01
A61	16+42.01	493,978.007	138,402.219	879.44	896.26
A62	16+47.01	493,982.031	138,405.187	879.44	896.50
A63	16+52.01	493,986.047	138,408.166	879.53	896.75
A64	16+57.01	493,990.055	138,411.155	879.62	896.99
A65	16+62.01	493,994.058	138,414.151	879.71	897.24
A66	16+67.01	493,998.061	138,417.147	879.80	897.49
A67	16+72.01	494,002.064	138,420.143	879.90	897.74
A68	16+77.01	494,006.067	138,423.138	879.99	897.99
A69	16+82.01	494,010.070	138,426.134	880.08	898.24
A70	16+87.01	494,014.074	138,429.130	880.17	898.49
A71	16+92.01	494,018.077	138,432.126	880.26	898.74
A72	16+97.01	494,022.080	138,435.121	880.35	898.99
A73	17+02.01	494,026.083	138,438.117	880.46	899.24
A74	17+07.01	494,030.086	138,441.113	880.58	899.49
A75	17+12.01	494,034.090	138,444.109	880.69	899.74
A76	17+17.01	494,038.093	138,447.104	880.81	899.99
A77	17+22.01	494,042.096	138,450.100	880.92	900.24
A78	17+27.01	494,046.099	138,453.096	881.03	900.49
A79	17+32.01	494,050.102	138,456.092	881.15	900.74
A80	17+37.01	494,054.105	138,459.087	881.26	900.99
A81	17+42.01	494,058.109	138,462.083	881.38	901.24
A82	17+47.01	494,062.112	138,465.079	881.48	901.49
A83	17+52.01	494,066.115	138,468.075	881.53	901.74
A84	17+57.01	494,070.118	138,471.070	881.58	901.99
A85	17+62.01	494,074.121	138,474.066	881.63	902.24
A86	17+67.01	494,078.125	138,477.062	881.67	902.49
A87	17+72.01	494,082.128	138,480.058	881.72	902.74
A88	17+77.01	494,086.131	138,483.053	881.77	902.99
A89	17+82.01	494,090.134	138,486.049	881.81	903.24
A90	17+87.01	494,094.137	138,489.045	881.86	903.49
A91	17+92.01	494,098.140	138,492.041	881.91	903.74
A92	17+97.01	494,102.144	138,495.036	881.95	903.99
A93	18+02.01	494,106.147	138,498.032	882.00	904.24
A94	18+07.01	494,110.150	138,501.028	882.05	904.49
A95	18+12.01	494,114.153	138,504.024	882.10	904.74
A96	18+17.01	494,118.156	138,507.019	882.14	904.99
A97	18+22.01	494,122.160	138,510.015	882.19	905.24
A98	18+27.01	494,126.163	138,513.011	882.24	905.49
A99	18+32.01	494,130.166	138,516.007	882.28	905.74
A100	18+37.01	494,134.169	138,519.002	882.33	905.99

RETAINING WALL DATA - WALL A					
POINT NO.	STATION	COORDINATES		FINISHED GRADE (FRONT FACE)	TOP OF WALL
		X	Y		
A101	18+42.01	494,138.172	138,521.998	882.38	906.24
A102	18+47.01	494,142.175	138,524.994	882.42	906.49
A103	18+52.01	494,146.179	138,527.990	882.45	906.74
A104	18+57.01	494,150.182	138,530.986	882.47	906.99
A105	18+62.01	494,154.185	138,533.981	882.49	907.24
A106	18+67.01	494,158.188	138,536.977	882.52	907.49
A107	18+72.01	494,162.191	138,539.973	882.54	907.74
A108	18+77.01	494,166.194	138,542.969	882.57	907.99
A109	18+82.01	494,170.198	138,545.964	882.59	908.24
A110	18+87.01	494,174.201	138,548.960	882.61	908.49
A111	18+92.01	494,178.204	138,551.956	882.64	908.74
A112	18+97.01	494,182.207	138,554.952	882.66	908.99
A113	19+02.01	494,186.210	138,557.947	882.69	909.23
A114	19+07.01	494,190.214	138,560.943	882.71	909.46
A115	19+12.01	494,194.217	138,563.939	882.74	909.69
A116	19+17.01	494,198.220	138,566.935	882.76	909.91
A117	19+22.01	494,202.223	138,569.930	882.79	910.12
A118	19+27.01	494,206.226	138,572.926	882.81	910.33
A119	19+32.01	494,210.229	138,575.922	882.84	910.54
A120	19+37.01	494,214.233	138,578.918	882.86	910.74
A121	19+42.01	494,218.236	138,581.913	882.89	910.93
A122	19+47.01	494,222.239	138,584.909	882.92	911.12
A123	19+52.01	494,226.173	138,587.988	882.98	911.30
A124	19+57.01	494,229.859	138,591.367	883.04	911.47
A125	19+62.01	494,233.544	138,594.746	883.10	911.64
A126	19+67.01	494,237.229	138,598.126	883.17	911.81
A127	19+72.01	494,240.914	138,601.505	883.23	911.87
A128	19+77.01	494,244.599	138,604.884	883.29	911.87
A129	19+82.01	494,248.344	138,608.192	883.36	911.87
A130	19+87.01	494,252.347	138,611.187	883.42	911.87
A131	19+92.01	494,256.350	138,614.183	883.48	911.91
A132	19+97.01	494,260.354	138,617.179	883.54	912.04
A133	20+00.00	494,262.747	138,618.970	883.55	912.12

DES: HAP	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: HAP			
CHK: ADL			
NO.	DATE	BY	DESCRIPTION OF REVISIONS

SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE




DATE: 11/24/2020 TIME: 11:02:54 PM
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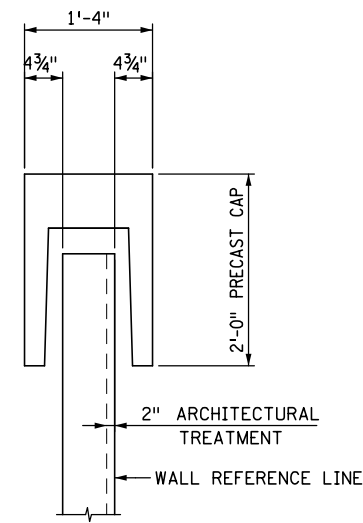
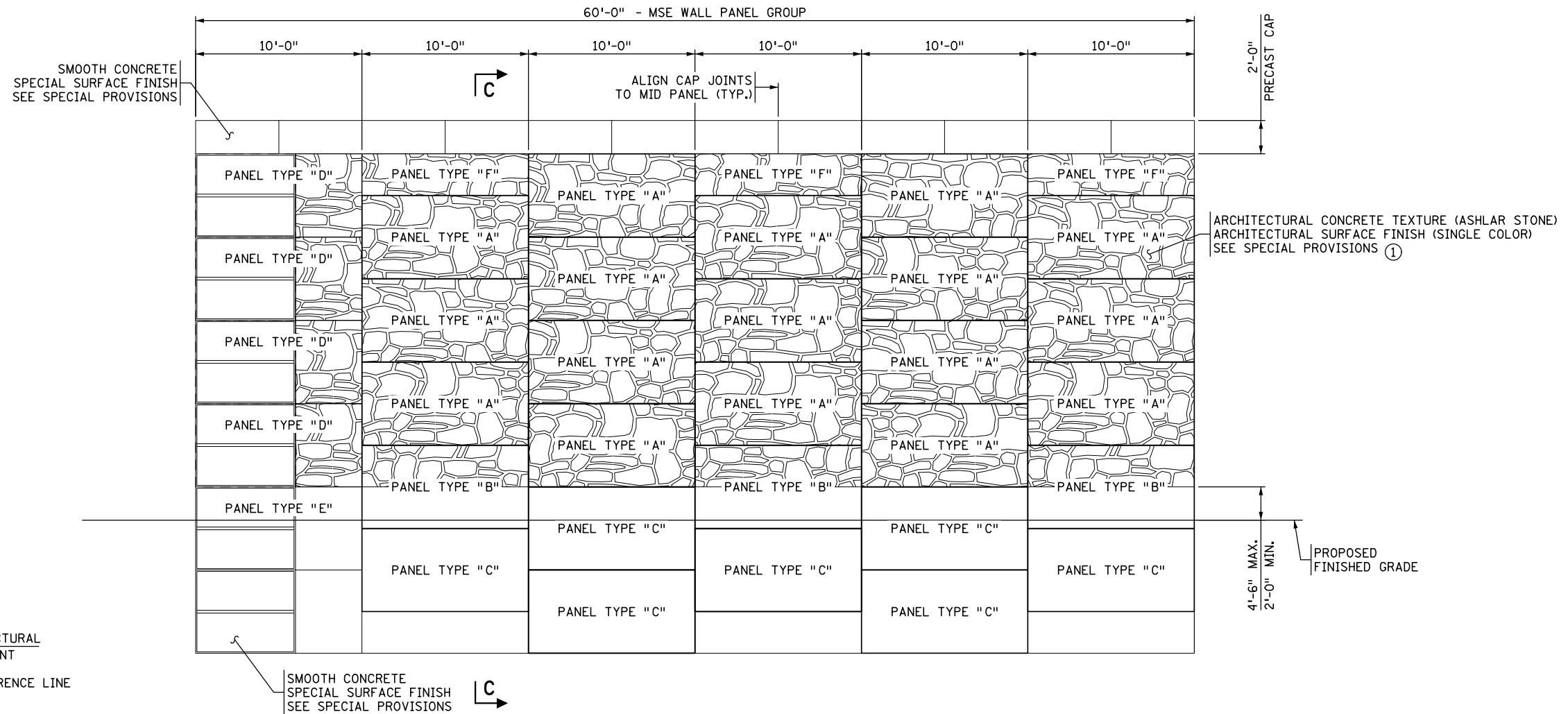
RETAINING WALL DATA - WALL B					
POINT NO.	STATION	COORDINATES		FINISHED GRADE (FRONT FACE)	TOP OF WALL
		X	Y		
B01	30+00.00	494,230.294	138,710.374	878.00	912.75
B02	30+05.00	494,226.291	138,707.378	878.03	912.64
B03	30+10.00	494,222.288	138,704.382	878.05	912.52
B04	30+15.00	494,218.285	138,701.386	878.07	912.41
B05	30+20.00	494,214.282	138,698.391	878.10	912.29
B06	30+25.00	494,210.278	138,695.395	878.12	912.18
B07	30+30.00	494,206.275	138,692.399	878.15	912.06
B08	30+35.00	494,202.272	138,689.403	878.28	911.95
B09	30+40.00	494,198.269	138,686.408	878.48	911.87
B10	30+45.00	494,194.266	138,683.412	878.68	911.87
B11	30+50.00	494,190.198	138,680.507	878.89	911.87
B12	30+55.00	494,186.050	138,677.715	879.09	911.87
B13	30+60.00	494,181.902	138,674.923	879.29	911.76
B14	30+65.00	494,177.754	138,672.131	879.50	911.58
B15	30+70.00	494,173.607	138,669.339	879.70	911.39
B16	30+75.00	494,169.459	138,666.547	879.90	911.21
B17	30+80.00	494,165.311	138,663.755	880.10	911.03
B18	30+85.00	494,161.163	138,660.962	880.16	910.84
B19	30+90.00	494,157.016	138,658.170	880.11	910.66
B20	30+95.00	494,152.868	138,655.378	880.05	910.47
B21	31+00.00	494,148.720	138,652.586	880.00	910.29
B22	31+05.00	494,144.572	138,649.794	879.95	910.11
B23	31+10.00	494,140.479	138,646.925	879.89	909.92
B24	31+15.00	494,136.467	138,643.941	879.84	909.70
B25	31+20.00	494,132.452	138,640.961	879.79	909.47
B26	31+25.00	494,128.433	138,637.986	879.74	909.23
B27	31+30.00	494,124.412	138,635.015	879.68	909.00
B28	31+35.00	494,120.388	138,632.047	879.58	908.75
B29	31+40.00	494,116.360	138,629.085	879.45	908.50
B30	31+45.00	494,112.329	138,626.126	879.32	908.25
B31	31+50.00	494,108.296	138,623.172	879.19	908.00
B32	31+55.00	494,104.259	138,620.221	879.06	907.75
B33	31+60.00	494,100.219	138,617.275	878.92	907.50
B34	31+65.00	494,096.176	138,614.334	878.79	907.24
B35	31+70.00	494,092.130	138,611.396	878.66	906.99
B36	31+75.00	494,088.080	138,608.463	878.53	906.74
B37	31+80.00	494,084.028	138,605.534	878.40	906.49
B38	31+85.00	494,079.973	138,602.609	878.31	906.24
B39	31+90.00	494,075.914	138,599.689	878.27	905.99
B40	31+95.00	494,071.853	138,596.772	878.23	905.73
B41	32+00.00	494,067.788	138,593.860	878.18	905.48
B42	32+05.00	494,063.721	138,590.953	878.14	905.23
B43	32+10.00	494,059.650	138,588.049	878.09	904.98
B44	32+15.00	494,055.576	138,585.150	878.05	904.73
B45	32+20.00	494,051.500	138,582.255	878.01	904.48
B46	32+25.00	494,047.420	138,579.365	877.96	904.22
B47	32+30.00	494,043.337	138,576.478	877.92	903.97
B48	32+35.00	494,039.251	138,573.596	877.77	903.72
B49	32+40.00	494,035.163	138,570.718	877.54	903.47
B50	32+45.00	494,031.071	138,567.845	877.31	903.22

RETAINING WALL DATA - WALL B					
POINT NO.	STATION	COORDINATES		FINISHED GRADE (FRONT FACE)	TOP OF WALL
		X	Y		
B51	32+50.00	494,026.976	138,564.976	877.08	902.97
B52	32+55.00	494,022.878	138,562.111	876.85	902.71
B53	32+60.00	494,018.777	138,559.250	876.62	902.46
B54	32+65.00	494,014.673	138,556.394	876.39	902.21
B55	32+70.00	494,010.567	138,553.542	876.16	901.96
B56	32+75.00	494,006.457	138,550.694	875.93	901.71
B57	32+80.00	494,002.344	138,547.851	875.70	901.46
B58	32+85.00	493,998.228	138,545.012	875.60	901.20
B59	32+90.00	493,994.109	138,542.177	875.60	900.95
B60	32+95.00	493,989.988	138,539.347	875.60	900.70
B61	33+00.00	493,985.863	138,536.520	875.60	900.45
B62	33+05.00	493,981.735	138,533.699	875.60	900.20
B63	33+10.00	493,977.605	138,530.881	875.60	899.95
B64	33+15.00	493,973.471	138,528.068	875.60	899.69
B65	33+20.00	493,969.335	138,525.259	875.60	899.44
B66	33+25.00	493,965.195	138,522.455	875.60	899.19
B67	33+30.00	493,961.053	138,519.655	875.60	898.94
B68	33+35.00	493,956.907	138,516.859	875.60	898.69
B69	33+40.00	493,952.759	138,514.068	875.60	898.44
B70	33+45.00	493,948.608	138,511.281	875.60	898.17
B71	33+50.00	493,944.373	138,508.628	875.60	897.90
B72	33+55.00	493,940.039	138,506.134	875.60	897.63
B73	33+60.00	493,935.703	138,503.645	875.60	897.35
B74	33+65.00	493,931.364	138,501.160	875.60	897.09
B75	33+70.00	493,927.022	138,498.681	875.60	896.84
B76	33+75.00	493,922.678	138,496.205	875.60	896.57
B77	33+80.00	493,918.331	138,493.734	875.60	896.31
B78	33+85.00	493,913.982	138,491.268	875.60	896.05
B79	33+90.00	493,909.629	138,488.807	875.60	895.79
B80	33+95.00	493,905.275	138,486.350	875.60	895.54
B81	34+00.00	493,900.917	138,483.898	875.60	895.28
B82	34+05.00	493,896.558	138,481.450	875.60	895.02
B83	34+10.00	493,892.195	138,479.007	875.60	894.76
B84	34+15.00	493,887.830	138,476.568	875.60	894.49
B85	34+20.00	493,883.462	138,474.135	875.60	894.23
B86	34+25.00	493,879.092	138,471.705	875.60	893.98
B87	34+30.00	493,874.719	138,469.281	875.60	893.72
B88	34+35.00	493,870.344	138,466.861	875.60	893.46
B89	34+40.00	493,865.966	138,464.445	875.60	893.20
B90	34+45.00	493,861.586	138,462.035	875.60	892.94
B91	34+50.00	493,857.202	138,459.629	875.60	892.67
B92	34+55.00	493,852.818	138,457.227	875.60	892.42
B93	34+60.00	493,848.401	138,454.821	875.60	892.17
B94	34+65.00	493,844.481	138,451.889	875.60	891.92
B95	34+70.00	493,840.258	138,449.012	875.60	891.67
B96	34+75.00	493,836.032	138,446.339	875.60	891.42
B97	34+80.00	493,831.804	138,443.670	875.60	891.17
B98	34+85.00	493,827.573	138,441.006	875.60	890.91
B99	34+90.00	493,823.339	138,438.346	875.60	890.66
B100	34+95.00	493,819.102	138,435.691	875.60	890.41

RETAINING WALL DATA - WALL B					
POINT NO.	STATION	COORDINATES		FINISHED GRADE (FRONT FACE)	TOP OF WALL
		X	Y		
B101	35+00.00	493,814.863	138,433.040	875.60	890.16
B102	35+05.00	493,810.620	138,430.394	875.60	889.91
B103	35+10.00	493,806.375	138,427.752	875.60	889.65
B104	35+15.00	493,802.127	138,425.115	875.60	889.40
B105	35+20.00	493,797.877	138,422.482	875.60	889.15
B106	35+25.00	493,793.624	138,419.853	875.60	888.91
B107	35+30.00	493,789.367	138,417.229	875.60	888.66
B108	35+35.00	493,785.108	138,414.610	875.60	888.42
B109	35+40.00	493,780.847	138,411.995	875.60	888.18
B110	35+45.00	493,776.582	138,409.384	875.60	887.95
B111	35+50.00	493,772.315	138,406.778	875.60	887.73
B112	35+55.00	493,768.046	138,404.176	875.60	887.50
B113	35+60.00	493,763.773	138,401.579	875.60	887.28
B114	35+65.00	493,759.498	138,398.987	875.60	887.07
B115	35+70.00	493,755.220	138,396.399	875.60	886.85
B116	35+75.00	493,750.939	138,393.815	875.60	886.64
B117	35+80.00	493,746.655	138,391.236	875.60	886.44
B118	35+85.00	493,742.369	138,388.661	875.60	886.24
B119	35+90.00	493,738.080	138,386.091	875.60	886.03
B120	35+95.00	493,733.789	138,383.525	875.60	885.84
B121	36+00.00	493,729.495	138,380.964	875.60	885.65
B122	36+05.00	493,725.198	138,378.407	875.60	885.47
B123	36+10.00	493,720.898	138,375.855	875.60	885.29
B124	36+15.00	493,716.596	138,373.308	875.60	885.11
B125	36+20.00	493,712.291	138,370.765	875.60	884.94
B126	36+25.00	493,707.983	138,368.226	875.60	884.77
B127	36+30.00	493,703.673	138,365.692	875.60	884.60
B128	36+35.00	493,699.360	138,363.162	875.60	884.44
B129	36+40.00	493,695.044	138,360.638	875.60	884.28
B130	36+45.00	493,690.726	138,358.117	875.60	884.13
B131	36+50.00	493,686.405	138,355.601	875.60	883.98
B132	36+55.00	493,682.082	138,353.090	875.60	883.83
B133	36+60.00	493,677.756	138,350.583	875.60	883.69
B134	36+65.00	493,673.427	138,348.081	875.60	883.55
B135	36+70.00	493,669.097	138,345.580	875.60	883.42
B136	36+75.00	493,664.768	138,343.079	875.85	883.29
B137	36+80.00	493,660.438	138,340.578	876.59	883.16
B138	36+85.00	493,656.108	138,338.077	877.33	883.04
B139	36+90.00	493,651.779	138,335.576	878.07	882.92
B140	36+95.00	493,647.449	138,333.075	878.81	882.81
B141	37+00.00	493,643.119	138,330.575	879.56	882.69
B142	37+05.00	493,638.790	138,328.074	880.30	882.59
B143	37+10.00	493,634.460	138,325.573	881.04	882.48
B144	37+15.00	493,630.130	138,323.072	881.78	882.42
B145	37+18.97	493,626.691	138,321.085	882.37	882.37

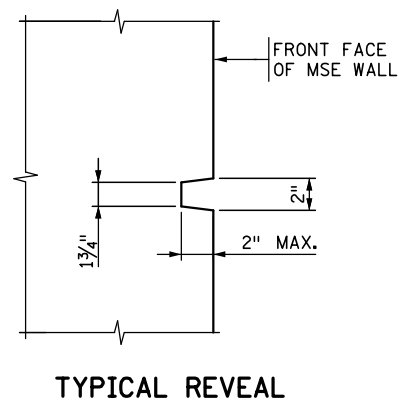
NO.		DATE	BY	DESCRIPTION OF REVISIONS	DES: HAP	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020 LINDSEY J. LAWRENCE		WALL B TABULATION	RETAINING WALL PLANS
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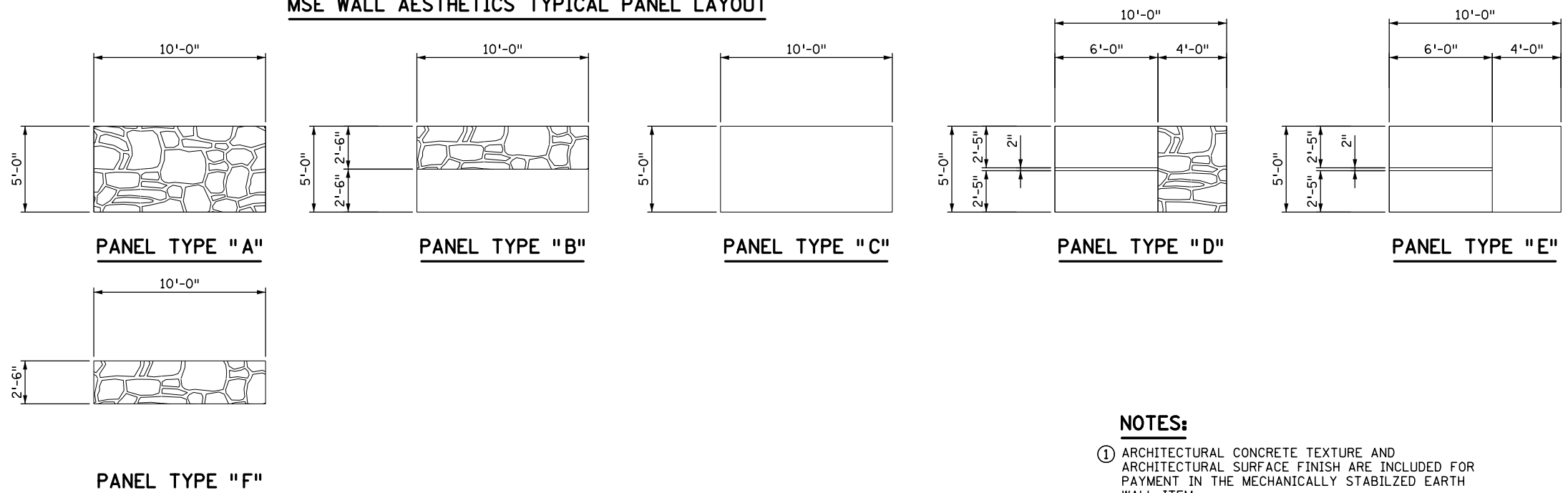


SECTION C-C

MSE WALL AESTHETICS TYPICAL PANEL LAYOUT



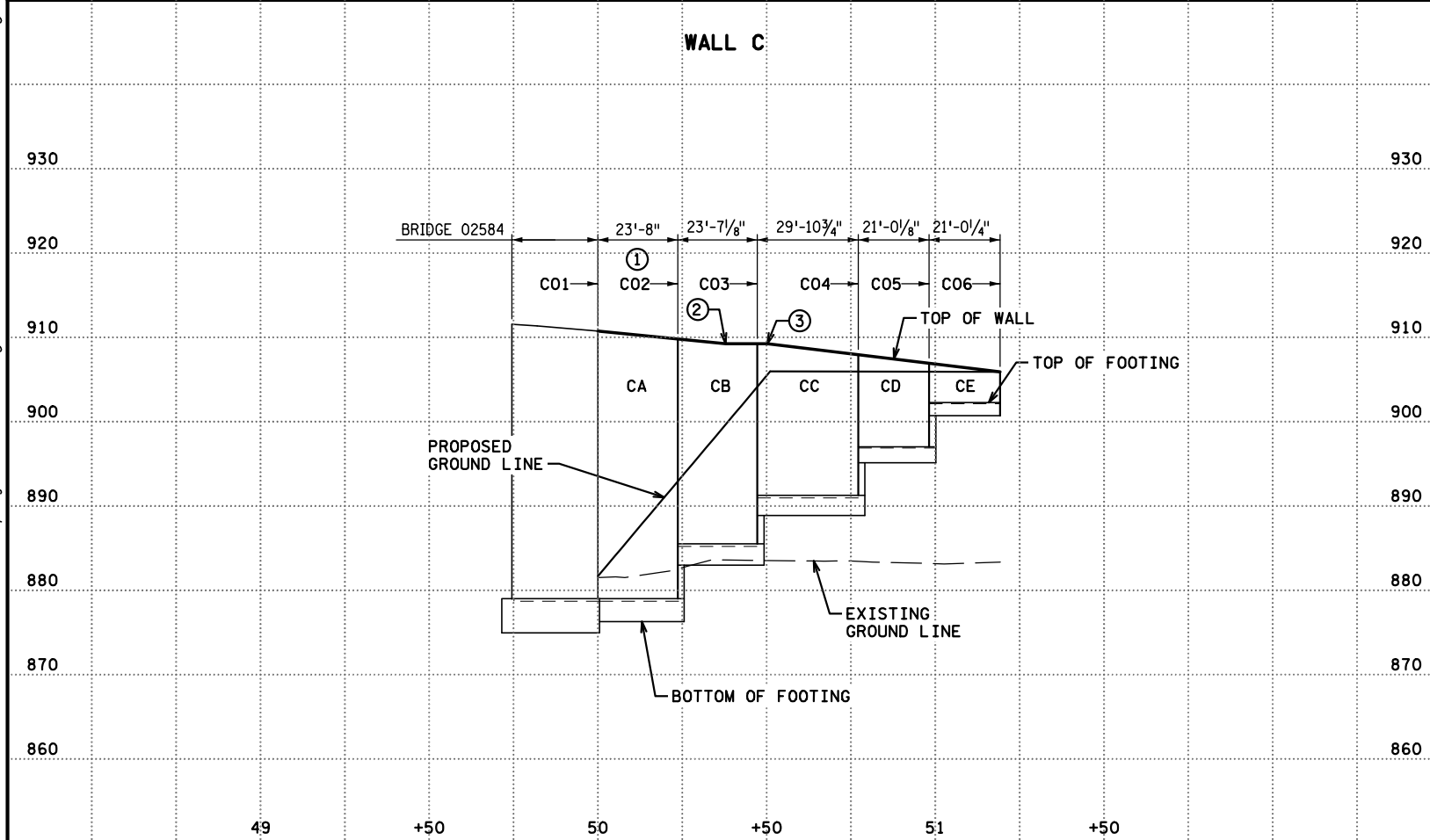
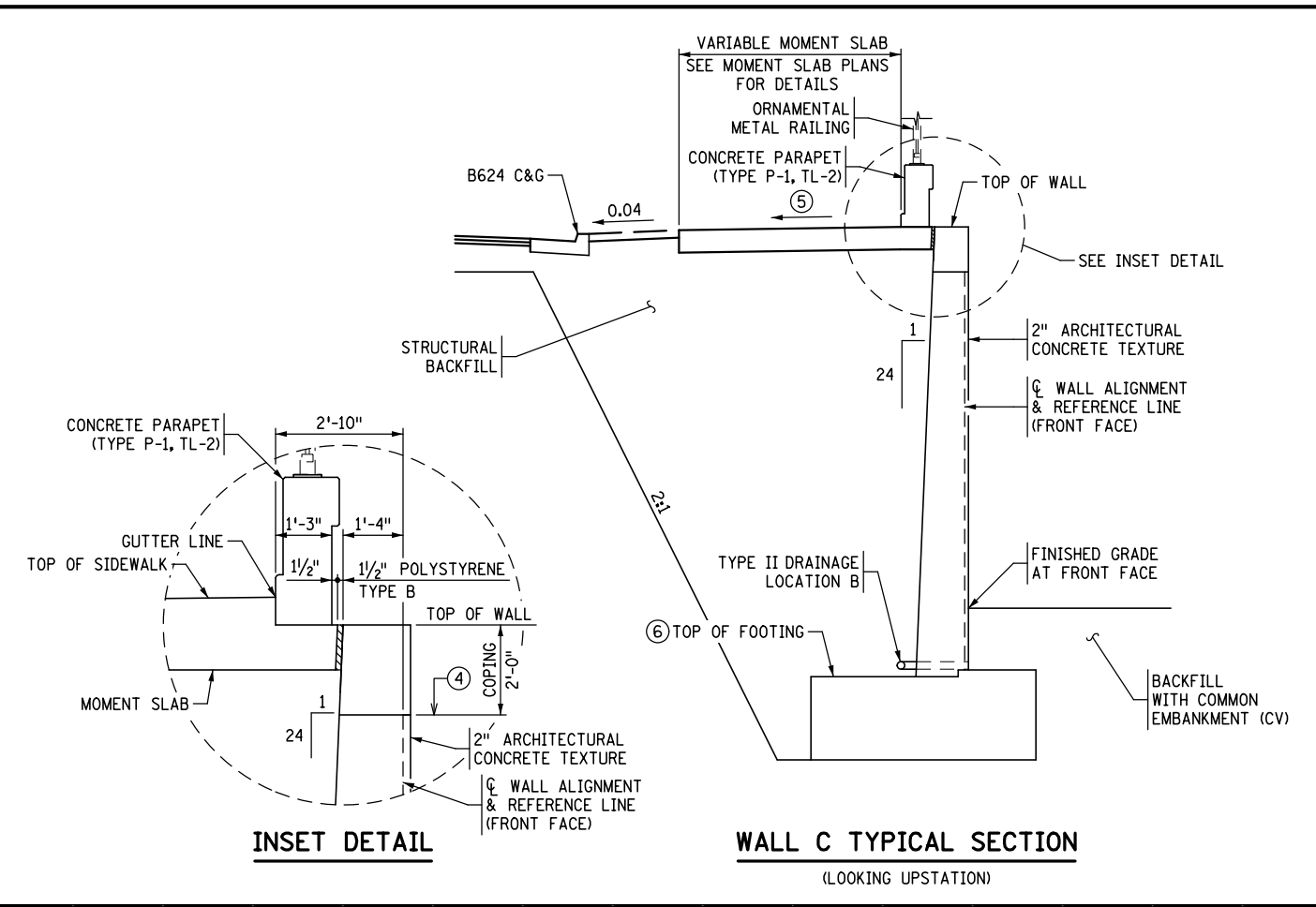
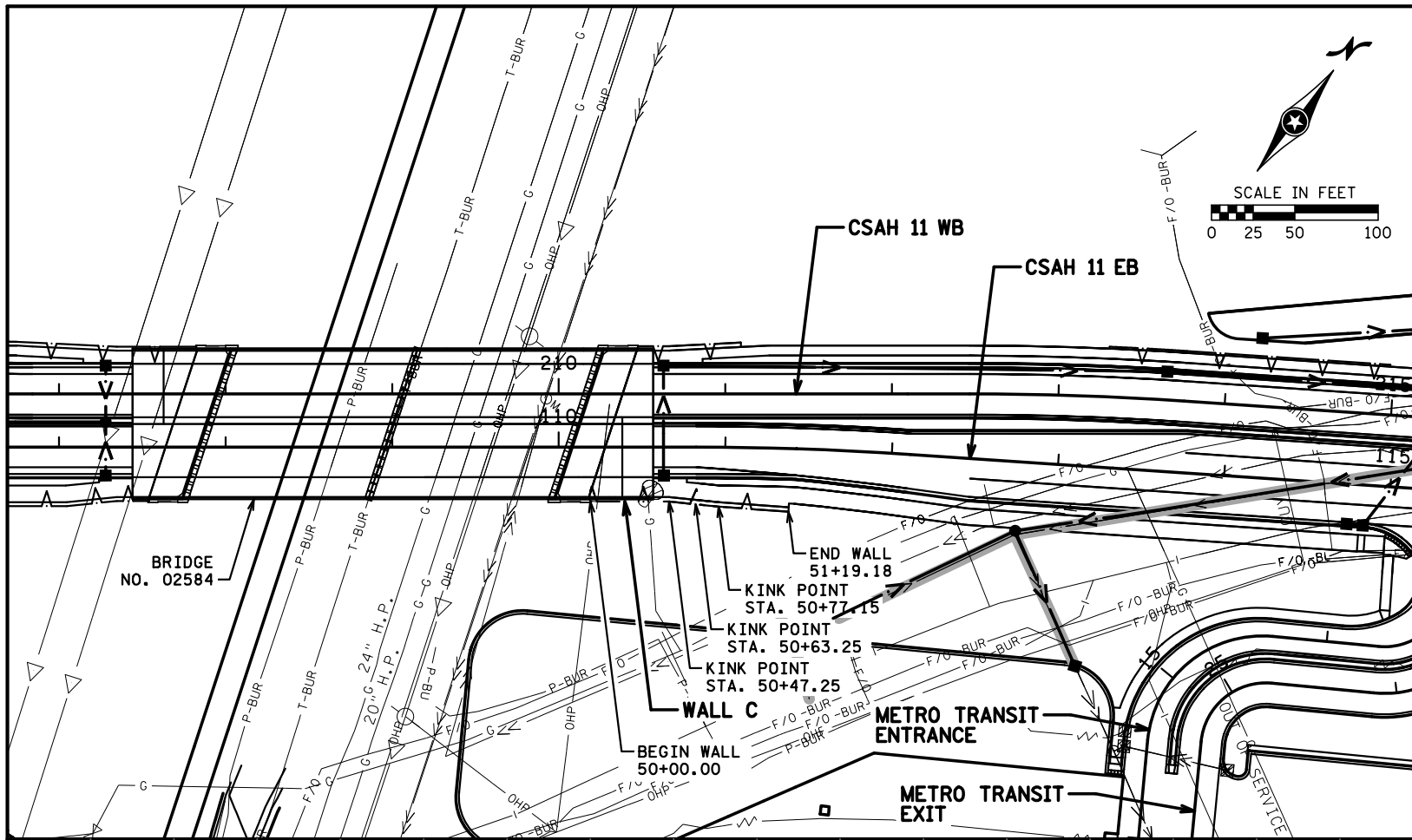
TYPICAL REVEAL



NOTES:

- ① ARCHITECTURAL CONCRETE TEXTURE AND ARCHITECTURAL SURFACE FINISH ARE INCLUDED FOR PAYMENT IN THE MECHANICALLY STABILIZED EARTH WALL ITEM.

			DES: HAP	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	TKDA	MSE WALL AESTHETICS	RETAINING WALL PLANS
			DRW: HAP	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/25/2020		STATE PROJ. NO. 002-611-036	SHEET NO. 214 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS		CHK: ADL		



RETAINING WALL DATA - WALL C													
JOINT NO.	STATION	COORDINATES		FINISHED GRADE (FRONT FACE)	TOP OF WALL	BOTTOM OF COPING	TOP OF FOOTING	HEIGHT	BOTTOM OF FOOTING	LENGTH	ID	JOINT TYPE	
		X	Y										
①	C01	50+00.00	494,475.407	138,777.670	881.72	910.78	908.78	878.71	32.07	876.29		SHEAR LUG	
	C02	50+23.66	494,494.353	138,791.849	892.98	909.84	907.84	878.71	31.13	876.29	23.66	CA	CORK ⑦
	C03	50+47.25	494,513.240	138,805.983	904.21	909.28	907.28	884.29	24.99	882.04	23.59	CB	CORK
	C04	50+77.15	494,538.876	138,821.359	905.98	909.28	905.98	890.04	17.94	888.12	29.90	CC	CORK
	C05	50+98.16	494,556.554	138,832.713	905.97	906.97	904.97	896.12	10.84	894.71	21.01	CD	CORK
	C06	51+19.18	494,574.239	138,844.071	905.95	905.95	903.95	900.71	5.24	899.29	21.02	CE	

- SPECIFIC NOTES:**
- ① WALL PANELS EXCEED MAXIMUM HEIGHT OF MnDOT RETAINING WALL STANDARD PLANS. UNIQUE RETAINING WALL DESIGN REQUIRED.
 - ② STA. 50+37.83
EL. 909.28
 - ③ STA. 50+50.19
EL. 909.28
 - ④ MANDATORY CONSTRUCTION JOINT.
 - ⑤ 1.0% SLOPE FROM STATIONS 50+00.00 TO 50+37.83. IN TRANSITION AREA FROM STATIONS 50+37.83 TO 50+50.19, SEE MOMENT SLAB DETAILS (1 OF 2). 1.5% SLOPE FROM STATIONS 50+50.19 TO 51+19.18.
 - ⑥ TOP OF FOOTING ELEVATIONS TAKEN FROM HERE.
 - ⑦ ENSURE DOWEL PLACEMENT IS WITHIN RETAINING WALL CB.

DATE: 11/24/2020 TIME: 11:03:05 PM FILENAME: c:\nkda\proj\tech\wise\m.vangstad\dms01247\cd00261036_wrc1.dgn

DES: HAP	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: HAP	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020
CHK: ADL	LINDSEY J. LAWRENCE

	WALL C PLAN, PROFILE & TABULATION	RETAINING WALL PLANS
	STATE PROJ. NO. 002-611-036	SHEET NO. 215 OF 416 SHEETS

DATE: 11/24/2020 TIME: 11:03:11 PM
FILENAME: c:\kda_proj\tech\wise\hmv\vangstad\dms01247\cd00261036_wrc2.dgn

BAR	MARK	NO.	LENGTH	A	LOCATION	WT-LBS	DIMENSIONS AND QUANTITIES			
h = 33.00 PANEL: CA (1 THUS) - SPECIAL							PANEL LENGTH = 23'-8"			
SPREAD FOOTING REINFORCEMENT							DIMENSIONS			
A	F501	34	26'-1"	STR.	LONG T & B	925	SPREAD FOOTING			
B	F502	25	15'-6"	STR.	TRANS BOT	404	b	6'-0"	e	----
C	F1103	25	15'-6"	STR.	TRANS TOP	2059	c	2'-5"	f	----
							d	16'-0"	g	6'-2 3/8"
STEM							DIMENSIONS			
							a	4'-0"	x	8'-0"
							j	3'-6 7/8"	z	8'-0"
FOOTING DOWELS & STEM REINFORCEMENT							QUANTITIES			
D	F604E	25	5'-9"	STR.	DOWEL FF	216	STRUCTURAL CONCRETE (1G52)			
E	F1105E	25	18'-8"	8'-2"	DOWEL BF	2479	(FOOTING)			
F	F1106E	24	12'-1"	10'-6"	DOWEL BF	1541	SPREAD	35.5	CU YD	
G	S601E	25	26'-4"	STR.	VERT FF	989	STRUCTURAL CONCRETE (3G52)			
H	S902E	25	24'-10"	STR.	VERT BF	2111	(STEM)			
J	S1003E	24	15'-0"	STR.	VERT BF	1549	STEM			
L	S605E	66	23'-2"	STR.	HORIZ EF	2297	88.2 CU YD			
M	S506E	18	9'-3"	3'-3"	EXP JT TIE	174	REINFORCEMENT BAR			
N	S507E	22	8'-8"	2'-8"	EXP JT TIE	199	SPREAD 3388 LB			
P	S508E	10	8'-2"	2'-2"	EXP JT TIE	85	REINFORCEMENT BAR (EPOXY)			
R	S509E	16	7'-0"	1'-0"	EXP JT TIE	117	SPREAD 2050 LB			
S	S510E	25	7'-5"	2'-3"	TIE	193	REINFORCEMENT BAR (EPOXY)			
T	S611E	25	17'-4"	8'-2"	TOP TIE	651	12601 LB			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT-LBS	DIMENSIONS AND QUANTITIES			
h = 26.00 PANEL: CB (1 THUS) - TALL WALL							PANEL LENGTH = 23'-7 1/8"			
SPREAD FOOTING REINFORCEMENT							DIMENSIONS			
A	F501	28	26'-0"	STR.	LONG T & B	759	SPREAD FOOTING			
B	F502	25	13'-1"	STR.	TRANS BOT	341	b	4'-4"	e	----
C	F1003	25	13'-1"	STR.	TRANS TOP	1407	c	2'-3"	f	----
							d	13'-7"	g	4'-6 1/4"
STEM							DIMENSIONS			
							a	2'-7"	x	7'-10"
							j	2'-2"	z	5'-10"
FOOTING DOWELS & STEM REINFORCEMENT							QUANTITIES			
D	F504E	25	3'-0"	STR.	DOWEL FF	78	STRUCTURAL CONCRETE (1G52)			
E	F1005E	25	17'-9"	6'-6"	DOWEL BF	1909	(FOOTING)			
F	F1006E	24	9'-6"	7'-7"	DOWEL BF	981	SPREAD	27.9	CU YD	
G	S401E	25	23'-2"	STR.	VERT FF	387	STRUCTURAL CONCRETE (3G52)			
H	S802E	25	23'-2"	STR.	VERT BF	1546	(STEM)			
J	S803E	24	12'-6"	STR.	VERT BF	801	STEM			
K	S504E	25	10'-8"	4'-9"	TOP TIE	278	45.2 CU YD			
L	S405E	52	23'-2"	STR.	HORIZ EF	805	REINFORCEMENT BAR			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 2508 LB			
N	S507E	20	7'-9"	1'-9"	EXP JT TIE	162	REINFORCEMENT BAR (EPOXY)			
P	S508E	12	8'-2"	2'-2"	EXP JT TIE	102	7202 LB			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT-LBS	DIMENSIONS AND QUANTITIES			
h = 20.00 PANEL: CC (1 THUS) - TALL WALL							PANEL LENGTH = 29'-10 3/4"			
SPREAD FOOTING REINFORCEMENT							DIMENSIONS			
A	F501	22	32'-4"	STR.	LONG T & B	742	SPREAD FOOTING			
B	F502	31	9'-6"	STR.	TRANS BOT	307	b	3'-4"	e	----
C	F903	31	9'-6"	STR.	TRANS TOP	1001	c	1'-11"	f	----
							d	10'-7"	g	3'-6 1/4"
STEM							DIMENSIONS			
							a	2'-4"	x	3'-3"
							j	1'-11 1/4"	z	7'-9"
FOOTING DOWELS & STEM REINFORCEMENT							QUANTITIES			
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURAL CONCRETE (1G52)			
E	F705E	31	11'-1"	5'-0"	DOWEL BF	702	(FOOTING)			
F	F806E	30	10'-7"	4'-6"	DOWEL BF	848	SPREAD	23.6	CU YD	
G	S401E	31	17'-2"	STR.	VERT FF	355	STRUCTURAL CONCRETE (3G52)			
H	S502E	31	17'-2"	STR.	VERT BF	555	(STEM)			
J	S603E	30	10'-4"	STR.	VERT BF	466	STEM			
K	S504E	31	10'-8"	4'-9"	TOP TIE	345	39.7 CU YD			
L	S405E	40	29'-6"	STR.	HORIZ EF	788	REINFORCEMENT BAR			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 2050 LB			
N	S507E	20	7'-9"	1'-9"	EXP JT TIE	162	REINFORCEMENT BAR (EPOXY)			
							4471 LB			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT-LBS	DIMENSIONS AND QUANTITIES			
h = 12.00 PANEL: CD (1 THUS) - MEDIUM WALL							PANEL LENGTH = 21'-0 1/8"			
SPREAD FOOTING REINFORCEMENT							DIMENSIONS			
A	F501	18	23'-5"	STR.	LONG T & B	440	SPREAD FOOTING			
B	F502	22	8'-0"	STR.	TRANS BOT	184	b	2'-7"	e	----
C	F603	22	8'-0"	STR.	TRANS TOP	264	c	1'-5"	f	----
							d	8'-6"	g	2'-9 1/4"
STEM							DIMENSIONS			
							a	2'-0"	x	2'-1"
							j	1'-7 3/8"	z	2'-3"
FOOTING DOWELS & STEM REINFORCEMENT							QUANTITIES			
D	F504E	22	3'-0"	STR.	DOWEL FF	69	STRUCTURAL CONCRETE (1G52)			
E	F505E	22	8'-1"	4'-2"	DOWEL BF	185	(FOOTING)			
F	F506E	21	4'-3"	3'-2"	DOWEL BF	93	SPREAD	9.7	CU YD	
G	S401E	22	9'-2"	STR.	VERT FF	135	STRUCTURAL CONCRETE (3G52)			
H	S502E	22	9'-2"	STR.	VERT BF	210	(STEM)			
K	S504E	22	10'-8"	4'-9"	TOP TIE	245	15.3 CU YD			
L	S405E	24	20'-7"	STR.	HORIZ EF	330	REINFORCEMENT BAR			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 888 LB			
N	S507E	4	7'-9"	1'-9"	EXP JT TIE	32	REINFORCEMENT BAR (EPOXY)			
							1452 LB			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT-LBS	DIMENSIONS AND QUANTITIES			
h = 7.00 PANEL: CE (1 THUS) - SHORT WALL							PANEL LENGTH = 21'-0 1/4"			
SPREAD FOOTING REINFORCEMENT							DIMENSIONS			
A	F501	18	23'-5"	STR.	LONG T & B	440	SPREAD FOOTING			
B	F502	22	8'-0"	STR.	TRANS BOT	184	b	2'-7"	e	----
C	F503	22	8'-0"	STR.	TRANS TOP	184	c	1'-5"	f	----
							d	8'-6"	g	2'-9 1/4"
STEM							DIMENSIONS			
							a	1'-9 1/2"	x	2'-1"
							j	1'-4 7/8"	z	----
FOOTING DOWELS & STEM REINFORCEMENT							QUANTITIES			
D	F504E	22	3'-0"	STR.	DOWEL FF	69	STRUCTURAL CONCRETE (1G52)			
E	F505E	22	4'-4"	10"	DOWEL BF	99	(FOOTING)			
G	S401E	22	4'-2"	STR.	VERT FF	61	SPREAD	9.7	CU YD	
H	S502E	22	4'-2"	STR.	VERT BF	96	STRUCTURAL CONCRETE (3G52)			
K	S504E	22	10'-8"	4'-9"	TOP TIE	245	(STEM)			
L	S405E	14	20'-7"	STR.	HORIZ EF	192	7.2 CU YD			
M	S506E	14	7'-4"	1'-4"	EXP JT TIE	107	REINFORCEMENT BAR			
							SPREAD 808 LB			
							REINFORCEMENT BAR (EPOXY)			
							869 LB			

NOTES:

BAR LISTS HAVE BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.

THE DESIGN HEIGHTS h SHOWN IN THE TABULATIONS ON THIS SHEET ARE NOT IDENTICAL WITH THE ACTUAL WALL HEIGHTS. REFER TO THE WALL C PLAN, PROFILE AND TABULATION SHEET.

STEM CONCRETE VOLUMES WERE COMPUTED USING THE ACTUAL STEM HEIGHTS. THE VOLUME IS THE AVERAGE FOR ANY GIVEN PANEL SERIES.

STEM DIMENSIONS a & j WERE CALCULATED USING THE WALL HEIGHT LISTED IN THE PANEL TABULATIONS. ADJUST DIMENSIONS ACCORDING TO THE ACTUAL WALL HEIGHT.

LONGITUDINAL FOOTING REINFORCEMENT BARS MAY BE CUT TO FIT IRREGULAR SHAPED FOOTINGS.

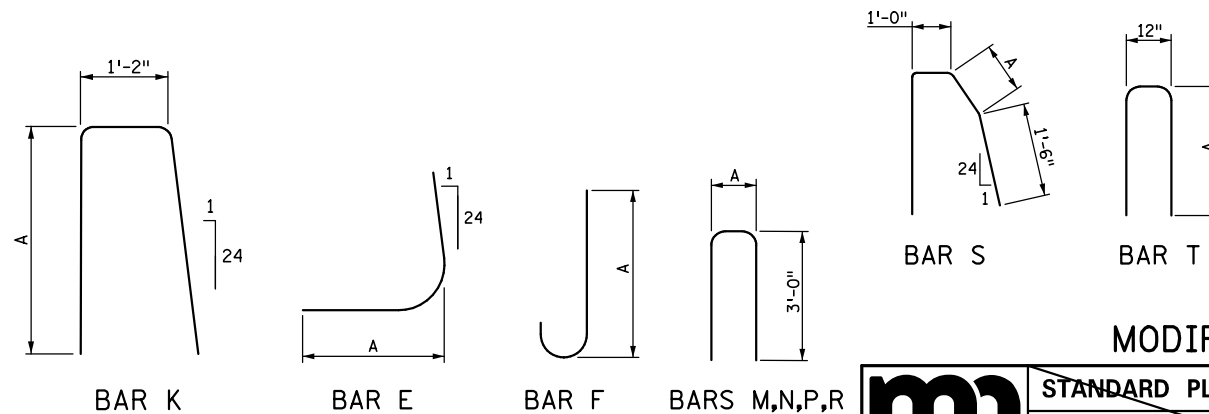
SEE RETAINING WALL REINFORCEMENT DETAILS SHEETS FOR LOCATION OF DIMENSIONS.

① SEE DETAIL "D" ON "CIP RETAINING WALL MISCELLANEOUS DETAILS (1 OF 5)".

NOTES:

- FF = DENOTES FRONT FACE.
- BF = DENOTES BACK FACE.
- EF = DENOTES EACH FACE.
- DWL = DENOTES DOWEL.
- BARS MARKED WITH THE SUFFIX "E" ARE EPOXY COATED.
- x = PROJECTION OF BAR E INTO STEM.
- z = PROJECTION OF BAR F INTO STEM.

* THIS DRAWING HAS BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.



MODIFIED

REVISION:
APPROVED: SEPTEMBER 1, 2016
Leann Wilson
STATE BRIDGE ENGINEER

* DENOTES MODIFICATION FROM STANDARD PLAN

STANDARD PLAN 5-297.628 1 OF 3
APPROVED: 9-1-2016
REVISOR:
Tom Ska
STATE DESIGN ENGINEER

RETAINING WALL PANEL TABULATIONS
(LIVE LOAD SURCHARGE)

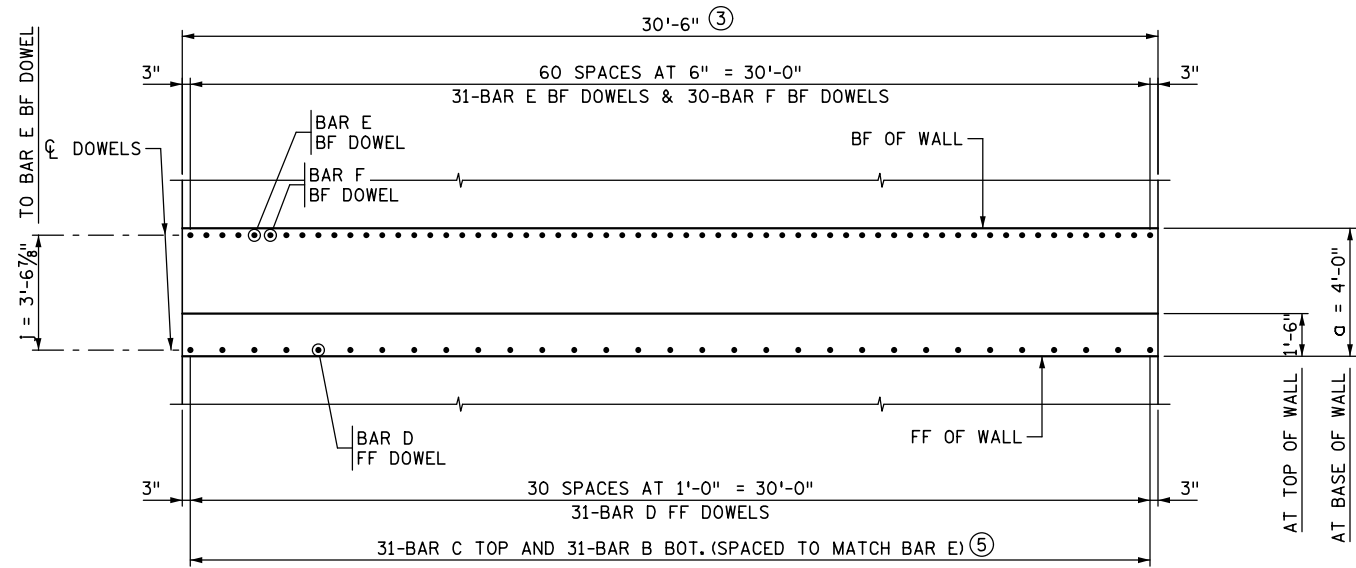
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: HAP
DRW: HAP
CHK: ADL
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
LINDSEY J. LAWRENCE

TKDA

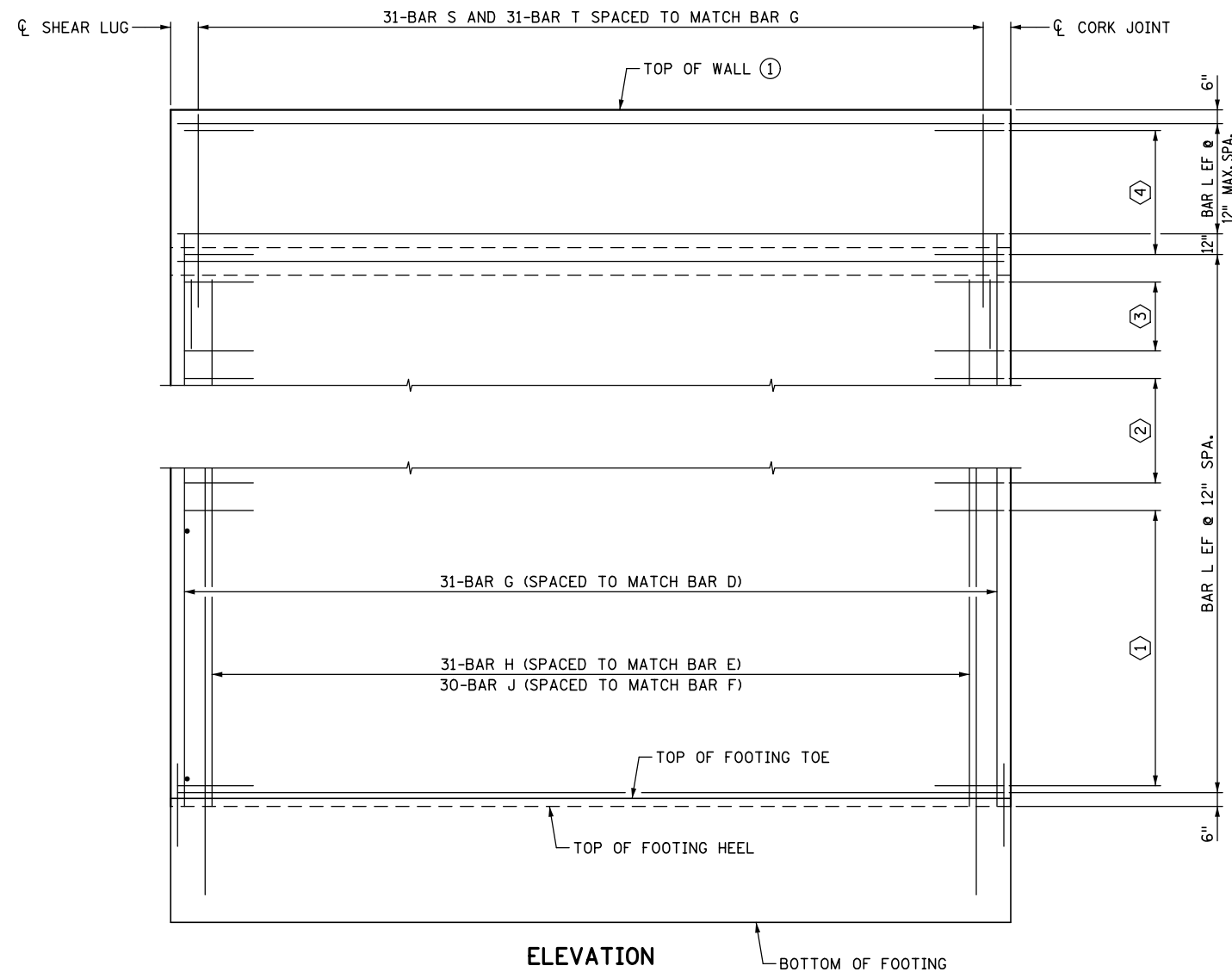
WALL C PANEL TABULATION
STATE PROJ. NO. 002-611-036
RETAINING WALL PLANS
SHEET NO. 216 OF 416 SHEETS

DATE: 11/24/2020 TIME: 11:03:17 PM
 FILENAME: c:\kda_proj\tech\ise\hmv\angstad\dms01247\cd00261036_wrc3.dgn



PLAN

(FOOTING PLAN AND REINFORCEMENT NOT SHOWN)

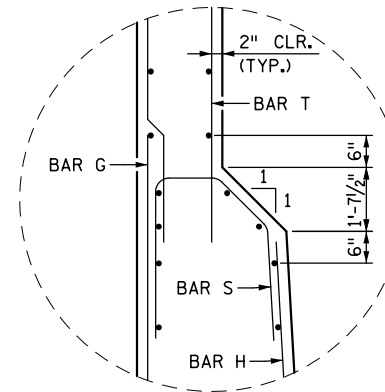


ELEVATION

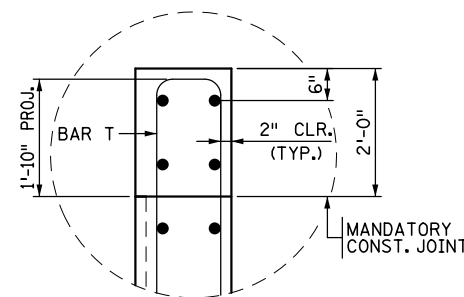
BOTTOM OF FOOTING

NOTES:

- SEE RETAINING WALL TABULATIONS FOR DIMENSIONS "a" THROUGH "x".
- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED.
- BF DENOTES BACK FACE.
FF DENOTES FRONT FACE.
EF DENOTES EACH FACE.
- ① STRAIGHT LINE ELEVATIONS SHOWN ON WALL ELEVATIONS.
- ② TYPE II DRAINAGE. SEE SECTION B-B ON STANDARD PLAN 5-297.624 (5 OF 6).
- ③ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ± 1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.
- ④ REFER TO DETAIL "C" AND NOTES ON STANDARD PLAN 5-297.624 (1 OF 6).
- ⑤ BAR B AND BAR C TO MAINTAIN 3" SIDE CLEAR FROM CONCRETE FACES.



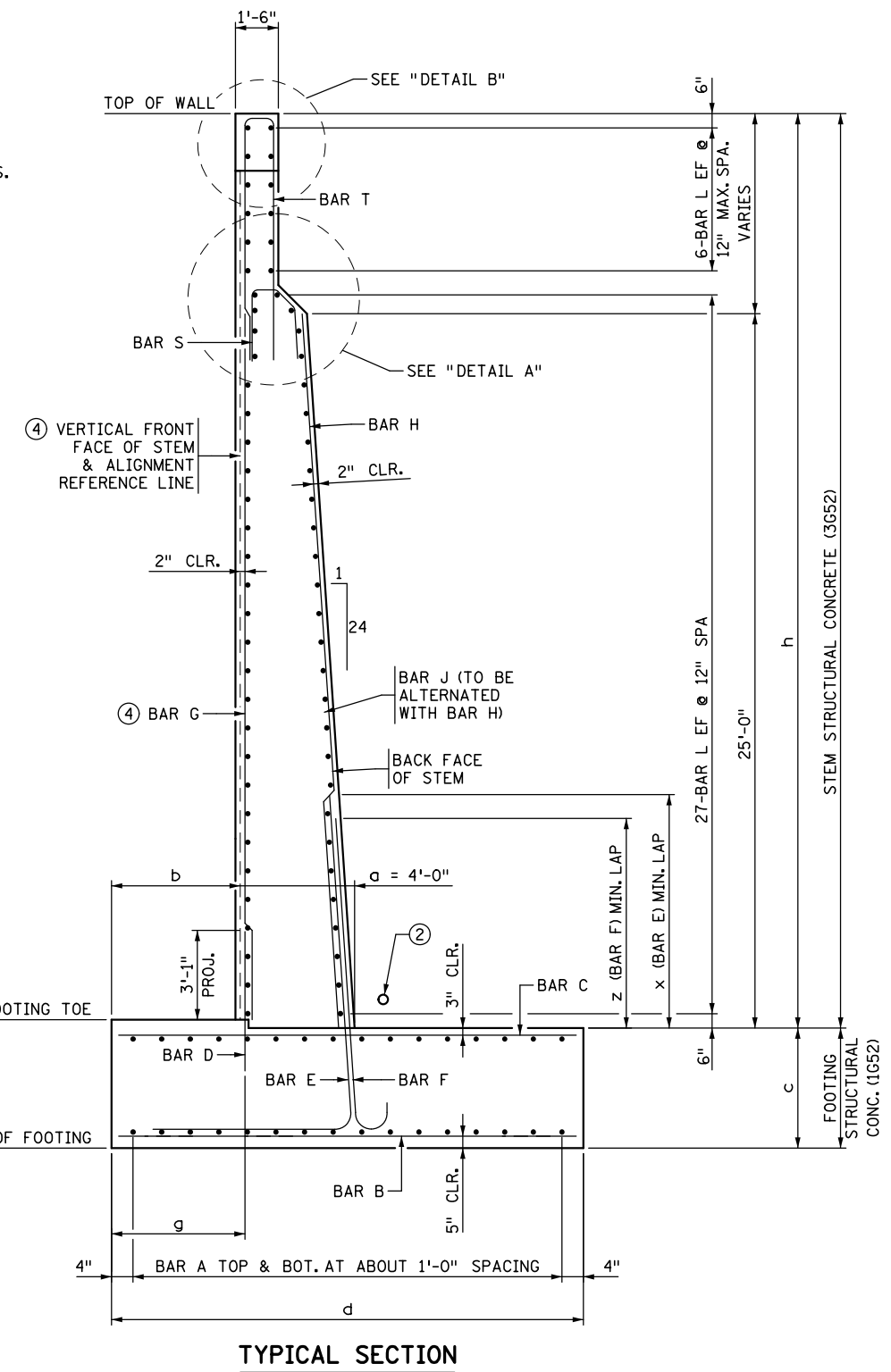
DETAIL A



DETAIL B

BAR CALLOUTS:

- ① 9-BAR M SPACED TO MATCH BAR L.
- ② 11-BAR N SPACED TO MATCH BAR L.
- ③ 5-BAR P SPACED TO MATCH BAR L.
- ④ 8-BAR R SPACED TO MATCH BAR L.



TYPICAL SECTION

NO.	DATE	BY	DESCRIPTION OF REVISIONS

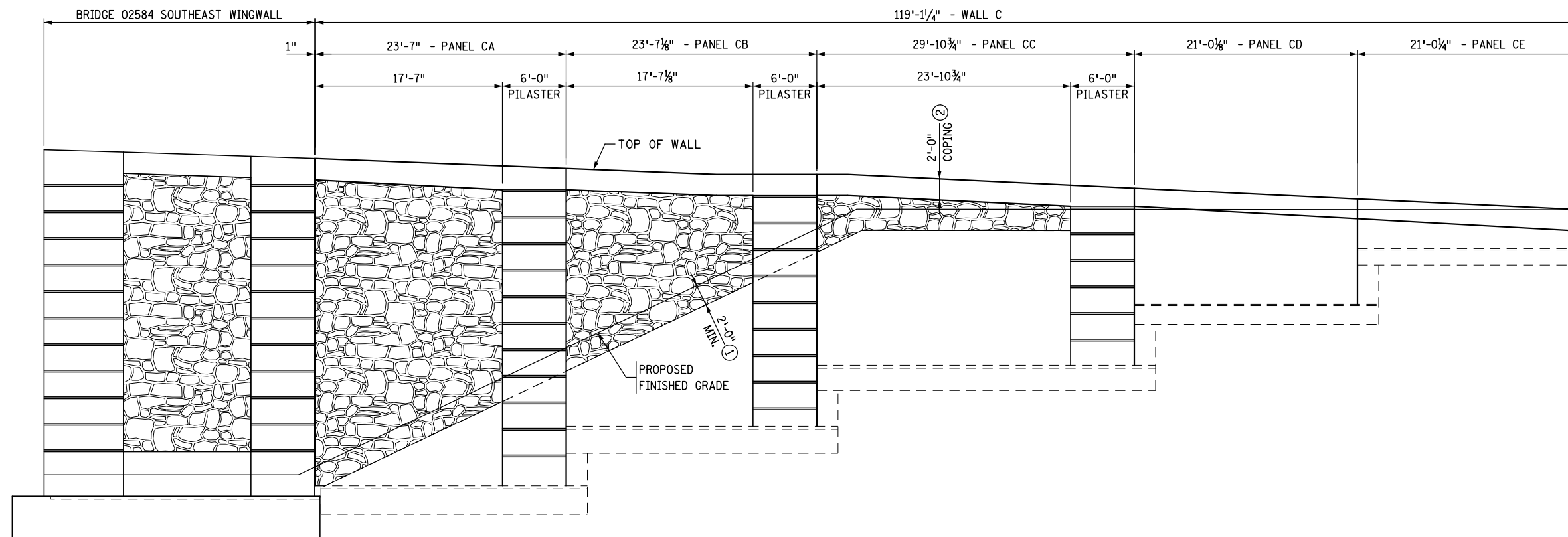
DES: HAP
 DRW: HAP
 CHK: ADL
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 SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



WALL C REINFORCEMENT
 DETAILS (SPECIAL)
 STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS
 SHEET NO. 217 OF 416 SHEETS

DATE: 11/24/2020 TIME: 11:03:21 PM
 FILENAME: c:\kda\project\ise\fm\vangstad\dms01247\cd00261036_wrc4.dgn



WALL C ELEVATION

NOTES:

SEE STANDARD CIP WALL AESTHETICS SHEET FOR MORE INFORMATION.

- ① LIMITS OF ARCHITECTURAL CONCRETE TEXTURE.
- ② ADJUST COPING DEPTH AS NECESSARY TO ACCOMMODATE SETTLEMENT.

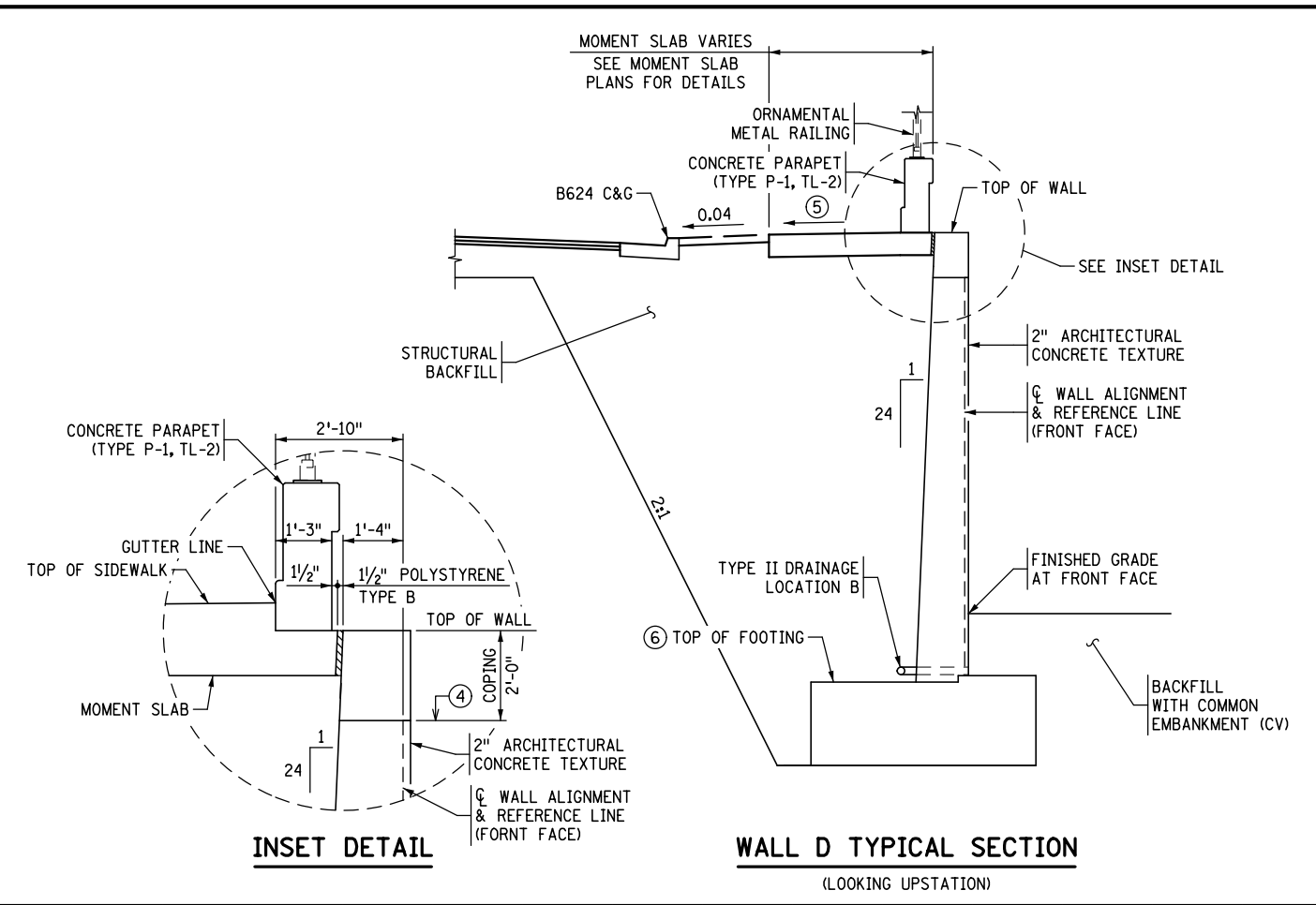
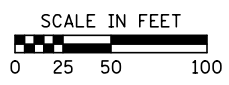
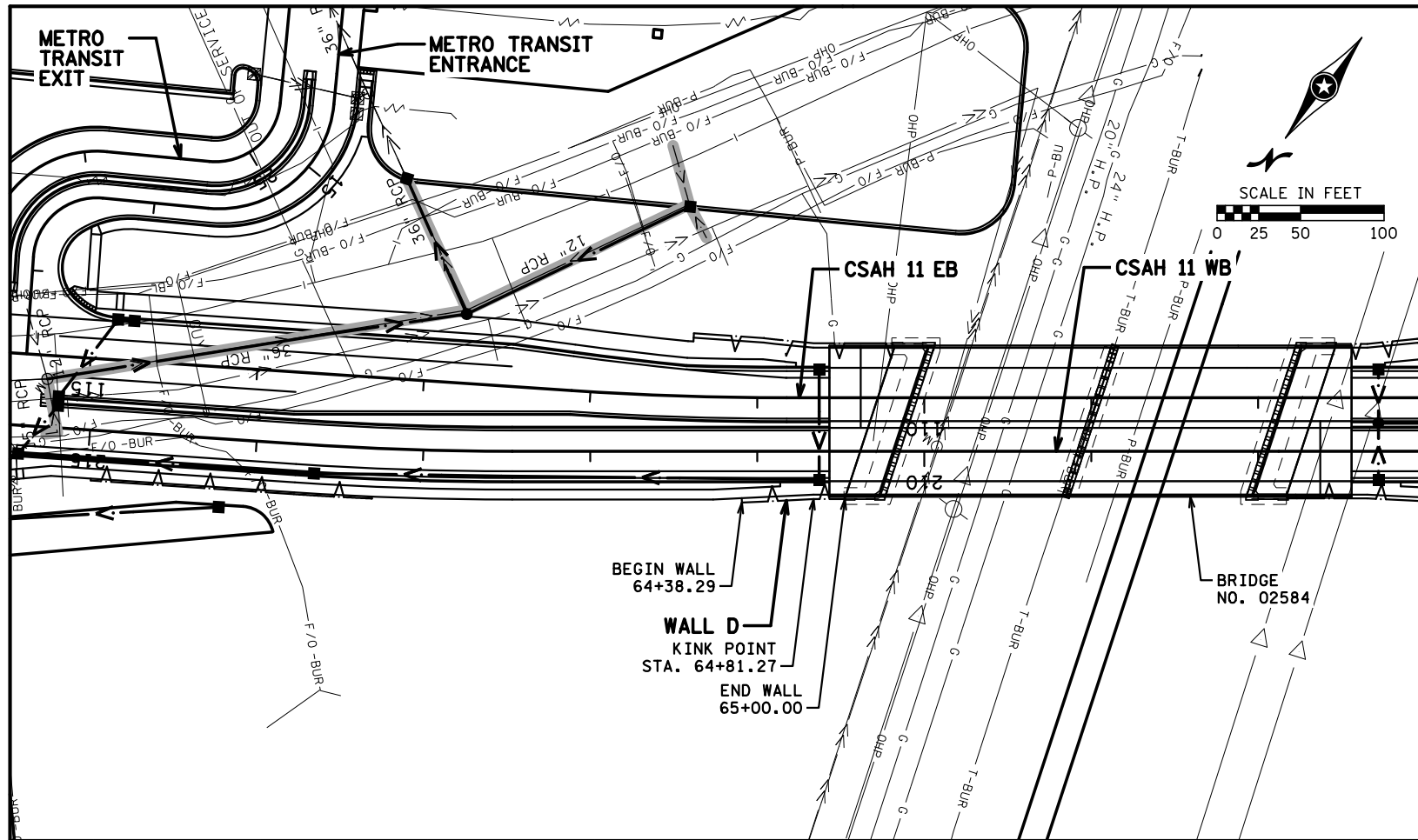
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: HAP	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020 LINDSEY J. LAWRENCE
DRW: HAP	
CHK: ADL	



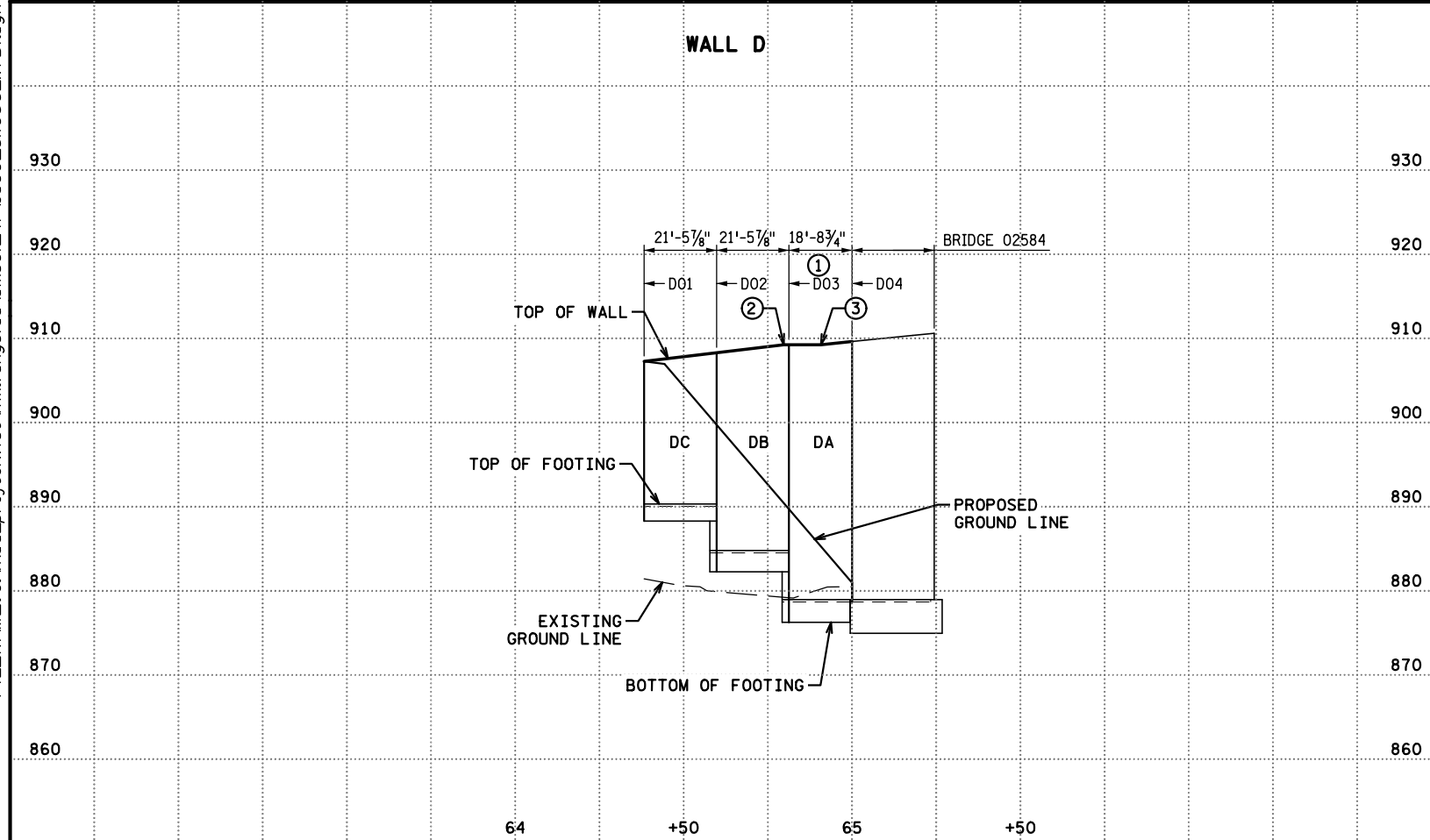
WALL C AESTHETICS
 STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS
 SHEET NO. 218 OF 416 SHEETS



RETAINING WALL DATA - WALL D

JOINT NO.	STATION	COORDINATES		FINISHED GRADE (FRONT FACE)	TOP OF WALL	BOTTOM OF COPING	TOP OF FOOTING	HEIGHT	BOTTOM OF FOOTING	LENGTH	ID	JOINT TYPE
		X	Y									
D01	64+38.29	494,490.456	138,908.187	907.32	907.32	905.32	890.04	17.28	888.29		DC	
D02	64+59.77	494,473.916	138,894.469	899.78	908.34	906.34	890.04	18.30	888.29	21.49	DC	CORK
D03	64+81.27	494,457.373	138,880.749	889.74	909.28	907.28	884.29	24.99	882.04	21.49	DB	CORK (7)
(1) D04	65+00.00	494,442.374	138,869.525	881.00	909.68	907.68	878.71	30.97	876.29	18.73	DA	SHEAR LUG



SPECIFIC NOTES:

- WALL PANELS EXCEED MAXIMUM HEIGHT OF MnDOT RETAINING WALL STANDARD PLANS. UNIQUE RETAINING WALL DESIGN REQUIRED.
- STA. 64+79.76 EL. 909.28
- STA. 64+90.76 EL. 909.28
- MANDATORY CONSTRUCTION JOINT.
- 1.5% SLOPE FROM STATIONS 64+38.29 TO 64+79.76. IN TRANSITION AREA FROM STATIONS 64+79.76 TO 64+90.76, SEE MOMENT SLAB DETAILS (1 OF 2). 1.0% SLOPE FROM STATIONS 64+90.76 TO 65+00.00.
- TOP OF FOOTING ELEVATION TAKEN FROM HERE.
- ENSURE DOWEL PLACEMENT IS WITHIN RETAINING WALL DB.

DATE: 11/24/2020 TIME: 11:03:27 PM FILENAME: c:\nkda\proj\tech\wise\m.vangstad\dms01247\cd00261036_wrD1.dgn

DES: HAP	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: HAP	
CHK: ADL	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020

WALL D PLAN, PROFILE & TABULATION

STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS

SHEET NO. 219 OF 416 SHEETS

DATE: 11/24/2020 TIME: 11:03:33 PM
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BAR	MARK	NO.	LENGTH	A	LOCATION	WT-LBS	DIMENSIONS AND QUANTITIES			
h = 31.00 PANEL: DA (1 THUS) - SPECIAL							PANEL LENGTH = 18'-8 3/4"			
SPREAD FOOTING REINFORCEMENT							DIMENSIONS			
A	F501	34	21'-2"	STR.	LONG T & B	751	SPREAD FOOTING			
B	F502	20	15'-6"	STR.	TRANS BOT	323	b	6'-0"	e	----
C	F1103	20	15'-6"	STR.	TRANS TOP	1647	c	2'-5"	f	----
							d	16'-0"	g	6'-2 3/8"
STEM							STEM			
							a	4'-0"	x	8'-0"
							j	3'-6 7/8"	z	8'-0"
FOOTING DOWELS & STEM REINFORCEMENT							QUANTITIES			
D	F604E	20	5'-9"	STR.	DOWEL FF	173	STRUCTURAL CONCRETE (1G52)			
E	F1105E	20	18'-8"	8'-2"	DOWEL BF	1984	(FOOTING)			
F	F1106E	19	12'-1"	10'-6"	DOWEL BF	1220	SPREAD	28.1	CU YD	
G	S601E	20	26'-4"	STR.	VERT FF	791	STRUCTURAL CONCRETE (3G52)			
H	S902E	20	24'-10"	STR.	VERT BF	1689	(STEM)			
J	S1003E	19	15'-0"	STR.	VERT BF	1226	70.6			
L	S605E	64	18'-3"	STR.	HORIZ EF	1754	CU YD			
M	S506E	18	9'-3"	3'-3"	EXP JT TIE	174	REINFORCEMENT BAR			
N	S507E	22	8'-8"	2'-8"	EXP JT TIE	199	SPREAD	2721	LB	
P	S508E	10	8'-2"	2'-2"	EXP JT TIE	85	REINFORCEMENT BAR (EPOXY)			
R	S509E	14	7'-0"	1'-0"	EXP JT TIE	102	10073			
S	S510E	20	7'-5"	2'-3"	TIE	155	LB			
T	S611E	20	17'-4"	8'-2"	TOP TIE	521	10073			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT-LBS	DIMENSIONS AND QUANTITIES			
h = 25.00 PANEL: DB (1 THUS) - TALL WALL							PANEL LENGTH = 21'-5 7/8"			
SPREAD FOOTING REINFORCEMENT							DIMENSIONS			
A	F501	28	23'-11"	STR.	LONG T & B	698	SPREAD FOOTING			
B	F502	22	12'-7"	STR.	TRANS BOT	289	b	4'-2"	e	----
C	F1003	22	12'-7"	STR.	TRANS TOP	1191	c	2'-3"	f	----
							d	13'-1"	g	4'-4 1/4"
STEM							STEM			
							a	2'-6 1/2"	x	7'-3"
							j	2'-1 5/8"	z	5'-10"
FOOTING DOWELS & STEM REINFORCEMENT							QUANTITIES			
D	F504E	22	3'-0"	STR.	DOWEL FF	69	STRUCTURAL CONCRETE (1G52)			
E	F905E	22	17'-2"	6'-3"	DOWEL BF	1284	(FOOTING)			
F	F1006E	21	9'-6"	7'-7"	DOWEL BF	858	SPREAD	24.5	CU YD	
G	S401E	22	22'-2"	STR.	VERT FF	326	STRUCTURAL CONCRETE (3G52)			
H	S702E	22	22'-2"	STR.	VERT BF	997	(STEM)			
J	S803E	21	13'-0"	STR.	VERT BF	729	39.5			
K	S504E	22	10'-8"	4'-9"	TOP TIE	245	CU YD			
L	S405E	50	21'-1"	STR.	HORIZ EF	704	REINFORCEMENT BAR			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	2178	LB	
N	S507E	20	7'-9"	1'-9"	EXP JT TIE	162	REINFORCEMENT BAR (EPOXY)			
P	S508E	10	8'-2"	2'-2"	EXP JT TIE	85	5612			
							LB			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT-LBS	DIMENSIONS AND QUANTITIES			
h = 19.00 PANEL: DC (1 THUS) - TALL WALL							PANEL LENGTH = 21'-5 7/8"			
SPREAD FOOTING REINFORCEMENT							DIMENSIONS			
A	F501	22	23'-11"	STR.	LONG T & B	549	SPREAD FOOTING			
B	F502	22	9'-6"	STR.	TRANS BOT	218	b	3'-2"	e	----
C	F903	22	9'-6"	STR.	TRANS TOP	711	c	1'-9"	f	----
							d	10'-0"	g	3'-4 1/4"
STEM							STEM			
							a	2'-3 1/2"	x	6'-9"
							j	1'-10 3/4"	z	3'-3"
FOOTING DOWELS & STEM REINFORCEMENT							QUANTITIES			
D	F504E	22	3'-0"	STR.	DOWEL FF	69	STRUCTURAL CONCRETE (1G52)			
E	F705E	22	14'-6"	5'-0"	DOWEL BF	652	(FOOTING)			
F	F706E	21	5'-10"	4'-6"	DOWEL BF	250	SPREAD	14.3	CU YD	
G	S401E	22	16'-2"	STR.	VERT FF	238	STRUCTURAL CONCRETE (3G52)			
H	S502E	22	16'-2"	STR.	VERT BF	371	(STEM)			
J	S603E	21	9'-3"	STR.	VERT BF	292	26.0			
K	S504E	22	10'-8"	4'-9"	TOP TIE	245	CU YD			
L	S405E	38	21'-1"	STR.	HORIZ EF	535	REINFORCEMENT BAR			
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1478	LB	
N	S507E	18	7'-9"	1'-9"	EXP JT TIE	145	REINFORCEMENT BAR (EPOXY)			
							2950			
							LB			

NOTES:

BAR LISTS HAVE BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.

THE DESIGN HEIGHTS h SHOWN IN THE TABULATIONS ON THIS SHEET ARE NOT IDENTICAL WITH THE ACTUAL WALL HEIGHTS. REFER TO THE WALL D PLAN, PROFILE AND TABULATION SHEET.

STEM CONCRETE VOLUMES WERE COMPUTED USING THE ACTUAL STEM HEIGHTS. THE VOLUME IS THE AVERAGE FOR ANY GIVEN PANEL SERIES.

STEM DIMENSIONS a & j WERE CALCULATED USING THE WALL HEIGHT LISTED IN THE PANEL TABULATIONS. ADJUST DIMENSIONS ACCORDING TO THE ACTUAL WALL HEIGHT.

LONGITUDINAL FOOTING REINFORCEMENT BARS MAY BE CUT TO FIT IRREGULAR SHAPED FOOTINGS.

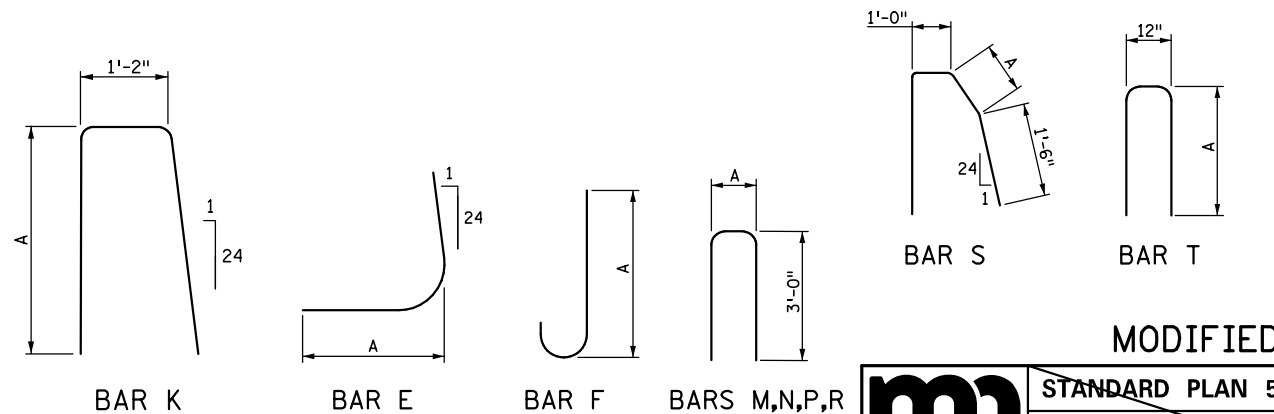
SEE RETAINING WALL REINFORCEMENT DETAILS SHEETS FOR LOCATION OF DIMENSIONS.

① SEE DETAIL "D" ON "CIP RETAINING WALL MISCELLANEOUS DETAILS (1 OF 5)".

NOTES:

- FF = DENOTES FRONT FACE.
- BF = DENOTES BACK FACE.
- EF = DENOTES EACH FACE.
- DWL = DENOTES DOWEL.
- BARS MARKED WITH THE SUFFIX "E" ARE EPOXY COATED.
- x = PROJECTION OF BAR E INTO STEM.
- z = PROJECTION OF BAR F INTO STEM.

* THIS DRAWING HAS BEEN MODIFIED TO MATCH THE PROJECT CONDITIONS.



MODIFIED

REVISION:
 APPROVED: SEPTEMBER 1, 2016
 STATE BRIDGE ENGINEER

* DENOTES MODIFICATION FROM STANDARD PLAN

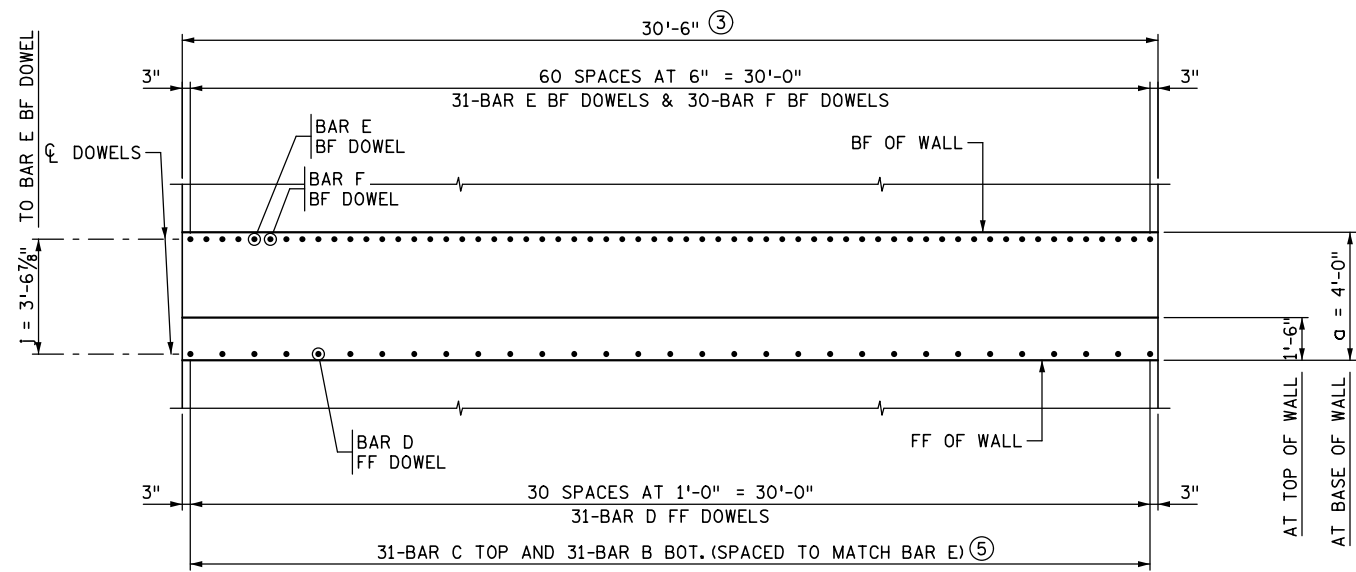
MINNESOTA DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.628 1 OF 3
 APPROVED: 9-1-2016
 REVISION:
 STATE DESIGN ENGINEER

RETAINING WALL PANEL TABULATIONS
 (LIVE LOAD SURCHARGE)

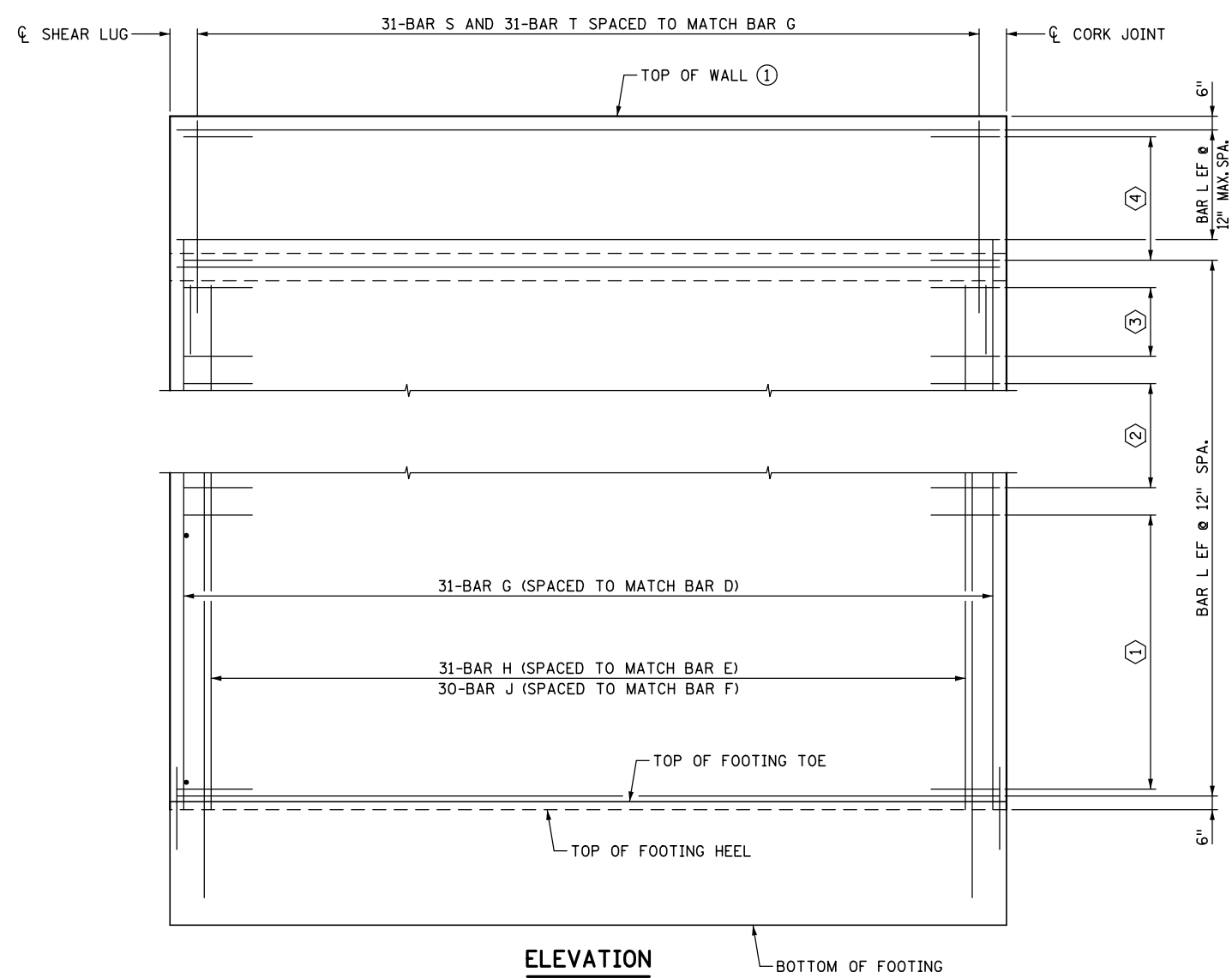
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DRW: HAP	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020		
CHK: ADL	LINDSEY J. LAWRENCE		

TKDA
 WALL D TABULATION
 STATE PROJ. NO. 002-611-036
 RETAINING WALL PLANS
 SHEET NO. 220 OF 416 SHEETS

DATE: 11/24/2020 TIME: 11:03:38 PM
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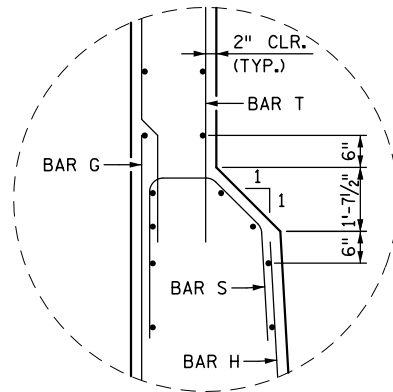
PLAN
 (FOOTING PLAN AND REINFORCEMENT NOT SHOWN)



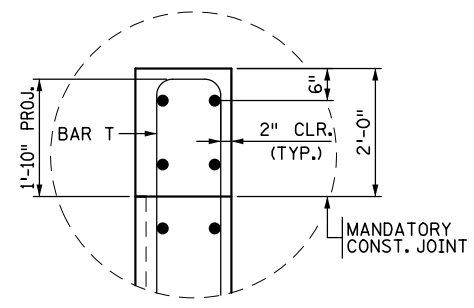
ELEVATION

NOTES:

- SEE RETAINING WALL TABULATIONS FOR DIMENSIONS "a" THROUGH "x".
- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED.
- BF DENOTES BACK FACE, FF DENOTES FRONT FACE, EF DENOTES EACH FACE.
- ① STRAIGHT LINE ELEVATIONS SHOWN ON WALL ELEVATIONS.
- ② TYPE II DRAINAGE. SEE SECTION B-B ON STANDARD PLAN 5-297.624 (5 OF 6).
- ③ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ± 1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.
- ④ REFER TO DETAIL "C" AND NOTES ON STANDARD PLAN 5-297.624 (1 OF 6).
- ⑤ BAR B AND BAR C TO MAINTAIN 3" SIDE CLEAR FROM CONCRETE FACES.



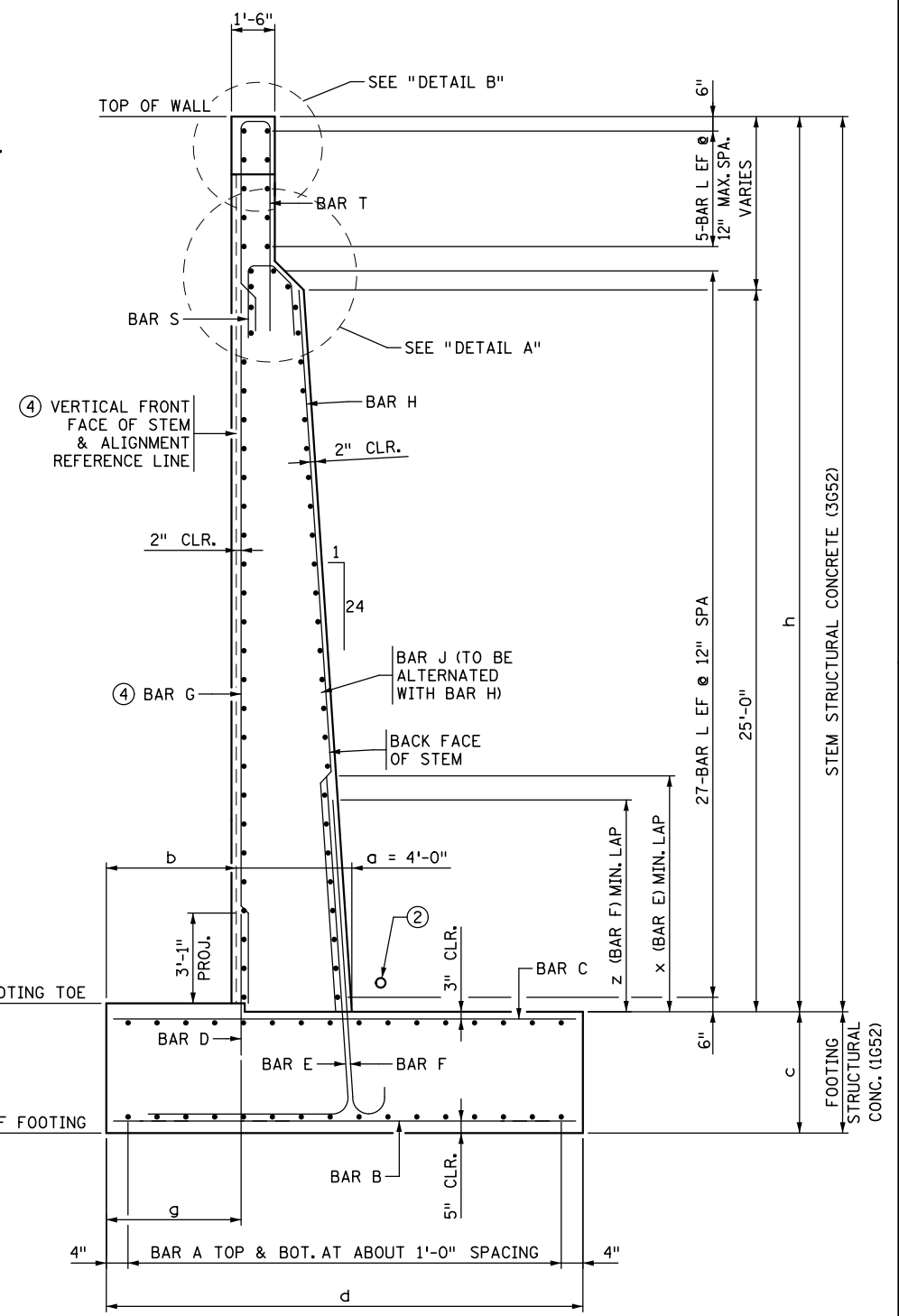
DETAIL A



DETAIL B

BAR CALLOUTS:

- ① 9-BAR M SPACED TO MATCH BAR L.
- ② 11-BAR N SPACED TO MATCH BAR L.
- ③ 5-BAR P SPACED TO MATCH BAR L.
- ④ 7-BAR R SPACED TO MATCH BAR L.



TYPICAL SECTION

DES: HAP	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: HAP	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020
CHK: ADL	LINDSEY J. LAWRENCE

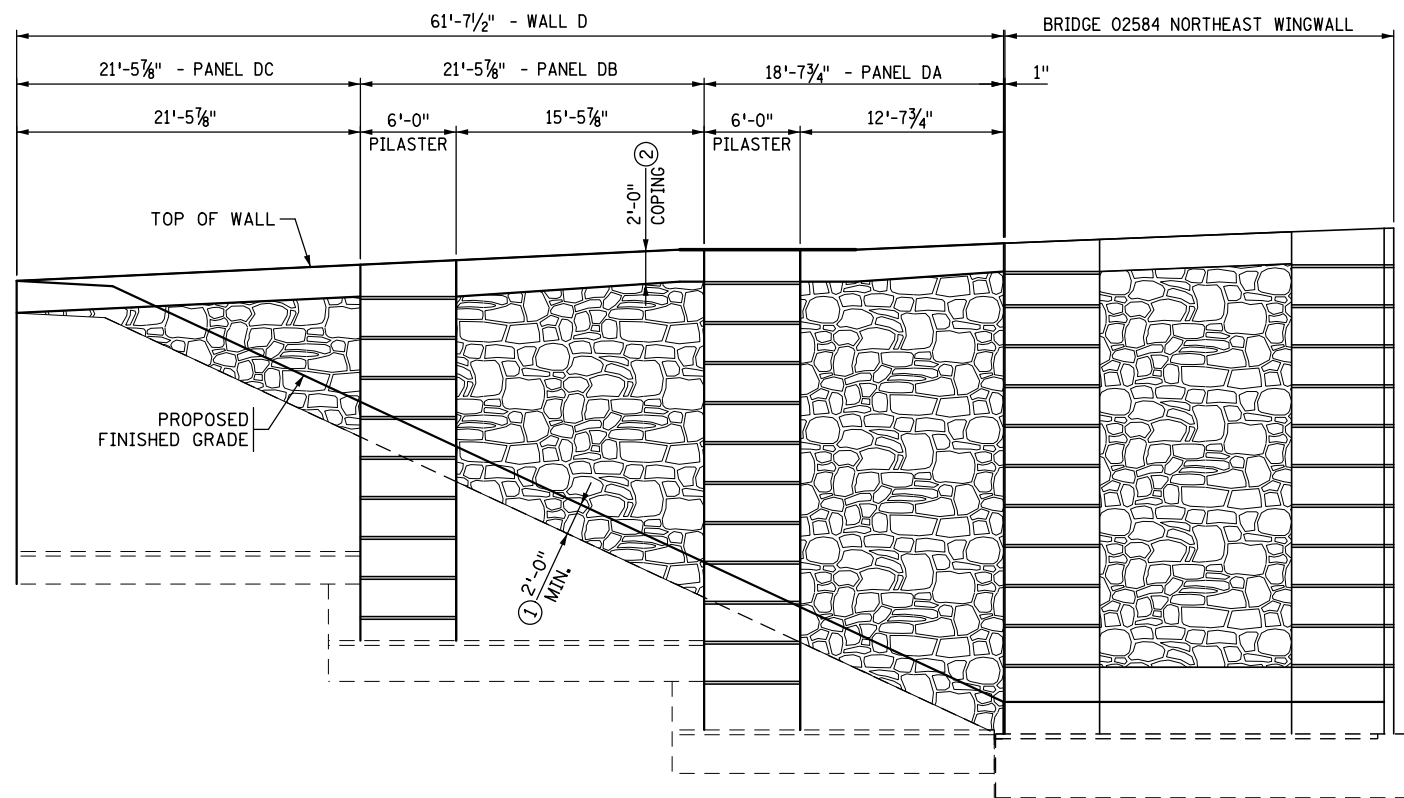
STATE PROJ. NO. 002-611-036



WALL D REINFORCEMENT DETAILS (SPECIAL)

RETAINING WALL PLANS
 SHEET NO. 221 OF 416 SHEETS

DATE: 11/24/2020 TIME: 11:03:43 PM
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WALL D ELEVATION

NOTES:

SEE STANDARD CIP WALL AESTHETICS SHEET FOR MORE INFORMATION.

- ① LIMITS OF ARCHITECTURAL CONCRETE TEXTURE.
- ② ADJUST COPING DEPTH AS NECESSARY TO ACCOMMODATE SETTLEMENT.

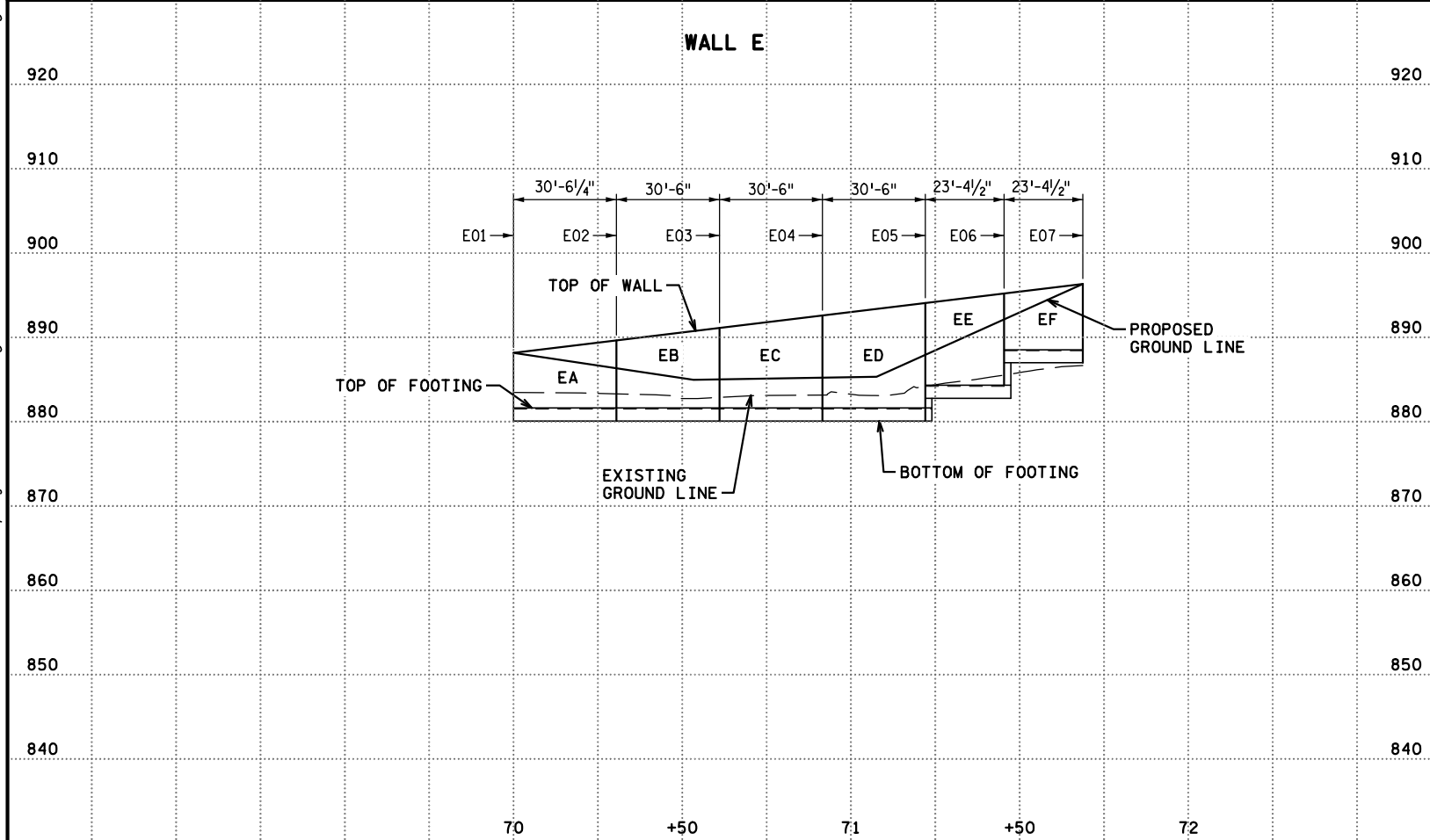
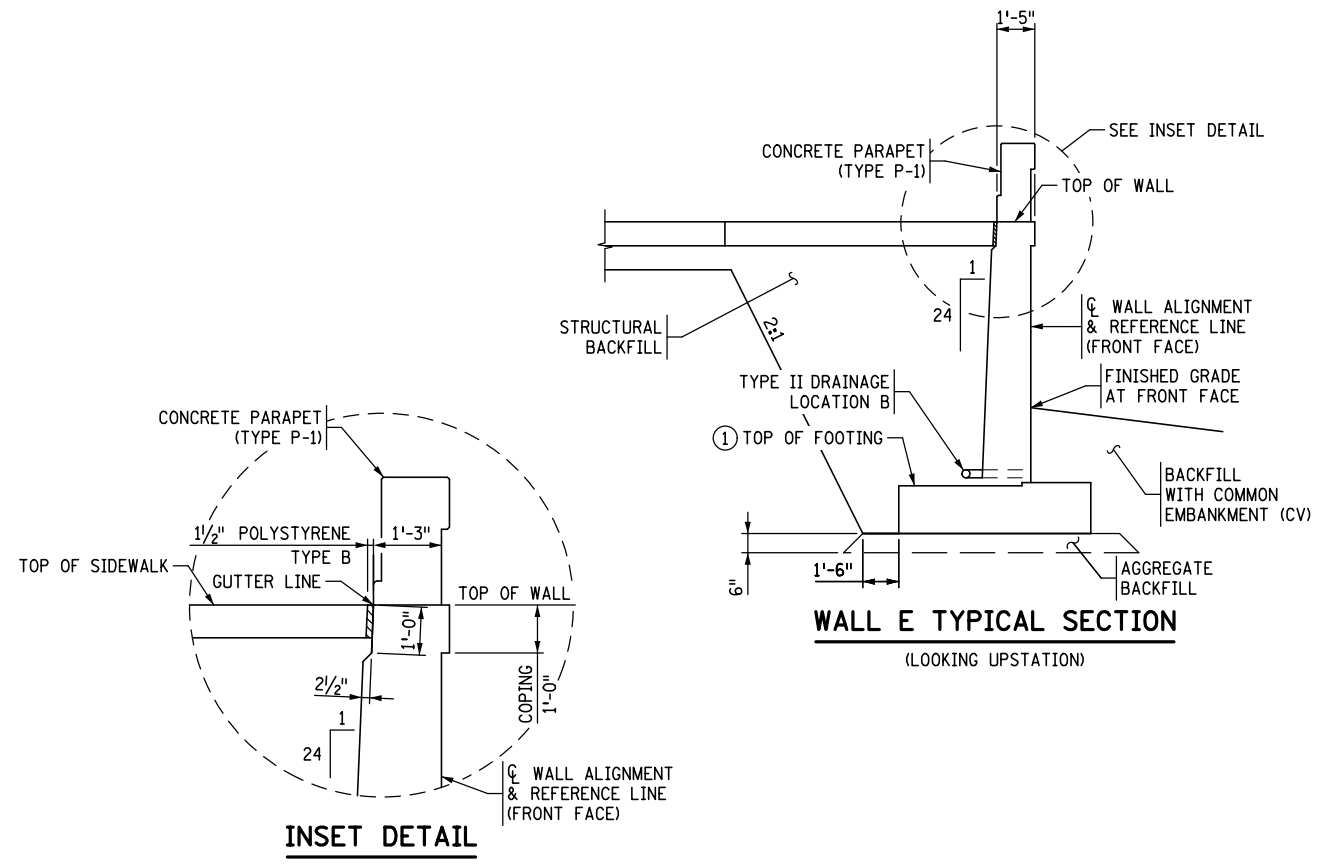
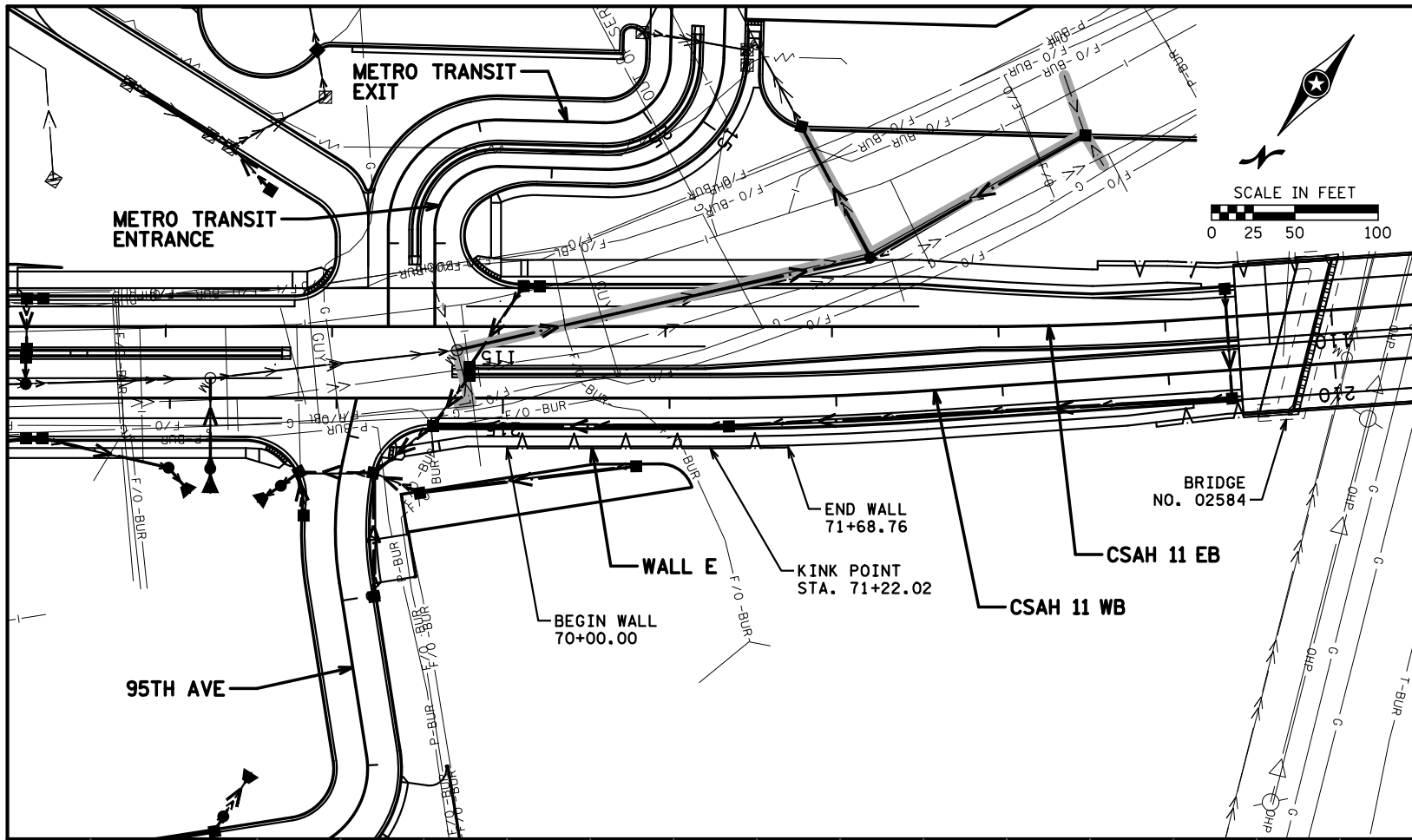
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: HAP	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020 LINDSEY J. LAWRENCE
DRW: HAP	
CHK: ADL	



WALL D AESTHETICS
STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS
SHEET NO. 222 OF 416 SHEETS



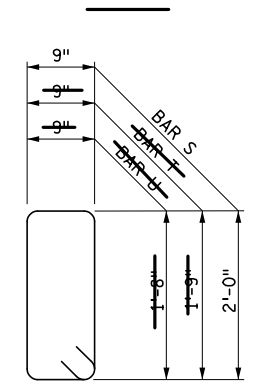
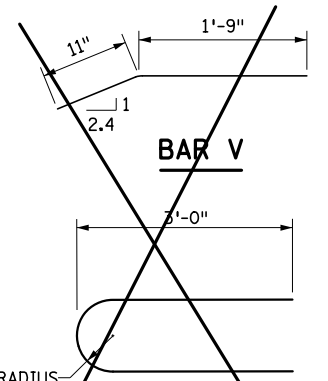
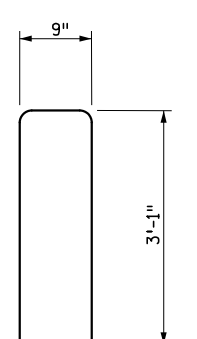
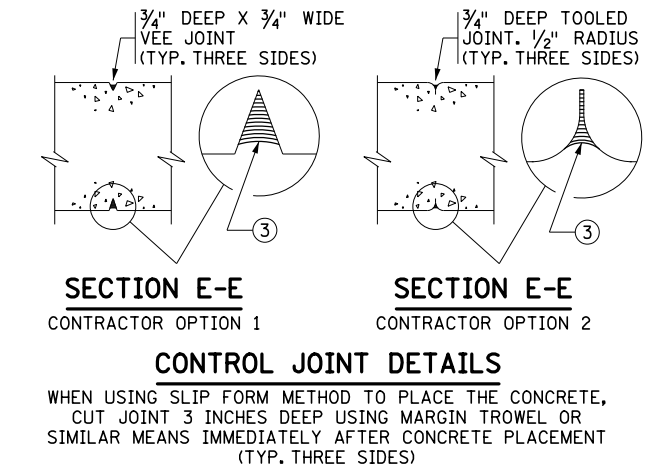
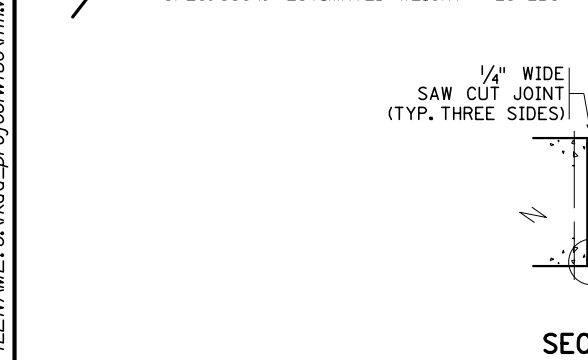
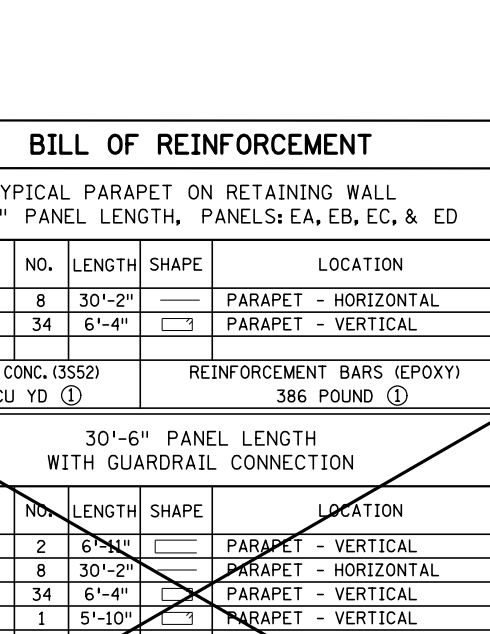
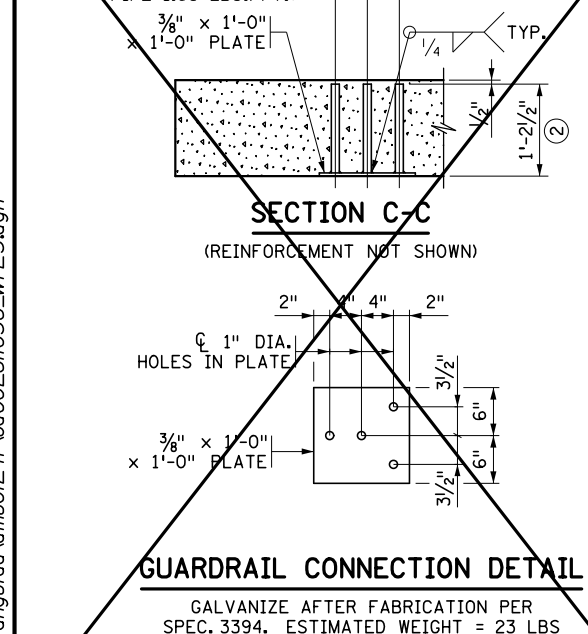
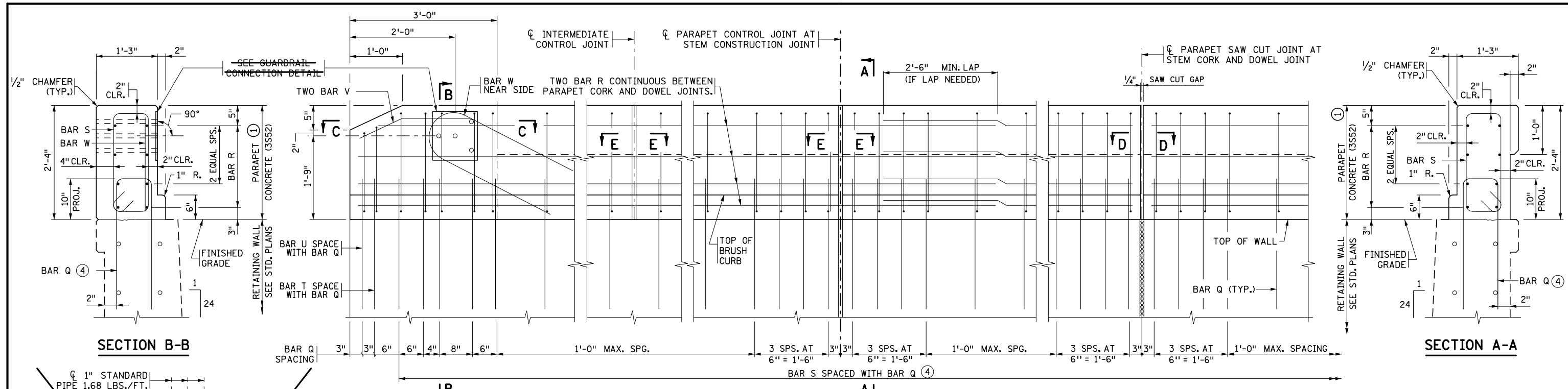
- SPECIFIC NOTES:**
- ① TOP OF FOOTING ELEVATION TAKEN FROM HERE.
 - ② MINIMUM NUMBER OF CORK AND DOWEL JOINTS SHOWN IN TABLE.

RETAINING WALL DATA - WALL E											
JOINT NO.	STATION	COORDINATES		FINISHED GRADE (FRONT FACE)	TOP OF WALL	TOP OF FOOTING	HEIGHT	BOTTOM OF FOOTING	LENGTH	ID	JOINT TYPE ②
		X	Y								
E01	70+00.00	494,810.642	139,131.209	888.16	888.16	881.50	6.66	880.08			
E02	70+30.52	494,785.028	139,114.610	886.34	889.64	881.50	8.14	880.08	30.52	EA	CONSTRUCTION
E03	70+61.02	494,759.433	139,098.023	885.02	891.11	881.50	9.62	880.08	30.50	EB	CONSTRUCTION
E04	70+91.52	494,733.837	139,081.436	885.23	892.59	881.50	11.09	880.08	30.50	EC	CORK
E05	71+22.02	494,708.242	139,064.849	887.92	894.07	881.50	12.57	880.08	30.50	ED	CORK
E06	71+45.39	494,688.709	139,052.024	892.13	894.07	884.58	9.49	883.16	23.37	EE	CORK
					895.20	888.67	6.53	887.25			
E07	71+68.76	494,669.333	139,038.964	896.33	896.33	888.67	7.66	887.25	23.37	EF	

DATE: 11/24/2020 TIME: 11:03:47 PM FILENAME: c:\nkda\proj\ctw\se\fm\vangstad\dms01247\cd00261036_wrEl.dgn

DES: HAP	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: HAP	SIGNATURE: <i>Lindsey J. Lawrence</i> LIC. NO. 48298 DATE: 11/24/2020
CHK: ADL	LINDSEY J. LAWRENCE

DATE: 11/24/2020 TIME: 11:03:55 PM FILENAME: c:\nkda\proj\tech\wise\hmv\vangstad\dms01247\cd00261036_wrE.3.dgn



INSIDE ELEVATION OF PARAPET
PARAPET MEETS TEST LEVEL 2 REQUIREMENTS OF NCHRP REPORT 350
 WHEN THE PARAPET WILL BE USED NEXT TO A WALKWAY, A TEST LEVEL 4 BARRIER/PARAPET MUST BE USED TO SEPARATE TRAFFIC FROM THIS PARAPET IN THE 45 MPH (OR OVER) SPEED ZONE.

NOTES:

- MATCH PARAPET SAW CUT JOINTS WITH RETAINING WALL STEM CORK AND DOWEL JOINTS.
- MATCH PARAPET CONTROL JOINTS WITH RETAINING WALL STEM CONSTRUCTION JOINTS. PLACE INTERMEDIATE PARAPET CONTROL JOINTS AT 10'-0" MAXIMUM SPACING.
- REINFORCEMENT QUANTITIES WERE COMPUTED ASSUMING A SAW CUT JOINT BETWEEN EVERY PANEL. CHANGES IN THE BILL OF REINFORCEMENT ARE THE RESPONSIBILITY OF THE CONTRACTOR, AND NO ADDITIONAL PAYMENT WILL BE MADE.
- FOR BARRIERS OR PARAPETS WITH CONDUIT, PLACE CONDUIT EXPANSION FITTINGS AT 200' MAX. SPACING, AT SAW CUT JOINT LOCATION.
- EPOXY COAT BARS MARKED WITH THE SUFFIX "E" IN ACCORDANCE WITH SPEC. 3301.
- ~~THE GUARDRAIL CONNECTION IS INCLUDED IN THE PRICE BID FOR PARAPET CONCRETE (3552).~~
- ~~PROVIDE GUARDRAIL CONNECTION FROM STRUCTURAL STEEL PER SPEC. 3306, GALVANIZE AFTER FABRICATION PER SPEC. 3394.~~
- FOR TYPICAL RETAINING WALL REINFORCEMENT AND DETAILS, SEE STANDARD RETAINING WALL SHEETS.
- CONCRETE PARAPET: 416 LBS/FT. (0.103 CU YD/FT.)
- PAY FOR CONCRETE PARAPET ON A LINEAR FOOT BASIS.

① REBAR AND CONCRETE ARE INCLUDED IN THE PAY ITEM BY LINEAR FOOT FOR THE PARAPET.
 ② DIMENSION INCLUDES 3/8" PLATE.
 ③ JOINT SEALANT PER MnDOT APPROVED/QUALIFIED PRODUCT LIST - CRACK AND JOINT MATERIALS - SILICONE JOINT SEALERS.
 ④ BAR Q SPACING AND CLEARANCES ARE SHOWN ON THIS SHEET. BAR Q QUANTITIES ARE INCLUDED IN THE WALL PANEL TABULATIONS, EXCEPT FOR A SMALL QUANTITY OF ~~ADDED BARS NEEDED AT A GUARDRAIL CONNECTION~~

BILL OF REINFORCEMENT					
TYPICAL PARAPET ON RETAINING WALL 30'-6" PANEL LENGTH, PANELS: EA, EB, EC, & ED					
BAR	MARK	NO.	LENGTH	SHAPE	LOCATION
R	R401E	8	30'-2"	—	PARAPET - HORIZONTAL
S	R502E	34	6'-4"	□	PARAPET - VERTICAL
			PARAPET CONC. (3552) 3.2 CU YD ①	REINFORCEMENT BARS (EPOXY) 386 POUND ①	
30'-6" PANEL LENGTH WITH GUARDRAIL CONNECTION					
BAR	MARK	NO.	LENGTH	SHAPE	LOCATION
Q	S509E	2	6'-11"	□	PARAPET - VERTICAL
R	R401E	8	30'-2"	—	PARAPET - HORIZONTAL
S	R502E	34	6'-4"	□	PARAPET - VERTICAL
T	R503E	1	5'-10"	□	PARAPET - VERTICAL
U	R504E	1	5'-8"	□	PARAPET - VERTICAL
V	R405E	2	2'-8"	—	PARAPET END
W	R706E	1	6'-7"	□	PARAPET - VERTICAL
			PARAPET CONC. (3552) 3.2 CU YD ①	REINFORCEMENT BARS (EPOXY) 429 POUND ①	
TYPICAL PARAPET ON RETAINING WALL 23'-4 1/2" PANEL LENGTH, PANEL: EE & EF					
BAR	MARK	NO.	LENGTH	SHAPE	LOCATION
R	R401E	8	23'-0"	—	PARAPET - HORIZONTAL
S	R502E	27	6'-4"	□	PARAPET - VERTICAL
			PARAPET CONC. (3552) 2.5 CU YD ①	REINFORCEMENT BARS (EPOXY) 302 POUND ①	

REVISION:
 APPROVED: SEPTEMBER 1, 2016
Lynn Weston
 STATE BRIDGE ENGINEER

PARAPET SAW CUT JOINT
 MATCH PARAPET SAW CUT JOINTS WITH RETAINING WALL STEM CORK AND DOWEL JOINTS.

DES: HAP
 DRW: HAP
 CHK: ADL

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/24/2020
 LINDSEY J. LAWRENCE



STANDARD SHEET NO.
 5-297.633
 STANDARD APPROVED:
 SEPTEMBER 1, 2016

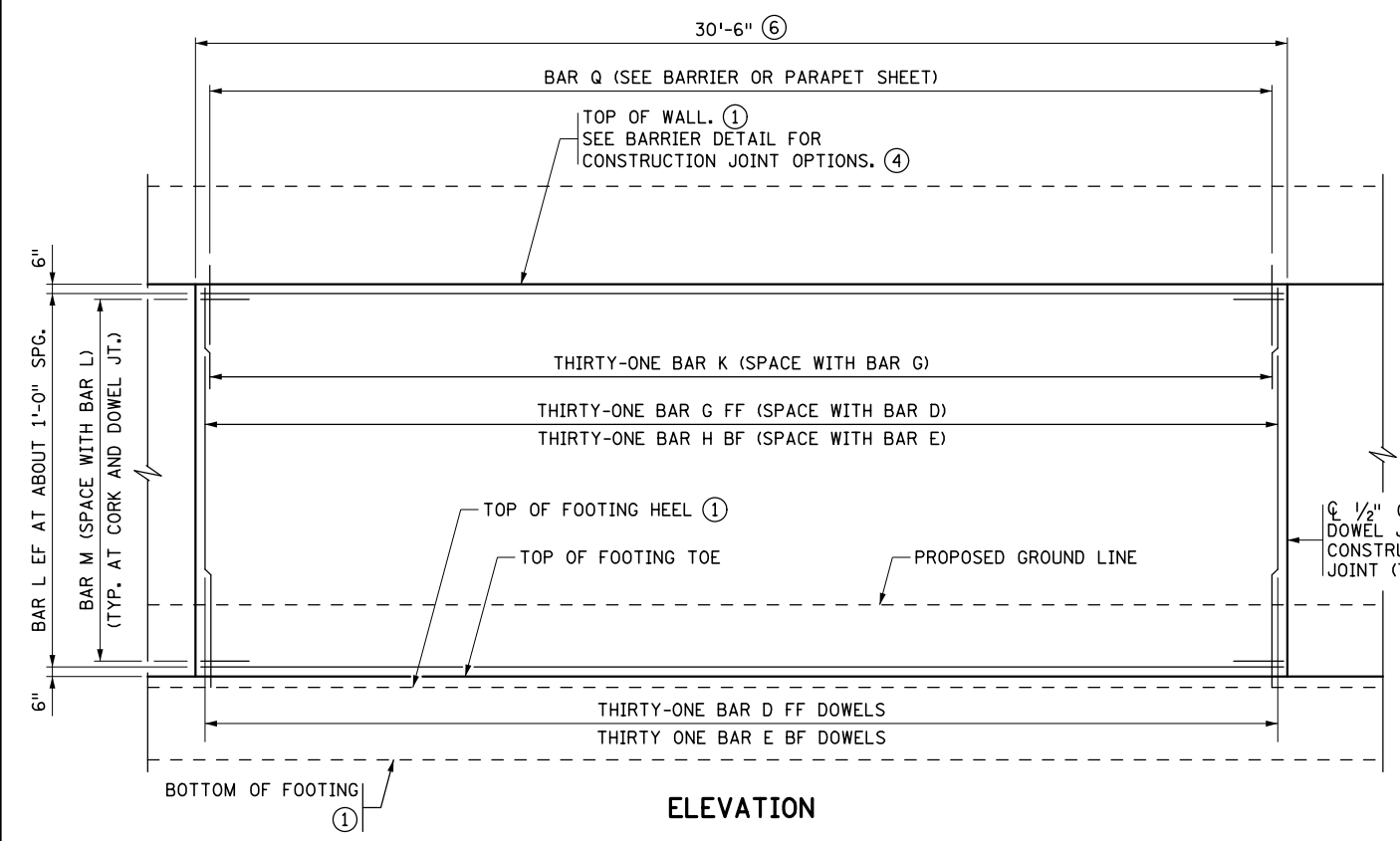
TITLE:
RETAINING WALL CONCRETE PARAPET (TYPE P-1)

NO.	DATE	BY	DESCRIPTION OF REVISIONS

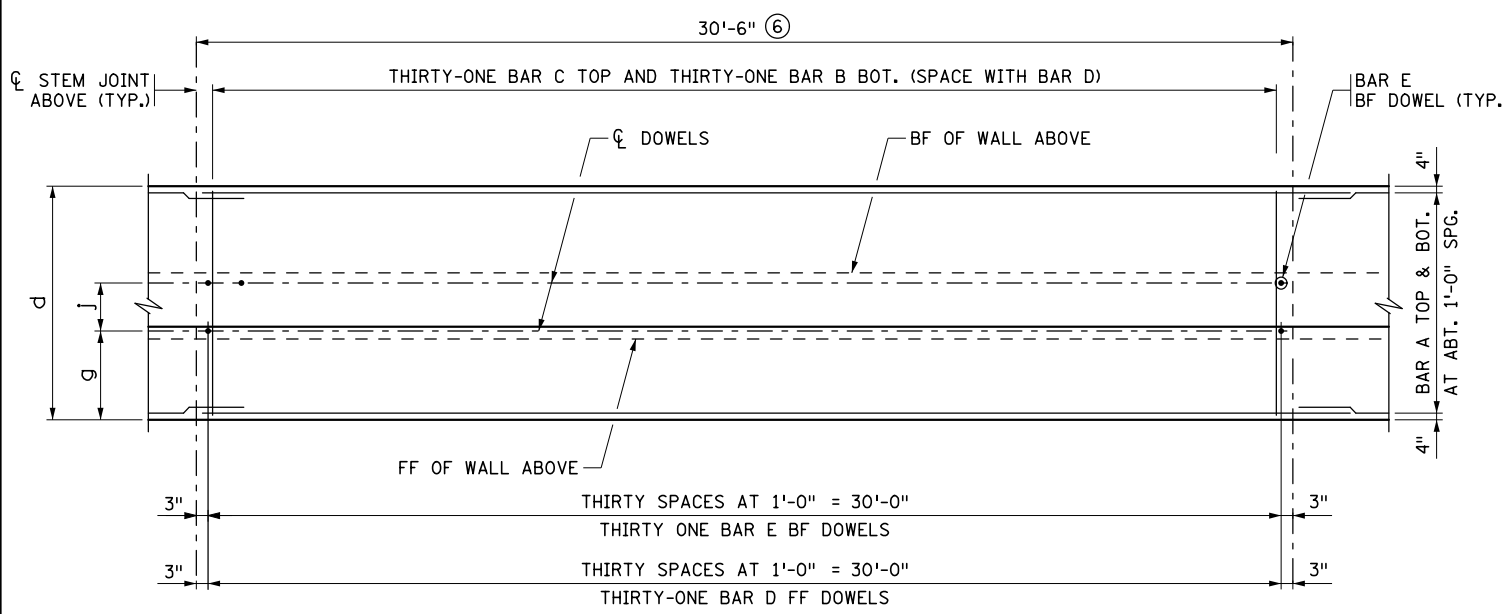
WALL E BARRIER
 CONCRETE PARAPET (TYPE P-1, TL-2)
 STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS
 SHEET NO. 225 OF 416 SHEETS

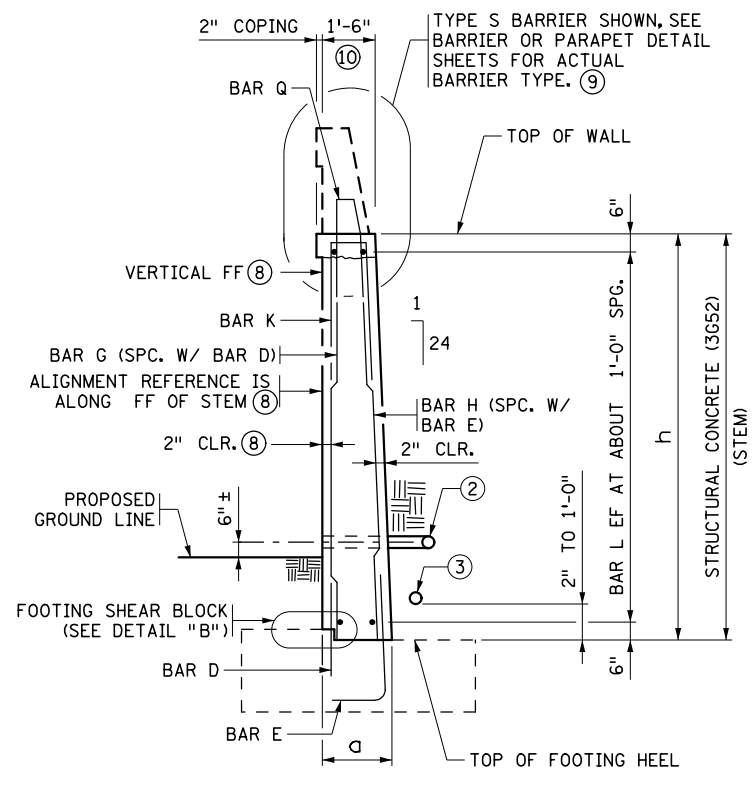
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ELEVATION

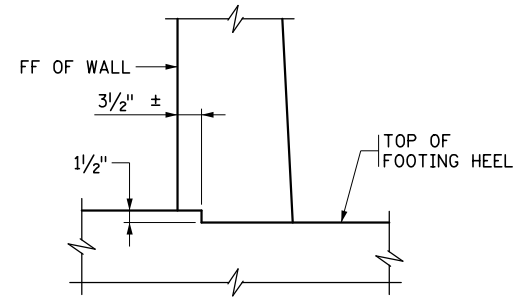


FOOTING PLAN ~ REINFORCEMENT

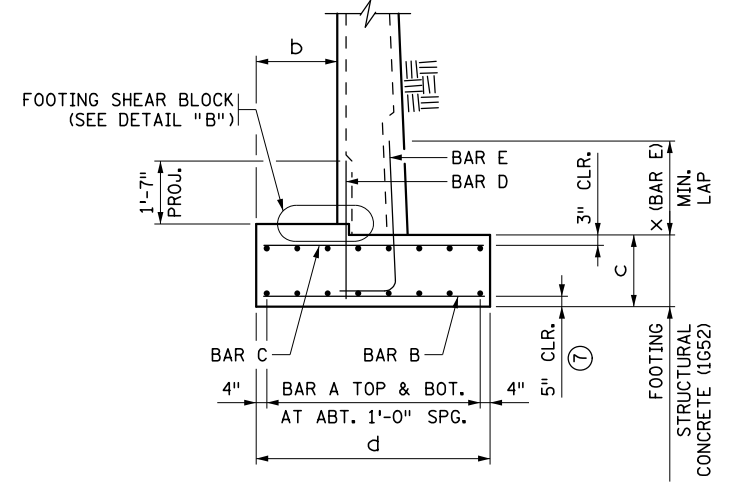


WALL SECTION

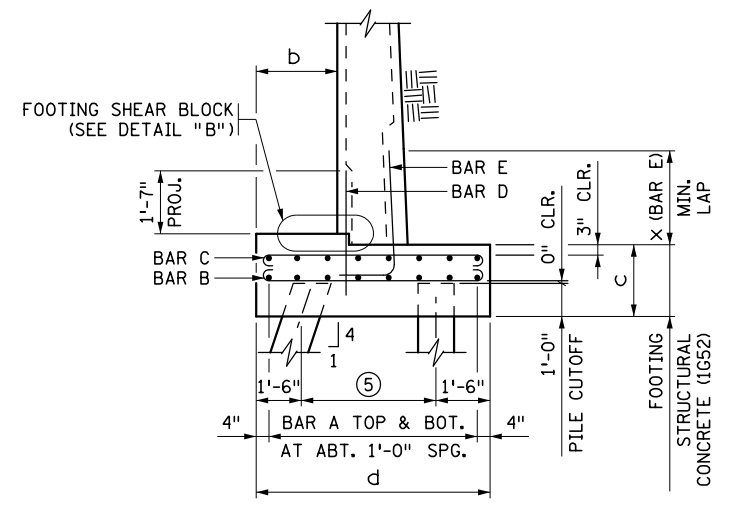
(F BARRIER AND 2" COPING OPTION SHOWN)



DETAIL "B"



TYPICAL SECTION THROUGH SPREAD FOOTING



TYPICAL SECTION THROUGH PILE FOOTING

NOTES:

- REFER TO RETAINING WALL PANEL TABULATIONS FOR DIMENSIONS "a" THROUGH "x".
- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR PILE SPACING AND LAYOUT.
- BF DENOTES BACK FACE.
- FF DENOTES FRONT FACE.
- EF DENOTES EACH FACE.
- ① STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER OR PARAPET IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.
- ② TYPE I DRAINAGE. SEE SECTION A-A ON STANDARD PLAN 5-297.624 (5 OF 6).
- ③ TYPE II DRAINAGE. SEE SECTION B-B ON STANDARD PLAN 5-297.624 (5 OF 6).
- ④ SEE STANDARD PLAN 5-297.624 (1 OF 6).
- ⑤ SEE GENERAL PLAN FOR PILE SPACING.
- ⑥ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ± 1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.
- ⑦ 5" BOTTOM OF FOOTING CLEARANCE FOR ALL BARS EXCEPT BAR D. BAR D BOTTOM OF FOOTING CLEARANCE VARIES.
- ⑧ REFER TO DETAIL "C" AND NOTES ON STANDARD PLAN 5-297.624 (1 OF 6).
- ⑨ REBAR AND CONCRETE ARE INCLUDED IN THE PAY ITEM BY LINEAR FEET FOR THE BARRIER OR PARAPET.
- ⑩ WALL THICKNESS AT TOP OF STEM, NOT INCLUDING COPING. REFER TO STANDARD FIGURE 5-297.624 (1 OF 6) FOR MODIFIED TOP OF WALL THICKNESS WHEN USING TYPE S BARRIER.

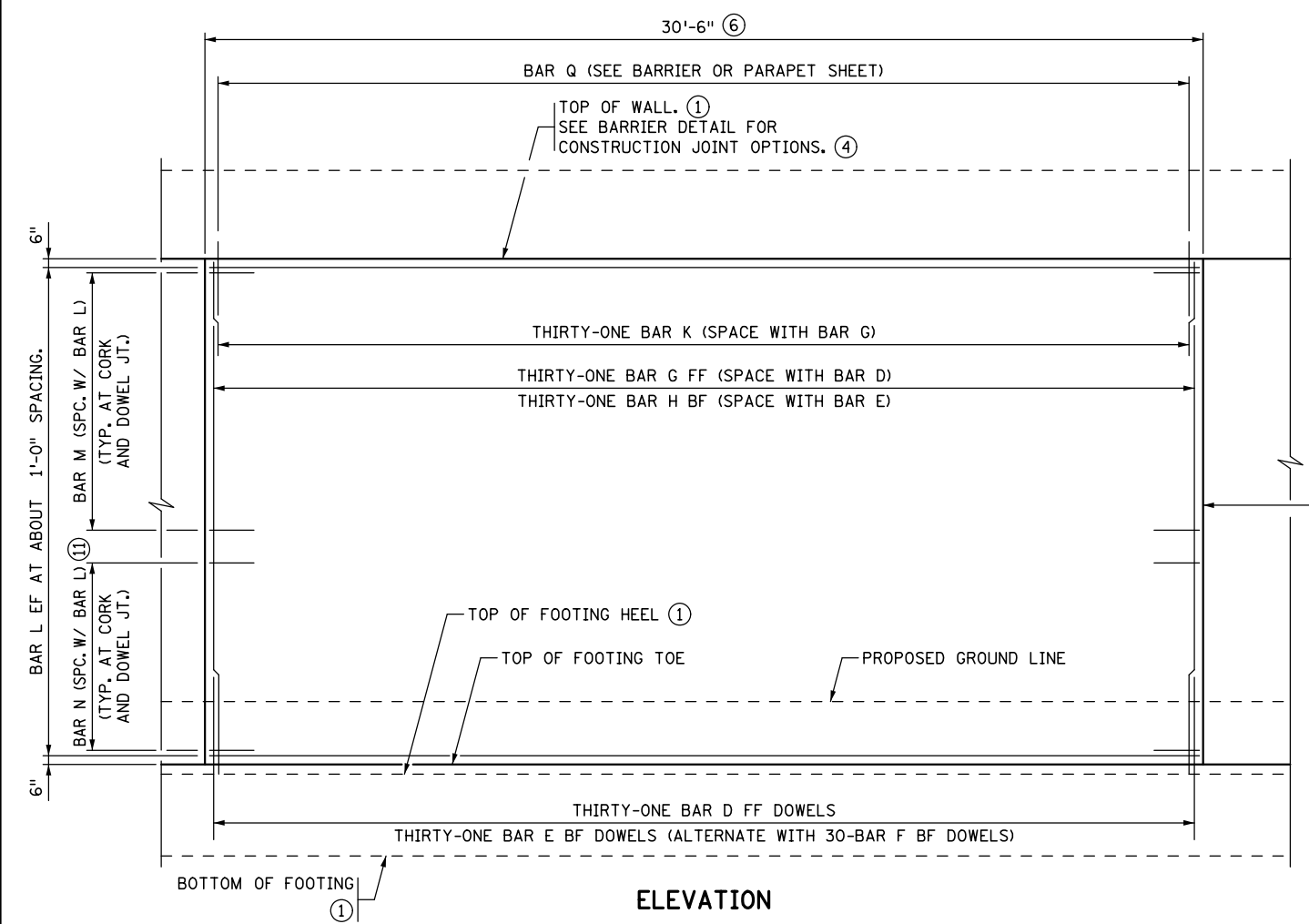
REVISION: SEPTEMBER 1, 2016
 APPROVED: AUGUST 27, 2014
Nancy Sibenberger
 STATE BRIDGE ENGINEER



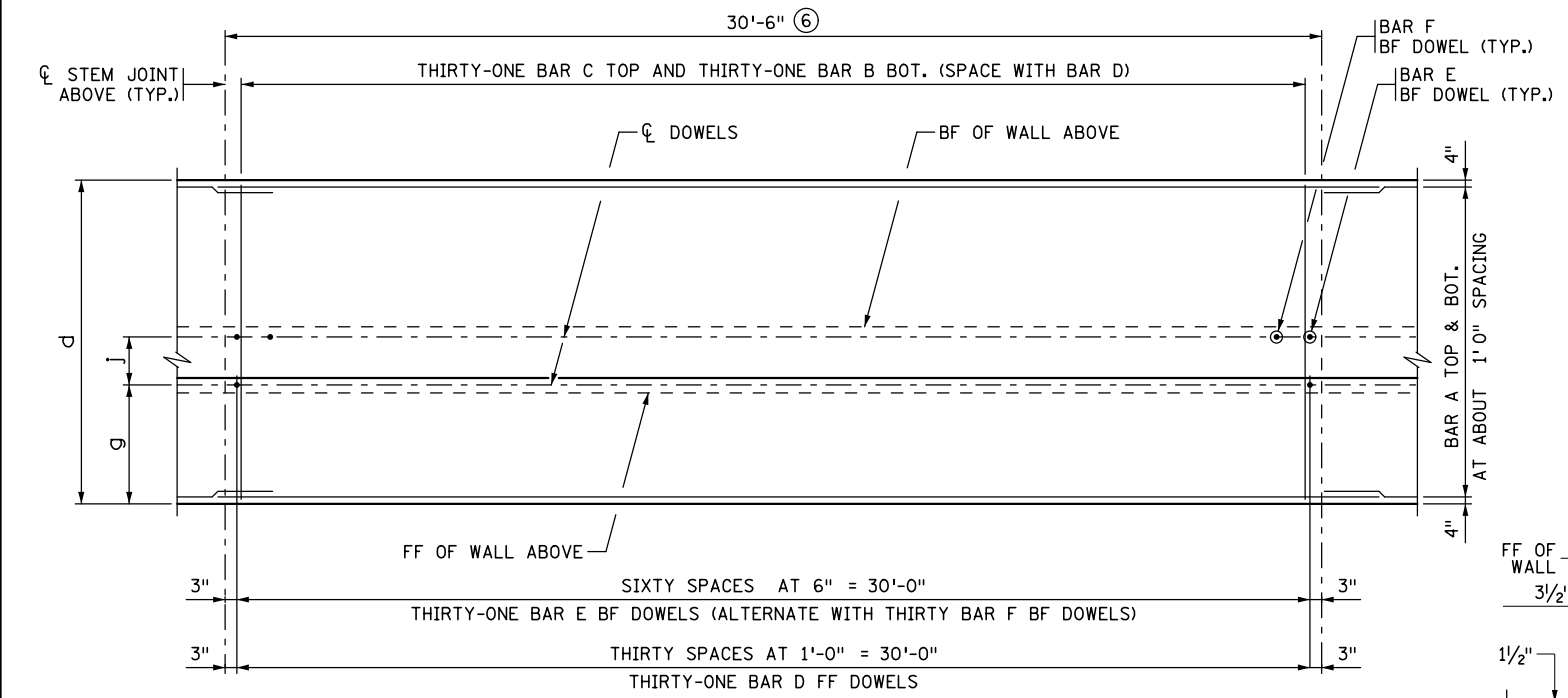
STANDARD PLAN 5-297.621 1 OF 1
 APPROVED: 8-27-2014
 REVISED: 9-1-2016
Christina Ry
 STATE DESIGN ENGINEER

RETAINING WALL REINFORCEMENT DETAILS (SHORT WALLS)

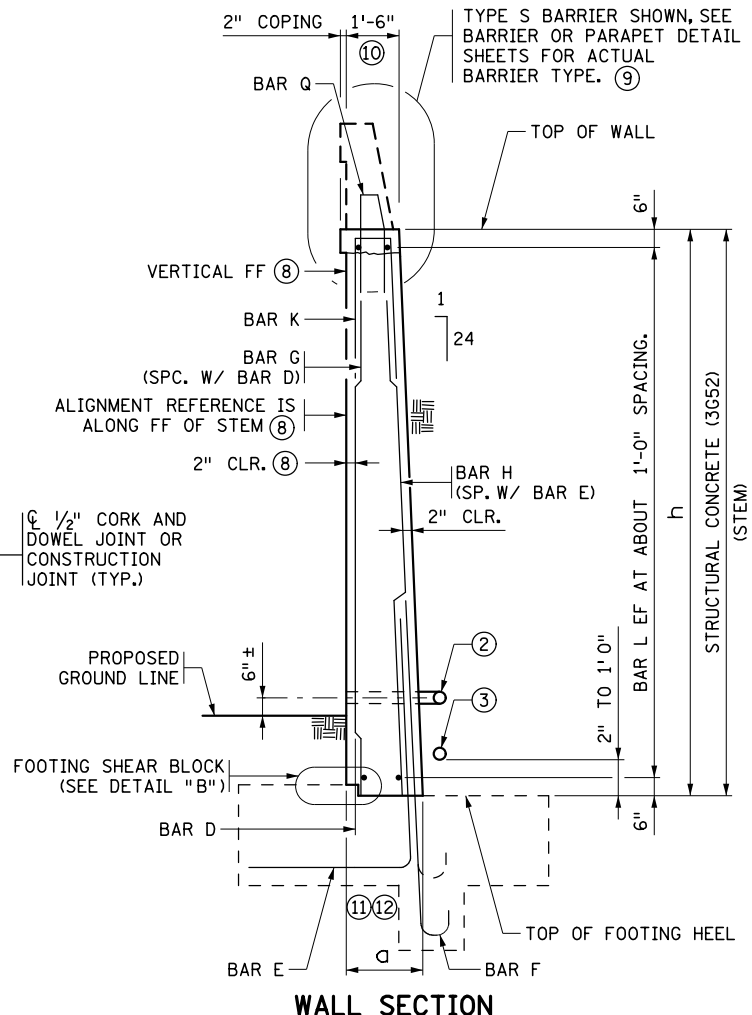
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ELEVATION

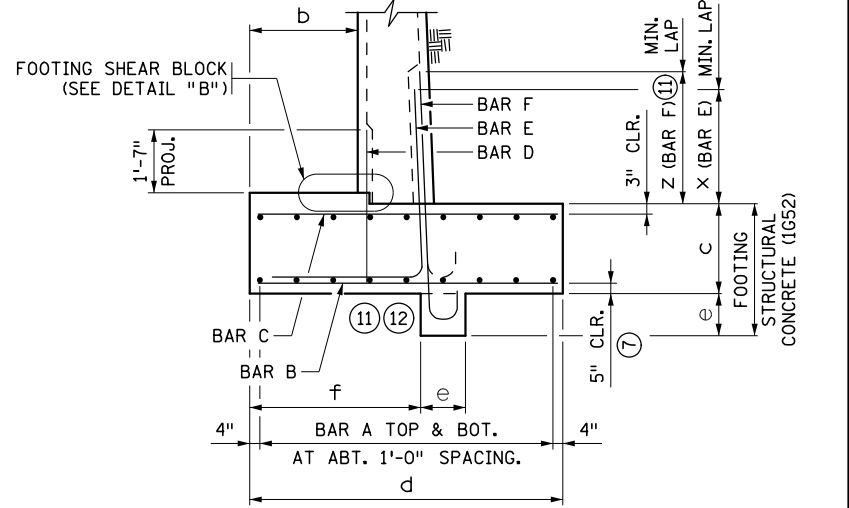


FOOTING PLAN ~ REINFORCEMENT

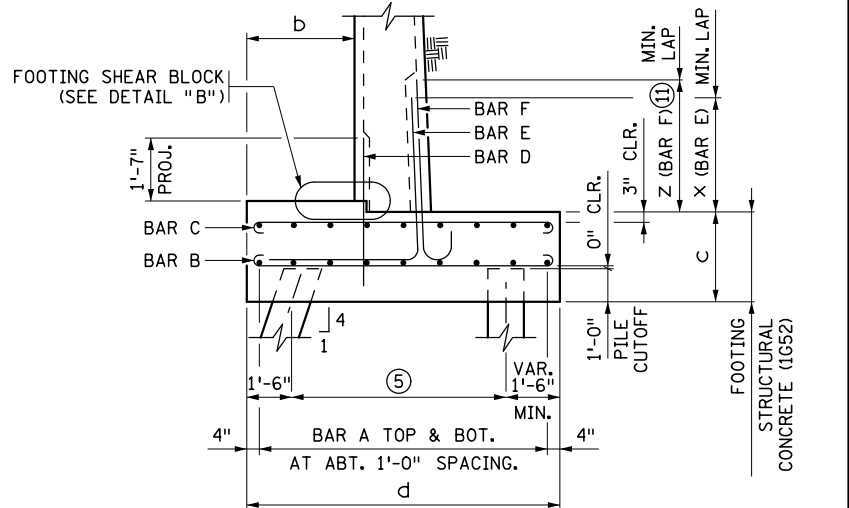


WALL SECTION

(F BARRIER AND 2" COPING OPTION SHOWN)



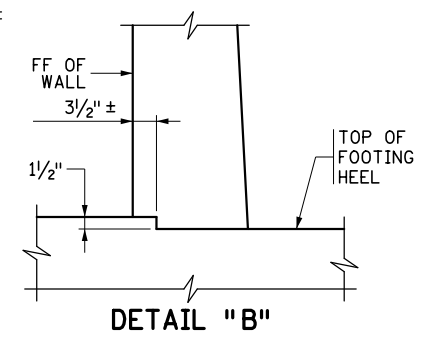
TYPICAL SECTION THROUGH SPREAD FOOTING



TYPICAL SECTION THROUGH PILE FOOTING

NOTES:

- REFER TO RETAINING WALL PANEL TABULATIONS FOR DIMENSIONS "a" THROUGH "x".
- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR PILE SPACING AND LAYOUT.
- BF DENOTES BACK FACE.
- FF DENOTES FRONT FACE.
- EF DENOTES EACH FACE.
- ① STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER OR PARAPET IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.
- ② TYPE I DRAINAGE. SEE SECTION A-A ON STANDARD PLAN 5-297.624 (5 OF 6).
- ③ TYPE II DRAINAGE. SEE SECTION B-B ON STANDARD PLAN 5-297.624 (5 OF 6).
- ④ SEE STANDARD PLAN 5-297.624 (1 OF 6).
- ⑤ SEE GENERAL PLAN FOR PILE SPACING.
- ⑥ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ± 1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.
- ⑦ 5" BOTTOM OF FOOTING CLEARANCE FOR ALL BARS EXCEPT BAR D. BAR D BOTTOM OF FOOTING CLEARANCE VARIES.
- ⑧ REFER TO DETAIL "C" AND NOTES ON STANDARD PLAN 5-297.624 (1 OF 6).
- ⑨ REBAR AND CONCRETE ARE INCLUDED IN THE PAY ITEM BY LINEAR FEET FOR THE BARRIER OR PARAPET.
- ⑩ WALL THICKNESS AT TOP OF STEM, NOT INCLUDING COPING. REFER TO STANDARD FIGURE 5-297.624 (1 OF 6) FOR MODIFIED TOP OF WALL THICKNESS WHEN USING TYPE S BARRIER.
- ⑪ THIS FEATURE MAY NOT BE PRESENT ON ALL MEDIUM HEIGHT WALLS.
- ⑫ CONTRACTOR MAY CONSTRUCT KEYWAY WITHOUT FORMS, AS APPROVED BY THE ENGINEER.



DETAIL "B"

REVISION: SEPTEMBER 1, 2016
 APPROVED: AUGUST 27, 2014
Nancy Rubenberger
 STATE BRIDGE ENGINEER

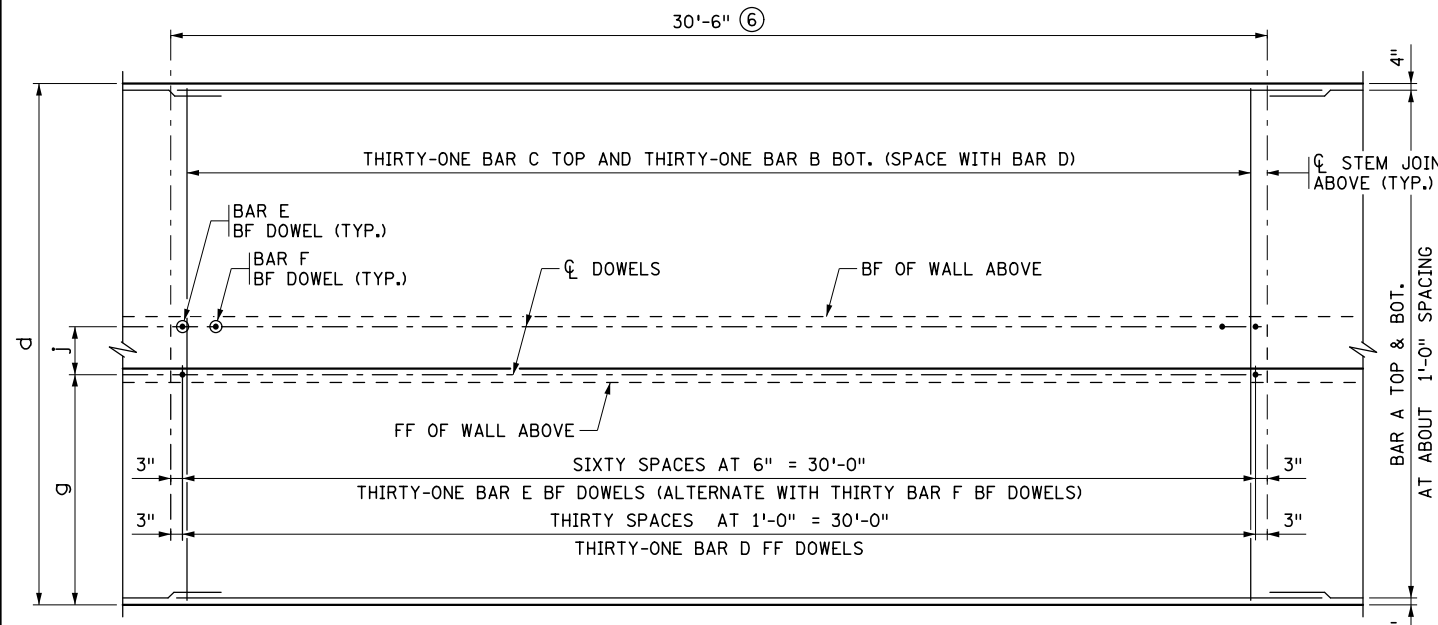
	STANDARD PLAN 5-297.622	1 OF 1
		APPROVED: 8-27-2014 REVISED: 9-1-2016
STATE DESIGN ENGINEER		STATE PROJ. NO. 002-611-036

**RETAINING WALL REINFORCEMENT DETAILS
(MEDIUM WALLS)**

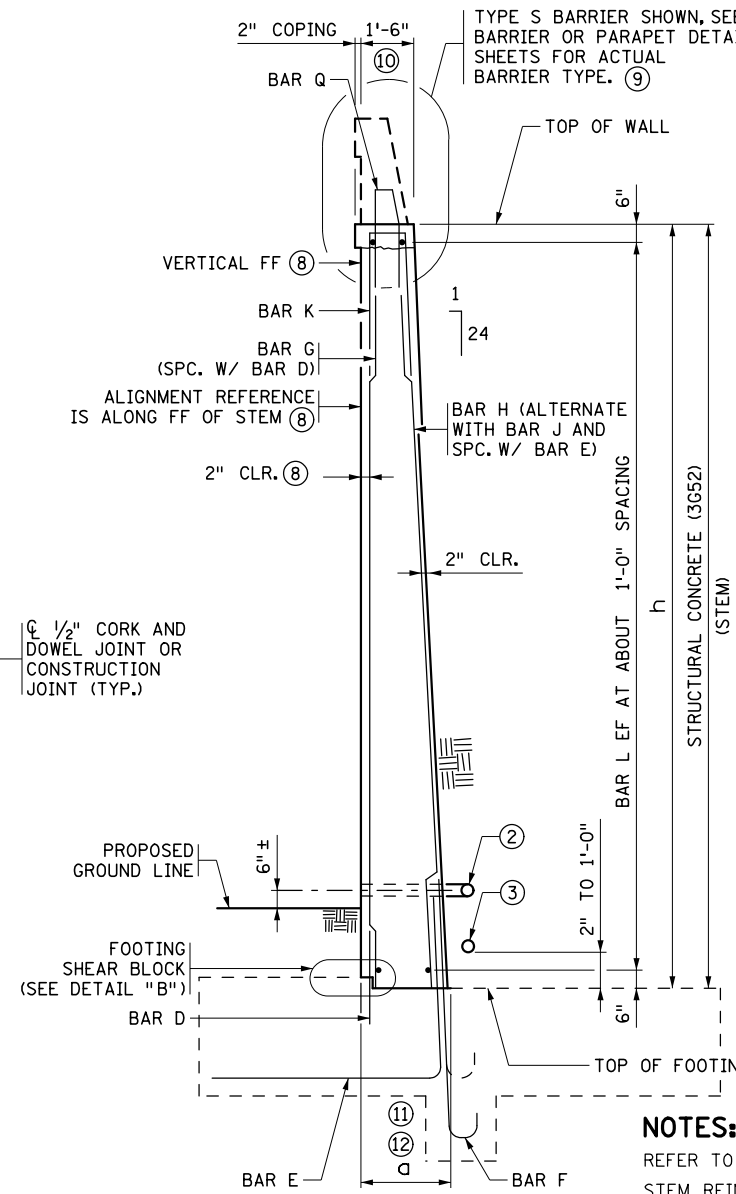
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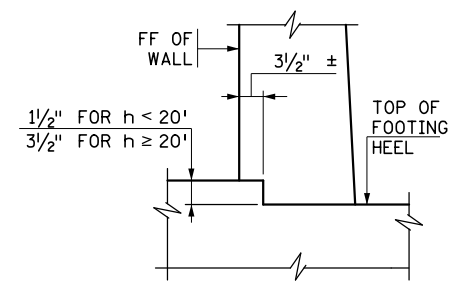
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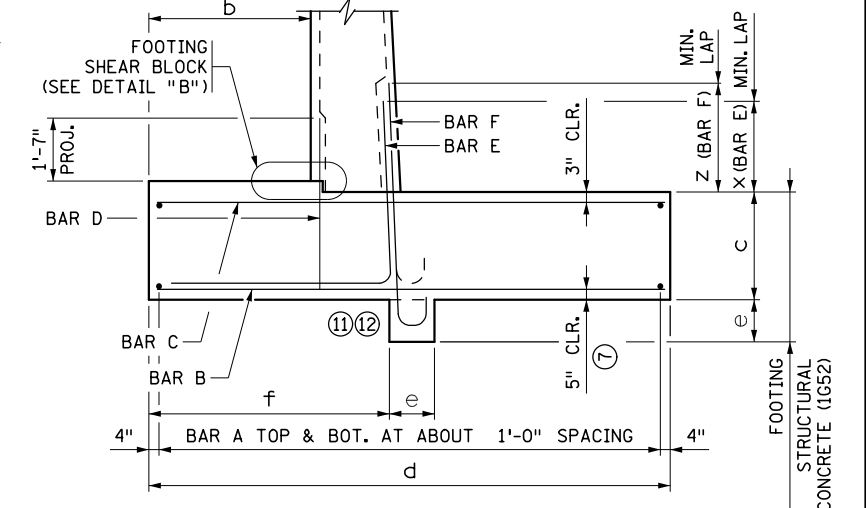
FOOTING PLAN ~ REINFORCEMENT



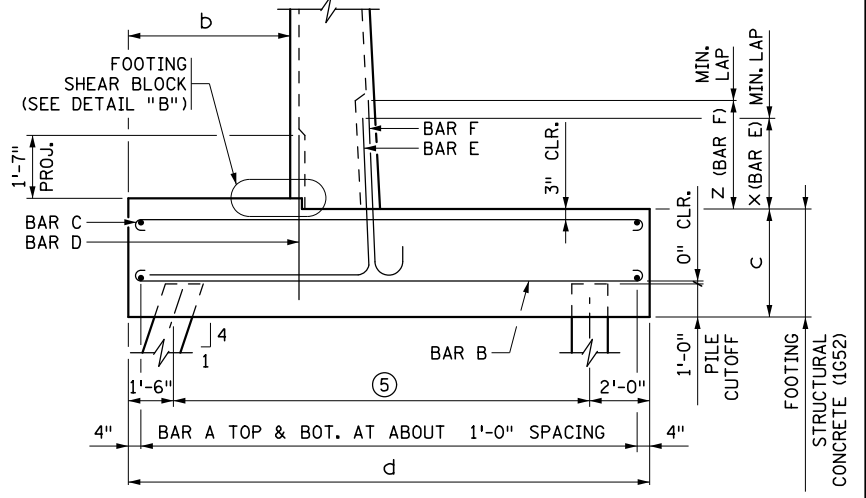
WALL SECTION
(F BARRIER AND 2" COPING OPTION SHOWN)



DETAIL "B"



TYPICAL SECTION THROUGH SPREAD FOOTING



TYPICAL SECTION THROUGH PILE FOOTING

NOTES:

- REFER TO RETAINING WALL PANEL TABULATIONS FOR DIMENSIONS "a" THROUGH "x".
- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR PILE SPACING AND LAYOUT.
- BF DENOTES BACK FACE.
FF DENOTES FRONT FACE.
EF DENOTES EACH FACE.
- ① STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER OR PARAPET IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.
- ② TYPE I DRAINAGE. SEE SECTION A-A ON STANDARD PLAN 5-297.624 (5 OF 6).
- ③ TYPE II DRAINAGE. SEE SECTION B-B ON STANDARD PLAN 5-297.624 (5 OF 6).
- ④ SEE STANDARD PLAN 5-297.624 (1 OF 6).
- ⑤ SEE GENERAL PLAN FOR PILE SPACING.
- ⑥ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ± 1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.
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- ⑨ REBAR AND CONCRETE ARE INCLUDED IN THE PAY ITEM BY LINEAR FEET FOR THE BARRIER OR PARAPET.
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- ⑫ CONTRACTOR MAY CONSTRUCT KEYWAY WITHOUT FORMS, AS APPROVED BY THE ENGINEER.

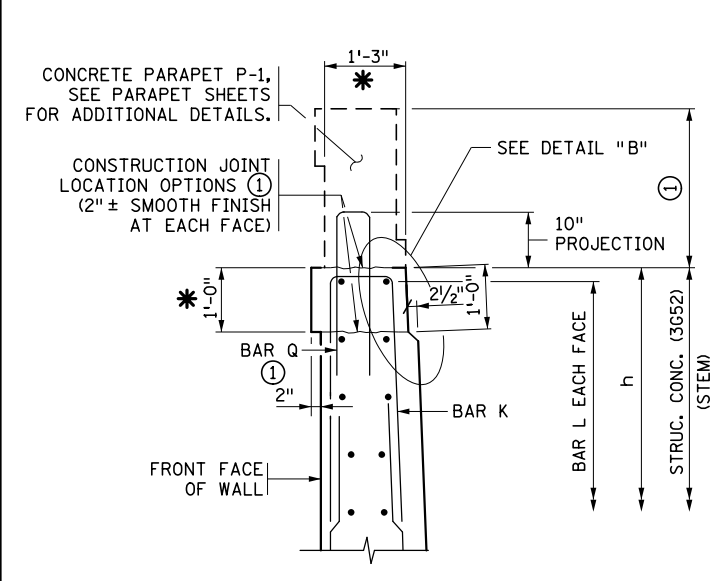
REVISION: SEPTEMBER 1, 2016
 APPROVED: AUGUST 27, 2014
Nancy Sibenberger
 STATE BRIDGE ENGINEER



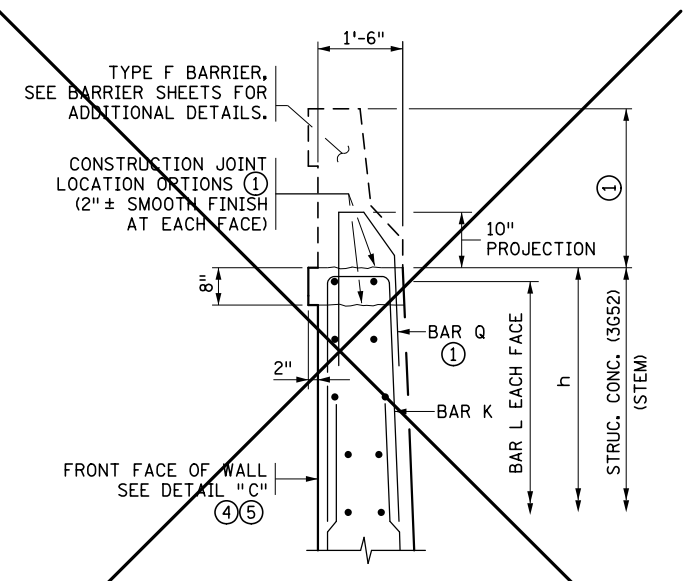
STANDARD PLAN 5-297.623 1 OF 1
 APPROVED: 8-27-2014
 REVISED: 9-1-2016
Christine Ky
 STATE DESIGN ENGINEER

**RETAINING WALL REINFORCEMENT DETAILS
(TALL WALLS)**

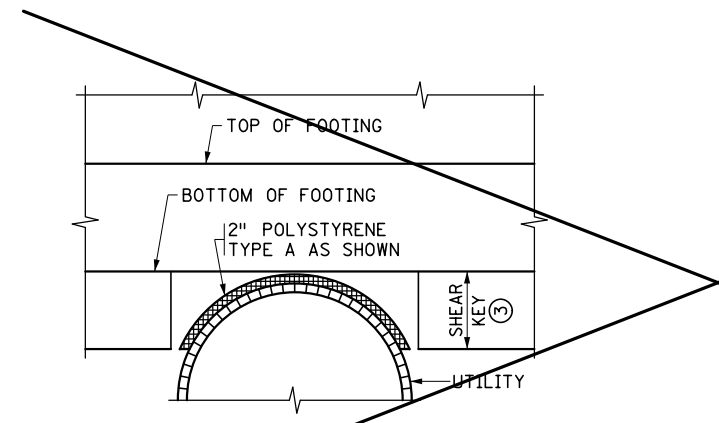
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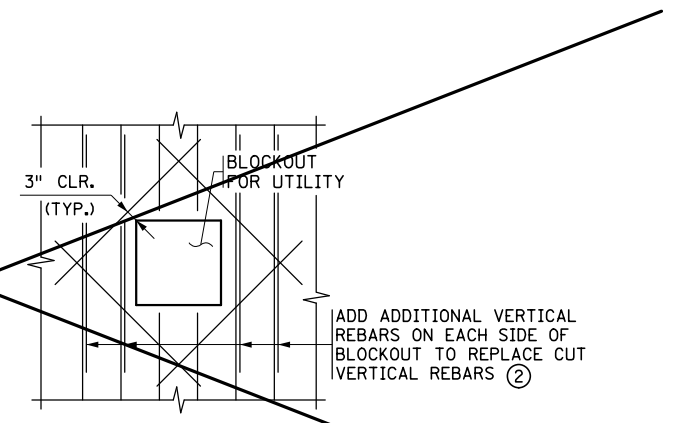
CONCRETE PARAPET P-1 DETAIL *
 2" COPING OPTION SHOWN
 (WALL E)



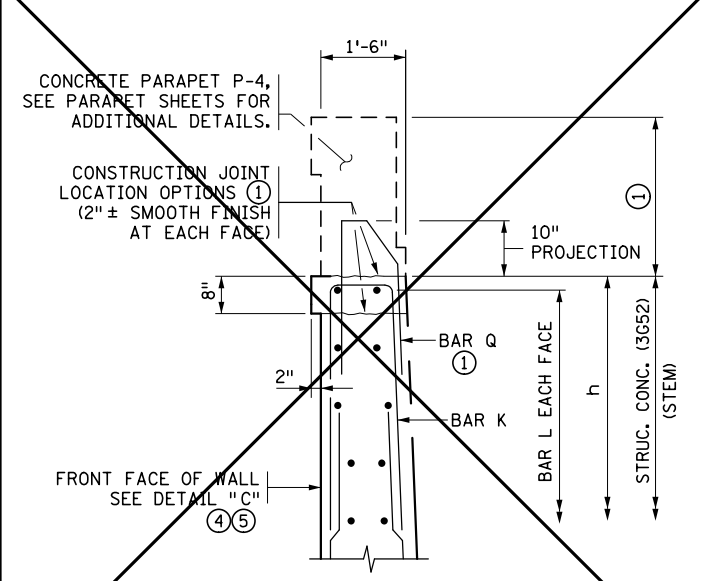
TYPE F BARRIER DETAIL
 2" COPING OPTION SHOWN



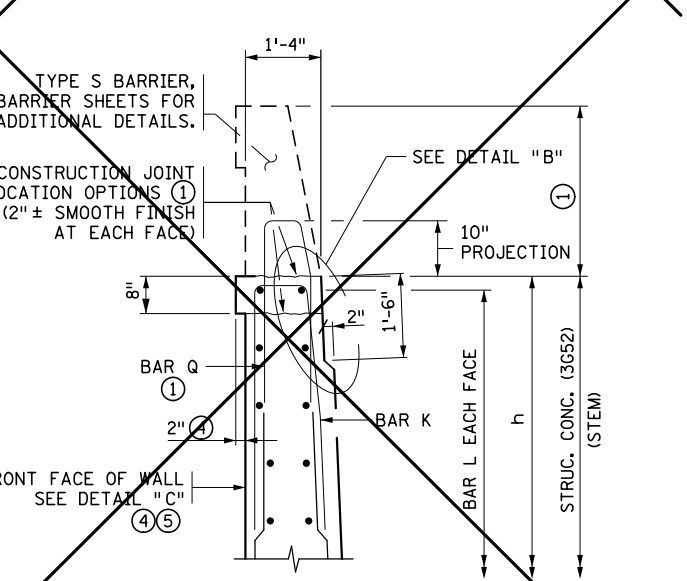
**PIPE UNDER SPREAD FOOTING
 (THROUGH SHEAR KEY)**



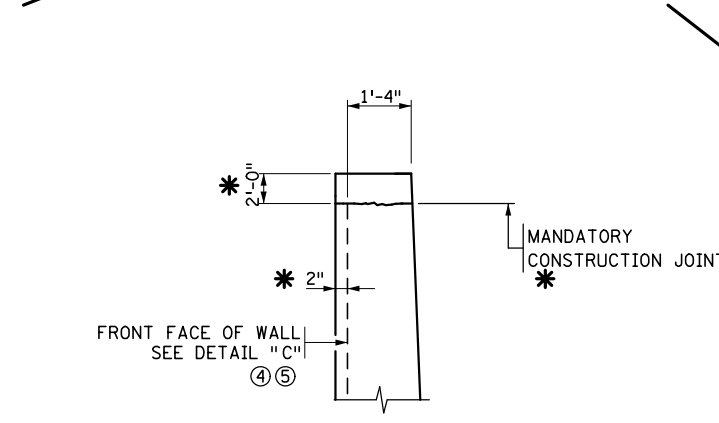
UTILITY BLOCKOUT DETAIL



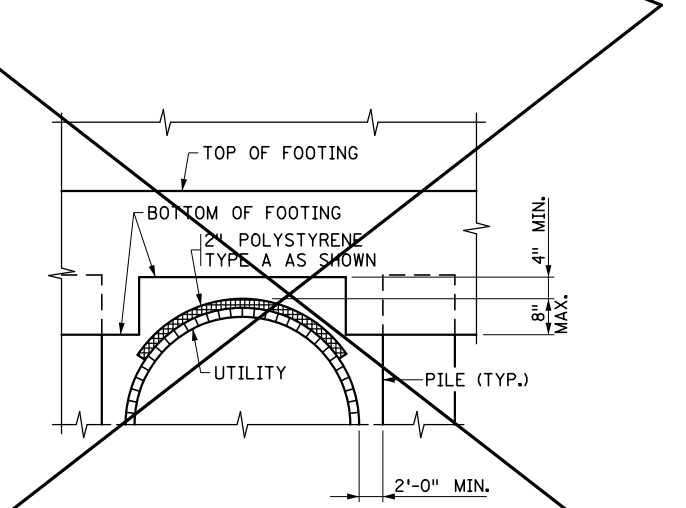
CONCRETE PARAPET P-4 DETAIL
 2" COPING OPTION SHOWN



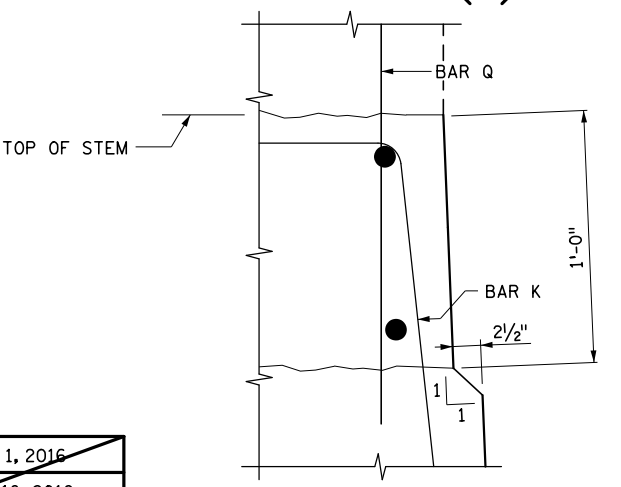
TYPE S BARRIER DETAIL
 2" COPING OPTION SHOWN



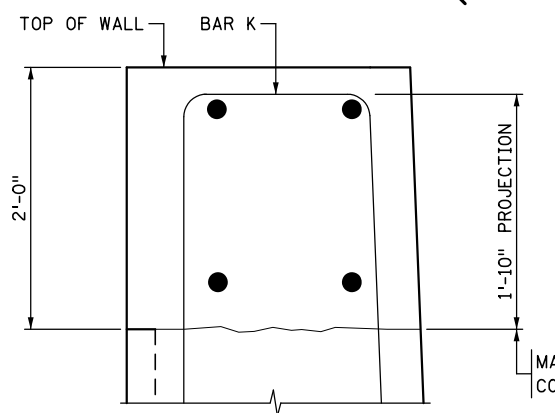
COPING DETAIL
 (WALL C & WALL D)



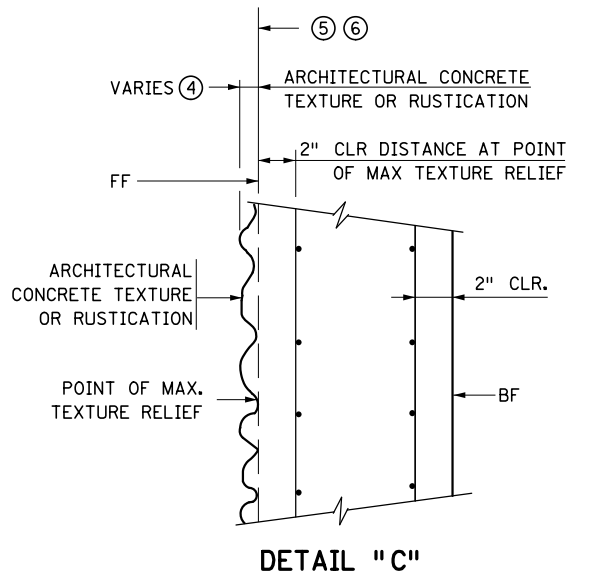
PIPE THROUGH PILE FOOTING



DETAIL "B" *
 (WALL E)



DETAIL "D" *
 (WALL C & WALL D)



DETAIL "C"

- NOTES:**
- ~~ARCHITECTURAL TREATMENT OPTION ON FRONT FACE OF RETAINING WALL, INCLUDING COPING OR HORIZONTAL REVEL OPTION TO BE DETERMINED BY MDOT.~~
 - ① REFER TO PARAPET OR BARRIER SHEETS FOR ADDITIONAL INFORMATION INCLUDING Q BAR PLACEMENT DETAILS, AND PAYMENT.
 - ② FIELD CUT/ADJUST VERTICAL AND HORIZONTAL REINFORCEMENT AS NECESSARY TO CLEAR BLOCKOUT. PLACE REINFORCEMENT AS SHOWN.
 - ③ ~~MODIFY AS NEEDED FOR INTERRUPTION.~~
 - ④ THE THICKNESS OF THE ARCHITECTURAL CONCRETE TEXTURE VARIES WITH THE TEXTURE RELIEF. THE STRUCTURAL CONCRETE QUANTITIES DO NOT INCLUDE THE MATERIAL WITHIN THE ARCHITECTURAL CONCRETE TEXTURE. MATERIAL NEEDED FOR THE TEXTURING SHALL BE INCIDENTAL. SEE SPECIAL PROVISIONS 2411. TEXTURE RELIEF TO ADHERE TO NCHRP REPORT 554 CRASH BARRIER GUIDANCE WHENEVER THE WALL FACE IS INSIDE OR NEAR THE CLEAR ZONE.
 - ⑤ FOR RETAINING WALLS THAT ABUT A BRIDGE OR BRIDGE WING WALL, NOTE THAT THE DESIGNATION OF "FRONT FACE" MAY VARY FROM THE BRIDGE PLANS TO THE RETAINING WALL PLANS.
 - ⑥ DATA FOR BASELINE GEOMETRY IS TABULATED FOR WALL ALIGNMENT, SEE LAYOUT SHEETS. WALL ALIGNMENT REFERENCE IS ALONG FRONT FACE OF WALL.

REVISION: SEPTEMBER 1, 2016
 APPROVED: FEBRUARY 16, 2016
Lynn Westberg
 STATE BRIDGE ENGINEER

*** DENOTES MODIFICATION FROM STANDARD PLAN**

MODIFIED
 STANDARD SHEET NO. 5-297-624 (1 OF 6)
 STANDARD APPROVED: FEBRUARY 16, 2016
 REVISION DATE: 9-1-16

RETAINING WALL MISCELLANEOUS DETAILS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: HAP
 DRW: HAP
 CHK: ADL
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/25/2020
 LINDSEY J. LAWRENCE



C-I-P RETAINING WALL
 MISCELLANEOUS DETAILS (1 OF 5)
 STATE PROJ. NO. 002-611-036

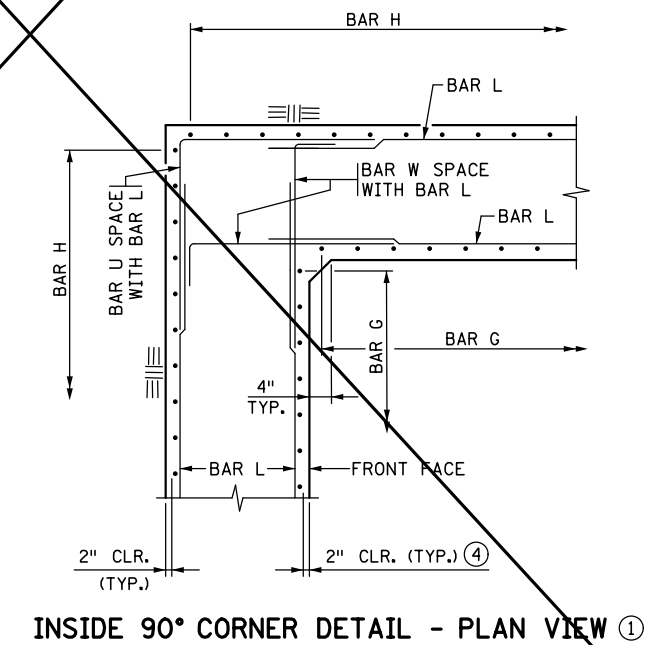
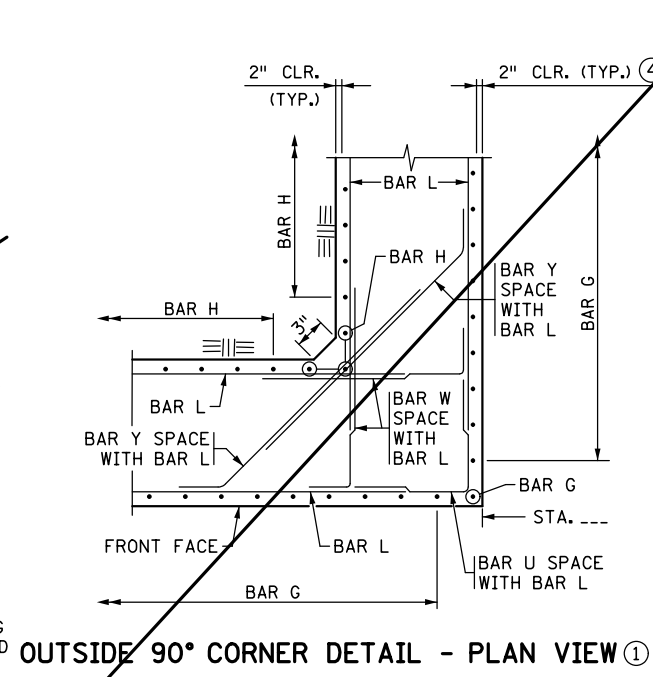
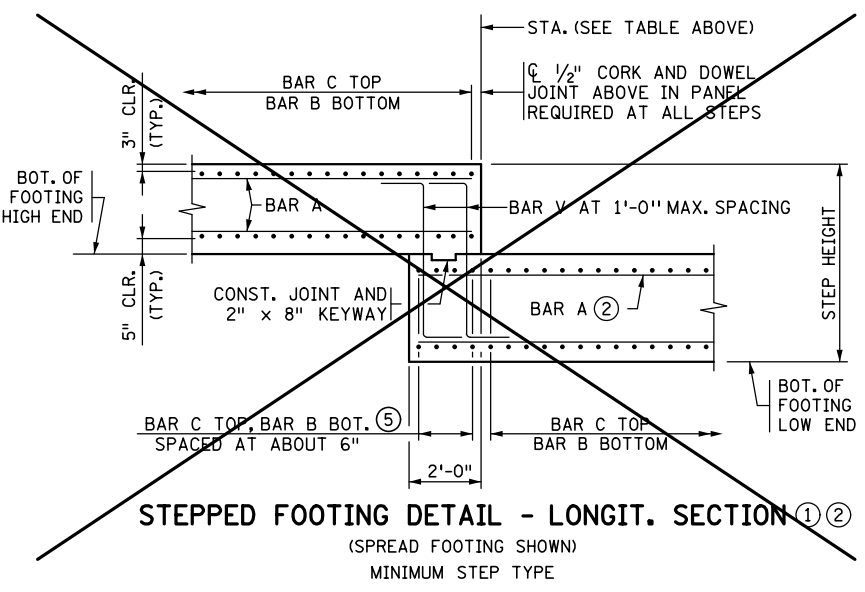
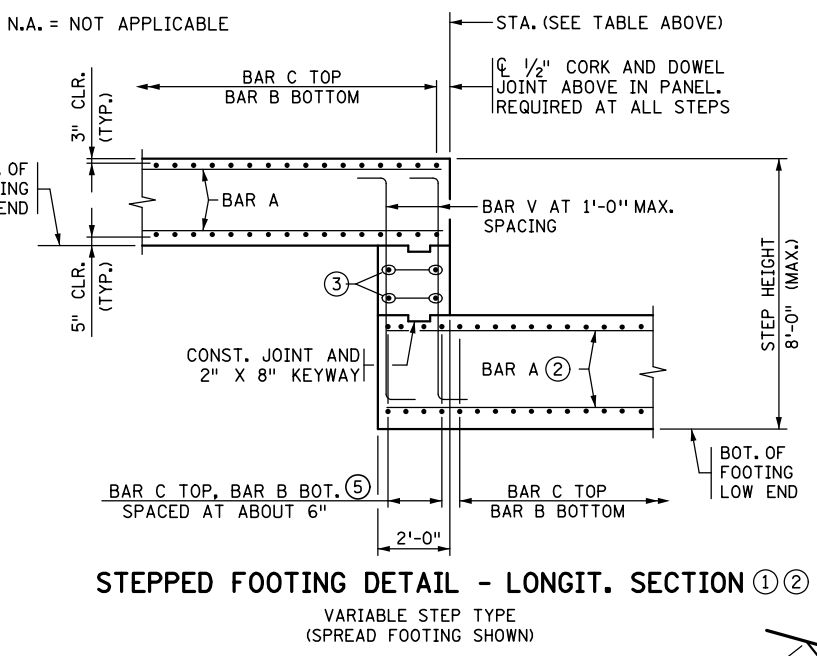
RETAINING WALL PLANS
 SHEET NO. 229 OF 416 SHEETS

DATE: 11/25/2020 TIME: 9:02:03 AM FILENAME: c:\kda_proj\tech\wise\m.vangstad\dms01247\cd00261036_wr_gsn06.dgn

BILL OF REINFORCEMENT FOR STEPPED FOOTING DETAILS ①②									
STATION	STEP TYPE (VAR. OR MIN.)	JOINT	BOT. OF FOOTING EL. LOW END	BOT. OF FOOTING EL. HIGH END	BAR (B, C, V)	MARK	NO.	LENGTH	A- DIMENSION
WALL C (RWC)									
50+23.66	VAR.	C02	876.29	882.04	B (8)				N.A.
					C (8)		4		N.A.
					V (7)				
50+47.25	VAR.	C03	882.04	888.12	B (8)				N.A.
					C (8)		4		N.A.
					V (7)				
50+77.15	VAR.	C04	888.12	894.71	B (8)				N.A.
					C (8)		4		N.A.
					V (7)				
50+98.16	VAR.	C05	894.71	899.29	B (8)				N.A.
					C (8)		4		N.A.
					V (7)				
WALL D (RWD)									
64+59.77	VAR.	D02	882.04	888.29	B (8)				N.A.
					C (8)		4		N.A.
					V (7)				
64+81.27	VAR.	D03	876.29	882.04	B (8)				N.A.
					C (8)		4		N.A.
					V (7)				
WALL E (RWE)									
71+22.02	VAR.	E05	883.17	887.25	B (8)				N.A.
					C (8)		4		N.A.
					V (7)				
71+45.39	VAR.	E06	880.08	883.17	B (8)				N.A.
					C (8)		4		N.A.
					V (7)				

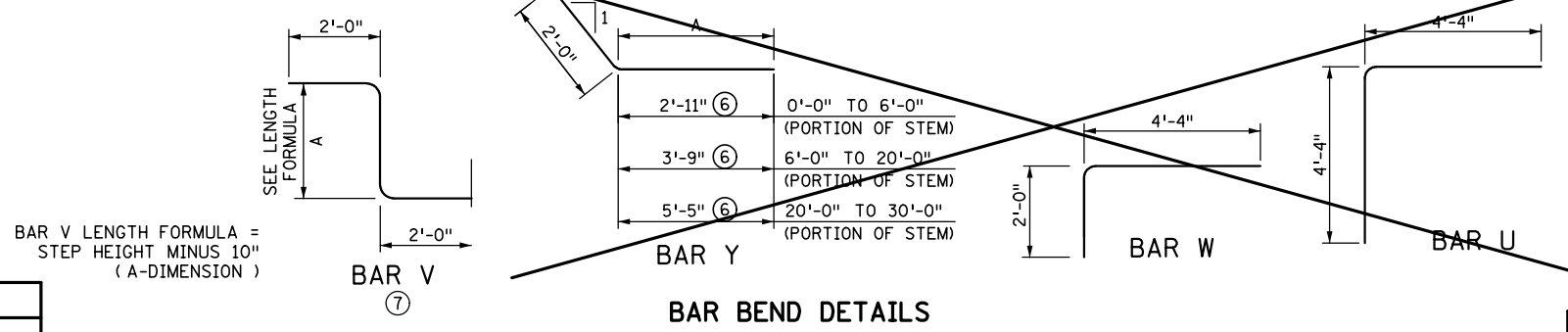
BILL OF REINFORCEMENT FOR CORNER DETAILS ①									
STATION	JOINT	INSIDE OR OUTSIDE CORNER	BAR	MARK	NO.	LENGTH	SHAPE	A- DIMENSION	
			U	C4 E		8'-8"	┌	N.A.	
			W	C4 E		6'-4"	└	N.A.	
			Y	C4 E		4'-11"	└	2'-11"	
			Y	C4 E		5'-9"	└	3'-9"	
			Y	C4 E		7'-5"	└	5'-5"	
			U	C4 E		8'-8"	┌	N.A.	
			W	C4 E		6'-4"	└	N.A.	
			Y	C4 E		4'-11"	└	2'-11"	
			Y	C4 E		5'-9"	└	3'-9"	
			Y	C4 E		7'-5"	└	5'-5"	
			U	C4 E		8'-8"	┌	N.A.	
			W	C4 E		6'-4"	└	N.A.	
			Y	C4 E		4'-11"	└	2'-11"	
			Y	C4 E		5'-9"	└	3'-9"	
			Y	C4 E		7'-5"	└	5'-5"	
			U	C4 E		8'-8"	┌	N.A.	
			W	C4 E		6'-4"	└	N.A.	
			Y	C4 E		4'-11"	└	2'-11"	
			Y	C4 E		5'-9"	└	3'-9"	
			Y	C4 E		7'-5"	└	5'-5"	

N.A. = NOT APPLICABLE



NOTES:

- ADDITIONAL REINFORCING BARS, STRUCTURAL CONCRETE, AND OTHER COMPONENTS REQUIRED TO CONSTRUCT CORNERS AND STEPPED FOOTINGS ARE INCIDENTAL.
- ① CONTRACTOR IS REQUIRED TO COMPLETE THE BILL OF REINFORCEMENT TABLE AND SUBMIT TO PROJECT ENGINEER AT LEAST 3 WEEKS PRIOR TO REBAR FABRICATION.
- ② FOR THE LOWER OF THE TWO FOOTINGS AT A STEP, THE CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE LENGTH OF FOOTING BAR A TO EXTEND BENEATH THE STEP OR USE SPLICED BARS.
- ③ 6 INCH MAX. SPACING. BARS TO BE SAME SIZE AND LENGTH AS BAR B OF THE LOWER FOOTING.
- ④ REFER TO DETAIL "C" AND NOTES ON STANDARD PLAN 5-297.624 (1 OF 6).
- ⑤ REFER TO TABLE LABELED "BILL OF REINFORCEMENT FOR STEPPED FOOTING DETAILS" FOR ADDITIONAL B AND C BARS IN LOWER FOOTING.
- ⑥ USE THE BAR Y LEG DIMENSION FOR THE PORTION OF STEM LOCATION INDICATED IN THE BAR BEND IN DETAIL. (0'-0" REPRESENTS TOP OF THE STEM).
- ⑦ BAR V SIZE TO MATCH BAR B. SEE PANEL TABULATIONS FOR SIZE.
- ⑧ SEE PANEL TABULATIONS FOR BAR SIZE AND LENGTH.



REVISION: SEPTEMBER 1, 2016
 APPROVED: AUGUST 27, 2014
Nancy Dubenberger
 STATE BRIDGE ENGINEER

REVISION DATE
 9-1-16

STANDARD SHEET NO.
 5-297.624 (2 OF 6)
 STANDARD APPROVED:
 AUGUST 27, 2014

RETAINING WALL MISCELLANEOUS DETAILS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

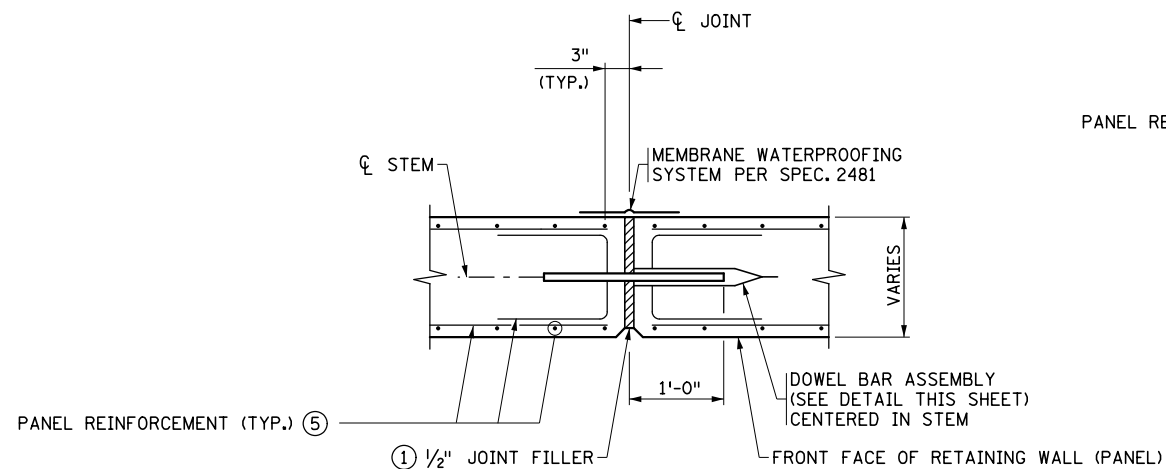
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 DRW: HAP
 CHK: ADL
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/25/2020
 LINDSEY J. LAWRENCE



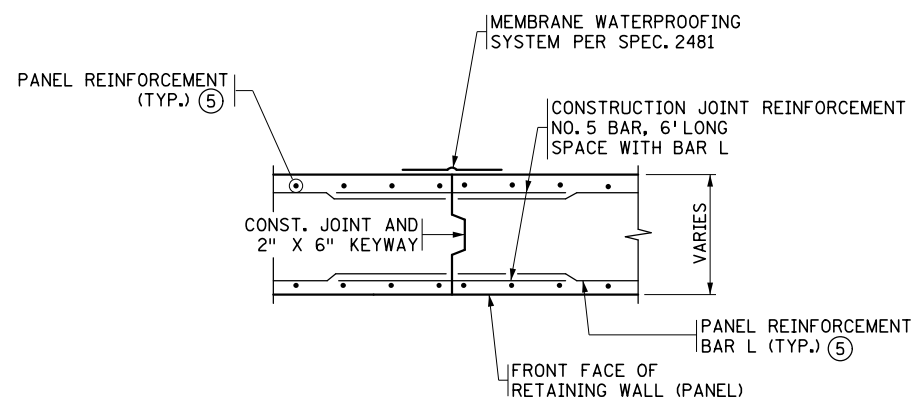
C-I-P RETAINING WALL
 MISCELLANEOUS DETAILS (2 OF 5)
 STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS
 SHEET NO. 230 OF 416 SHEETS

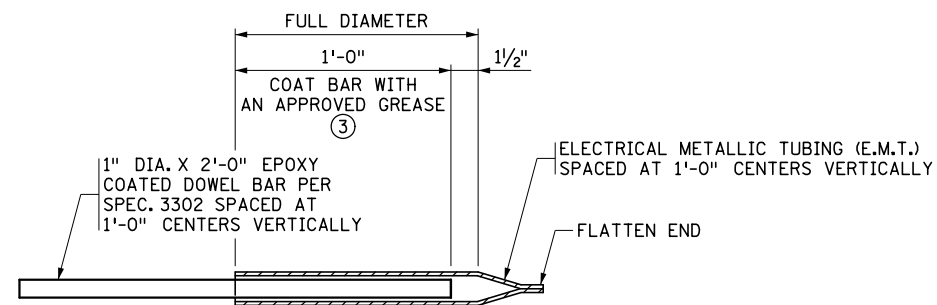
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CORK AND DOWELED JOINT DETAIL
 (TYPICAL SECTION THROUGH JOINT)
 ② ④



CONSTRUCTION JOINT DETAIL
 (TYPICAL SECTION THROUGH JOINT)
 ② ④



DOWEL BAR ASSEMBLY

NOTES:

THE MATERIALS AND PLACEMENT OF THE CORK AND DOWEL JOINT/ CONSTRUCTION JOINT (DOWEL BAR ASSEMBLIES, NO. 5 REINFORCING BARS, JOINT FILLER, AND JOINT WATERPROOFING) ARE INCIDENTAL.

THE CONTRACTOR SHALL ASSIGN TO THE REINFORCING BAR SUPPLIER THE RESPONSIBILITY OF SUPPLYING THE NECESSARY MATERIALS ASSOCIATED WITH THE DETAILS SHOWN ON THIS SHEET.

- ① JOINT FILLER SHALL BE CORK SPEC. 2401.3.E.3.
- ② AT THE CONTRACTOR'S OPTION, CONSTRUCTION JOINTS MAY BE SUBSTITUTED IN LIEU OF CORK AND DOWEL JOINTS. REINFORCEMENT QUANTITIES WERE COMPUTED ASSUMING A CORK AND DOWEL JOINT BETWEEN EVERY PANEL. CHANGES IN THE BILL OF REINFORCEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND NO ADDITIONAL PAYMENT WILL BE MADE. AT A MINIMUM, PLACE CORK AND DOWEL JOINTS EVERY 9'-6". A CORK AND DOWEL JOINT IS REQUIRED AT ALL VERTICAL FOOTING STEPS.
- ③ GREASE SHALL BE AN APPROVED HIGH PRESSURE TYPE THAT IS EFFECTIVE OVER THE FULL RANGE OF EXPECTED TEMPERATURES AND RESISTANT TO CHEMICAL ACTION.
- ④ DOWEL BAR ASSEMBLY MUST BE PLACED PERPENDICULAR TO JOINT AND PARALLEL TO THE WALL FACE, AND TO EACH OTHER.
- ⑤ SEE PANEL SHEETS FOR REINFORCING DETAILS.

REVISION: SEPTEMBER 1, 2016
 APPROVED: AUGUST 27, 2014
Nancy Dubenberger
 STATE BRIDGE ENGINEER

REVISION DATE
 9-1-16

STANDARD SHEET NO.
 5-297.624 (3 OF 6)
 STANDARD APPROVED:
 AUGUST 27, 2014

TITLE:
RETAINING WALL MISCELLANEOUS DETAILS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: HAP
 DRW: HAP
 CHK: ADL
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/25/2020
 LINDSEY J. LAWRENCE

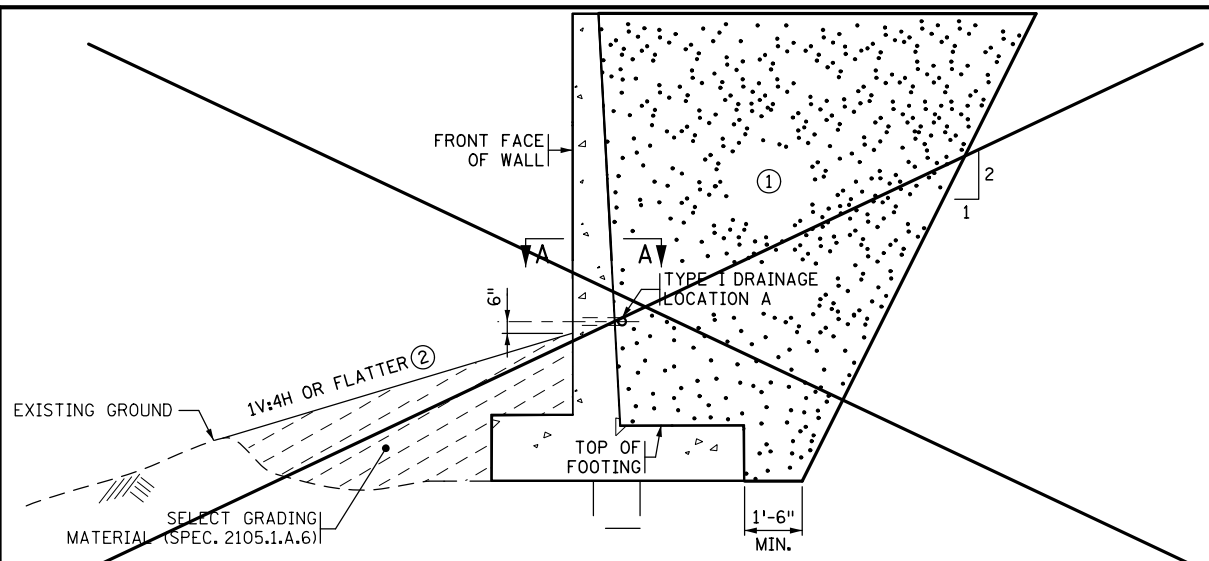


C-I-P RETAINING WALL
 MISCELLANEOUS DETAILS (3 OF 5)
 STATE PROJ. NO. 002-611-036

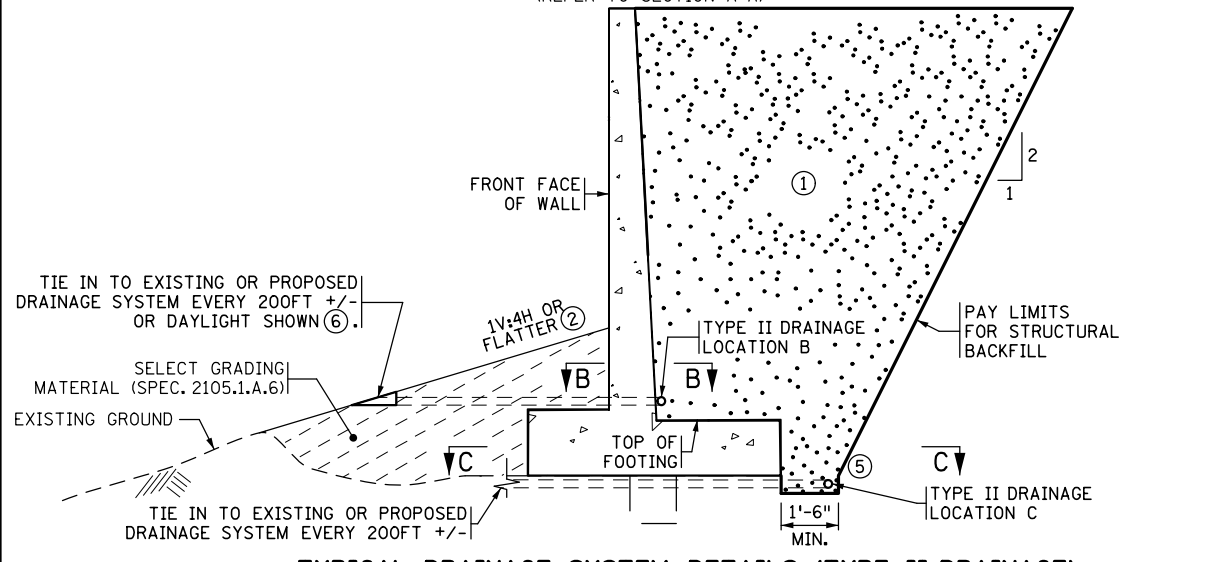
RETAINING WALL PLANS

SHEET NO. 231 OF 416 SHEETS

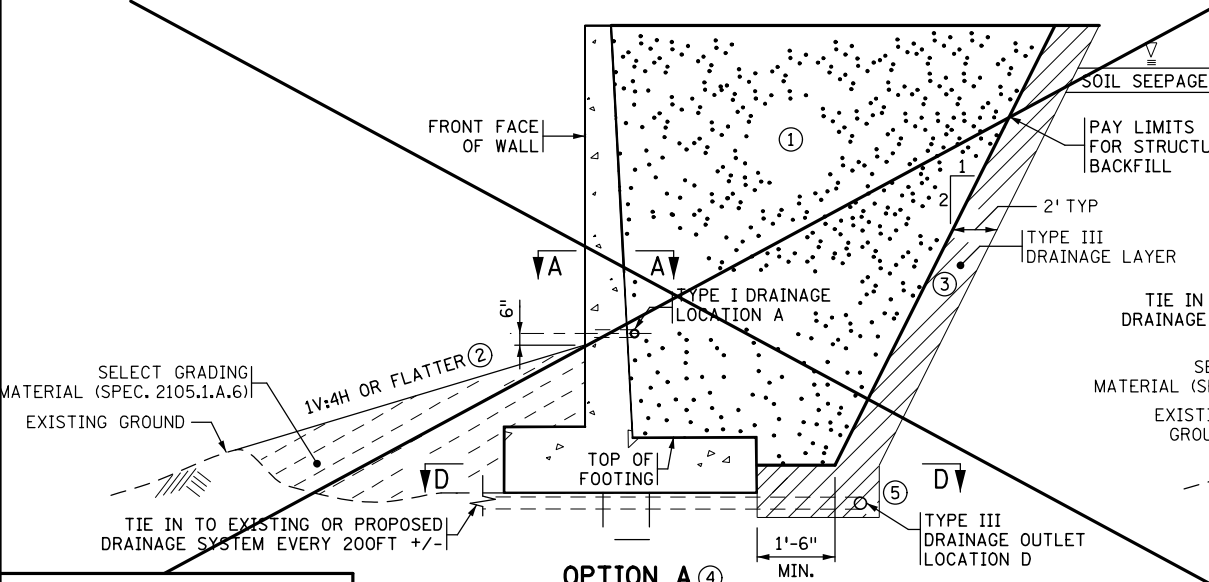
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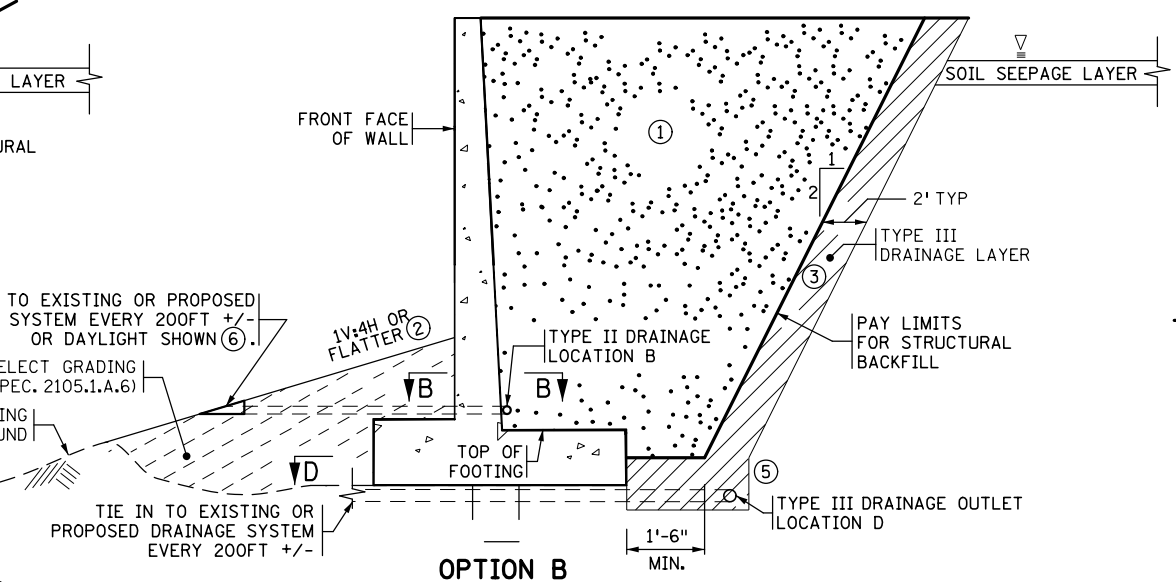
TYPICAL DRAINAGE SYSTEM DETAILS (TYPE I DRAINAGE)
(REFER TO SECTION A-A)



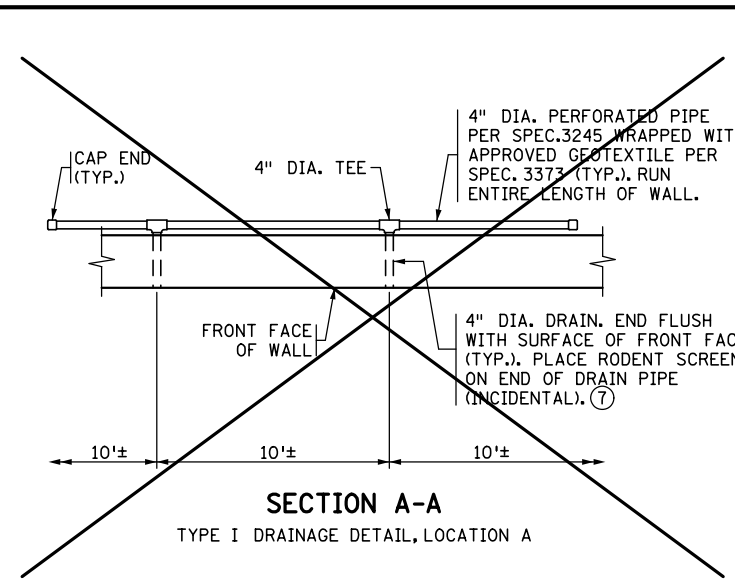
TYPICAL DRAINAGE SYSTEM DETAILS (TYPE II DRAINAGE)
(REFER TO SECTION B-B AND C-C)



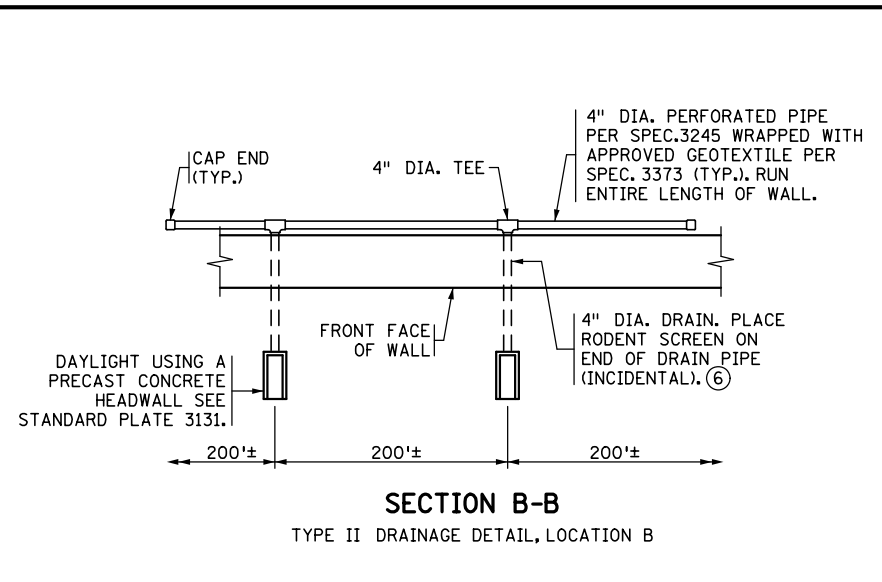
OPTION A
(REFER TO SECTION A-A AND D-D)



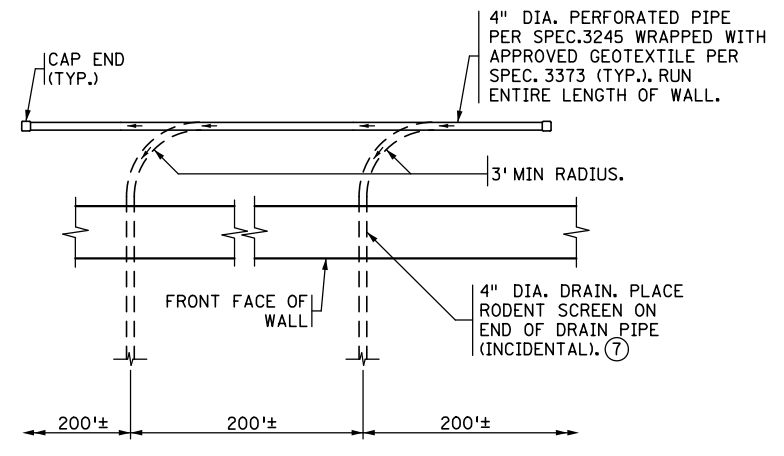
OPTION B
(REFER TO SECTION B-B AND D-D)



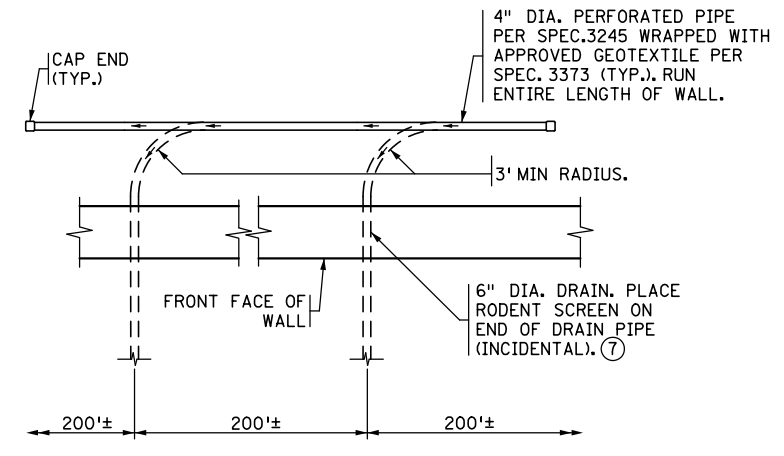
SECTION A-A
TYPE I DRAINAGE DETAIL, LOCATION A



SECTION B-B
TYPE II DRAINAGE DETAIL, LOCATION B



SECTION C-C
TYPE II DRAINAGE DETAIL, LOCATION C



SECTION D-D
TYPE III DRAINAGE DETAIL, LOCATION D

- NOTES:**
- BACKFILL MATERIAL SHALL COMPLETELY SURROUND PIPE AT ALL TIMES.
 - SLOPE PIPE TO ENSURE PROPER DRAINAGE AT ALL TIMES.
 - DRAINAGE SYSTEM PAID BY LUMP SUM PER SPEC. 2502.
 - ① STRUCTURAL BACKFILL. SEE SHEET 5-297.620. COMPACT BACKFILL TO SPECIFIED DENSITY METHOD SPEC. 2105.3.F.1.
 - ② PROVIDE SLOPE OF 1V:24H TO 1V:4H FOR PROPER DRAINAGE.
 - ③ TYPE III DRAINAGE LAYER TO BE FINE FILTER AGGREGATE PER SPEC. 3149.2.J.2. FINE FILTER AGGREGATE MAY BE REPLACED WITH TYPE VI DRAINAGE GEOCOMPOSITE MATERIAL.
 - ④ DRAINAGE SYSTEMS INSTALLED AT LOCATION A SHALL NOT BE USED WHEN A SIDEWALK, TRAIL, OR ROADWAY IS LOCATED ADJACENT TO THE FRONT FACE OF THE WALL TO PREVENT PONDING OR ICE ACCUMULATION.
 - ⑤ EXTEND STRUCTURAL BACKFILL OR FINE FILTER AGGREGATE 8" BELOW BOTTOM OF FOOTING.
 - ⑥ TYPE II LOCATION B DRAINAGE MAY DAYLIGHT DIRECTLY USING PRECAST CONCRETE HEADWALLS OR BE TIED INTO DRAINAGE SYSTEM.
 - ⑦ THE RODENT SCREEN SHALL BE FABRICATED FROM CARBON STEEL FLATTENED EXPANDED METAL, STYLE 1/2" NO. 4F. IT SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

REVISIONS:
APPROVED: FEBRUARY 16, 2016
Lynn Weston
STATE BRIDGE ENGINEER

TYPICAL DRAINAGE SYSTEM DETAILS (TYPE III DRAINAGE)

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/25/2020
LINDSEY J. LAWRENCE



STANDARD SHEET NO. 5-297.624 (5 OF 6)
STANDARD APPROVED: AUGUST 27, 2014

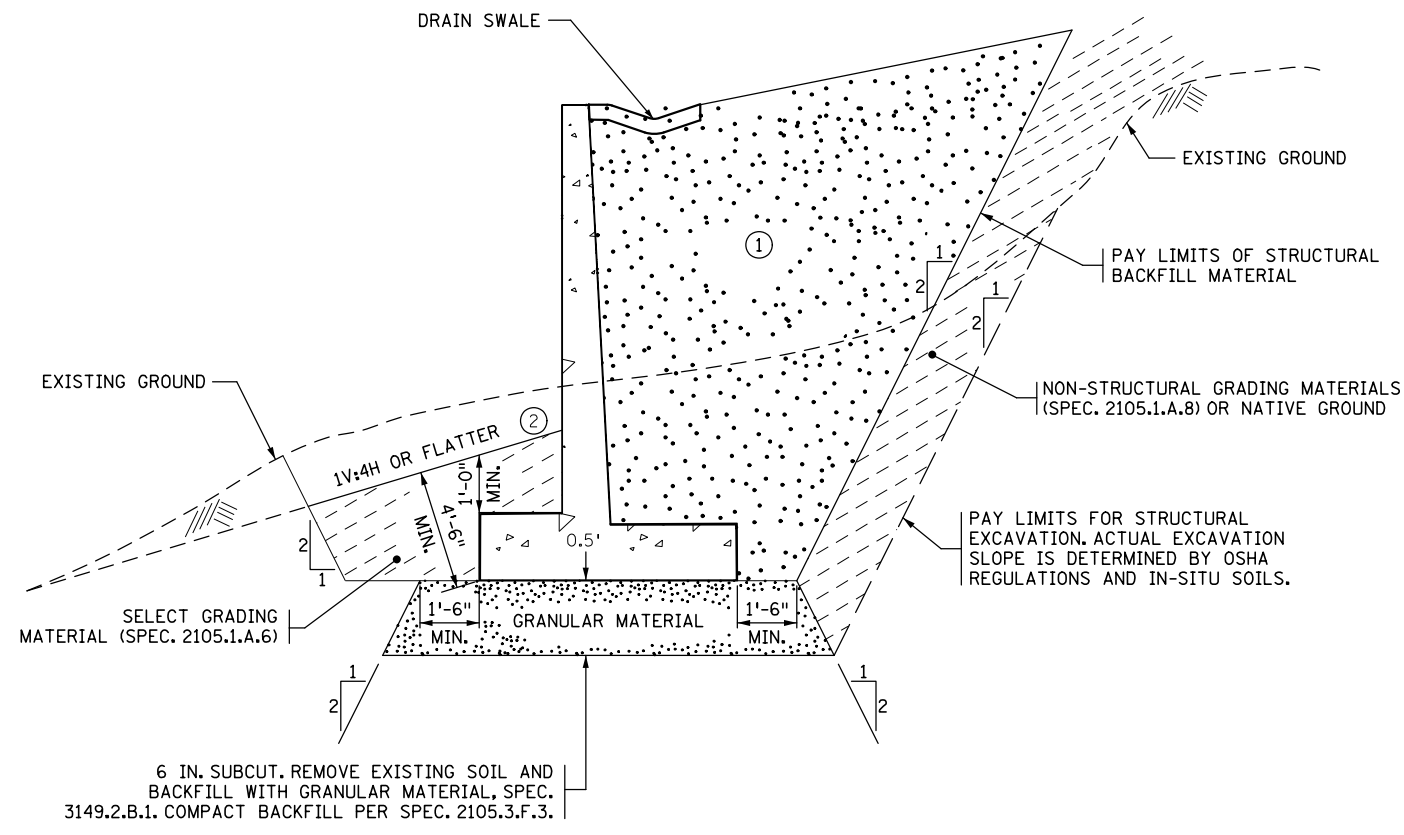
TITLE: **RETAINING WALL MISCELLANEOUS DETAILS (GEOTECHNICAL DETAILS)**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

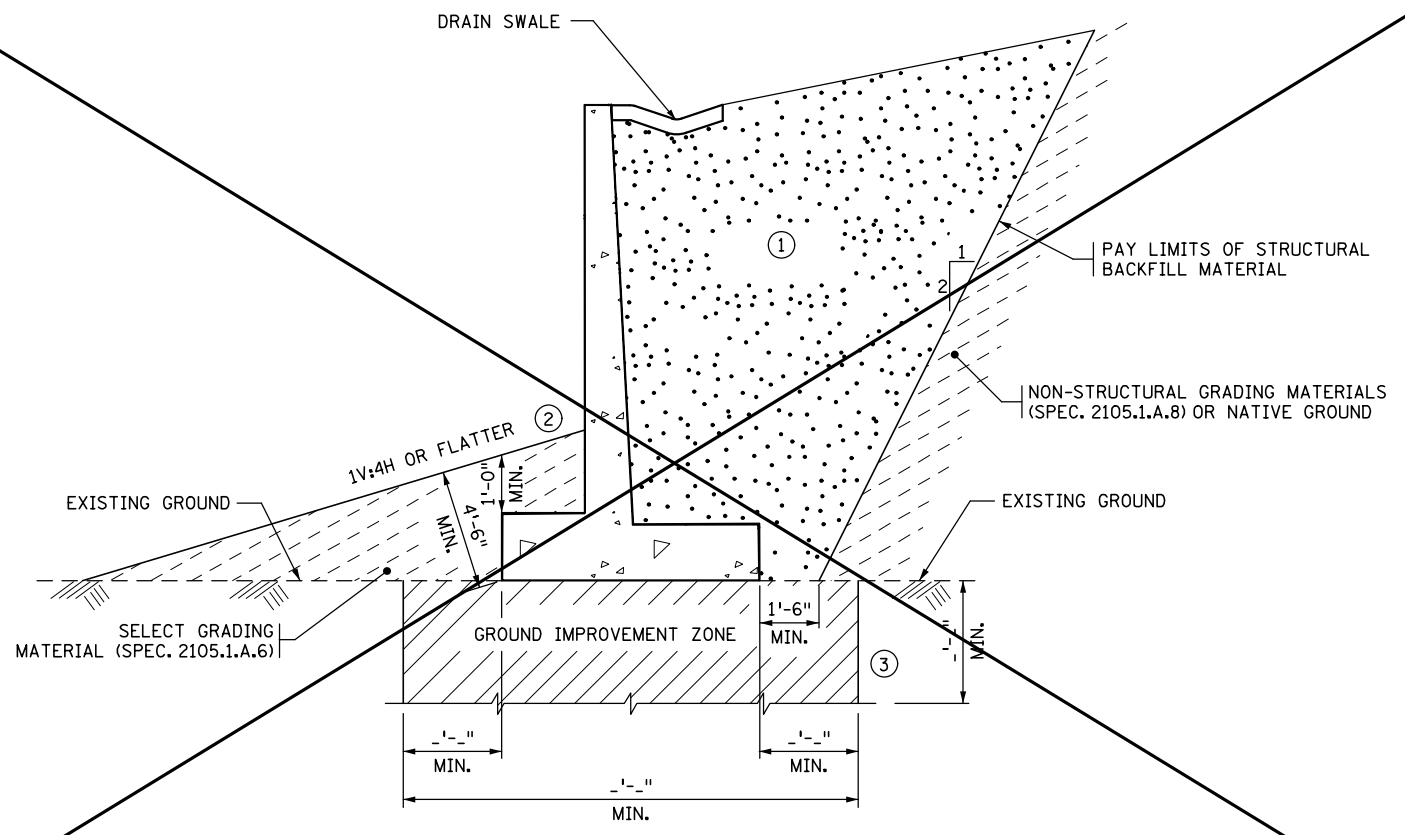
C-I-P RETAINING WALL MISCELLANEOUS DETAILS (4 OF 5)
STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS
SHEET NO. 232 OF 416 SHEETS

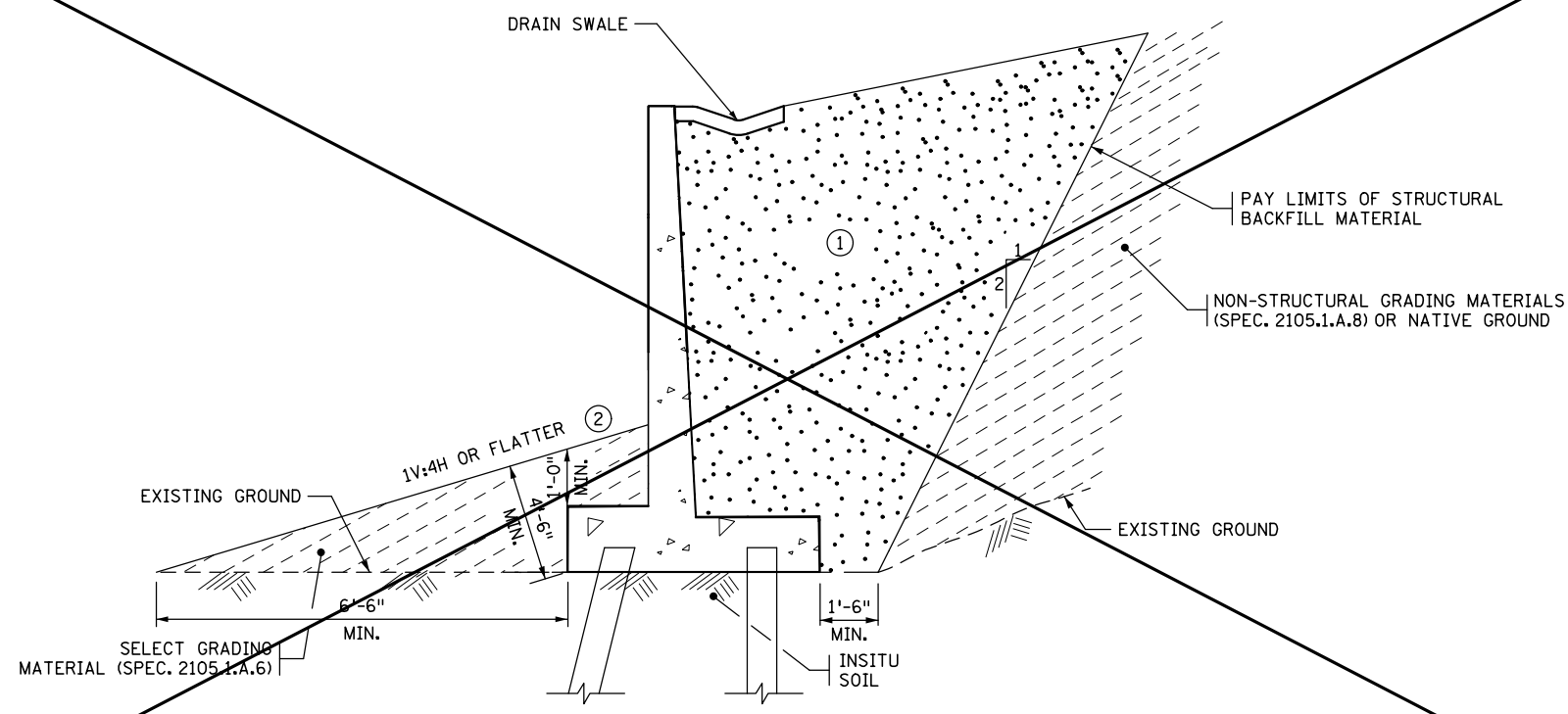
DATE: 11/25/2020 TIME: 9:02:23 AM FILENAME: c:\tkda\proj\tech\wise\hmv\vangstad\dms01247\cd00261036_wr_ggn09.dgn



SPREAD FOOTING WITH SOIL SUBCUT
(NOT DRAWN TO SCALE)



SPREAD FOOTING PLACED OVER GROUND IMPROVEMENT
(NOT DRAWN TO SCALE)



PILE FOUNDATION
2-PILE SYSTEM SHOWN, OTHER SIMILAR
(NOT DRAWN TO SCALE)

- ① BACKFILL WITH STRUCTURAL BACKFILL SPEC. 3149.2.D.2 COMPACT BACKFILL PER SPEC. 2105.3.F.3.
- ② PROVIDE SLOPE OF 1V:24H TO 1V:4H FOR PROPER DRAINAGE.
- ③ PROVIDE SUFFICIENT COVERAGE AREA AND TREATMENT VOLUME TO GIVE GENERALLY UNIFORM SUPPORT TO THE FOUNDATION. IMPROVED GROUND OR SURFACE PREPARATIONS PLACED TO IMPROVE GROUND SUPPORT ARE TO BE IN IMMEDIATE CONTACT WITH THE FOOTING AND FOUNDATION MATERIAL.

REVISION: SEPTEMBER 1, 2016
APPROVED: AUGUST 27, 2014
Nancy Dubenberger
STATE BRIDGE ENGINEER

REVISION DATE
9-1-16

STANDARD SHEET NO.
5-297.624 (6 OF 6)
STANDARD APPROVED:
AUGUST 27, 2014

TITLE: **RETAINING WALL MISCELLANEOUS DETAILS (GEOTECHNICAL DETAILS)**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

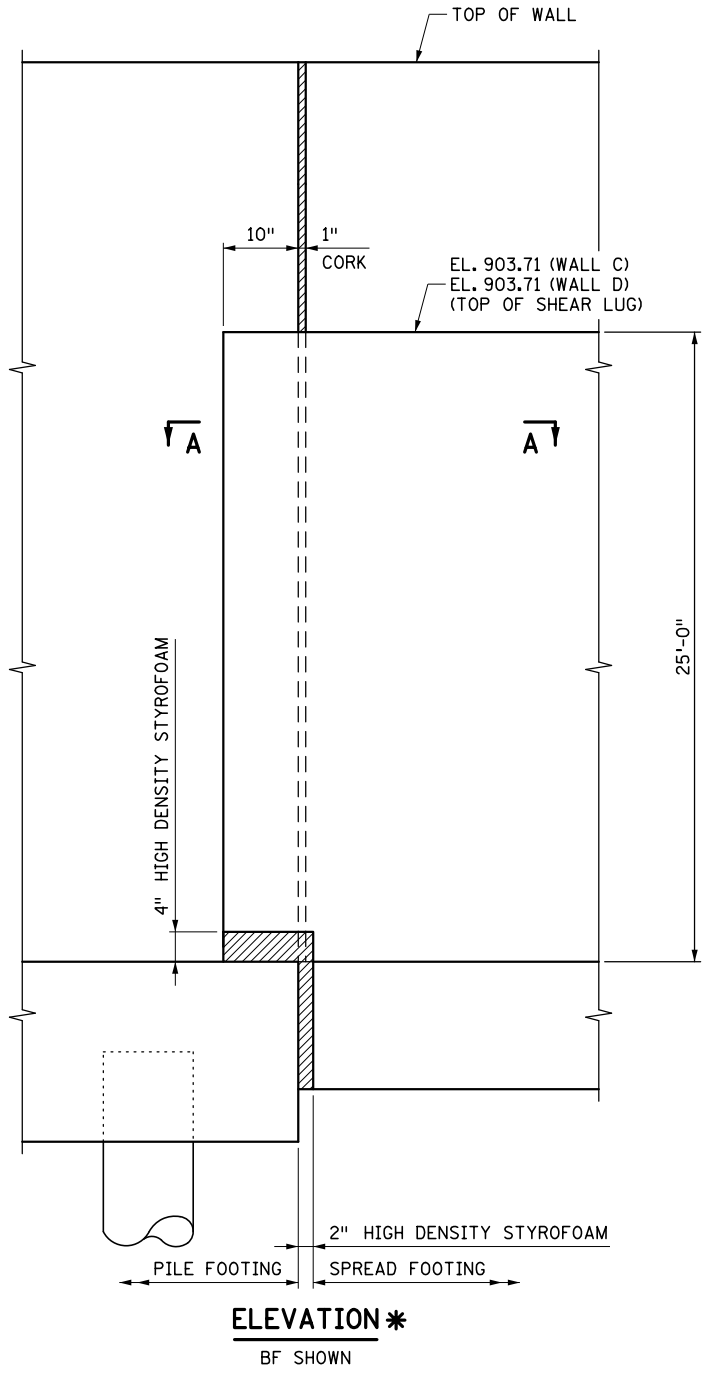
DES: HAP
DRW: HAP
CHK: ADL
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/25/2020
LINDSEY J. LAWRENCE



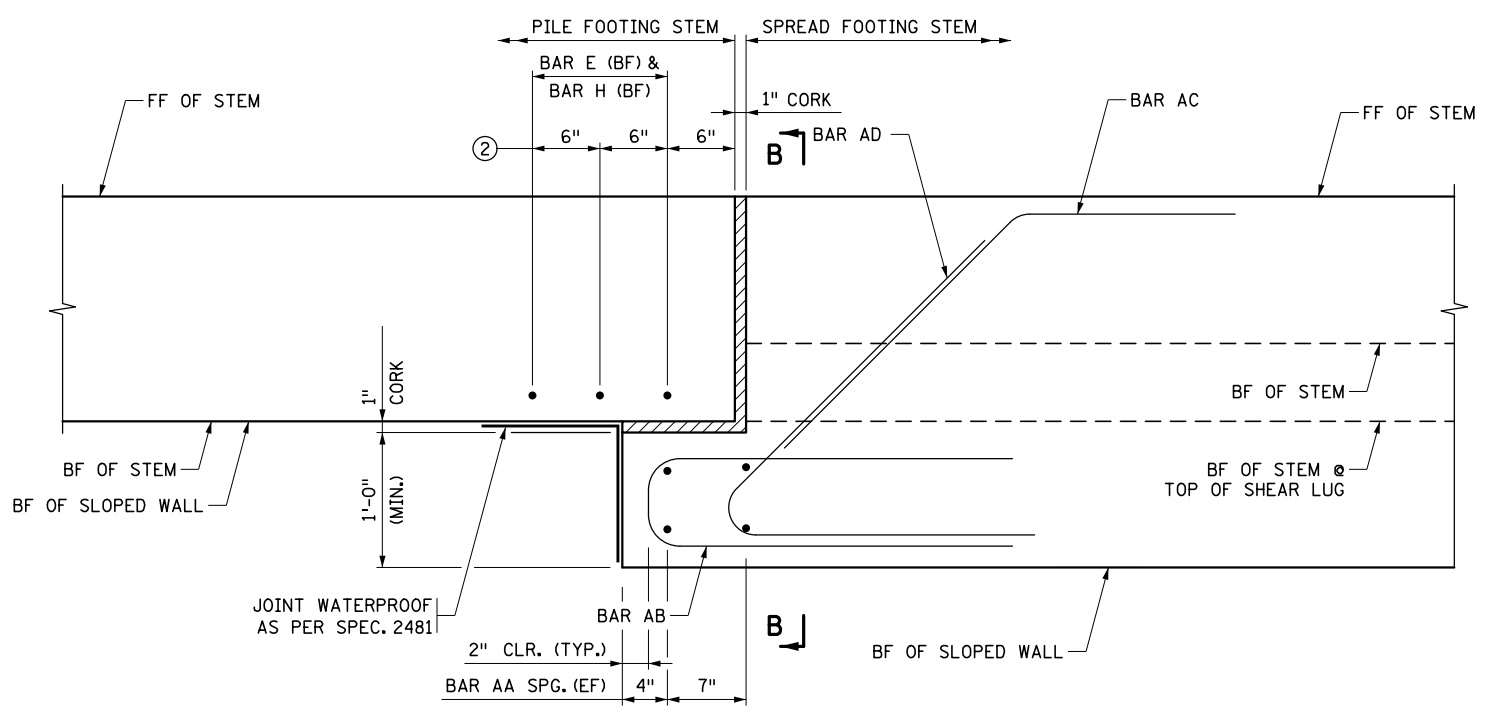
C-I-P RETAINING WALL
MISCELLANEOUS DETAILS (5 OF 5)
STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS
SHEET NO. 233 OF 416 SHEETS

DATE: 11/25/2020 TIME: 9:02:29 AM
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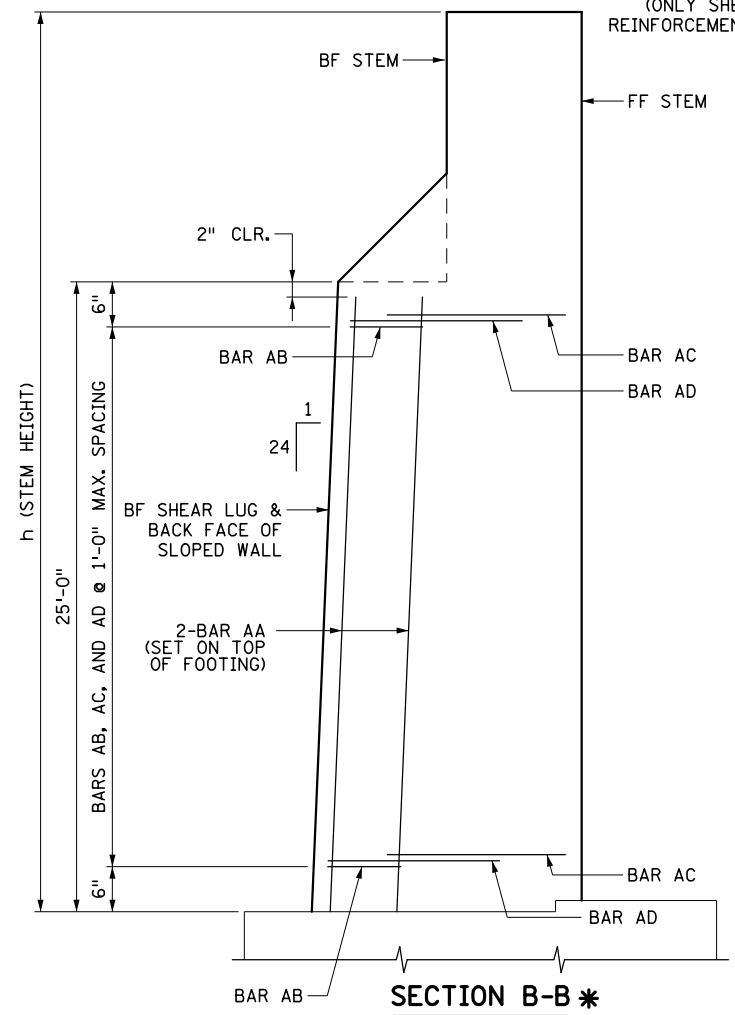


ELEVATION*
BF SHOWN



SECTION A-A*

FOOTINGS NOT SHOWN
 (ONLY SHEAR LUG REINFORCEMENT SHOWN. SEE WALL REINFORCEMENT PANEL SHEETS FOR OTHER REINFORCEMENT.)



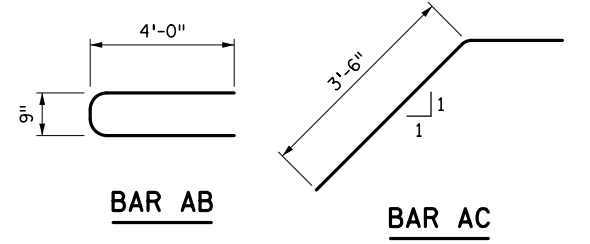
SECTION B-B*

ONLY SHEAR LUG REINFORCEMENT SHOWN
 (BF OF SLOPED WALL SHOWN)

BILL OF REINFORCEMENT ① FOR SHEAR LUG

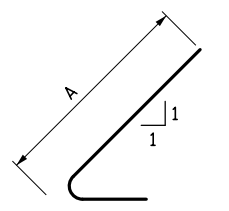
BAR	MARK	NO.	LENGTH	SHAPE	A - DIMENSION
E	F1105E	3	12'-9"		2'-0"
H	S902E	3	24'-10"		N.A.
AA	S503E	4	24'-10"		N.A.
AB	S504E	25	8'-9"		N.A.
AC	S407E	25	4'-10"		N.A.
AD	S408E	25	4'-10"		3'-6"

N.A. = NOT APPLICABLE



BAR AB

BAR AC



BAR AD

NOTES:

USE THIS DETAIL AT A RETAINING WALL JOINT WHEN THE WALL OR BRIDGE IS SUPPORTED ON PILE FOUNDATION ON ONE SIDE OF THE JOINT AND SPREAD FOOTING ON THE OTHER SIDE.

THE SHEAR LUG SHALL BE PROVIDED ON THE SPREAD FOOTING WALL AS SHOWN.

SHEAR LUG IS NOT REQUIRED IF:

WALL HEIGHT FROM TOP OF FOOTING TO TOP OF WALL IS LESS THAN 14 FEET WITHOUT A NOISE BARRIER

THE COMBINED HEIGHT OF RETAINING WALL AND NOISE BARRIER IS LESS THAN 23 FEET AND WALL HEIGHT FROM TOP OF FOOTING TO GRADE IS LESS THAN 13 FEET.

ADDITIONAL REINFORCING BARS, STRUCTURAL CONCRETE, SHOP DRAWINGS, AND ALL OTHER COMPONENTS REQUIRED TO CONSTRUCT SHEAR LUGS ARE INCIDENTAL.

BF DENOTES BACK FACE.
 FF DENOTES FRONT FACE.
 EF DENOTES EACH FACE.

① CONTRACTOR IS REQUIRED TO FILL THE BILL OF REINFORCEMENT TABLE AND SUBMIT IT TO THE PROJECT ENGINEER AT LEAST 3 WEEKS PRIOR TO REBAR FABRICATION.

② SEE PANEL TABULATIONS FOR BAR SIZE AND LENGTH. THESE BARS ARE IN ADDITION TO TYPICAL WALL REINFORCEMENT.

~~③ 8" WHEN BACK FACE OF WALL ON PILE FOOTING AND SHEAR LUG HAVE UNIFORM SLOPE. VARIES (0" MINIMUM) WHEN BACK FACE OF WALL ON PILE FOOTING AND SHEAR LUG HAVE NON UNIFORM SLOPE.~~

~~④ USE THE BAR LEG DIMENSION FOR THE PORTION OF SHEAR LUG LOCATION INDICATED IN THE BAR BEND IN DETAIL. (0'-0" REPRESENTS TOP OF THE SHEAR LUG).~~

REVISION:
 APPROVED: AUGUST 27, 2014
Nancy Subberger
 STATE BRIDGE ENGINEER

* DENOTES MODIFICATION FROM STANDARD PLAN

MODIFIED

MINNESOTA DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.625 1 OF 1
 APPROVED: 8-27-2014
 REVISED:
Christine Ky
 STATE DESIGN ENGINEER

RETAINING WALL SHEAR LUG DETAILS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

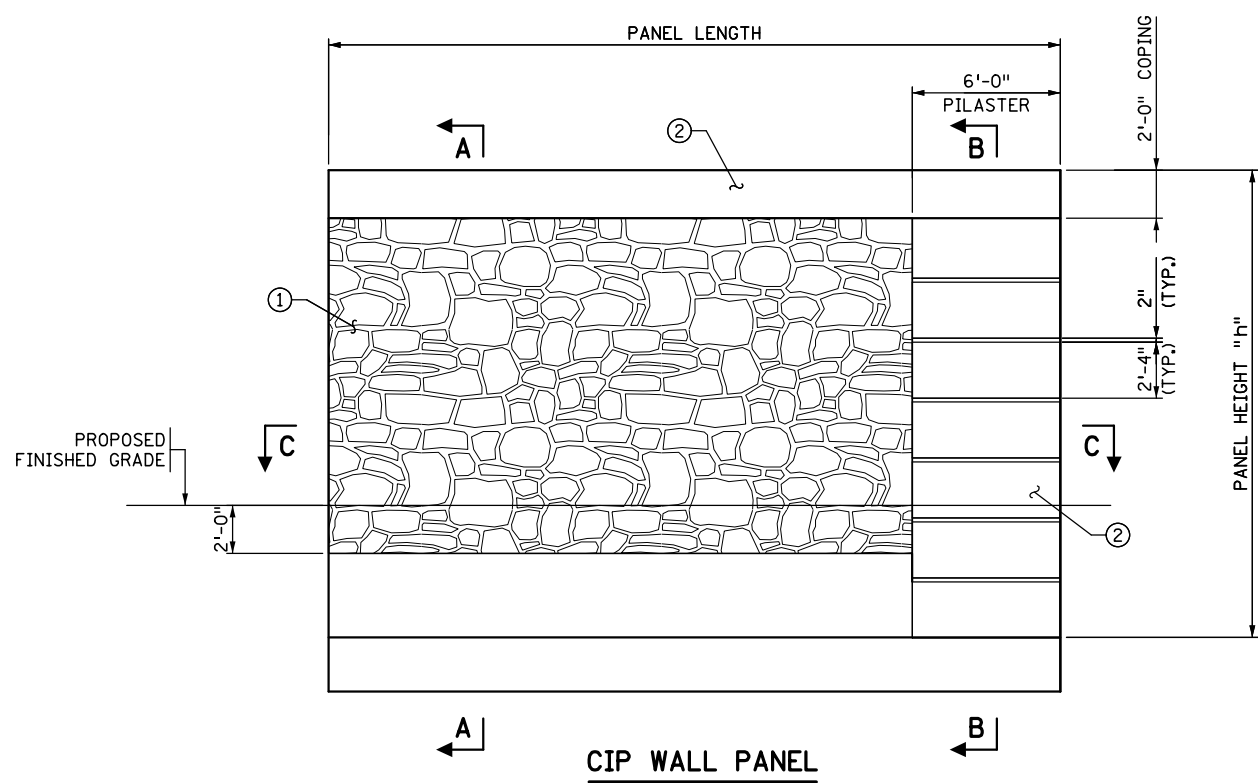
DES: HAP
 DRW: HAP
 CHK: ADL
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/25/2020
 LINDSEY J. LAWRENCE



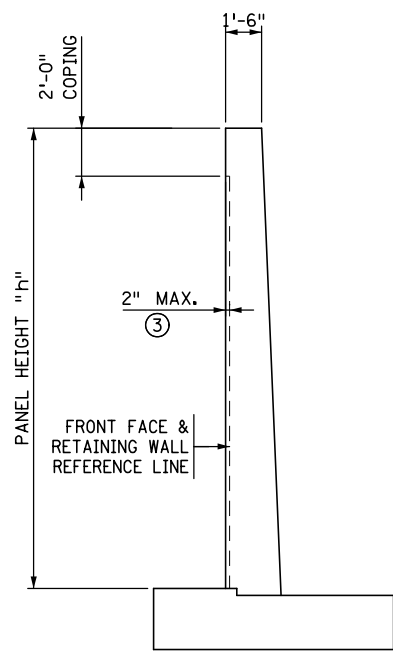
RETAINING WALL SHEAR LUG DETAIL
 STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS
 SHEET NO. 234 OF 416 SHEETS

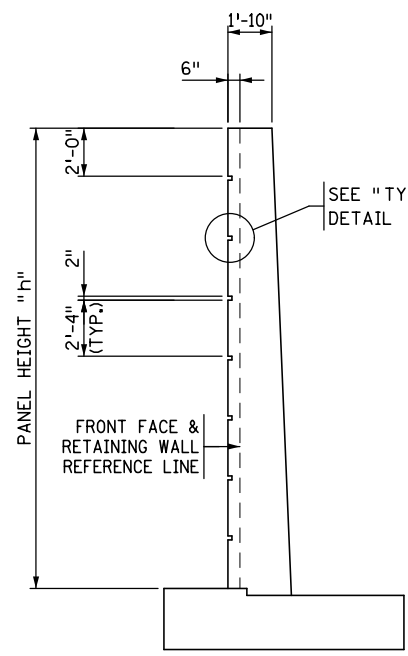
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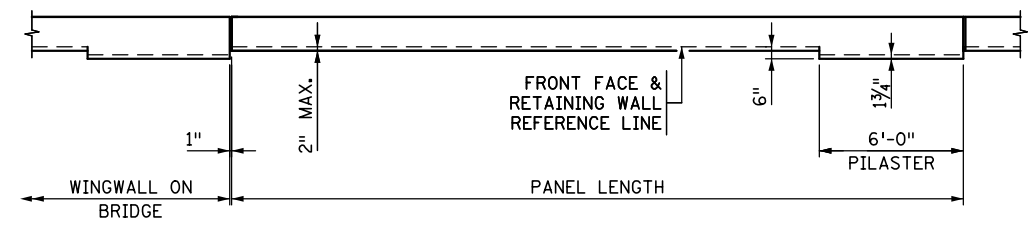
CIP WALL PANEL



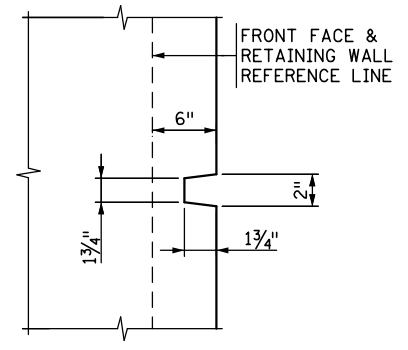
SECTION A-A



SECTION B-B



SECTION C-C



TYPICAL REVEAL

NOTES:

- ① ARCHITECTURAL CONCRETE TEXTURE (ASHLAR STONE). ARCHITECTURAL SURFACE FINISH (SINGLE COLOR). SEE SPECIAL PROVISIONS.
- ② SMOOTH CONCRETE, SPECIAL SURFACE FINISH. INCIDENTAL TO STUCTURAL CONCRETE (3G52). SEE SPECIAL PROVISIONS.
- ③ THE THICKNESS OF THE ARCHITECTURAL CONCRETE TEXTURE VARIES WITH THE TEXTURE RELIEF PATTERN. THE STRUCTURAL CONCRETE 3G52 QUANTITIES DO NOT INCLUDE THE MATERIAL WITHIN THE ARCHITECTURAL CONCRETE TEXTURE. CONCRETE NEEDED FOR TEXTURING IS INCIDENTAL.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: HAP
 DRW: HAP
 CHK: ADL

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Lindsey J. Lawrence* LIC. NO. 48298 DATE: 11/25/2020
 LINDSEY J. LAWRENCE



CIP WALL AESTHETICS
 STATE PROJ. NO. 002-611-036

RETAINING WALL PLANS
 SHEET NO. 236 OF 416 SHEETS

DATE: 11/25/2020 TIME: 11:59:47 AM
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NOT TO SCALE

LEGEND	
	VALVES ON 24"/18" PCP WATERMAIN

CITY WATER SYSTEM SCHEMATIC
 FOR INFORMATION ONLY

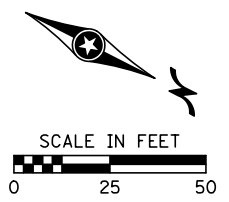
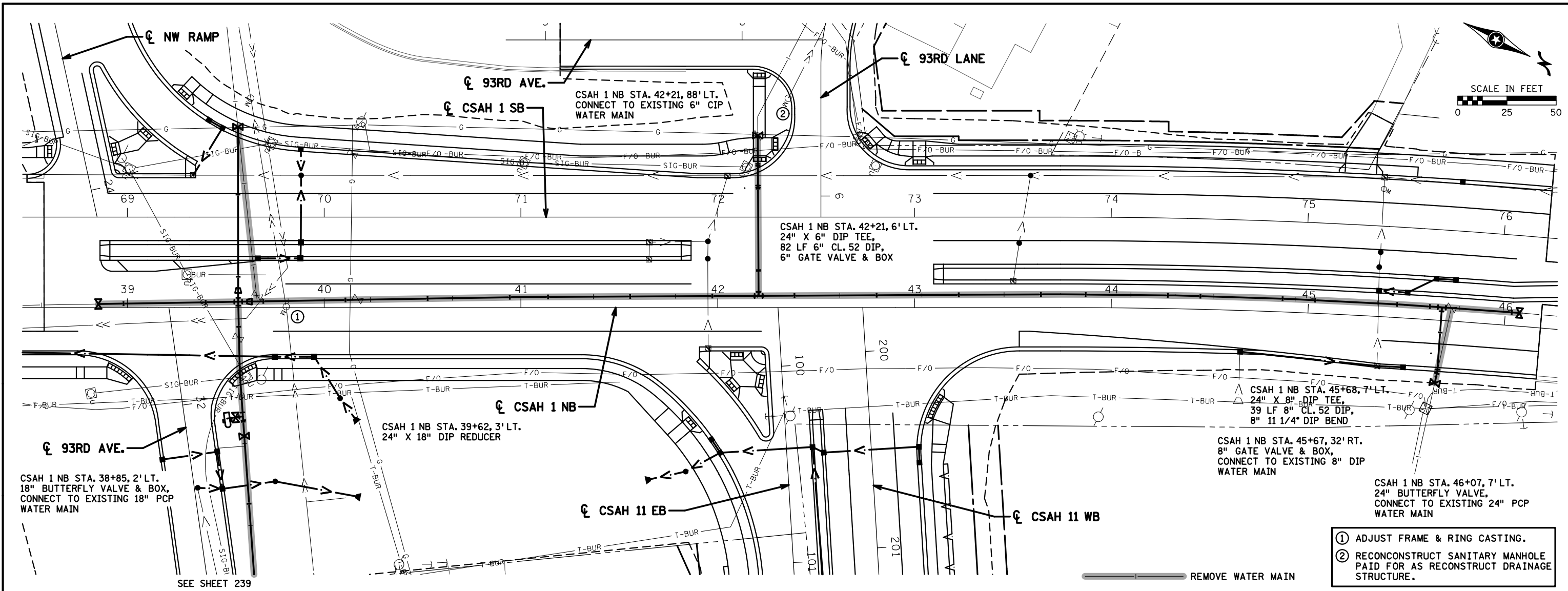
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: RSQ I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: TJV
 CHK: RSQ SIGNATURE: *Ronald S. Quanbeck* LIC. NO. 19396 DATE: 11/25/2020

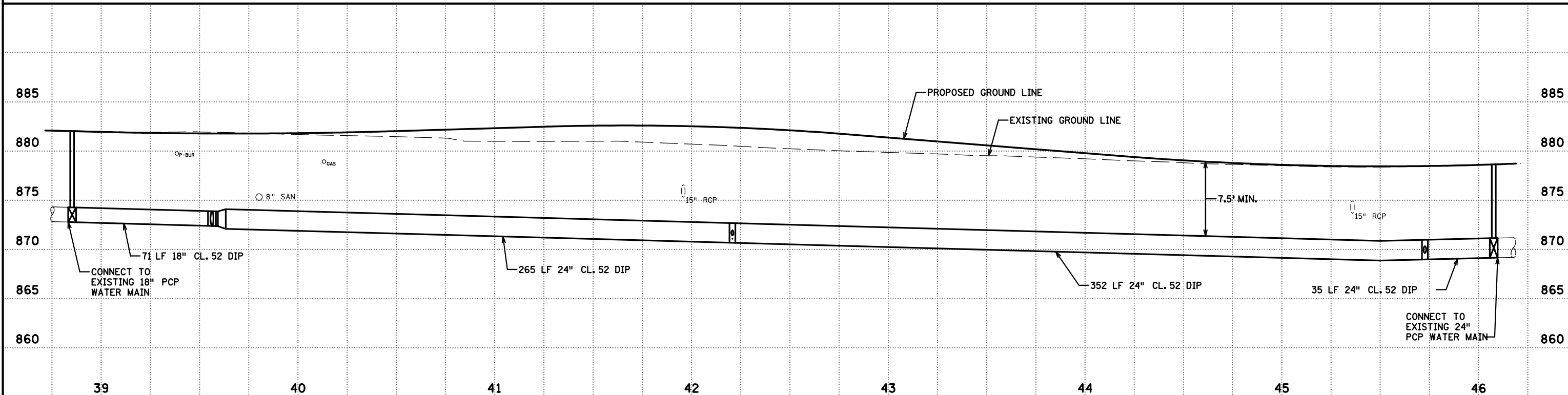


STATE PROJ. NO. 002-611-036 WATER MAIN AND SANITARY SEWER PLANS
 SHEET NO. 237 OF 416 SHEETS

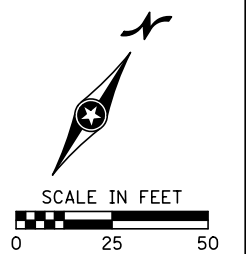
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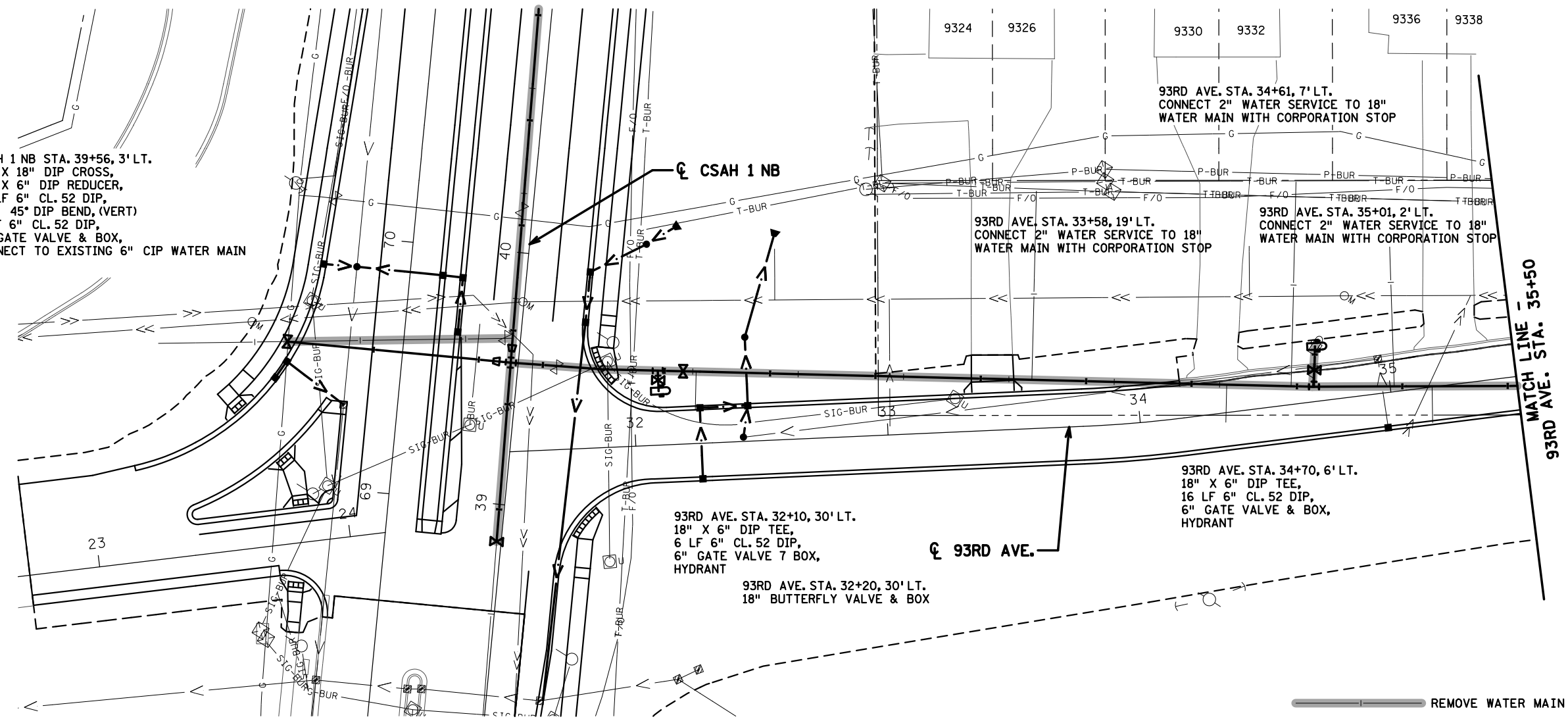
- ① ADJUST FRAME & RING CASTING.
- ② RECONSTRUCT SANITARY MANHOLE PAID FOR AS RECONSTRUCT DRAINAGE STRUCTURE.



	DES: RSQ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	TKDA
	DRW: RRC	SIGNATURE: <i>Ronald S. Quanbeck</i> LIC. NO. 19396 DATE: 11/25/2020	CSAH 1
	CHK: TJV		WATER MAIN AND SANITARY SEWER PLANS
NO.	DATE	BY	DESCRIPTION OF REVISIONS



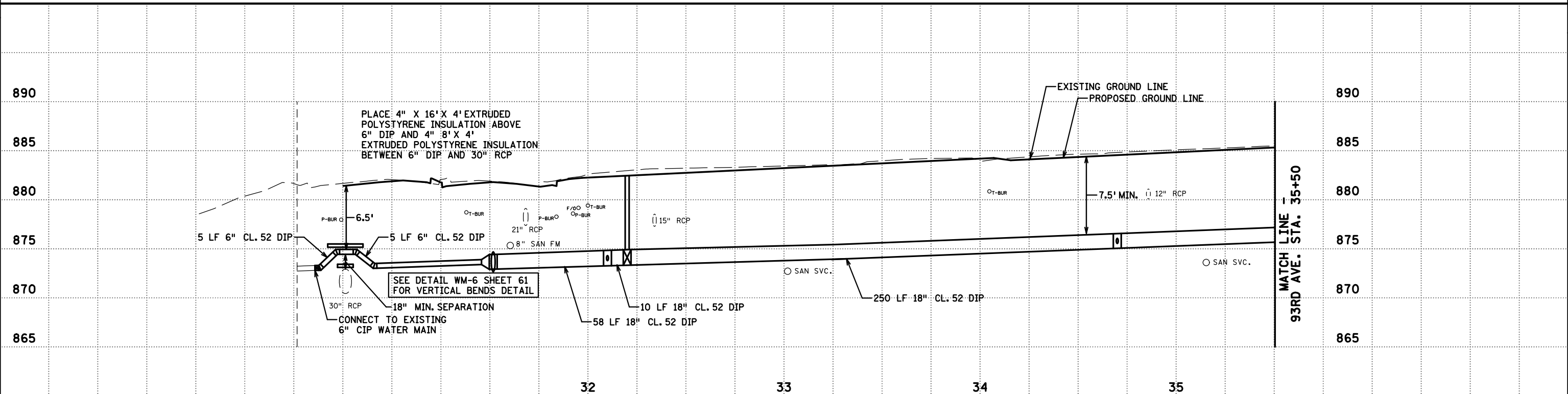
CSAH 1 NB STA. 39+56, 3' LT.
 18" X 18" DIP CROSS,
 18" X 6" DIP REDUCER,
 84 LF 6" CL. 52 DIP,
 4-6" 45° DIP BEND, (VERT)
 5 LF 6" CL. 52 DIP,
 6" GATE VALVE & BOX,
 CONNECT TO EXISTING 6" CIP WATER MAIN



- ① ADJUST FRAME & RING CASTING.
- ② RECONSTRUCT SANITARY MANHOLE PAID FOR AS RECONSTRUCT DRAINAGE STRUCTURE.
- ③ ADJUST VALVE BOX.

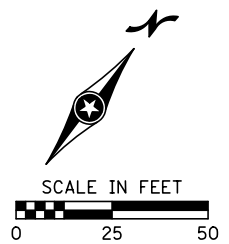
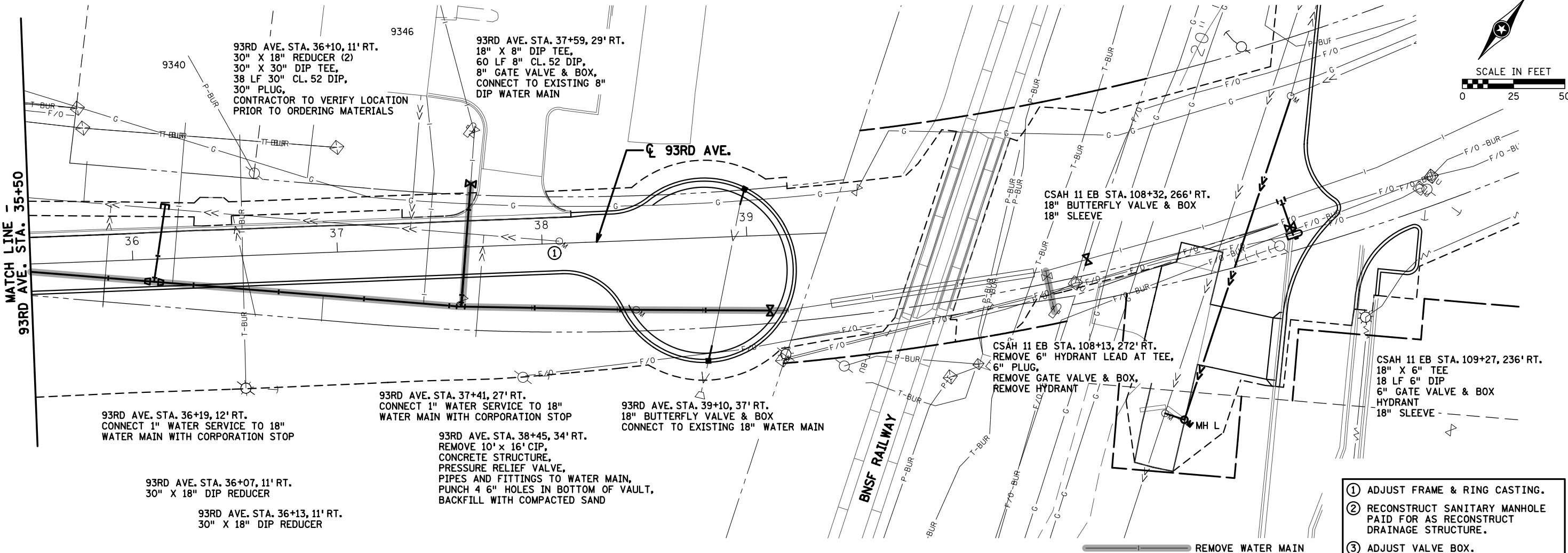
— REMOVE WATER MAIN

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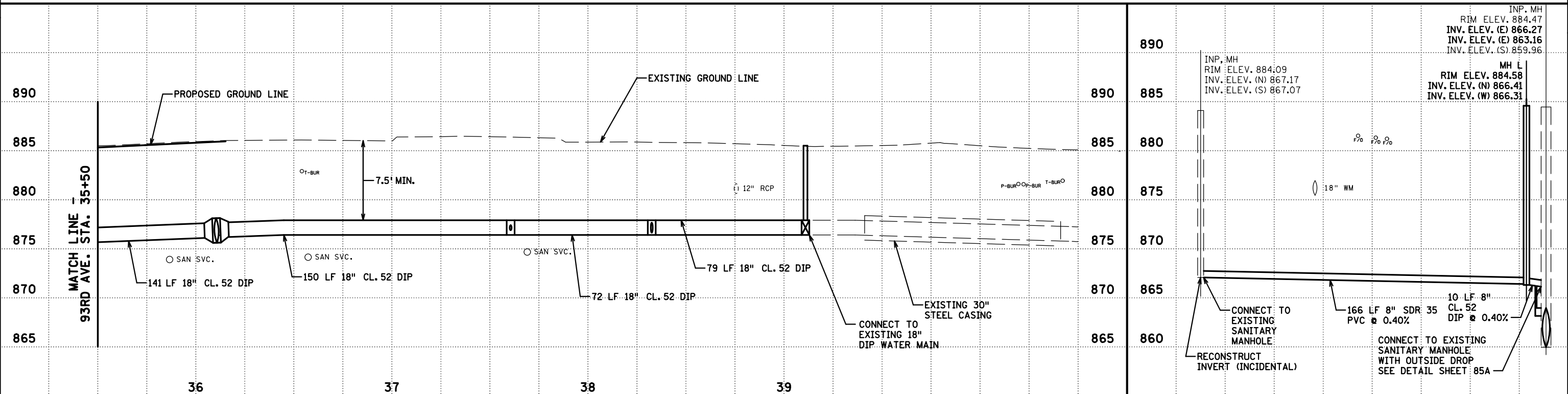


	DES: RSQ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	TKDA
	DRW: RRC	SIGNATURE: <i>Ronald S. Quanbeck</i> LIC. NO. 19396 DATE: 12/2/2020	CSAH 11
	CHK: TJV		WATER MAIN AND SANITARY SEWER PLANS
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 12/11/2020 TIME: 1:27:00 PM
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- ① ADJUST FRAME & RING CASTING.
- ② RECONSTRUCT SANITARY MANHOLE PAID FOR AS RECONSTRUCT DRAINAGE STRUCTURE.
- ③ ADJUST VALVE BOX.



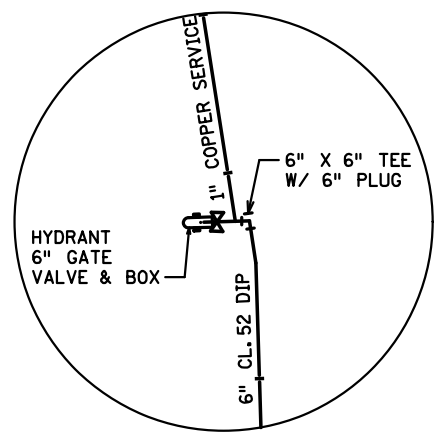
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: RSQ
 DRW: RRC
 CHK: TJV

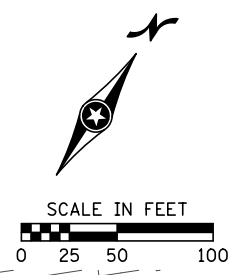
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Ronald S. Quanebeck* LIC. NO. 19396 DATE: 12/11/2020

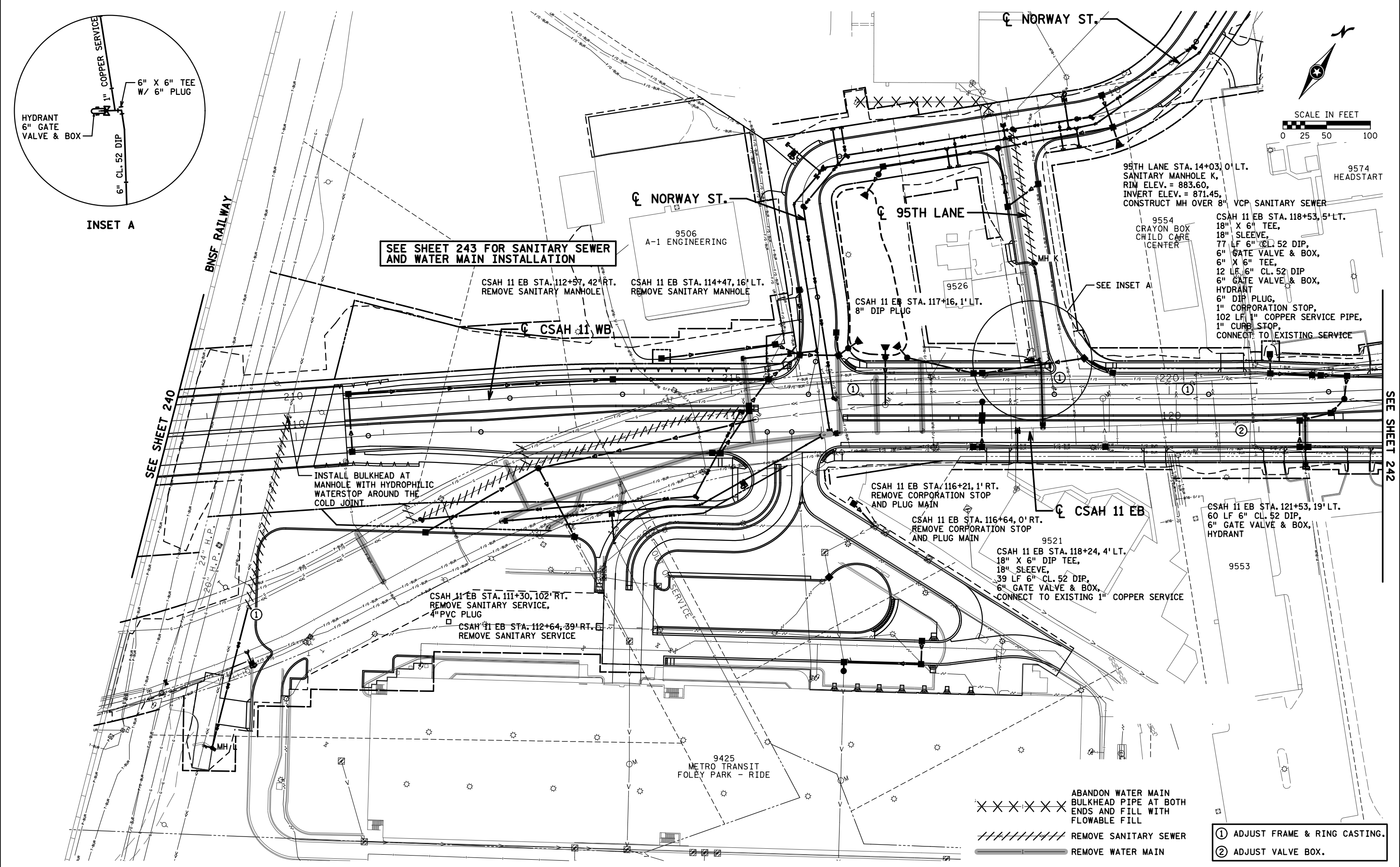




INSET A



DATE: 12/2/2020 TIME: 11:16:09 AM
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SEE SHEET 243 FOR SANITARY SEWER AND WATER MAIN INSTALLATION

CSAH 11 EB STA. 112+57, 42' RT. REMOVE SANITARY MANHOLE
CSAH 11 EB STA. 114+47, 16' LT. REMOVE SANITARY MANHOLE

95TH LANE STA. 14+03, 0' LT. SANITARY MANHOLE K, RIM ELEV. = 883.60, INVERT ELEV. = 871.45, CONSTRUCT MH OVER 8" VCP SANITARY SEWER

CSAH 11 EB STA. 118+53, 5' LT. 18" X 6" TEE, 18" SLEEVE, 77 LF 6" CL. 52 DIP, 6" GATE VALVE & BOX, 6" X 6" TEE, 12 LF 6" CL. 52 DIP 6" GATE VALVE & BOX, HYDRANT 6" DIP PLUG, 1" CORPORATION STOP, 102 LF 1" COPPER SERVICE PIPE, 1" CURB STOP, CONNECT TO EXISTING SERVICE

CSAH 11 EB STA. 117+16, 1' LT. 8" DIP PLUG

INSTALL BULKHEAD AT MANHOLE WITH HYDROPHILIC WATERSTOP AROUND THE COLD JOINT

CSAH 11 EB STA. 116+21, 1' RT. REMOVE CORPORATION STOP AND PLUG MAIN

CSAH 11 EB STA. 116+64, 0' RT. REMOVE CORPORATION STOP AND PLUG MAIN

CSAH 11 EB STA. 121+53, 19' LT. 60 LF 6" CL. 52 DIP, 6" GATE VALVE & BOX, HYDRANT

CSAH 11 EB STA. 111+30, 102' RT. REMOVE SANITARY SERVICE, 4" PVC PLUG

CSAH 11 EB STA. 112+64, 39' RT. REMOVE SANITARY SERVICE

CSAH 11 EB STA. 118+24, 4' LT. 18" X 6" DIP TEE, 18" SLEEVE, 39 LF 6" CL. 52 DIP, 6" GATE VALVE & BOX, CONNECT TO EXISTING 1" COPPER SERVICE

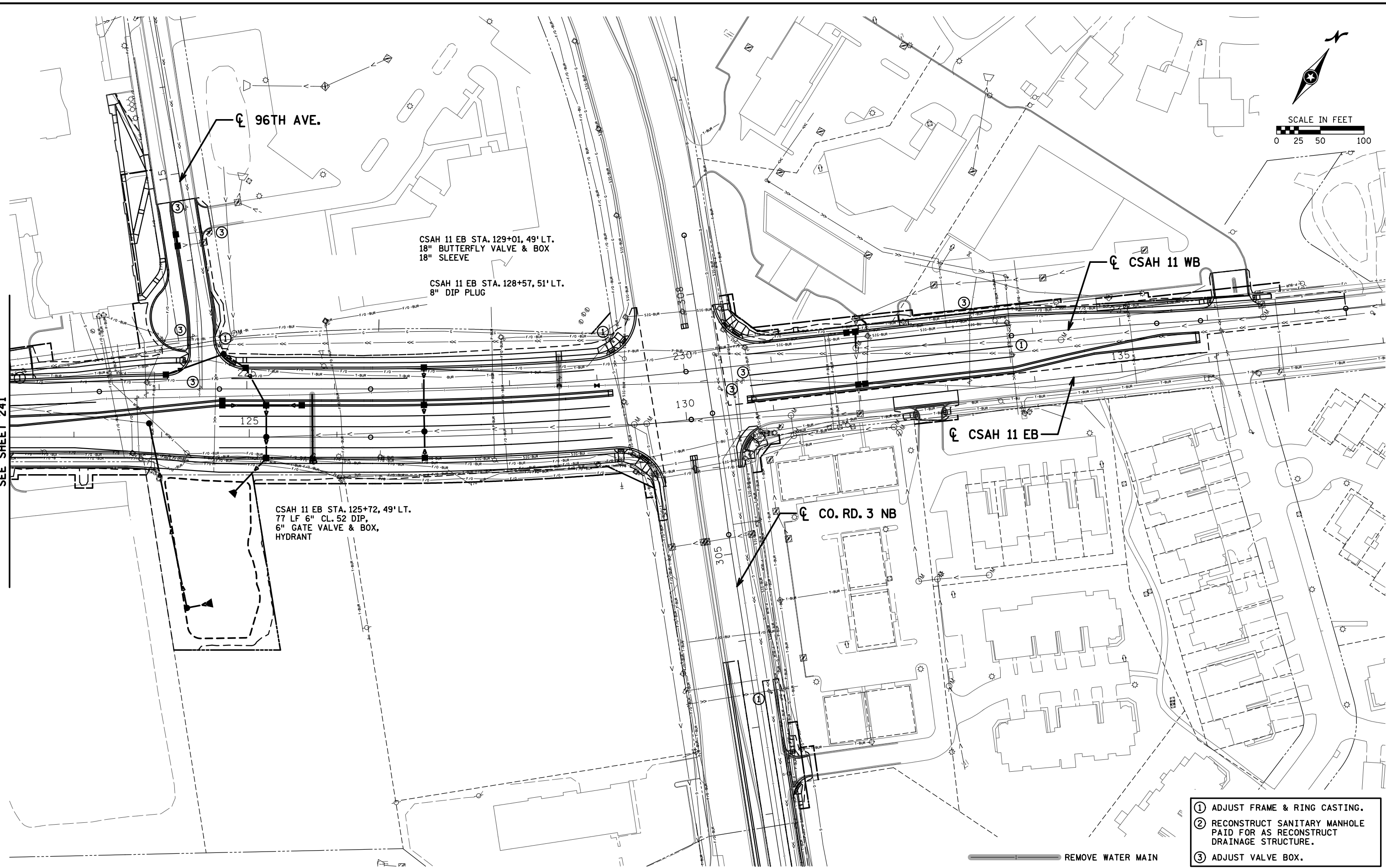
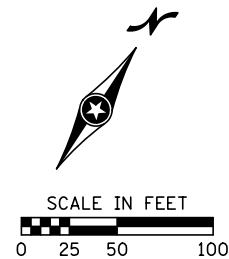
XXXXXXX ABANDON WATER MAIN BULKHEAD PIPE AT BOTH ENDS AND FILL WITH FLOWABLE FILL
/////// REMOVE SANITARY SEWER
——— REMOVE WATER MAIN

- ① ADJUST FRAME & RING CASTING.
- ② ADJUST VALVE BOX.

				DES: RSQ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		CSAH 11 EB		WATER MAIN AND SANITARY SEWER PLANS	
				DRW: RRC	SIGNATURE: <i>Ronald S. Quanbeck</i> LIC. NO. 19396 DATE: 12/2/2020		STATE PROJ. NO. 002-611-036		SHEET NO. 241 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: RSQ						

DATE: 11/25/2020 TIME: 12:04:05 PM
 FILENAME: c:\nkda_proj\cthw\se\fm\vangstad\dms01247\cd00261036_wsf.dgn

SEE SHEET 241



- ① ADJUST FRAME & RING CASTING.
- ② RECONSTRUCT SANITARY MANHOLE PAID FOR AS RECONSTRUCT DRAINAGE STRUCTURE.
- ③ ADJUST VALVE BOX.

REMOVE WATER MAIN

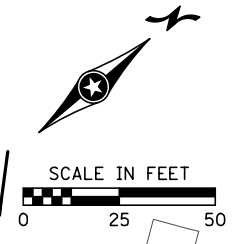
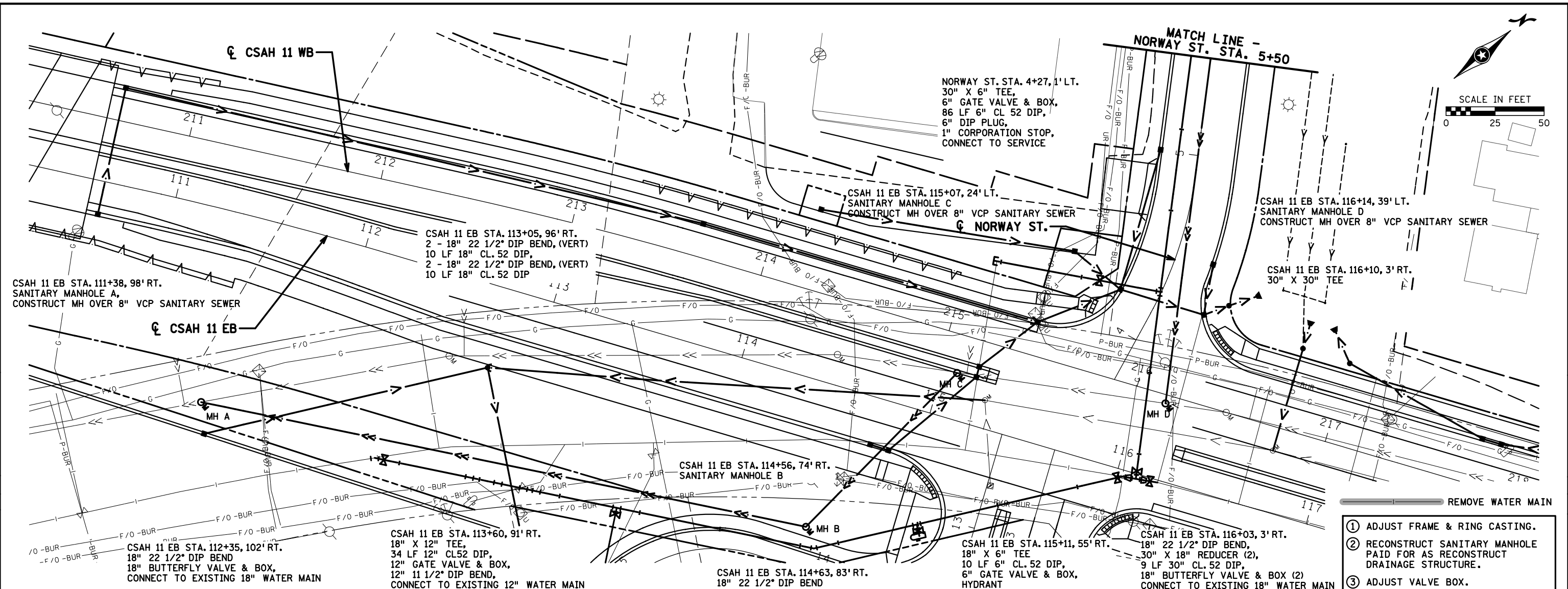
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: RSQ I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: RRC
 CHK: RSQ SIGNATURE: *Ronald S. Quanbeck* LIC. NO. 19396 DATE: 11/25/2020

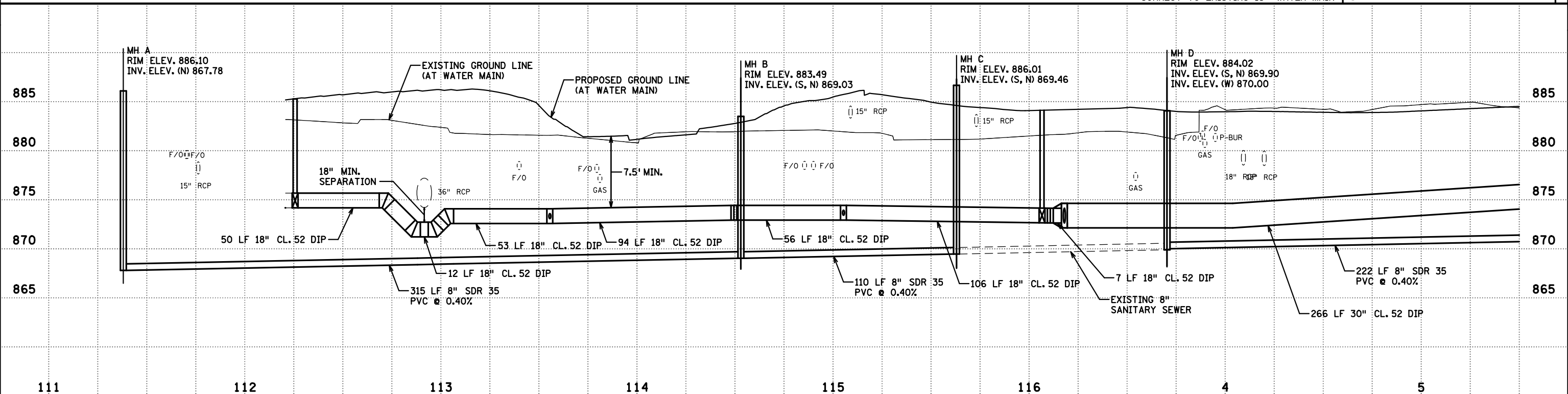


CSAH 11 EB WATER MAIN AND SANITARY SEWER PLANS
 STATE PROJ. NO. 002-611-036 SHEET NO. 242 OF 416 SHEETS

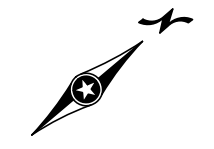
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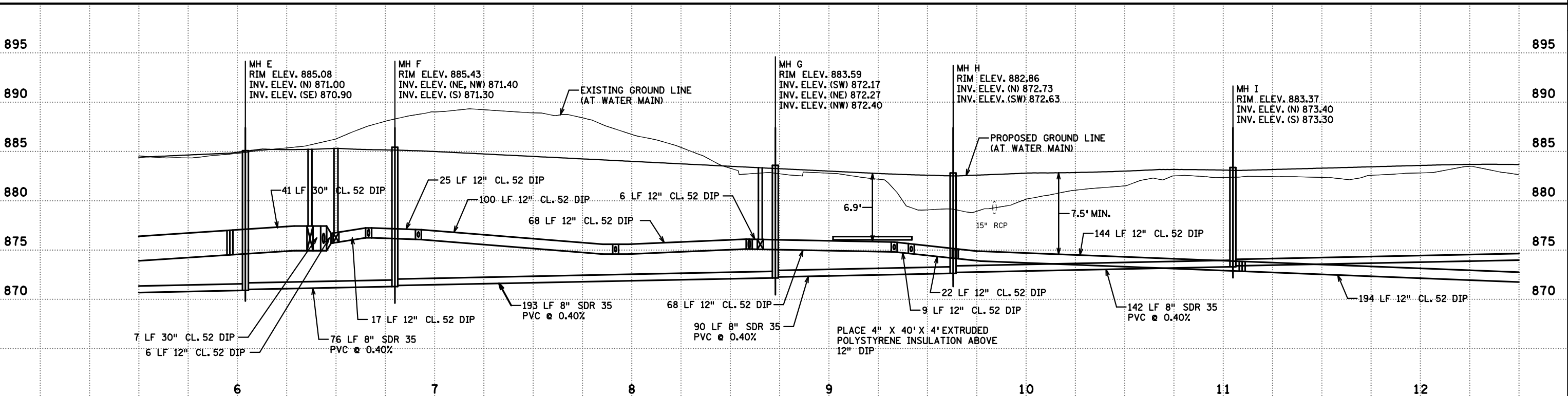
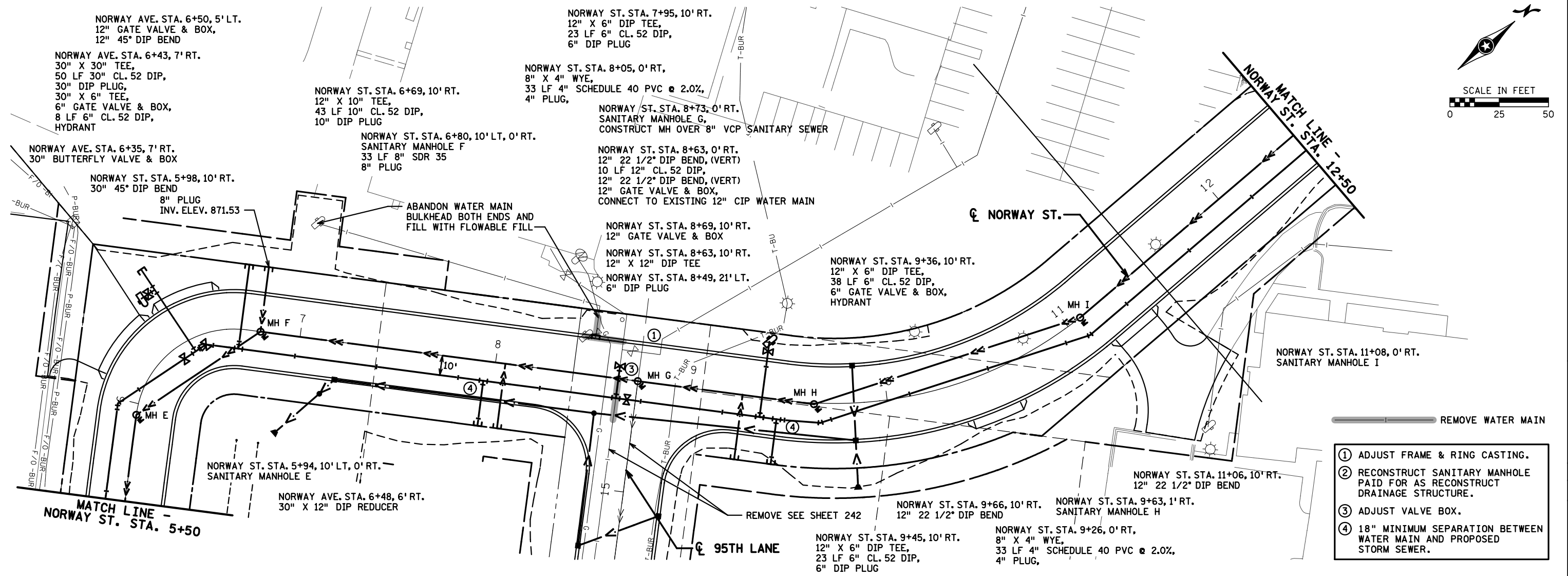
- ① ADJUST FRAME & RING CASTING.
- ② RECONSTRUCT SANITARY MANHOLE PAID FOR AS RECONSTRUCT DRAINAGE STRUCTURE.
- ③ ADJUST VALVE BOX.



DES: RSQ	DRW: RRC	CHK: TJV	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			TKDA		METRO TRANSIT AND NORWAY ST.	
			SIGNATURE: <i>Ronald S. Quanbeck</i> LIC. NO. 19396 DATE: 12/2/2020					WATER MAIN AND SANITARY SEWER PLANS	
								STATE PROJ. NO. 002-611-036	
								SHEET NO. 243 OF 416 SHEETS	



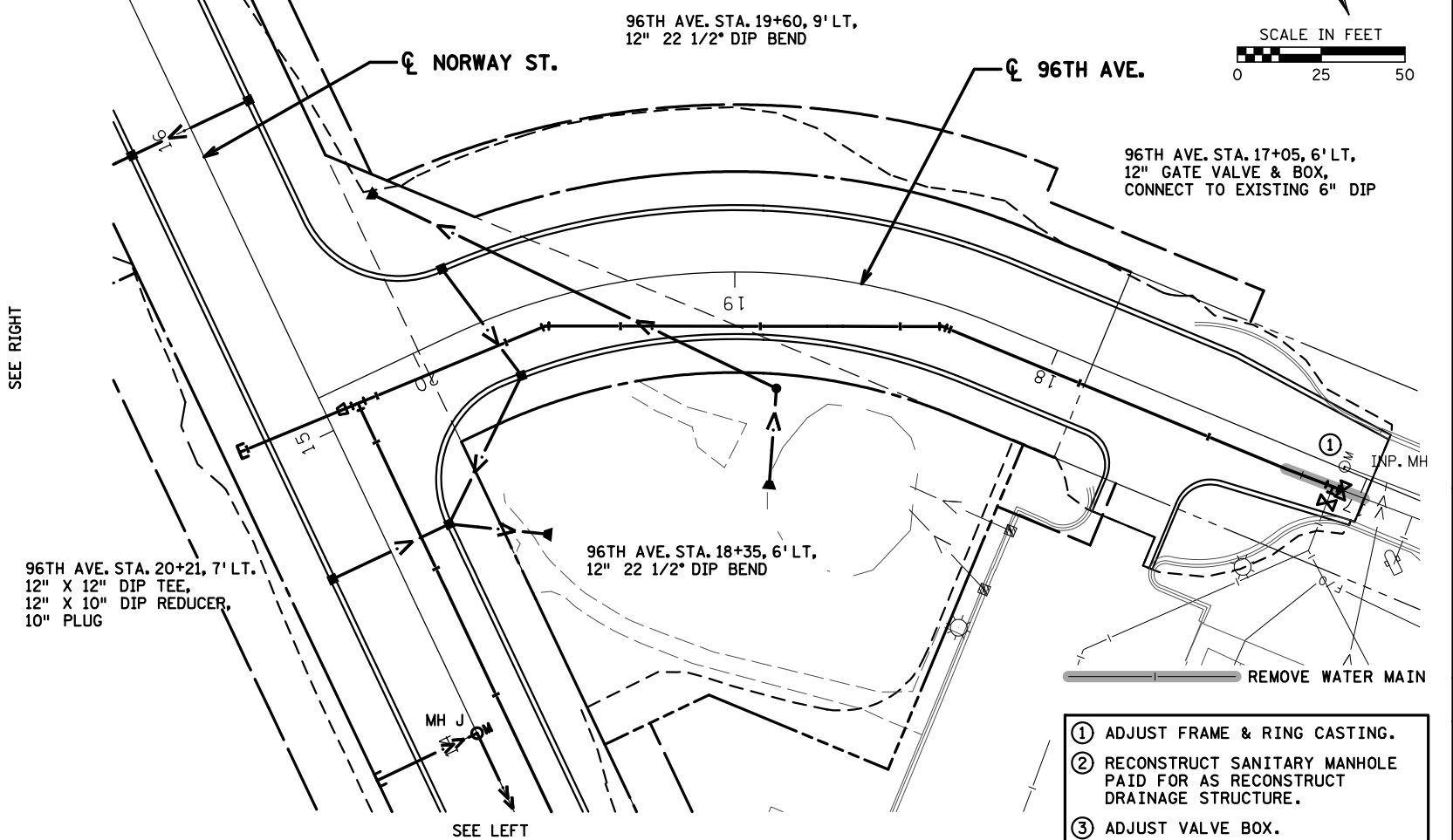
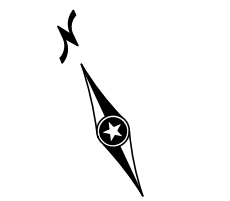
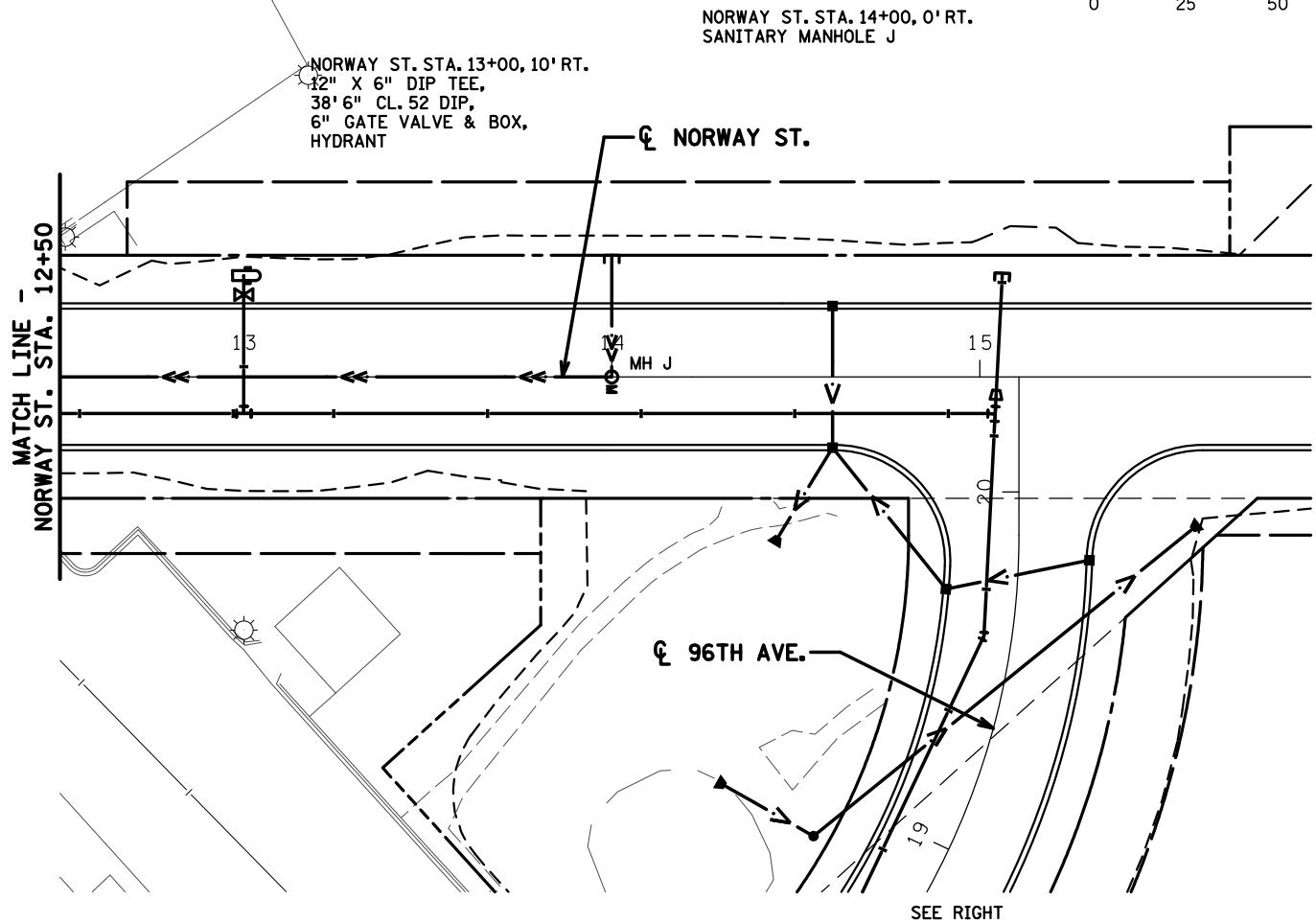
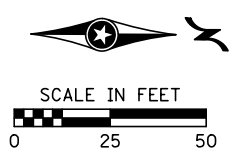
SCALE IN FEET
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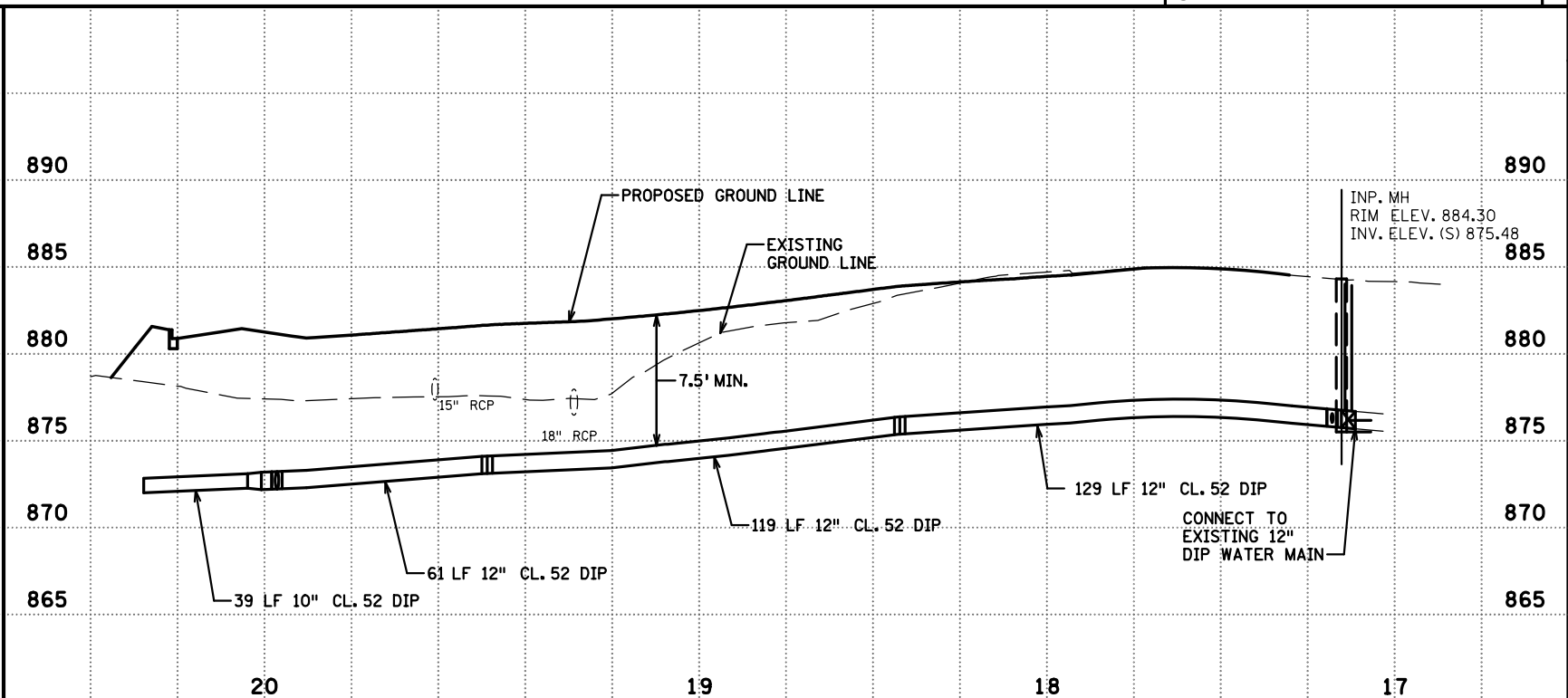
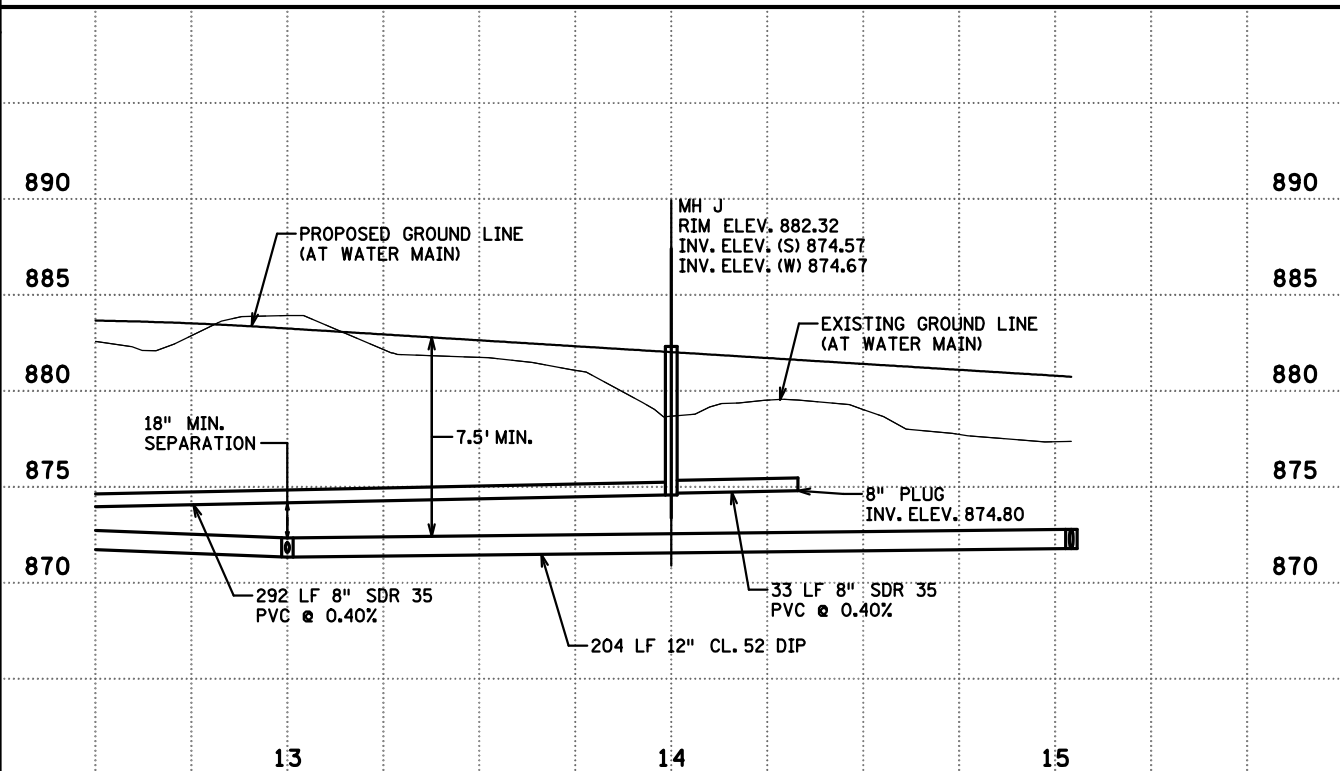
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			DES: RSQ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			TKDA	NORWAY ST.		WATER MAIN AND SANITARY SEWER PLANS	
			DRW: RRC	SIGNATURE: <i>Ronald S. Quanbeck</i> LIC. NO. 19396 DATE: 11/30/2020				STATE PROJ. NO. 002-611-036		SHEET NO. 244 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS								

DATE: 11/25/2020 TIME: 12:04:44 PM
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- ① ADJUST FRAME & RING CASTING.
- ② RECONSTRUCT SANITARY MANHOLE PAID FOR AS RECONSTRUCT DRAINAGE STRUCTURE.
- ③ ADJUST VALVE BOX.



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: RSQ
 DRW: RRC
 CHK: TJV

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Ronald S. Quanbeck* LIC. NO. 19396 DATE: 11/25/2020



WATER MAIN													TAB T				
STATION	REMOVE CONCRETE STRUCTURE	REMOVE GATE VALVE & BOX	REMOVE HYDRANT	REMOVE WATER MAIN TYPE I	REMOVE WATER MAIN TYPE II (6)	REMOVE WATER SERVICE PIPE (1) (2)	ABANDON WATER MAIN	CONSTRUCT BULKHEAD	TEMPORARY WATER SERVICE	RECONNECT WATER SERVICE (3)	CONNECT TO EXISTING WATER MAIN TYPE I	CONNECT TO EXISTING WATER MAIN TYPE II (4)	HYDRANT	ADJUST VALVE BOX	30" BUTTERFLY VALVE & BOX	18" BUTTERFLY VALVE (5)	24" BUTTERFLY VALVE (5)
	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	EACH	LUMP SUM	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)
CSAH 1 NB STA. 38+50 TO STA. 46+27		3		121	723				1		2	2				1	1
93RD AVE. STA. 31+50 TO STA. 35+50		3	1	115	318					3	1		2			1	
93RD AVE. STA. 35+50 TO STA. 39+39	1	2	1	8	442					2	2		1			2	
CSAH 11 EB STA. 108+50 TO STA. 122+40		5	3	1092		288				2	1		2	1			
CSAH 11 EB STA. 122+40 TO STA. 138+00		2	1	103									1	7		1	
METRO TRANSIT / NORWAY ST										1	3		1			3	
NORWAY ST. STA. 6+50 TO STA. 12+50		1	2	51			166	2			1		2	1	1		
NORWAY ST. STA. 12+50 TO STA. 15+10				18							2		1				
TOTALS	1	16	8	1508	1483	288	166	2	1	8	12	2	10	9	1	8	1

NOTES:

- (1) INCLUDES CURB STOP REMOVAL, AND PLUG AT CORPORATION STOP.
 (2) VERIFY SERVICE IS NOT IN USE BEFORE REMOVAL.
 (3) INCLUDES CORPORATION STOP.
 (4) 2 CONNECTIONS ARE TO PCP WATER MAIN. SEE PLAN FOR LOCATIONS. CONTRACTOR TO EXCAVATE AND MEASURE PCP WATER MAIN DIMENSIONS PRIOR TO ORDERING MATERIAL.
 (5) VALVE BOX SHALL BE INCLUDED IN INSTALLATION.
 (6) PCP WATER MAIN.

WATER MAIN													TAB T	
STATION	6" GATE VALVE & BOX	8" GATE VALVE & BOX	12" GATE VALVE & BOX	1" TYPE K COPPER PIPE	6" WATER MAIN DUCTILE IRON CL 52	8" WATER MAIN DUCTILE IRON CL 52	10" WATER MAIN DUCTILE IRON CL 52	12" WATER MAIN DUCTILE IRON CL 52	18" WATER MAIN DUCTILE IRON CL 52	24" WATER MAIN DUCTILE IRON CL 52	30" WATER MAIN DUCTILE IRON CL 52	4" INSULATION	DUCTILE IRON FITTINGS	
	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	POUND	
	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	
CSAH 1 NB STA. 38+50 TO STA. 46+27	1	1			82	39			71	652			3204	
93RD AVE. STA. 31+50 TO STA. 35+50	3				121				318			10.7	2955	
93RD AVE. STA. 35+50 TO STA. 39+39	1	1			18	60			442		38		7608	
CSAH 11 EB STA. 108+50 TO STA. 122+40	3			102	111		66						2424	
CSAH 11 EB STA. 122+40 TO STA. 138+00	1				77								407	
METRO TRANSIT / NORWAY ST	2		1		96		34	398			276		12038	
NORWAY ST. STA. 6+50 TO STA. 12+50	2		3		92		43	669			98	17.8	8720	
NORWAY ST. STA. 12+50 TO STA. 15+10	2		1		38		39	513					1755	
TOTALS	15	2	5	102	635	99	82	1282	1229	652	412	28.5	39111	

SANITARY SEWER													TAB U			
STATION	REMOVE MANHOLES OR CATCH BASINS	REMOVE SEWER PIPE (SANITARY)	REMOVE SANITARY SERVICE PIPE	4" PVC PIPE SEWER	8" PVC PIPE SEWER (SDR 35)	8" DUCTILE IRON PIPE SEWER CL 52	CONSTRUCT BULKHEAD	CONNECT TO EXISTING MANHOLES (SAN) (6)	4" PIPE PLUG	8" PIPE PLUG	8" X 4" PVC WYE	ADJUST FRAME & RING CASTING	CONSTRUCT DRAINAGE STRUCTURE DESIGN PC-48"	RECONSTRUCT DRAINAGE STRUCTURE	CONSTRUCT 8" OUTSIDE DROP (7)(8)	
	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	
	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	
CSAH 1 NB STA. 38+50 TO STA. 46+27												1		5.5		
93RD AVE. STA. 31+50 TO STA. 35+50															3.1	
93RD AVE. STA. 35+50 TO STA. 39+39					166	10		2				1	18.3			
CSAH 11 EB STA. 108+50 TO STA. 122+40	26.6	766	25				1	1	1			4	12.2			
CSAH 11 EB STA. 122+40 TO STA. 138+00												5				
METRO TRANSIT / NORWAY ST					647								63.5			
NORWAY ST. STA. 6+50 TO STA. 12+50				66	534				2	1	2	1	60.0			
NORWAY ST. STA. 12+50 TO STA. 15+10					325					1		1	7.8			
TOTALS	26.6	766	25	66	1672	10	1	3	3	2	2	13	161.8	5.5	3.1	

NOTES:

- (6) INCLUDES RECONSTRUCTING INVERT TO DIRECT FLOW.
 (7) SEE DETAIL ON SHEET 85A.
 (8) IF AN MCES MANHOLE IS DISASSEMBLED EACH JOINT THAT IS MODIFIED SHALL BE WRAPPED WITH 2 ROWS OF RAMNEK WITH GATOR WRAP. THE CASTING SHALL BE RESET PER MCES STANDARDS. THIS IS INCIDENTAL.


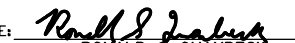
GENERAL NOTE:

CONTRACTOR IS RESPONSIBLE FOR VERIFYING ELEVATIONS AND SERVICE LOCATIONS.

COST PARTICIPATION NOTES:

(C) 100% CITY OF COON RAPIDS S.P. 114-020-055 FUNDS.

DATE: 3/8/2021 TIME: 9:58:33 AM
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DES: RSQ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TABULATIONS	WATER MAIN AND SANITARY SEWER PLANS
DRW: RRC	SIGNATURE:  LIC. NO. 19396 DATE: 3/8/2021		STATE PROJ. NO. 002-611-036	SHEET NO. 246 OF 416 SHEETS
CHK: RSQ				
NO.	DATE	BY	DESCRIPTION OF REVISIONS	

DATE: 11/24/2020 TIME: 11:06:59 PM
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TEMPORARY PAVEMENT - REMOVALS					TAB L
STATION	SAWING CONCRETE PAVEMENT (FULL DEPTH)	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	REMOVE CURB & GUTTER	REMOVE CONCRETE WALK	EXCAVATION - COMMON
	LIN FT	LIN FT	LIN FT	SQ FT	CU YD
	(A)	(A)	(A)	(A)	(A)
EAST RIVER ROAD					
AREA A (NORTH CROSSOVER)	30	582	582	2166	65
AREA B (SOUTH CROSSOVER)	35	708	708	5826	180
AREA C (AT 94TH AVE)	23	208			
AREA E (BETWEEN NW RAMP AND 93RD LANE)		594			
METRO TRANSIT					
AREA K (FOLEY BLVD CONNECTION)		118			
AREA L (LOOP CONNECTION)	212	44			
FOLEY BLVD					
AREAS G THRU J (MEDIAN ACCESS FOR LEFT TURNS)	96	280			
TOTALS	396	2534	1290	7992	245

TEMPORARY PAVEMENT - PERMANENT AGGREGATE, BITUMINOUS & CONCRETE						TAB N
STATION	REMOVE BITUMINOUS PAVEMENT	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	EXCAVATION - COMMON	AGGREGATE BASE (CV) CLASS 5	4" CONCRETE WALK	CONCRETE CURB & GUTTER DESIGN B624
	SQ YD	LIN FT	CU YD	CU YD	SQ FT	LIN FT
	(A)	(A)	(A)	(A)	(A)	(A)
EAST RIVER ROAD						
AREA A (NORTH CROSSOVER)	408	582	13	24	2166	582
AREA B (SOUTH CROSSOVER)	727	708	35	65	5826	708
AREA C (AT 94TH AVE)	132	231				
AREA D (AT 93RD LN)	137	267				
AREA E (BETWEEN NW RAMP AND 93RD LANE)	316	594				
AREA F (JUST NORTH OF NW RAMP)	167	171				
AT CATCH BASIN LOCATIONS	128	270				
METRO TRANSIT						
AREA K (FOLEY BLVD CONNECTION)	200	118				
AREA L (LOOP CONNECTION)	176					
FOLEY BLVD						
AREA M (EAST OF COON RAPIDS BLVD)	147	540				
AT CATCH BASIN LOCATIONS	267	640				
TOTALS	2806	4121	48	89	7992	1290

TEMPORARY PAVEMENT - TEMPORARY AGG & BIT			TAB M
STATION	AGGREGATE BASE (CV) CLASS 5	TYPE SP 12.5 WEARING COURSE MIX (4,B) (SPWEB440B)	
	CU YD	TON	
	(A)	(A)	
EAST RIVER ROAD			
AREA A (NORTH CROSSOVER)	34	75	
AREA B (SOUTH CROSSOVER)	61	133	
AREA C (AT 94TH AVE)	22	25	
AREA D (AT 93RD LN)	23	25	
AREA E (BETWEEN NW RAMP AND 93RD LANE)	53	58	
AREA F (JUST NORTH OF NW RAMP)	28	31	
AT CATCH BASIN LOCATIONS	21	24	
METRO TRANSIT			
AREA K (FOLEY BLVD CONNECTION)	33	37	
AREA L (LOOP CONNECTION)	29	33	
FOLEY BLVD			
AREAS G THRU J (MEDIAN ACCESS FOR LEFT TURNS)	34	37	
AREA M (EAST OF COON RAPIDS BLVD)	25	27	
AT CATCH BASIN LOCATIONS	44	49	
TOTALS	407	554	

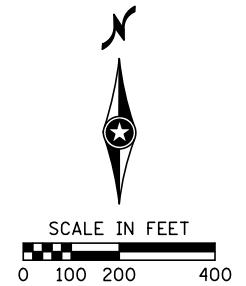
COST PARTICIPATION NOTES:
 (A) 100% ANOKA COUNTY S.P. 002-611-036 FUNDS.

GENERAL NOTES:
 - REMOVALS AND PERMANENT SURFACING AT AREAS C THRU M THAT ARE UNRELATED TO THE TEMPORARY PAVEMENT ARE TABULATED IN TABS C AND D ON SHEETS 13-14.

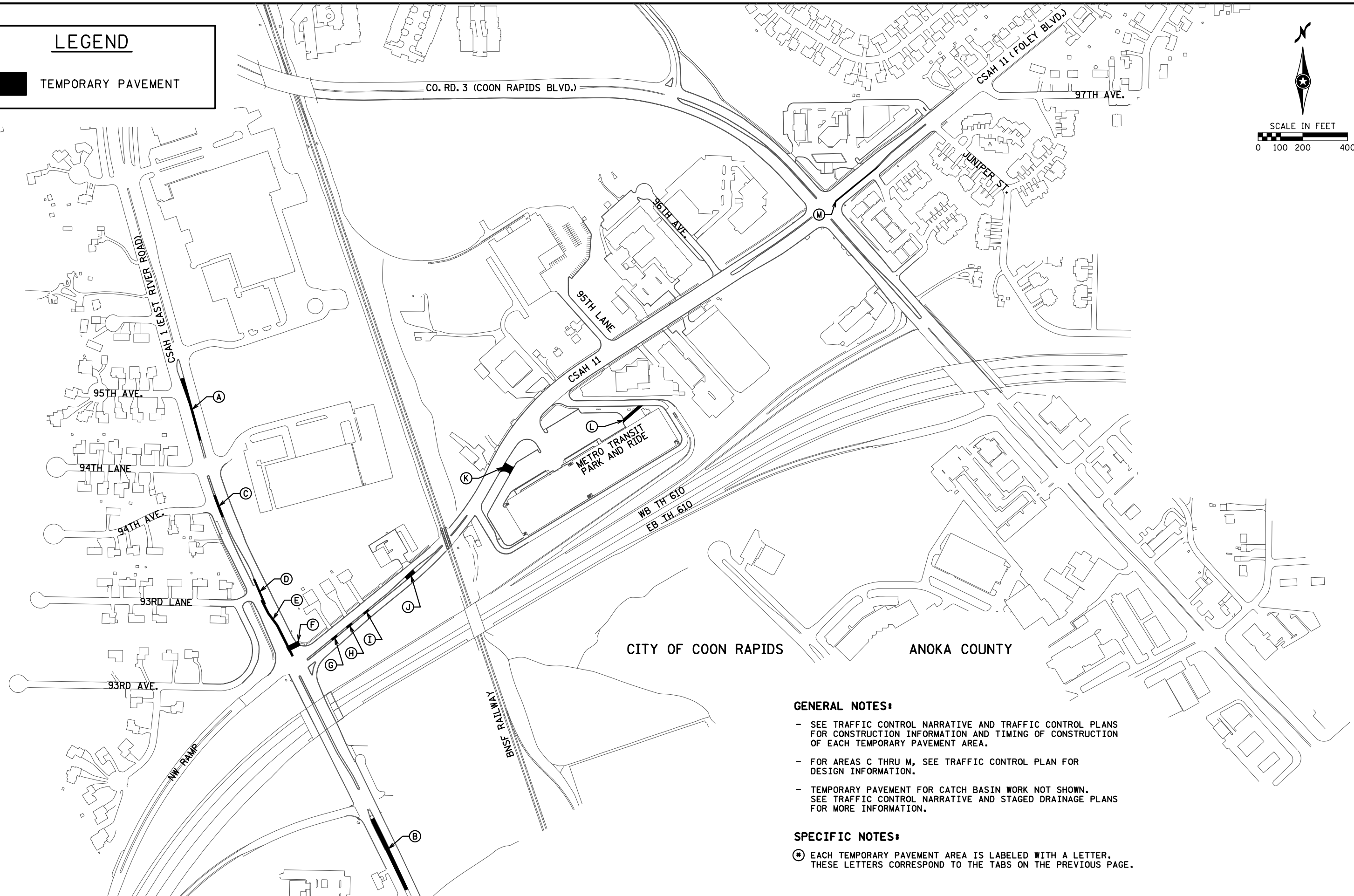
NO.		DATE	BY	DESCRIPTION OF REVISIONS	DES: LKG	DRW: RRC	CHK: SAO	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TABULATIONS	TEMPORARY PAVEMENT PLANS
								SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020		STATE PROJ. NO. 002-611-036	SHEET NO. 247 OF 416 SHEETS

LEGEND

TEMPORARY PAVEMENT



DATE: 11/24/2020 TIME: 11:07:03 PM
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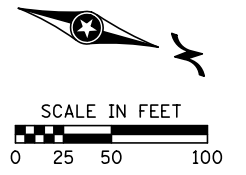
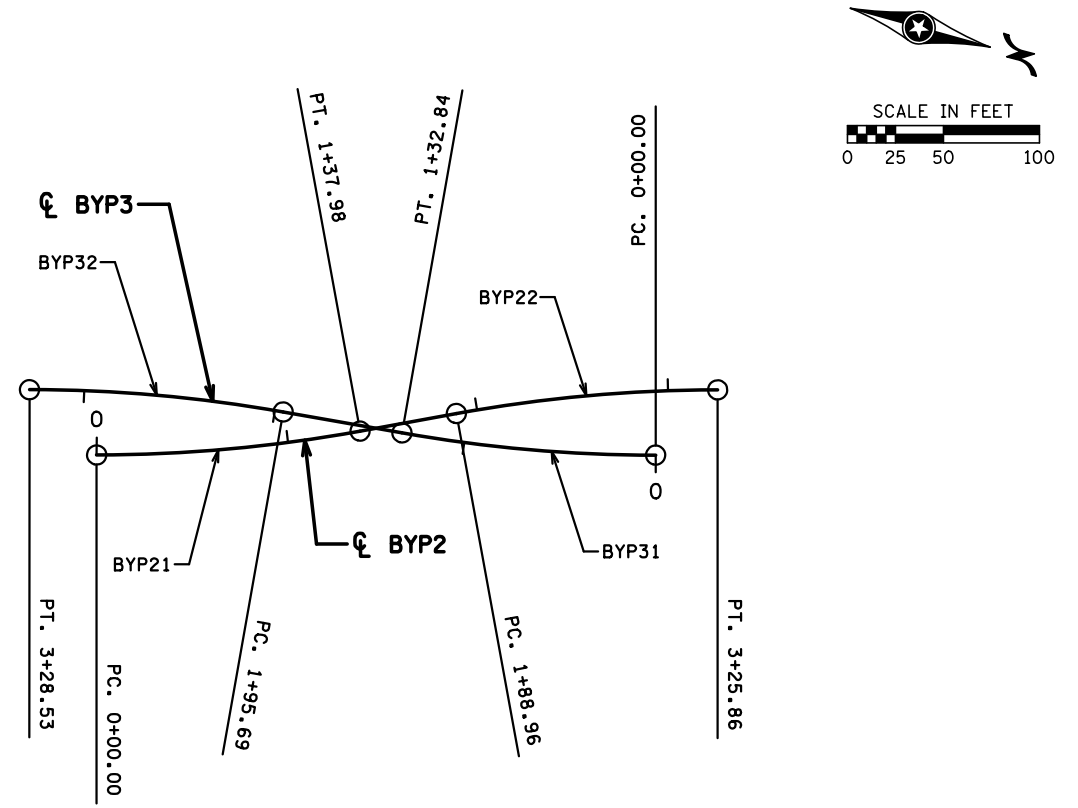
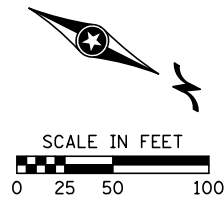
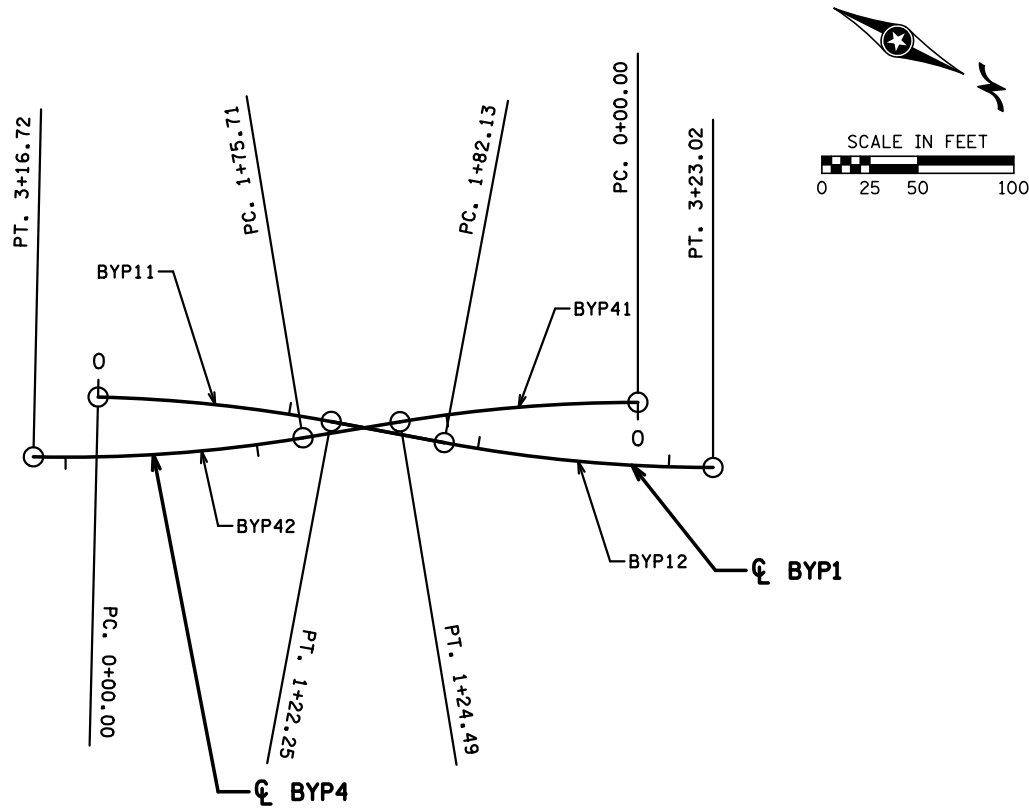
GENERAL NOTES:

- SEE TRAFFIC CONTROL NARRATIVE AND TRAFFIC CONTROL PLANS FOR CONSTRUCTION INFORMATION AND TIMING OF CONSTRUCTION OF EACH TEMPORARY PAVEMENT AREA.
- FOR AREAS C THRU M, SEE TRAFFIC CONTROL PLAN FOR DESIGN INFORMATION.
- TEMPORARY PAVEMENT FOR CATCH BASIN WORK NOT SHOWN. SEE TRAFFIC CONTROL NARRATIVE AND STAGED DRAINAGE PLANS FOR MORE INFORMATION.

SPECIFIC NOTES:

- ⊙ EACH TEMPORARY PAVEMENT AREA IS LABELED WITH A LETTER. THESE LETTERS CORRESPOND TO THE TABS ON THE PREVIOUS PAGE.

			DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TEMPORARY PAVEMENT LOCATIONS	TEMPORARY PAVEMENT PLANS
			DRW: LKG	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020		STATE PROJ. NO. 002-611-036	SHEET NO. 248 OF 416 SHEETS
NO.	DATE	BY	CHK: SAO	DESCRIPTION OF REVISIONS			



ALIGNMENT TABULATION

POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
BYPASS1 (BYP1)										
CURVE BYP11	PC	0+00.000					494,198.0089	136,903.4290	N 25° 08' 12.11" W	
	PI	0+61.258	9° 11' 32.53" RT	7° 31' 08.87"	762.000'	61.258'	494,171.9877	136,958.8857	PI	
	CC						494,887.8451	137,227.1109		
	PT	1+22.253					494,155.1600	137,017.7870	N 15° 56' 39.57" W	
CURVE BYP12	PC	1+82.132					494,138.7109	137,075.3628		
	PI	2+52.775	10° 35' 35.51" LT	7° 31' 08.87"	762.000'	70.643'	494,119.3051	137,143.2881	PI	
	CC						493,406.0258	136,866.0390		
	PT	3+23.016					494,087.7429	137,206.4882	N 26° 32' 15.09" W	
BYPASS4 (BYP4)										
CURVE BYP41	PC	0+00.000					494,074.8170	137,156.2716	S 26° 32' 15.09" E	
	PI	0+62.385	9° 21' 38.60" LT	7° 31' 08.87"	762.000'	62.385'	494,102.6896	137,100.4595	PI	
	CC						494,756.5342	137,496.7209		
	PT	1+24.492					494,139.2688	137,049.9241	S 35° 53' 53.69" E	
CURVE BYP42	PC	1+75.712					494,169.3012	137,008.4332		
	PI	2+46.418	10° 36' 09.36" RT	7° 31' 08.87"	762.000'	70.706'	494,210.7595	136,951.1571	PI	
	CC						493,552.0358	136,561.6364		
	PT	3+16.720					494,240.9715	136,887.2307	S 25° 17' 44.33" E	

ALIGNMENT TABULATION

POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
BYPASS2 (BYP2)										
CURVE BYP21	PC	0+00.000					493,314.4464	138,893.1448	N 15° 30' 57.29" W	
	PI	0+69.181	10° 22' 30.38" LT	7° 31' 08.87"	762.000'	69.181'	493,295.9402	138,959.8041	PI	
	CC						492,580.2166	138,689.3052		
	PT	1+37.983					493,265.7318	139,022.0407	N 25° 53' 27.68" W	
CURVE BYP22	PC	1+88.959					493,243.4724	139,067.9003		
	PI	2+57.595	10° 22' 30.39" RT	7° 34' 43.70"	756.000'	68.636'	493,213.5018	139,129.6469	PI	
	CC						493,923.5898	139,398.0159		
	PT	3+25.855					493,195.1414	139,195.7813	N 15° 30' 57.29" W	
BYPASS3 (BYP3)										
CURVE BYP31	PC	0+00.000					493,236.5427	139,173.7536	S 15° 30' 57.29" E	
	PI	0+66.586	9° 59' 16.98" RT	7° 31' 08.87"	762.000'	66.586'	493,254.3550	139,109.5940	PI	
	CC						492,502.3129	138,969.9140		
	PT	1+32.835					493,260.7692	139,043.3174	S 5° 31' 40.31" E	
CURVE BYP32	PC	1+95.693					493,266.8243	138,980.7522		
	PI	2+62.279	9° 59' 16.97" LT	7° 31' 08.87"	762.000'	66.586'	493,273.2385	138,914.4756	PI	
	CC						494,025.2806	139,054.1555		
	PT	3+28.528					493,291.0507	138,850.3159	S 15° 30' 57.29" E	

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DES: LKG
 DRW: RRC
 CHK: SAO
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020
 SHANE A. ORTLEPP



TEMPORARY CROSSOVERS
 ALIGNMENT PLAN & TABULATION
 STATE PROJ. NO. 002-611-036

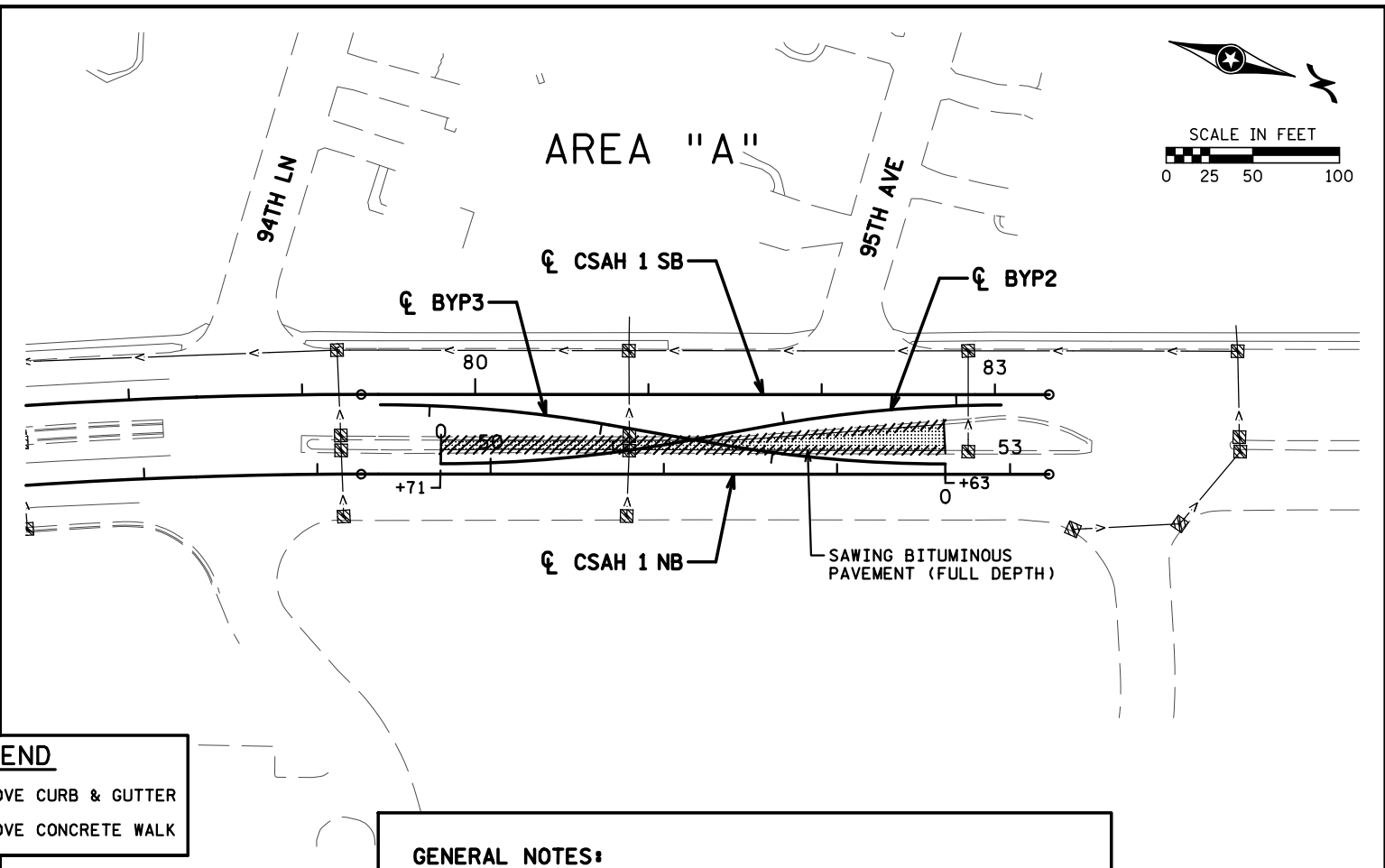
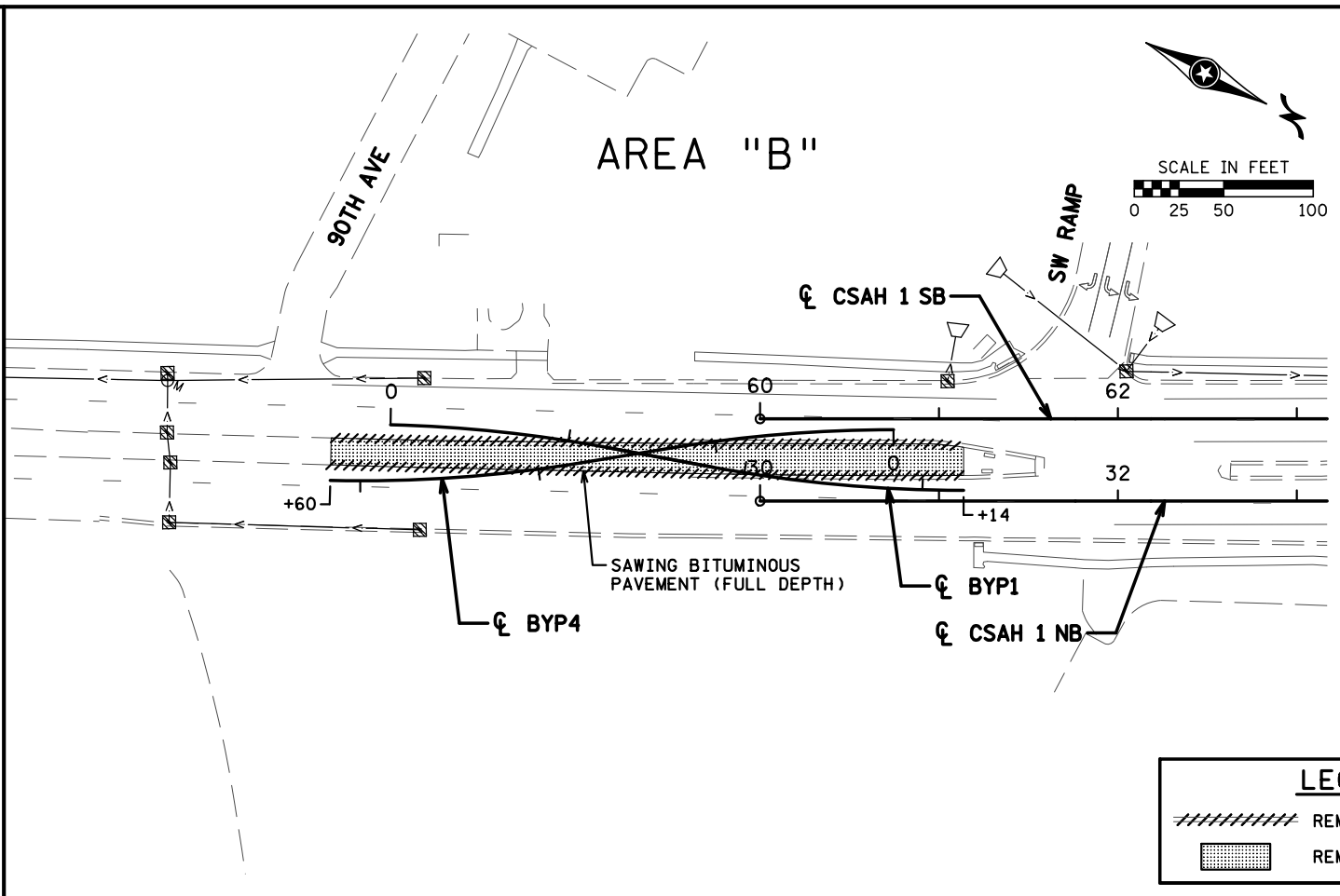
TEMPORARY PAVEMENT PLANS
 SHEET NO. 249 OF 416 SHEETS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/24/2020 TIME: 11:07:10 PM
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REMOVAL PLAN

TEMPORARY CONSTRUCTION PLAN



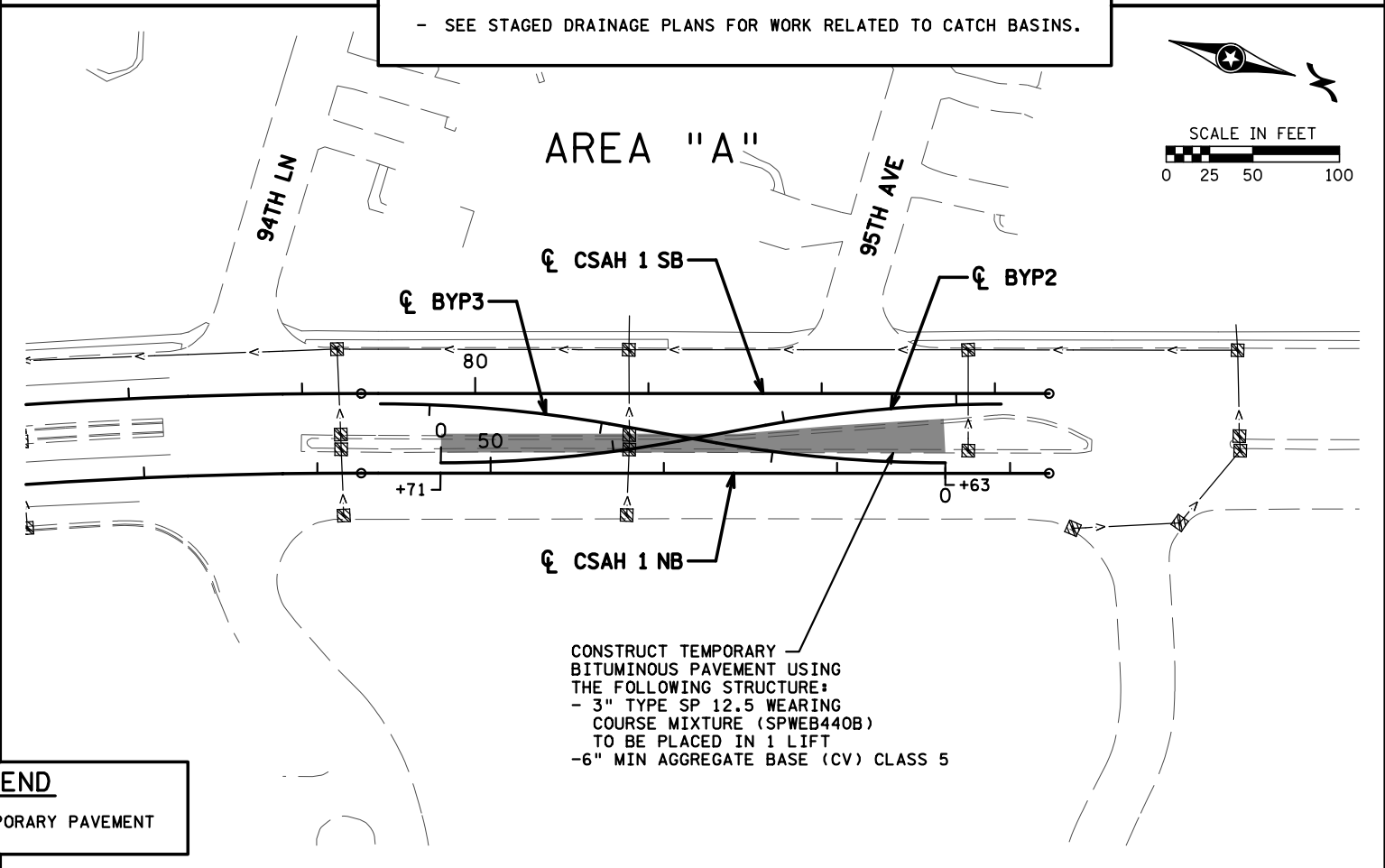
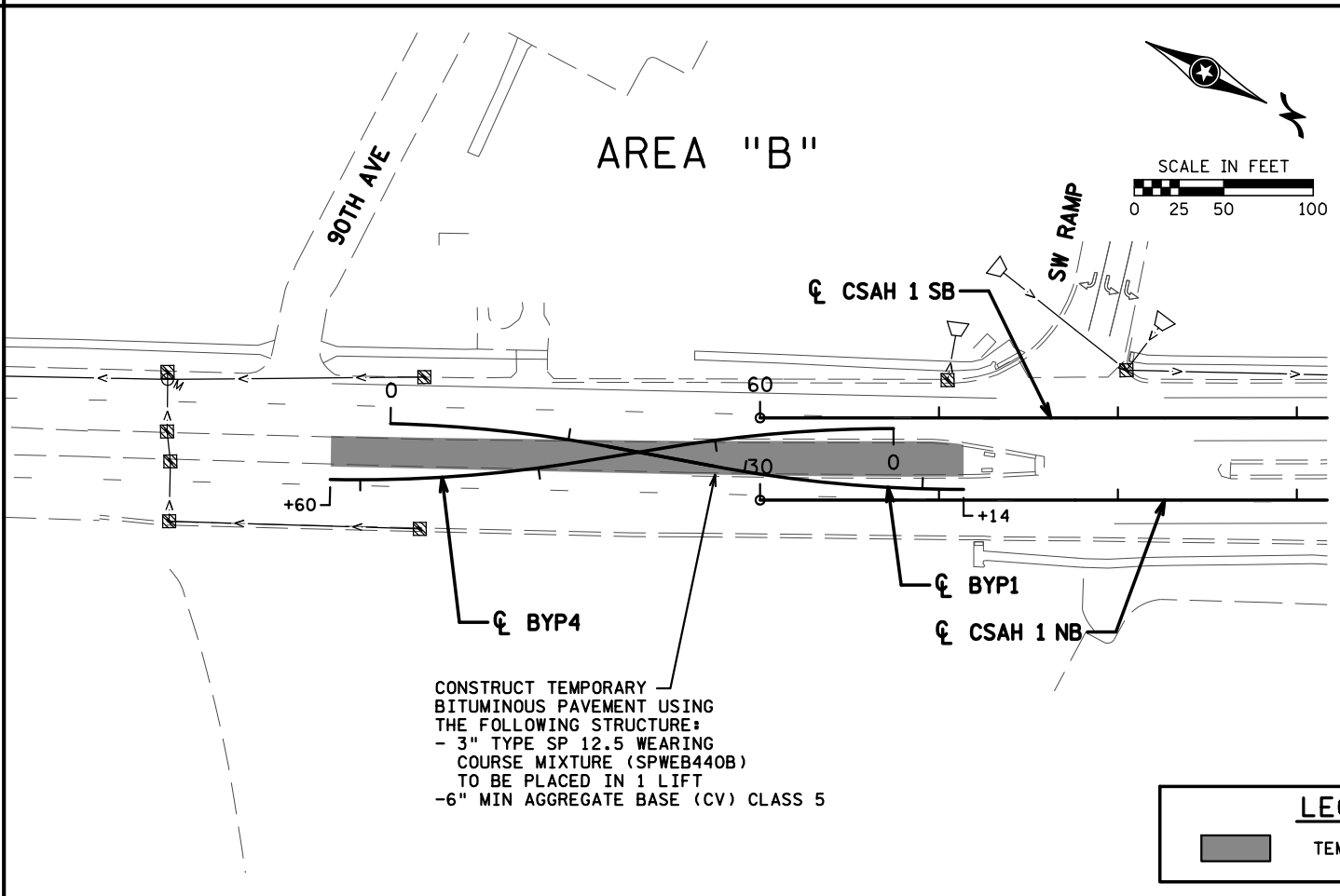
LEGEND

//// REMOVE CURB & GUTTER

▨ REMOVE CONCRETE WALK

GENERAL NOTES:

- SEE STAGED DRAINAGE PLANS FOR WORK RELATED TO CATCH BASINS.



LEGEND

▨ TEMPORARY PAVEMENT

CONSTRUCT TEMPORARY BITUMINOUS PAVEMENT USING THE FOLLOWING STRUCTURE:
 - 3" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB440B) TO BE PLACED IN 1 LIFT
 - 6" MIN AGGREGATE BASE (CV) CLASS 5

CONSTRUCT TEMPORARY BITUMINOUS PAVEMENT USING THE FOLLOWING STRUCTURE:
 - 3" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB440B) TO BE PLACED IN 1 LIFT
 - 6" MIN AGGREGATE BASE (CV) CLASS 5

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: RRC
 CHK: SAO

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Shane A. Ortlepp* LIC. NO. 48250 DATE: 11/24/2020



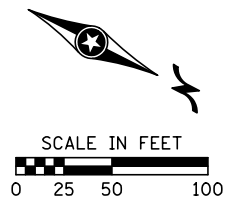
TEMPORARY CROSSOVERS
 REMOVALS AND TEMPORARY CONSTRUCTION

STATE PROJ. NO. 002-611-036

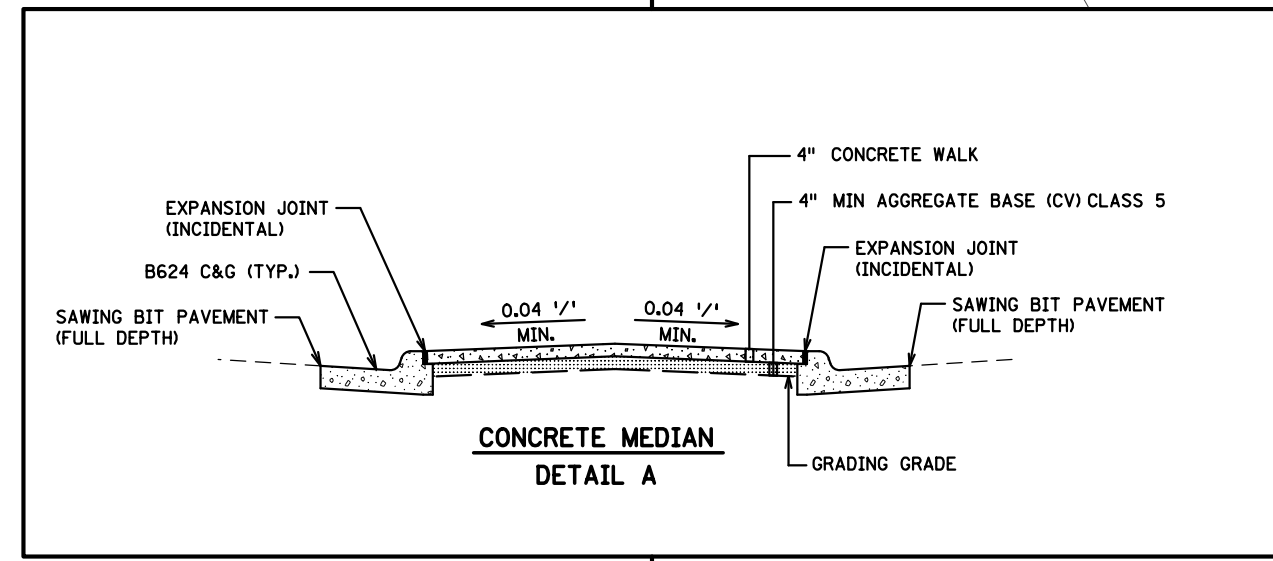
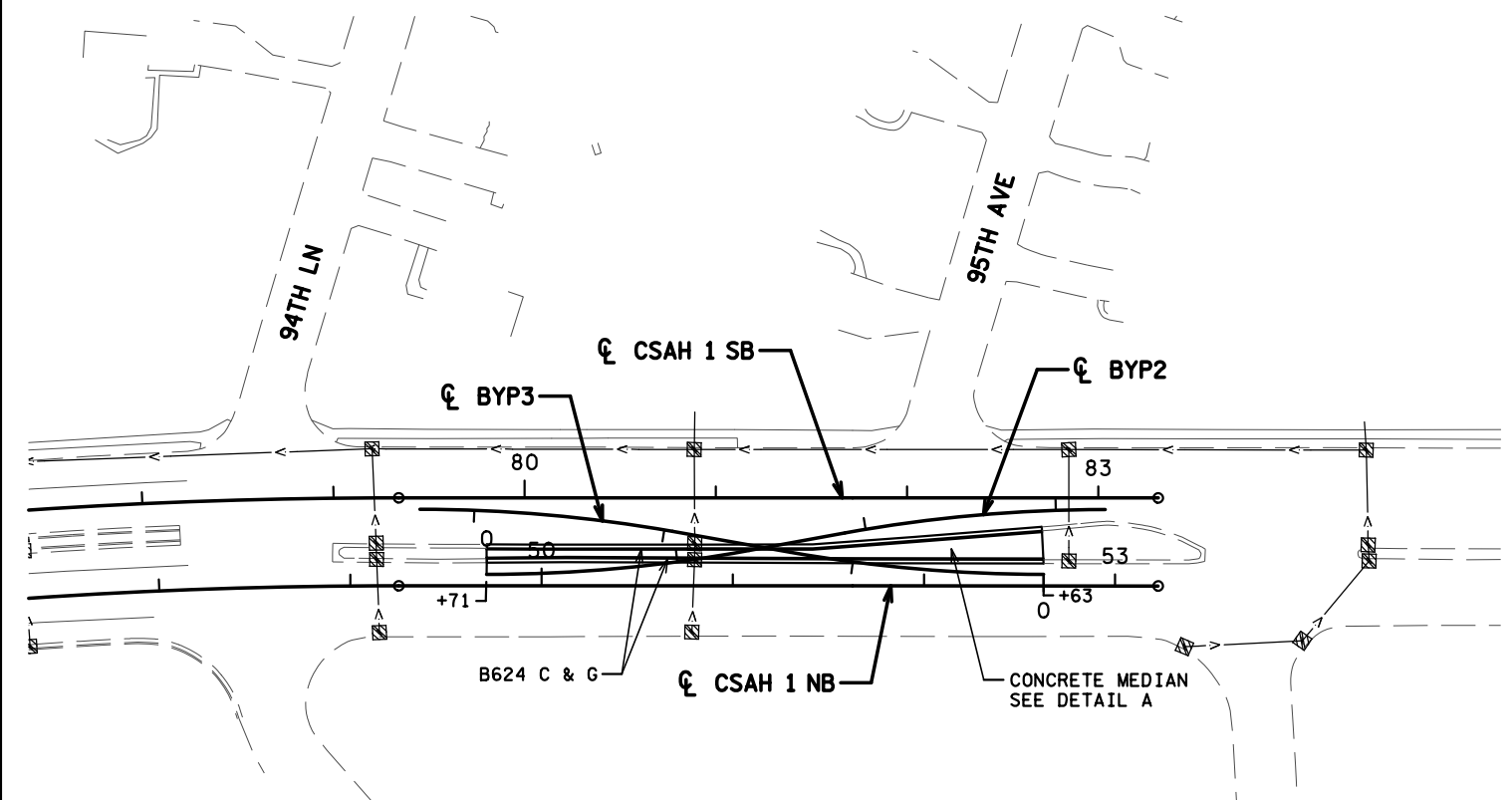
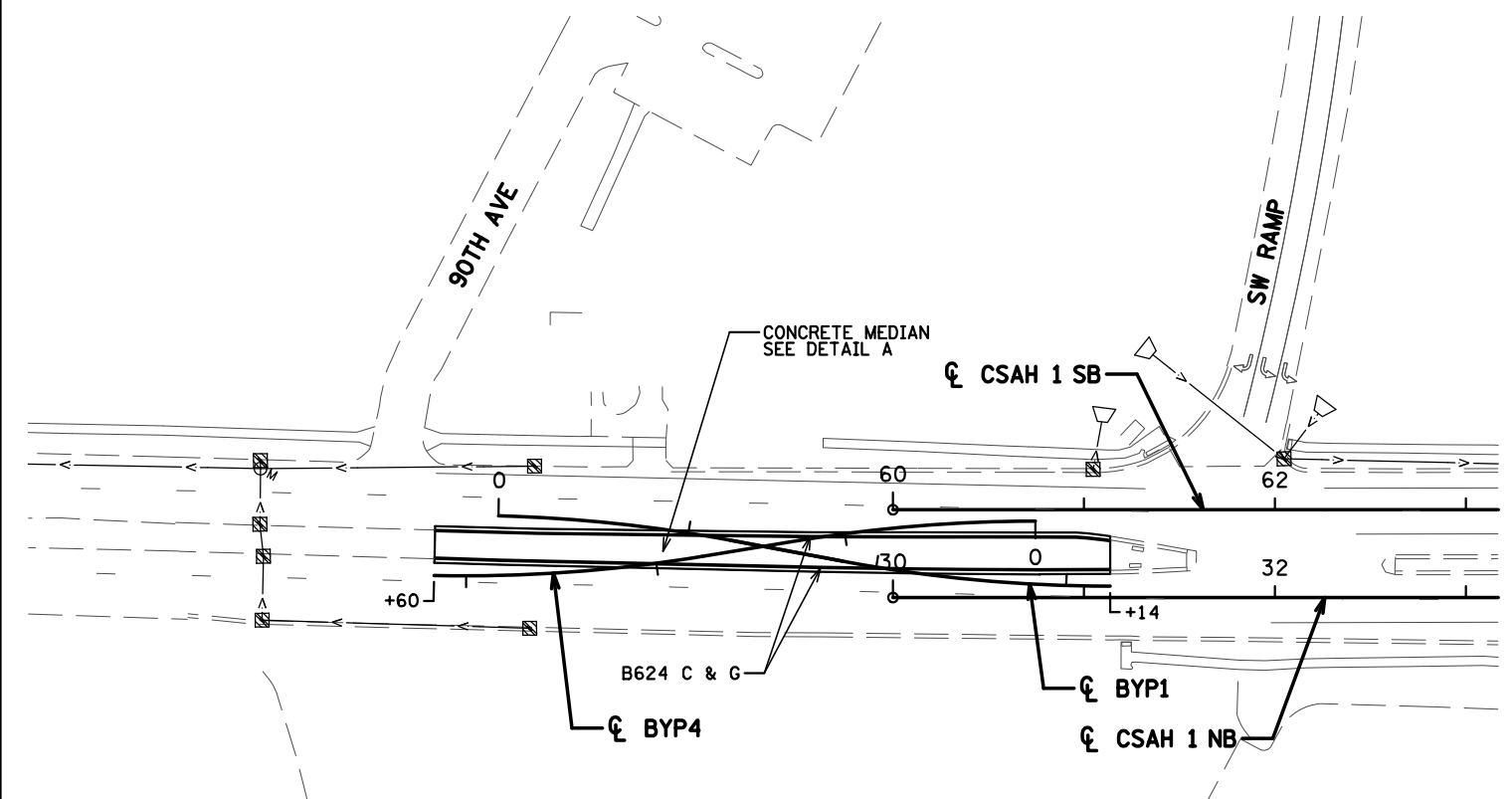
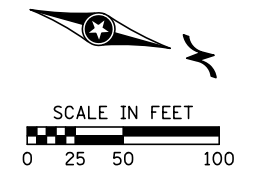
TEMPORARY PAVEMENT PLANS

SHEET NO. 250 OF 416 SHEETS

AREA "B"



AREA "A"



DATE: 11/24/2020 TIME: 11:07:14 PM
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	DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TEMPORARY CROSSOVERS PERMANENT CONSTRUCTION	TEMPORARY PAVEMENT PLANS
	DRW: RRC	SIGNATURE: <i>Shane A. Ortlepp</i> LIC. NO. 48250 DATE: 11/24/2020		STATE PROJ. NO. 002-611-036	SHEET NO. 251 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: SAO	

NOTES & GUIDELINES

GENERAL INFORMATION:

- ALL DISTANCES ARE APPROXIMATE.
- SIGNING:**
- ALL TEMPORARY SIGNS ARE REQUIRED TO BE CRASHWORTHY PER THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE 2016 (MASH-2016). TEMPORARY SIGN STRUCTURES THAT ARE CRASHWORTHY UNDER THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 (NCHRP-350) MAY BE USED PROVIDED THE DEVICES WERE ACQUIRED BY THE CONTRACTOR PRIOR TO DECEMBER 31ST, 2019. THE MINNESOTA TYPE "C" AND "D" BRACED LEG U-CHANNEL (KNEE BRACE) SIGN SUPPORT IS NOT ALLOWED.
 - THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING UNTIL THE FINAL SIGNING IS PLACED.
 - WHEN MULTIPLE GROUND MOUNTED SIGN STRUCTURES ARE PLACED ADJACENT TO EACH OTHER THERE SHOULD BE NO MORE THAN 2 POSTS WITHIN 84" OF EACH OTHER. WHEN THIS SPACING CAN NOT BE MAINTAINED, THEN SIGN STRUCTURES SHALL BE OFFSET, AND STAGGERED WITH A MINIMUM OF 4' BETWEEN SIGN STRUCTURES.
 - WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO ROAD USERS INCLUDING BIKES AND PEDESTRIANS IS REDUCED ENOUGH TO CAUSE A HAZARD, DELINEATE THE SIGN/BARRICADE WITH APPROPRIATE DEVICES.
 - TEMPORARY SIGNS SHALL BE PLACED SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY APPROACHING ROAD USERS. OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS, AND BUILDINGS.
 - TEMPORARY SIGNS SHALL BE PLACED AND ORIENTED APPROXIMATELY AS SHOWN IN THE PLAN, AT RIGHT ANGLES TO DIRECTION OF AND FACING THE TRAFFIC THEY ARE INTENDED TO SERVE, UNLESS OTHERWISE SPECIFIED.
 - LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "MINNESOTA TEMPORARY TRAFFIC CONTROL FIELD MANUAL" PAGES (6K-dj) THRU (6K-di) UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
 - AFTER REMOVAL OF SIGN AND/OR SIGN BASE, BACK FILL, COMPACT, AND LEVEL SOIL TO MATCH SURROUNDING SOIL.

PAVEMENT MARKING:

- MASK OR REMOVE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
- ALL TEMPORARY PAVEMENT MARKINGS SHALL BE WET REFLECTIVE. ALL PAVEMENT MARKINGS IN TAPERS AND TRANSITIONS SHALL BE 6" IN WIDTH.
- SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.

BARRIER & DELINEATION:

- PLACE AND MAINTAIN TEMPORARY BARRIER DELINEATORS ANY TIME TRAFFIC IS WITHIN 10' OF BARRIER. DELINEATORS WILL EACH HAVE A MINIMUM OF 24 SQ IN. OF RETROREFLECTIVE SURFACE ON BOTH SIDES PLACED AT 25' SPACING ON TOP OF THE BARRIER. IF THE ENGINEER OR PLAN REQUIRES SIDE MOUNTED TEMPORARY BARRIER DELINEATORS, THEY WILL HAVE A MINIMUM OF 12 SQ. IN. OF RETROREFLECTIVE SURFACE AREA AND BE PLACED AT 12.5' SPACING. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE A MINIMUM OF 6 SQ IN. OF RETROREFLECTIVE SURFACE AREA AND BE PLACED ON BOTH SIDES AT 6.25' SPACING. TEMPORARY BARRIER DELINEATOR COLOR SHALL MATCH APPLICABLE PAVEMENT MARKING.

CONSTRUCTION INFORMATION SIGNING:

- THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN WHICH ARE TO BE USED AS FOLLOWS:
 PLACE THE G20-X1 ADVANCE CLOSURE NOTICE SIGN(S) X DAYS PRIOR TO THE PLANNED CLOSURE DATE.
 PLACE G20-X2 ADVANCE NOTICE SIGNS X DAYS PRIOR TO THE WORK STARTING DATE. ONCE WORK BEGINS, COVER THE START DATE LEGEND WITH SUGGESTED PLAQUE CONTAINED IN THIS PLAN. IF NO ALTERNATE MESSAGE IS SUGGESTED OR IF DIRECTED BY THE ENGINEER, DISPLAY THE CORRECT ESTIMATED FINISH DATE, MONTH, OR SEASON
 IF CONSTRUCTION INFORMATION SIGNING IS NO LONGER VISIBLE TO THE MOTORING PUBLIC ONCE WORK BEGINS, MOVE SAID SIGNING TO A SITE IN ADVANCE OF THE WORK ZONE OR CLOSURE AS DIRECTED BY THE PLAN OR ENGINEER.

PAVEMENT MARKING SYMBOLS AND MATERIALS LEGEND

— — — — — BROKEN LINE-50' CYCLE (10' LINE, 40' GAP)
 - - - - - DOTTED LINE-15' CYCLE (3' LINE, 12' GAP), UNLESS SHOWN OTHER WISE IN THE PLAN

■ CROSSWALK BLOCK
 ↶ PAVEMENT MESSAGE (LEFT ARROW)
 STRIPING KEY

○ CIRCLE-MULTI COMP
 △ TRIANGLE-PAINT

1ST DIGIT WIDTH 4", 8", ETC.	2ND DIGIT PATTERN	3RD DIGIT COLOR
	S - SOLID	W - WHITE
	B - BROKEN	Y - YELLOW
	T - DOTTED	B - BLACK
	D - DOUBLE SOLID	
	K - DOUBLE BROKEN	
	H - DOUBLE DOTTED	

G=GROUND IN W=WET REFLECTIVE
 C=CONTRAST E=ENHANCED SKID RESISTANCE

EXAMPLE: = 4" SOLID LINE WHITE PREF THERMO GROUND IN, CONTRAST, WET REFLECTIVE

INDEX

TRAFFIC CONTROL SHEET NO.		DESCRIPTIONS
252	253	TEMPORARY TRAFFIC CONTROL TITLE SHEET
254-255		TABULATION PAY ITEM
256-257		TRAFFIC CONTROL SIGN TABULATION
258		SPECIAL SIGN DETAILS
259		STAGING NARRATIVE
260		SHEET LAYOUT
261		TEMPORARY SQUARE TUBE GROUND MOUNTED SIGN PLACEMENT
262-265		TEMPORARY SIGN COVERING AND MODIFICATION
266-267		APR AND TPAR DETAILS
268-273		STAGE 1
274-283		PRIOR TO STAGE 2A
285-287		STAGE 2A
288-300		PRIOR TO STAGE 2B
301-306		STAGE 2B
307-308		STAGE 3A
309-313		STAGE 3A SUBSTAGE
314-325		STAGE 3B
326-327		STAGE 4
328-337		STAGE 4 SUBSTAGE
		STAGE 5

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	AREA CLOSED TO TRAFFIC / WORK AREA		FLASHING ARROW BOARD TYPE C = (4' X 8' UNLESS OTHERWISE NOTED).
	CONSTRUCT 1/2 AT A TIME TO MAINTAIN ACCESS		PORTABLE PRECAST CONC BARRIER WITH DELINEATORS AT 25' SPACES
	CONSTRUCT TEMPORARY BITUMINOUS PAVEMENT		PEDESTRIAN BARRIER
	INPLACE TEMPORARY BITUMINOUS PAVEMENT		TEMPORARY IMPACT ATTENUATOR
	TRAFFIC CONTROL SIGN		TUBE DELINEATOR
	TYPE III BARRICADE =		
	DRUM-LIKE CHANNELIZER (TYPE B) =		
	TYPE A FLASHING WARNING LIGHT		

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OTE UPDATED 04/24/2020


			DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TITLE SHEET		TRAFFIC CONTROL PLANS	
			DRW: LKG	SIGNATURE:		STATE PROJ. NO. 002-611-036		SHEET NO. 252 OF 416 SHEETS	
NO.	DATE	BY	CHK: JAH	LIC. NO. 20781 DATE: 11/25/2020					
DESCRIPTION OF REVISIONS									

DATE: 12/14/2020 TIME: 12:20:40 PM
 FILENAME: c:\kda\proj\tech\ise\h\m\vangstad\dms01247\cd00261036_tc0b.dgn

TRAFFIC CONTROL TABULATION													TAB O		
ALIGNMENT	PAVEMENT MARKING REMOVAL	PORTABLE PRECAST CONC BARRIER DES 8337	RELOCATE PORT PRECAST CONC BAR DES 8337	TEMPORARY IMPACT ATTENUATOR		RELOCATE TEMPORARY IMPACT ATTENUATOR		RAISED PAVEMENT MARKER TEMPORARY		PORTABLE CONCRETE BARRIER DELINEATOR (2)		SURFACE MOUNTED DELINEATOR	REMOVABLE PREFORM PAVEMENT MARKING TAPE (1)		REMOVABLE PREFORMED PLASTIC MASK (BLACK)
				TL2	TL3	TL2	TL3	WHITE	YELLOW	WHITE	YELLOW		WHITE	YELLOW	
				LIN FT	LIN FT	LIN FT	LIN FT	ASSEMBLY	ASSEMBLY	EACH	EACH		EACH	EACH	
	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	
STAGE 1															
PRIOR TO STAGE 2A	79							39	75				1880	4955	317
STAGE 2A	59	600			4			180	88	24		41	3500	6038	441
PRIOR TO STAGE 2B	215							7	29				1037	1624	60
STAGE 2B	967	1317	600	6		2		131	115	77		75	8578	11508	1503
STAGE 3A		391	1917			3		30	83	93		79	4501	9325	1051
STAGE 3B			175					13			7		928		
STAGE 4		688	483		4		1	116	210		47		4427	3478	686
STAGE 5								15	125				3474	7368	694
SUBTOTALS	1320	2996	3175	6	8	3	3	532	724	194	54	195	28325	44296	4753
TOTALS	1320	2996	3175	14	6	1256	248	195	72621	4753					

COST PARTICIPATION NOTES:
 (A) 100% ANOKA COUNTY S.P. 002-611-036 FUNDS.

SPECIFIC NOTES:
 (1) QUANTITIES CONVERTED TO EQUIVALENT 4 INCH QUANTITY.
 (2) ALL PORTABLE CONCRETE BARRIER DELINEATORS INCLUDED IN THIS PLAN ARE ONE-WAY.

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						PAY ITEM TABULATION		TRAFFIC CONTROL PLANS	
				DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 12/14/2020						STATE PROJ. NO. 002-611-036		SHEET NO. 253 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH										

DATE: 11/25/2020 TIME: 7:01:26 AM
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"R" SERIES						
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST	POST SPACING INCHES
	R1-1	RED ON WHITE	36 X 36	36 X 36	1 (A)	
	R1-2	WHITE ON RED	48 X 48 X 48	48 X 48 X 48	1	
	R3-1	BLACK AND RED ON WHITE	36 X 36	36 X 36	1 (A)	
	R3-2	BLACK AND RED ON WHITE	36 X 36	36 X 36	1 (A)	
	R3-7	BLACK ON WHITE	36 X 36	36 X 36	1 (A)	
	R3-8ACD	BLACK ON WHITE	48 X 30	48 X 30	1 (A)	
	R3-8AD	BLACK ON WHITE	36 X 30	36 X 30	1 (A)	
	R3-8CA	BLACK ON WHITE	36 X 30	36 X 30	1 (A)	
	R4-1	BLACK ON WHITE	24 X 30	24 X 30	1 (A)	
	R4-7	BLACK ON WHITE	24 X 30 18 X 30	24 X 30 18 X 30	1 (A)	
	R5-1	RED ON WHITE	36 X 36	36 X 36	1 (A)	
	R6-1	BLACK ON WHITE	52 X 18	52 X 18	1 (A)	
	R7-8m	WHITE ON BLUE	12 X 18	12 X 18	1 (A)	
	R8-3	BLACK AND RED ON WHITE	30 X 30	30 X 30	1 (A)	
	R8-3PM	RED ON WHITE	24 X 12	24 X 12	1 (A)	

GENERAL NOTES:

- SIGN STRUCTURE TABULATIONS INDICATE SQUARE TUBE GROUND MOUNTED SIGN STRUCTURES THAT ARE MASH-16 COMPLIANT.
- USE PRODUCTS FROM THE BASES FOR SQUARE TUBE SIGN STRUCTURES APPROVED/QUALIFIED PRODUCTS LIST FOR THE INDICATED SQUARE TUBE RISER POST SIZE. PLACE PER THE MANUFACTURER'S SPECIFICATIONS.
- ALUMINUM STRINGERS SHALL BE USED FOR SIGNS 36 INCH AND WIDER. SEE MANUFACTURER'S SPECIFICATIONS FOR SQUARE TUBE MOUNTING DETAILS.
- UNLESS OTHERWISE INDICATED, USE 2-1/2 INCH RISER POSTS FOR GROUND MOUNTED SIGN STRUCTURES.

UPDATED 12/30/2019

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: LKG	
CHK: JAH	
SIGNATURE: LIC. NO. 20781 DATE: 11/25/2020	
JEFFREY A. HILDEN	


"W" SERIES						
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST	POST SPACING INCHES
	W1-4	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
	W1-7	BLACK ON ORANGE	48 X 24	48 X 24	1 (A)	
	W2-1	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
	W4-2	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
			48 X 48	48 X 48	1	
	W4-3	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
	W4-4aPL	BLACK ON ORANGE	36 X 18	36 X 18	1 (A)	
	W6-1	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
			48 X 48	48 X 48	1	
	W6-2	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
			48 X 48	48 X 48	1	
	W6-3	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
	W9-1	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
	W12-1	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
	W13-1P	BLACK ON YELLOW	24 X 24	24 X 24	1 (A)	
	W14-3	BLACK ON YELLOW	64 X 64 X 48	64 X 64 X 48	1 (A)	
	W20-1	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
			48 X 48	48 X 48	1	
	W20-X3	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
	W20-X5	BLACK ON ORANGE	36 X 36	36 X 36	1 (A)	
			48 X 48	48 X 48	1	


SPECIFIC NOTES:


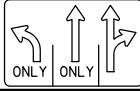

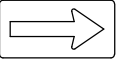
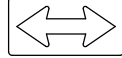
- (A) MAY USE 2" SQUARE TUBE POST WITH FIN BASE.
- (B) SEE SPECIAL SIGN DETAILS SHEET FOR SIGN DETAILS.

			DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		SIGN TABULATION		TRAFFIC CONTROL PLANS		
			DRW: LKG			STATE PROJ. NO. 002-611-036		SHEET NO. 254 OF 416 SHEETS		
			CHK: JAH			SIGNATURE: LIC. NO. 20781 DATE: 11/25/2020				
NO.	DATE	BY	DESCRIPTION OF REVISIONS							

DATE: 11/25/2020 TIME: 7:01:34 AM
 FILENAME: c:\nkda\project\wise\hmv\angstad\dms01247\cd00261036_rcd.dgn

"G" SERIES						
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST	POST SPACING INCHES
	G20-X9	BLACK ON ORANGE	30 X 36	30 X 36	1 Ⓐ	

"M" SERIES						
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST	POST SPACING INCHES
	M4-9bM (R, L, OR T)	BLACK ON ORANGE	30 X 24	30 X 24	1 Ⓐ	

BARRICADE MOUNTED SIGNS			
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)
	G20-X9	BLACK ON ORANGE	30 X 36
	R3-8ACD	BLACK ON WHITE	48 X 30
	R11-2R	BLACK ON ORANGE	48 X 30
	W1-6R	BLACK ON ORANGE	48 X 24
	W1-7	BLACK ON ORANGE	48 X 24

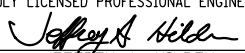
GENERAL NOTES:

- SIGN STRUCTURE TABULATIONS INDICATE SQUARE TUBE GROUND MOUNTED SIGN STRUCTURES THAT ARE MASH-16 COMPLIANT.
- USE PRODUCTS FROM THE BASES FOR SQUARE TUBE SIGN STRUCTURES APPROVED/QUALIFIED PRODUCTS LIST FOR THE INDICATED SQUARE TUBE RISER POST SIZE. PLACE PER THE MANUFACTURER'S SPECIFICATIONS.
- ALUMINUM STRINGERS SHALL BE USED FOR SIGNS 36 INCH AND WIDER. SEE MANUFACTURER'S SPECIFICATIONS FOR SQUARE TUBE MOUNTING DETAILS.
- UNLESS OTHERWISE INDICATED, USE 2-1/2 INCH RISER POSTS FOR GROUND MOUNTED SIGN STRUCTURES.

SPECIFIC NOTES:

- Ⓐ MAY USE 2" SQUARE TUBE POST WITH FIN BASE.
- Ⓑ SEE SPECIAL SIGN DETAILS SHEET FOR SIGN DETAILS.

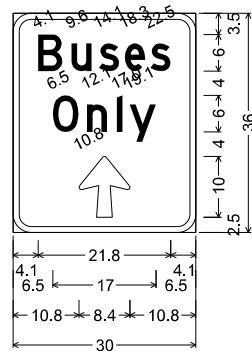
UPDATED 12/30/2019

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.					
DRW: LKG						
CHK: JAH						
NO.	DATE	BY	DESCRIPTION OF REVISIONS	SIGNATURE: 	LIC. NO. 20781	DATE: 11/25/2020

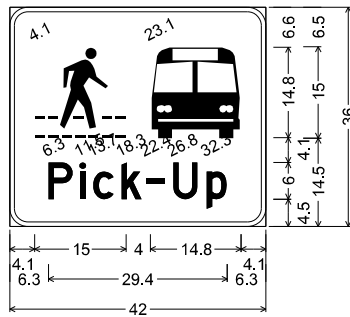


SIGN TABULATION	TRAFFIC CONTROL PLANS
STATE PROJ. NO. 002-611-036	SHEET NO. 255 OF 416 SHEETS

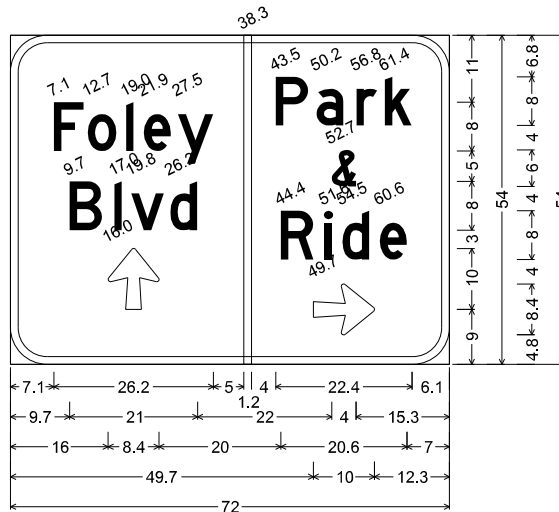
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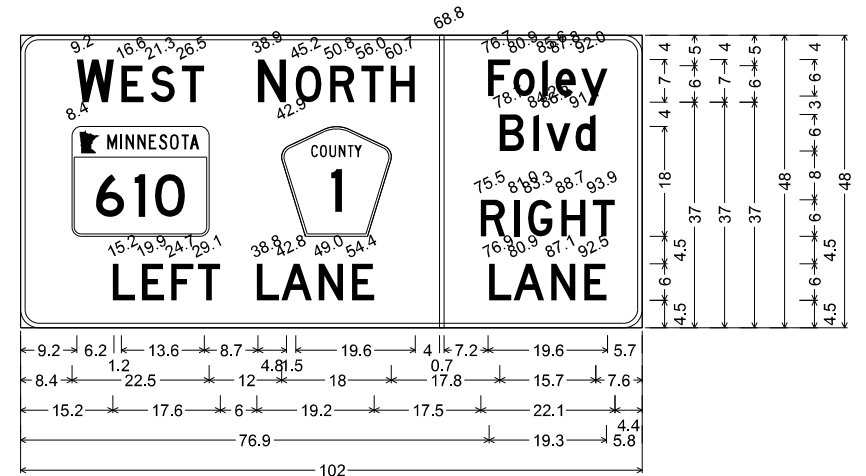
CS-1;
3.0" Radius, 1.0" Border, Black on, Orange;
"Buses", D;
"Only", D;
Arrow 3 - 10.0" 90°;



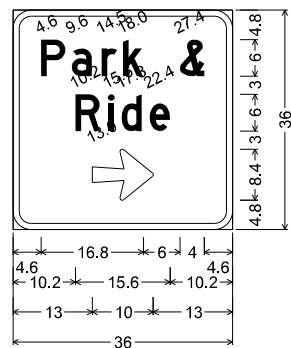
CS-4;
3.0" Radius, 0.8" Border, Black on, Orange;
Symbol RG150;
Symbol RA020; "Pick-Up", D;
Symbol RA020; "Pick-Up", D;



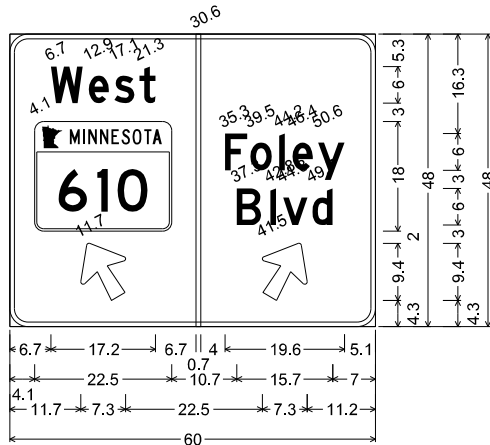
CS-7;
6.0" Radius, 1.3" Border, Black on, Orange;
"Foley", D; "Blvd", D; Arrow 3 - 10.0" 90°;
"Park", D; "&", D; "Ride", D; Arrow 3 - 10.0" 0°;



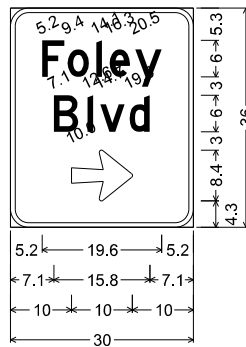
CS-10;
3.0" Radius, 0.8" Border, Black on, Orange;
"WEST", D; "NORTH", D; State Highway 610 M1-5b;
Pentagonal County 1 M1-6a; "LEFT LANE", D; "Foley", D; "Blvd", D;
"RIGHT", D; "LANE", D;



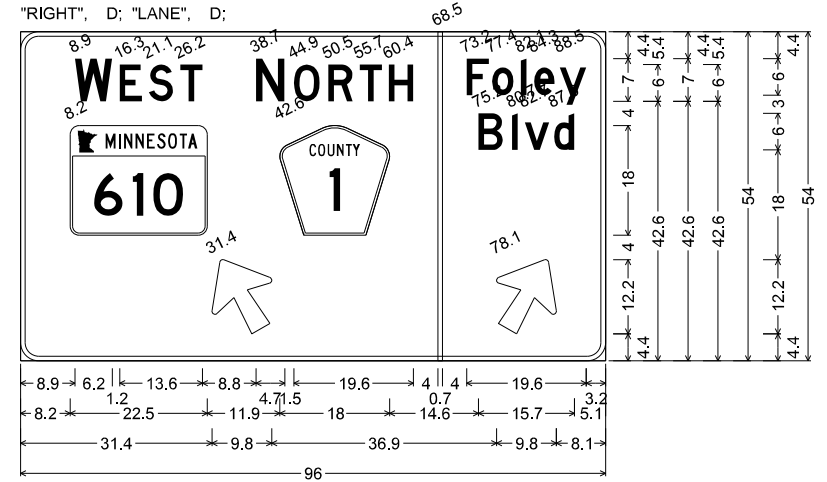
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Arrow 3 - 10.0" 0°;



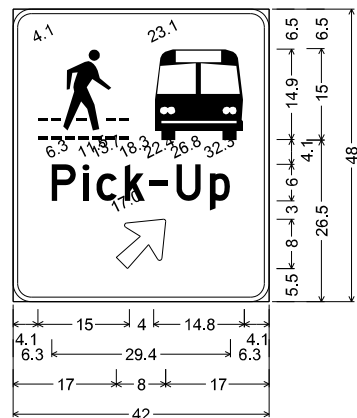
CS-5;
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"West", D; State Highway 610 M1-5b;
Arrow 3 - 10.0" 120°; "Foley", D;
"Blvd", D; Arrow 3 - 10.0" 60°;



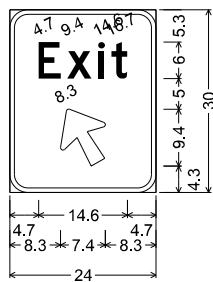
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"Foley", D;
"Blvd", D;
Arrow 3 - 10.0" 0°;



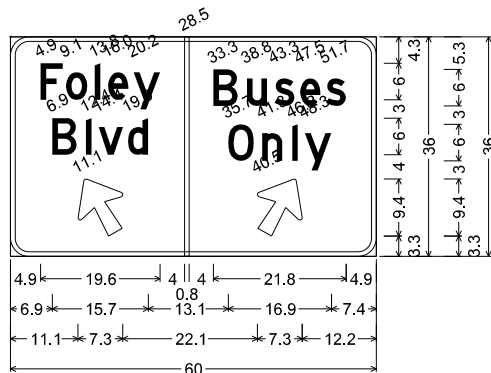
CS-11;
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"WEST", D; "NORTH", D; State Highway 610 M1-5b;
Pentagonal County 1 M1-6a; Arrow 5 - 13.0" 120°; "Foley", D;
"Blvd", D; Arrow 5 - 13.0" 60°;



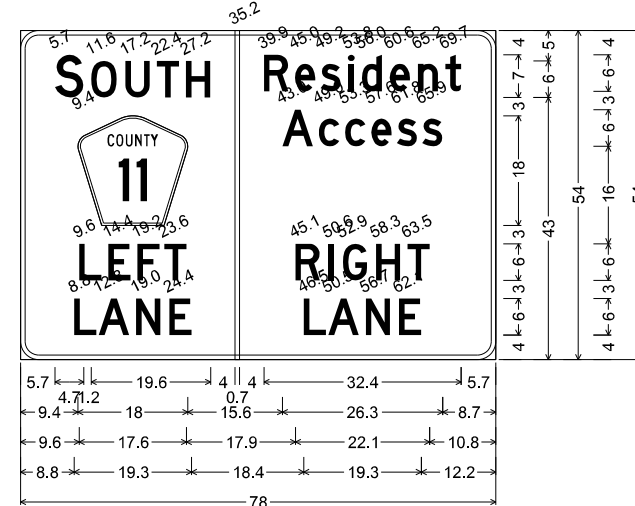
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Symbol RG150;
Symbol RA020; "Pick-Up", D;
Arrow 3 - 10.0" 45°;



CS-6;
3.0" Radius, 0.8" Border, Black on, Orange;
"Exit", D;
Arrow 3 - 10.0" 120°;



CS-9;
3.0" Radius, 0.8" Border, Black on, Orange;
"Foley", D; "Blvd", D;
Arrow 3 - 10.0" 120°; "Buses", D;
"Only", D; Arrow 3 - 10.0" 60°;



CS-12;
3.0" Radius, 0.8" Border, Black on, Orange;
"SOUTH", D; Pentagonal County 11 M1-6a; "LEFT", D;
"LANE", D; "Resident", D; "Access", D; "RIGHT", D;
"LANE", D;

GENERAL NOTES:
- ALL DIMENSIONS ARE IN INCHES.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
DRW: LKG
CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

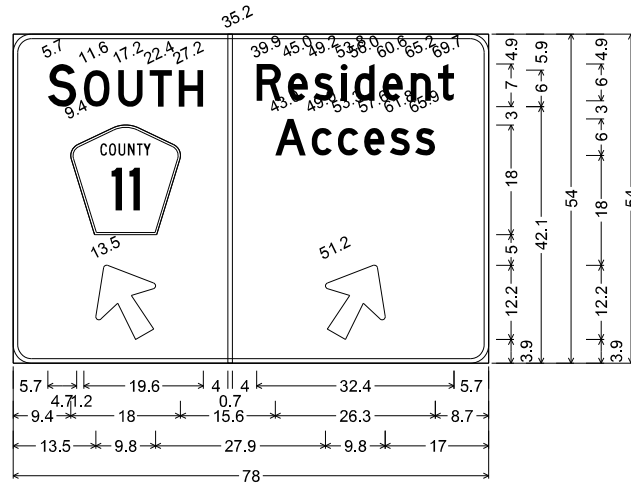
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
JEFFREY A. HILDEN



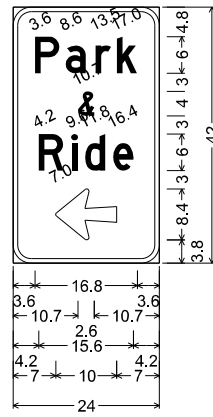
SPECIAL SIGN DETAILS
STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
SHEET NO. 256 OF 416 SHEETS

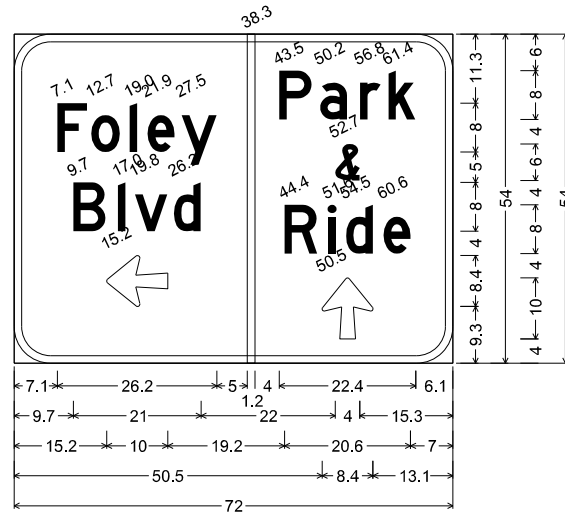
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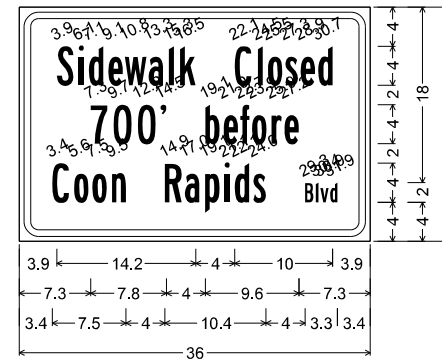
CS-13;
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 Arrow 5 - 13.0" 120"; "Resident", D; "Access", D;
 Arrow 5 - 13.0" 60";



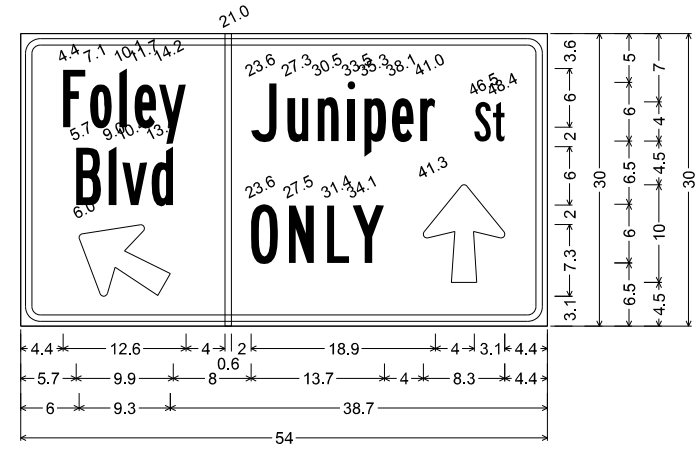
CS-14;
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 "Park", D;
 "&", D;
 "Ride", D;
 Arrow 3 - 10.0" 180";



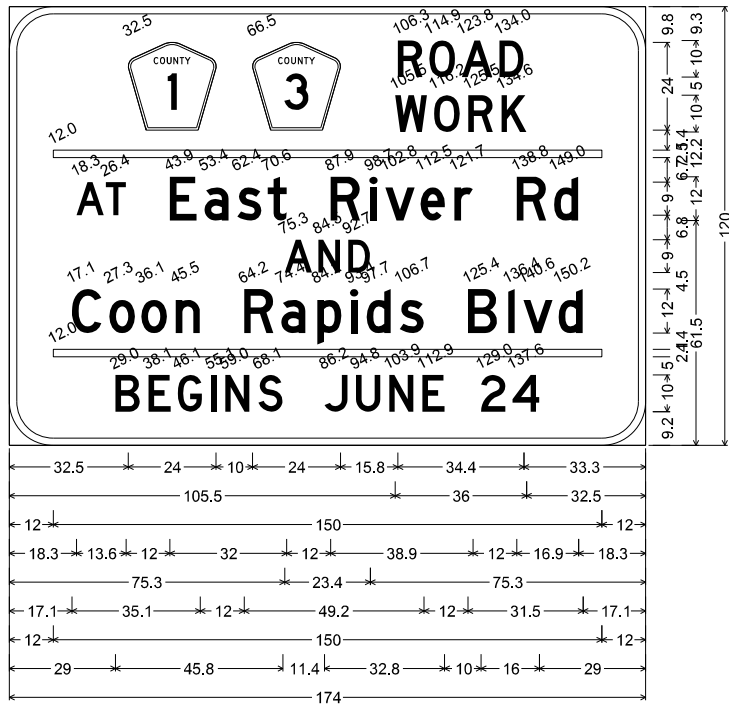
CS-15;
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 "Foley", D; "Blvd", D; Arrow 3 - 10.0" 180";
 "Park", D; "&", D; "Ride", D; Arrow 3 - 10.0" 90";



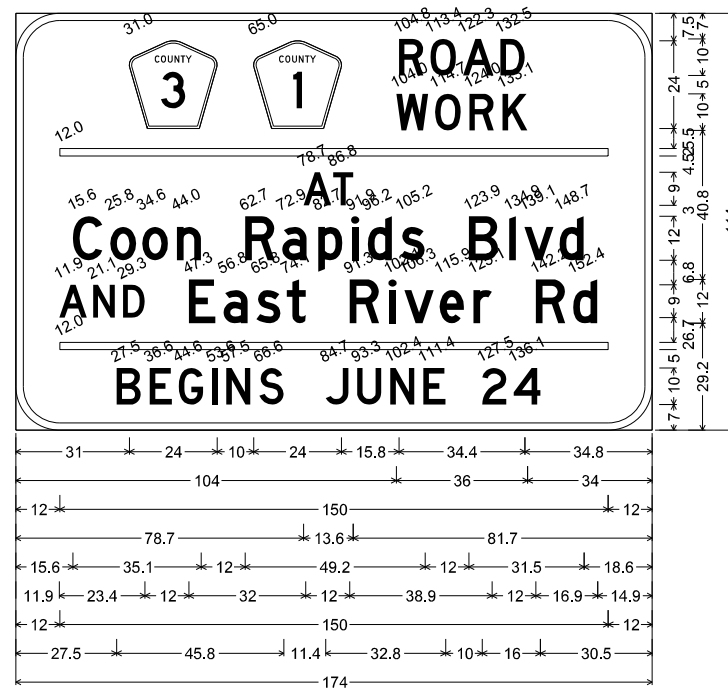
CS-17;
 2.0" Radius, 0.7" Border, 0.5" Indent, Black on, Orange;
 "Sidewalk Closed", B 2K;
 "700' before", B 2K;
 "Coon Rapids Blvd", B 2K;



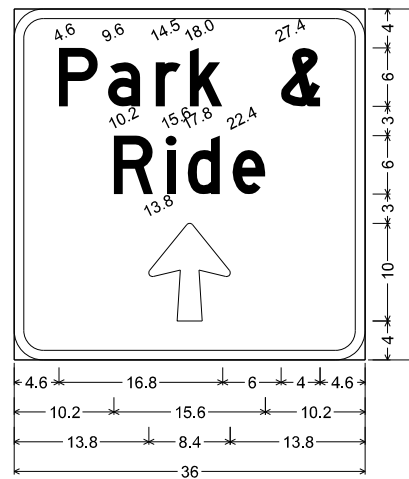
CS-18;
 2.0" Radius, 0.7" Border, 0.5" Indent, Black on, Orange;
 "Foley", B 2K; "Blvd", B 2K; Arrow 3 - 10.0" 150";
 "Juniper St", B 2K; "ONLY", B 2K; Arrow 3 - 10.0" 90";



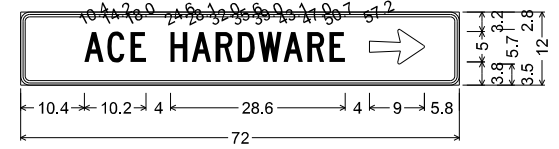
G20-X2(A).sgn;
 12.0" Radius, 2.0" Border, Black on, Orange;
 Pentagonal County 1 M1-6a; Pentagonal County 3 M1-6a; "ROAD", D;
 "WORK", D; "AT", D; "East River Rd", D; "AND", D;
 "Coon Rapids Blvd", D; "BEGINS", D; "JUNE 24", D;



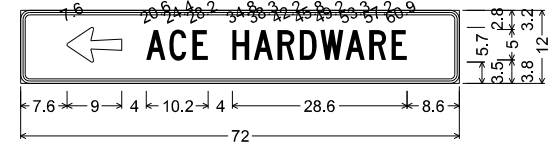
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 12.0" Radius, 2.0" Border, Black on, Orange;
 Pentagonal County 3 M1-6a; Pentagonal County 1 M1-6a; "ROAD", D;
 "WORK", D; "AT", D; "Coon Rapids Blvd", D; "AND", D;
 "East River Rd", D; "BEGINS", D; "JUNE 24", D;



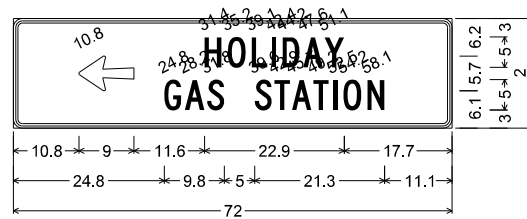
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 Arrow 3 - 10.0" 90";



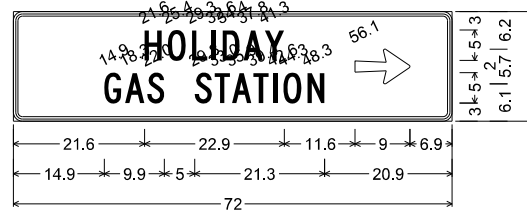
CS-20;
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 "ACE HARDWARE", C 2K; Arrow 11 - 9.0" 0';



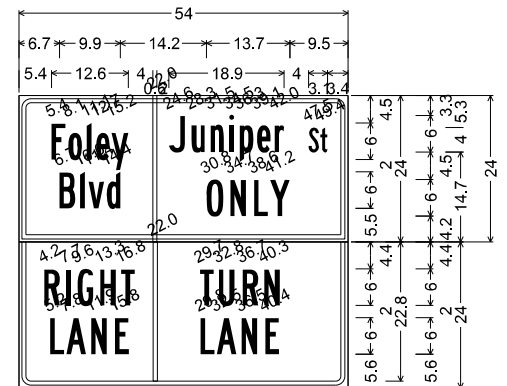
CS-21;
 1.5" Radius, 0.4" Border, 0.4" Indent, Black on, Orange;
 Arrow 11 - 9.0" 180"; "ACE HARDWARE", C 2K;



CS-22;
 1.5" Radius, 0.4" Border, 0.4" Indent, Black on, Orange;
 Arrow 11 - 9.0" 180"; "HOLIDAY", C 2K;
 "GAS STATION", C 2K;



CS-23;
 1.5" Radius, 0.4" Border, 0.4" Indent, Black on, Orange;
 "HOLIDAY", C 2K; "GAS STATION", C 2K;
 Arrow 11 - 9.0" 0';



CS-24;
 2.0" Radius, 0.7" Border, 0.5" Indent, Black on, Orange;
 "Foley", B 2K; "Blvd", B 2K;
 "Juniper St", B 2K; "ONLY", B 2K;

2.0" Radius, 0.7" Border, 0.5" Indent, Black on, Yellow;
 "RIGHT", B 2K; "LANE", B 2K;
 "TURN", B 2K; "LANE", B 2K;

GENERAL NOTES:

- ALL DIMENSIONS ARE IN INCHES.
- CS-16 HAS BEEN REMOVED FROM THIS PLAN.

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020
CHK: JAH	JEFFREY A. HILDEN

NO.	DATE	BY	DESCRIPTION OF REVISIONS



SPECIAL SIGN DETAILS
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 257 OF 416 SHEETS

DATE: 11/25/2020 TIME: 9:23:39 AM
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**STAGE 1
CONSTRUCTION**

1. CONSTRUCT BRIDGE NO. 02584.
2. CONSTRUCT OFFLINE SECTION OF FOLEY BLVD.

TRAFFIC

1. TRAFFIC SHALL REMAIN IN THE INPLACE CONDITION.

**PRIOR TO STAGE 2A
CONSTRUCTION**

1. REMOVE MEDIAN ALONG EAST RIVER RD SOUTH OF TH 610 SW RAMP AND REPLACE WITH TEMPORARY BITUMINOUS PAVEMENT.
2. REMOVE MEDIAN ALONG EAST RIVER RD NORTH OF EXISTING FOLEY BLVD AND REPLACE WITH TEMPORARY BITUMINOUS PAVEMENT.
3. REMOVE MEDIAN ALONG EAST RIVER RD DIRECTLY ACROSS FROM 94TH AVE NW AND REPLACE WITH TEMPORARY BITUMINOUS PAVEMENT.
4. REMOVE MEDIAN ALONG EAST RIVER RD BETWEEN 94TH LN AND 95TH AVE AND REPLACE WITH TEMPORARY BITUMINOUS PAVEMENT.

TRAFFIC

1. CLOSE INSIDE LEFT TURN LANE ON TH 610 SW RAMP.
2. CLOSE INSIDE LANES ON EAST RIVER RD.

**STAGE 2A
CONSTRUCTION**

1. CONSTRUCT SB EAST RIVER RD.
2. CONSTRUCT CATCH BASINS IN THE MEDIAN OF EAST RIVER RD, THEN CONSTRUCT TEMPORARY PAVEMENT AS NEEDED TO RETURN TRAFFIC TO STAGE 2A CONFIGURATION.

TRAFFIC

1. CLOSE SB EAST RIVER RD LANES. CROSS OVER SB EAST RIVER RD TRAFFIC TO NB EAST RIVER RD LANE TO CREATE A TWO-LANE, TWO-WAY CONDITION.
2. DETOUR TH 610 ON-RAMP.
3. CONSTRUCT 93RD LANE ENTRANCE HALF AT A TIME TO MAINTAIN ACCESS TO 93RD LANE AND 93RD AVE.
4. CLOSE OUTSIDE RIGHT TURN LANE ON TH 610 SW RAMP.
5. USE THE FIELD MANUAL TO CONSTRUCT CATCH BASINS IN THE MEDIAN. CLOSE INSIDE LANE DURING NON-PEAK, DAY TIME HOURS AND FLAG TWO-WAY, ONE-LANE TRAFFIC IN THE OUTSIDE LANE.

**PRIOR TO STAGE 2B
CONSTRUCTION**

1. REMOVE MEDIAN ALONG FOLEY BLVD NORTH OF COON RAPIDS BLVD AND REPLACE PORTION AS SHOWN WITH TEMPORARY BITUMINOUS PAVEMENT.
2. CONSTRUCT TEMPORARY ACCESS TO PARK AND RIDE.

TRAFFIC

1. CLOSE INSIDE LANES ON FOLEY BLVD.

**STAGE 2B
CONSTRUCTION**

1. CONSTRUCT WB FOLEY BLVD.
2. CONSTRUCT ROADWAYS NORTH OF FOLEY BLVD.
3. CONSTRUCT NB EAST RIVER RD NORTH OF EXISTING FOLEY BLVD.
4. CONSTRUCT TEMPORARY BITUMINOUS WEDGE AT SOUTH END OF NB CSAH 1 STAGE 2B WORK AREA.
5. AFTER THE COMPLETION OF THIS STAGE, REMOVE CROSSOVERS ALONG EAST RIVER ROAD AND CONSTRUCT MEDIANS TO MATCH INPLACE CONDITION.
6. CONSTRUCT CATCH BASINS IN THE MEDIAN OF FOLEY BLVD, THEN CONSTRUCT TEMPORARY PAVEMENT AS NEEDED TO RETURN TRAFFIC TO STAGE 2B CONFIGURATION.
7. CONSTRUCT TEMPORARY BUS EXIT IN PARK AND RIDE.

TRAFFIC

1. CLOSE WB FOLEY LANES. CROSS OVER WB FOLEY BLVD TRAFFIC TO EB FOLEY BLVD LANE TO CREATE A TWO-LANE, TWO-WAY CONDITION.
2. MAINTAIN ACCESS TO DRIVEWAYS ALONG THE NORTH SIDE OF FOLEY BLVD.
3. CLOSE NB EAST RIVER RD LANES. CROSS OVER NB EAST RIVER RD TO SB EAST RIVER RD LANE TO CREATE A TWO-LANE, TWO-WAY CONDITION.
4. NO LEFT TURNS SHALL BE ALLOWED ON EAST RIVER RD WITHIN TWO-LANE, TWO-WAY CONDITIONS, EXCEPT WHERE THERE IS A SIGNAL OR A TEMPORARY LEFT TURN LANE IS PROVIDED.
5. CLOSE RIGHT LANE OF SB COON RAPIDS BLVD NEAR NORWAY ST, WHERE CONSTRUCTION IS OCCURRING.
6. CLOSE INSIDE LEFT TURN LANE ON TH 610 SW RAMP.
7. AFTER THE COMPLETION OF THIS STAGE, USE THE FIELD MANUAL TO CONSTRUCT MEDIANS AT THE CROSSOVER LOCATIONS.
5. USE THE FIELD MANUAL TO CONSTRUCT CATCH BASINS IN THE MEDIAN. CLOSE INSIDE LANE DURING NON-PEAK, DAY TIME HOURS AND FLAG TWO-WAY, ONE-LANE TRAFFIC IN THE OUTSIDE LANE.

**STAGE 3A
CONSTRUCTION**

1. CONSTRUCT EB FOLEY.
2. CONSTRUCT NORTHERN SECTION OF PARK AND RIDE LOT.
3. PRIOR TO STAGE 3A, CONSTRUCT TEMPORARY PAVEMENT ALONG EXISTING FOLEY BLVD MEDIAN TO ALLOW LEFT TURNS INTO DRIVEWAYS.
4. SUBSTAGE: CONSTRUCT ADA AREAS AND DRIVEWAY AT AND NEAR THE INTERSECTION OF FOLEY BLVD AND COON RAPIDS BLVD. COMPLETE SUBSTAGE PRIOR TO ADJACENT MEDIAN WORK.

TRAFFIC

1. CLOSE EB FOLEY LANES. CROSS OVER EB FOLEY BLVD TRAFFIC TO WB FOLEY BLVD LANE TO CREATE A TWO-LANE, TWO-WAY CONDITION.
2. MAINTAIN ACCESS TO ALL DRIVEWAYS, INCLUDING:
 - ALL DRIVEWAYS ALONG THE SOUTH SIDE OF FOLEY BLVD
 - ALL THREE DRIVEWAYS THAT ACCESS THE BUSINESSES AT THE NORTHEAST QUADRANT OF FOLEY BLVD AND COON RAPIDS BLVD.
 - BOTH DRIVEWAYS THAT ACCESS THE BUSINESSES AT THE SOUTHEAST QUADRANT OF FOLEY BLVD AND COON RAPIDS BLVD.
3. PROVIDE PARK AND RIDE INGRESS AND EGRESS VIA OLD FOLEY BLVD.
4. SUBSTAGE: EAST OF COON RAPIDS BLVD, SHIFT EB FOLEY BLVD TRAFFIC TO THE NORTH TO CONSTRUCT ADA QUADRANT AND CONSTRUCT DRIVEWAY UNDER TRAFFIC.

THIS SUBSTAGE SHALL BE COMPLETED PRIOR TO THE ADJACENT MEDIAN WORK.

**STAGE 3B
CONSTRUCTION**

1. CONSTRUCT NB COON RAPIDS BLVD.
2. CONSTRUCT SOUTHERN SECTION OF PARK AND RIDE LOT.

TRAFFIC

1. CLOSE RIGHT LANE OF NB COON RAPIDS BLVD.
2. PROVIDE PARK AND RIDE INGRESS TO CARS AND BUSES VIA OLD FOLEY BLVD. ALSO PROVIDE INGRESS TO CARS VIA NEW FOLEY BLVD. PROVIDE EGRESS TO CARS AND BUSES VIA NEW FOLEY BLVD.

**STAGE 4
CONSTRUCTION**

1. CONSTRUCT REMAINING PORTION OF NB EAST RIVER RD AND CONSTRUCT 93RD AVE CUL-DE-SAC.
2. CONSTRUCT MEDIAN ALONG COON RAPIDS BLVD.
3. CONSTRUCT WESTERN SECTION OF PARK AND RIDE LOT.

TRAFFIC

1. CLOSE OUTSIDE LANE ON NB EAST RIVER RD.
2. SUBSTAGE: CLOSE INSIDE LANE ON NB EAST RIVER ROAD
3. CLOSE INSIDE LANES OF COON RAPIDS BLVD.
4. MAINTAIN ACCESS TO DRIVEWAYS ALONG THE PROPOSED CUL-DE-SAC.

**STAGE 5
CONSTRUCTION**

1. CONSTRUCT MEDIANS ALONG FOLEY BLVD AND EAST RIVER RD.
2. CONSTRUCT PAVEMENT AND MEDIAN ALONG EAST RIVER RD DIRECTLY ACROSS FROM 94TH AVE NW.

TRAFFIC

1. CLOSE INSIDE LANES.

GENERAL NOTES:


- CONSTRUCT TEMPORARY BITUMINOUS PAVEMENT AT LOCATIONS SHOWN IN THE PLAN USING THE FOLLOWING STRUCTURE:
 - 3" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB440B) TO BE PLACED IN 1 LIFT
 - 6" AGGREGATE BASE (CV) CLASS 5
- SEE TEMPORARY PAVEMENT PLANS FOR QUANTITIES.
- AT THE METRO TRANSIT PARK AND RIDE, MONDAY THRU FRIDAY, FROM 6AM TO 6PM, A MINIMUM OF 400 PARKING STALLS SHALL BE AVAILABLE AND UNOBSTRUCTED BY CONSTRUCTION ACTIVITIES. THIS SHALL APPLY TO ALL STAGES.

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020		
CHK: JAH	JEFFREY A. HILDEN		



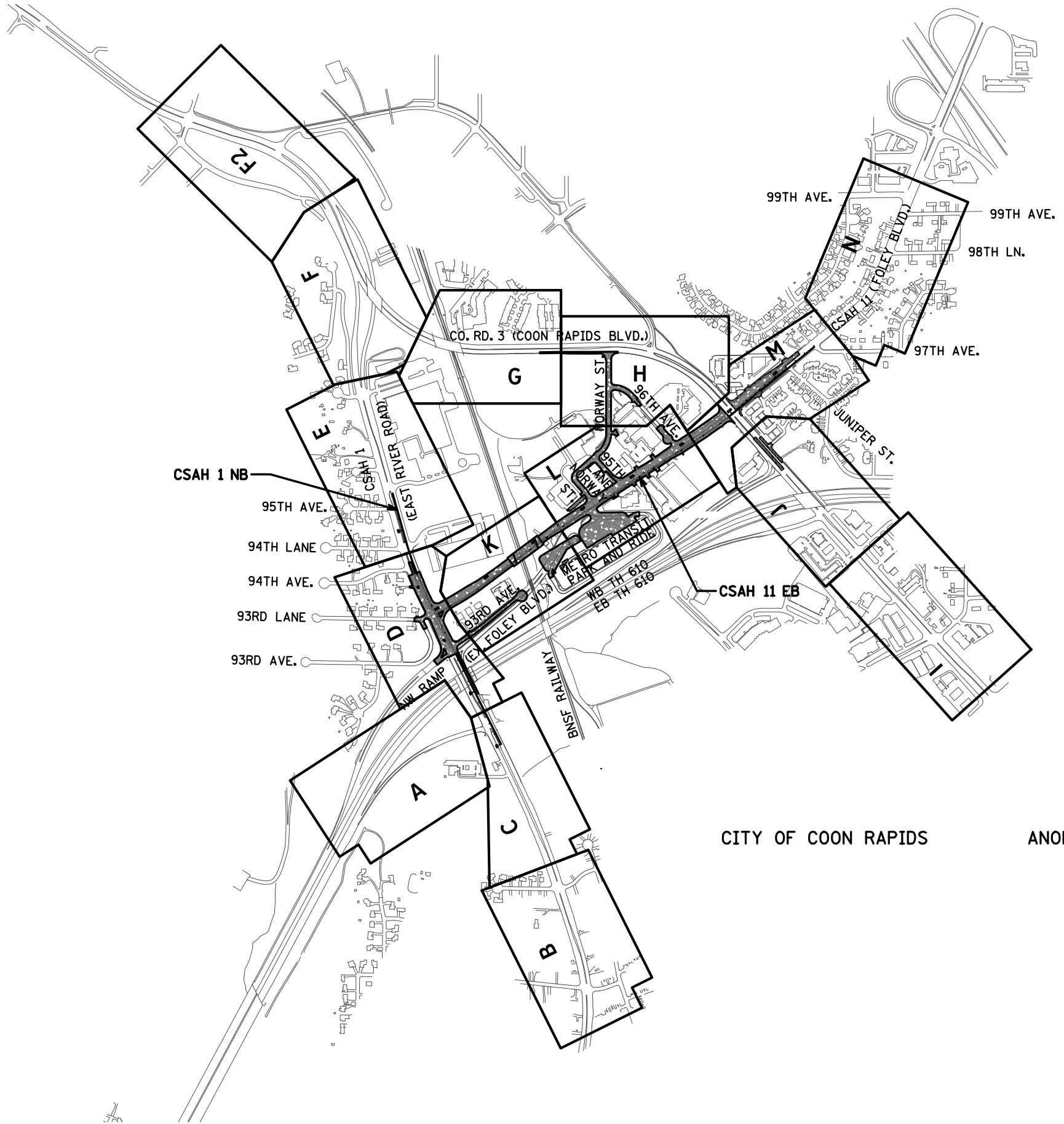
NARRATIVE	TRAFFIC CONTROL PLANS
STATE PROJ. NO. 002-611-036	SHEET NO. 258 OF 416 SHEETS

LEGEND

 PROPOSED IMPROVEMENTS




SCALE IN FEET
0 250 500 1000



CITY OF COON RAPIDS ANOKA COUNTY

DATE: 11/25/2020 TIME: 7:03:39 AM
FILENAME: c:\nkda\proj\ectwise\fm\vangstad\dms01247\cd00261036_tc0hdgn

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020		SHEET LAYOUT		TRAFFIC CONTROL PLANS	
				DRW: LKG			STATE PROJ. NO. 002-611-036		SHEET NO. 259 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH						

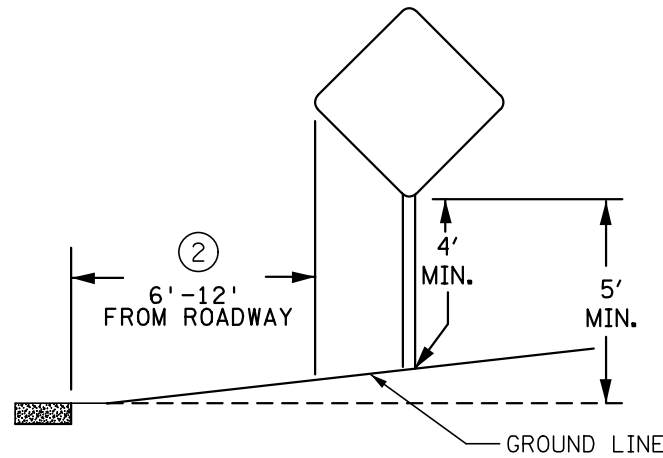
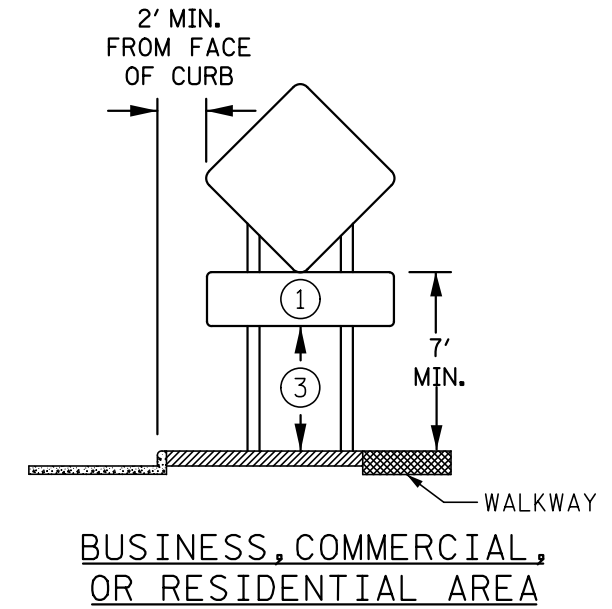
NOT TO SCALE

GENERAL NOTES:

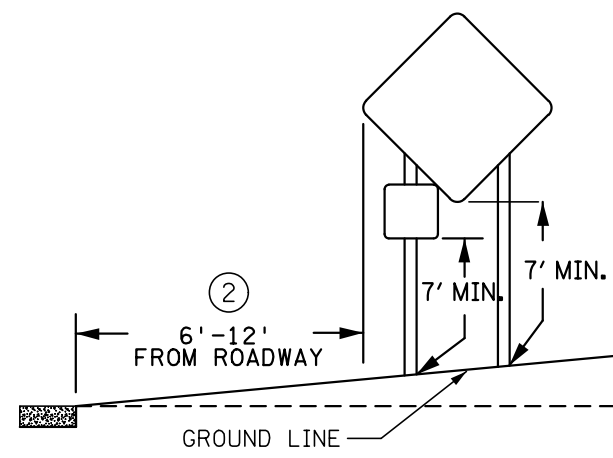
1. GROUND MOUNTED SQUARE TUBE SIGN STRUCTURES PLACED WITHIN 50' OF THE RADIUS END OF AN INTERSECTION SHALL BE PLACED ON ONE 2 INCH OR 2-1/2 INCH POST.
2. FOR 2 INCH SQUARE TUBE RISER POST IN SOIL, USE FIN BASE PLACED PER MANUFACTURER'S SPECIFICATIONS. USE A 2 INCH X 2 INCH PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST. PLACE 3/8 INCH STAINLESS STEEL BOLT THROUGH THE 5TH HOLE DOWN FROM THE TOP OF THE BASE. RISER POST SHALL REST ON THE BOLT.
3. FOR 2-1/2 INCH SQUARE TUBE RISER POST IN SOIL, USE SLIP BASE PLACED PER MANUFACTURER'S SPECIFICATIONS USING A 10 GAUGE, 2-1/2 INCH X 2-1/2 INCH PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST WITH A 10 GAUGE 2-3/16 INCH X 2-3/16 INCH PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE INTERNAL INSERT.

SPECIFIC NOTES:

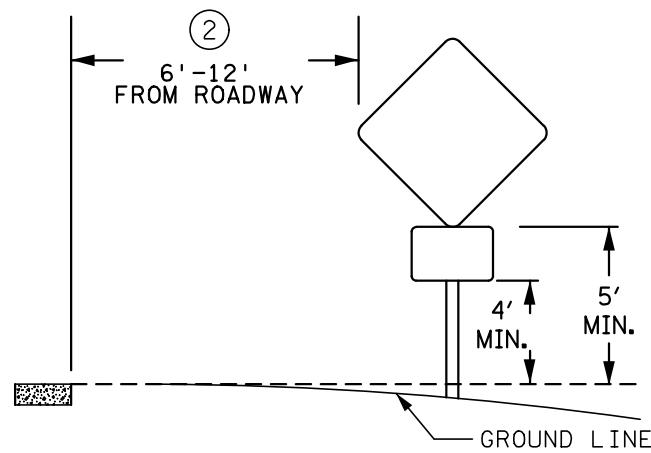
- ① IF THE SECONDARY SIGN OR PLAQUE EXTENDS MORE THAN 4" INTO THE PEDESTRIAN FACILITY, THE MINIMUM HEIGHT TO BOTTOM OF THE SECONDARY SIGN OR PLAQUE SHALL BE 7'.
- ② 6' - 12' FROM EDGE OF ROADWAY, MUST BE A MINIMUM OF 6' FROM EDGE OF PAVED SHOULDER (WHEN PRESENT).
- ③ IF GROUND MOUNTED TEMPORARY SIGN OR SIGN ASSEMBLY IS PLACED ON 2-1/2 INCH SQUARE TUBE RISER POST(S), THE MINIMUM CLEARANCE FROM THE GROUND LINE TO THE BOTTOM OF THE LOWEST SIGN ON THE ASSEMBLY SHALL BE 7', OR AS SHOWN IN DETAIL, WHICHEVER IS GREATER.
- ④ 5' MINIMUM IN RURAL, 7' MINIMUM IN BUSINESS, COMMERCIAL, OR RESIDENTIAL AREAS.



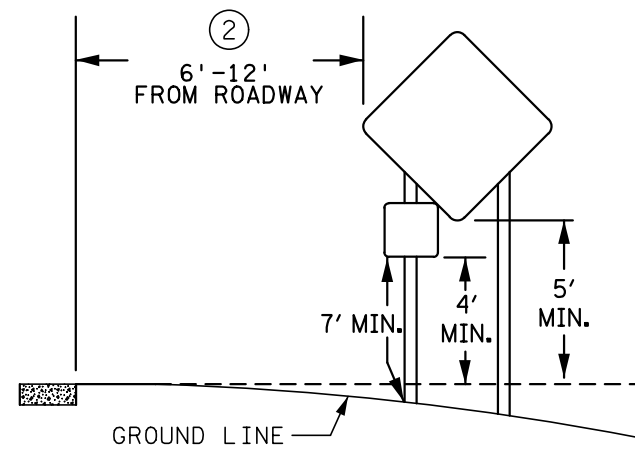
TYPICAL RURAL DESIGN AND 2 INCH RISER POST



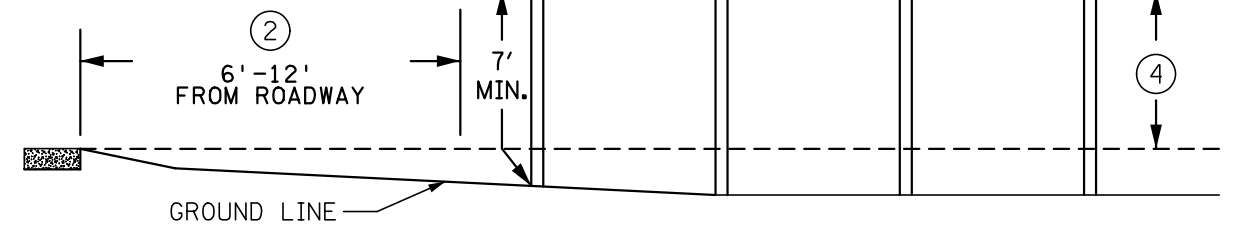
TYPICAL RURAL DESIGN WITH SUPPLEMENTAL PLAQUE AND 2-1/2 INCH RISER POST



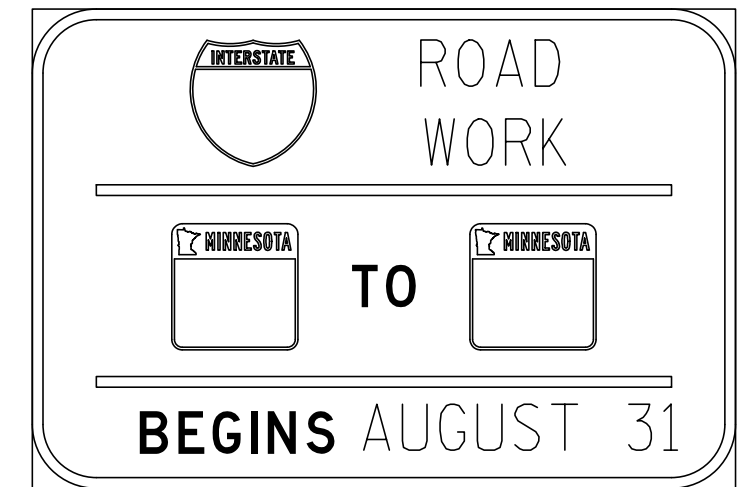
TYPICAL RURAL DESIGN WITH SUPPLEMENTAL PLAQUE AND 2 INCH RISER POST



TYPICAL RURAL DESIGN 2-1/2 INCH RISER POST



TYPICAL G20-X2 DESIGN

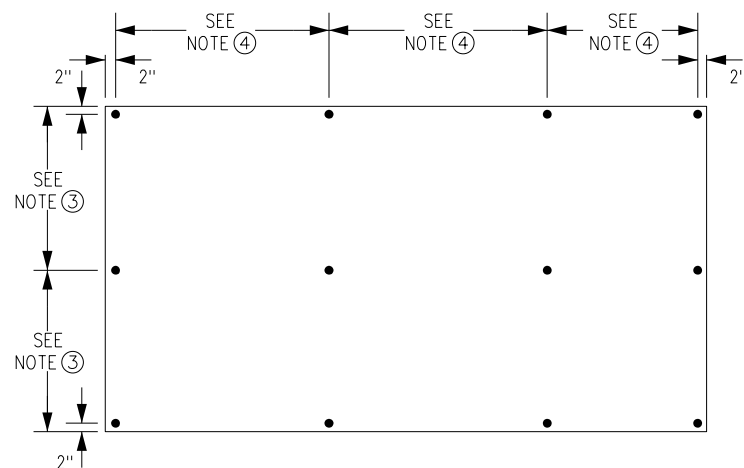
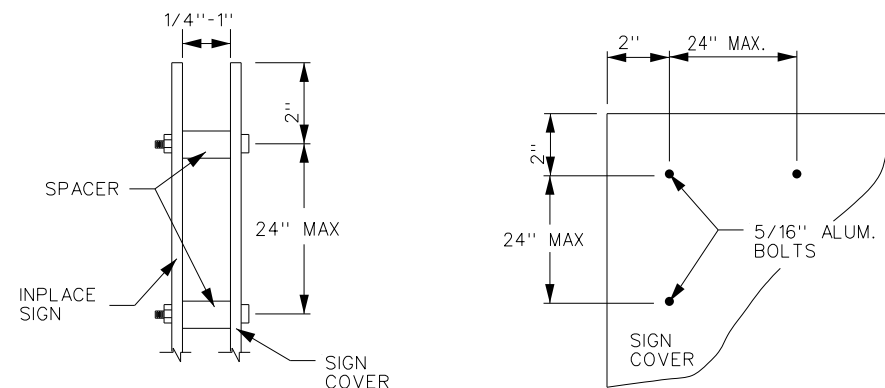
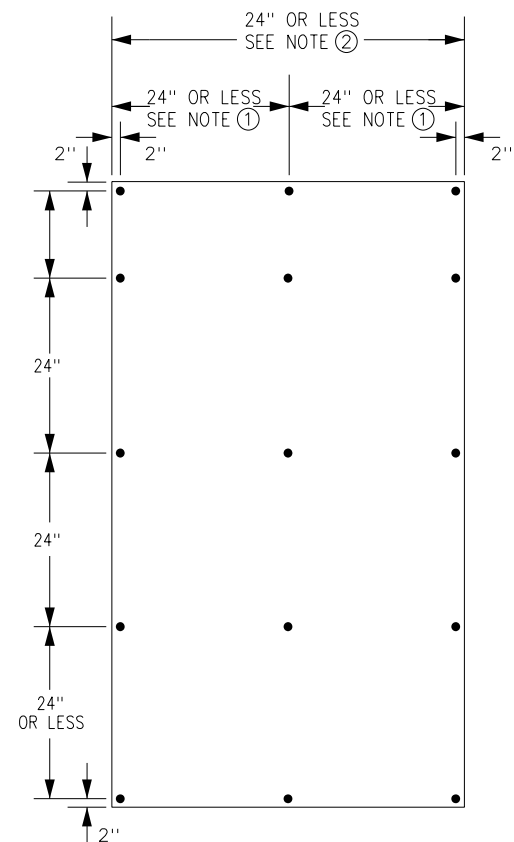


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PUBLISHED BY OTE 12/30/2019

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	TKDA	TEMPORARY SQUARE TUBE MOUNT SIGN PLACEMENT	TRAFFIC CONTROL PLANS
				DRW: LKG			STATE PROJ. NO. 002-611-036	SHEET NO. 260 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH				

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OVERLAY ASSEMBLY STEPS FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:

- 1) DRILL 1/4" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH THE HOLE SPACING ON THE DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 24" APART.
- 2) ATTACH PLASTIC SPACER(S) (1/4" MIN THICKNESS, 3/8" I.D. AND 7/8" O.D.) WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
- 3) POSITION THE FIRST OVERLAY PANEL'S BOTTOM EDGE FLUSH WITH THE BOTTOM OF THE INPLACE EXTRUDED SIGN PANEL AND THE OVERLAY PANEL'S LOWER LEFT EDGE FLUSH WITH THE LOWER LEFT EDGE OF THE BOTTOM INPLACE EXTRUDED PANEL SECTION.
- 4) DRILL ALL OF THE OUTSIDE HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH THE OVERLAY PANEL WITH SHEET METAL SCREWS.
- 5) DRILL THE INNER HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH WITH SHEET METAL SCREWS AS SPECIFIED IN STEP 4 ABOVE.
- 6) ABUT THE NEXT OVERLAY PANEL TO THE FIRST ATTACHED OVERLAY PANEL AND PERFORM THE SAME WORK AS SPECIFIED IN STEPS 4 AND 5 ABOVE.
- 7) PLACE EACH ADDITIONAL OVERLAY PANEL AS SPECIFIED IN STEP 6 ABOVE.

NOTES FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:

- ① THE CENTER SHEET METAL SCREWS SHALL BE SPACED AT 1/2 OF THE PANELS WIDTH.
- ② IF THE SHEET ALUMINUM PANEL IS GREATER THAN 48" WIDE, THE SHEET METAL SCREWS SPACING SHALL BE NO GREATER THAN 24". IF THE SHEET ALUMINUM PANEL IS LESS THAN 24" WIDE, THERE SHALL BE NO INNER HOLES.
- ③ VERTICAL SPACING FOR THE MOUNTING HOLES IS 50% OF THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 24" HIGH, THERE SHALL BE NO INNER HOLES.
- ④ HORIZONTAL SPACING FOR FOR MOUNTING HOLES SHALL NOT BE LESS THAN 15" NOR MORE THAN 24".

GENERAL NOTES:

SIGN PANEL OVERLAYS SHALL BE MADE OF A RIGID MATERIAL. (SHEET ALUMINUM, PLYWOOD, CORRUGATED PLASTIC, OR OTHER MATERIAL AS APPROVED BY THE ENGINEER). THE INSTALLATION SHALL ALLOW ADEQUATE AIR FLOW BETWEEN THE OVERLAY PANEL AND THE INPLACE SIGN PANEL BY PROVIDING A MINIMUM SPACING OF 1/4" (1" MAXIMUM).

IF SHEET METAL SCREWS ARE USED WITH CORRUGATED PLASTIC, FENDER WASHERS SHALL BE PLACED BETWEEN SCREWS AND PANEL OVERLAY.

SPACERS SHALL BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE (SUCH AS PLASTIC OR RUBBER).

ALL COVERING MATERIAL, MOUNTING HARDWARE AND FASTENERS SHALL BE REMOVED WHEN PANEL OVERLAY IS REMOVED.

SIGN PANEL OVERLAYS USED TO COVER ALL OR PART OF A SIGN SHALL BE THE SAME COLOR AS THE BACKGROUND COLOR OF THE SIGN TO BE COVERED AND SHALL COVER ALL OF THE SIGN OR MESSAGE TO BE COVERED UNLESS SHOWN OTHERWISE IN THE PLAN.

TAPE SHALL NOT BE APPLIED TO THE SIGN SHEETING SURFACE. PRE-MASK OR APPLICATION TAPE SHALL BE REMOVED PRIOR TO EXPOSURE TO SUNLIGHT.

OVERLAY ASSEMBLY COVERING TYPE C OR D SIGN PANEL:

A RIGID OPAQUE PANEL OVERLAY, THE OVERLAY PANEL SHOULD BE APPROXIMATELY THE SAME SIZE AS THE SIGN PANEL SUCH THAT THE SIGN MESSAGE IS COMPLETELY COVERED

HOOKS OR PREFORMED STRAPS EXTEND OVER TOP EDGE(S) OF SIGN PANEL

INPLACE SIGN

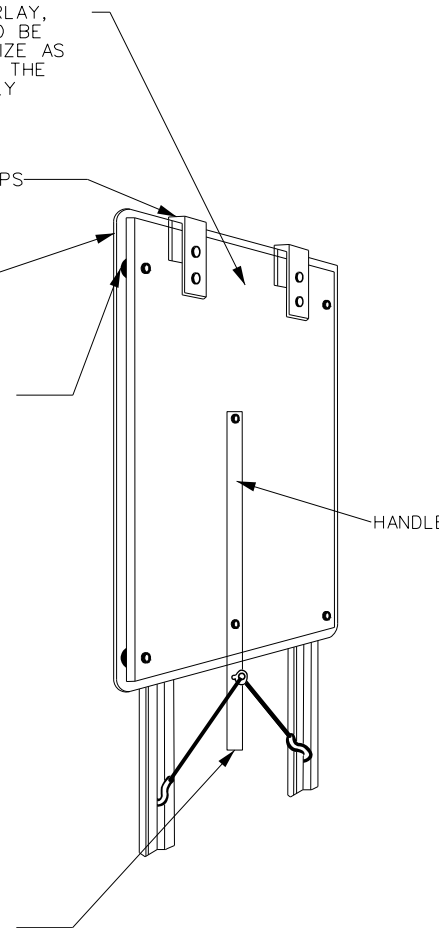
A SPACER IS REQUIRED IN ALL 4 CORNERS TO PROVIDE AIR FLOW GAP BETWEEN THE SIGN FACE AND OVERLAY PANEL

SPACERS SHALL ALLOW BETWEEN 1/4" TO 1" GAP AND BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE

ALL FASTENERS (SUCH AS bolts, HOOKS OR SCREWS) SHALL NOT TOUCH THE SIGN SHEETING FACE

THE OVERLAY PANEL SHALL BE ATTACHED TO THE SIGN STRUCTURE SUCH THAT IT WILL NOT MOVE DUE TO WIND

BOTTOM OF HANDLE SHALL BE SECURED TO PREVENT MOVEMENT. BOLT ON HANDLE SHALL BE ATTACHED TO OVERLAY PANEL AS TO NOT DAMAGE INPLACE SIGN PANEL.



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DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020
CHK: JAH	JEFFREY A. HILDEN

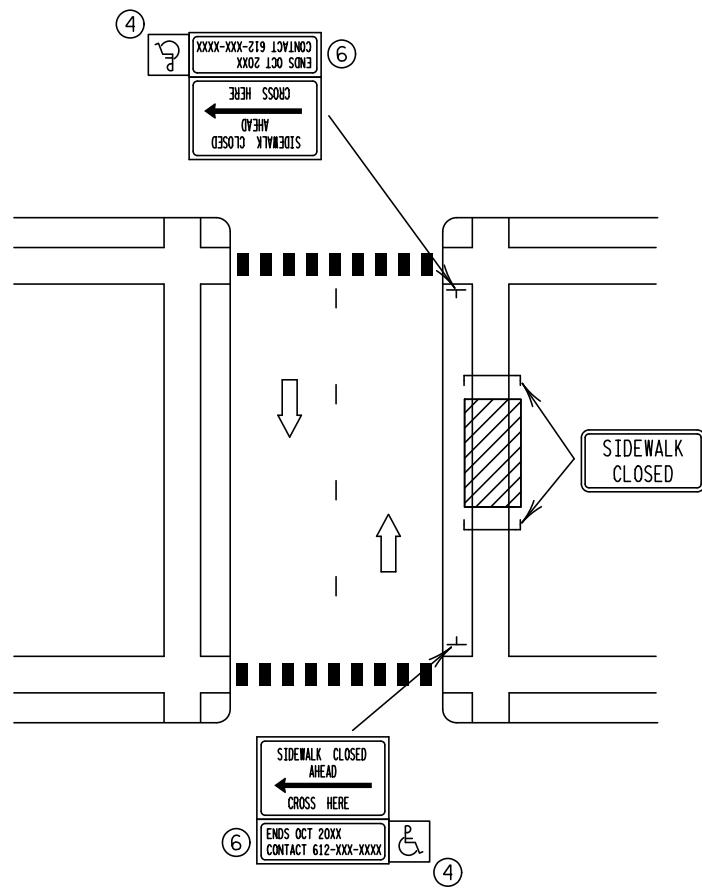
NO.	DATE	BY	DESCRIPTION OF REVISIONS



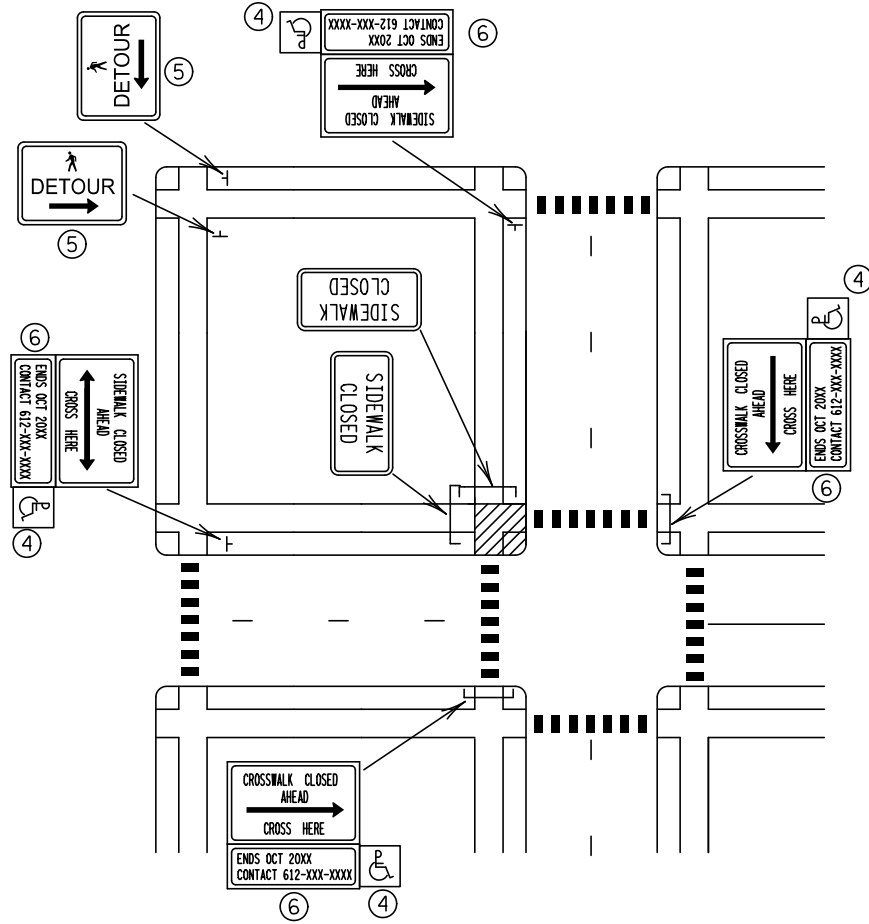
TEMPORARY SIGN COVERING AND MODIFICATION
STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
SHEET NO. 261 OF 416 SHEETS

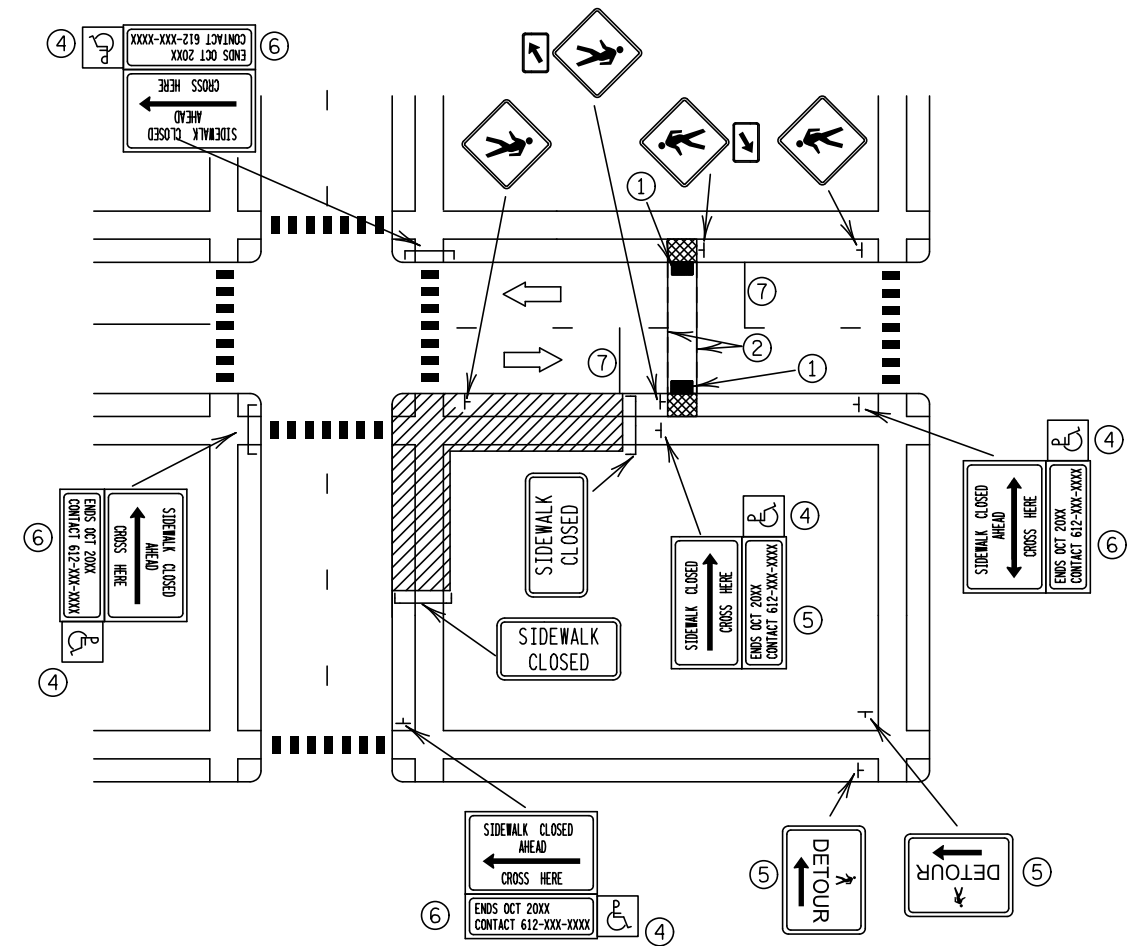
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OTHER SIDE OF STREET DETOUR
(FOR MID-BLOCK CLOSURE)



ONE QUADRANT CLOSED



OTHER SIDE OF STREET DETOUR OR DETOUR WITH
TRAILBLAZING SIGNS (FOR CORNER SIDEWALK
CLOSURE WITH OPTIONAL TEMPORARY CROSSWALK)

GENERAL NOTES:

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES. THE MINIMUM TEMPORARY WALKWAY WIDTH SHOULD BE THE WIDTH OF THE EXISTING FACILITY. IF THE EXISTING FACILITY HAS A WIDTH OF GREATER THAN 60", THE WIDTH OF THE TEMPORARY FACILITY MAY BE 60". IF THE WIDTH OF THE DETOUR IS LESS THAN 60", THEN A 60" BY 60" PASSING SPACE IS REQUIRED EVERY 200 FT.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER TRAILBLAZING SIGNS OR DEVICES MAY BE NEEDED FOR ADEQUATE ROUTING. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE A FIRM, STABLE, FREE-DRAINING, AND NON-SLIP TEMPORARY WALKWAY SURFACE, REGARDLESS OF WEATHER CONDITIONS. THE TEMPORARY WALKWAY SURFACE SHALL BE SUPPORTED BY A SOLID BASE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND. THE TEMPORARY WALKWAY SURFACE WILL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, AND OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR THE TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, OR OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS.

ANY PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7' MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ANY PORTABLE SIGN OR BARRICADE PLACED OR STORED IN A PEDESTRIAN WALKWAY THAT COULD BE A HAZARD TO A VISUALLY IMPAIRED PEDESTRIAN SHALL HAVE A DETECTABLE EDGE TO GUIDE THE PEDESTRIAN AROUND THE HAZARD. MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

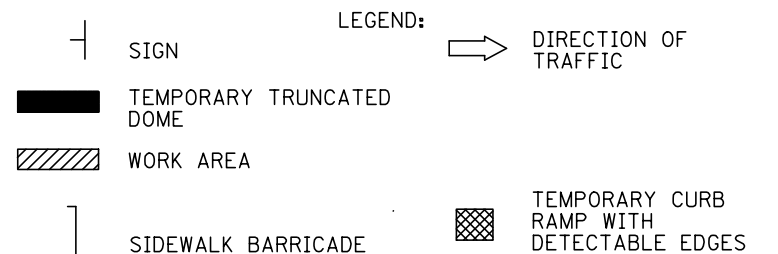
1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.

IF NOT ALREADY LIT, LIGHTING SHOULD BE CONSIDERED AT MID-BLOCK CROSSINGS IN ORDER TO ILLUMINATE PEDESTRIANS.

SPECIFIC NOTES:

- ① TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
- ② TEMPORARY PAVEMENT MARKINGS FOR CROSSWALKS MAY USE CROSSWALK BLOCKS OR TWO TRANSVERSE LINES. TWO STRIPS OF 18" PREFORMED MARKING MATERIAL MAY BE USED TO FORM 36" WIDE CROSSWALK BLOCKS.
- ③ [NOTE DELETED]
- ④ THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE FULLY ACCESSIBLE. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR.

- ⑤ PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHOULD BE USED IF THE PEDESTRIAN DETOUR IS LOCATED SOMEPLACE OTHER THAN ACROSS THE STREET FROM THE SIDEWALK CLOSURE.
- ⑥ TYPICAL SIGN MESSAGE FOR AN ALTERNATE PEDESTRIAN ROUTE SHOULD INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24/7 QUESTIONS OR REPORTING HAZARDS.
- ⑦ STOP BAR SHOULD BE LOCATED 20' TO 50' PRIOR TO THE CROSSWALK. RESTRICT PARKING BETWEEN THE STOP BAR AND THE CROSSWALK. ON TWO-WAY ROADWAYS, RESTRICT PARKING BOTH PRIOR TO AND AFTER THE CROSSWALK FOR BOTH DIRECTIONS.



PUBLISHED BY OTE 04/24/2020

MODIFIED BY

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: LKG	
CHK: JAH	

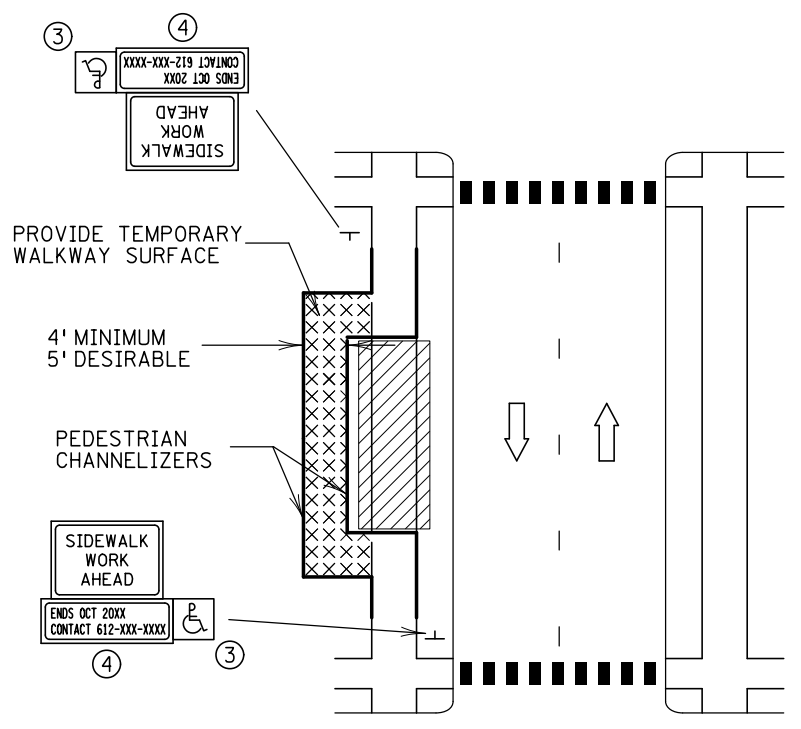
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020



ALTERNATE PEDESTRIAN ROUTE (APR)
DETOURS
STATE PROJ. NO. 002-611-036

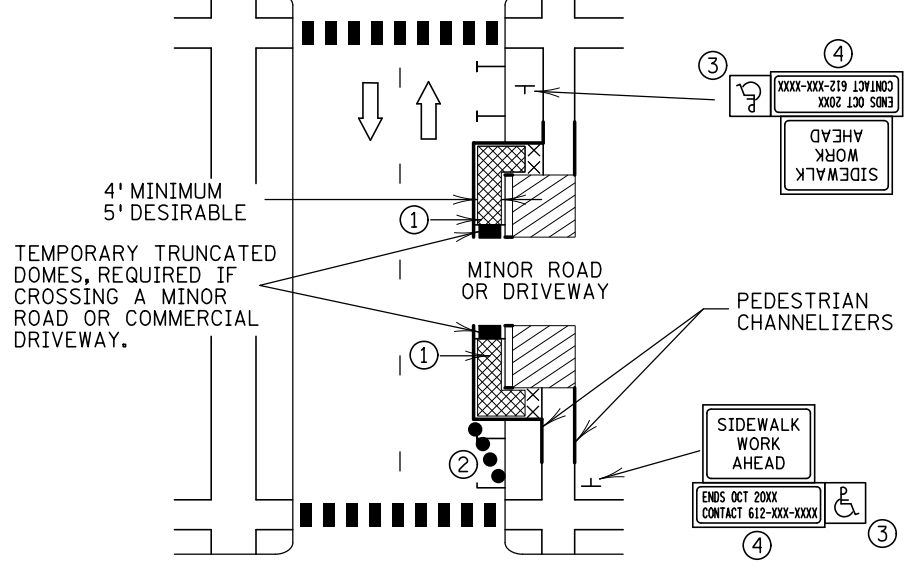
TRAFFIC CONTROL PLANS
SHEET NO. 262 OF 416 SHEETS

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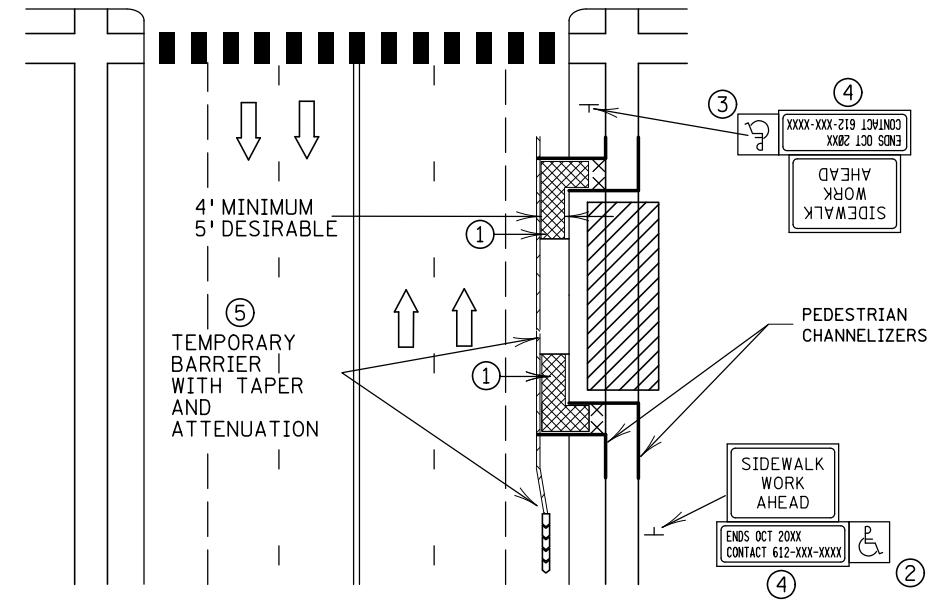


BYPASS ON ADJACENT AVAILABLE RIGHT OF WAY
BYPASS TYPE A

NOTE:
MAY ONLY BE USED ON ROADWAY WITH POSTED SPEED OF 45 MPH OR LESS.



SIDEWALK BYPASS USING PARKING OR SHOULDER ON LOW SPEED ROADWAY
BYPASS TYPE B



SIDEWALK BYPASS USING SHOULDER OR PARKING LANE ON MULTI-LANE OR HIGH SPEED ROADWAY
BYPASS TYPE C

GENERAL NOTES:

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES. THE ALTERNATE PEDESTRIAN ROUTE (APR) MUST REMAIN OPEN AT ALL TIMES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS,

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE A FIRM, STABLE, FREE-DRAINING, AND NON-SLIP TEMPORARY WALKWAY SURFACE, REGARDLESS OF WEATHER CONDITIONS. THE TEMPORARY WALKWAY SURFACE SHALL BE SUPPORTED BY A SOLID BASE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND. THE TEMPORARY WALKWAY SURFACE WILL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, AND OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR THE TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, OR OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS.

IF A 60" PEDESTRIAN WALKWAY WIDTH ISN'T PROVIDED FOR THE ROUTE, THEN A 60" BY 60" PASSING SPACE IS REQUIRED EVERY 200'. THE MINIMUM WIDTH OF THE WALKWAY IS 48".

ANY PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SIDEWALK SURFACE.

ANY PORTABLE SIGN OR BARRICADE PLACED OR STORED IN A PEDESTRIAN WALKWAY THAT COULD BE A HAZARD TO A VISUALLY IMPAIRED PEDESTRIAN SHALL HAVE A DETECTABLE EDGE TO GUIDE THE PEDESTRIAN AROUND THE HAZARD.

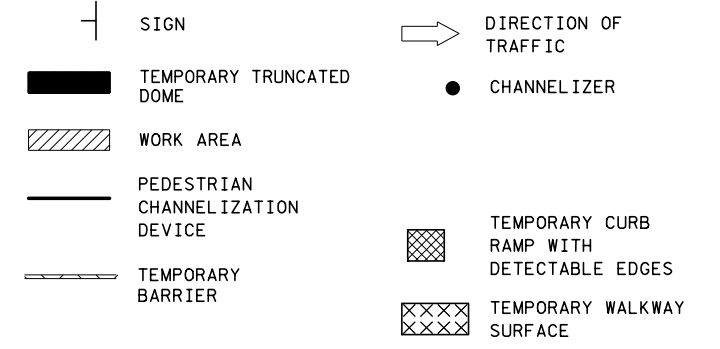
MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.

SPECIFIC NOTES:

- ① TEMPORARY CURB RAMPS.
- ② 5 DEVICE TAPER 25' LONG, RECOMMENDED WHEN THE CLOSED AREA WAS USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE.
- ③ THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE FULLY ACCESSIBLE. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR.
- ④ TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHOULD INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24/7 QUESTIONS OR REPORTING HAZARDS.
- ⑤ SEE THE MnDOT TEMPORARY BARRIER GUIDANCE MANUAL DECEMBER 2018 FOR GUIDANCE ON PLACEMENT AND USAGE OF TEMPORARY BARRIER.

LEGEND:



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DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i>
CHK: JAH	LIC. NO. 20781 DATE: 11/25/2020
NO.	DATE
BY	DESCRIPTION OF REVISIONS

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020



ALTERNATE PEDESTRIAN ROUTE (APR) BYPASSES
STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
SHEET NO. 263 OF 416 SHEETS

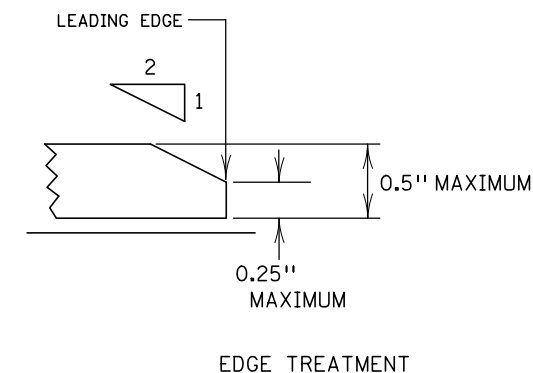
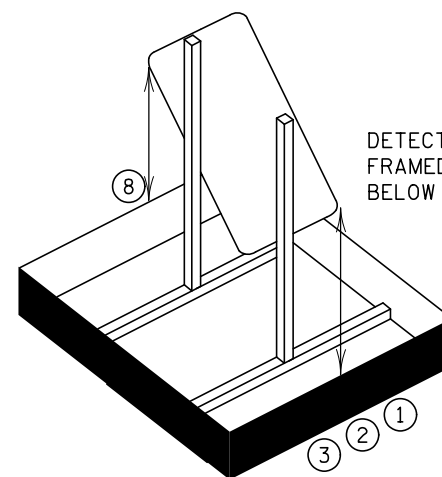
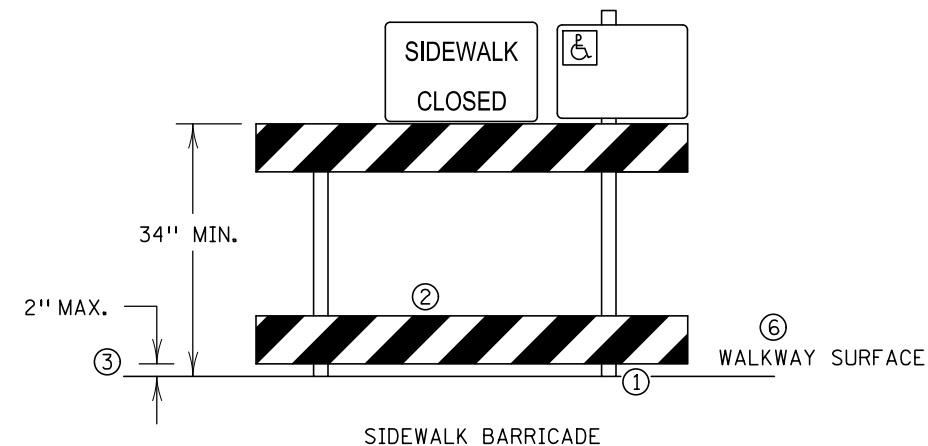
CHANNELIZERS, SIDEWALK BARRICADES, AND PORTABLE STANDS

GENERAL NOTES;

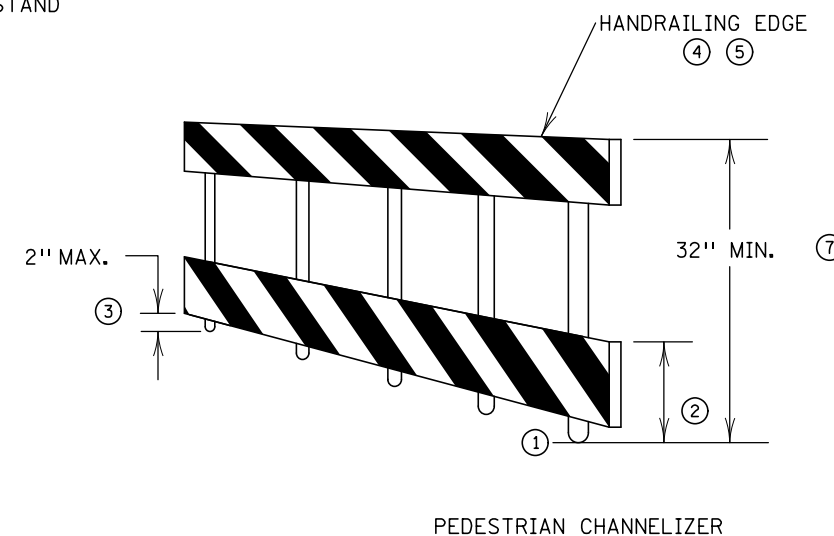
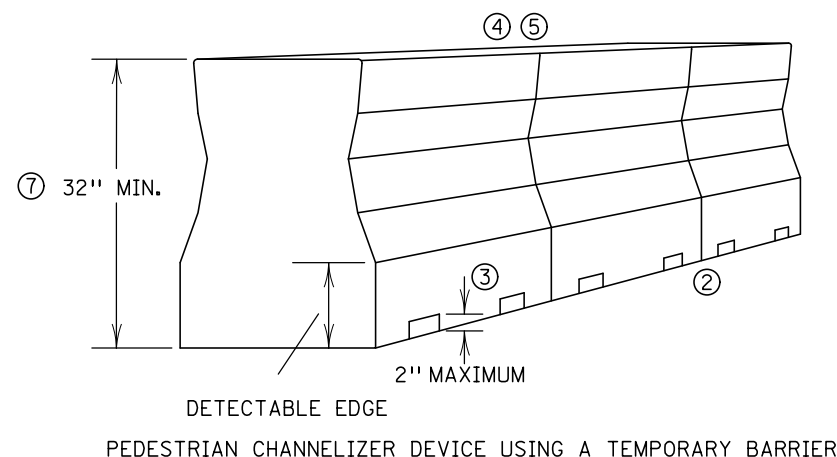
1. RAILINGS OR OTHER OBJECTS MAY PROTRUDE A MAXIMUM OF 4" INTO THE WALKWAY CLEAR SPACE WHEN LOCATED A MINIMUM OF 27" ABOVE THE WALKWAY SURFACE.
2. WHEN TEMPORARY BARRIER IS USED AS A PEDESTRIAN CHANNELIZER IT SHALL MEET CRASHWORTHY REQUIREMENTS.
3. WHEN USED, SIDEWALK BARRICADES SHALL BE PLACED ACROSS THE ENTIRE WIDTH OF THE WALKWAY SURFACE.
4. ALL DEVICES USED TO CHANNELIZE PEDESTRIAN FLOW SHOULD INTERLOCK SUCH THAT GAPS DO NOT ALLOW PEDESTRIANS TO STRAY FROM THE CHANNELIZED PATH.

SPECIFIC NOTES;

- ① ANY TRIPPING HAZARD IN THE WALKWAY NEEDS A DETECTABLE EDGE. BALLAST SHALL BE LOCATED BEHIND THE DETECTABLE EDGE OR INTERNAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHOULD NOT EXTEND INTO THE 48" MINIMUM WALKWAY CLEAR SPACE. ANY SUPPORT THAT EXTENDS INTO THE WALKWAY SHALL NOT EXCEED 0.5" HEIGHT ABOVE THE WALKWAY SURFACE; IF GREATER THAN 0.25", BEVEL AS SHOWN IN THE EDGE TREATMENT DETAIL.
- ② DETECTABLE EDGES SHALL BE CONTINUOUS AND 6" MINIMUM ABOVE THE WALKWAY SURFACE AND HAVE COLOR MARKINGS CONTRASTING WITH THE WALKWAY SURFACE. THE DETECTABLE EDGE AROUND A PORTABLE SIGN STAND SHOULD BE PLACED IN THE WALKWAY AREA IN WHICH THE SIGN POSES A HAZARD TO A VISUALLY IMPAIRED PEDESTRIAN.
- ③ DEVICES AND DETECTABLE EDGES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2" IS ALLOWED FOR DRAINAGE PURPOSES.
- ④ WHEN HAND GUIDANCE IS REQUIRED, THE TOP RAIL OR TOP SURFACE SHALL:
 - BE IN A VERTICAL PLANE PERPENDICULAR TO THE WALKWAY ABOVE THE DETECTABLE EDGE,
 - BE CONTINUOUS AT A HEIGHT OF 34 TO 38" ABOVE THE WALKWAY SURFACE, AND
 - BE SUPPORTED WITH MINIMAL INTERFERENCE TO THE PEDESTRIAN'S HANDS OR FINGERS.
- ⑤ ALL DEVICES SHALL BE FREE OF SHARP OR ROUGH EDGES, AND FASTENERS (BOLTS) SHALL BE ROUNDED TO PREVENT HARM TO HANDS, ARMS OR CLOTHING OF PEDESTRIANS.
- ⑥ TEMPORARY WALKWAY SURFACES SHALL BE FIRM, STABLE, FREE-DRAINING AND NON-SLIP REGARDLESS OF WEATHER CONDITIONS. TEMPORARY WALKWAY SURFACES SHALL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, OR OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR A TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, OR OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS.
- ⑦ LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS SHALL BE 32" HIGH OR GREATER.
- ⑧ AN EDGE OF THE FRAMING MAY BE REMOVED IF IT IS NOT NEEDED FOR PED GUIDANCE. STABILITY OF THE DETECTABLE EDGE SHOULD BE MAINTAINED.



DETECTABLE EDGE FOR SIGN ON PORTABLE STAND



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DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020
CHK: JAH	JEFFREY A. HILDEN



TEMPORARY PEDESTRIAN ACCESS ROUTE DEVICES (1 OF 2)
STATE PROJ. NO. 002-611-036

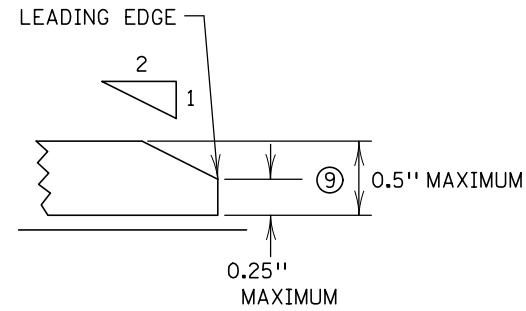
TRAFFIC CONTROL PLANS

SHEET NO. 264 OF 416 SHEETS

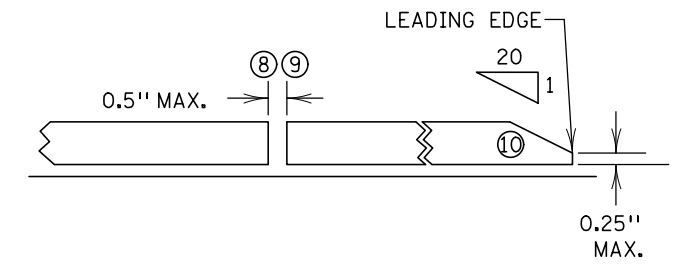
TEMPORARY CURB RAMPS AND WALKWAY SURFACES

SPECIFIC NOTES;

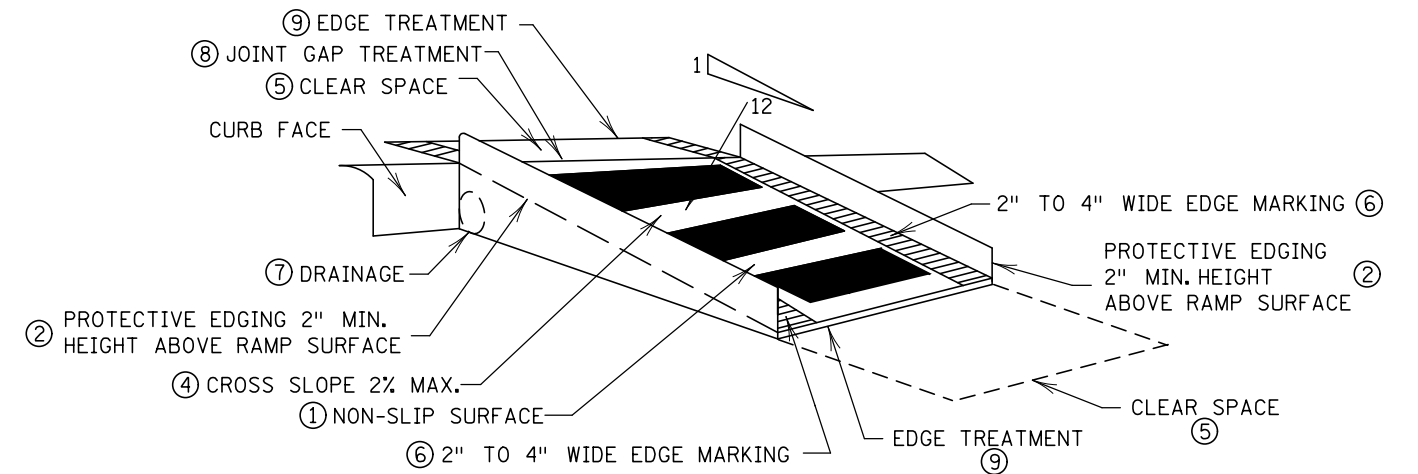
- ① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE PLACED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE PLACED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ CURB RAMPS AND LANDINGS SHALL HAVE A 2% MAX. CROSS SLOPE.
- ⑤ CLEAR SPACE OF 48" X 48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
- ⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR, 2" TO 4" WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
- ⑦ WATER FLOW IN THE GUTTER SYSTEM SHALL NOT BE IMPEDED.
- ⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
- ⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHOULD BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2" HEIGHT.
- ⑩ THE TEMPORARY WALKWAY SURFACE MAY HAVE A THICKNESS GREATER THAN 0.5". IF THE THICKNESS OF THE TEMPORARY WALKWAY SURFACE IS LESS THAN OR EQUAL TO 0.5", THE BEVEL MAY BE 1:2.



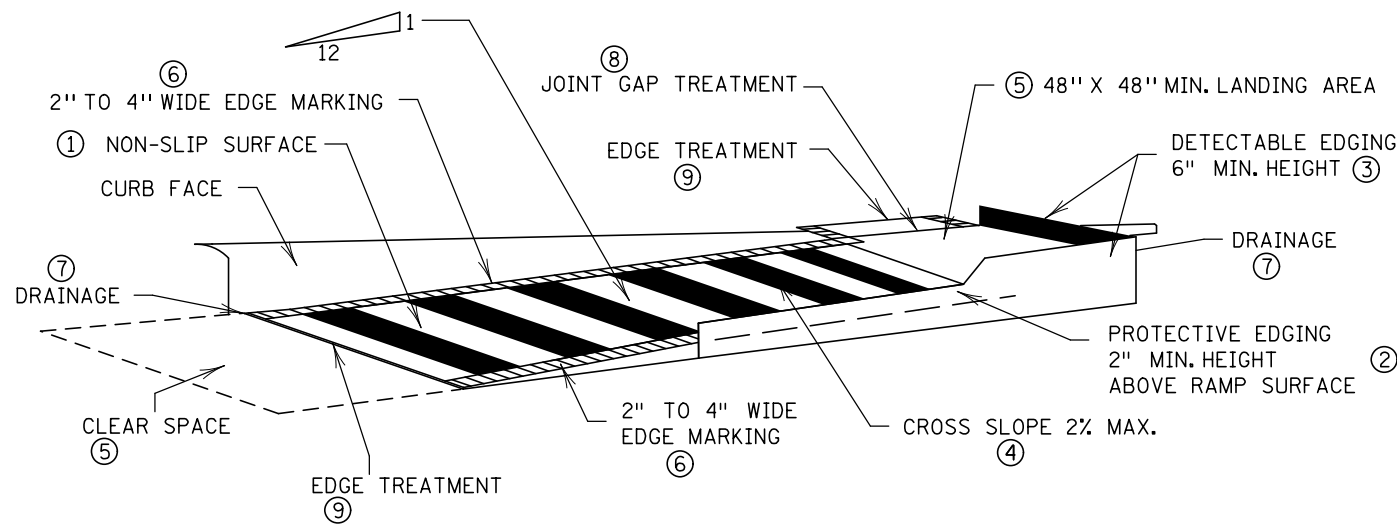
EDGE TREATMENT



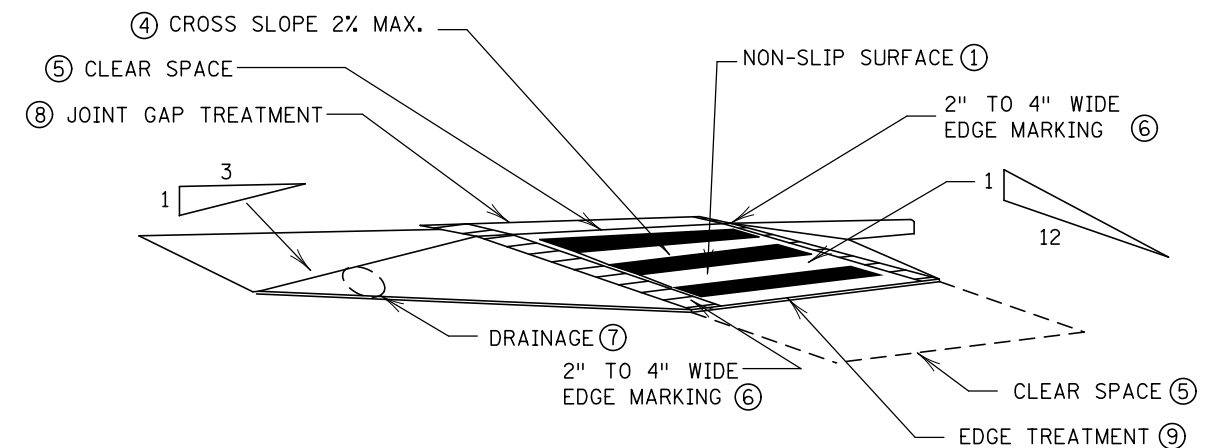
TEMPORARY WALKWAY SURFACE



TEMPORARY CURB RAMP PERPENDICULAR TO CURB SHOWN WITH PROTECTIVE EDGE



TEMPORARY CURB RAMP PARALLEL TO CURB



TEMPORARY CURB RAMP PERPENDICULAR TO CURB SHOWN WITH SIDE APRON

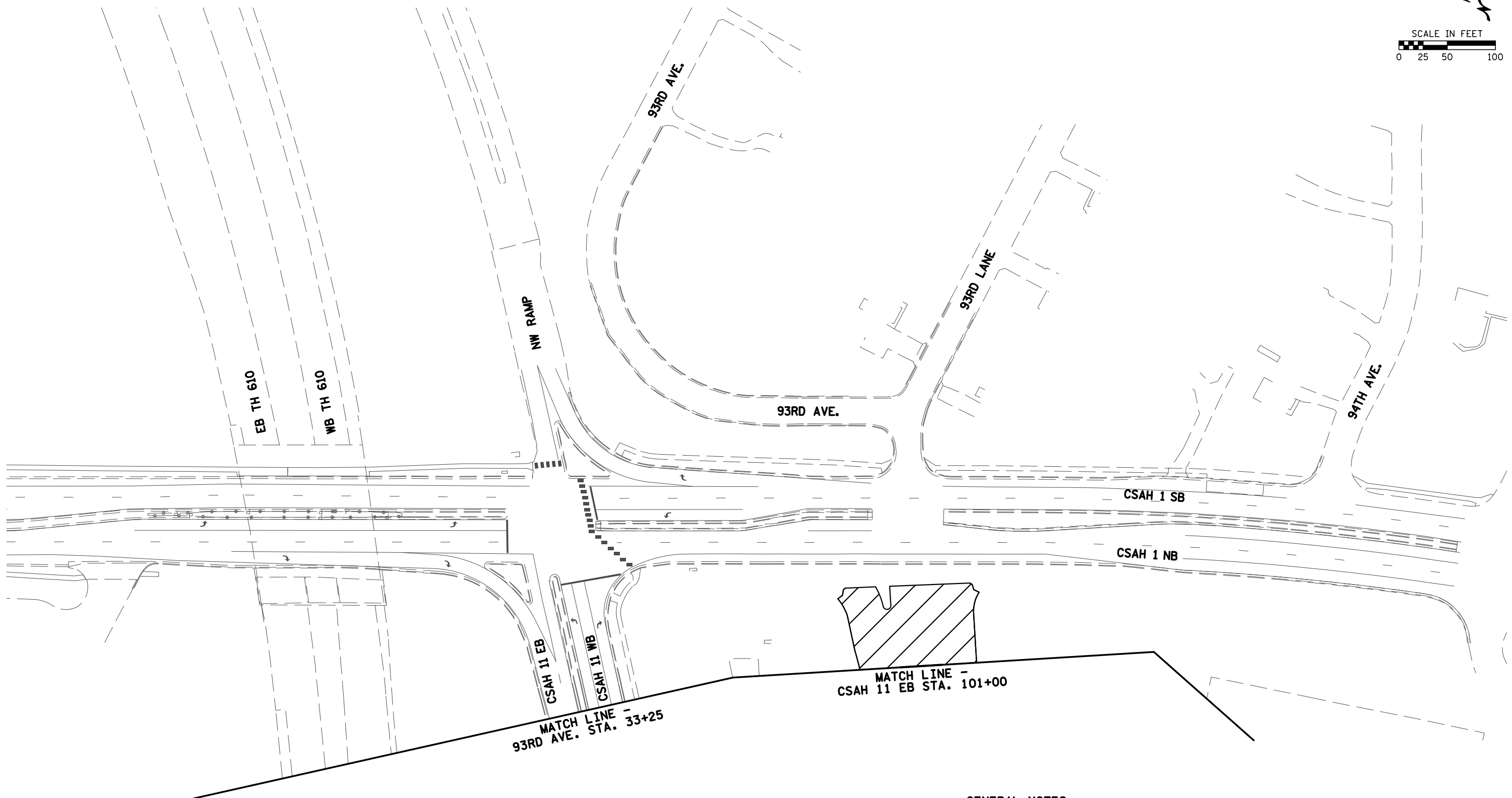
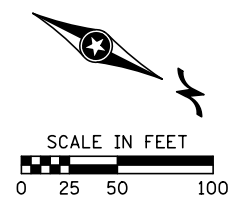
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PUBLISHED BY OTE 04/24/2020

MODIFIED BY

	DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	
	DRW: LKG	SIGNATURE:	STATE PROJ. NO. 002-611-036
	CHK: JAH	LIC. NO. 20781 DATE: 11/25/2020	TRAFFIC CONTROL PLANS
NO.	DATE	BY	DESCRIPTION OF REVISIONS

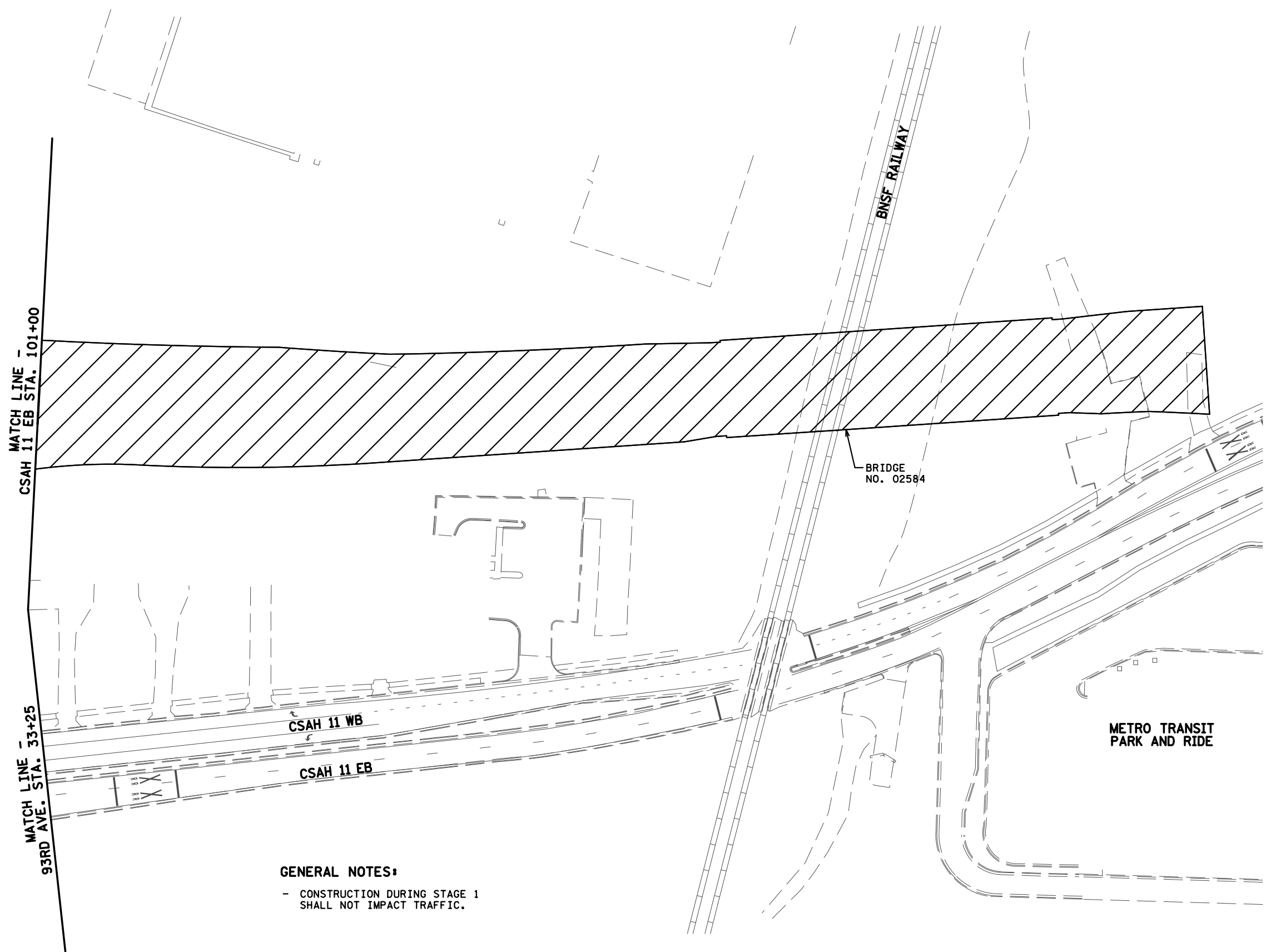
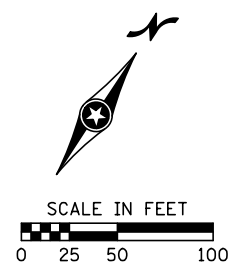
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GENERAL NOTES:
 - CONSTRUCTION DURING STAGE 1
 SHALL NOT IMPACT TRAFFIC.

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		STAGE 1	TRAFFIC CONTROL PLANS SHEET NO. 266 OF 416 SHEETS
				DRW: LKG			SHEET D	
				CHK: JAH			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

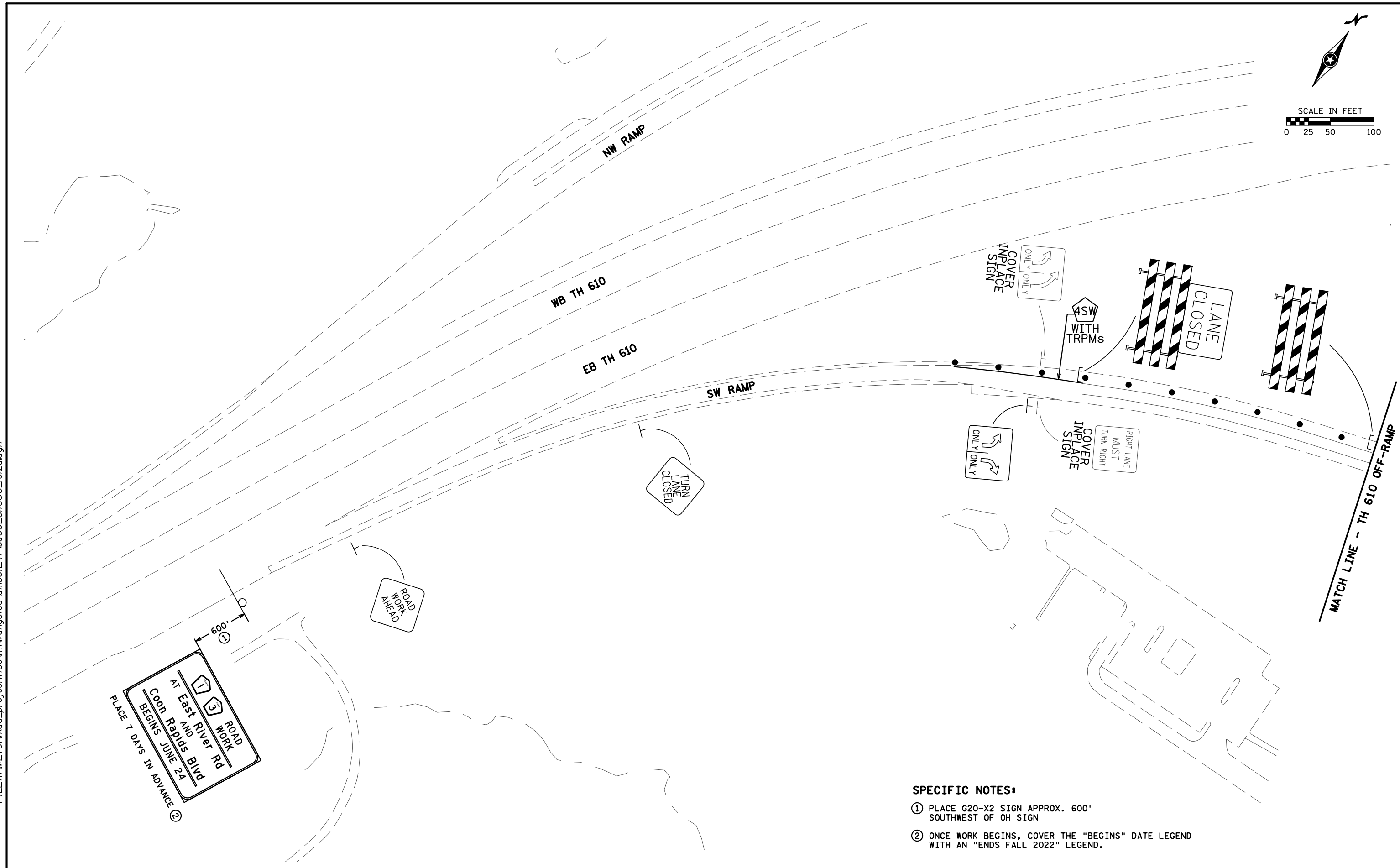
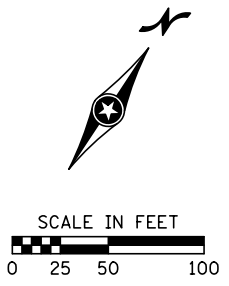
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GENERAL NOTES:
 - CONSTRUCTION DURING STAGE 1 SHALL NOT IMPACT TRAFFIC.

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	TKDA	STAGE 1	TRAFFIC CONTROL PLANS
				DRW: LKG			SHEET K	
				CHK: JAH			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

DATE: 11/25/2020 TIME: 7:06:34 AM
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ROAD WORK AHEAD
 AT East River Rd
 Coon Rapids Blvd
 BEGINS JUNE 24
 PLACE 7 DAYS IN ADVANCE

SPECIFIC NOTES:

- ① PLACE G20-X2 SIGN APPROX. 600' SOUTHWEST OF OH SIGN
- ② ONCE WORK BEGINS, COVER THE "BEGINS" DATE LEGEND WITH AN "ENDS FALL 2022" LEGEND.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

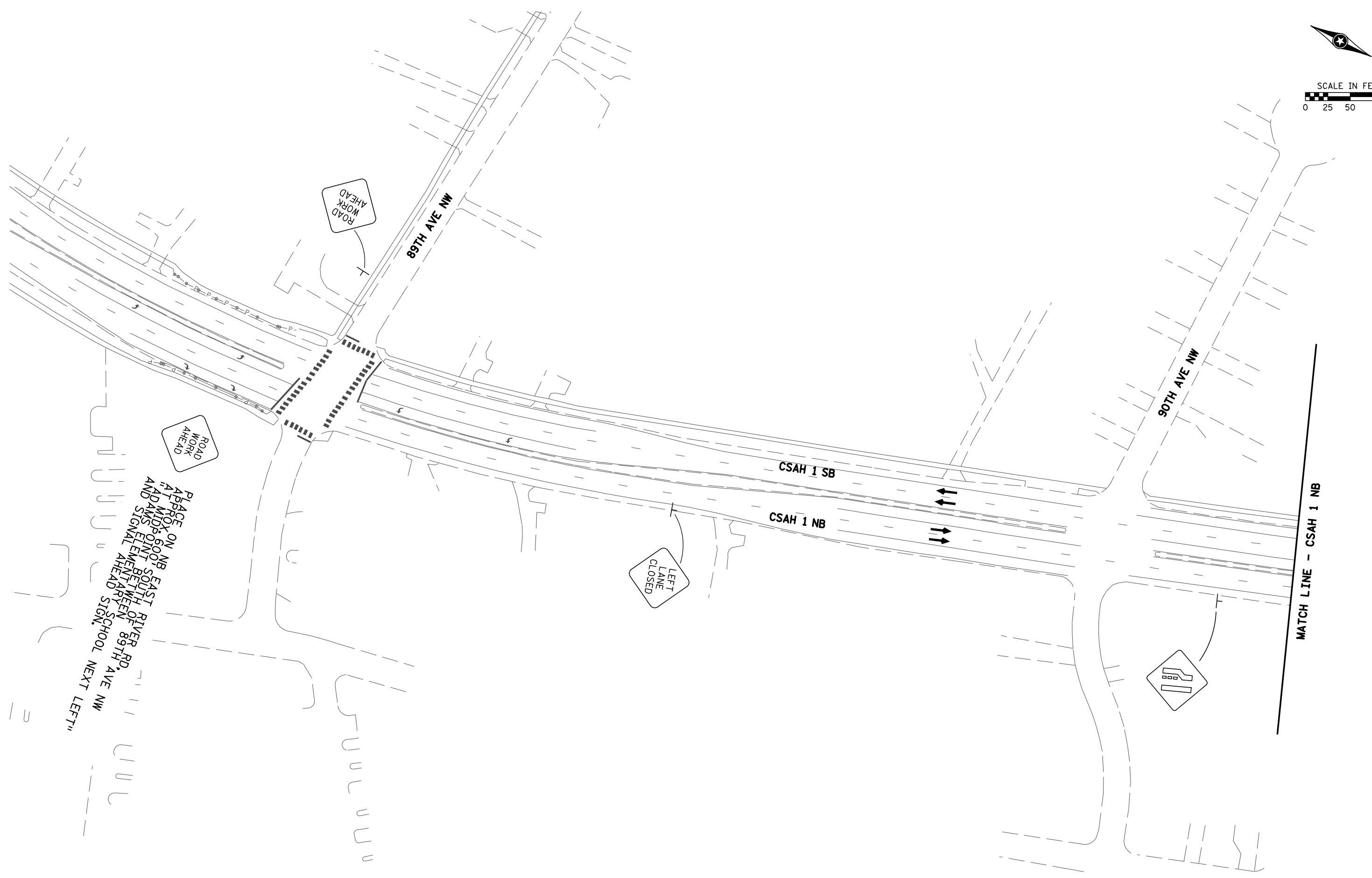
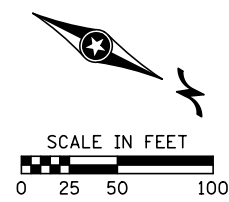
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



PRIOR TO STAGE 2A
 SHEET A
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 268 OF 416 SHEETS



ROAD WORK AHEAD

ROAD WORK AHEAD

ROAD WORK AHEAD

PLACE ON NB EAST RIVER RD. SOUTH OF 89TH AVE NW AT APPROX. 600 FT. BETWEEN ADAMS ELEMENTARY SCHOOL AND SIGNAL AHEAD SIGN. NEXT LEFT"

DATE: 11/25/2020 TIME: 7:07:08 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



PRIOR TO STAGE 2A
 SHEET B

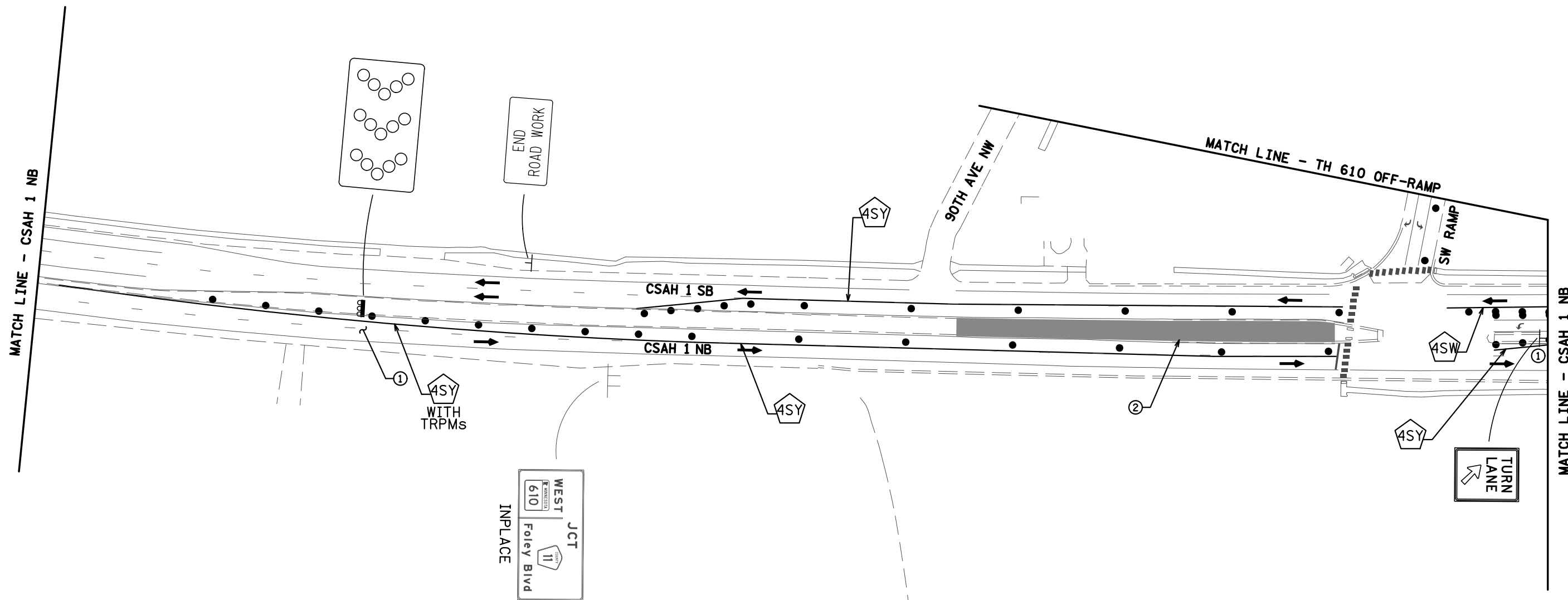
STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 269 OF 416 SHEETS



SCALE IN FEET
0 25 50 100



SPECIFIC NOTES:

- ① COVER CONFLICTING PAVEMENT MARKINGS WITH PREFORMED PLASTIC MASK (BLACK).
- ② CONSTRUCT TEMPORARY BITUMINOUS PAVEMENT.

DATE: 11/25/2020 TIME: 7:07:25 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



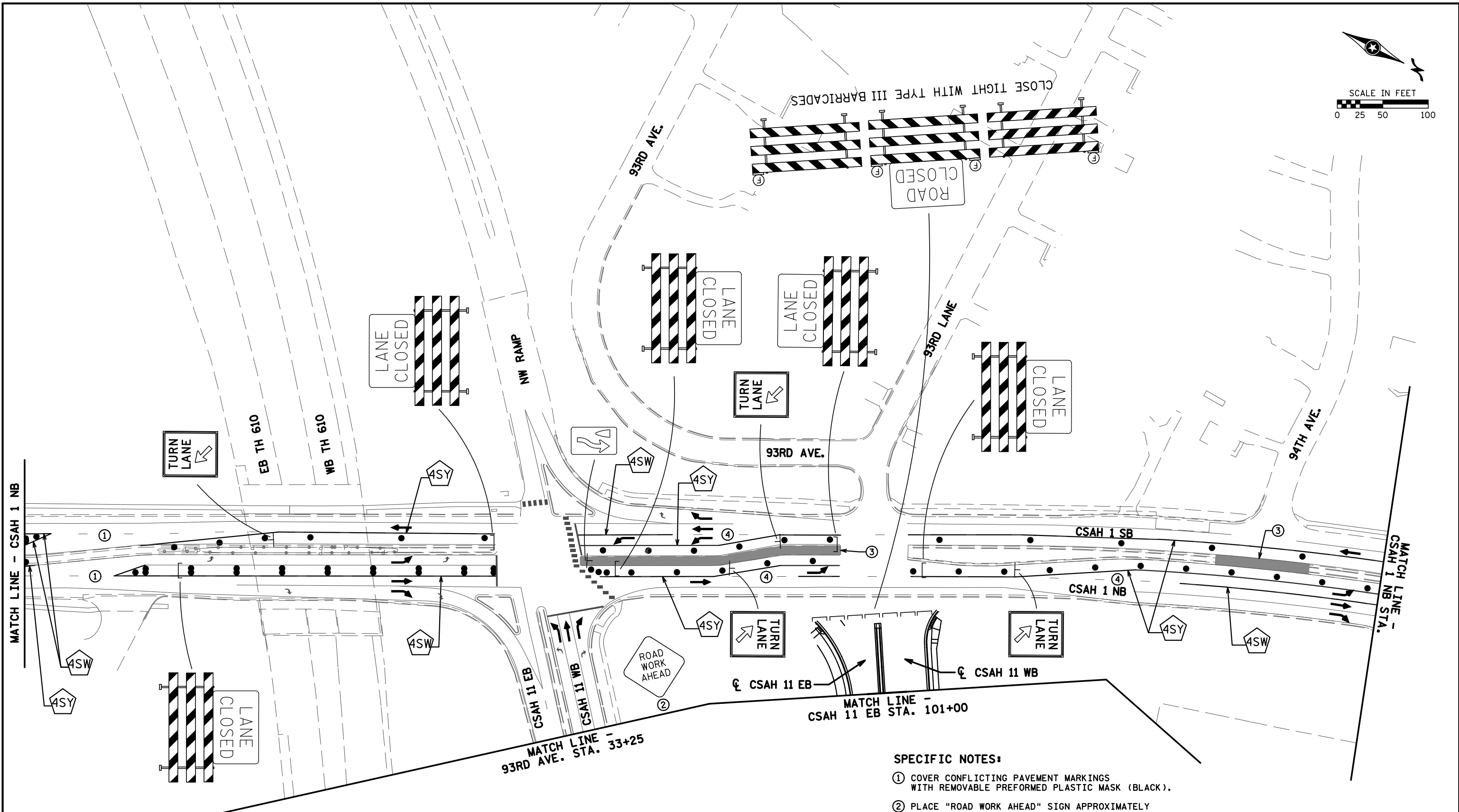
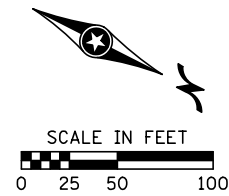
PRIOR TO STAGE 2A
 SHEET C

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 270 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:07:43 AM
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- SPECIFIC NOTES:**
- ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).
 - ② PLACE "ROAD WORK AHEAD" SIGN APPROXIMATELY 280' EAST OF INPLACE STOP BAR. DO NOT BLOCK SIGHTLINE TO INPLACE FIRE HYDANT.
 - ③ CONSTRUCT TEMPORARY BITUMINOUS PAVEMENT.
 - ④ REMOVE CONFLICTING PAVEMENT MARKINGS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

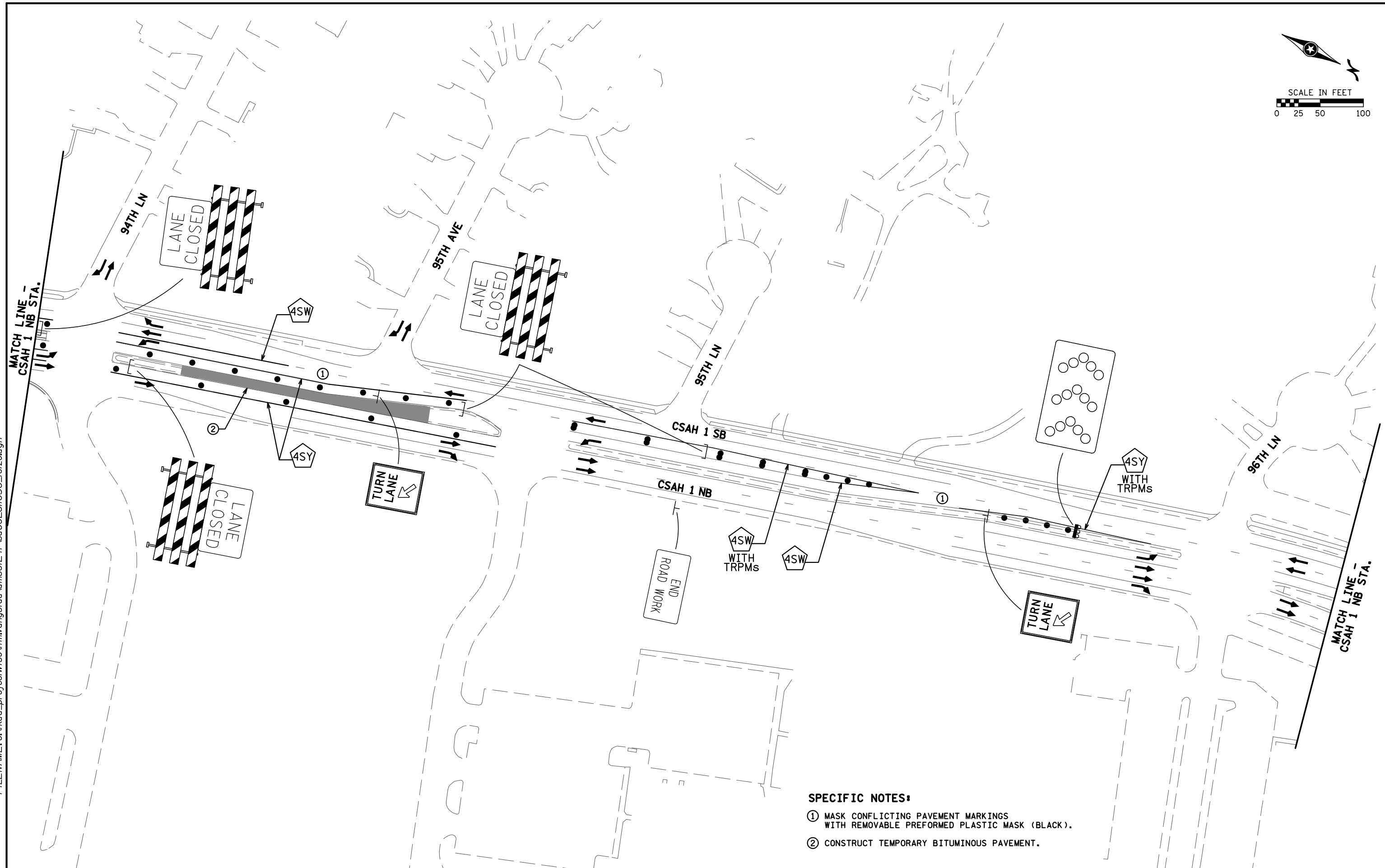
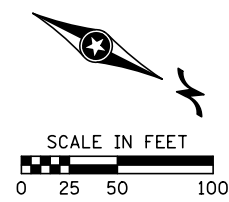


PRIOR TO STAGE 2A
 SHEET D

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 271 OF 416 SHEETS

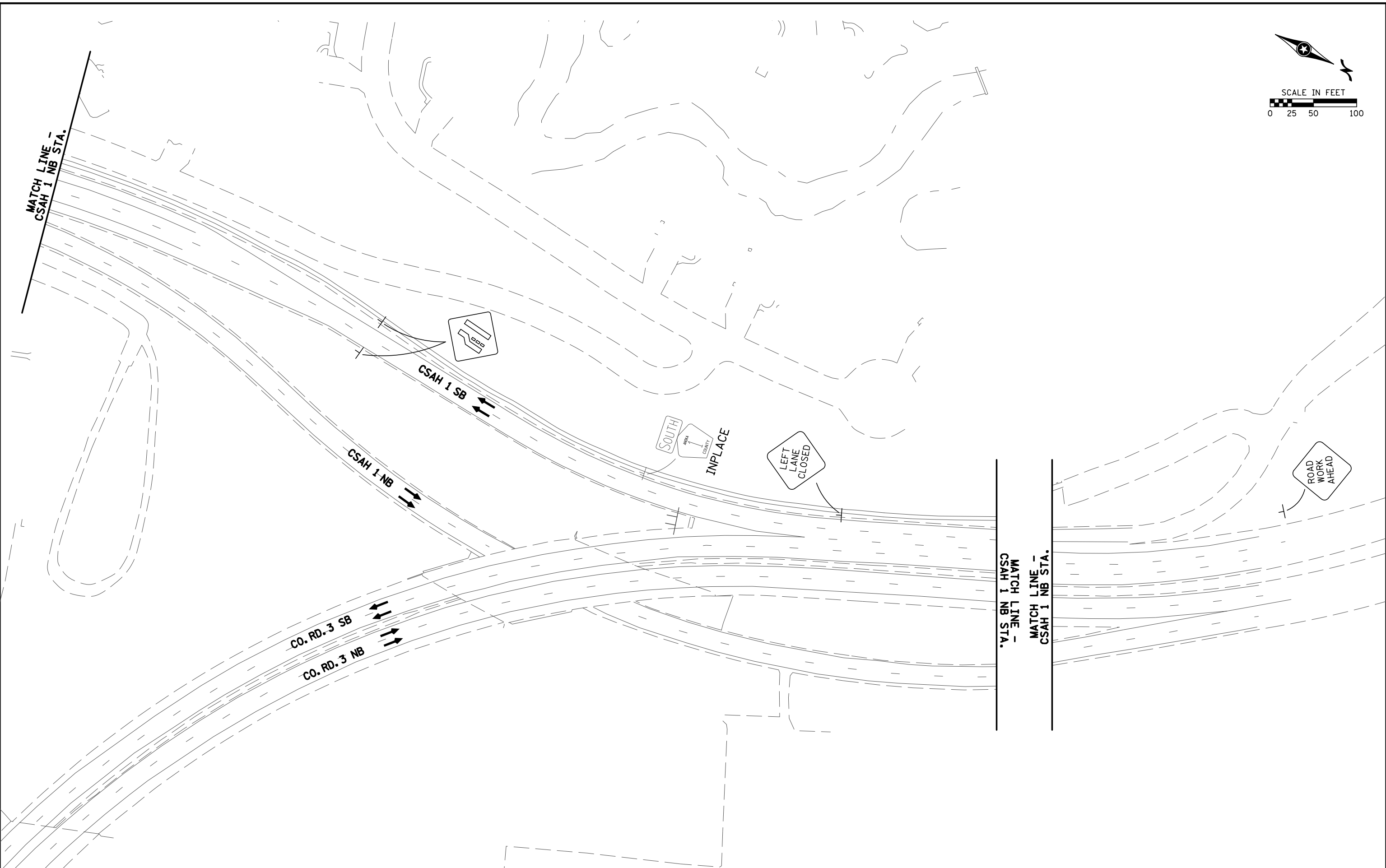
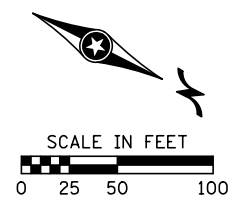


- SPECIFIC NOTES:**
- ① MASK CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).
 - ② CONSTRUCT TEMPORARY BITUMINOUS PAVEMENT.

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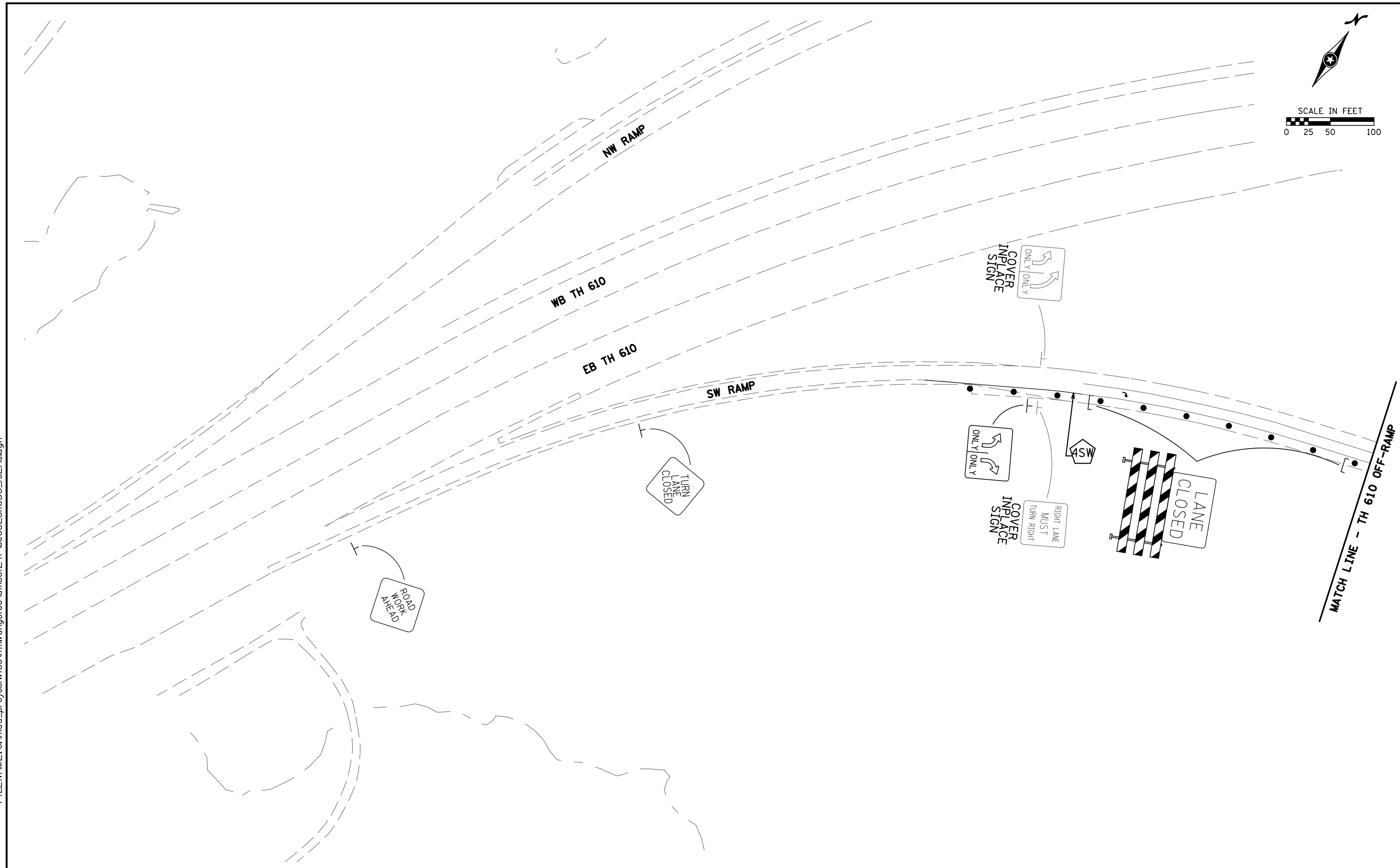
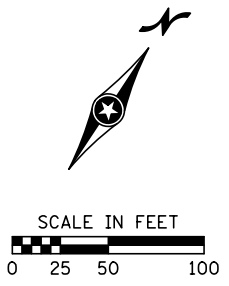
	DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		PRIOR TO STAGE 2A SHEET E	TRAFFIC CONTROL PLANS
	DRW: LKG	SIGNATURE:	LIC. NO. 20781 DATE: 11/25/2020	STATE PROJ. NO. 002-611-036	SHEET NO. 272 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH	

DATE: 11/25/2020 TIME: 7:08:26 AM
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				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		PRIOR TO STAGE 2A SHEET F	TRAFFIC CONTROL PLANS
				DRW: LKG			STATE PROJ. NO. 002-611-036	SHEET NO. 273 OF 416 SHEETS
				CHK: JAH				
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

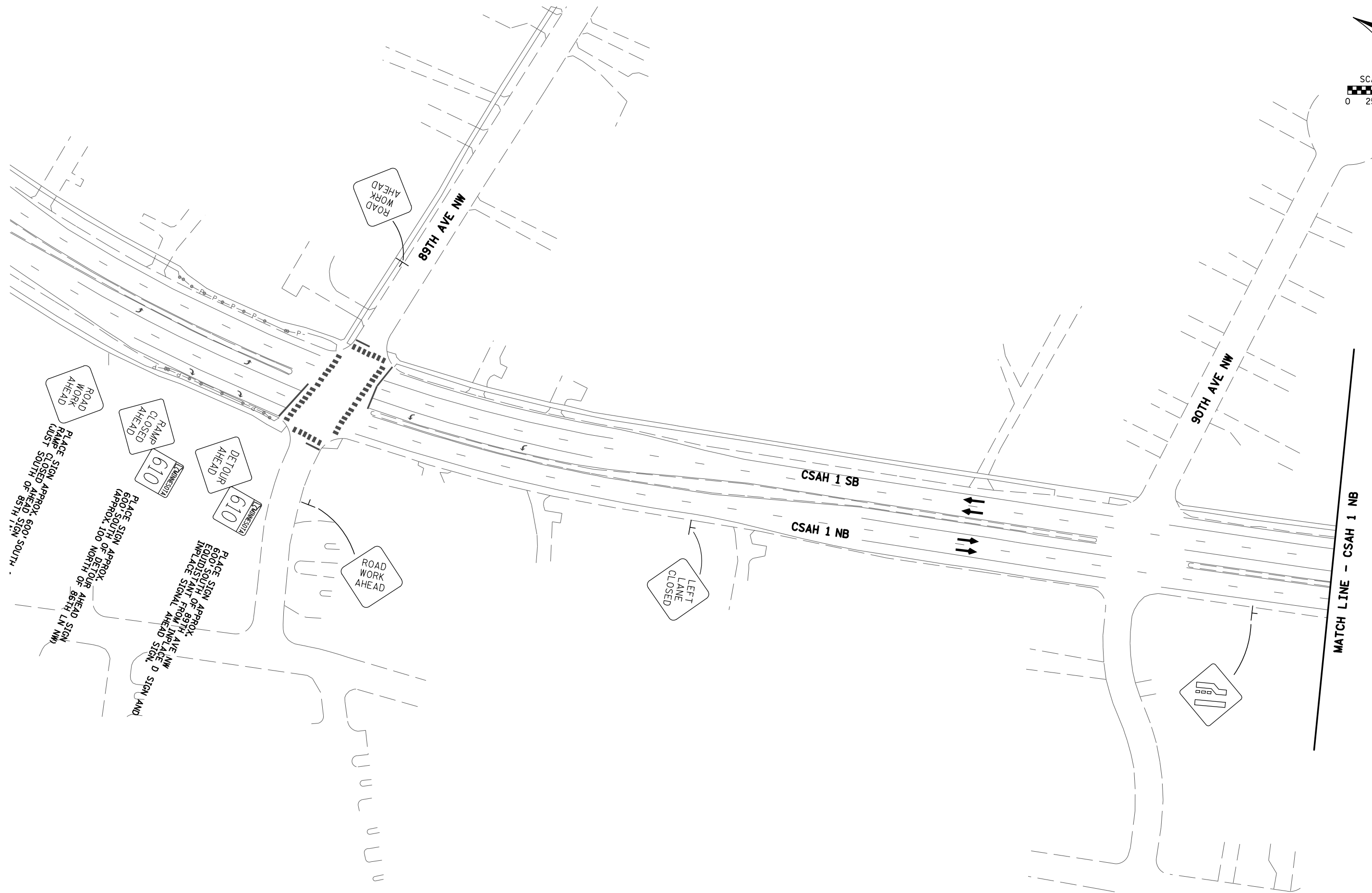
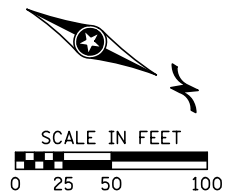


STAGE 2A
 SHEET A

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 274 OF 416 SHEETS



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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



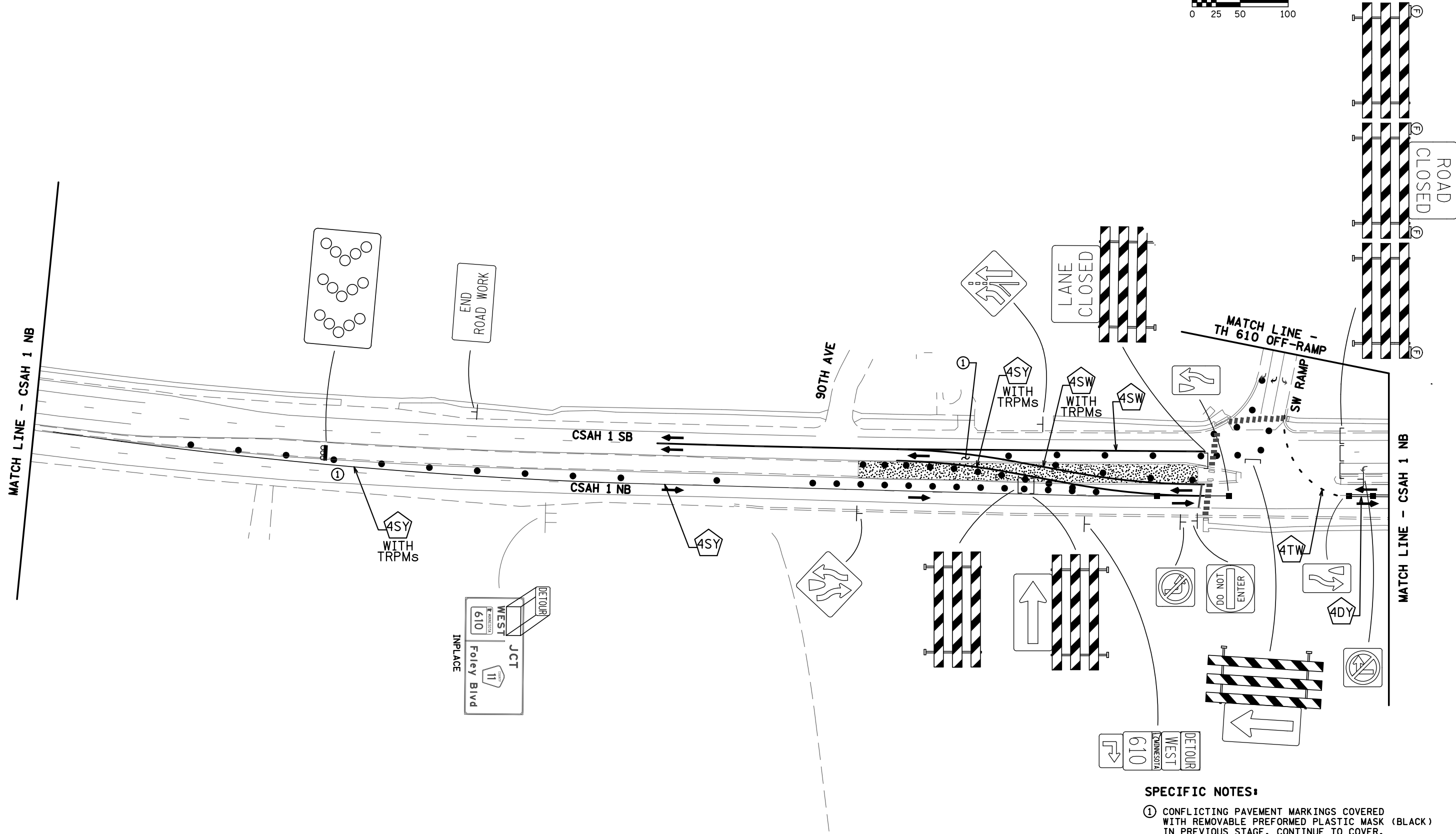
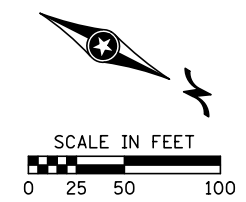
STAGE 2A
 SHEET B

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 275 OF 416 SHEETS

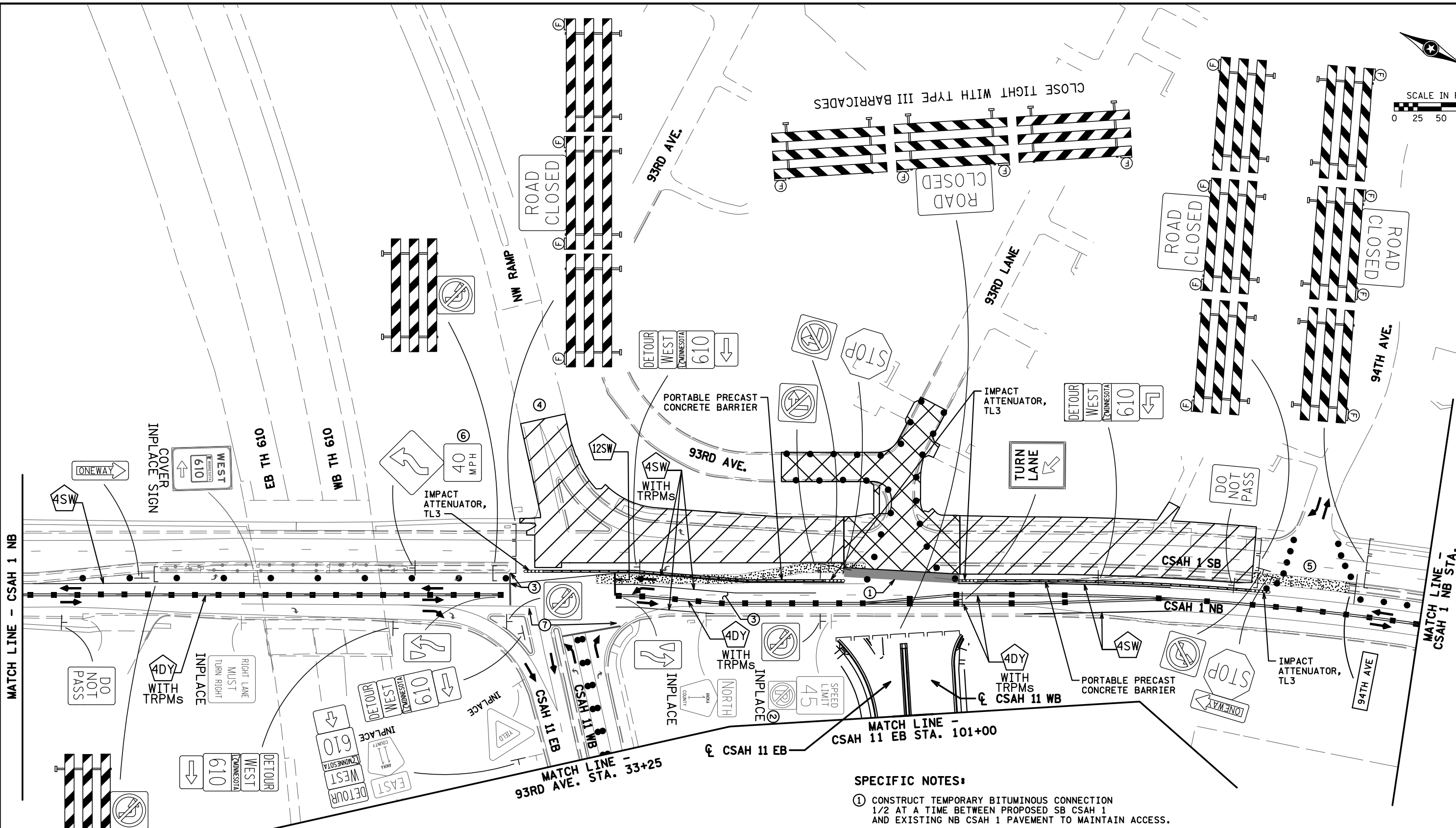
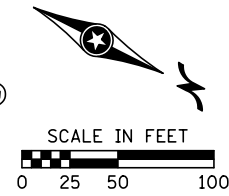
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SPECIFIC NOTES:
 ① CONFLICTING PAVEMENT MARKINGS COVERED WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK) IN PREVIOUS STAGE. CONTINUE TO COVER.

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		STAGE 2A	TRAFFIC CONTROL PLANS
				DRW: LKG			SHEET C	
				CHK: JAH			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

DATE: 11/25/2020 TIME: 7:10:46 AM
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GENERAL NOTES:

- MAINTAIN PEDESTRIAN ACCESS ALONG EAST RIVER RD.
- PROPOSED VS INPLACE ELEVATIONS ALONG THE EAST RIVER RD CONSTRUCTION AREA ARE NOTABLY DIFFERENT. PROVIDE APPROPRIATE TEMPORARY EARTH RETENTION, PAID FOR AS "EARTH RETENTION SYSTEM (TEMPORARY)" (LUMP SUM).

SPECIFIC NOTES:

- ① CONSTRUCT TEMPORARY BITUMINOUS CONNECTION 1/2 AT A TIME BETWEEN PROPOSED SB CSAH 1 AND EXISTING NB CSAH 1 PAVEMENT TO MAINTAIN ACCESS.
- ② COVER OR REMOVE INPLACE SIGN.
- ③ REMOVE CONFLICTING PAVEMENT MARKING.
- ④ DETOUR TH 610 ON-RAMP. SIGNS AND DEVICES FOR DETOUR ARE INCLUDED IN THIS PLAN.
- ⑤ COVER CONFLICTING PAVEMENT MARKING WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).
- ⑥ ADVISORY SPEEDS ARE APPROXIMATE. EXACT ADVISORY SPEEDS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ⑦ DIRECT PEDESTRIANS AROUND WORK AREA. SEE TPAR AND APR DETAILS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

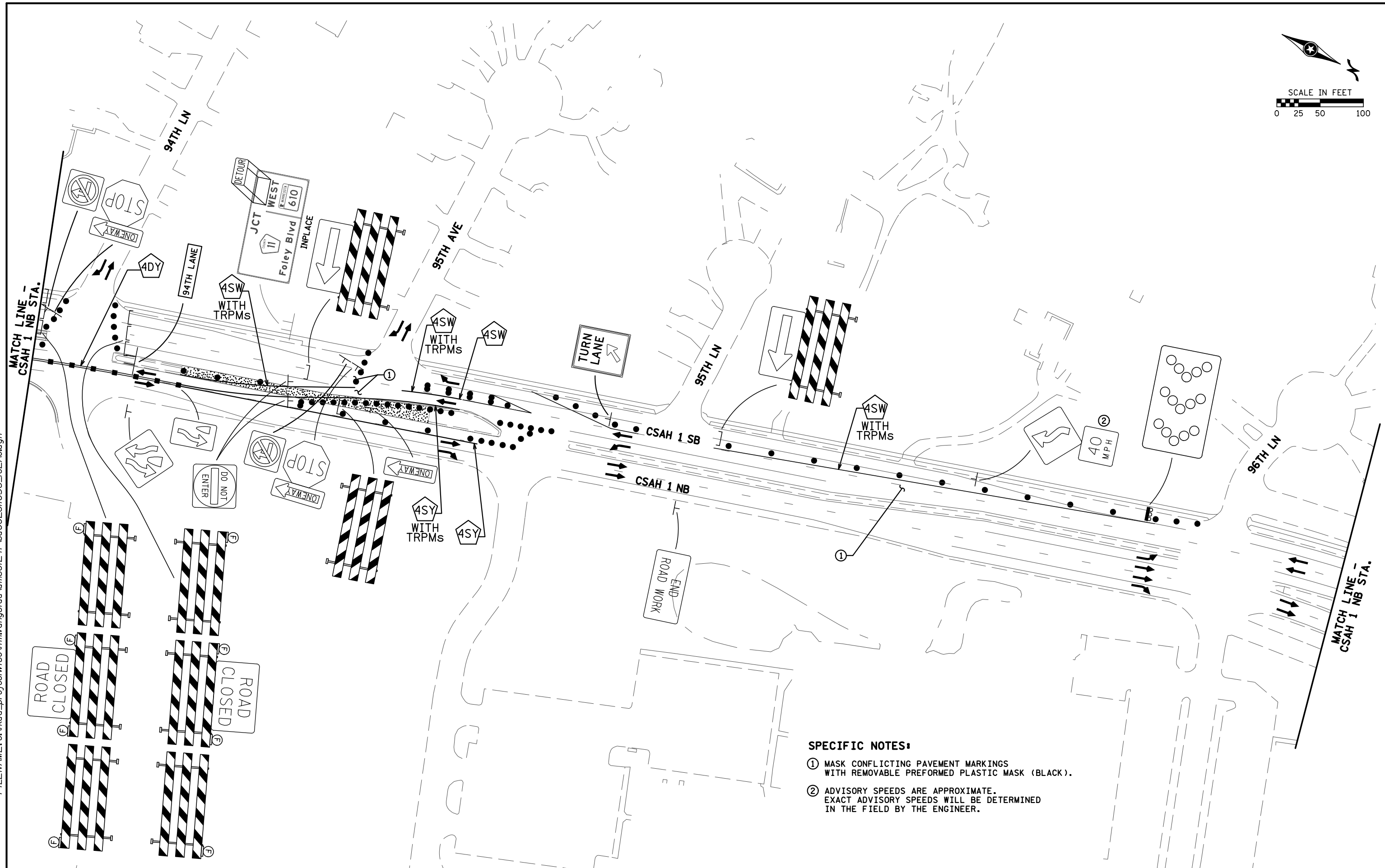
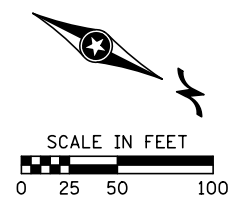
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



STAGE 2A
 SHEET D
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 277 OF 416 SHEETS



DATE: 11/25/2020 TIME: 7:11:24 AM
 FILENAME: c:\tkda\proj\tech\wise\hmv\vangstad\dms01247\cd00261036_rc2Ae.dgn

SPECIFIC NOTES:

- ① MASK CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).
- ② ADVISORY SPEEDS ARE APPROXIMATE. EXACT ADVISORY SPEEDS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

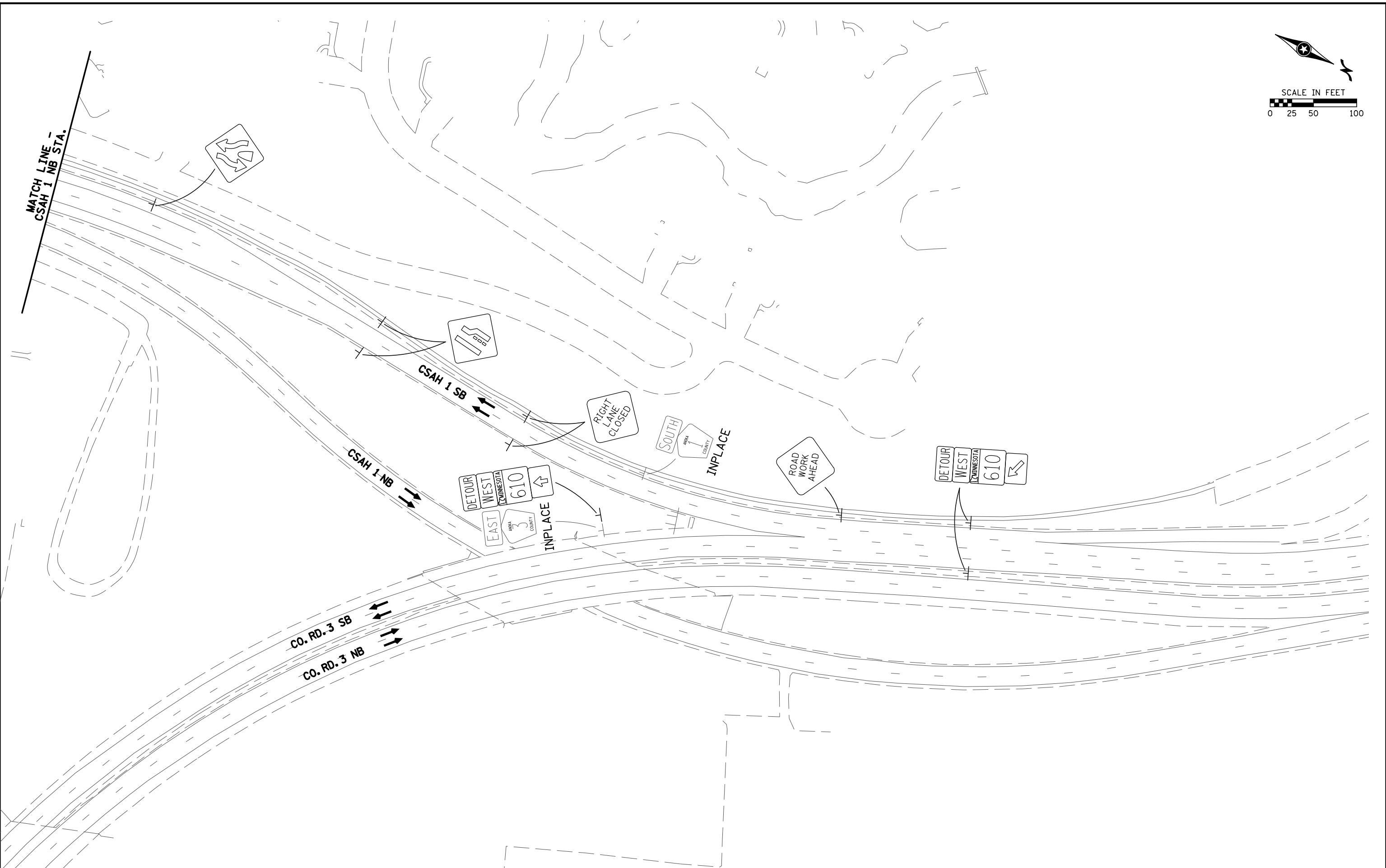
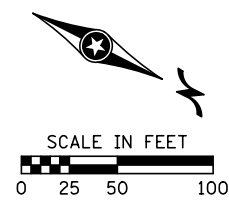
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



STAGE 2A
 SHEET E
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 278 OF 416 SHEETS

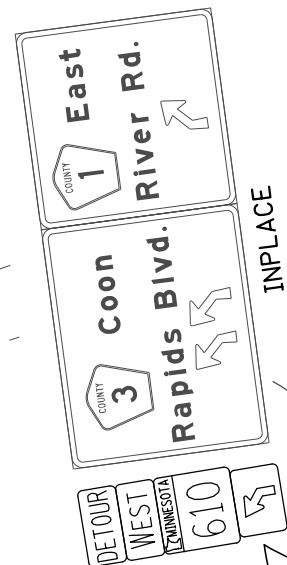
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				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		STAGE 2A SHEET F	TRAFFIC CONTROL PLANS
				DRW: LKG			STATE PROJ. NO. 002-611-036	SHEET NO. 279 OF 416 SHEETS
				CHK: JAH				
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

DATE: 11/25/2020 TIME: 7:12:34 AM
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MATCH LINE -
 CSAH 1 NB STA.



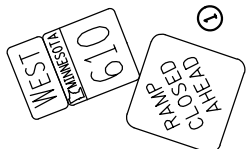
INPLACE



INPLACE



INPLACE



INPLACE



CSAH 1 SB

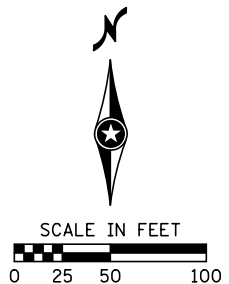
CSAH 1 NB

SPECIFIC NOTES:

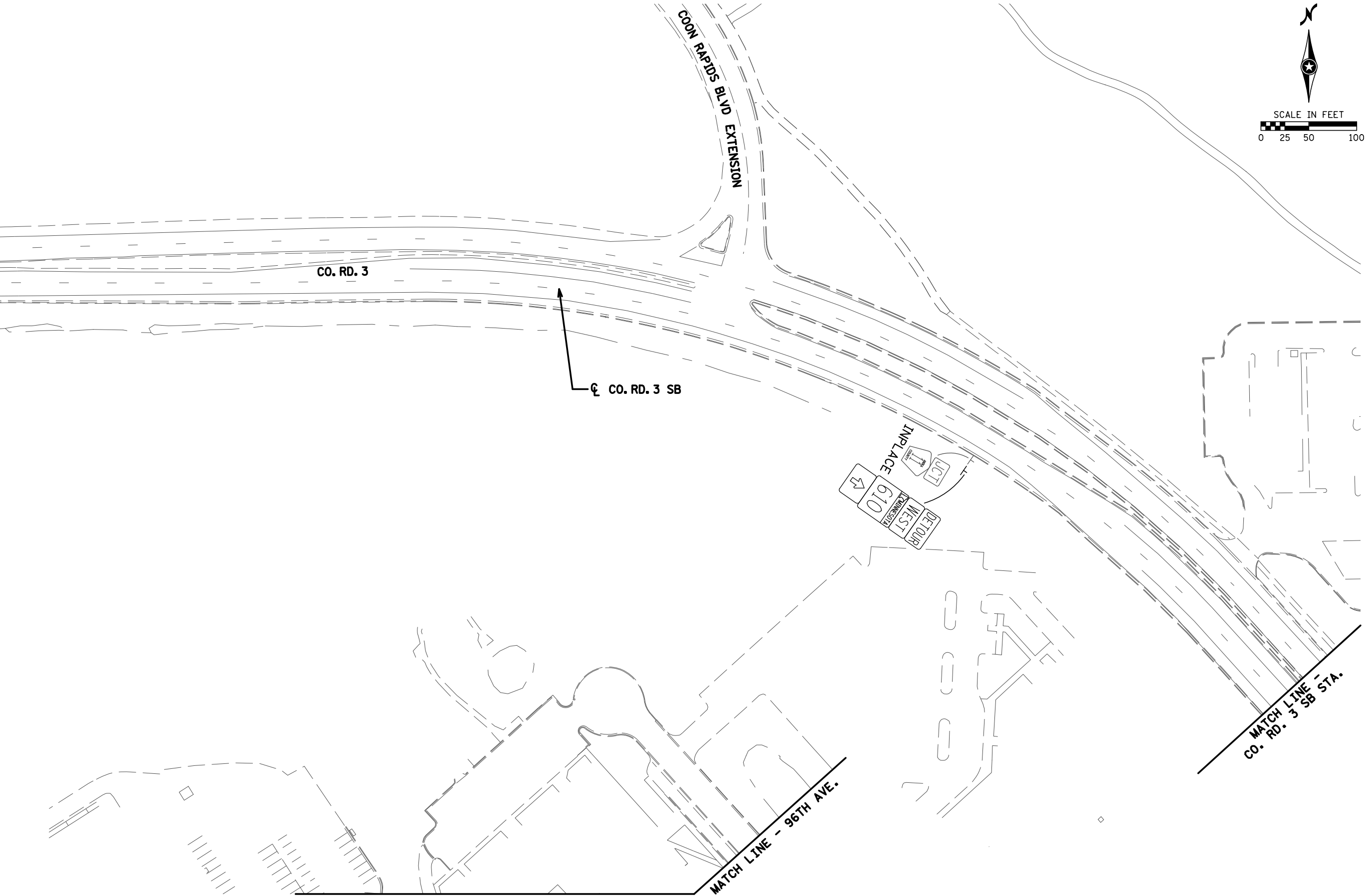
- ① PLACE SIGN ASSEMBLY ALONG CSAH 1 SB APPROXIMATELY 200' NORTHWEST OF CRANE ST.

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020	TKDA	STAGE 2A	TRAFFIC CONTROL PLANS
				DRW: LKG			SHEET F2	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH			STATE PROJ. NO. 002-611-036	

DATE: 11/25/2020 TIME: 7:13:07 AM
 FILENAME: c:\nkda\project\wise\fm\vangstad\dms01247\cd00261036_tc2Ahdgn



MATCH LINE -
CO. RD. 3 SB STA.



CO. RD. 3

COON RAPIDS BLVD
EXTENSION

☒ CO. RD. 3 SB

INPLACE
DETOUR
WEST
MINNESOTA
610

MATCH LINE - 96TH AVE.

MATCH LINE - NORWAY ST.

MATCH LINE -
CO. RD. 3 SB STA.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



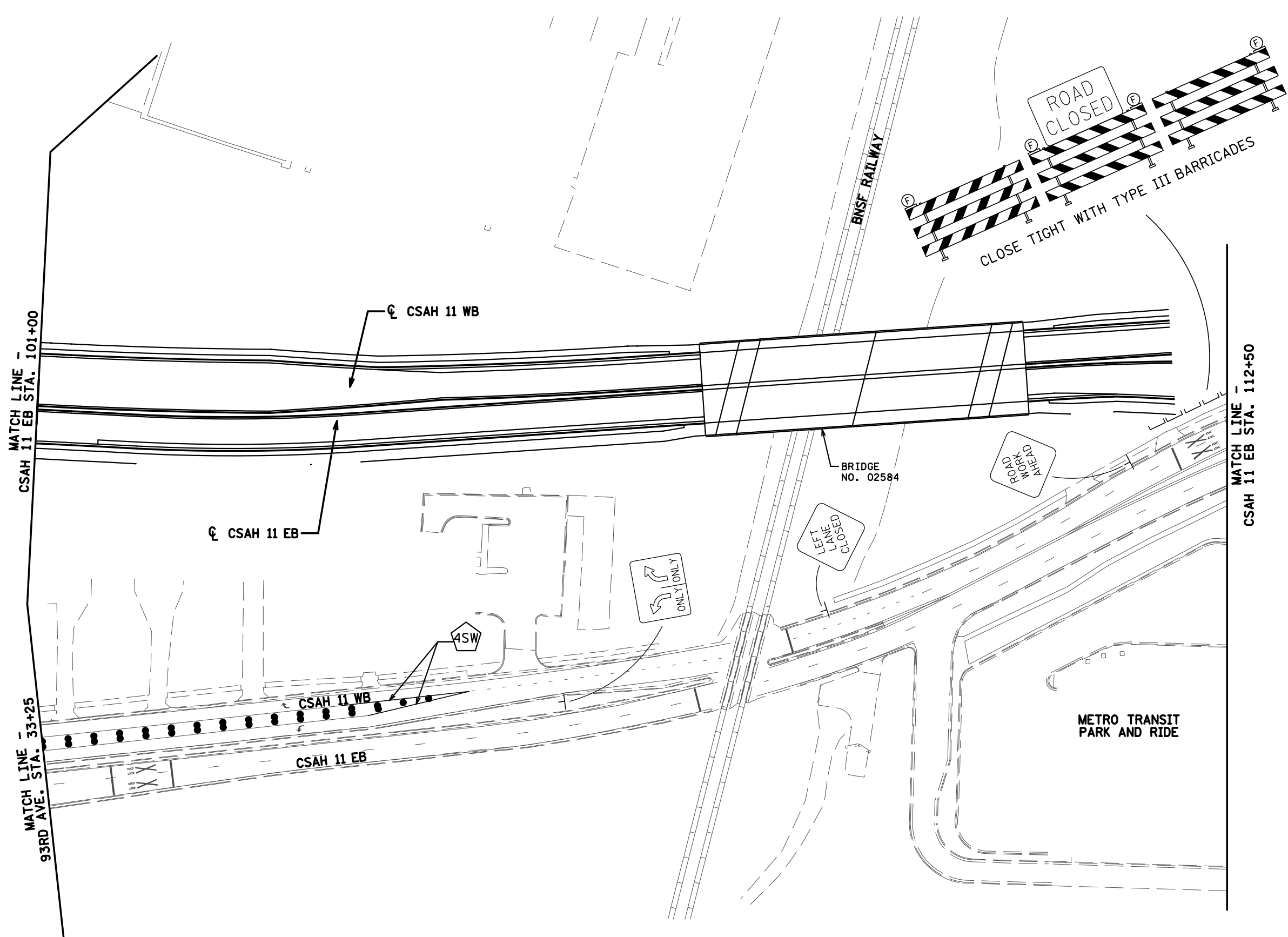
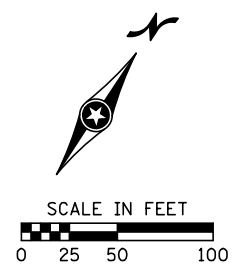
STAGE 2A
SHEET H

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 281 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:13:39 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



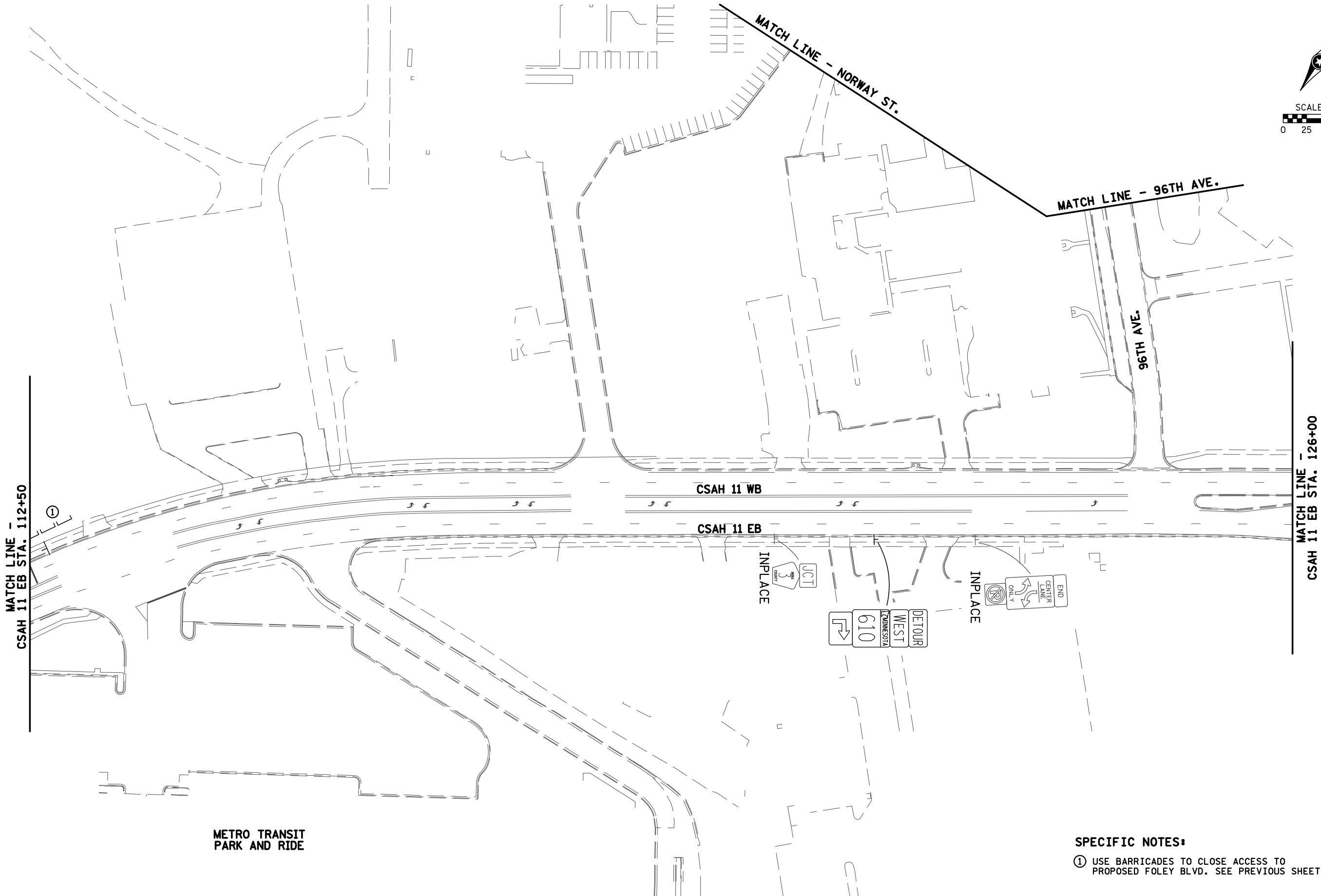
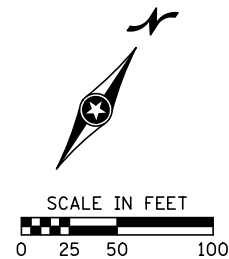
STAGE 2A
 SHEET K

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 282 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:44:13 AM
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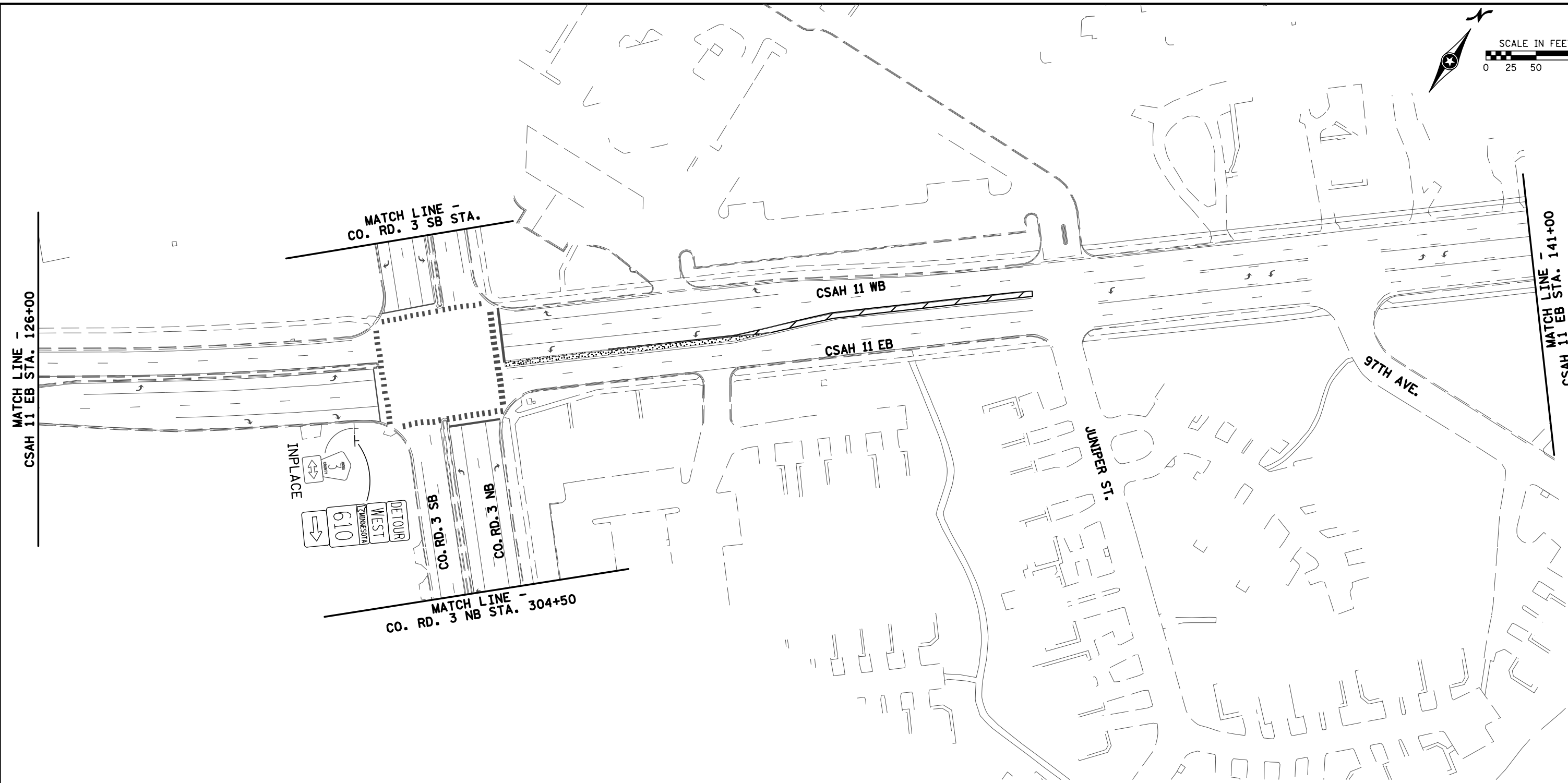
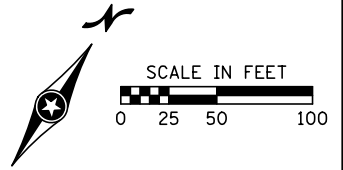


METRO TRANSIT
 PARK AND RIDE

SPECIFIC NOTES:
 ① USE BARRICADES TO CLOSE ACCESS TO PROPOSED FOLEY BLVD. SEE PREVIOUS SHEET.

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	TKDA	STAGE 2A	TRAFFIC CONTROL PLANS
				DRW: LKG			SHEET L	
				CHK: JAH			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

DATE: 11/25/2020 TIME: 7:43:38 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

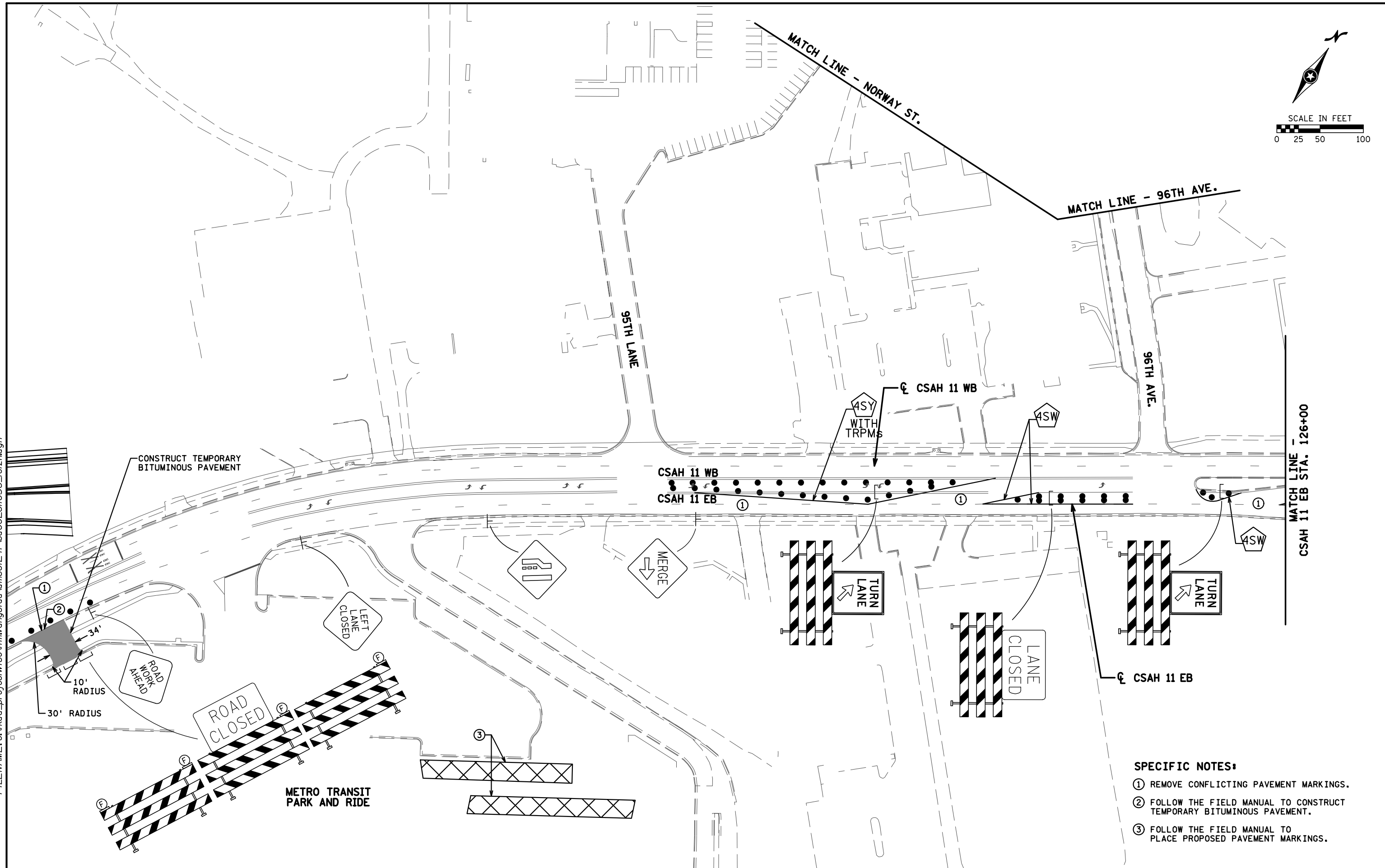
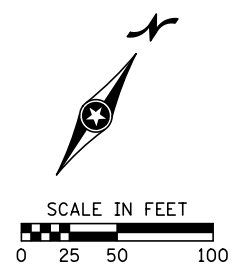


STAGE 2A
 SHEET M

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 284 OF 416 SHEETS

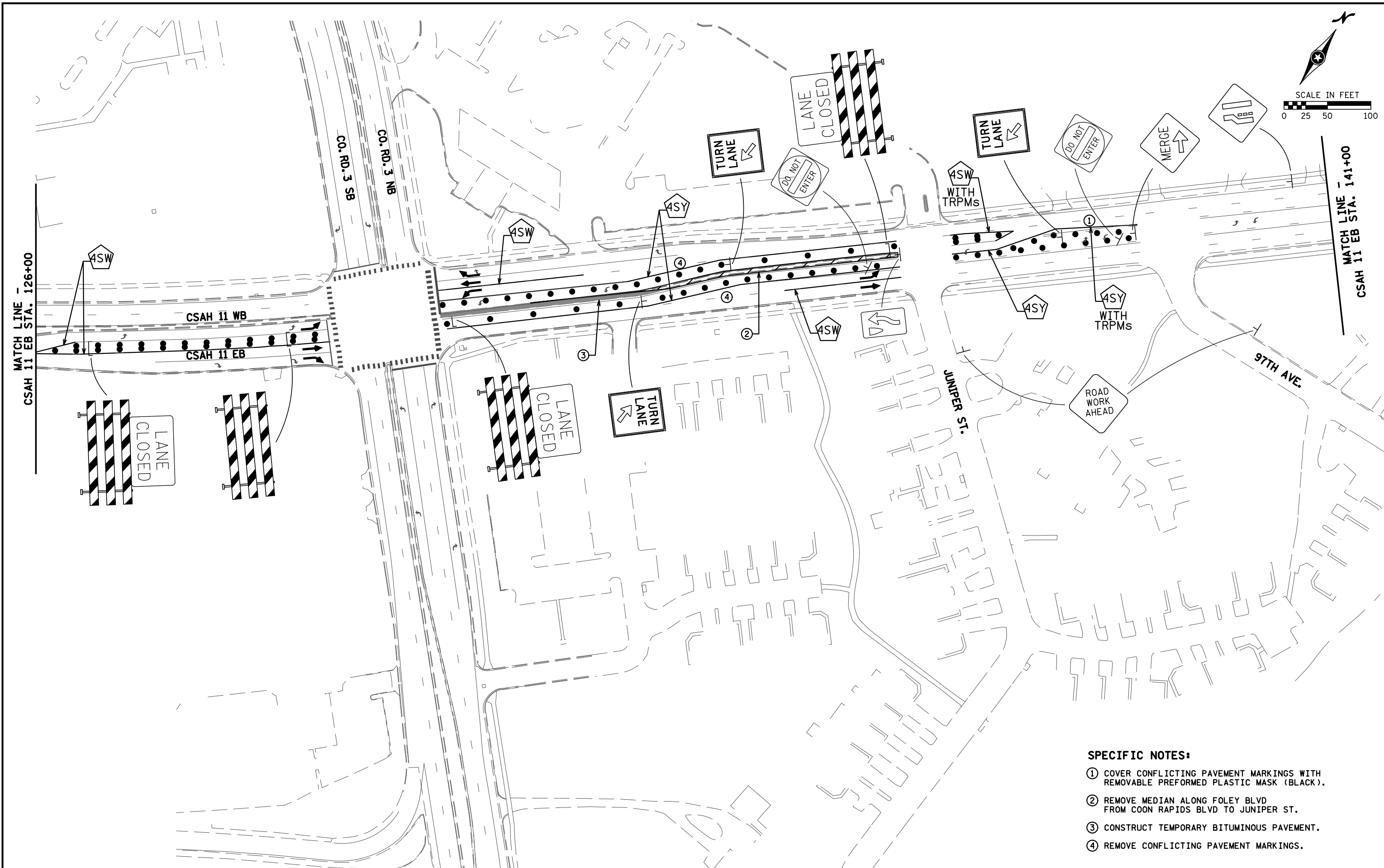


DATE: 11/25/2020 TIME: 7:45:57 AM
 FILENAME: c:\tkda\proj\tech\wise\m\vangstad\dms01247\cd00261036_tclzhdgn

- SPECIFIC NOTES:**
- ① REMOVE CONFLICTING PAVEMENT MARKINGS.
 - ② FOLLOW THE FIELD MANUAL TO CONSTRUCT TEMPORARY BITUMINOUS PAVEMENT.
 - ③ FOLLOW THE FIELD MANUAL TO PLACE PROPOSED PAVEMENT MARKINGS.

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: LKG							
CHK: JAH							
NO.	DATE	BY	DESCRIPTION OF REVISIONS	SIGNATURE: <i>Jeffrey A. Hilden</i>	LIC. NO. 20781	DATE: 11/25/2020	
				PRIOR TO STAGE 2B SHEET L		STATE PROJ. NO. 002-611-036	
				TRAFFIC CONTROL PLANS		SHEET NO. 285 OF 416 SHEETS	

DATE: 11/25/2020 TIME: 7:15:26 AM
 FILENAME: c:\nkda\proj\tech\wise\hfm\vangstad\dms01247\cd00261036_tclz1.dgn



SPECIFIC NOTES:

- ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).
- ② REMOVE MEDIAN ALONG FOLEY BLVD FROM COON RAPIDS BLVD TO JUNIPER ST.
- ③ CONSTRUCT TEMPORARY BITUMINOUS PAVEMENT.
- ④ REMOVE CONFLICTING PAVEMENT MARKINGS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020

JEFFREY A. HILDEN

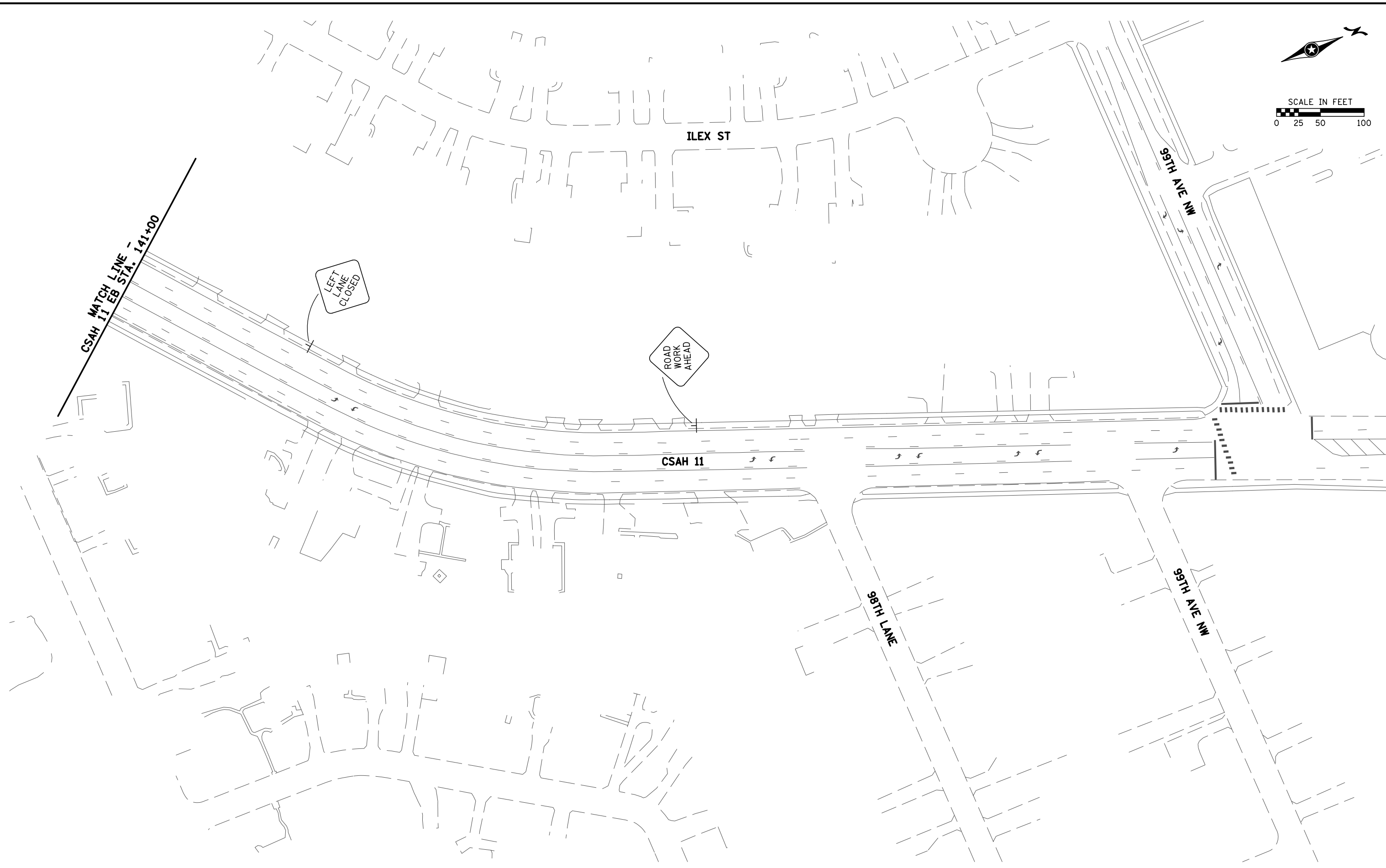
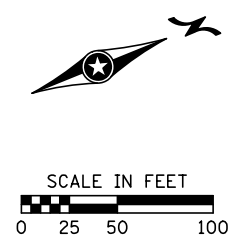


PRIOR TO STAGE 2B
 SHEET M

STATE PROJ. NO. 002-611-036

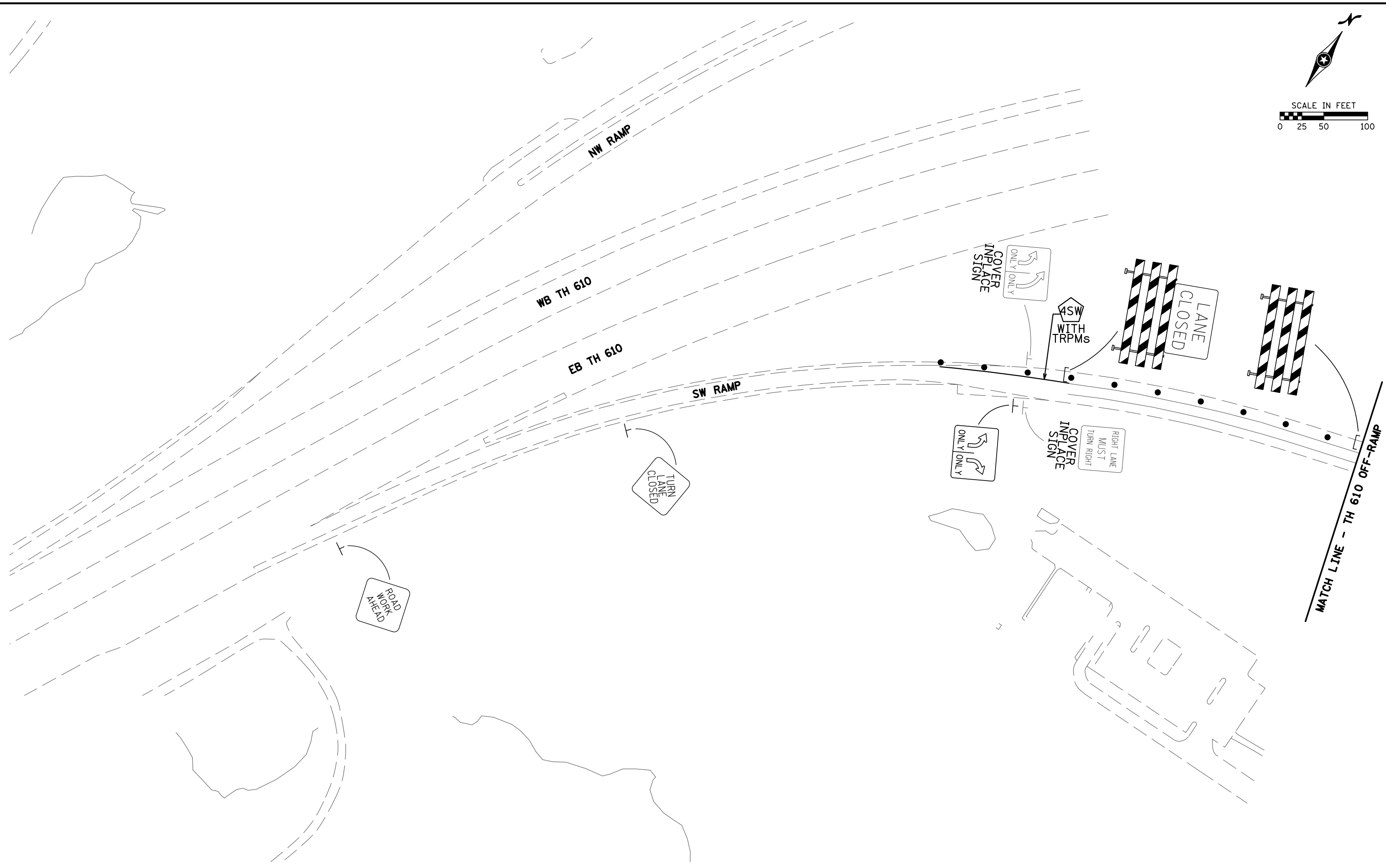
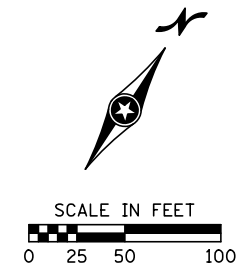
TRAFFIC CONTROL PLANS

SHEET NO. 286 OF 416 SHEETS



DATE: 11/25/2020 TIME: 7:15:54 AM
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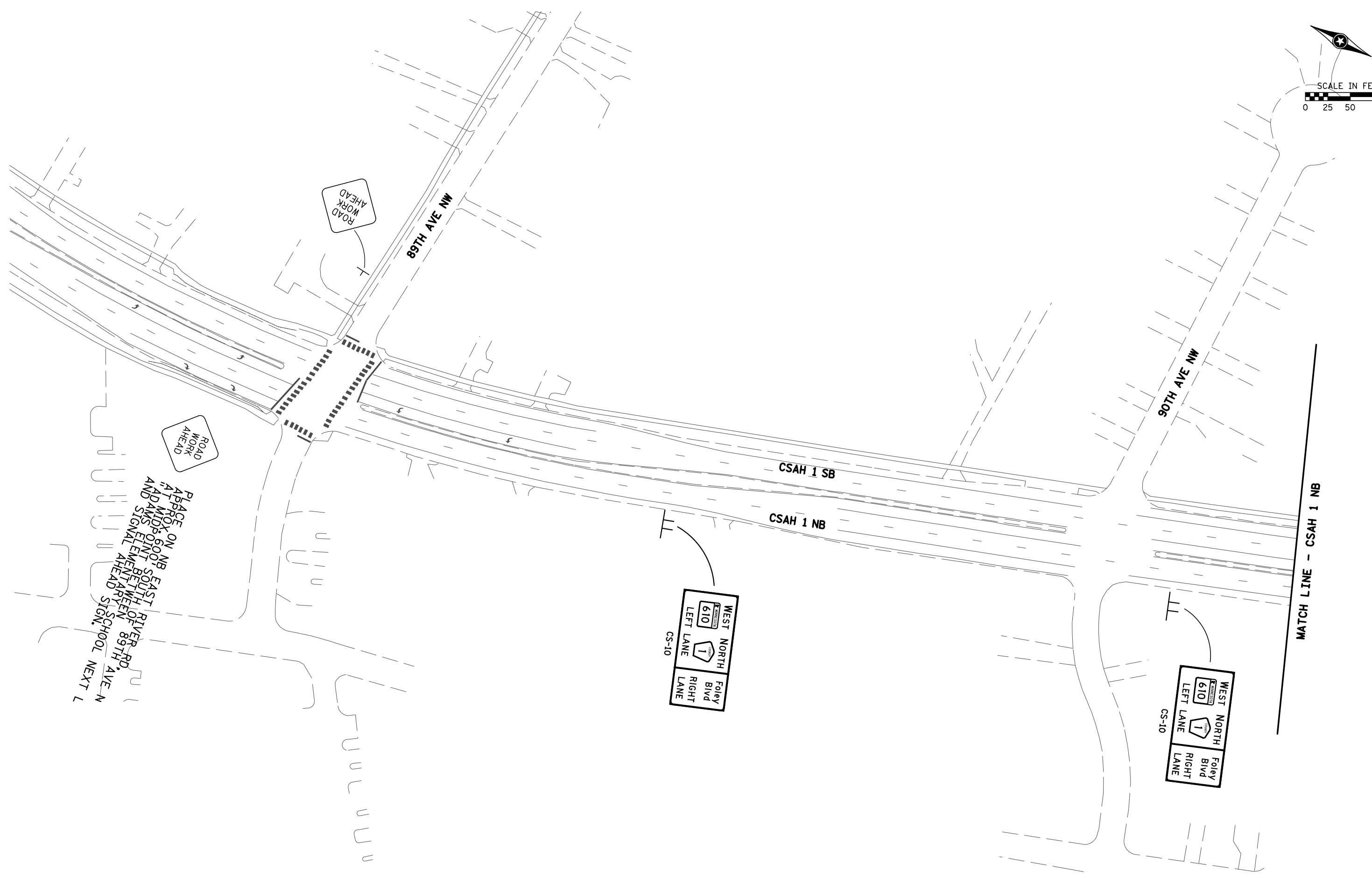
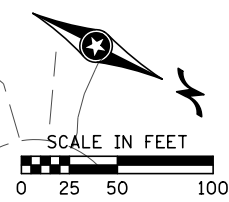
				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			TKDA	PRIOR TO STAGE 2B SHEET N	TRAFFIC CONTROL PLANS
				DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020				STATE PROJ. NO. 002-611-036	SHEET NO. 287 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH						



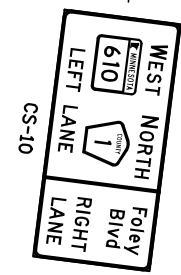
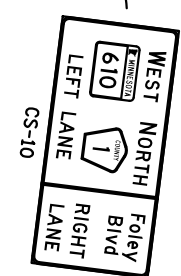
DATE: 11/25/2020 TIME: 7:16:20 AM
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			DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		STAGE 2B SHEET A	TRAFFIC CONTROL PLANS
			DRW: LKG	SIGNATURE: LIC. NO. 20781 DATE: 11/25/2020		STATE PROJ. NO. 002-611-036	SHEET NO. 288 OF 416 SHEETS
NO.	DATE	BY	CHK: JAH				
DESCRIPTION OF REVISIONS							

DATE: 11/25/2020 TIME: 7:16:46 AM
 FILENAME: c:\nkda\proj\ctw\se\fm\vangstad\dms01247\cd00261036_fc2Bb.dgn



ROAD WORK AHEAD
 PLACE ON NB EAST RIVER RD. APPROX. 600 FT SOUTH OF ADAMS ELEMENTARY SCHOOL AND SIGNAL BETWEEN 89TH AVE N AND 90TH AVE N. SIGN. NEXT L



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

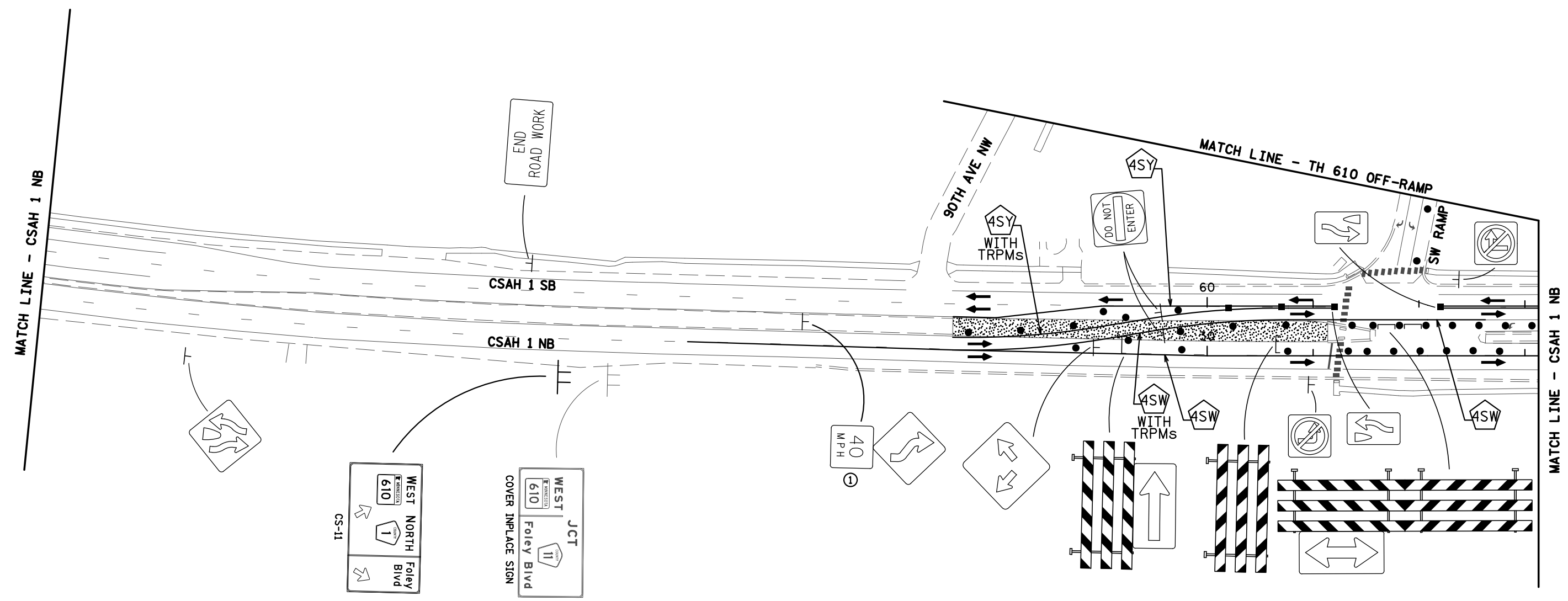
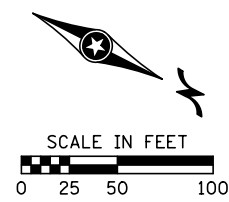


STAGE 2B
 SHEET B

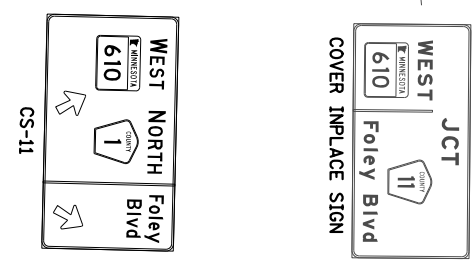
STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 289 OF 416 SHEETS

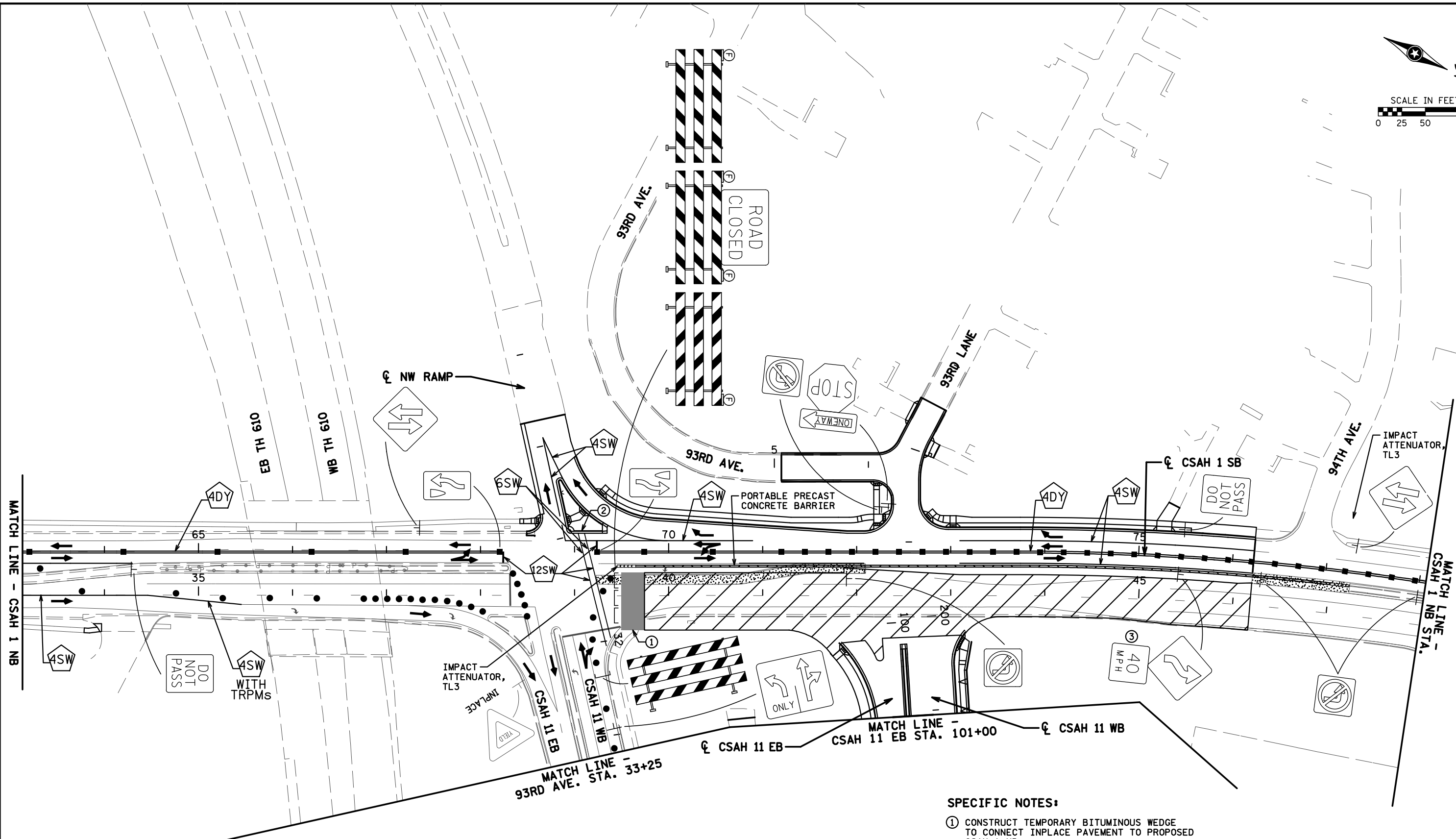
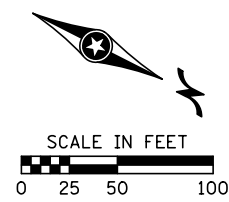


DATE: 11/25/2020 TIME: 9:23:55 AM
 FILENAME: c:\nkda_proj\ctw\se\lndsay\gal\res\dms01247\cd00261036_tc2Bc.dgn



SPECIFIC NOTES:
 ① ADVISORY SPEEDS ARE APPROXIMATE. EXACT ADVISORY SPEEDS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

	DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		STAGE 2B SHEET C	TRAFFIC CONTROL PLANS
	DRW: LKG	SIGNATURE:		STATE PROJ. NO. 002-611-036	SHEET NO. 290 OF 416 SHEETS
	CHK: JAH	LIC. NO. 20781 DATE: 11/25/2020			
NO.	DATE	BY	DESCRIPTION OF REVISIONS		

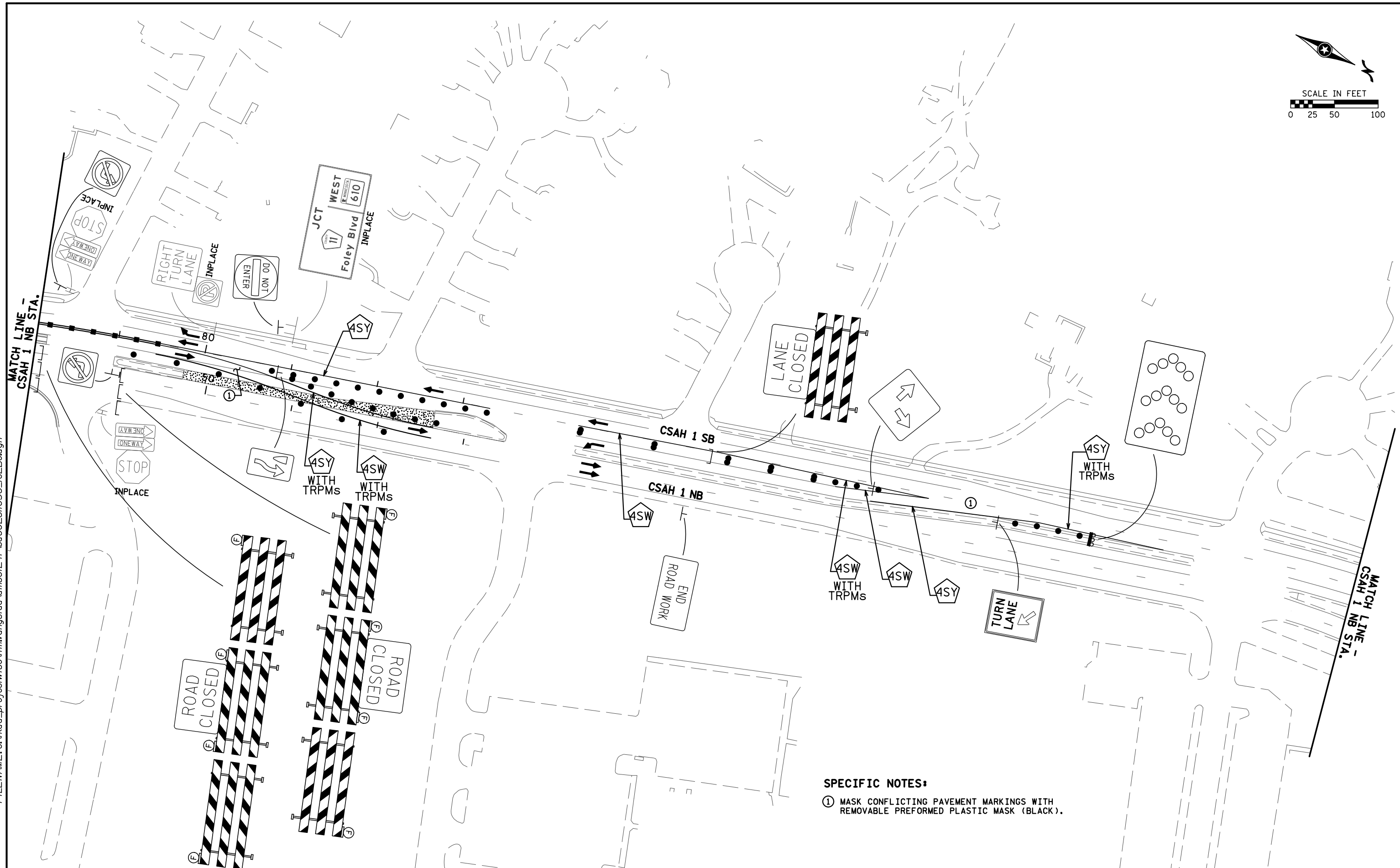
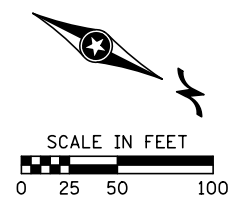


SPECIFIC NOTES:

- ① CONSTRUCT TEMPORARY BITUMINOUS WEDGE TO CONNECT INPLACE PAVEMENT TO PROPOSED CSAH 1 NB.
- ② TEMPORARY PEDESTRIAN RAMP.
- ③ ADVISORY SPEEDS ARE APPROXIMATE. EXACT ADVISORY SPEEDS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

DATE: 11/25/2020 TIME: 7:35 AM FILENAME: c:\nkda\proj\tech\wise\hfm\vangstad\dms01247\cd00261036_rc2Bd.dgn

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020						
CHK: JAH	JEFFREY A. HILDEN						
					STAGE 2B SHEET D		TRAFFIC CONTROL PLANS
			STATE PROJ. NO. 002-611-036		SHEET NO. 291 OF 416 SHEETS		
NO.	DATE	BY	DESCRIPTION OF REVISIONS				



SPECIFIC NOTES:
 ① MASK CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

DATE: 11/25/2020 TIME: 7:18:09 AM
 FILENAME: c:\nkda\project\w\se\fm\vangstad\dms01247\cd00261036_fc2Be.dgn

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

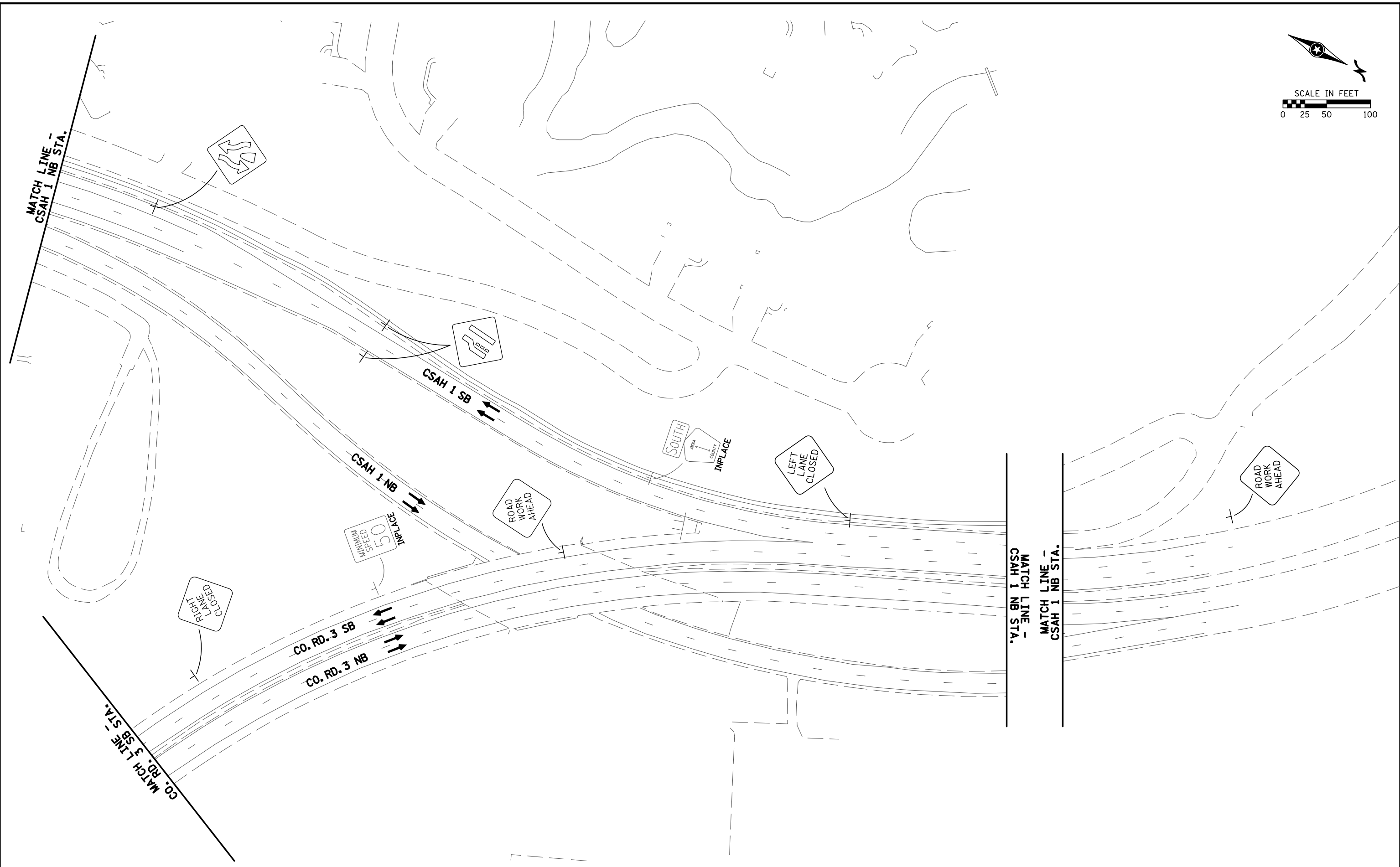
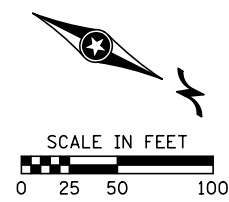
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



STAGE 2B
 SHEET E
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 292 OF 416 SHEETS

DATE: 11/25/2020 TIME: 9:24:33 AM
 FILENAME: c:\tkda\proj\ctw\ise\lndsay\gal\res\dms01247\cd00261036_tc2Bf.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



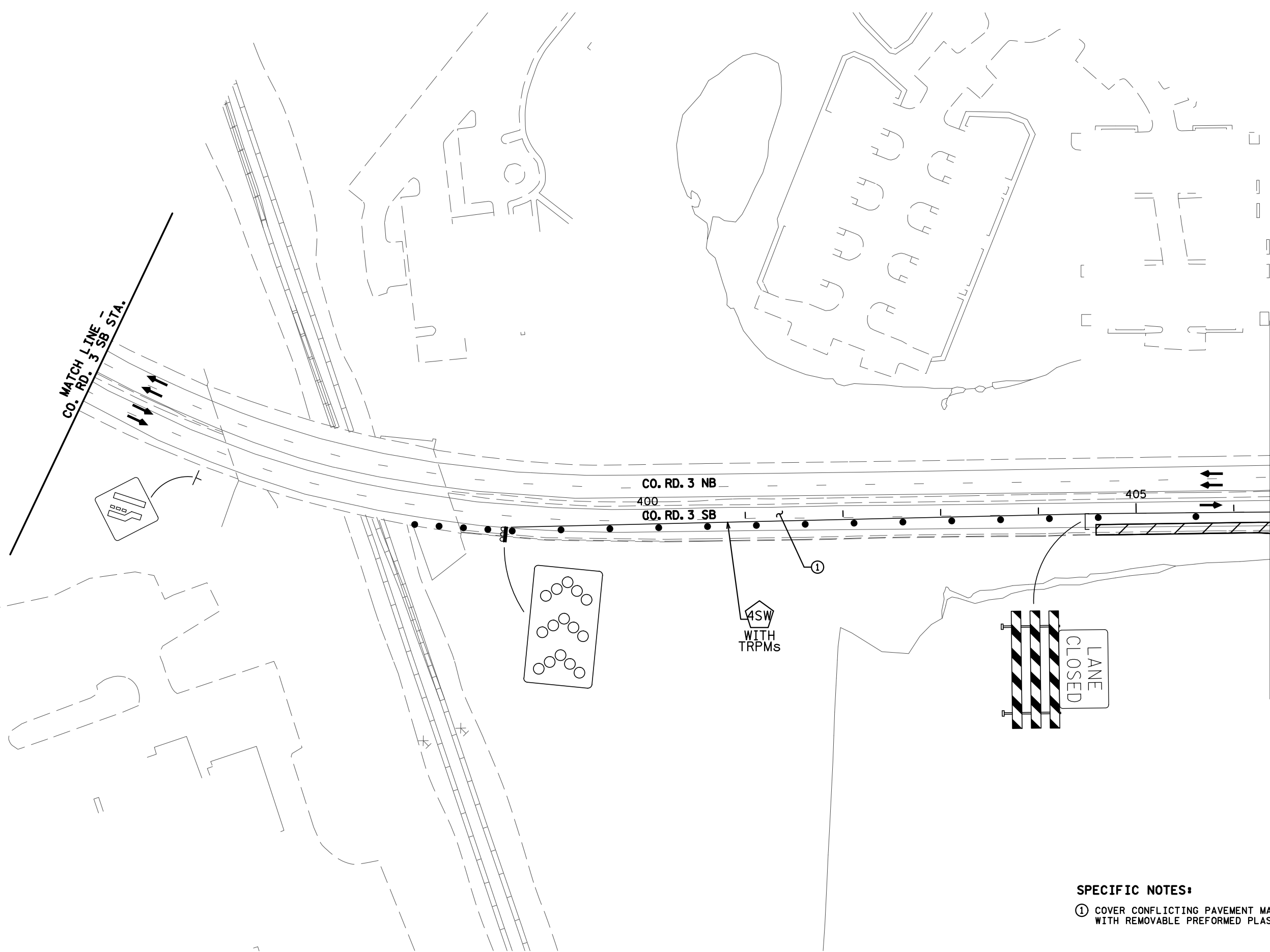
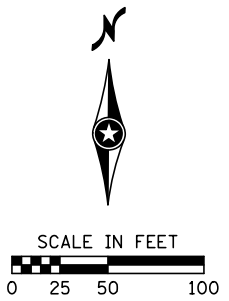
STAGE 2B
 SHEET F

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 293 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:18:46 AM
 FILENAME: c:\nkda\proj\tech\ise\fm\vangstad\dms01247\cd00261036_tc2Bg.dgn



SPECIFIC NOTES:
 ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

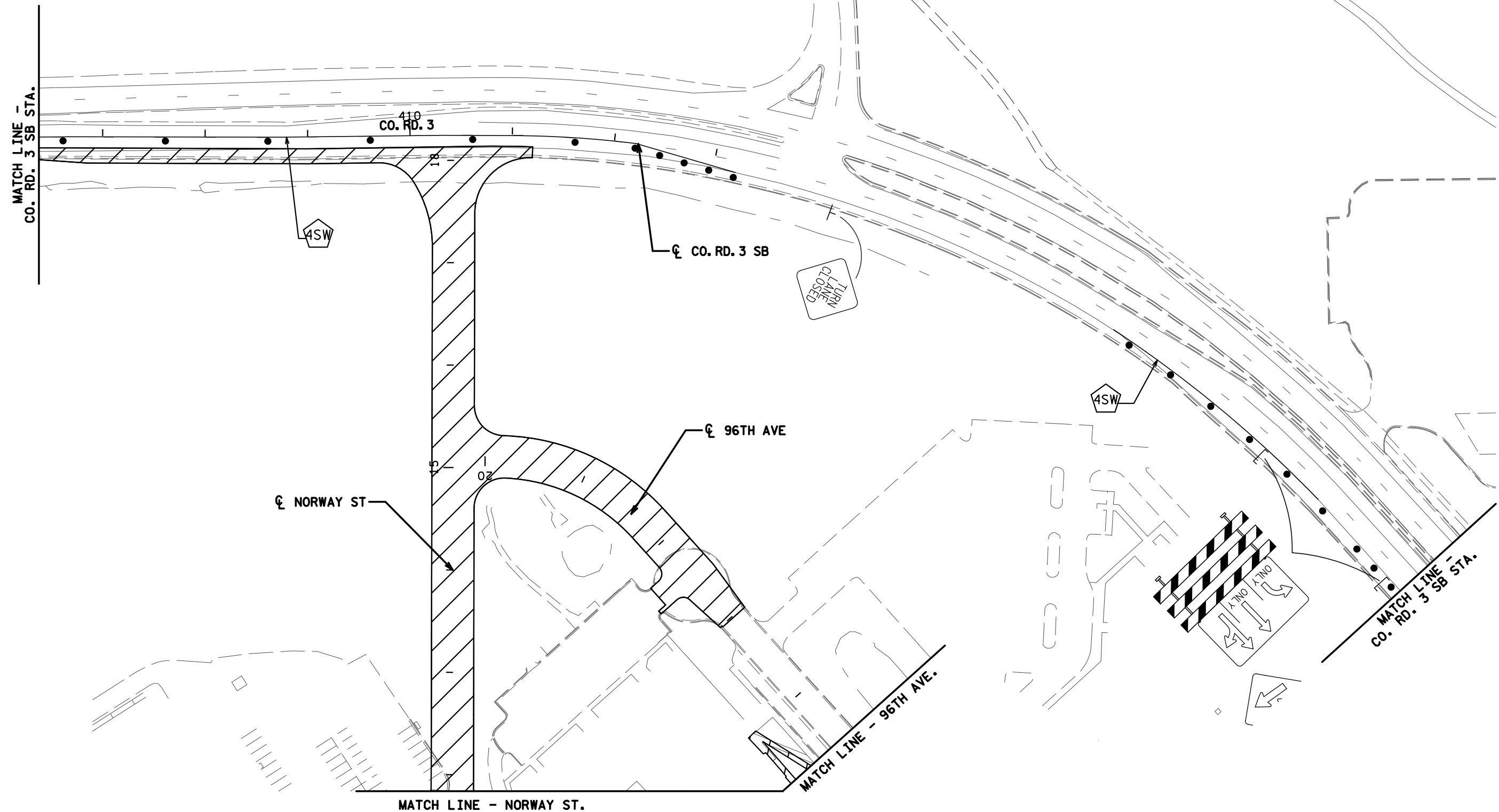
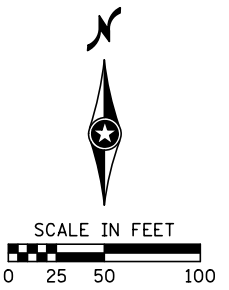
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



STAGE 2B
 SHEET G
 STATE PROJ. NO. 002-611-036

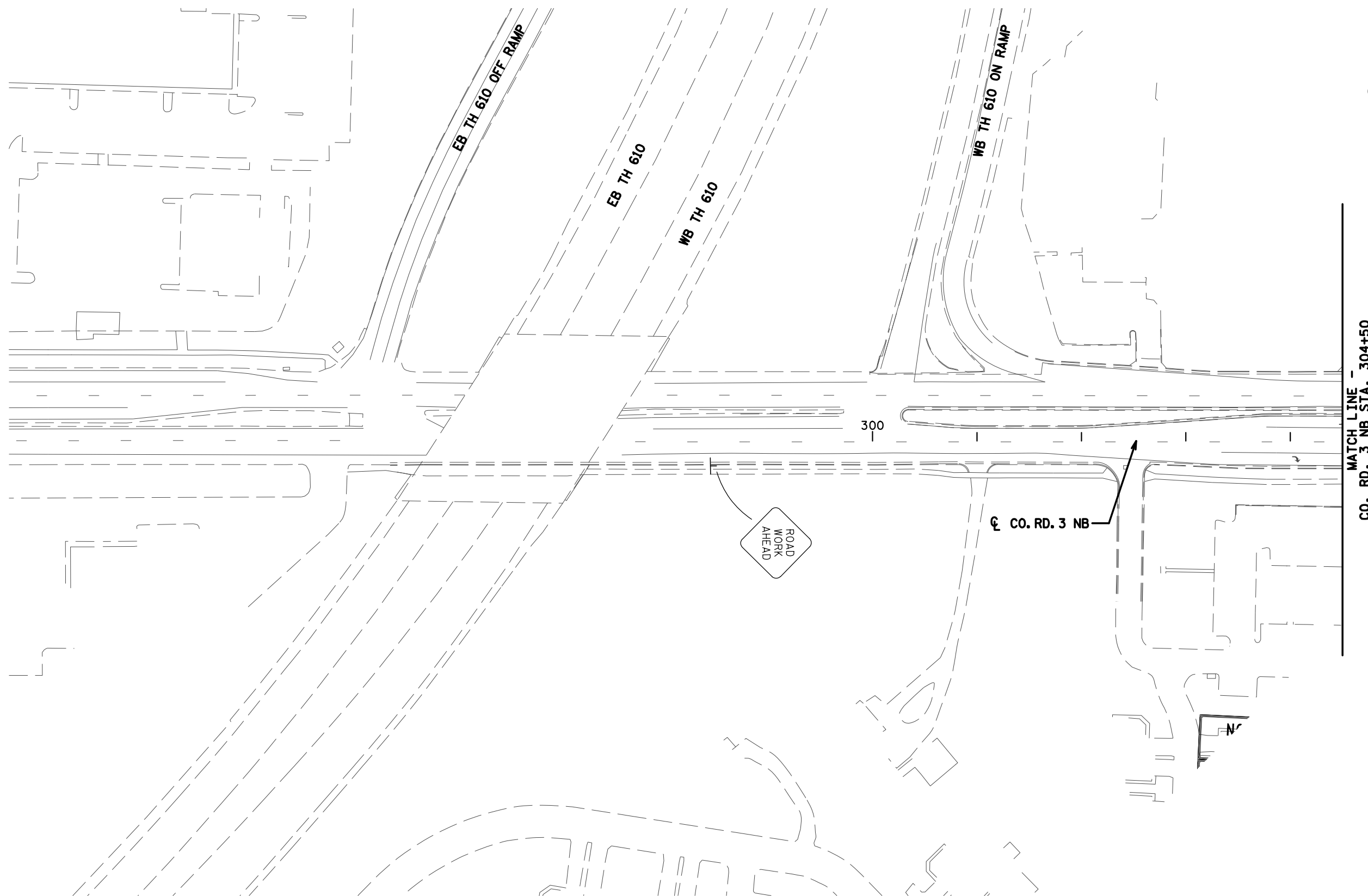
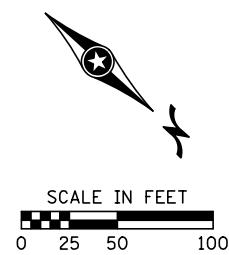
TRAFFIC CONTROL PLANS
 SHEET NO. 294 OF 416 SHEETS



DATE: 11/25/2020 TIME: 7:19:09 AM
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	DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		STAGE 2B SHEET H	TRAFFIC CONTROL PLANS
	DRW: LKG	SIGNATURE: LIC. NO. 20781 DATE: 11/25/2020		STATE PROJ. NO. 002-611-036	SHEET NO. 295 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH	

DATE: 11/25/2020 TIME: 7:19:34 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



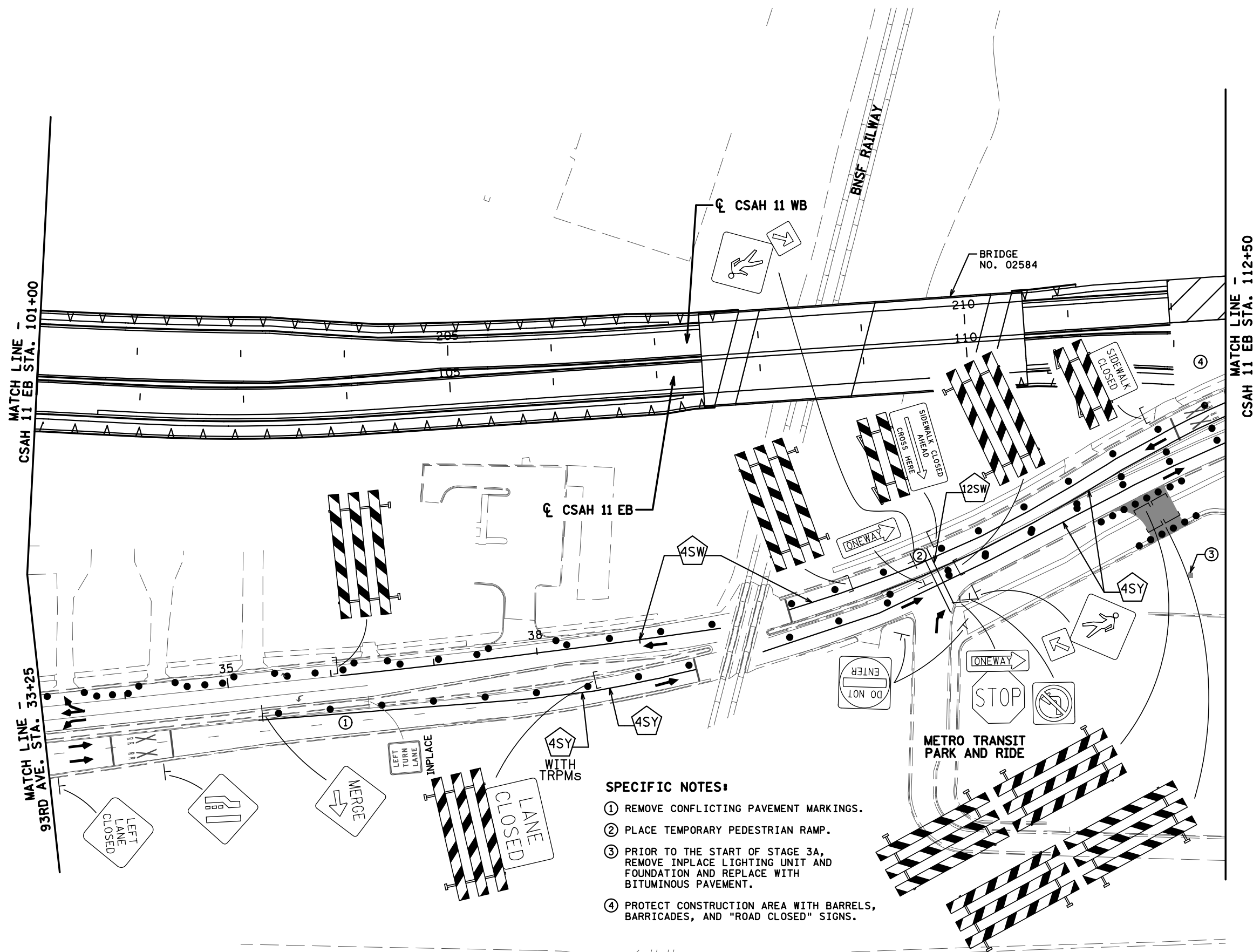
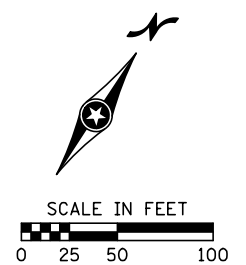
STAGE 2B
 SHEET J

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 296 OF 416 SHEETS

DATE: 11/25/2020 TIME: 9:25:04 AM
 FILENAME: c:\fkda\proj\tech\wise\lndsay\gal\res\dms01247\cd00261036_tc2B.dgn



- SPECIFIC NOTES:**
- ① REMOVE CONFLICTING PAVEMENT MARKINGS.
 - ② PLACE TEMPORARY PEDESTRIAN RAMP.
 - ③ PRIOR TO THE START OF STAGE 3A, REMOVE INPLACE LIGHTING UNIT AND FOUNDATION AND REPLACE WITH BITUMINOUS PAVEMENT.
 - ④ PROTECT CONSTRUCTION AREA WITH BARRELS, BARRICADES, AND "ROAD CLOSED" SIGNS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

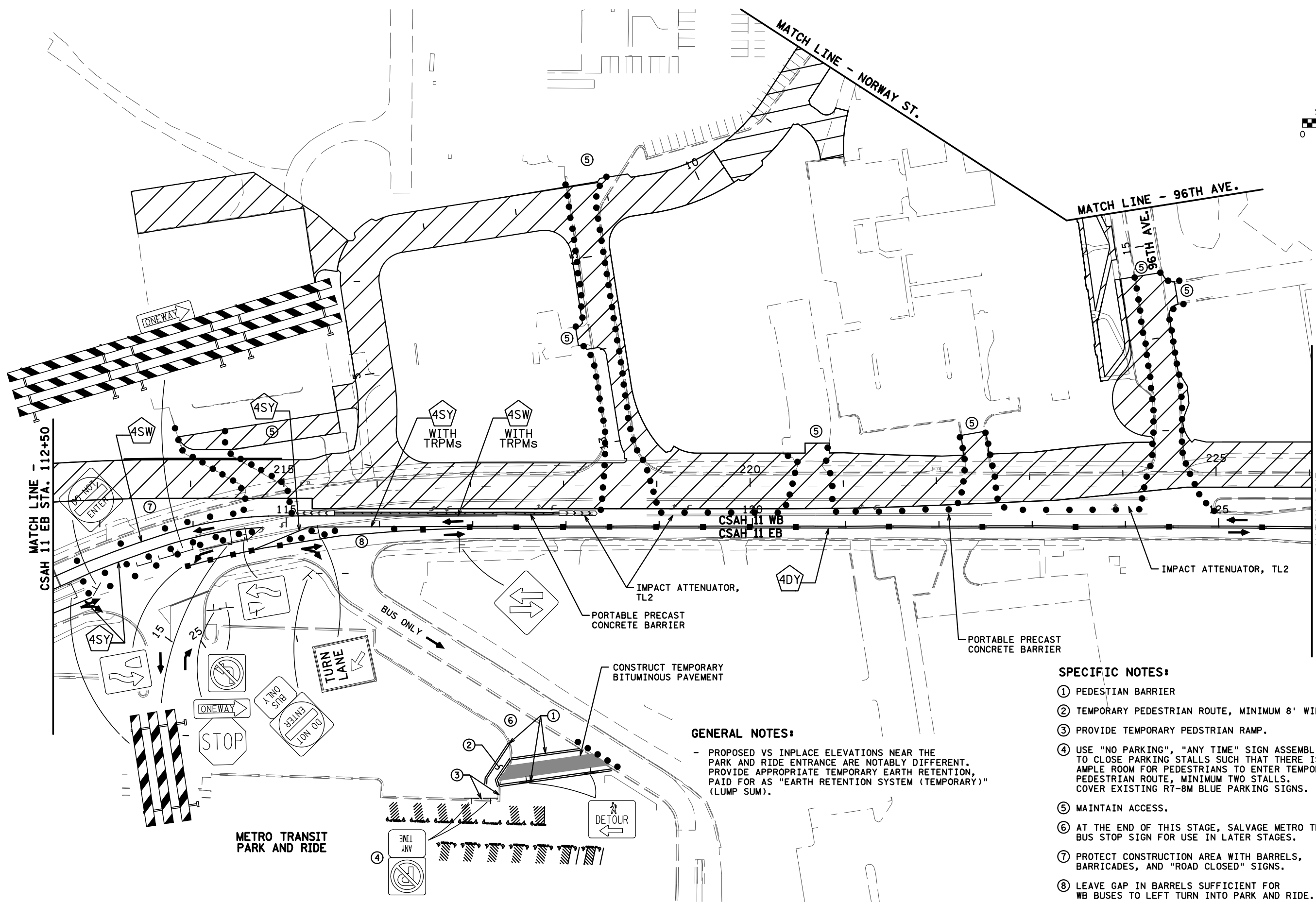
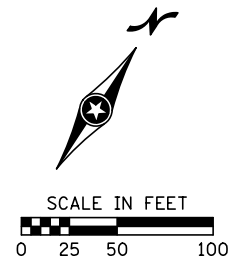
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



STAGE 2B
 SHEET K
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 297 OF 416 SHEETS

DATE: 11/25/2020 TIME: 9:25:12 AM
 FILENAME: c:\fkda\proj\techwise\trndsay\gal\mes\dms01247\cd00261036_tc2Bk.dgn



GENERAL NOTES:

- PROPOSED VS INPLACE ELEVATIONS NEAR THE PARK AND RIDE ENTRANCE ARE NOTABLY DIFFERENT. PROVIDE APPROPRIATE TEMPORARY EARTH RETENTION, PAID FOR AS "EARTH RETENTION SYSTEM (TEMPORARY)" (LUMP SUM).

SPECIFIC NOTES:

- ① PEDESTIAN BARRIER
- ② TEMPORARY PEDESTRIAN ROUTE, MINIMUM 8' WIDE.
- ③ PROVIDE TEMPORARY PEDESTRIAN RAMP.
- ④ USE "NO PARKING", "ANY TIME" SIGN ASSEMBLIES TO CLOSE PARKING STALLS SUCH THAT THERE IS AMPLE ROOM FOR PEDESTRIANS TO ENTER TEMPORARY PEDESTRIAN ROUTE, MINIMUM TWO STALLS. COVER EXISTING R7-8M BLUE PARKING SIGNS.
- ⑤ MAINTAIN ACCESS.
- ⑥ AT THE END OF THIS STAGE, SALVAGE METRO TRANSIT BUS STOP SIGN FOR USE IN LATER STAGES.
- ⑦ PROTECT CONSTRUCTION AREA WITH BARRELS, BARRICADES, AND "ROAD CLOSED" SIGNS.
- ⑧ LEAVE GAP IN BARRELS SUFFICIENT FOR WB BUSES TO LEFT TURN INTO PARK AND RIDE.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

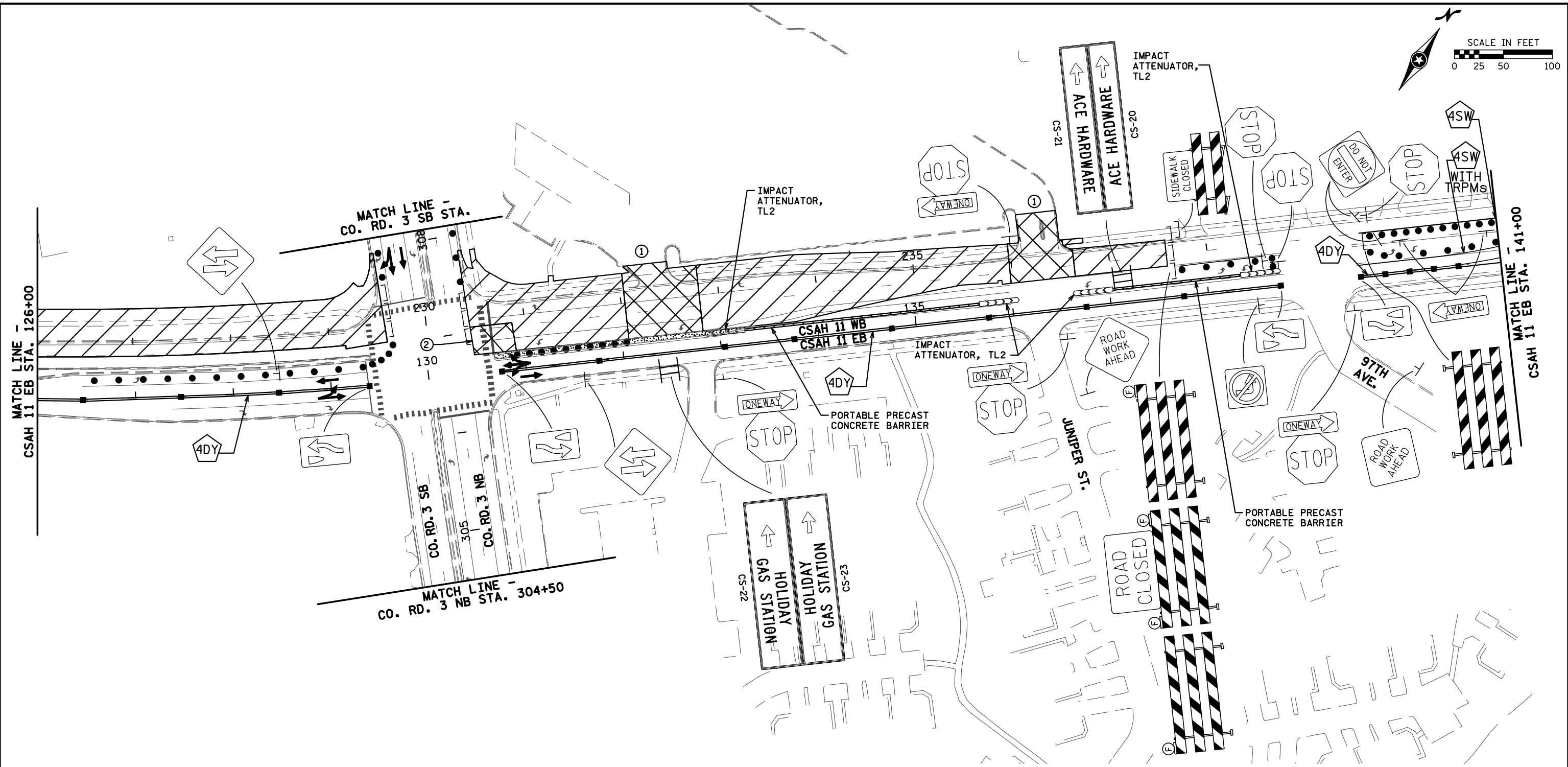
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



STAGE 2B
 SHEET L
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 298 OF 416 SHEETS

DATE: 11/25/2020 TIME: 10:51:47 AM
 FILENAME: c:\nkda\proj\techwise\ndsay\gal\mes\dms01247\cd00261036_tc2BI.dgn



GENERAL NOTES:

- CONSTRUCTION OF WB FOLEY BLVD BETWEEN CO. RD. 3 AND 97TH AVE SHALL BEGIN NO EARLIER THAN JUNE 15TH.

SPECIFIC NOTES:

- ① SUB-STAGE CONSTRUCTION TO MAINTAIN TRAFFIC.
- ② SUBSTAGE CONSTRUCTION, BARRIER, DRUM, AND TYPE III BARRICADE PLACEMENT TO ALLOW RIGHT TURN TRAFFIC.

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020		
CHK: JAH	JEFFREY A. HILDEN		
NO.	DATE	BY	DESCRIPTION OF REVISIONS

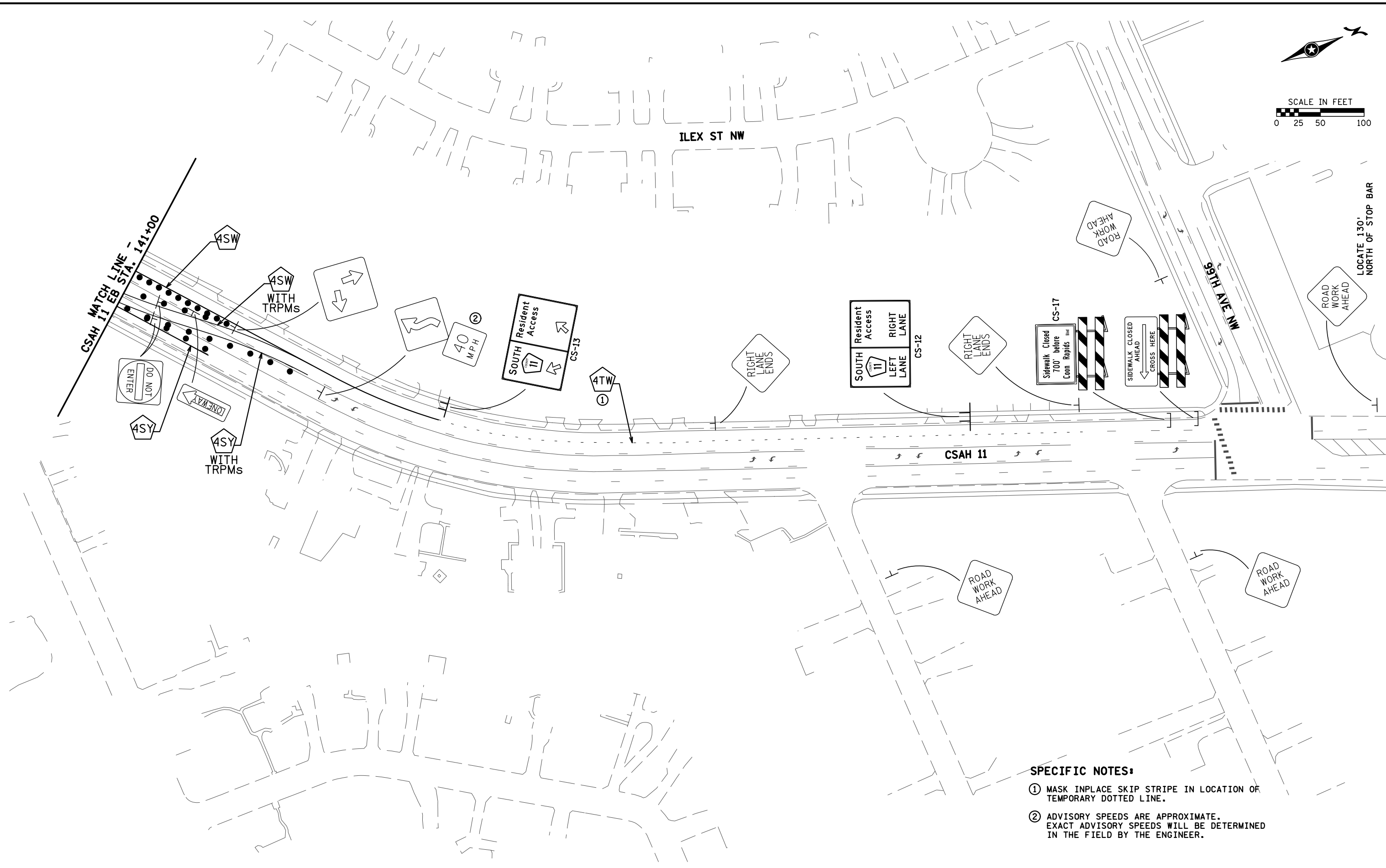
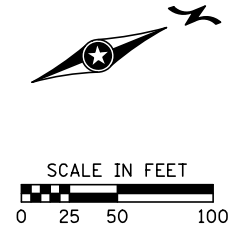
TKDA

STAGE 2B
SHEET M

STATE PROJ. NO. 002-611-036

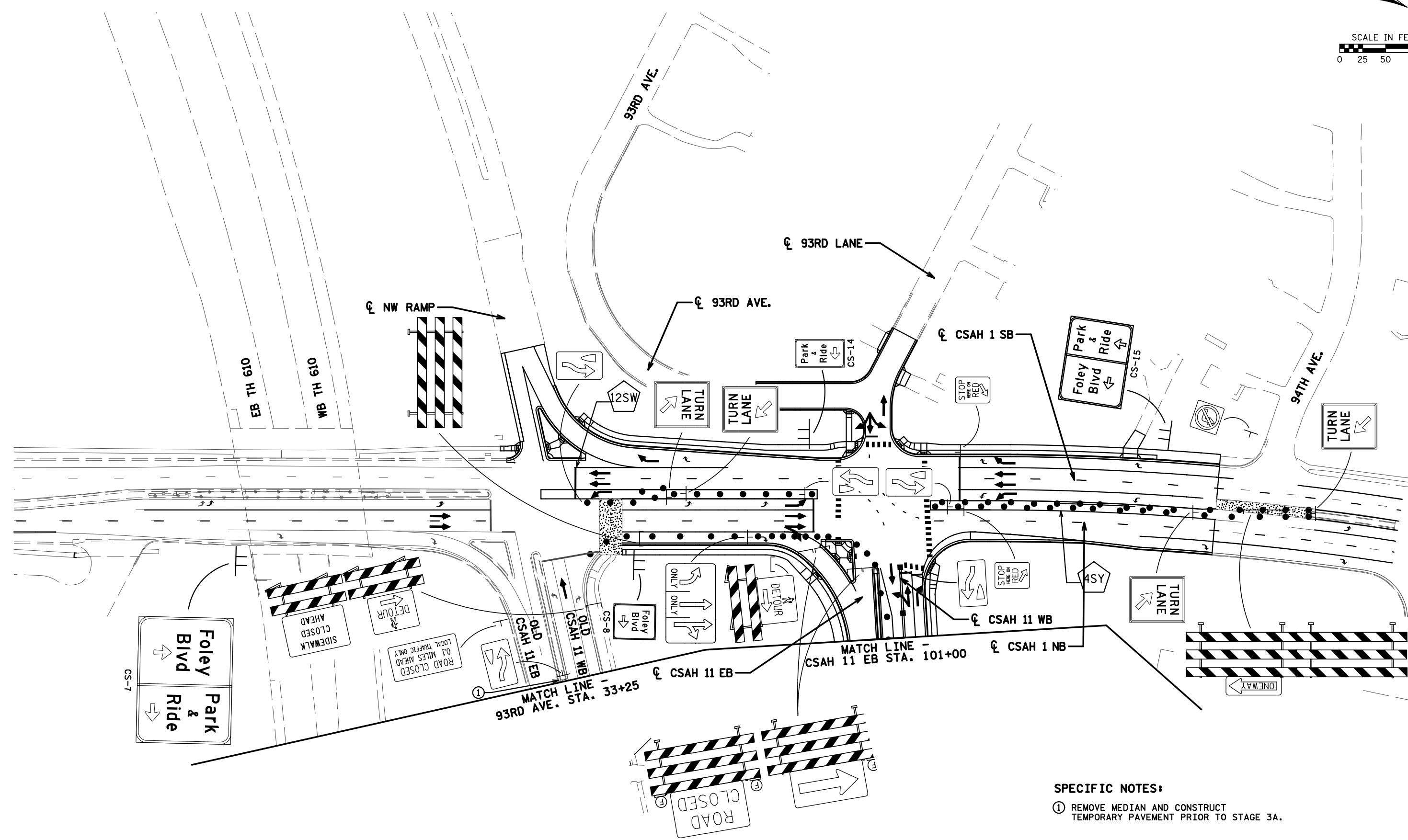
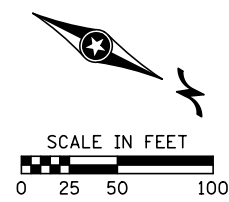
TRAFFIC CONTROL PLANS
SHEET NO. 299 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:21:40 AM
 FILENAME: c:\nkda\proj\tech\wise\fm\vangstad\dms01247\cd00261036_tc2Bm.dgn



- SPECIFIC NOTES:**
- ① MASK INPLACE SKIP STRIPE IN LOCATION OF TEMPORARY DOTTED LINE.
 - ② ADVISORY SPEEDS ARE APPROXIMATE. EXACT ADVISORY SPEEDS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: LKG	LIC. NO. 20781 DATE: 11/25/2020						
CHK: JAH							
NO.	DATE	BY	DESCRIPTION OF REVISIONS		STAGE 2B SHEET N	STATE PROJ. NO. 002-611-036	TRAFFIC CONTROL PLANS SHEET NO. 300 OF 416 SHEETS



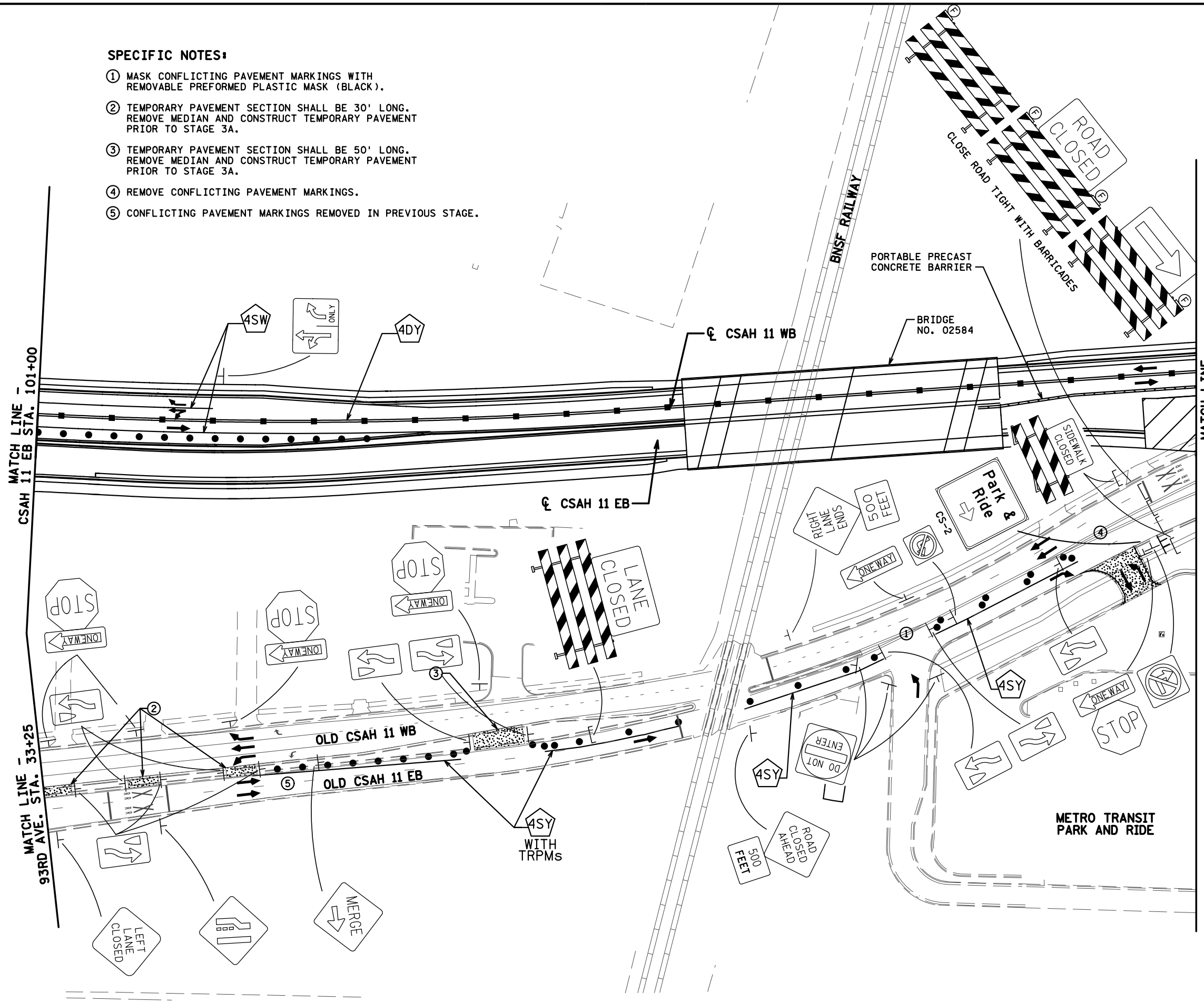
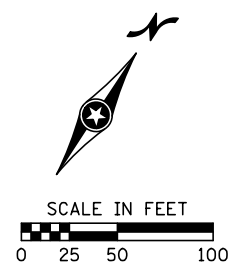
SPECIFIC NOTES:
 ① REMOVE MEDIAN AND CONSTRUCT TEMPORARY PAVEMENT PRIOR TO STAGE 3A.

DATE: 11/25/2020 TIME: 9:25:50 AM
 FILENAME: c:\nkda\proj\tech\wise\ind\say\gal\res\dms01247\cd00261036_tc3Ad.dgn

	DES: LKG DRW: LKG CHK: JAH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	
STAGE 3A SHEET D		STATE PROJ. NO. 002-611-036	
		TRAFFIC CONTROL PLANS SHEET NO. 301 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS

SPECIFIC NOTES:

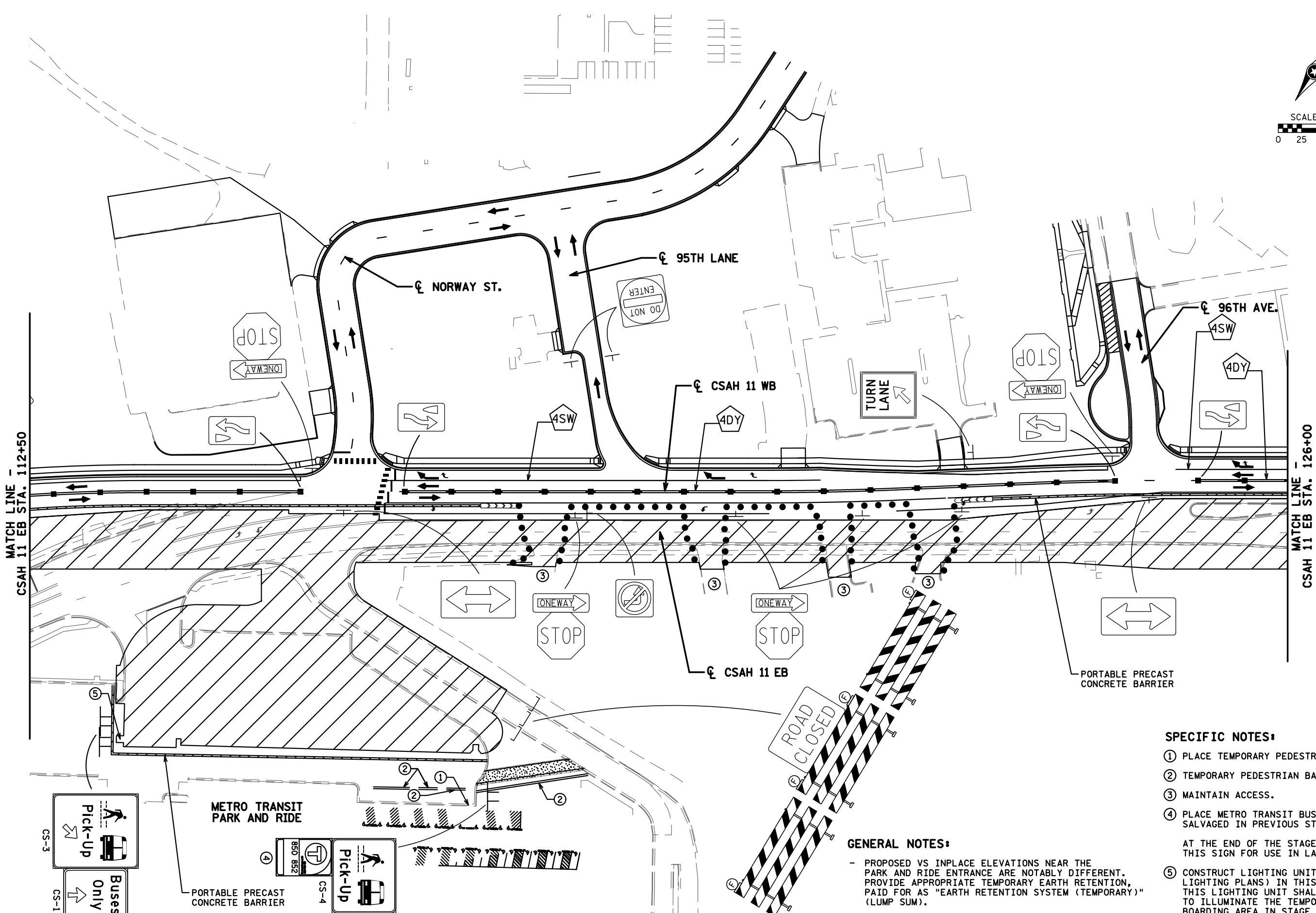
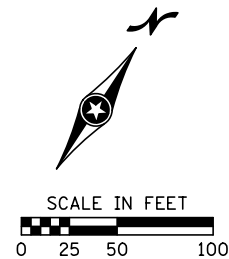
- ① MASK CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).
- ② TEMPORARY PAVEMENT SECTION SHALL BE 30' LONG. REMOVE MEDIAN AND CONSTRUCT TEMPORARY PAVEMENT PRIOR TO STAGE 3A.
- ③ TEMPORARY PAVEMENT SECTION SHALL BE 50' LONG. REMOVE MEDIAN AND CONSTRUCT TEMPORARY PAVEMENT PRIOR TO STAGE 3A.
- ④ REMOVE CONFLICTING PAVEMENT MARKINGS.
- ⑤ CONFLICTING PAVEMENT MARKINGS REMOVED IN PREVIOUS STAGE.



DATE: 11/25/2020 TIME: 7:22:08 AM
FILENAME: c:\nkda\proj\tech\ise\hfm\vangstad\dms01247\cd00261036_fc3Ab.dgn

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020						
CHK: JAH	TKDA						
NO.	DATE	BY	DESCRIPTION OF REVISIONS	STAGE 3A SHEET K		STATE PROJ. NO. 002-611-036	
				TRAFFIC CONTROL PLANS		SHEET NO. 302 OF 416 SHEETS	

DATE: 11/25/2020 TIME: 9:26:11 AM
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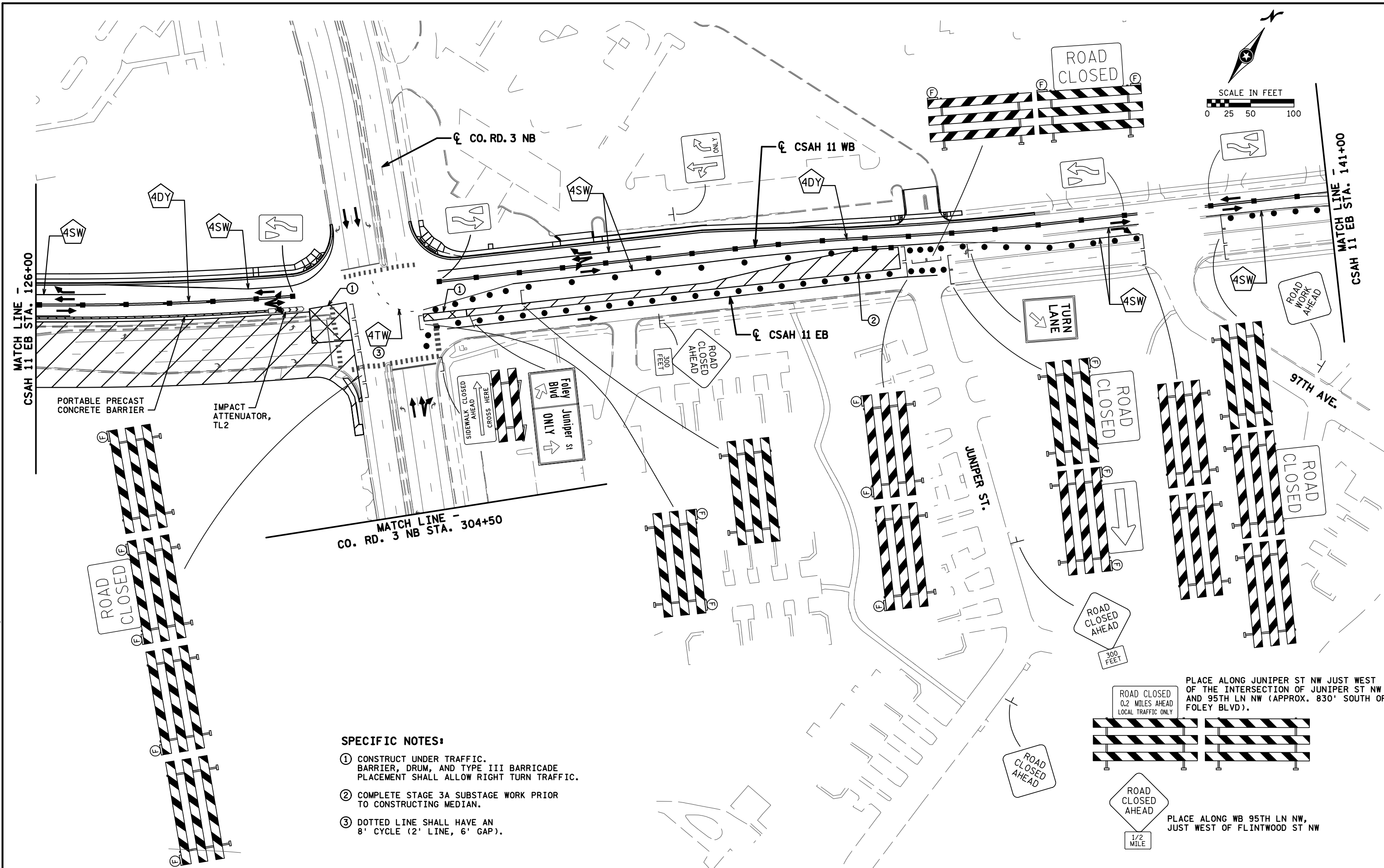
- SPECIFIC NOTES:**
- ① PLACE TEMPORARY PEDESTRIAN RAMP.
 - ② TEMPORARY PEDESTRIAN BARRIER.
 - ③ MAINTAIN ACCESS.
 - ④ PLACE METRO TRANSIT BUS STOP SIGN SALVAGED IN PREVIOUS STAGE.
 - ⑤ CONSTRUCT LIGHTING UNIT T-7 (SEE LIGHTING PLANS) IN THIS STAGE. THIS LIGHTING UNIT SHALL BE USED TO ILLUMINATE THE TEMPORARY BOARDING AREA IN STAGE 3B.
- AT THE END OF THE STAGE, SALVAGE THIS SIGN FOR USE IN LATER STAGES.

GENERAL NOTES:

- PROPOSED VS INPLACE ELEVATIONS NEAR THE PARK AND RIDE ENTRANCE ARE NOTABLY DIFFERENT. PROVIDE APPROPRIATE TEMPORARY EARTH RETENTION, PAID FOR AS "EARTH RETENTION SYSTEM (TEMPORARY)" (LUMP SUM).

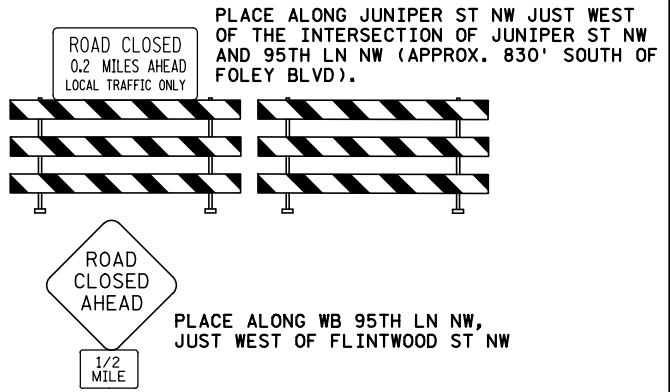
	DES: LKG DRW: LKG CHK: JAH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	TKDA STAGE 3A SHEET L STATE PROJ. NO. 002-611-036	TRAFFIC CONTROL PLANS SHEET NO. 303 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	

DATE: 11/25/2020 TIME: 9:26:31 AM
 FILENAME: c:\nkda\proj\tech\wise\lndsay\gal\mes\dms01247\cd00261036_tc3Ad.dgn



SPECIFIC NOTES:

- ① CONSTRUCT UNDER TRAFFIC. BARRIER, DRUM, AND TYPE III BARRICADE PLACEMENT SHALL ALLOW RIGHT TURN TRAFFIC.
- ② COMPLETE STAGE 3A SUBSTAGE WORK PRIOR TO CONSTRUCTING MEDIAN.
- ③ DOTTED LINE SHALL HAVE AN 8' CYCLE (2' LINE, 6' GAP).



NO.	DATE	BY	DESCRIPTION OF REVISIONS

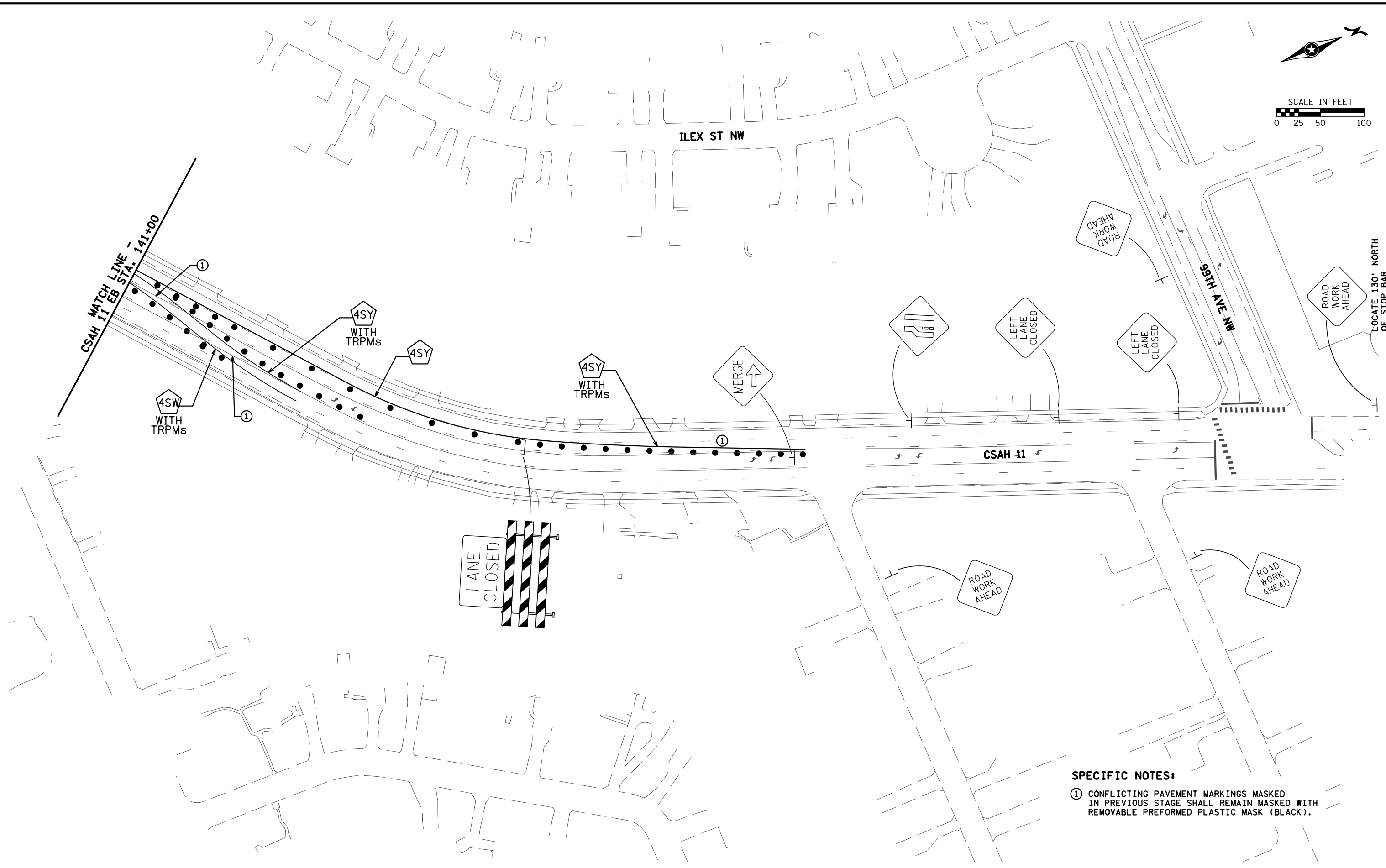
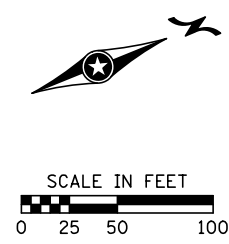
DES: LKG I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: LKG
 CHK: JAH SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



STAGE 3A SHEET M
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 304 OF 416 SHEETS

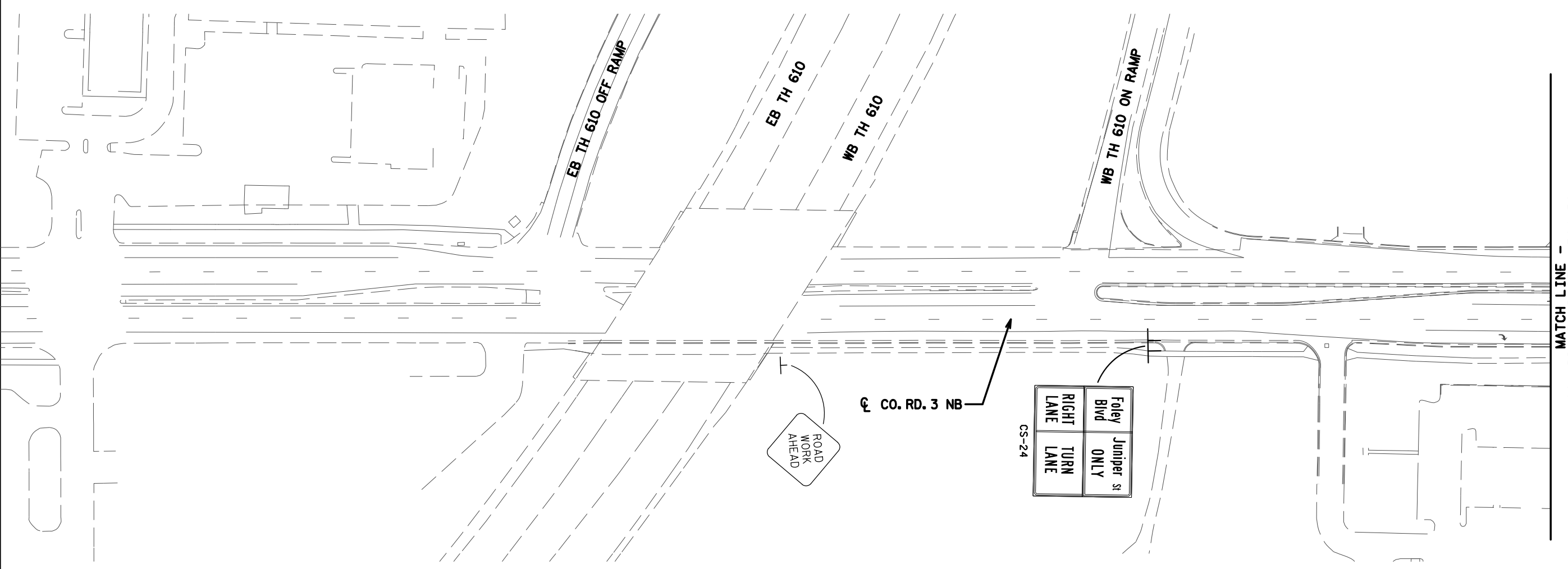
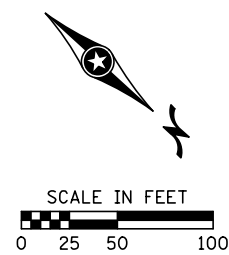
DATE: 11/25/2020 TIME: 7:23:24 AM
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SPECIFIC NOTES:
 ① CONFLICTING PAVEMENT MARKINGS MASKED IN PREVIOUS STAGE SHALL REMAIN MASKED WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

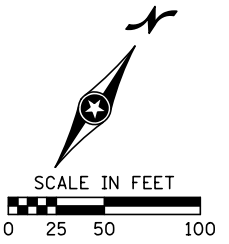
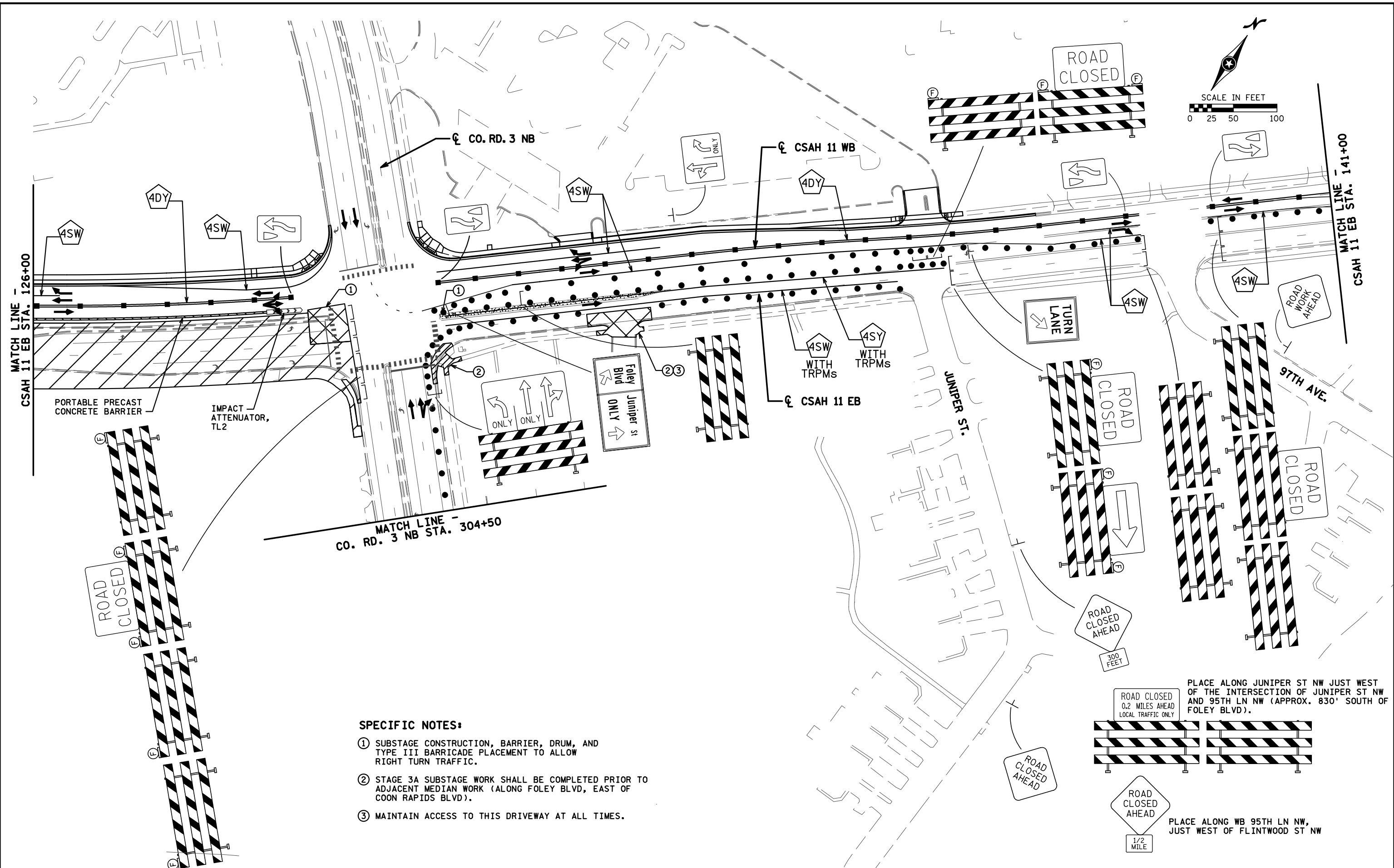
				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			STAGE 3A SHEET N	TRAFFIC CONTROL PLANS
				DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020			STATE PROJ. NO. 002-611-036	SHEET NO. 305 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH					

DATE: 11/25/2020 TIME: 9:26:50 AM
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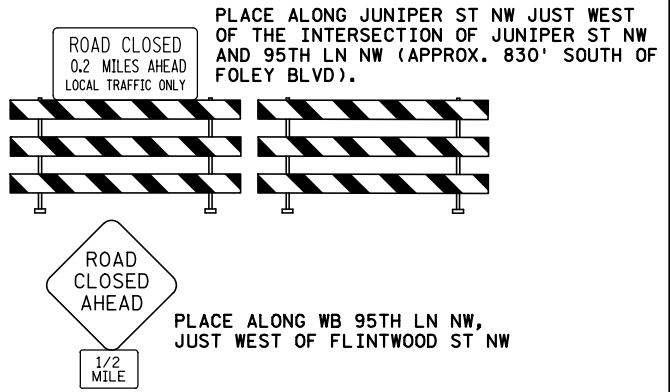
				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		STAGE 3A SHEET J	TRAFFIC CONTROL PLANS
				DRW: LKG			STATE PROJ. NO. 002-611-036	SHEET NO. 306 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH				

DATE: 11/25/2020 TIME: 7:24:19 AM
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SPECIFIC NOTES:

- ① SUBSTAGE CONSTRUCTION, BARRIER, DRUM, AND TYPE III BARRICADE PLACEMENT TO ALLOW RIGHT TURN TRAFFIC.
- ② STAGE 3A SUBSTAGE WORK SHALL BE COMPLETED PRIOR TO ADJACENT MEDIAN WORK (ALONG FOLEY BLVD, EAST OF COON RAPIDS BLVD).
- ③ MAINTAIN ACCESS TO THIS DRIVEWAY AT ALL TIMES.



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

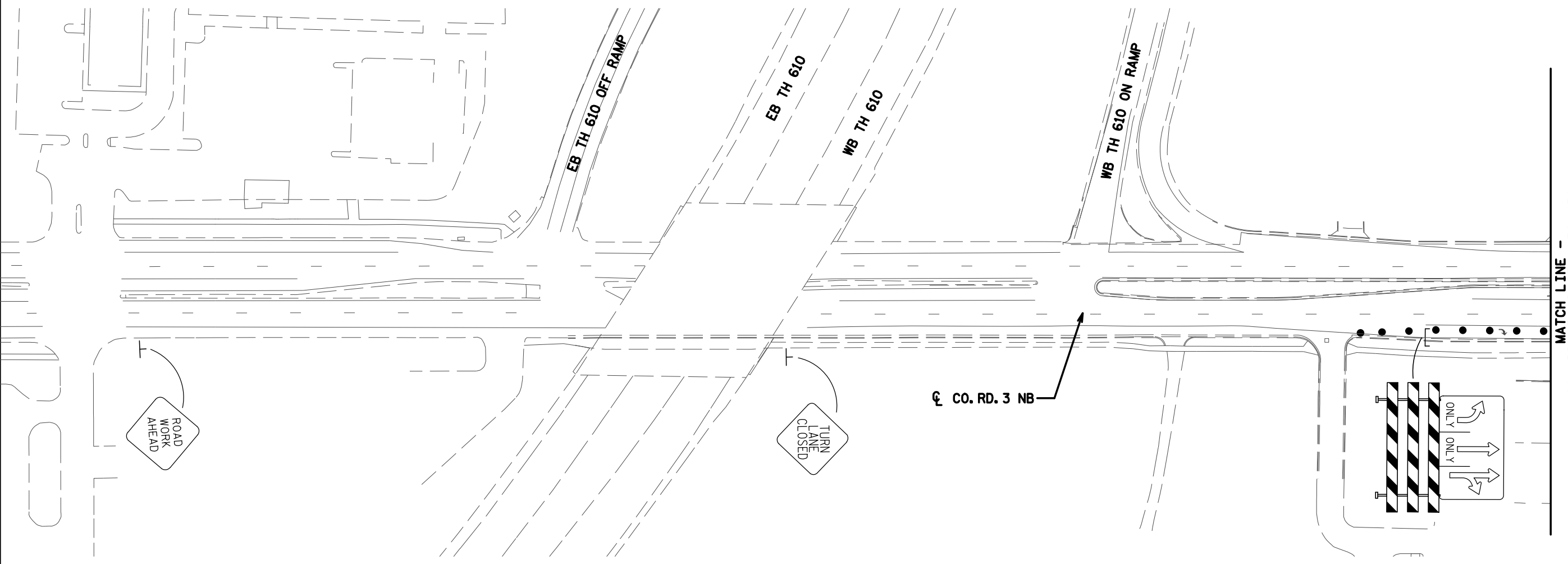
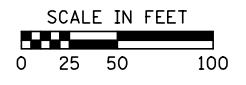
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020



STAGE 3A SUBSTAGE SHEET M
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 307 OF 416 SHEETS



MATCH LINE -
CO. RD. 3 NB STA. 304+50

DATE: 11/25/2020 TIME: 7:24:28 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

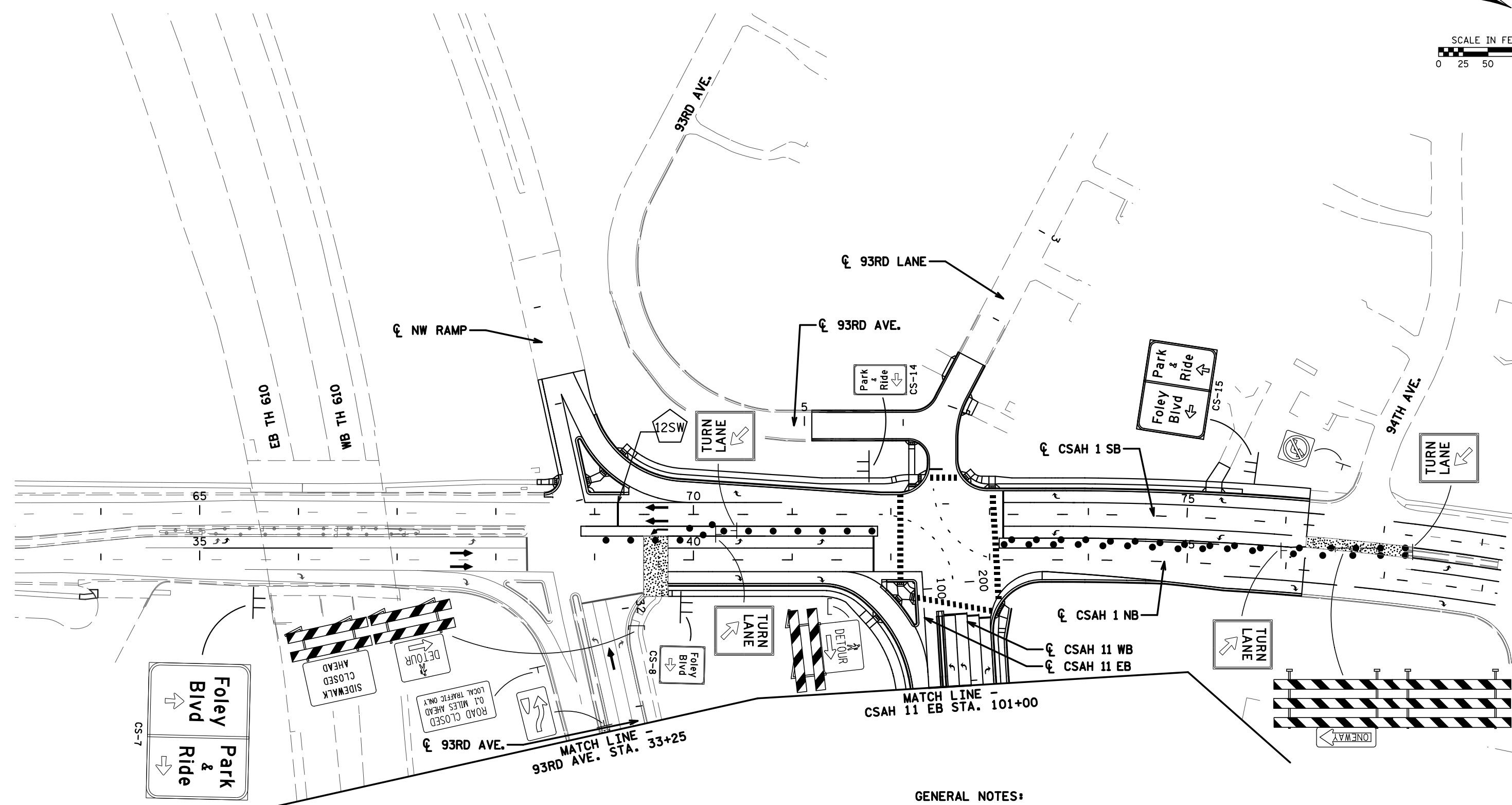
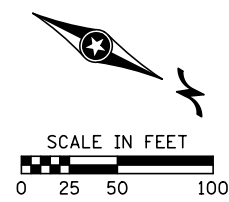


STAGE 3A SUBSTAGE
 SHEET J

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 308 OF 416 SHEETS

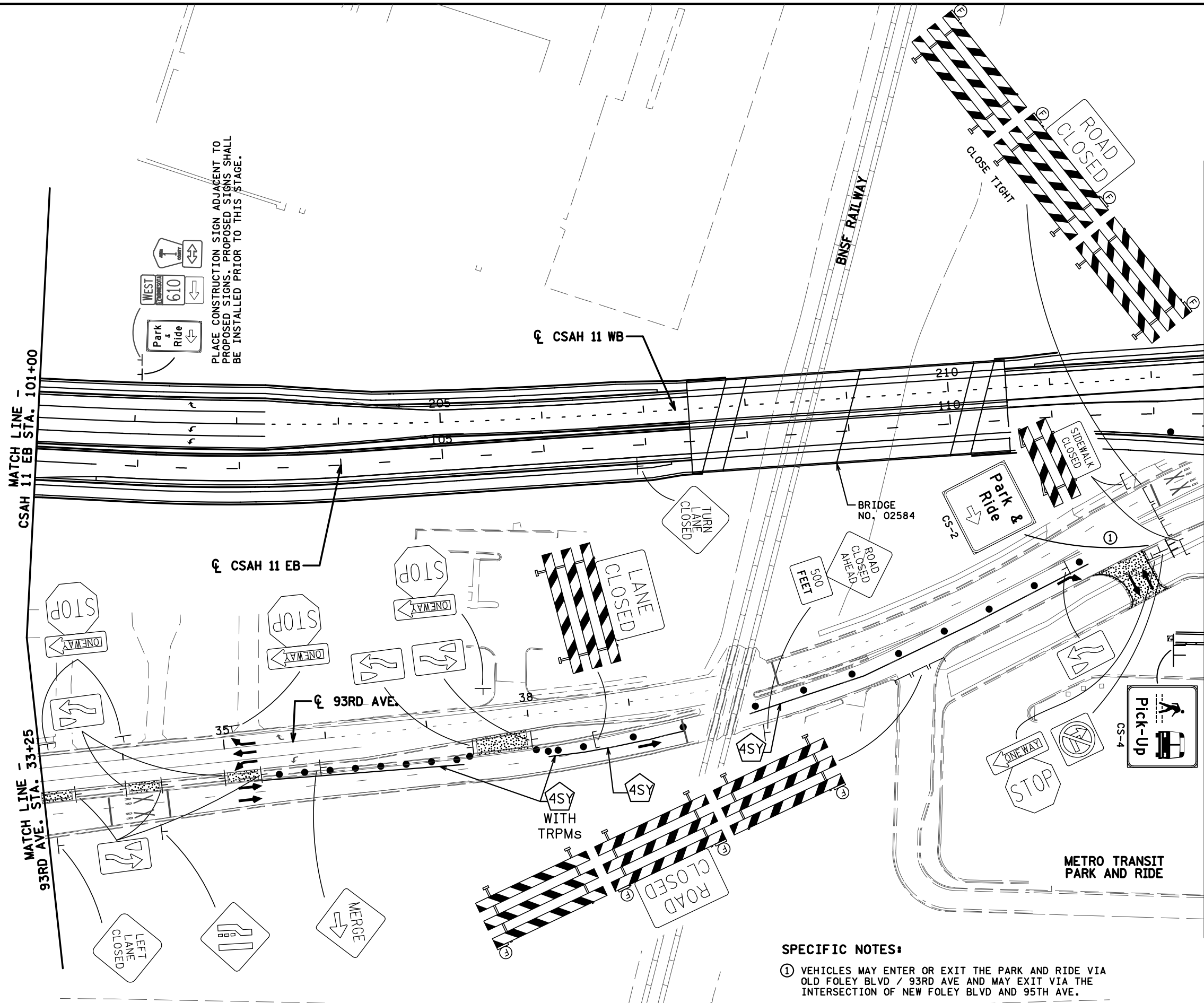
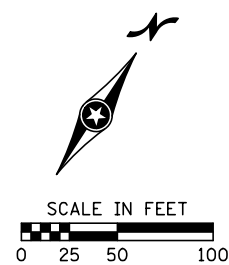


GENERAL NOTES:
 - PERMANENT SIGNS SHALL BE PLACED PRIOR TO THIS STAGE AS DIRECTED BY THE ENGINEER (ALL SHEETS).

DATE: 11/25/2020 TIME: 7:25:07 AM
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DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020						
CHK: JAH	JEFFREY A. HILDEN						
					STAGE 3B SHEET D		TRAFFIC CONTROL PLANS
			STATE PROJ. NO. 002-611-036		SHEET NO. 309 OF 416 SHEETS		
NO.	DATE	BY	DESCRIPTION OF REVISIONS				

DATE: 11/25/2020 TIME: 9:27:11 AM
 FILENAME: c:\nkda\proj\tech\wise\trndsay\gal\res\dms01247\cd00261036_tc3Bbd.dgn



PLACE CONSTRUCTION SIGN ADJACENT TO PROPOSED SIGNS. PROPOSED SIGNS SHALL BE INSTALLED PRIOR TO THIS STAGE.

SPECIFIC NOTES:
 ① VEHICLES MAY ENTER OR EXIT THE PARK AND RIDE VIA OLD FOLEY BLVD / 93RD AVE AND MAY EXIT VIA THE INTERSECTION OF NEW FOLEY BLVD AND 95TH AVE.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

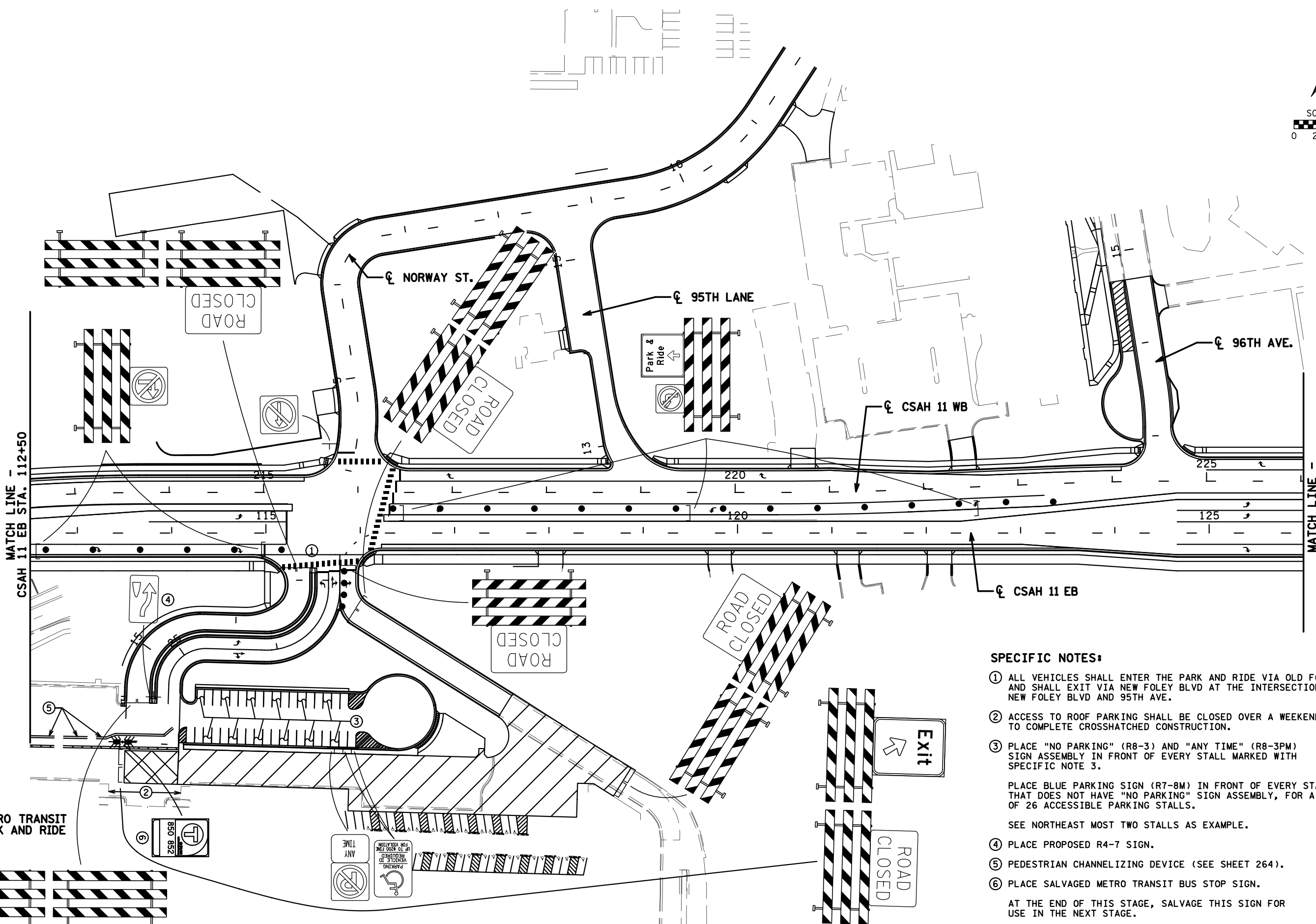
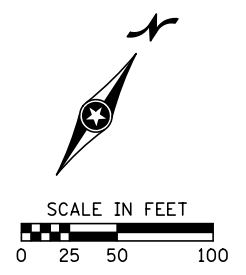
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



STAGE 3B
 SHEET K
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 310 OF 416 SHEETS



SPECIFIC NOTES:

- ① ALL VEHICLES SHALL ENTER THE PARK AND RIDE VIA OLD FOLEY BLVD AND SHALL EXIT VIA NEW FOLEY BLVD AT THE INTERSECTION OF NEW FOLEY BLVD AND 95TH AVE.
- ② ACCESS TO ROOF PARKING SHALL BE CLOSED OVER A WEEKEND TO COMPLETE CROSSHATCHED CONSTRUCTION.
- ③ PLACE "NO PARKING" (R8-3) AND "ANY TIME" (R8-3PM) SIGN ASSEMBLY IN FRONT OF EVERY STALL MARKED WITH SPECIFIC NOTE 3.

PLACE BLUE PARKING SIGN (R7-8M) IN FRONT OF EVERY STALL THAT DOES NOT HAVE "NO PARKING" SIGN ASSEMBLY, FOR A TOTAL OF 26 ACCESSIBLE PARKING STALLS.

SEE NORTHEAST MOST TWO STALLS AS EXAMPLE.
- ④ PLACE PROPOSED R4-7 SIGN.
- ⑤ PEDESTRIAN CHANNELIZING DEVICE (SEE SHEET 264).
- ⑥ PLACE SALVAGED METRO TRANSIT BUS STOP SIGN.

AT THE END OF THIS STAGE, SALVAGE THIS SIGN FOR USE IN THE NEXT STAGE.

DATE: 11/25/2020 TIME: 7:25:55 AM FILENAME: c:\tkda\proj\tech\wise\m\vangstad\dms01247\cd00261036_fc35bc.dgn

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020

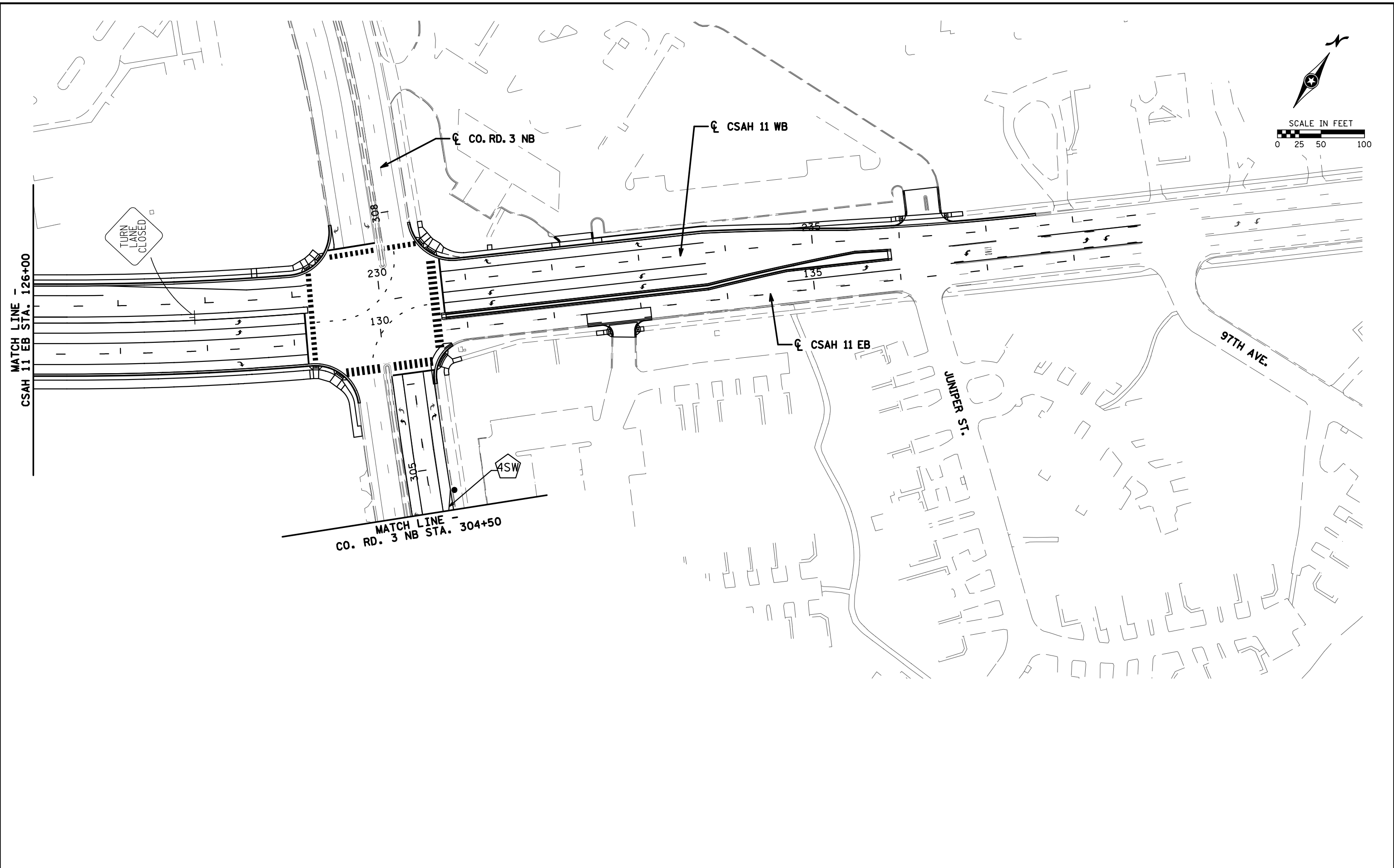
JEFFREY A. HILDEN



STAGE 3B
 SHEET L
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 311 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:26:19 AM
 FILENAME: c:\nkda\project\wise\hmv\vangstad\dms01247\cd00261036_tc3Bd.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

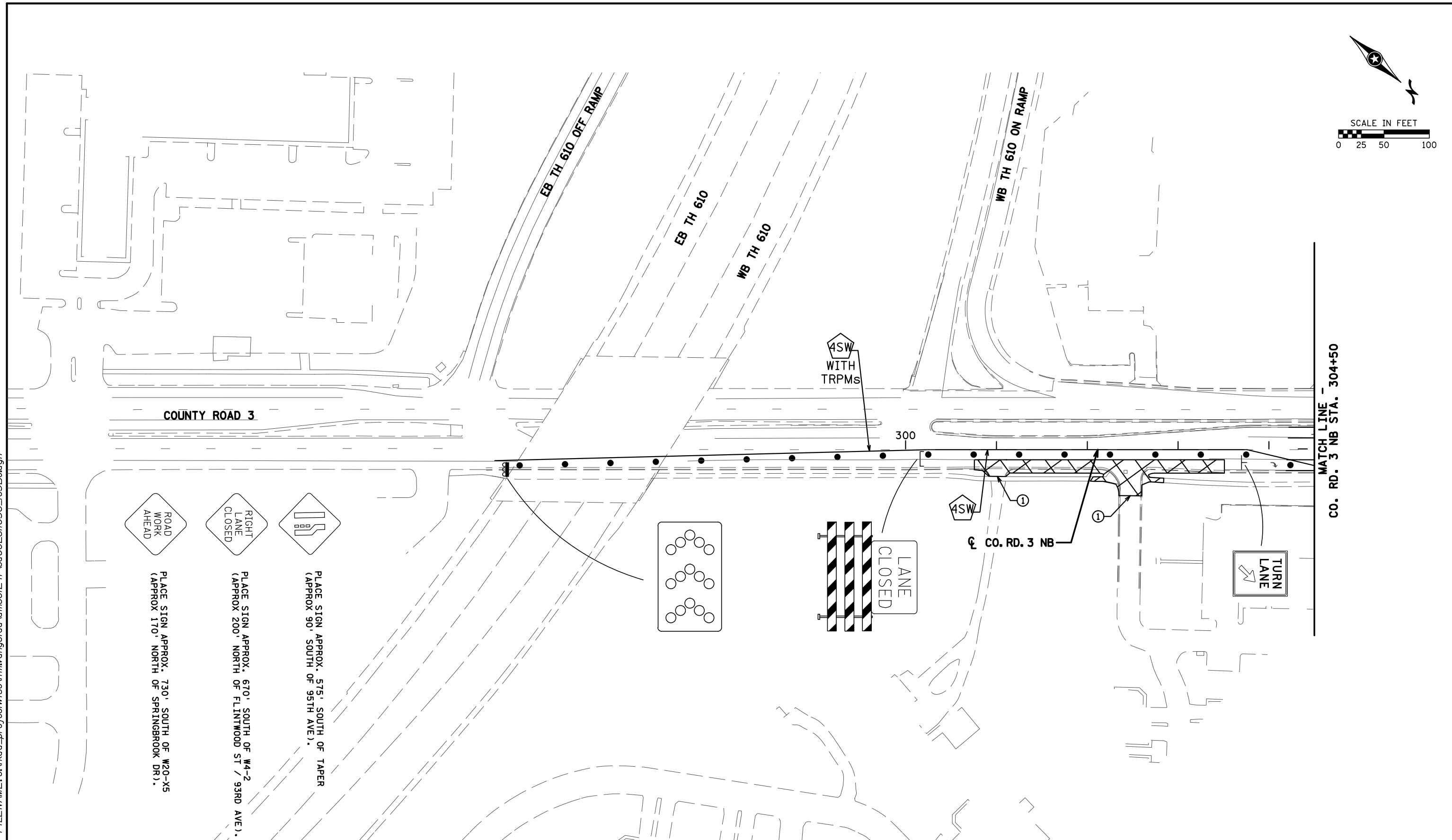
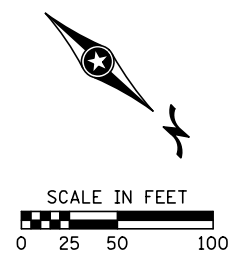


STAGE 3B
 SHEET M

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 312 OF 416 SHEETS



ROAD WORK AHEAD
 PLACE SIGN APPROX. 750' SOUTH OF W20-X5
 (APPROX 170' NORTH OF SPRINGBROOK DR.).

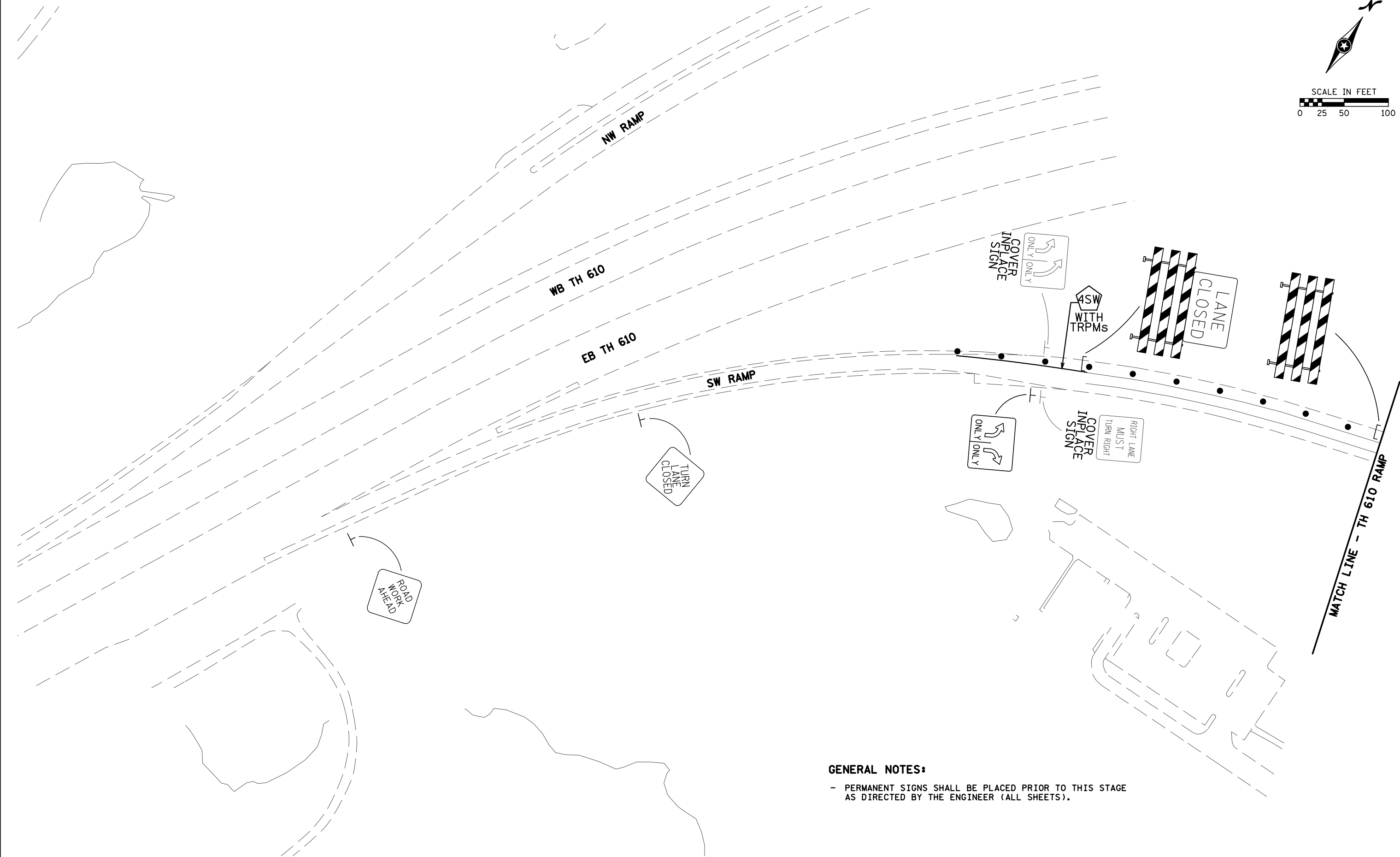
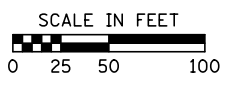
RIGHT LANE CLOSED
 PLACE SIGN APPROX. 670' SOUTH OF W4-2
 (APPROX 200' NORTH OF FLINTWOOD ST / 93RD AVE).

TURN LANE
 PLACE SIGN APPROX. 575' SOUTH OF TAPER
 (APPROX 90' SOUTH OF 95TH AVE).

SPECIFIC NOTES:
 ① MAINTAIN ACCESS TO DRIVEWAY AT ALL TIMES.

DATE: 11/25/2020 TIME: 7:26:42 AM
 FILENAME: c:\kda\project\se\fm\vangstad\dms01247\cd00261036_tc3Be.dgn

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		STAGE 3B SHEET J	TRAFFIC CONTROL PLANS
				DRW: LKG			STATE PROJ. NO. 002-611-036	SHEET NO. 313 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH				



GENERAL NOTES:

- PERMANENT SIGNS SHALL BE PLACED PRIOR TO THIS STAGE AS DIRECTED BY THE ENGINEER (ALL SHEETS).

DATE: 11/25/2020 TIME: 7:27:05 AM
FILENAME: c:\kda\proj\ctw\se\fm\vangstad\dms01247\cd00261036_tc4a.dgn

DES: LKG	DRW: LKG	CHK: JAH
NO.	DATE	BY

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

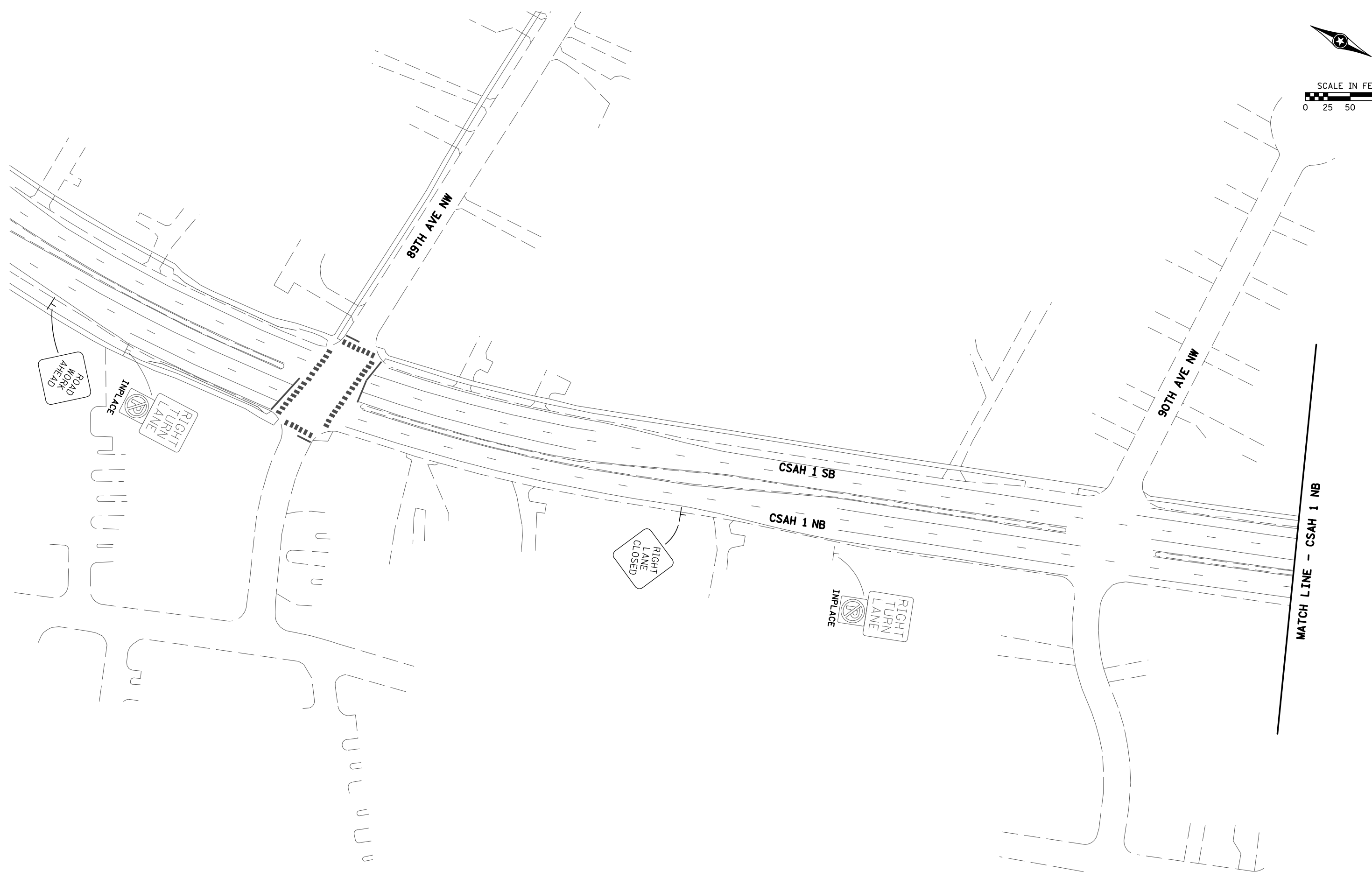
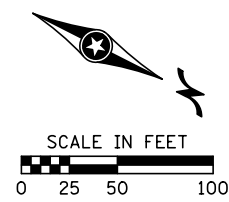
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
JEFFREY A. HILDEN



STAGE 4
SHEET A
STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
SHEET NO. 314 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:27:31 AM
 FILENAME: c:\nkda\project\wise\fm.vangstad\dms01247\cd00261036_tc4b.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

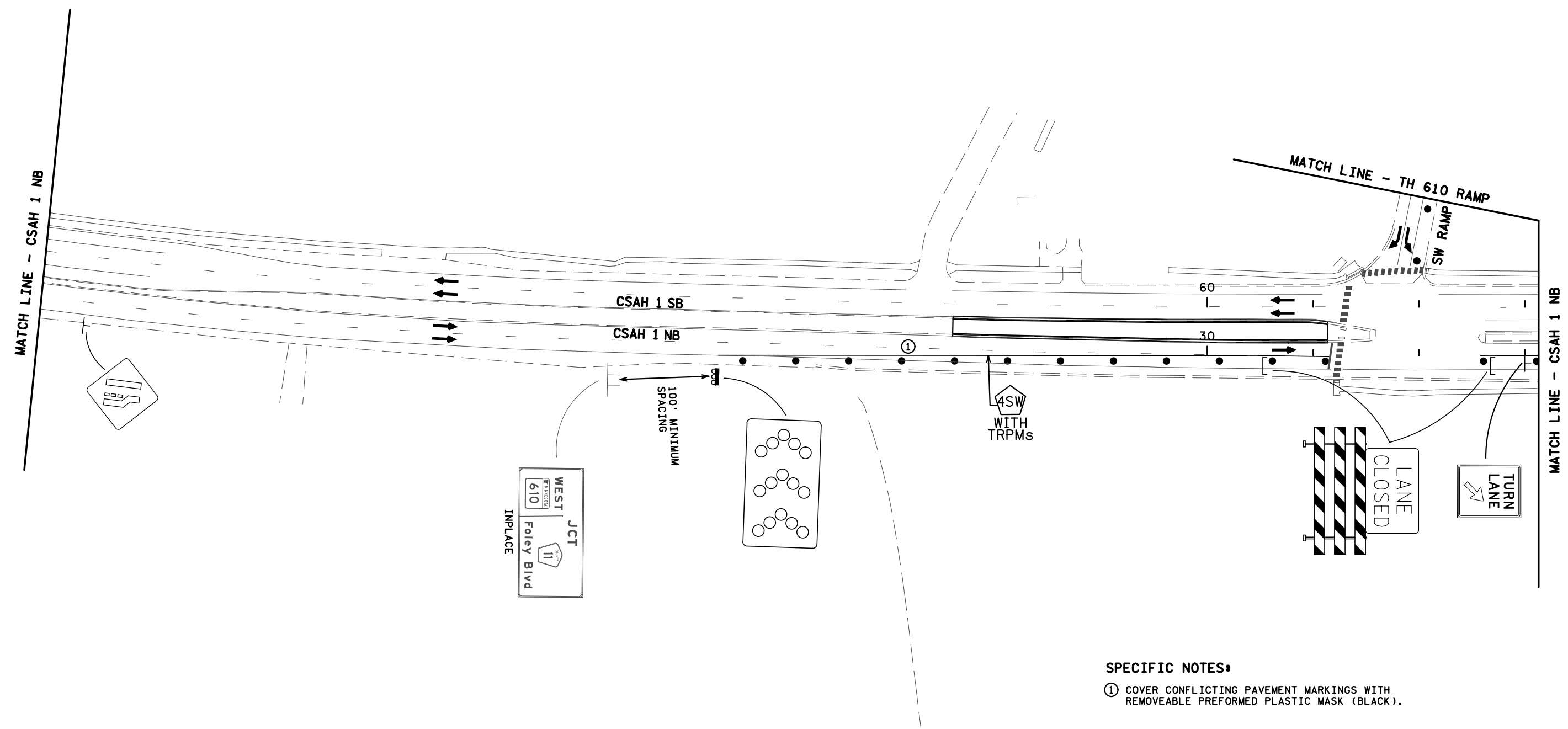
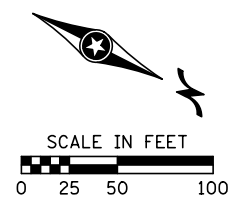


STAGE 4
 SHEET B

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

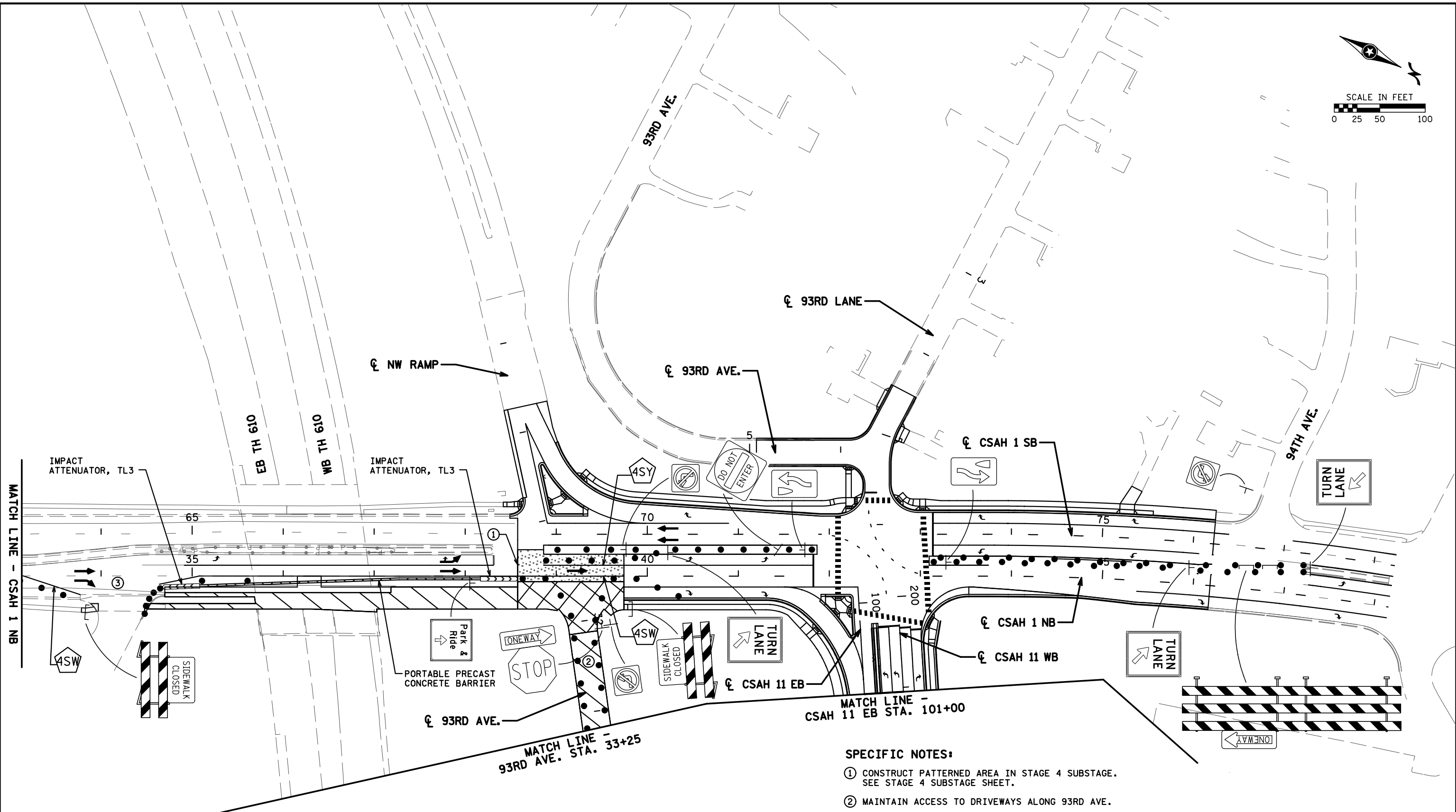
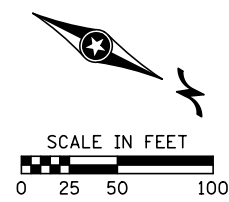
SHEET NO. 315 OF 416 SHEETS



SPECIFIC NOTES:
 ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PREFORMED PLASTIC MASK (BLACK).

DATE: 11/25/2020 TIME: 7:27:52 AM
 FILENAME: c:\nkda\proj\ectw\se\fm\vangstad\dms01247\cd00261036_tc4c.dgn

	DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		STAGE 4 SHEET C	TRAFFIC CONTROL PLANS
	DRW: LKG	SIGNATURE: LIC. NO. 20781 DATE: 11/25/2020		STATE PROJ. NO. 002-611-036	SHEET NO. 316 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH	

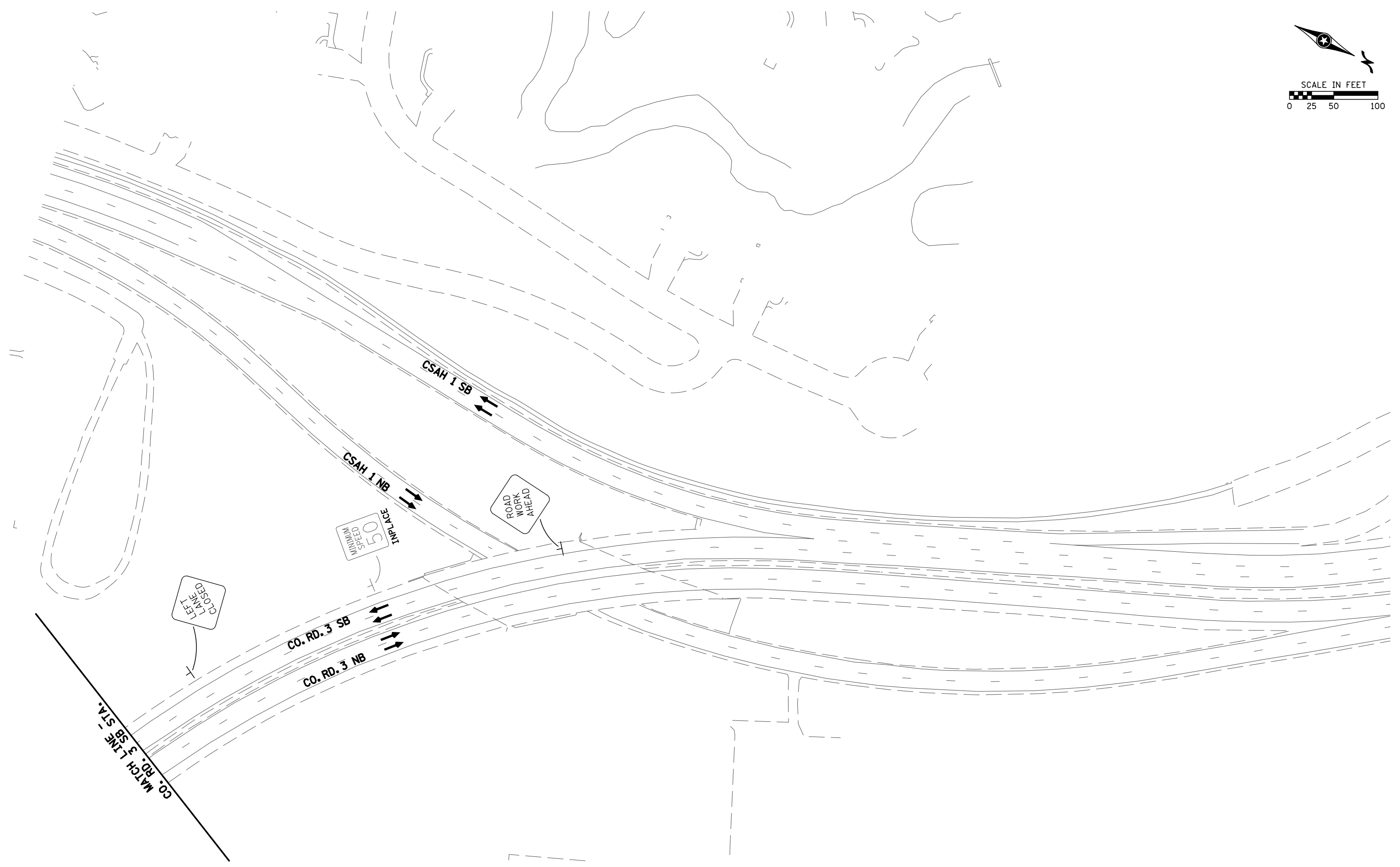
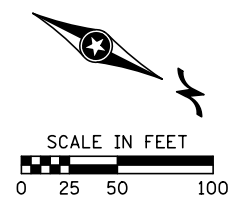


- SPECIFIC NOTES:**
- ① CONSTRUCT PATTERNED AREA IN STAGE 4 SUBSTAGE. SEE STAGE 4 SUBSTAGE SHEET.
 - ② MAINTAIN ACCESS TO DRIVEWAYS ALONG 93RD AVE.
 - ③ COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PREFORMED PLASTIC MASK (BLACK).
 - ④ MAST ARM MOUNTED SIGNS ON PERMANENT SIGNAL SYSTEM SHALL BE INPLACE DURING THIS STAGE.

DATE: 11/25/2020 TIME: 9:27:30 AM
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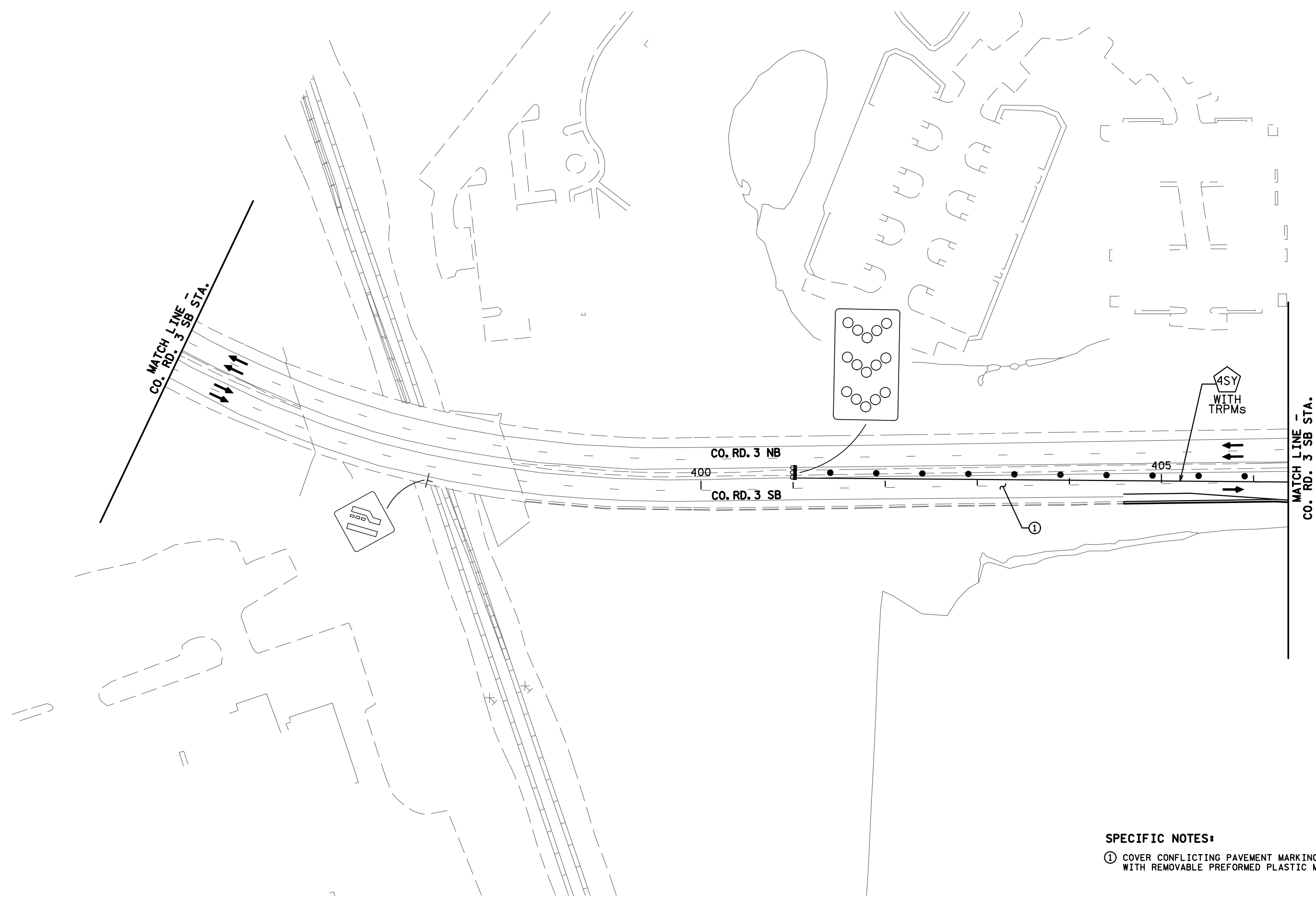
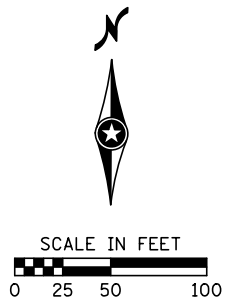
	DES: LKG DRW: LKG CHK: JAH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	STAGE 4 SHEET D STATE PROJ. NO. 002-611-036	TRAFFIC CONTROL PLANS SHEET NO. 317 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	

DATE: 11/25/2020 TIME: 7:28:38 AM
 FILENAME: c:\nkda\proj\tech\ise\fm\vangstad\dms01247\cd00261036_tc4e.dgn



			DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020	TKDA	STAGE 4	TRAFFIC CONTROL PLANS
			DRW: LKG			SHEET F	
NO.	DATE	BY	CHK: JAH			STATE PROJ. NO. 002-611-036	
DESCRIPTION OF REVISIONS							

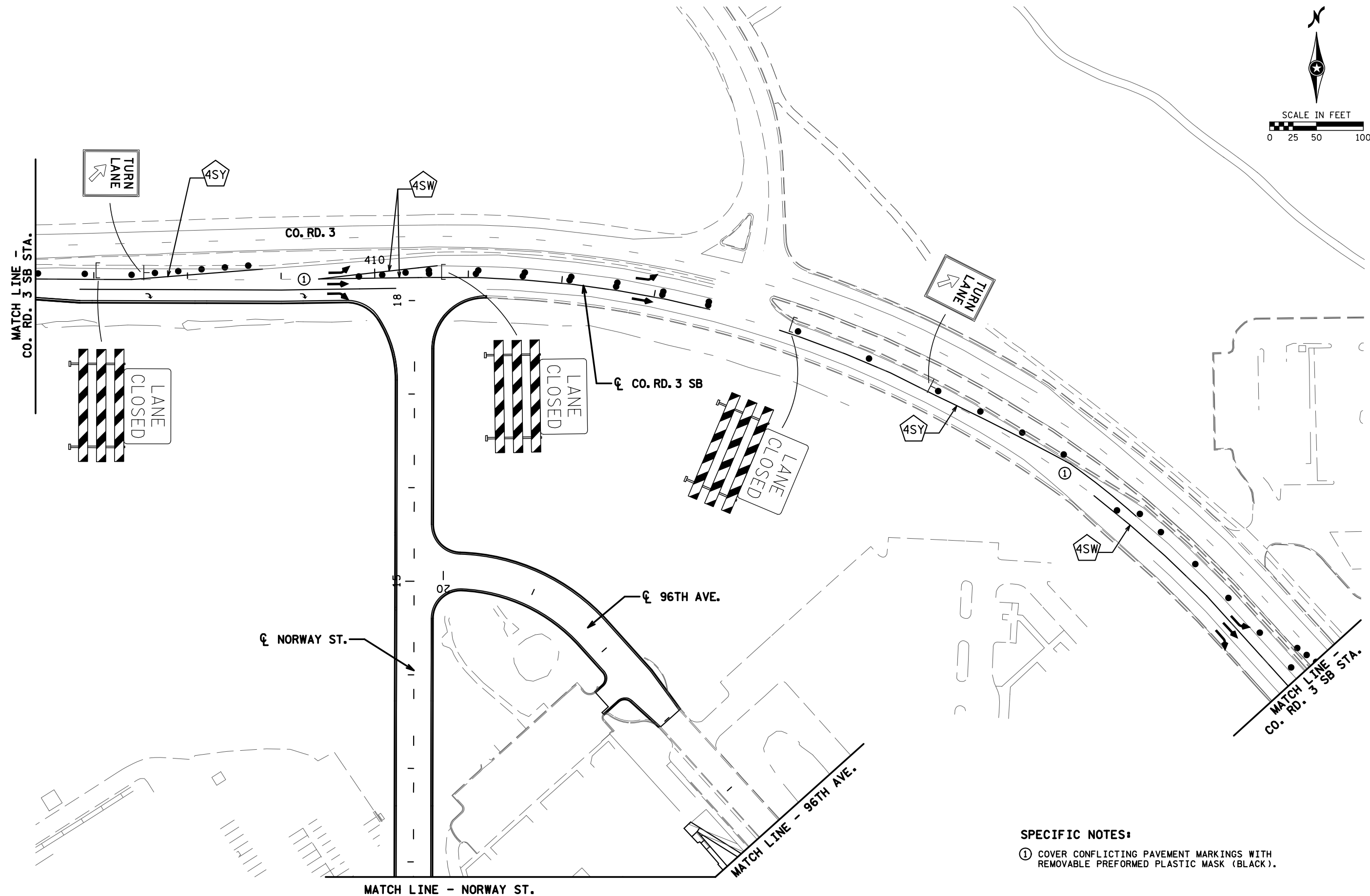
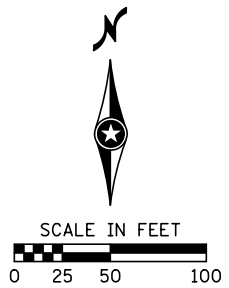
DATE: 11/25/2020 TIME: 7:29:00 AM
 FILENAME: c:\nkda\project\wise\fm.vangstad\dms01247\cd00261036_tcf.dgn



SPECIFIC NOTES:
 ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

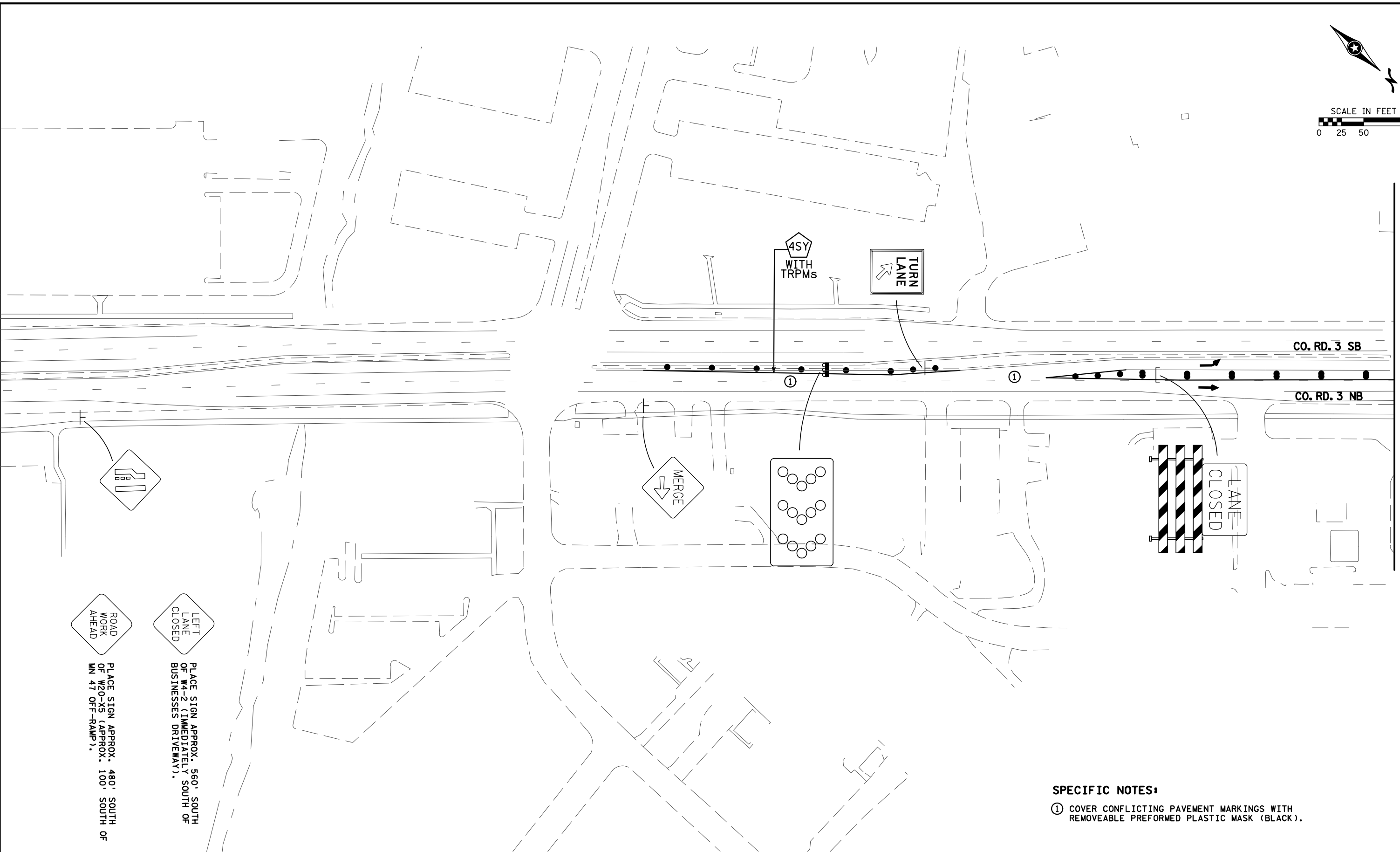
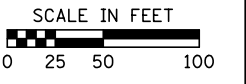
			DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TKDA	STAGE 4	TRAFFIC CONTROL PLANS
			DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020			SHEET 6	
NO.	DATE	BY	CHK: JAH				STATE PROJ. NO. 002-611-036	SHEET NO. 319 OF 416 SHEETS
DESCRIPTION OF REVISIONS								

DATE: 11/25/2020 TIME: 7:29:06 AM
 FILENAME: c:\nkda\project\wise\m.vangstad\dms01247\cd00261036_tc4g.dgn



SPECIFIC NOTES:
 ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			STAGE 4	TRAFFIC CONTROL PLANS
				DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020			SHEET H	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH	JEFFREY A. HILDEN			STATE PROJ. NO. 002-611-036	



MATCH LINE - CO. RD. 3 NB

CO. RD. 3 SB

CO. RD. 3 NB

SPECIFIC NOTES:
① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PREFORMED PLASTIC MASK (BLACK).

DATE: 11/25/2020 TIME: 7:29:32 AM
FILENAME: c:\tkda\proj\tech\wise\m.vangstad\dms01247\cd00261036_tch.dgn

ROAD WORK AHEAD
PLACE SIGN APPROX. 480' SOUTH OF W20-X5 (APPROX. 100' SOUTH OF MN 47 OFF-RAMP).

LEFT LANE CLOSED
PLACE SIGN APPROX. 560' SOUTH OF BUSINESSES DRIVEWAY.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



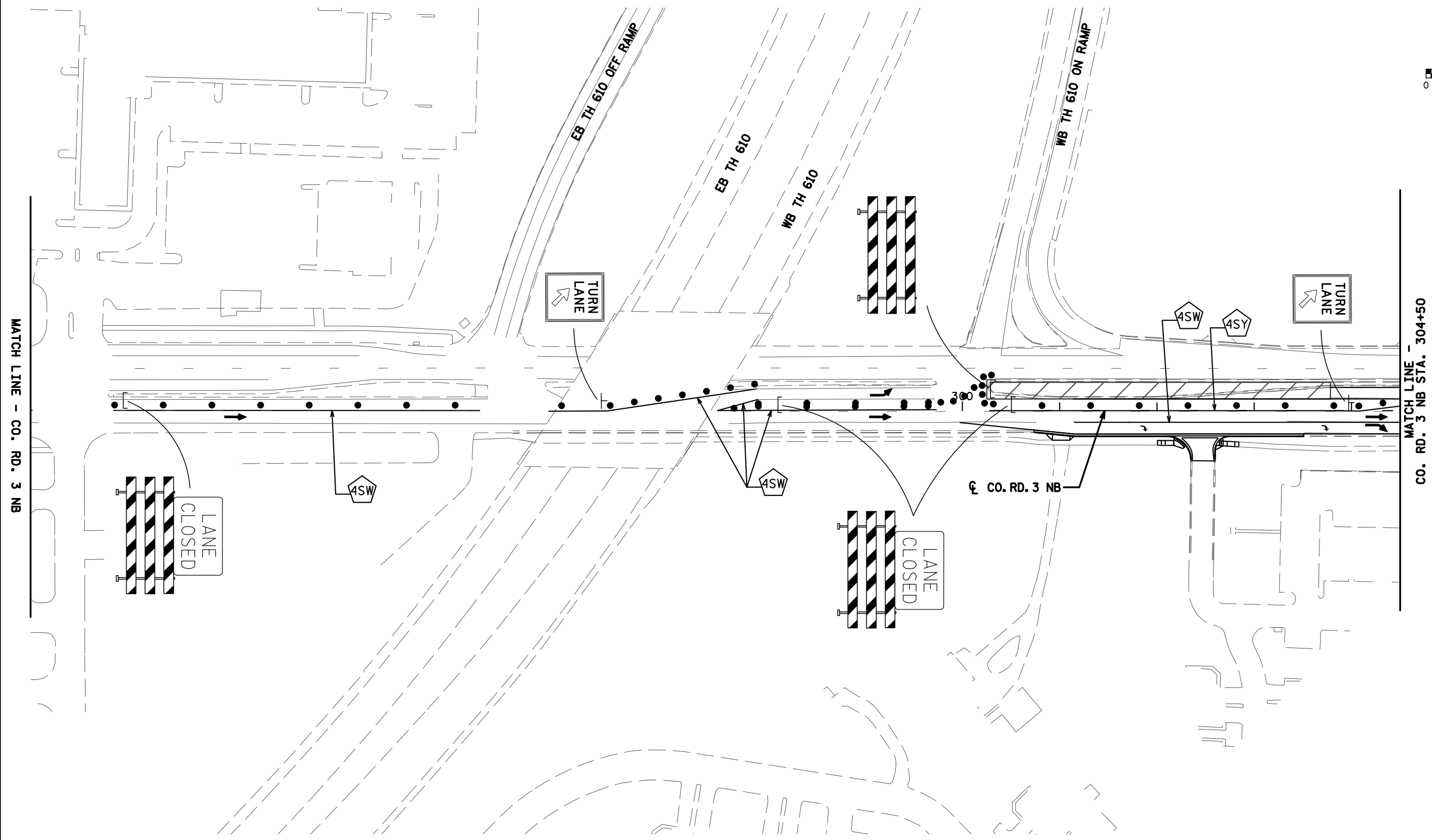
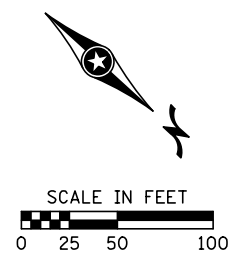
STAGE 4
 SHEET 1

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 321 OF 416 SHEETS

DATE: 11/25/2020 TIME: 9:27:52 AM
 FILENAME: c:\nkda\proj\techwise\trndsay\gal\mes\dms01247\cd00261036_tcf.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



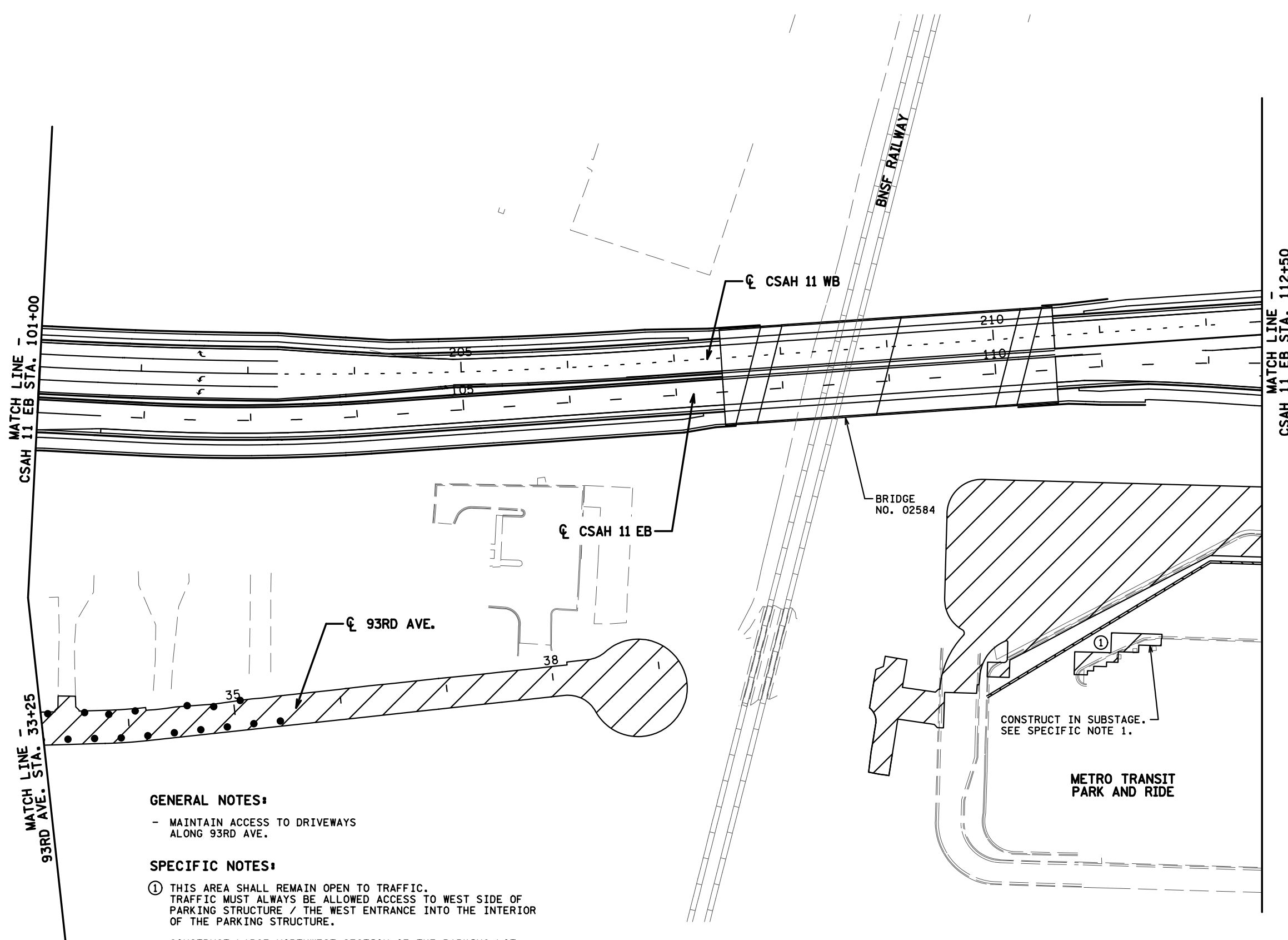
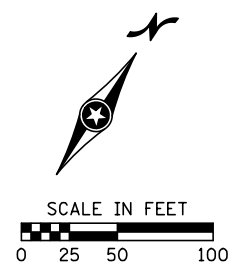
STAGE 4
 SHEET J

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 322 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:30:17 AM
 FILENAME: c:\nkda\proj\tech\wise\m.vangstad\dms01247\cd00261036_tcd4.dgn



GENERAL NOTES:

- MAINTAIN ACCESS TO DRIVEWAYS ALONG 93RD AVE.

SPECIFIC NOTES:

- ① THIS AREA SHALL REMAIN OPEN TO TRAFFIC. TRAFFIC MUST ALWAYS BE ALLOWED ACCESS TO WEST SIDE OF PARKING STRUCTURE / THE WEST ENTRANCE INTO THE INTERIOR OF THE PARKING STRUCTURE.

CONSTRUCT LARGE NORTHWEST SECTION OF THE PARKING LOT FIRST, THEN CONSTRUCT SMALL SOUTHEAST SECTION. DO NOT CONSTRUCT BOTH SECTIONS AT THE SAME TIME.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



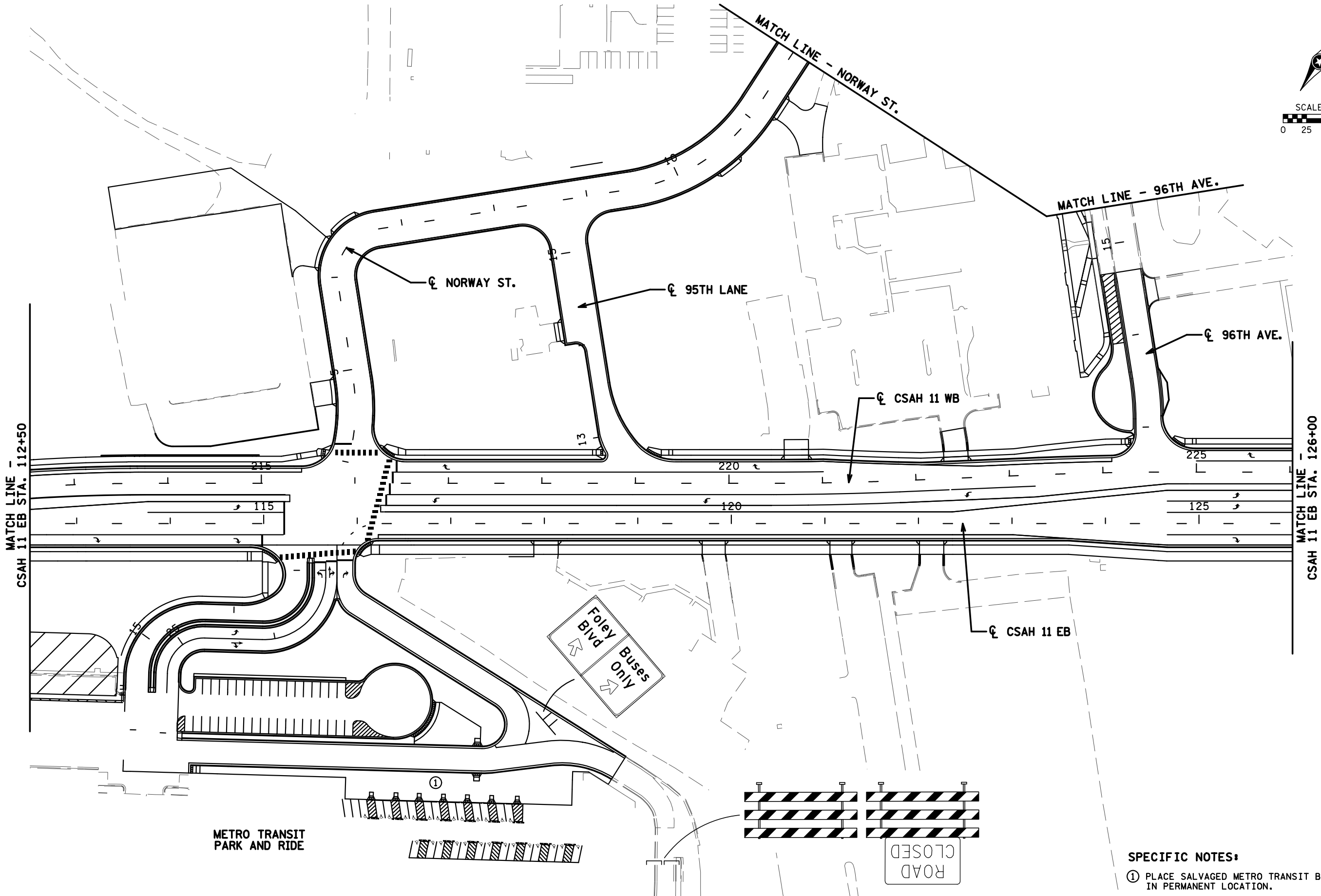
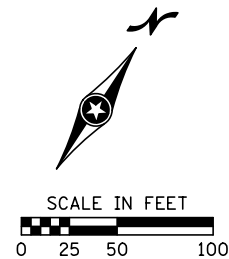
STAGE 4
 SHEET K

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 323 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:30:41 AM
 FILENAME: c:\nkda\proj\tech\wise\m.vangstad\dms01247\cd00261036_tc4k.dgn



SPECIFIC NOTES:
 ① PLACE SALVAGED METRO TRANSIT BUS STOP SIGN IN PERMANENT LOCATION.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

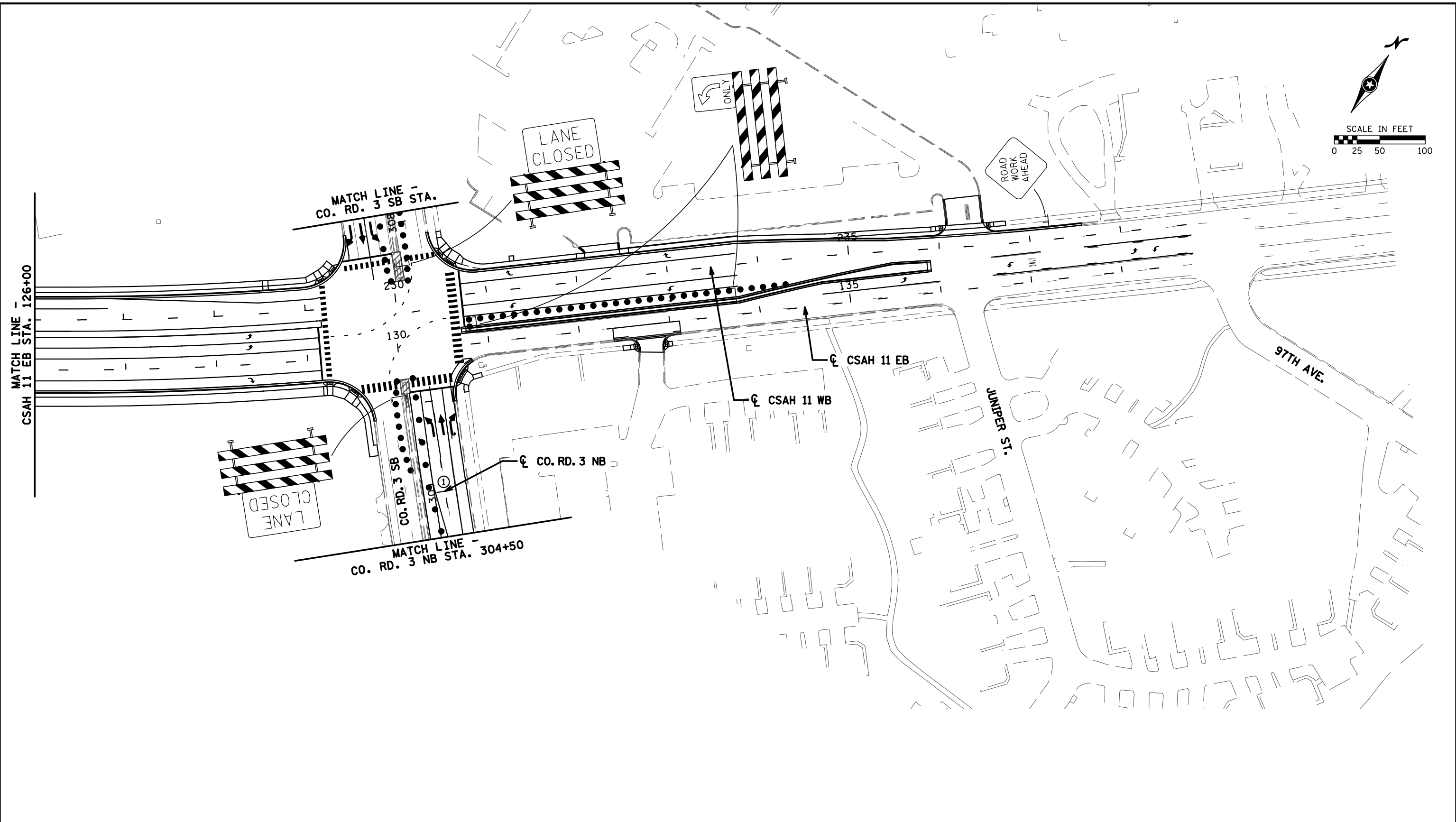
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



STAGE 4
 SHEET L
 STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS
 SHEET NO. 324 OF 416 SHEETS

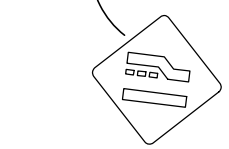
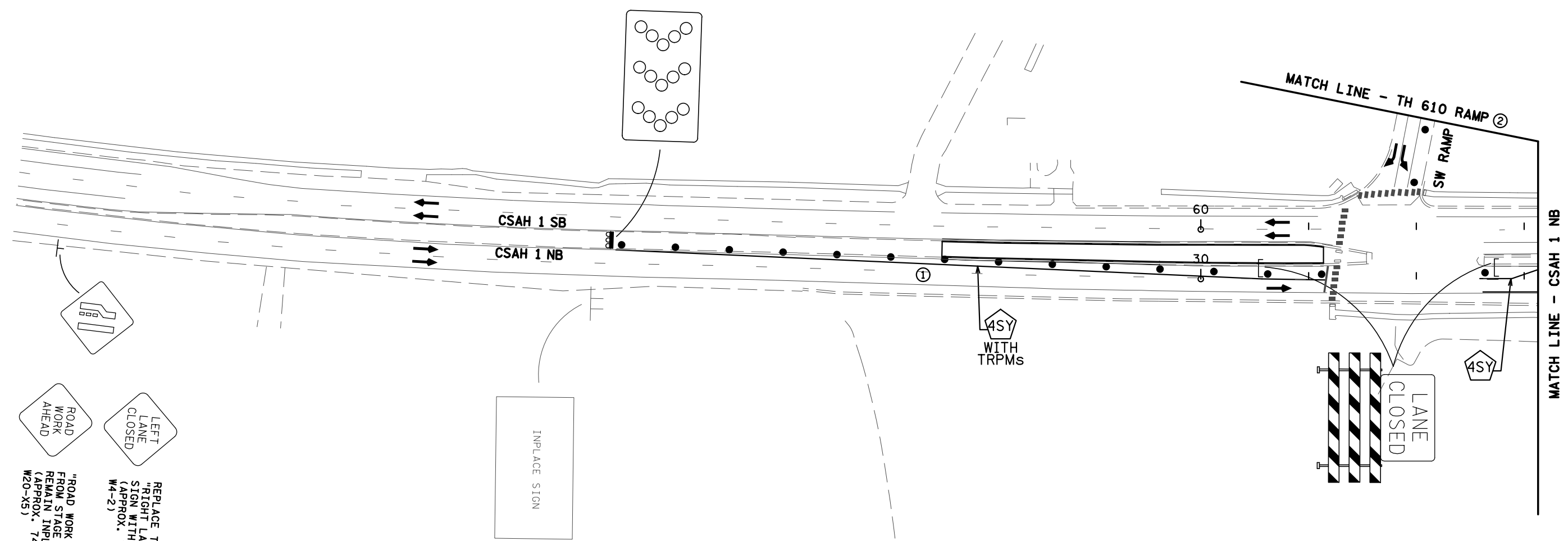
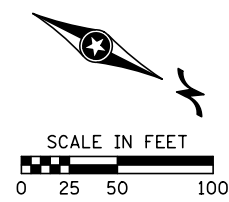
DATE: 11/25/2020 TIME: 7:31:02 AM
 FILENAME: c:\nkda\project\wise\fm\vangstad\dms01247\cd00261036_tcd1.dgn



SPECIFIC NOTES:

- ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PLASTIC MASK (BLACK).

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		STAGE 4	TRAFFIC CONTROL PLANS		
				DRW: LKG			SIGNATURE: <i>Jeffrey A. Hilden</i>		LIC. NO. 20781	SHEET M
				CHK: JAH			DATE: 11/25/2020			
NO.	DATE	BY	DESCRIPTION OF REVISIONS					STATE PROJ. NO. 002-611-036	SHEET NO. 325 OF 416 SHEETS	



REPLACE THE STAGE 4 "RIGHT LANE CLOSED" SIGN WITH THIS SIGN, (APPROX. 730' SOUTH OF W4-2)

"ROAD WORK AHEAD" SIGN FROM STAGE 4 SHALL REMAIN INPLACE. (APPROX. 740' SOUTH OF W20-X5)

INPLACE SIGN

4SY WITH TRPMS

LANE CLOSED

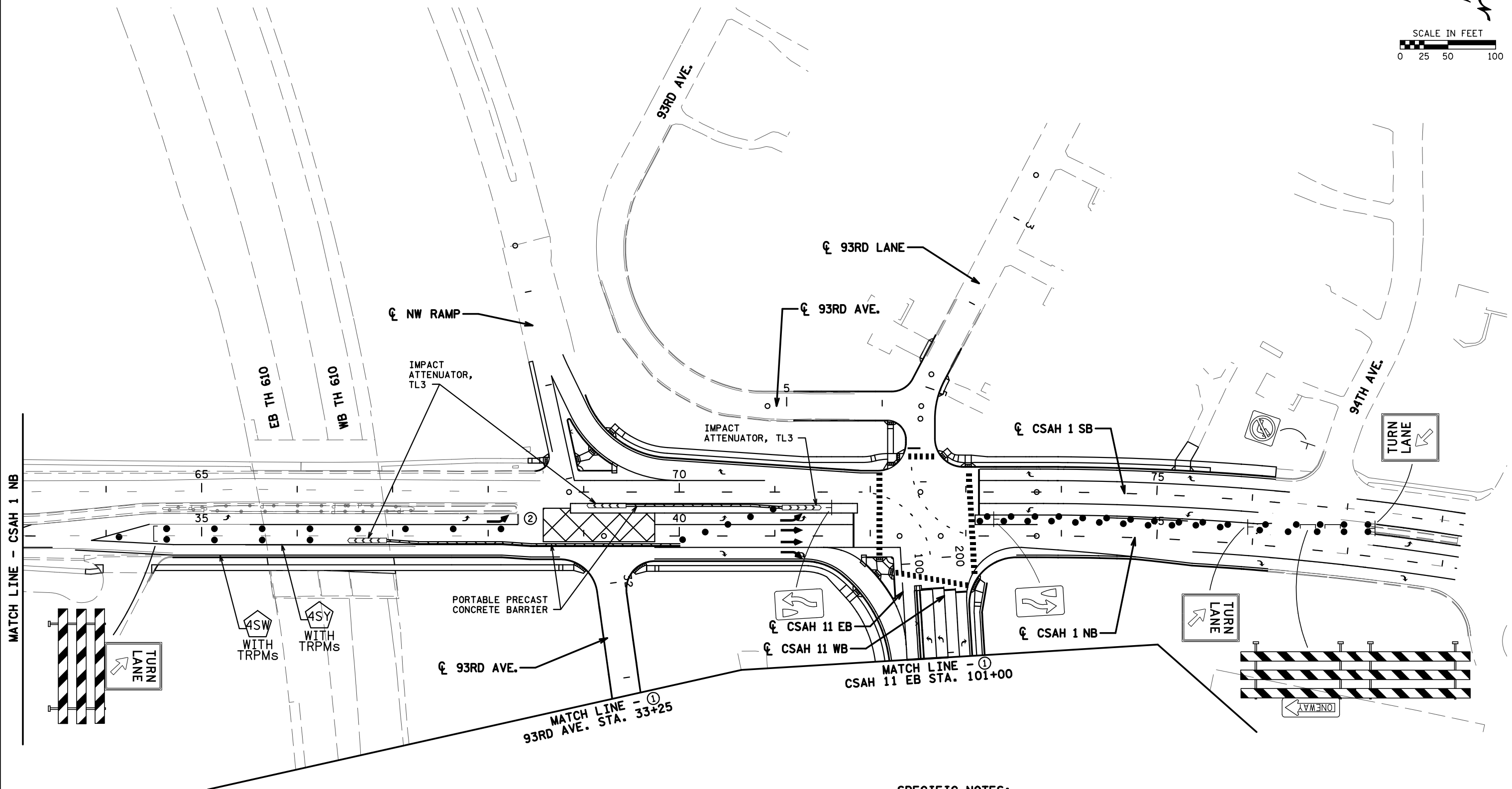
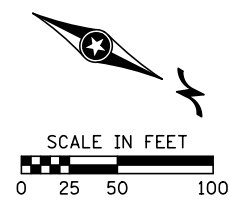
4SY

SPECIFIC NOTES:

- ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).
- ② SEE STAGE 4 FOR LEFT LANE CLOSURE ON SW RAMP.

DATE: 11/25/2020 TIME: 7:31:26 AM FILENAME: c:\kda\project\se\fm\vangstad\dms01247\cd00261036_tc4m.dgn

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				STAGE 4 SUBSTAGE SHEET C	TRAFFIC CONTROL PLANS	
DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020				STATE PROJ. NO. 002-611-036	SHEET NO. 326 OF 416 SHEETS	
CHK: JAH							
NO.	DATE	BY	DESCRIPTION OF REVISIONS				

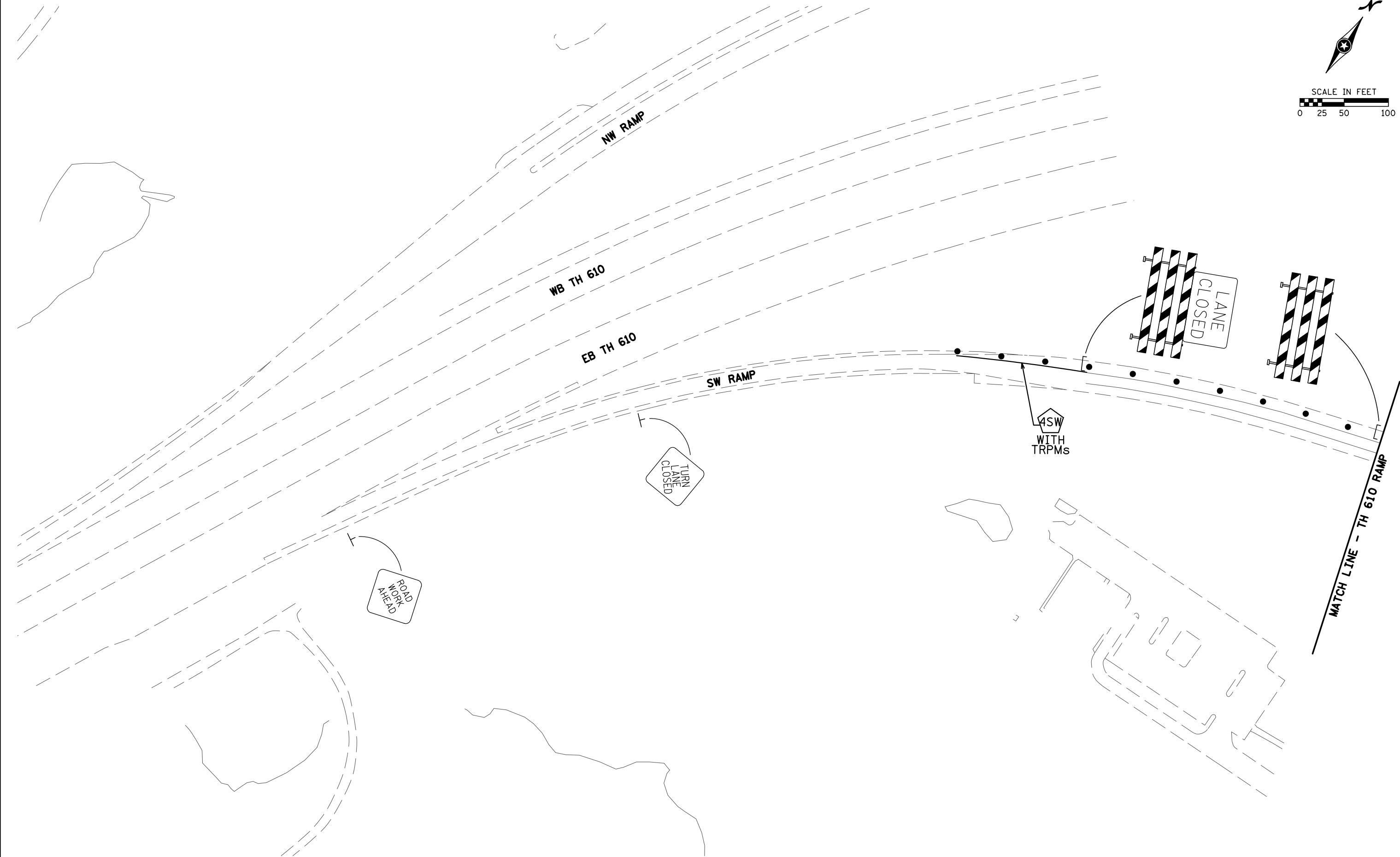
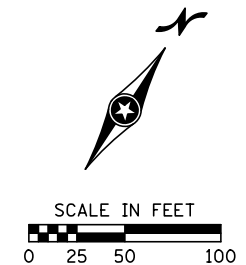


- SPECIFIC NOTES:**
- ① SEE STAGE 4
 - ② MAINTAIN NORTHBOUND TO WESTBOUND LEFT TRUN.

DATE: 11/25/2020 TIME: 7:31:51 AM
 FILENAME: c:\nkda_proj\tech\w\se\fm\vangstad\dms01247\cd00261036_tc4ndgn

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020						
CHK: JAH							
NO.	DATE	BY	DESCRIPTION OF REVISIONS	STAGE 4 SUBSTAGE SHEET D		TRAFFIC CONTROL PLANS	
				STATE PROJ. NO. 002-611-036		SHEET NO. 327 OF 416 SHEETS	

DATE: 11/25/2020 TIME: 7:32:15 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



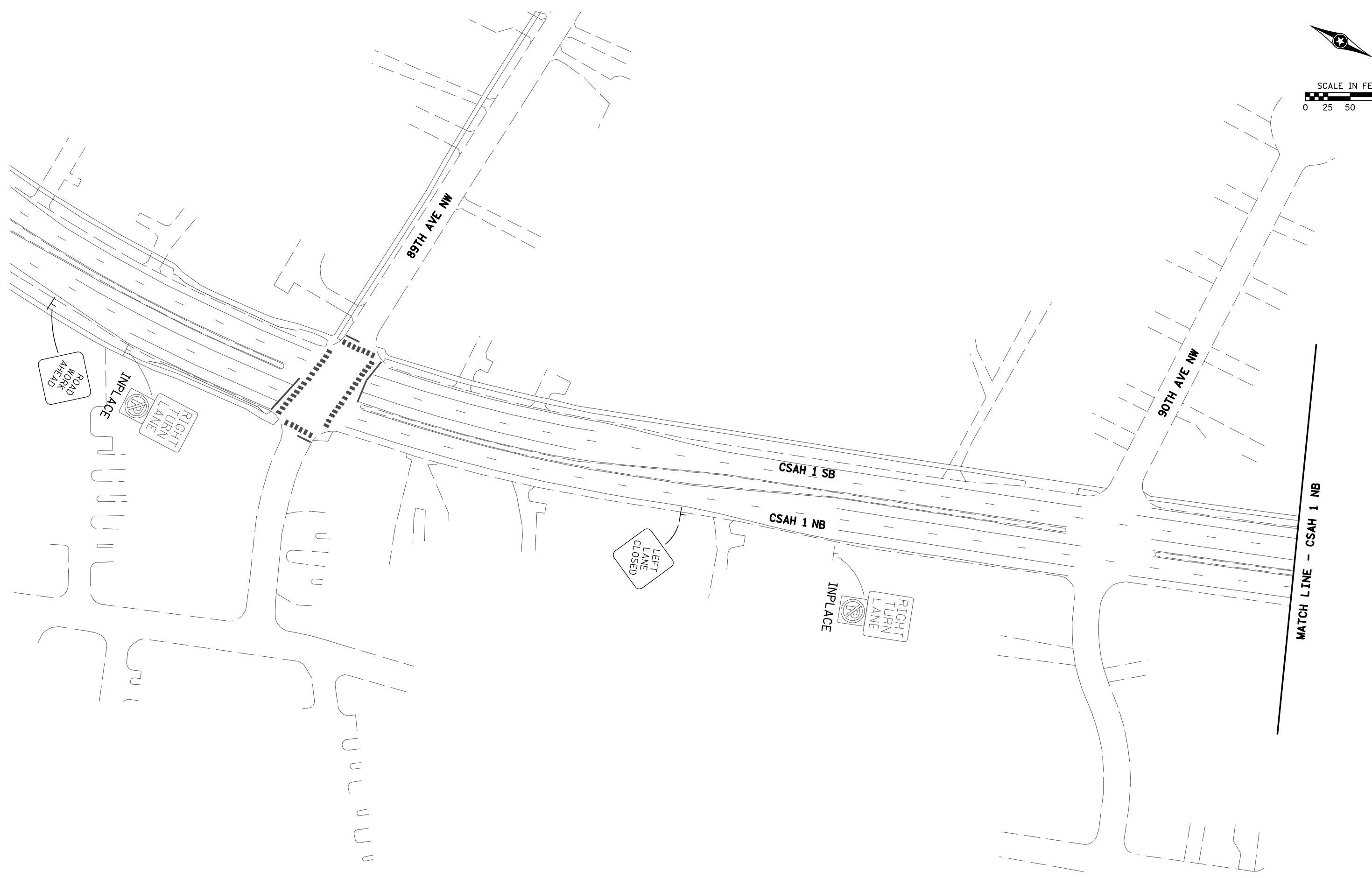
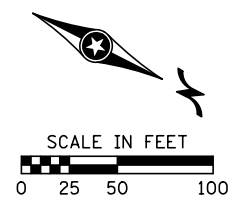
STAGE 5
 SHEET A

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 328 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:32:38 AM
 FILENAME: c:\nkda\project\w\se\fm\vangstad\dms01247\cd00261036_fc5b.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

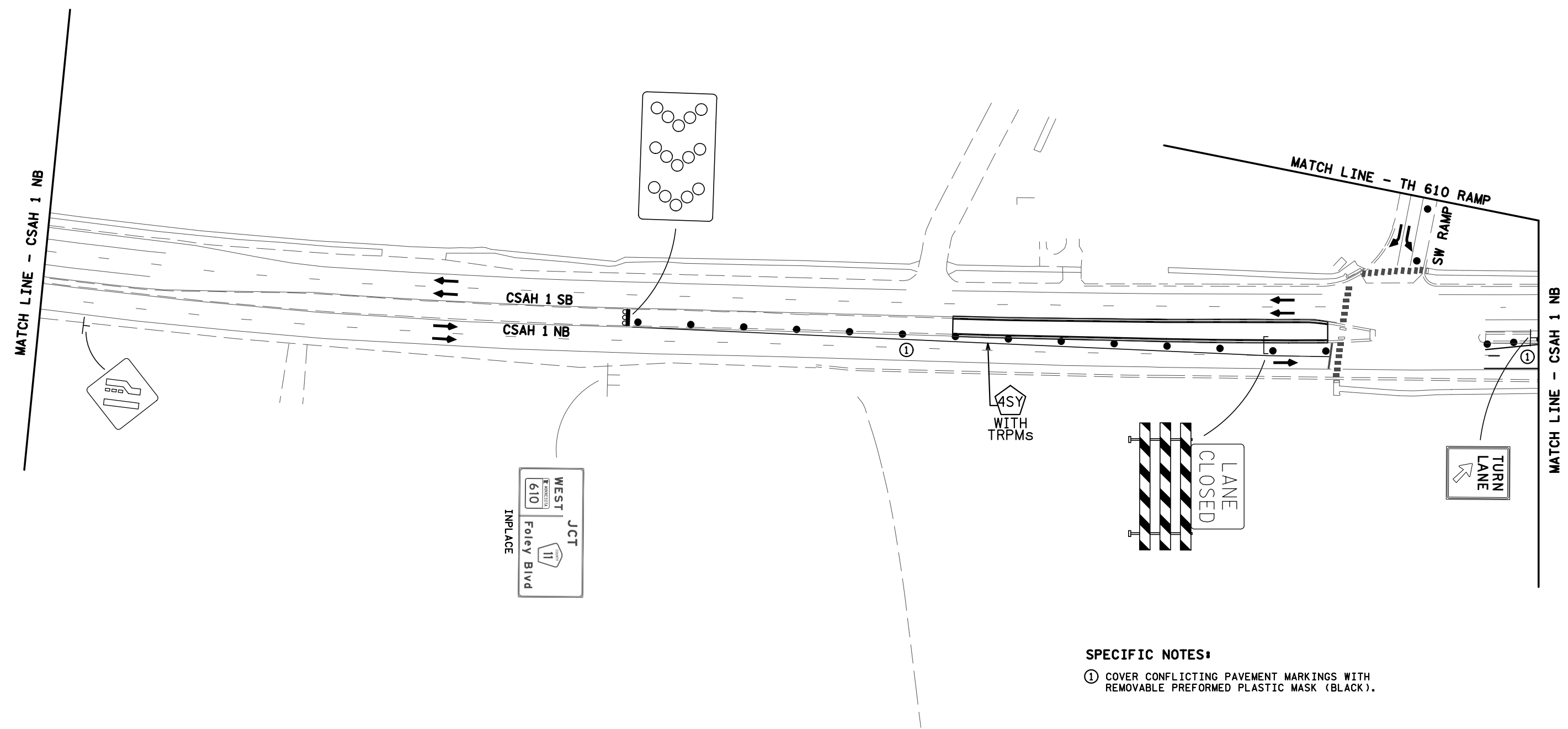
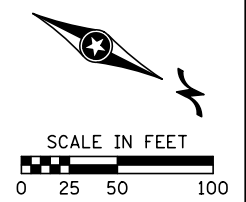


STAGE 5
 SHEET B

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

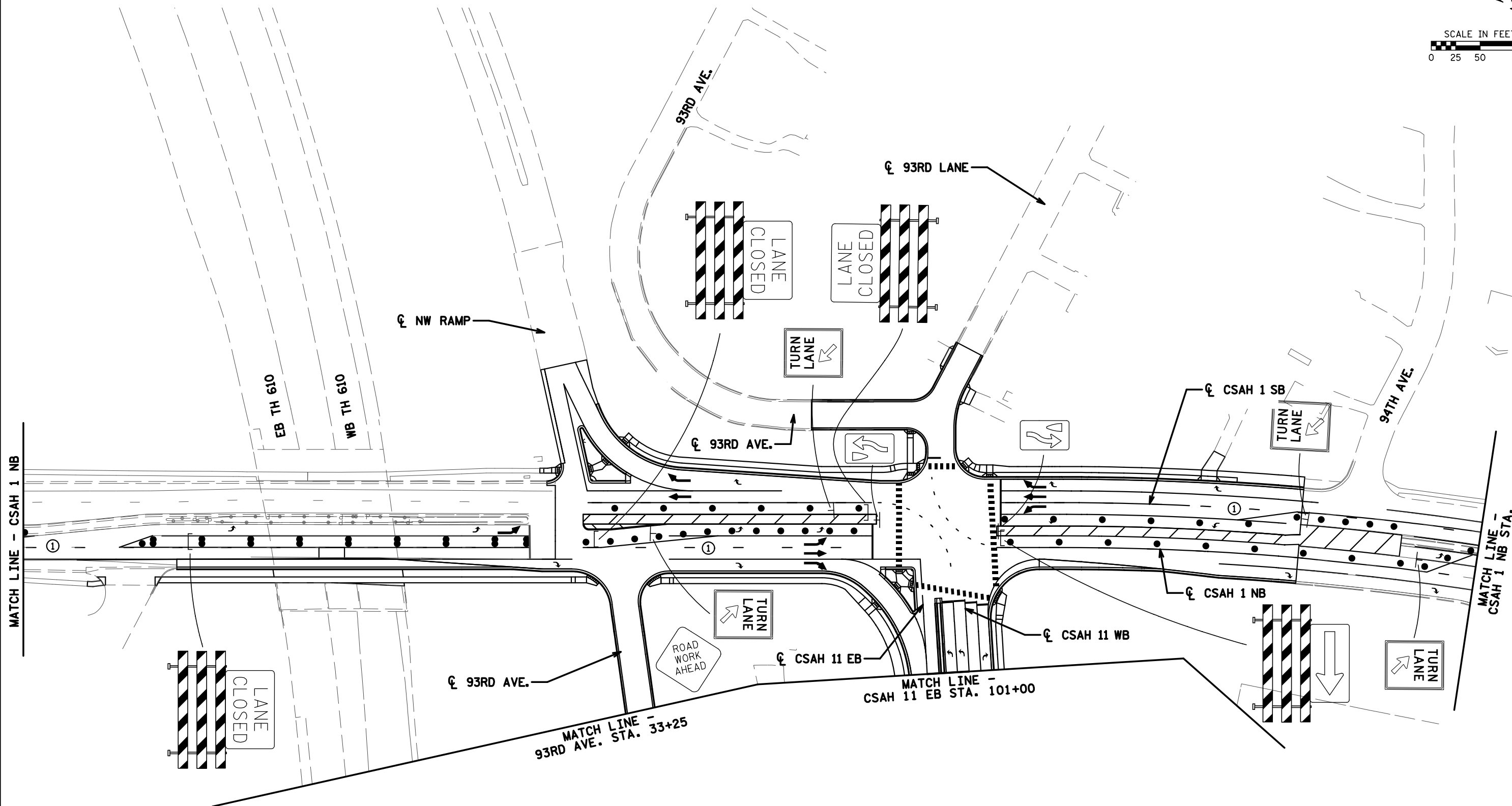
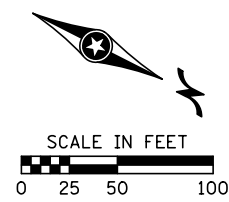
SHEET NO. 329 OF 416 SHEETS



DATE: 11/25/2020 TIME: 7:33:04 AM
 FILENAME: c:\nkda\proj\ectw\se\fm\vangstad\dms01247\cd00261036_fc5c.dgn

SPECIFIC NOTES:
 ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

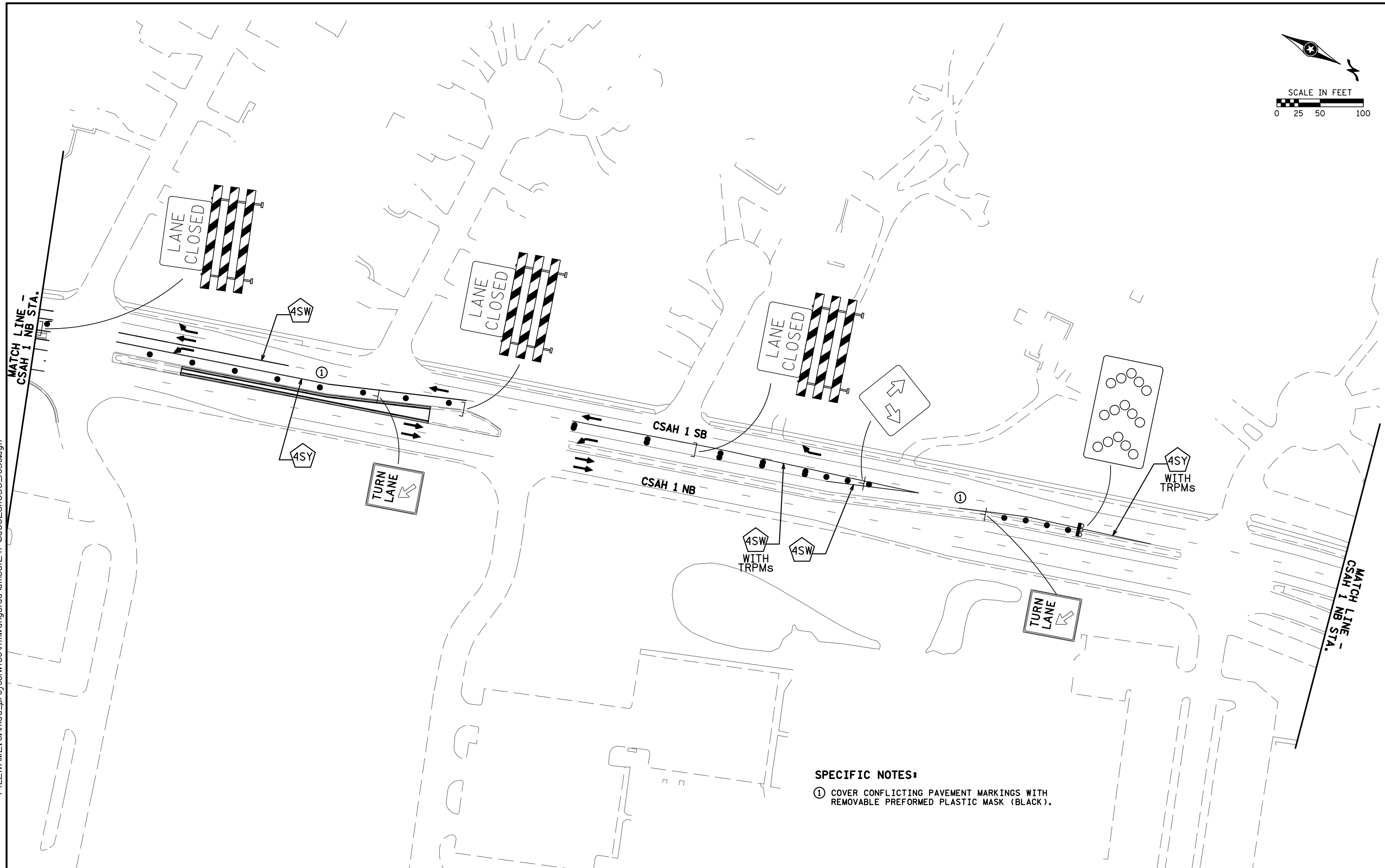
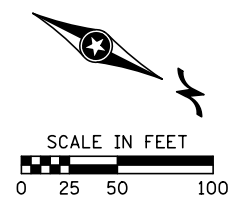
				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		STAGE 5	TRAFFIC CONTROL PLANS SHEET NO. 330 OF 416 SHEETS
				DRW: LKG			SHEET C	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH			STATE PROJ. NO. 002-611-036	



SPECIFIC NOTES:
 ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

DATE: 11/25/2020 TIME: 7:33:28 AM
 FILENAME: c:\tkda\proj\tech\w\se\h\m\vangstad\dms01247\cd00261036_tc5d.dgn

DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: LKG	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020						
CHK: JAH	TKDA						
NO.	DATE	BY	DESCRIPTION OF REVISIONS	STAGE 5 SHEET D		TRAFFIC CONTROL PLANS	
				STATE PROJ. NO. 002-611-036		SHEET NO. 331 OF 416 SHEETS	

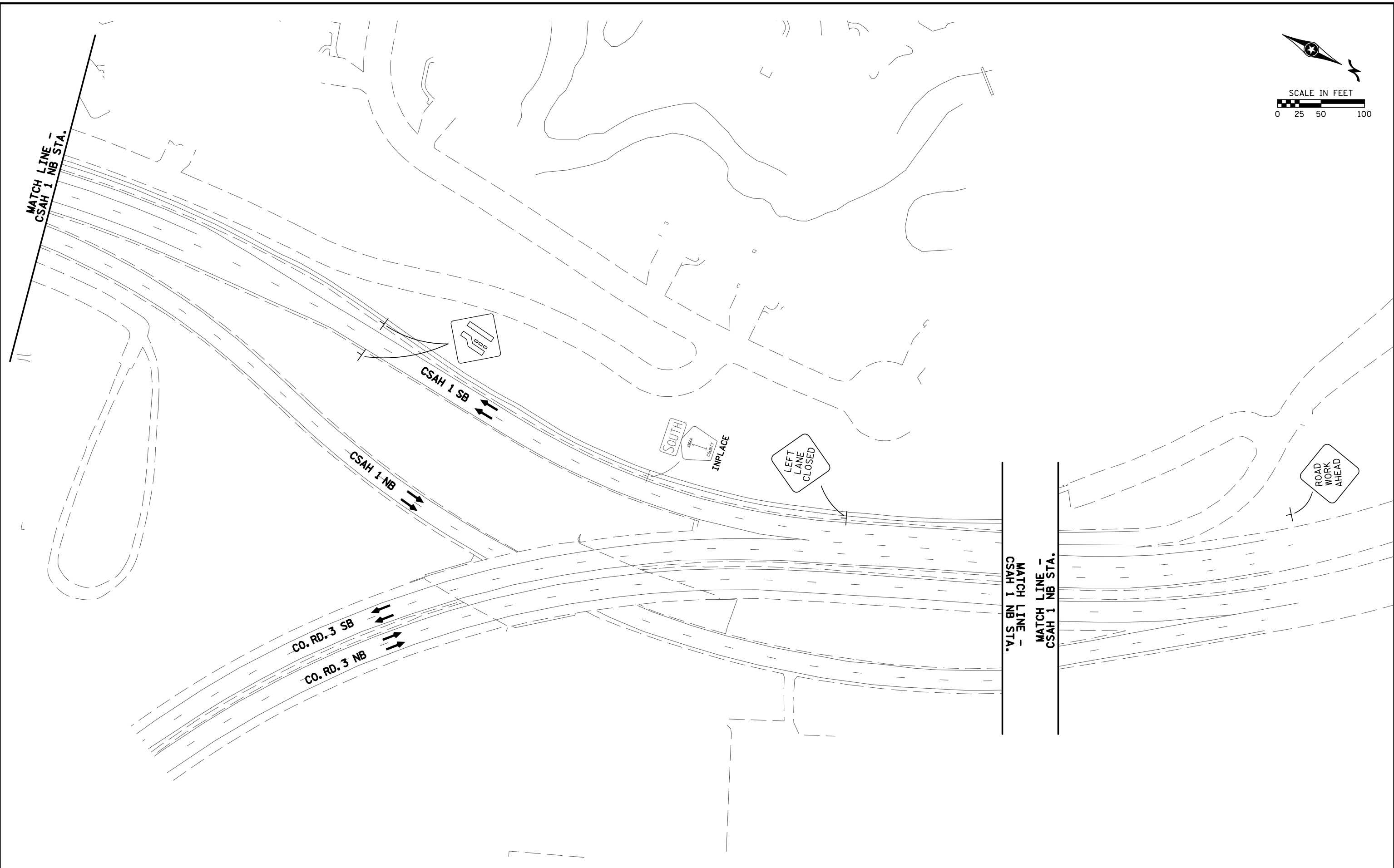
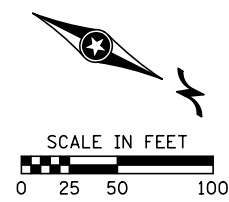


SPECIFIC NOTES:
 ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

DATE: 11/25/2020 TIME: 7:33:51 AM
 FILENAME: c:\nkda\project\15\hfm\vangstad\dms01247\cd00261036_fc5e.dgn

	DES: LKG DRW: LKG CHK: JAH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	
NO.	DATE	BY	DESCRIPTION OF REVISIONS
STAGE 5 SHEET E STATE PROJ. NO. 002-611-036 TRAFFIC CONTROL PLANS SHEET NO. 332 OF 416 SHEETS			

DATE: 11/25/2020 TIME: 7:34:16 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
 DRW: LKG
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



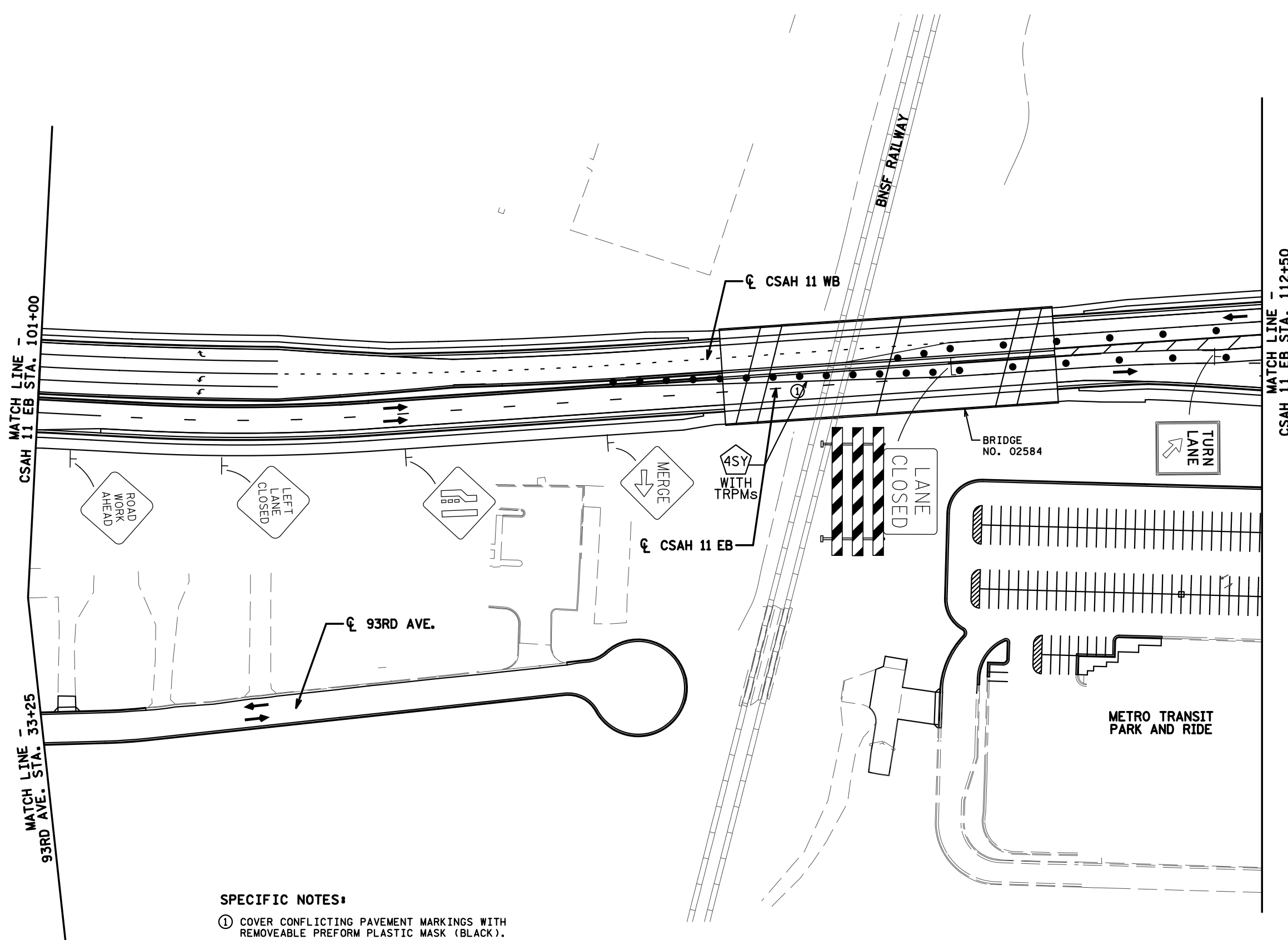
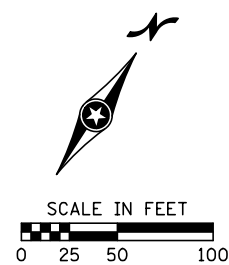
STAGE 5
 SHEET F

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 333 OF 416 SHEETS

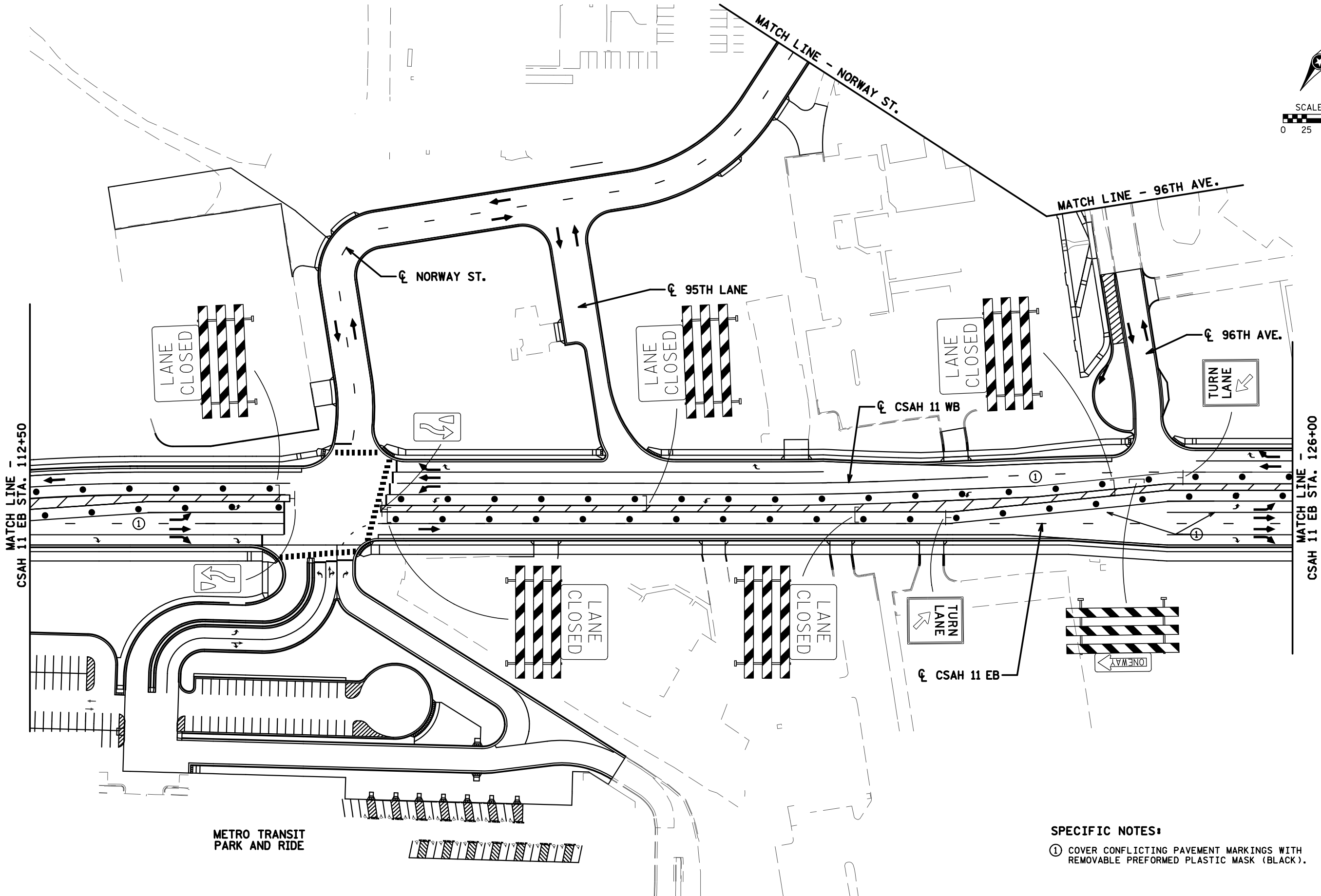
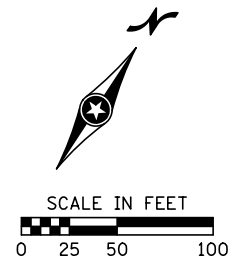
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SPECIFIC NOTES:
 ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVEABLE PREFORM PLASTIC MASK (BLACK).

			DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	TKDA	STAGE 5	TRAFFIC CONTROL PLANS
			DRW: LKG			SHEET K	
			CHK: JAH			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS				

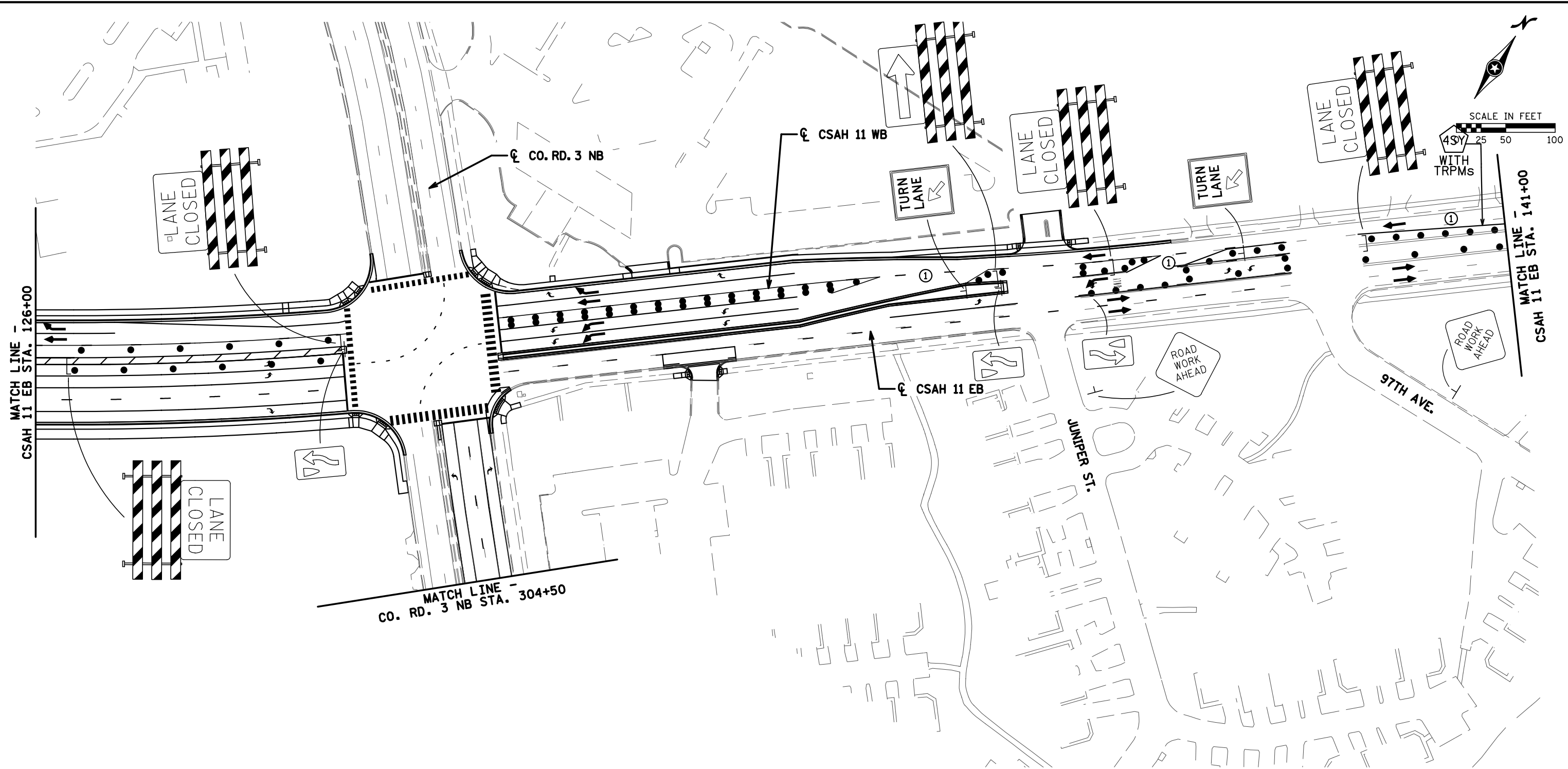
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SPECIFIC NOTES:
 ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020	TKDA	STAGE 5	TRAFFIC CONTROL PLANS
				DRW: LKG			SHEET L	
				CHK: JAH			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

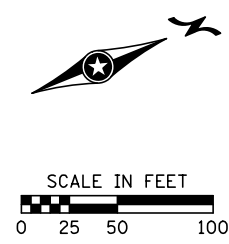
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SPECIFIC NOTES:

- ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

				DES: LKG	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		STAGE 5	TRAFFIC CONTROL PLANS SHEET NO. 336 OF 416 SHEETS
				DRW: LKG			SHEET M	
				CHK: JAH			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS					



ILEX ST NW

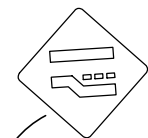
99TH AVE NW

CSAH 11

CSAH 11 EB STA. 141+00
MATCH LINE

4SY WITH TRPMs

MERGE



LEFT LANE CLOSED

LEFT LANE CLOSED

ROAD WORK AHEAD

ROAD WORK AHEAD

ROAD WORK AHEAD

SPECIFIC NOTES:

- ① COVER CONFLICTING PAVEMENT MARKINGS WITH REMOVABLE PREFORMED PLASTIC MASK (BLACK).

DATE: 11/25/2020 TIME: 7:35:49 AM
FILENAME: c:\tkda\proj\cthw\se\fm\vangstad\dms01247\cd00261036_tc5.dgn

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: LKG
DRW: LKG
CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
JEFFREY A. HILDEN



STAGE 5
SHEET N

STATE PROJ. NO. 002-611-036

TRAFFIC CONTROL PLANS

SHEET NO. 337 OF 416 SHEETS

DATE: 11/25/2020 TIME: 2:17:42 PM
 FILENAME: c:\tkda\proj\cthw\se\fm\vangstad\dms01247\cd00261036_sgnadgn

SIGNING SUMMARY		TAB P		
ITEM	UNIT	QUANTITY		
		(A)	(D)	(F)
REMOVE MARKER	EACH	9		
REMOVE SIGN TYPE C	EACH	103		
REMOVE SIGN TYPE D	EACH	2		
SALVAGE SIGN TYPE C	EACH	4		
SALVAGE SIGN TYPE SPECIAL	EACH			5
(4) HAUL SALVAGED MATERIAL	LUMP SUM			1
INSTALL SIGN TYPE C	EACH	4		
SIGN PANELS TYPE C	SQ FT	773	39	
SIGN PANELS TYPE SPECIAL	SQ FT	30		
DELINEATOR / MARKER SIGN	EACH	15		

COST PARTICIPATION NOTES:

(A) 100% ANOKA COUNTY S.P. 002-611-036 FUNDS.

(D) 50% ANOKA COUNTY LOCAL FUNDS, 50% CITY OF COON RAPIDS LOCAL FUNDS.

(F) 100% CITY OF COON RAPIDS LOCAL FUNDS.

SALVAGE AND INSTALL SIGN TYPE C								
SIGN NO.	SIGNS QTY	PANEL LEGEND	PANEL		MTG HT. (FT.) (1)	POSTS/MOUNTING		
			SIZE (5)	NUMBER OF POSTS		POST TYPE (2)	RISER POST SIZE	SURFACE TYPE
			INCH				INCHES	
C-201	1	ADOPT A HIGHWAY - CUB SCOUTS PACK 212	42 x 24	7	1	SQ	2	SOIL
(3) C-202	1	WELCOME TO HEAD START	30 x 24	7	1	SQ	2	SOIL
C-203	1	METRO TRANSIT BUS STOP	24 x 30	7	(6)	(6)	(6)	(6)
C-204	1	SEATBELT FASTENED?	30 x 24	7	1	SQ	2	SOIL
TOTAL	4							

SPECIFIC NOTES:

- (1) MOUNTING HEIGHT IS MINIMUM (WITH A +6 INCH TOLERANCE)
- (2) POST TYPE ABBREVIATIONS (SQ = SQUARE TUBE, R = ROUND POST, U = U CHANNEL).
- (3) MOUNT WITH C-27 AS SHOWN ON PLAN VIEW.
- (4) DELIVER SALVAGED SIGN TYPE SPECIAL SIGNS (STREET BLADE SIGNS) TO THE CITY OF COON RAPIDS.
- (5) PANEL SIZES ARE APPROXIMATE.
- (6) MOUNT ON LIGHT POLE. SEE STANDARD PLAN 5-297.730.

GENERAL NOTES:

1. FOR STANDARD SIGN DESIGNS AND PUNCHING CODES SEE THE 2020 MINNESOTA STANDARD SIGNS AND MARKINGS MANUAL.
2. SEE ANOKA COUNTY STANDARD DETAILS ON SHEETS 356-358.

		DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TKDA	TABULATIONS	SIGNING PLANS
		DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020			STATE PROJ. NO. 002-611-036	SHEET NO. 338 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS		CHK: JAH		

DATE: 11/25/2020 TIME: 2:18:07 PM
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SIGN PANELS TYPE C										
SIGN NO.	SIGNS QTY.	CODE NO	PANEL LEGEND	PANEL		MTG HT (1) FEET	POSTS/MOUNTING			TOTAL AREA
				SIZE	AREA		NUMBER OF POSTS	POST TYPE (2)	SURFACE TYPE	SQ FT
				INCH	SQ FT					SQ FT
100% ANOKA COUNTY S.P. 002-611-036 FUNDS										
C-1	1	R8-7M	EMERGENCY STOPPING ONLY	42 x 48	14.00	7	1	U	SOIL	14.0
C-2	10	R4-7	KEEP RIGHT	24 x 30	5.00	7	1	ST	CONCRETE	50.0
C-3	10	C-SPECIAL3	RIGHT TURN LANE	30 x 30	6.25	7	1	U	SOIL	62.5
C-4	2	W14-1	DEAD END	36 x 36	9.00	7	1	U	SOIL	18.0
C-5	7	R6-1	ONE WAY RIGHT	36 x 12	3.00	7	1	U	SOIL	21.0
		R1-1	STOP	36 x 36	9.00					63.0
C-6	7	R6-1	ONE WAY RIGHT	36 x 12	3.00	7	1	ST	CONCRETE	21.0
C-7	1	R1-2	YIELD	30 x 30 x 30	16.00	7	1	U	SOIL	16.0
C-8	2	W12-1	DOUBLE DOWN ARROW	24 x 24	4.00	5	1	ST	CONCRETE	8.0
C-9	6	C-SPECIAL2	LEFT TURN LANE	30 x 30	6.25	7	1	ST	CONCRETE	37.5
C-10	15	R5-1	DO NOT ENTER	30 x 30	6.25	7	1	ST	CONCRETE	93.8
C-11	1	M3-4	WEST (BLUE)	24 x 12	2.00	7	1	U	SOIL	2.0
		M1-5M	MN 610	30 x 24	5.00					5.0
		M6-1R	RIGHT ARROW (BLUE)	21 x 15	2.19					2.2
C-12	3	R2-1	SPEED LIMIT 45	30 x 36	7.50	7	2	U	SOIL	22.5
C-13	1	C-SPECIAL3	RIGHT TURN LANE	30 x 30	6.25	7	1	U	SOIL	6.3
		R8-3	NO PARKING	24 x 24	4.00					4.0
		M3-4	WEST (BLUE)	24 x 12	2.00					2.0
C-14	1	M1-5M	MN 610	30 x 24	5.00	7	1	U	SOIL	5.0
		M5-1L	ADVANCE LEFT ARROW (BLUE)	21 x 15	2.19					2.2
		M1-6M	ANOKA COUNTY 1	24 x 24	4.00					4.0
C-15	1	M6-4	DOUBLE HORIZONTAL ARROW (BLUE)	21 x 15	2.19	7	1	U	SOIL	2.2
C-16	2	R3-8AB	LEFT ONLY LEFT ONLY	36 x 30	7.50	7	2	U	SOIL	15.0
C-17	1	M3-2	NORTH (BLUE)	24 x 12	2.00	7	1	U	SOIL	2.0
		M1-6M	ANOKA COUNTY 11	24 x 24	4.00					4.0
C-18	1	R2-1	SPEED LIMIT 40	30 x 36	7.50	7	2	U	SOIL	7.5
C-19	1	R2-1	SPEED LIMIT 40	30 x 36	7.50	7	2	U	SOIL	7.5
		R8-3	NO PARKING	24 x 24	4.00					4.0
C-20	1	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	6.25	7	1	ST	CONCRETE	6.3
C-21	2	M2-1	JCT (BLUE)	21 x 15	2.19	7	1	U	SOIL	4.4
		M1-5M	MN 610	30 x 24	5.00					10.0
		M5-1L	ADVANCE LEFT ARROW (BLUE)	21 x 15	2.19					4.4
C-22	1	M2-1	JCT (BLUE)	21 x 15	2.19	7	1	U	SOIL	2.2
		M1-6M	ANOKA COUNTY 1	24 x 24	4.00					4.0
C-23	1	W9-1L	LEFT LANE ENDS	36 x 36	9.00	7	2	ST	CONCRETE	9.0
		W16-2P	900 FEET	30 x 24	5.00					5.0
C-24	2	R3-8DA	LEFT & THRU RIGHT ONLY	36 x 30	7.50	7	2	ST	CONCRETE	15.0
C-25	4	R1-1	STOP	30 x 30	6.25	7	1	U	SOIL	25.0
C-26	1	R5-1	DO NOT ENTER EXCEPT BUSES	30 x 30	6.25	7	1	ST	CONCRETE	6.3
		C-SPECIAL1	WELCOME TO HEAD START	30 x 24	2.50					2.5
(3) C-27	1	N/A	WELCOME TO HEAD START	30 x 24		7	2	U	SOIL	0.0
		R6-1	ONE WAY RIGHT	36 x 12	3.00					3.0
		R1-1	STOP	30 x 30	6.25					6.3
		N/A	SEATBELT FASTENED?	30 x 24						0.0
C-28	2	R3-8AB	LEFT ONLY LEFT ONLY	36 x 30	7.50	7	2	ST	CONCRETE	15.0
C-29	1	M3-3	SOUTH (BLUE)	24 x 12	2.00	7	1	U	SOIL	2.0
		M1-6M	ANOKA COUNTY 11	24 x 24	4.00					4.0
C-30	2	M1-6M	ANOKA COUNTY 3	24 x 24	4.00	7	1	U	SOIL	8.0
		M6-4	DOUBLE HORIZONTAL ARROW (BLUE)	21 x 15	2.19					4.4
C-31	1	M1-6M	ANOKA COUNTY 11	24 x 24	4.00	7	1	U	SOIL	4.0
		M6-4	DOUBLE HORIZONTAL ARROW (BLUE)	21 x 15	2.19					2.2
C-32	2	M2-1	JCT (BLUE)	21 x 15	2.19	7	1	U	SOIL	4.4
		M1-6M	ANOKA COUNTY 3	24 x 24	4.00					8.0
C-33	1	R3-9dP	END	30 x 12	2.50	7	2	U	SOIL	2.5
		R3-9b	CENTER LANE TWO WAY TURN LANE	24 x 36	6.00					6.0
(4) C-34	2	M3-4	NO U-TURNS	24 x 24	4.00	7	1	ST	CONCRETE	8.0
		M5-1L	KEEP RIGHT	24 x 30	5.00					10.0

SIGN PANELS TYPE C										
SIGN NO.	SIGNS QTY.	CODE NO	PANEL LEGEND	PANEL		MTG HT (1) FEET	POSTS/MOUNTING			TOTAL AREA
				SIZE	AREA		NUMBER OF POSTS	POST TYPE (2)	SURFACE TYPE	SQ FT
				INCH	SQ FT					SQ FT
100% ANOKA COUNTY S.P. 002-611-036 FUNDS										
C-35	1	M2-1	JCT (BLUE)	21 x 15	2.19	7	1	U	SOIL	2.2
(4) C-36	1	M1-6M	ANOKA COUNTY 11	24 x 24	4.00	7	1	ST	CONCRETE	4.0
		R6-1	ONE WAY RIGHT	54 x 18	6.75					6.8
		R6-1	ONE WAY RIGHT	54 x 18	6.75					6.8
C-38	1	R8-7M	EMERGENCY STOPPING ONLY	42 x 48	14.00	7	1	ST	CONCRETE	14.0
C-39	2	R5-1	DO NOT ENTER	30 x 30	6.25	7	1	U	SOIL	12.5
C-40	2	W3-3	SIGNAL AHEAD	30 x 30	6.25	7	1	U	SOIL	12.5
C-41	1	M3-2	EAST (BLUE)	24 x 12	2.00	7	1	U	SOIL	2.0
		M1-5M	ANOKA COUNTY 11	30 x 24	5.00					5.0
		M6-1L	LEFT ARROW (BLUE)	21 x 15	2.19					2.2
C-42	1	M3-2	NORTH (BLUE)	24 x 12	2.00	7	1	U	SOIL	2.0
		M1-6M	ANOKA COUNTY 1	24 x 24	4.00					4.0
C-43	1	M4-6	END (BLUE)	24 x 12	2.00	7	1	U	SOIL	2.0
		M1-6M	ANOKA COUNTY 11	24 x 24	4.00					4.0
C-44	1	M3-1	NORTH (BLUE)	24 x 12	2.00	7	1	U	SOIL	2.0
		M1-5M	ANOKA COUNTY 11	30 x 24	5.00					5.0
		M6-1R	RIGHT ARROW (BLUE)	21 x 15	2.19					2.2
SUBTOTAL										772.8
50% ANOKA COUNTY LOCAL FUNDS, 50% CITY OF COON RAPIDS LOCAL FUNDS										
C-3	1	C-SPECIAL3	RIGHT TURN LANE	30 x 30	6.25	7	1	U	SOIL	6.3
C-5	1	R6-1	ONE WAY RIGHT	36 x 12	3.00	7	1	U	SOIL	3.0
		R1-1	STOP	30 x 30	6.25					6.3
C-6	1	R6-1	ONE WAY RIGHT	36 x 12	3.00	7	1	ST	CONCRETE	3.0
C-25	2	R1-1	STOP	30 x 30	6.25	7	1	U	SOIL	12.5
C-37	1	R2-1	SPEED LIMIT 30	30 x 36	7.50	7	2	U	SOIL	7.5
SUBTOTAL										38.5
TOTAL										811.25

- SPECIFIC NOTES:**
- (1) MOUNTING HEIGHT IS MINIMUM (WITH A +6 INCH TOLERANCE)
 - (2) POST TYPE ABBREVIATIONS (SQ = SQUARE TUBE, R = ROUND POST, U = U CHANNEL).
 - (3) MOUNT WITH C-202 AS SHOWN ON PLAN VIEW.
 - (4) MOUNT BACK TO BACK.

- GENERAL NOTES:**
1. FOR STANDARD SIGN DESIGNS AND PUNCHING CODES SEE THE 2020 MINNESOTA STANDARD SIGNS AND MARKINGS MANUAL.
 2. SEE ANOKA COUNTY STANDARD DETAILS ON SHEETS 356-358.



DATE: 12/11/2020 TIME: 2:57:36 PM
 FILENAME: c:\kda\proj\tech\se\h\m\vangstad\dms01247\cd00261036_sgnnc.dgn

REMOVE SIGN TYPE D						
SIGN NO.	SIGNS QTY.	POSTS		PANEL		PANEL LEGEND
		NO. & TYPE	KNEE BRACE QTY	SIZE	AREA	
	EACH			INCH	SQ FT	
D-101	1	3-U	3	138 x 72	69.00	
D-102	1	(6)	(6)	120 x 96	80.00	
TOTAL	2					

SIGN PANELS TYPE SPECIAL (4)											
SIGN NO.	SIGNS QTY.	CODE NO	PANEL LEGEND	PANEL		MTG HT (1)	POSTS/MOUNTING				TOTAL AREA
				SIZE	AREA		NUMBER OF POSTS	POST TYPE (2)	RISER POST SIZE	SURFACE TYPE	
				INCH	SQ FT						FEET
SP-1	1	SB-2	<-- NO OUTLET	42 x 9	2.63	9	1	R		SOIL	2.6
		SB-11	93rd Ln	30 x 9	1.88						1.9
		SB-3	93rd Ave	30 x 9	1.88						1.9
SP-2	1	SB-7	Norway St	36 x 9	2.25	9	1	R		SOIL	2.3
		SB-8	95th Ln	30 x 9	1.88						1.9
SP-3	1	SB-12	Foley Blvd	36 x 9	2.25	9	1	R		SOIL	2.3
		SB-8	95th Ln	30 x 9	1.88						1.9
SP-4	1	SB-12	Foley Blvd	36 x 9	2.25	9	1	R		SOIL	2.3
		SB-9	96th Ave	30 x 9	1.88						1.9
SP-5	1	SB-10	Coon Rapids Blvd	66 x 12	5.50	9	1	R		SOIL	5.5
		SB-4	Norway St	42 x 12	3.50						3.5
SP-6	1	SB-7	Norway St	36 x 9	2.25	9	1	R		SOIL	2.3
		SB-9	96th Ave	30 x 9	1.88						1.9
TOTAL											29.25

SALVAGE SIGN TYPE SPECIAL			
SIGN NO.	SIGNS QTY	PANEL LEGEND	PANEL
			SIZE (5)
	EACH		INCH
SP-201	1	NO OUTLET	54 x 12
		93rd Ln	36 x 12
		East River Rd	66 x 12
SP-202	1	NO OUTLET	42 x 9
		93rd Ln	30 x 9
		93rd Ave	30 x 9
SP-203	1	95th Ln	30 x 9
		Foley Blvd	36 x 9
SP-204	1	96th Ave	30 x 9
		Foley Blvd	36 x 9
SP-205	1	Coon Rapids Blvd	66 x 12
		Foley Blvd	42 x 12
TOTAL	5		

SPECIFIC NOTES:

- (1) MOUNTING HEIGHT IS MINIMUM (WITH A +6 INCH TOLERANCE)
- (2) POST TYPE ABBREVIATIONS (SQ = SQUARE TUBE, R = ROUND POST, U = U CHANNEL).
- (3) CORE OR PREFORM A 4 INCH DIAMETER HOLE IN CONCRETE FOR POST. DO NOT FILL HOLE WITH CONCRETE.
- (4) FOR ADDITIONAL DETAILS, SEE "STREET SIGN LOGO" AND "STREET SIGN INSTALLATION" ON SHEET 65.
- (5) PANEL SIZES ARE APPROXIMATE.
- (6) BRIDGE MOUNTED SIGN.

GENERAL NOTES:

1. FOR STANDARD SIGN DESIGNS AND PUNCHING CODES SEE THE 2020 MINNESOTA STANDARD SIGNS AND MARKINGS MANUAL.
2. FOR 2 INCH RISER POST ON CONCRETE USE RECOVERABLE SHEAR BOLT BASE PLACED PER MANUFACTURER'S SPECIFICATIONS. USE A 12 GAUGE, 2" X 2" PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST WITH A 12 GAUGE, 1-3/4" X 1-3/4" X 36" PRE-PUNCHED GALVANIZED STEEL, SQUARE TUBE POST INTERNAL INSERT.
3. FOR 2 INCH RISER POST IN SOIL USE NON RECOVERABLE FIN BASE PLACED PER MANUFACTURER'S SPECIFICATIONS. USE A 12 GAUGE, 2" X 2" PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST. PLACE 3/8" STAINLESS STEEL BOLT THROUGH THE 5TH HOLE DOWN FROM THE TOP OF THE BASE. RISER POST SHALL REST ON THE BOLT.
4. FOR 2-1/2" RISER POST ON CONCRETE USE RECOVERABLE SLIP BASE PLACED PER MANUFACTURER'S SPECIFICATIONS. USE A 10 GAUGE, 2-1/2" X 2-1/2" PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST WITH A 10 GAUGE 2-3/16" X 2-3/16" X 8" PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE POST INTERNAL INSERT.
5. FOR 2-1/2" RISER POST IN SOIL USE RECOVERABLE SLIP BASE PLACED PER MANUFACTURER'S SPECIFICATIONS USING A 10 GAUGE, 2-1/2" X 2-1/2" PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST WITH A 10 GAUGE 2-3/16" X 2-3/16" X 8" PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE POST INTERNAL INSERT.
6. ALUMINUM STRINGERS SHALL BE USED FOR SIGNS 36" AND WIDER. SEE SQUARE TUBE MOUNTING DETAILS.
7. FOR SIGN PANEL DETAILS, SEE SHEETS 354-355.

			DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			TABULATIONS		SIGNING PLANS		
			DRW: RRC	SIGNATURE:			STATE PROJ. NO. 002-611-036		SHEET NO. 340 OF 416 SHEETS		
			CHK: JAH	LIC. NO. 20781 DATE: 12/11/2020							
NO.	DATE	BY	DESCRIPTION OF REVISIONS								



DATE: 11/25/2020 TIME: 2:19:26 PM
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MARKERS			
CODE NO	QUANTITY	COLOR	LOCATION
(1) OM1-1	13	BLACK ON YELLOW	93RD AVE CUL-DE-SAC, UNDER C-2, UNDER C-34
OM3-R	2	BLACK ON YELLOW	PROPOSED BRIDGE, SE QUAD OF CSAH 1 & CSAH 11
TOTALS	15		

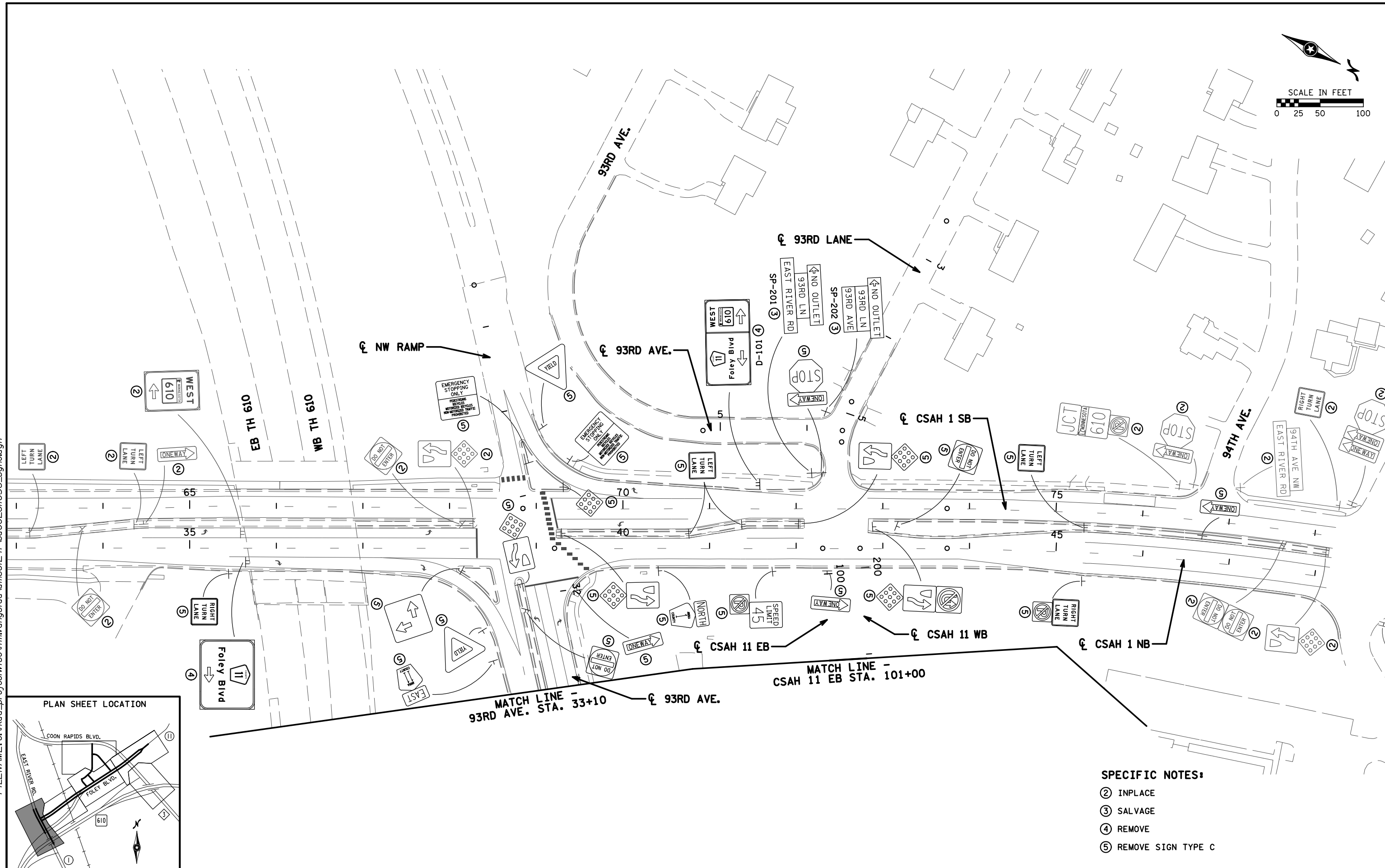
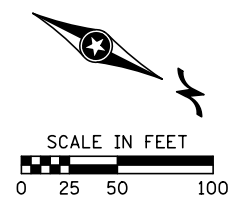
SPECIFIC NOTES:

(1) TWELVE MARKERS ARE MOUNTED BELOW C SIGNS (ELEVEN UNDER C-2, ONE UNDER C-34).

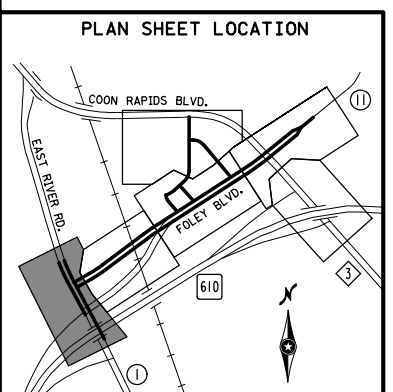
GENERAL NOTES:

1. USE 1-3/4" RISER POST WITH SQUARE TUBE THREE WALL BASE. SEE STANDARD PLAN 5-297.721.
2. SEE STANDARD PLAN 5-297.702 FOR PLACEMENT.

				DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		TABULATIONS	SIGNING PLANS
				DRW: RRC			STATE PROJ. NO. 002-611-036	SHEET NO. 341 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH				



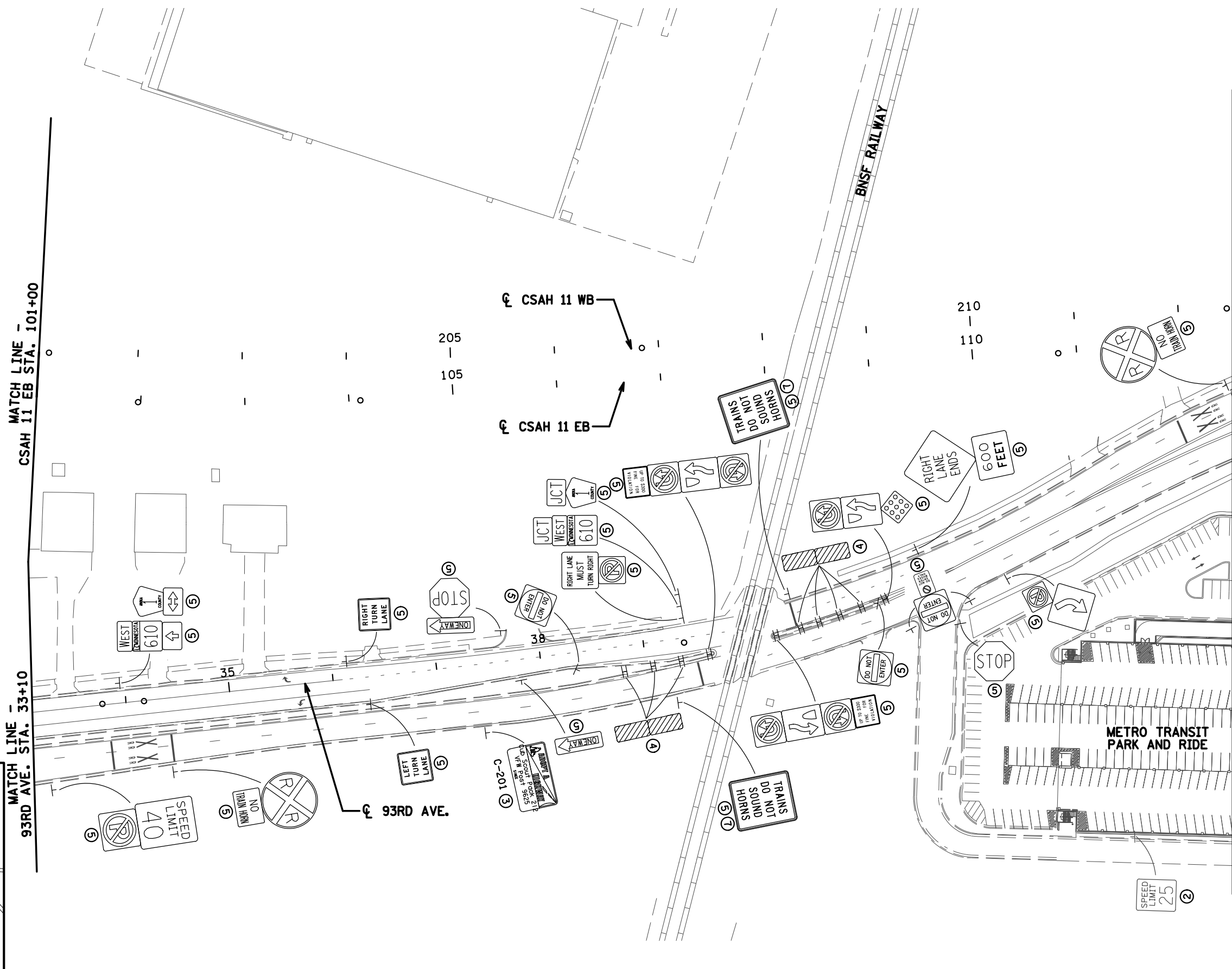
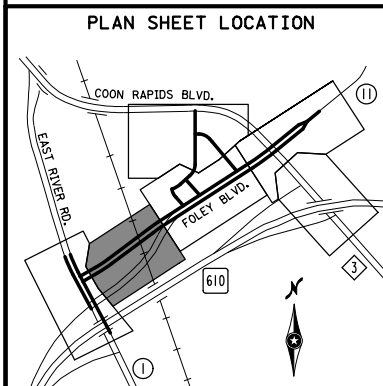
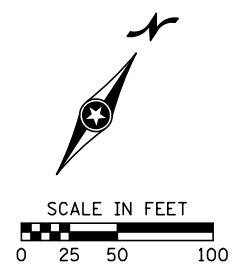
DATE: 11/25/2020 TIME: 2:20:00 PM
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- SPECIFIC NOTES:**
- ② INPLACE
 - ③ SALVAGE
 - ④ REMOVE
 - ⑤ REMOVE SIGN TYPE C

	DES: NJZ DRW: RRC CHK: JAH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	INPLACE CSAH 1 STA. 34+69.98 TO STA. 47+21.35 STATE PROJ. NO. 002-611-036
NO. DATE BY DESCRIPTION OF REVISIONS		SIGNING PLAN SHEET NO. 342 OF 416 SHEETS	

DATE: 11/25/2020 TIME: 2:20:34 PM
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- SPECIFIC NOTES:**
- ② INPLACE
 - ③ SALVAGE
 - ④ REMOVE
 - ⑤ REMOVE SIGN TYPE C
 - ⑦ WHEN TRAINS BEGIN SOUNDING THE HORN, REMOVE THIS SIGN. SEE CITY OF COON RAPIDS FOR INFORMATION ABOUT QUIET ZONE REMOVAL.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020

JEFFREY A. HILDEN

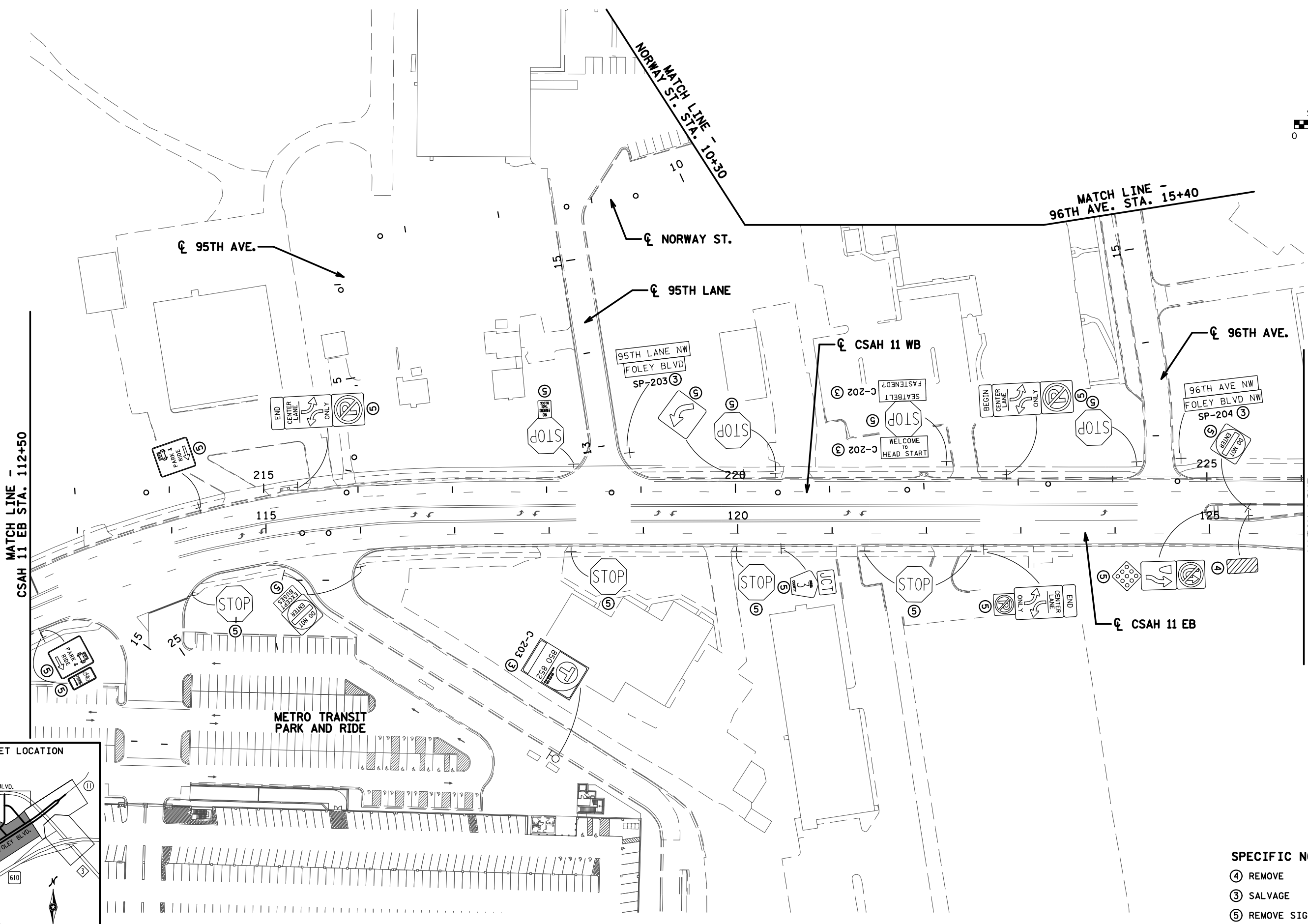
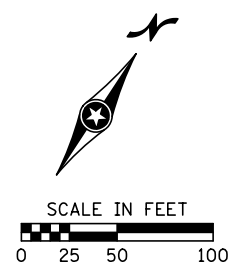


INPLACE
 CSAH 11 EB STA. 101+00 TO STA. 112+50

STATE PROJ. NO. 002-611-036

SIGNING PLAN

SHEET NO. 343 OF 416 SHEETS



MATCH LINE -
CSAH 11 EB STA. 112+50

MATCH LINE -
CSAH 11 EB STA. 126+00

MATCH LINE -
96TH AVE. STA. 15+40

MATCH LINE -
NORWAY ST. STA. 10+30

95TH AVE.

NORWAY ST.

95TH LANE

CSAH 11 WB

96TH AVE.

95TH LANE NW
FOLEY BLVD
SP-203

96TH AVE NW
FOLEY BLVD NW
SP-204

END
CENTER
LANE
ONLY

BEGIN
CENTER
LANE
ONLY

SEATBELT
FASTENED?
STOP
WELCOME
TO
HEAD START

STOP

STOP

STOP

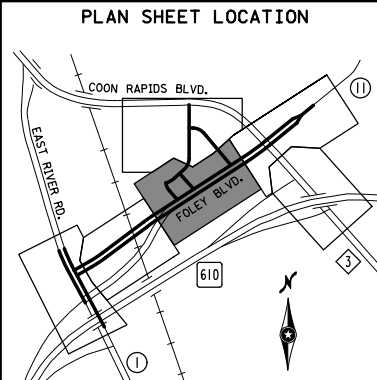
STOP

STOP

END
CENTER
LANE
ONLY

CSAH 11 EB

METRO TRANSIT
PARK AND RIDE

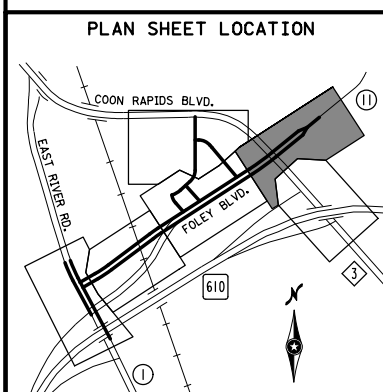
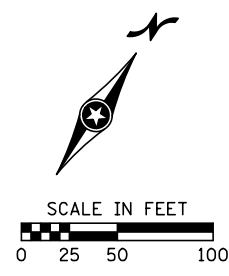
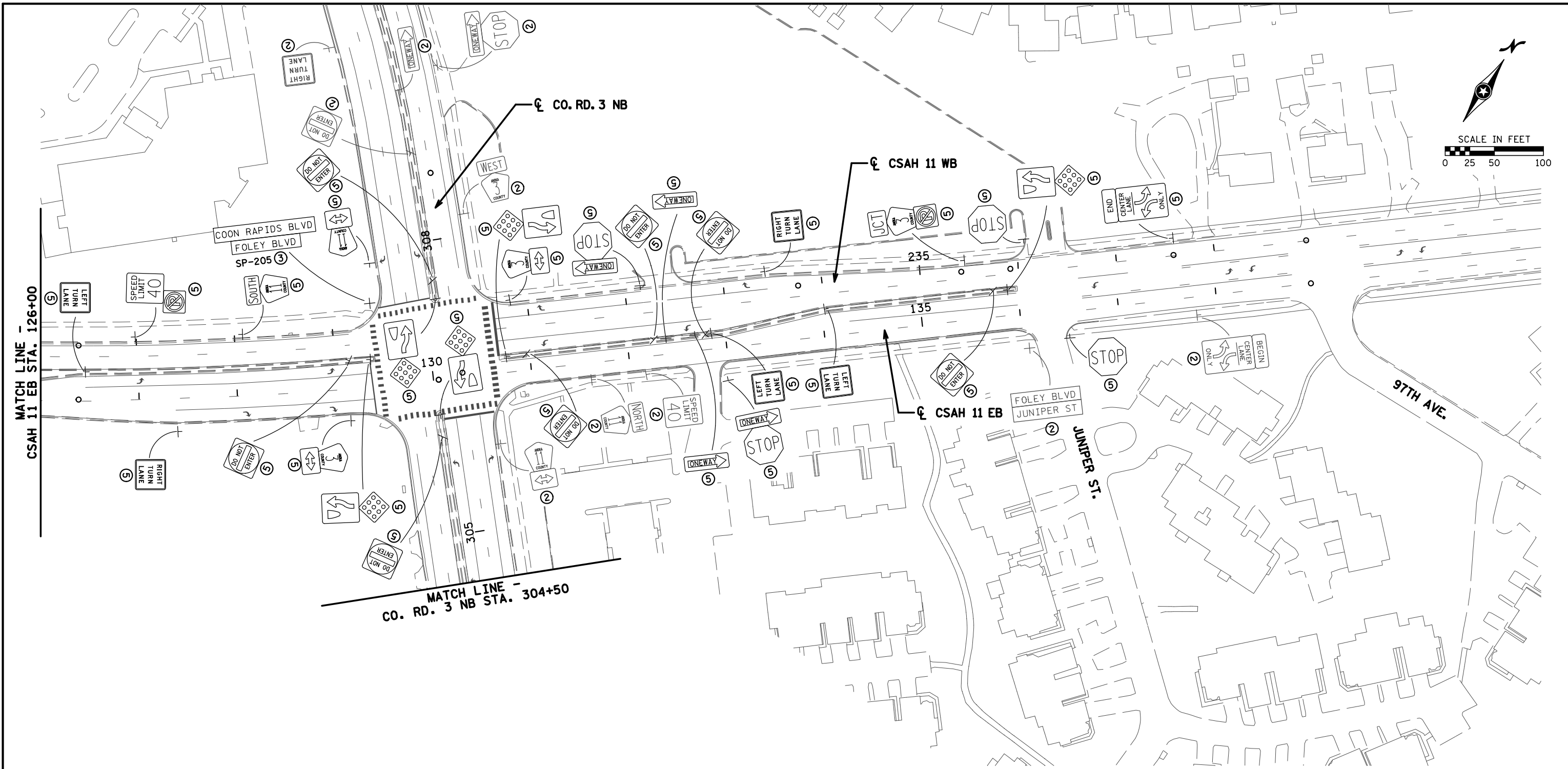


- SPECIFIC NOTES:**
- ④ REMOVE
 - ③ SALVAGE
 - ⑤ REMOVE SIGN TYPE C

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	DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		INPLACE CSAH 11 EB STA. 112+50 TO STA. 126+00	SIGNING PLAN
	DRW: RRC	SIGNATURE: LIC. NO. 20781 DATE: 11/25/2020		STATE PROJ. NO. 002-611-036	SHEET NO. 344 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH	

DATE: 11/25/2020 TIME: 2:21:43 PM
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- SPECIFIC NOTES:**
- ② INPLACE
 - ③ SALVAGE
 - ⑤ REMOVE SIGN TYPE C

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

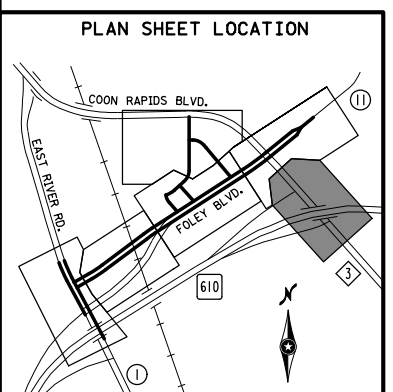
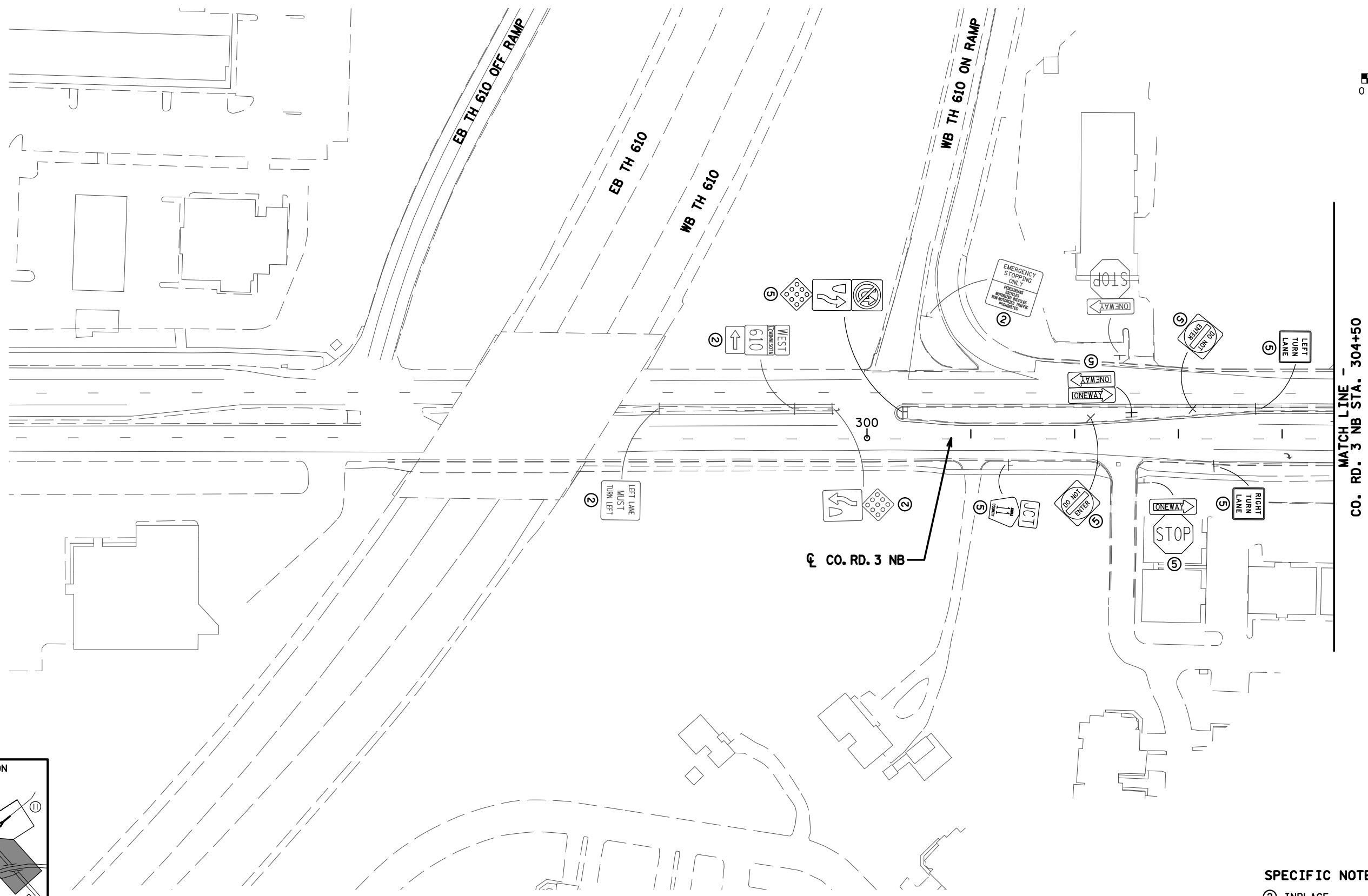
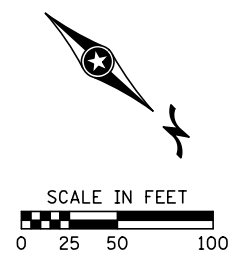
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



INPLACE
 CSAH 11 EB STA. 126+00 TO STA. 137+61.57
 STATE PROJ. NO. 002-611-036

SIGNING PLAN
 SHEET NO. 345 OF 416 SHEETS

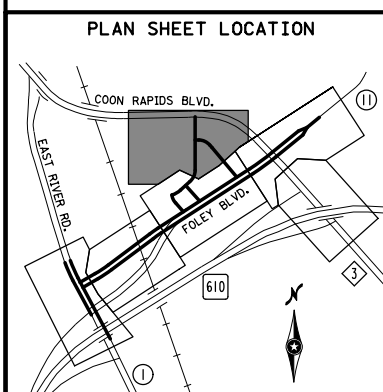
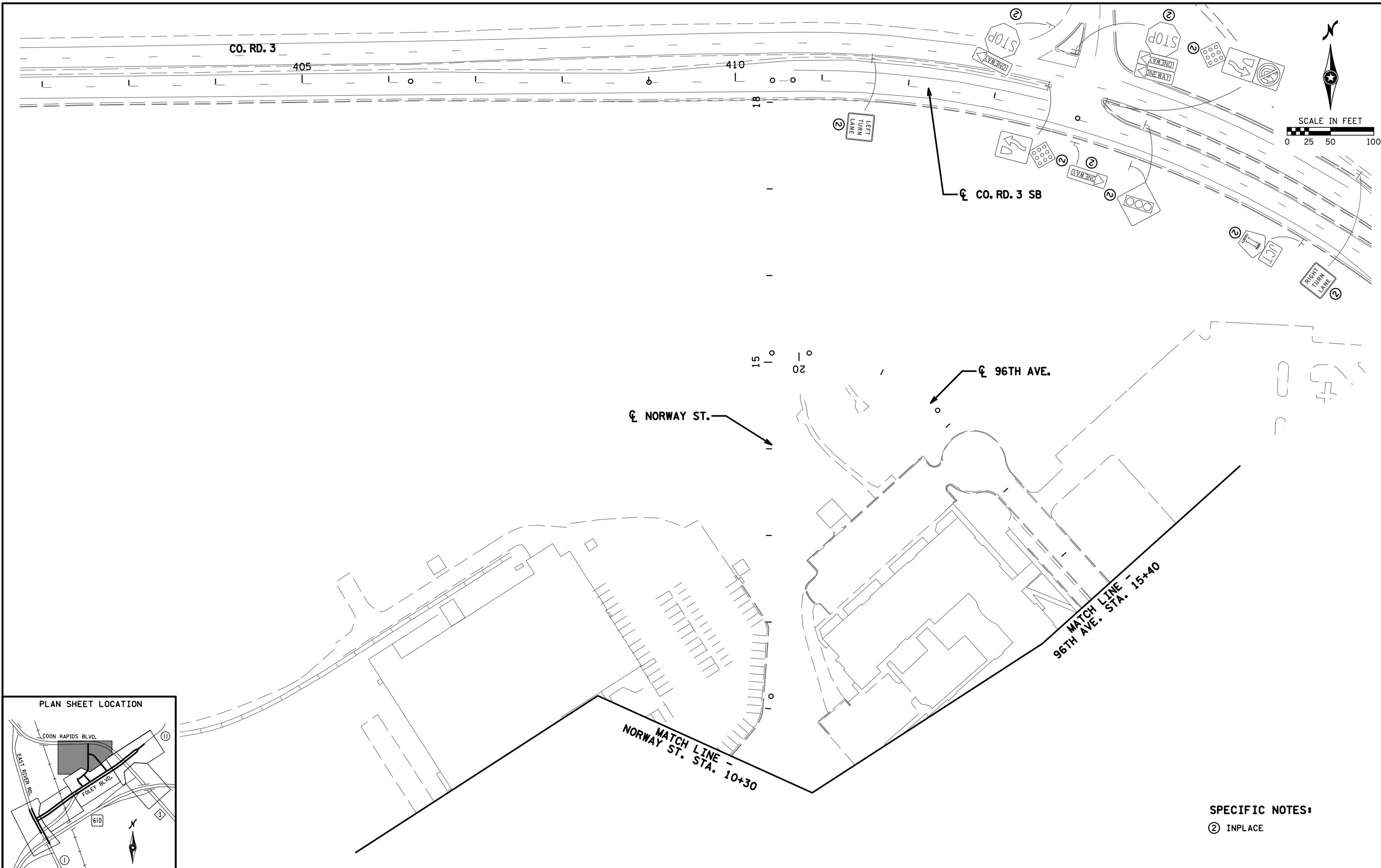
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SPECIFIC NOTES:
 ② INPLACE
 ⑤ REMOVE SIGN TYPE C

				DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TKDA	INPLACE CO. RD. 3 NB STA. 300+00 TO STA. 304+50		SIGNING PLAN	
				DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020			STATE PROJ. NO. 002-611-036		SHEET NO. 346 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH							

DATE: 11/25/2020 TIME: 2:22:34 PM
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SPECIFIC NOTES:
 (2) INPLACE

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ
 DRW: RRC
 CHK: JAH

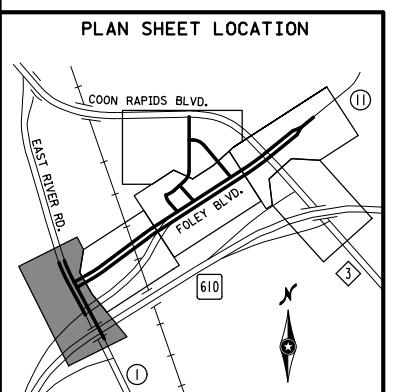
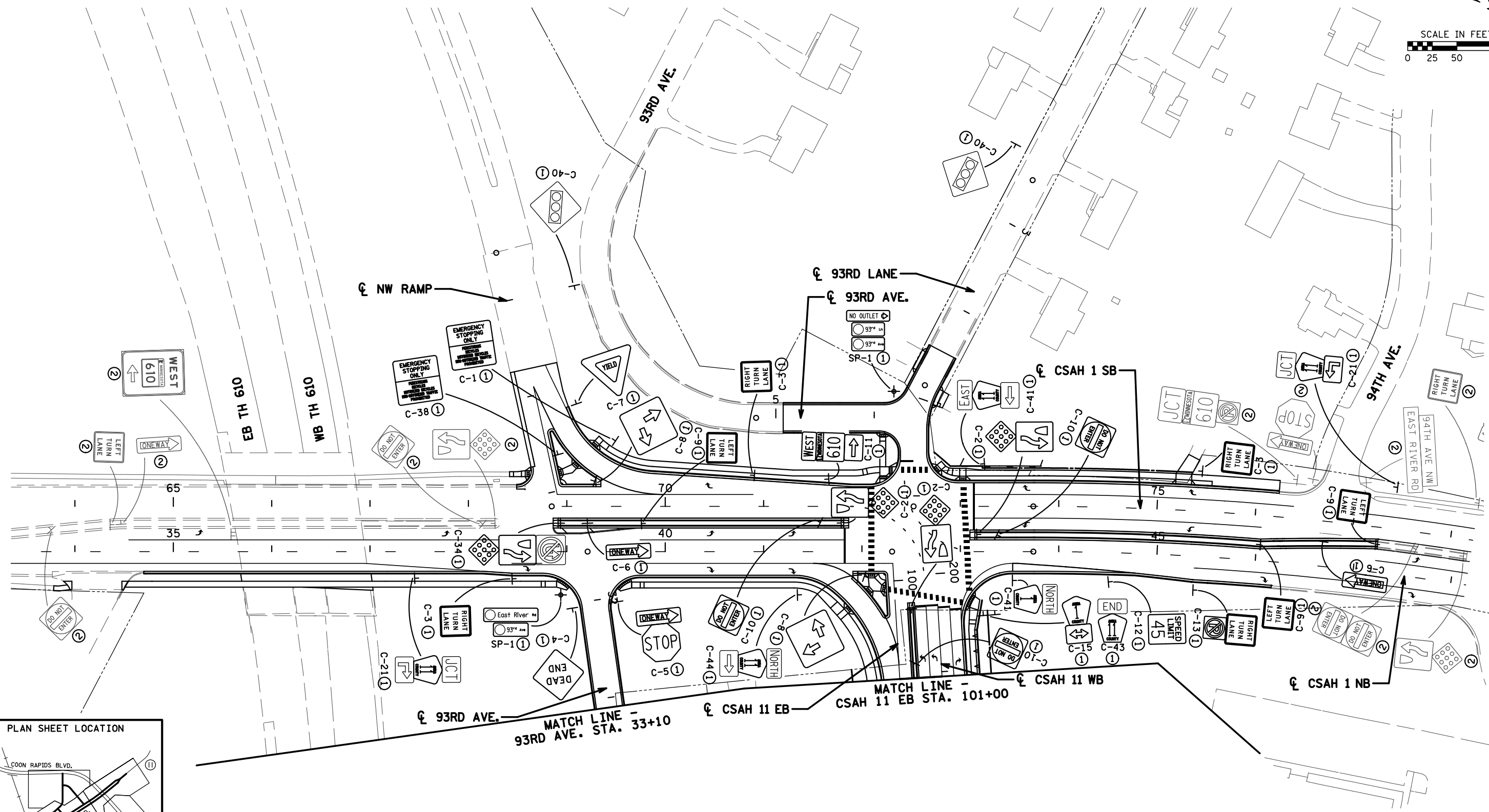
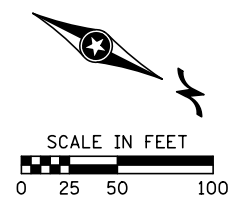
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



INPLACE
 NORWAY ST. STA. 10+30 TO STA. 18+24.35
 STATE PROJ. NO. 002-611-036

SIGNING PLAN
 SHEET NO. 347 OF 416 SHEETS

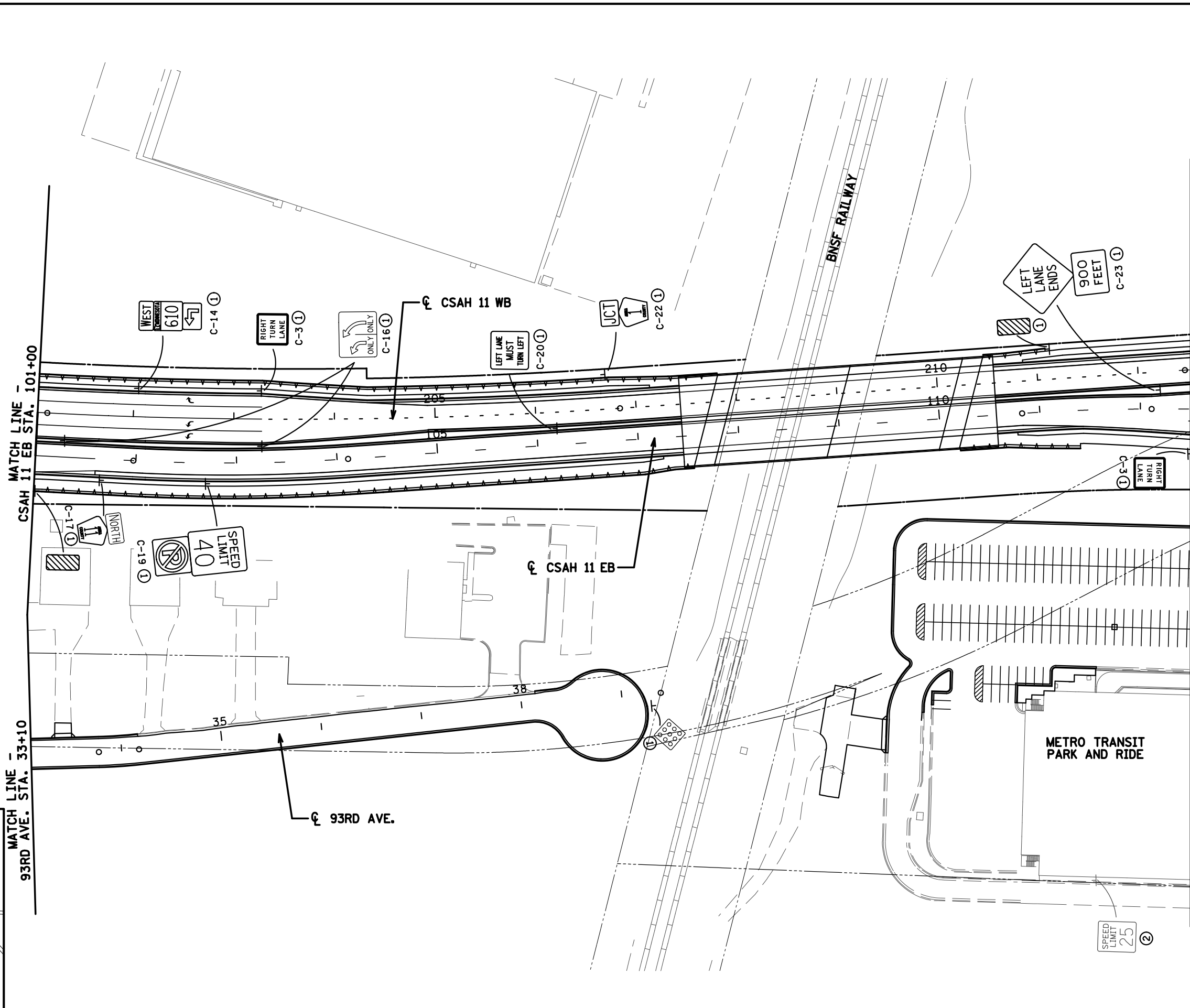
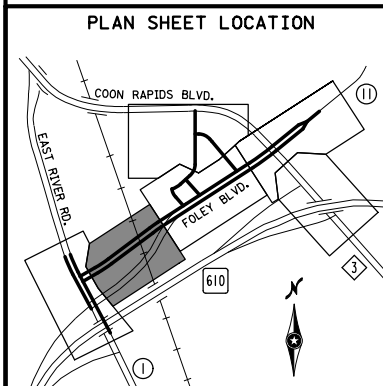
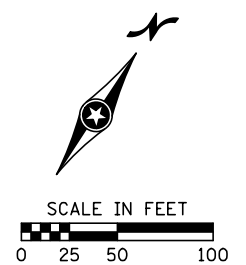


- SPECIFIC NOTES:**
- ① FURNISH AND INSTALL
 - ② INPLACE
 - ⑥ INSTALL

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	DES: NJZ DRW: RRC CHK: JAH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	TKDA
		PROPOSED CSAH 1 NB STA. 34+69.98 TO STA. 47+21.35 STATE PROJ. NO. 002-611-036	SIGNING PLAN SHEET NO. 348 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/25/2020 TIME: 2:24:15 PM
 FILENAME: c:\nkda\proj\cthw\se\fm\vangstad\dms01247\cd00261036_sgnl.dgn



MATCH LINE - CSAH 11 EB STA. 112+50

MATCH LINE - CSAH 11 EB STA. 101+00

MATCH LINE - 93RD AVE. STA. 33+10

- SPECIFIC NOTES:**
- ① FURNISH AND INSTALL
 - ② INPLACE
 - ⑥ INSTALL

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ
 DRW: RRC
 CHK: JAH

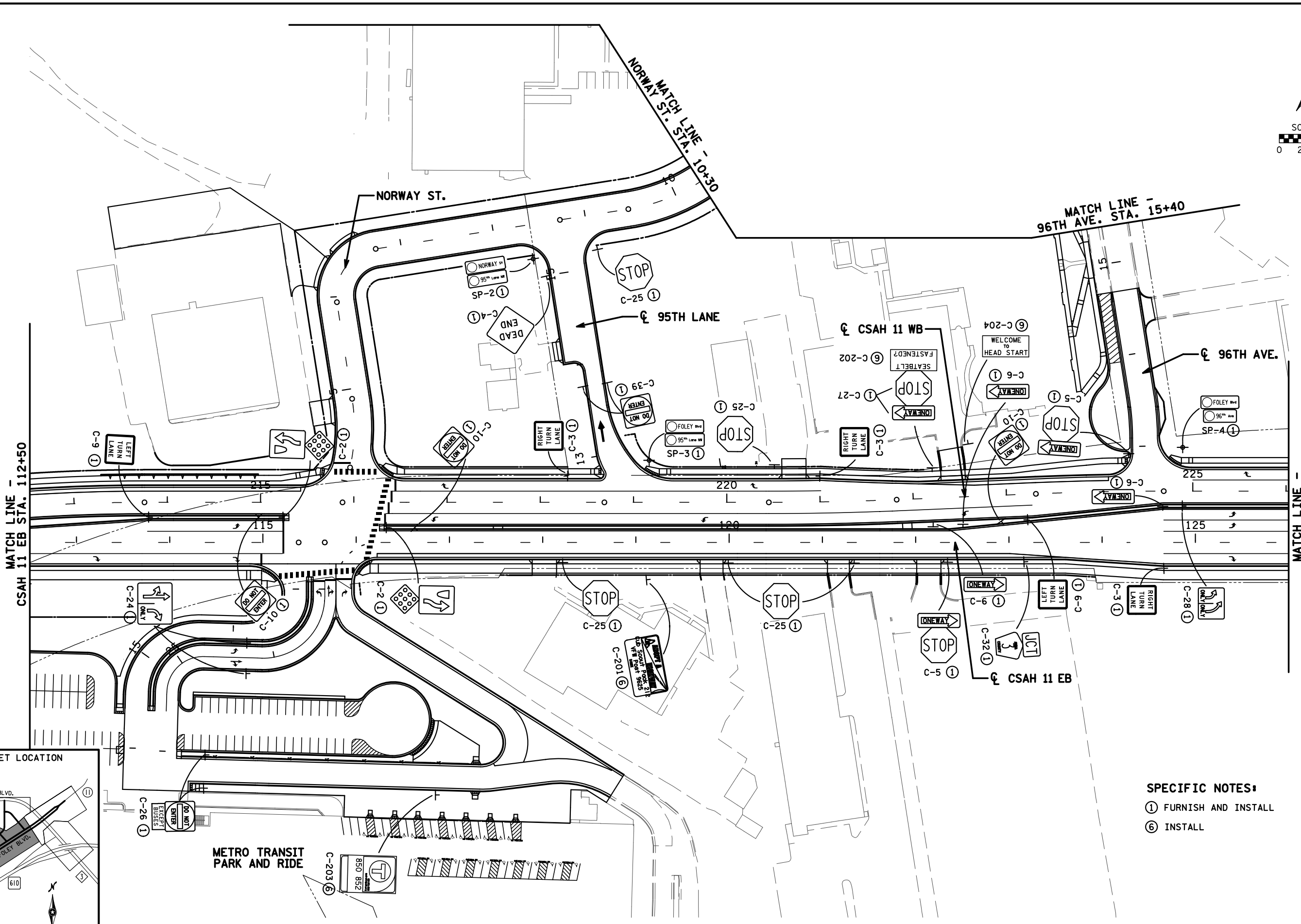
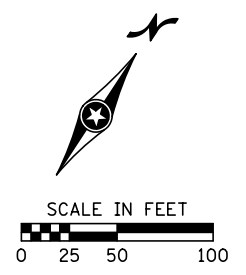
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

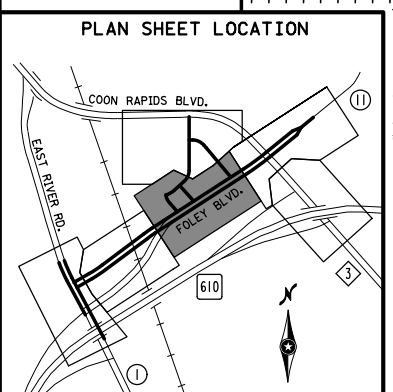


PROPOSED
 CSAH 11 EB STA. 101+00 TO STA. 112+50
 STATE PROJ. NO. 002-611-036

SIGNING PLAN
 SHEET NO. 349 OF 416 SHEETS



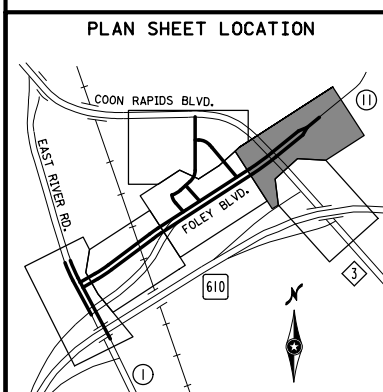
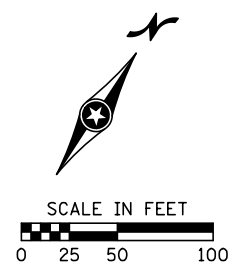
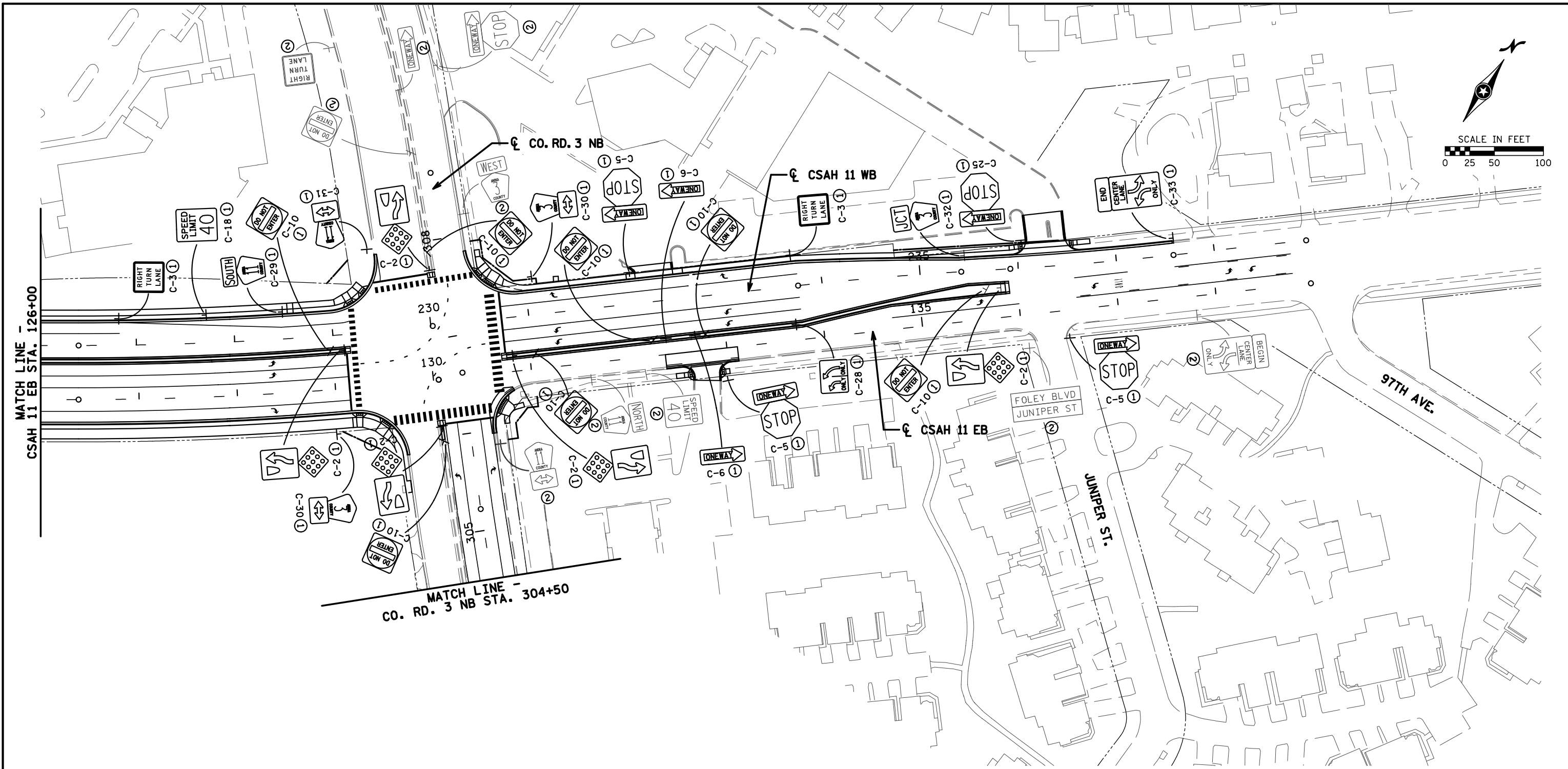
- SPECIFIC NOTES:**
- ① FURNISH AND INSTALL
 - ⑥ INSTALL



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	DES: NJZ DRW: RRC CHK: JAH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	
PROPOSED CSAH 11 EB STA. 112+50 TO STA. 126+00		SIGNING PLAN	
STATE PROJ. NO. 002-611-036		SHEET NO. 350 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS

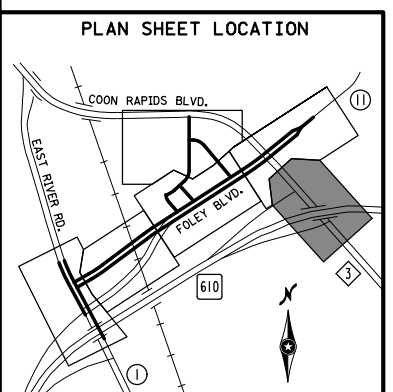
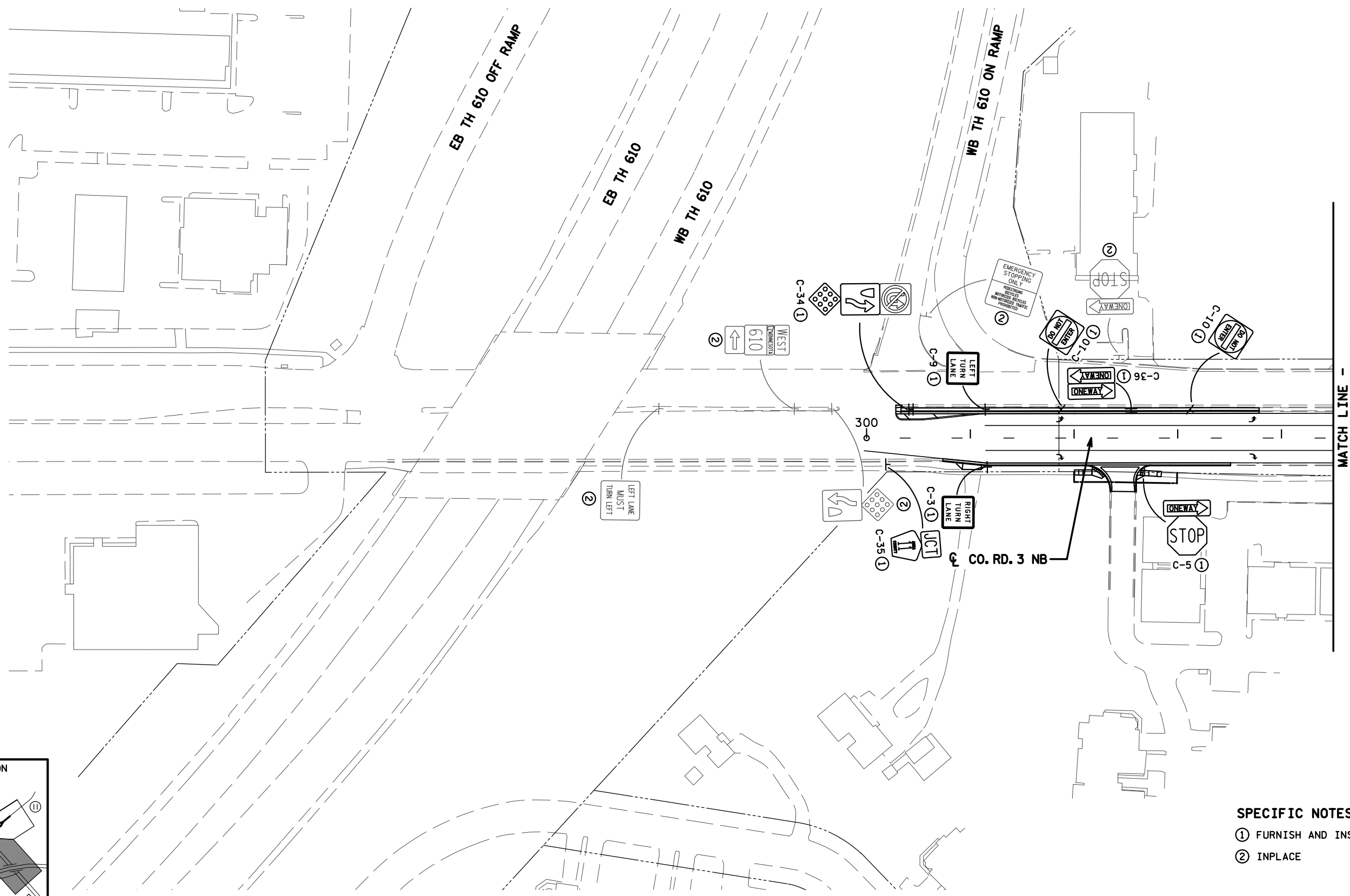
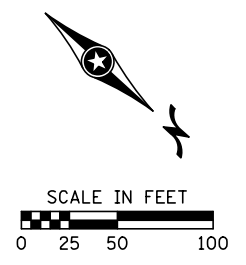
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- SPECIFIC NOTES:**
- ① FURNISH AND INSTALL
 - ② INPLACE

DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.						
DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020						
CHK: JAH	TKDA						
				PROPOSED CSAH 11 EB STA. 126+00 TO STA. 137+61.57		SIGNING PLAN	
				STATE PROJ. NO. 002-611-036		SHEET NO. 351 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS				

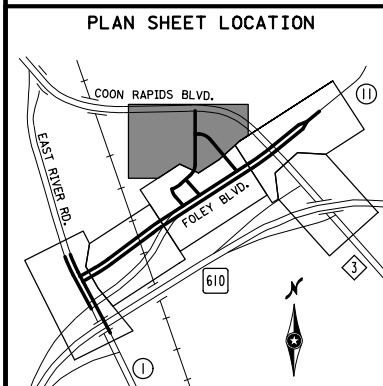
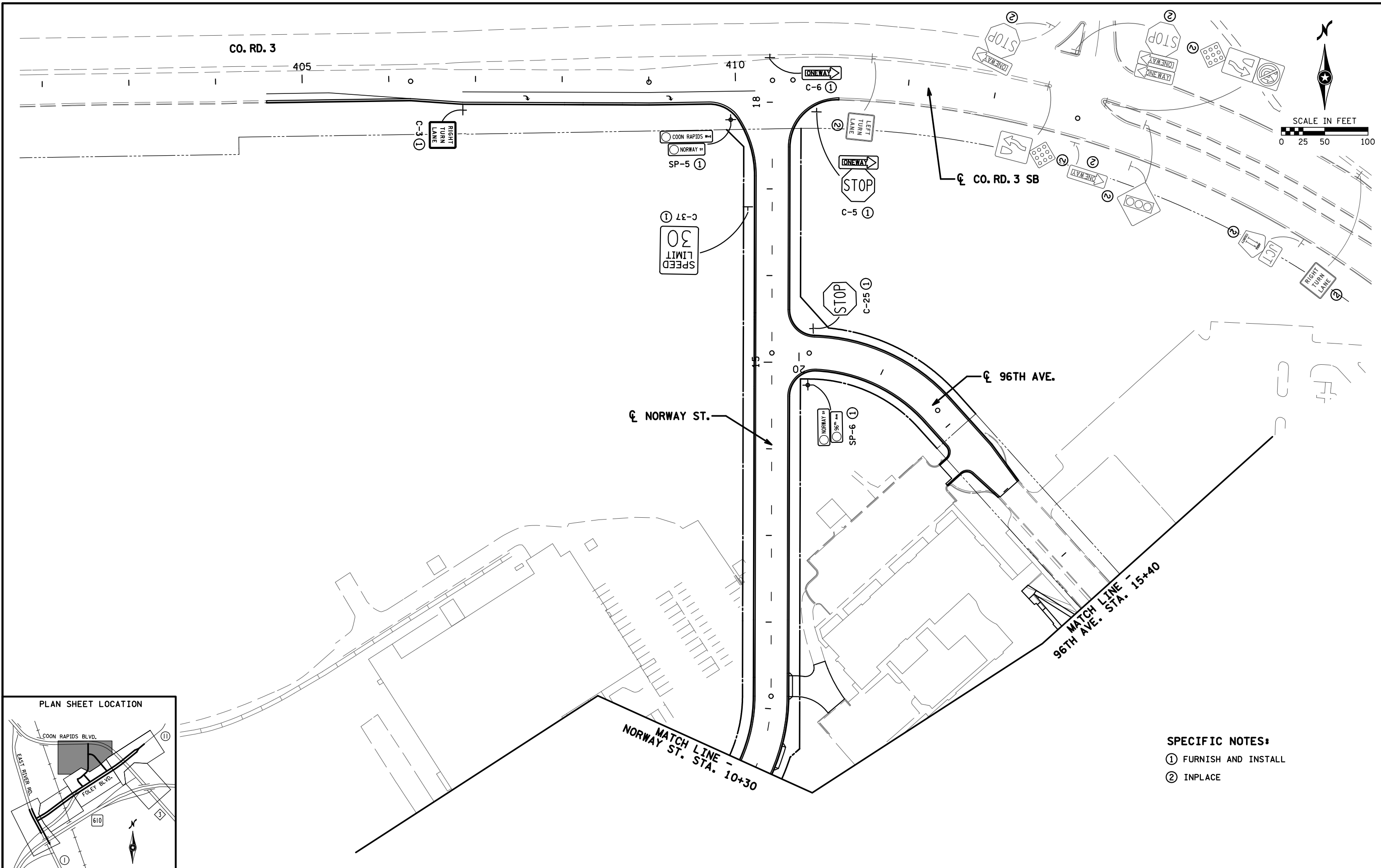
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- SPECIFIC NOTES:**
- ① FURNISH AND INSTALL
 - ② INPLACE

	DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	
	DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020	PROPOSED CO. RD. NB STA. 300+00 TO STA. 304+50
	CHK: JAH		SIGNING PLAN
NO.	DATE	BY	DESCRIPTION OF REVISIONS
		STATE PROJ. NO. 002-611-036 SHEET NO. 352 OF 416 SHEETS	

DATE: 11/25/2020 TIME: 2:26:14 PM
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- SPECIFIC NOTES:**
- ① FURNISH AND INSTALL
 - ② INPLACE

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

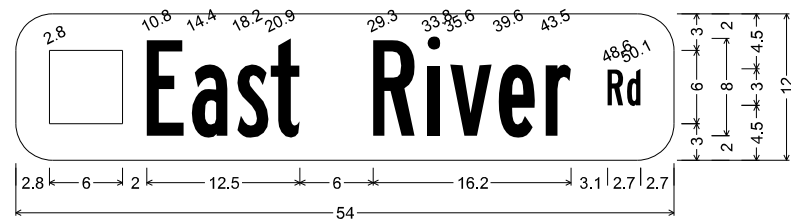
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



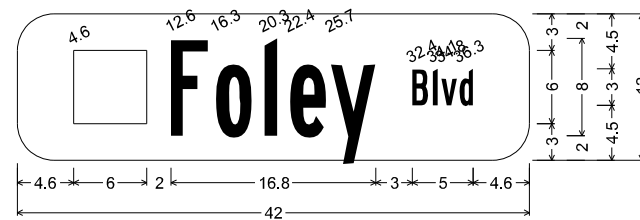
PROPOSED
 NORWAY ST. STA. 10+30 TO STA. 18+24.35
 STATE PROJ. NO. 002-611-036

SIGNING PLAN
 SHEET NO. 353 OF 416 SHEETS

DATE: 12/11/2020 TIME: 2:59:11 PM
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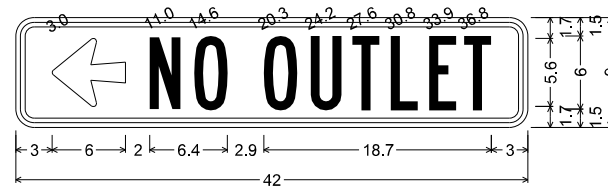
SB-1;
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 "East River Rd", B 2K;



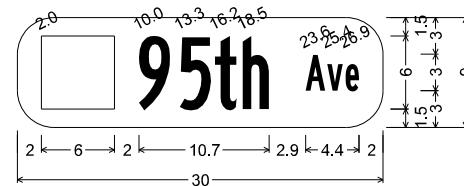
SB-5;
 3.0" Radius, No border, White on, Green;
 "Foley Blvd", B 2K;



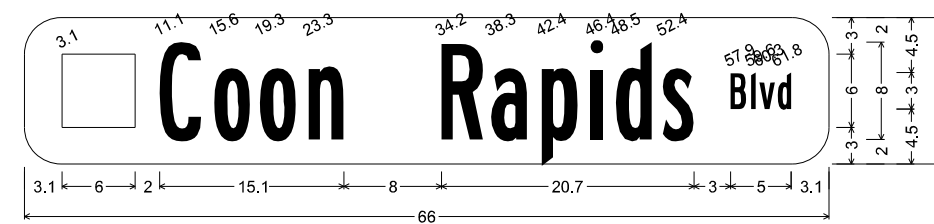
SB-9;
 3.0" Radius, No border, White on, Green;
 "96th Ave", B 2K;



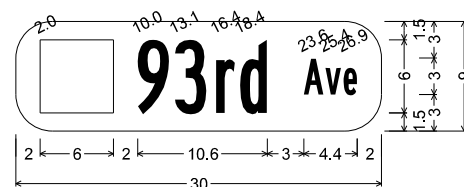
SB-2;
 1.5" Radius, 0.4" Border, 0.4" Indent, Black on, Yellow;
 Arrow 1 - 6.0" 180"; "NO OUTLET", B;



SB-6;
 3.0" Radius, No border, White on, Green;
 "95th Ave", B 2K;



SB-10;
 3.0" Radius, No border, White on, Green;
 "Coon Rapids Blvd", B 2K;



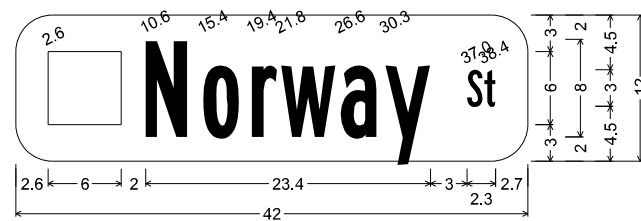
SB-3;
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 "93rd Ave", B 2K;



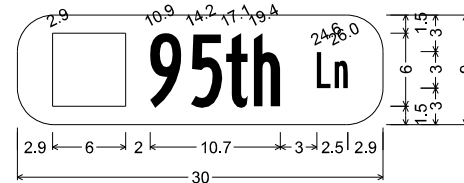
SB-7;
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 "Norway St", B 2K;



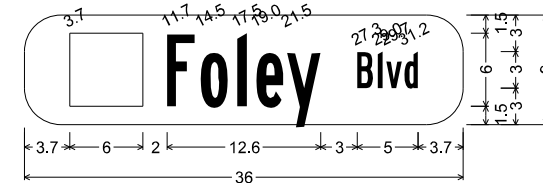
SB-11;
 3.0" Radius, No border, White on, Green;
 "93rd Ln", B 2K;



SB-4;
 3.0" Radius, No border, White on, Green;
 "Norway St", B 2K;



SB-8;
 3.0" Radius, No border, White on, Green;
 "95th Ln", B 2K;



SB-12;
 3.0" Radius, No border, White on, Green;
 "Foley Blvd", B 2K;

GENERAL NOTES:

- THE COON RAPIDS CITY LOGO WILL PROCEED THE STREET NAME ON BLADE. SEE MISCELLANEOUS DETAILS ON SHEET 65 FOR MORE INFORMATION.
- ALL DIMENSIONS ARE IN INCHES.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

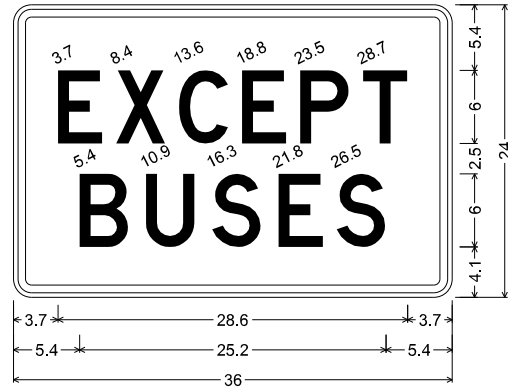
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DRW: RRC	
CHK: JAH	
SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 12/11/2020	
JEFFREY A. HILDEN	



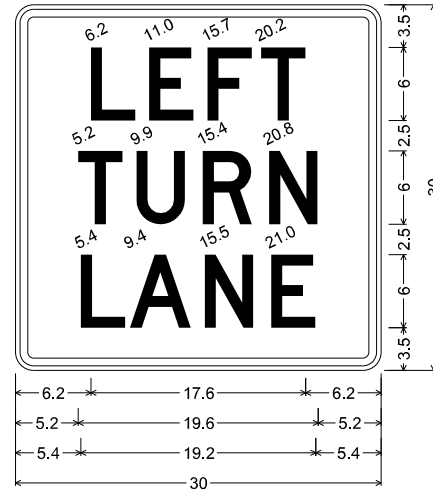
SIGN PANEL DETAILS
 STATE PROJ. NO. 002-611-036

SIGNING PLANS
 SHEET NO. 354 OF 416 SHEETS

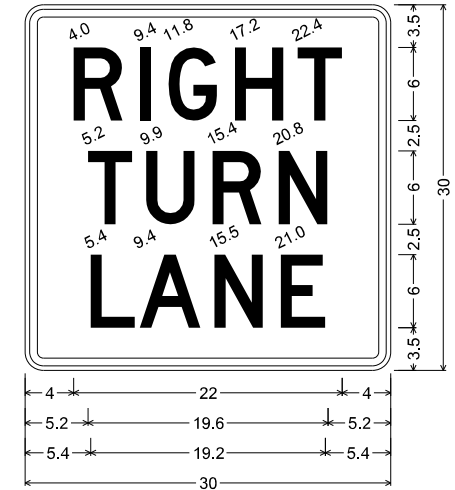
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C-SPECIAL1;
 1.5" Radius, 0.6" Border, 0.4" Indent, Black on, White;
 "EXCEPT", D; "BUSES", D;




R3-XL;
 1.5" Radius, 0.6" Border, 0.4" Indent, Black on, White;
 "LEFT", D; "TURN", D; "LANE", D;



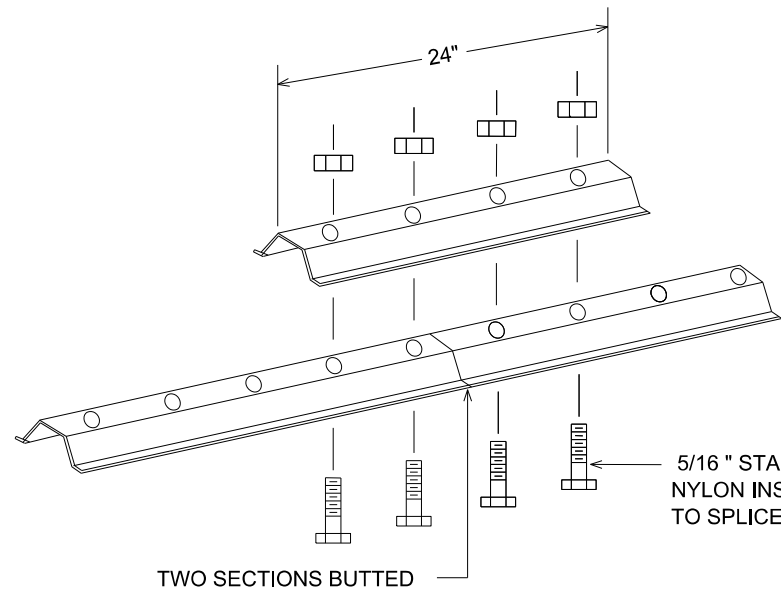
R3-XR;
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 "RIGHT", D; "TURN", D; "LANE", D;

GENERAL NOTES:

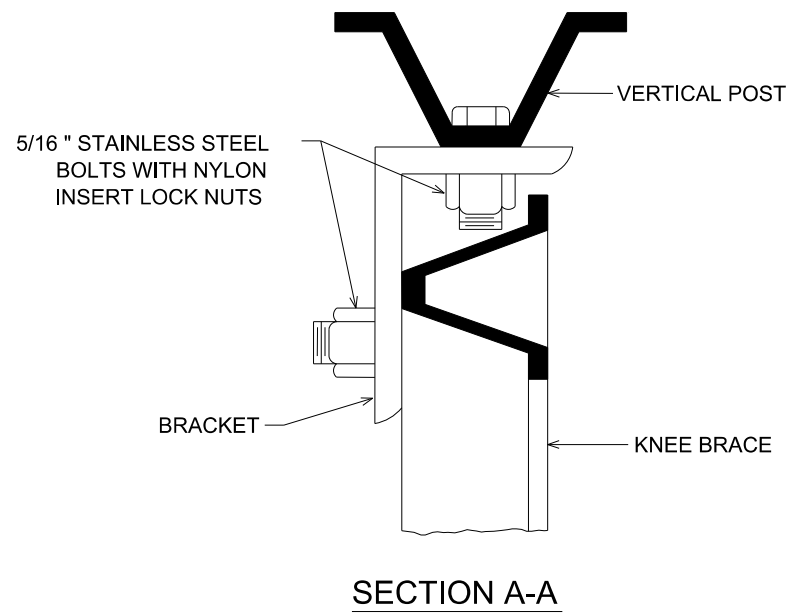
- ALL DIMENSIONS ARE IN INCHES.

				DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		SIGN PANEL DETAILS	SIGNING PLANS	
				DRW: RRC			SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020	STATE PROJ. NO. 002-611-036	SHEET NO. 355 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH					

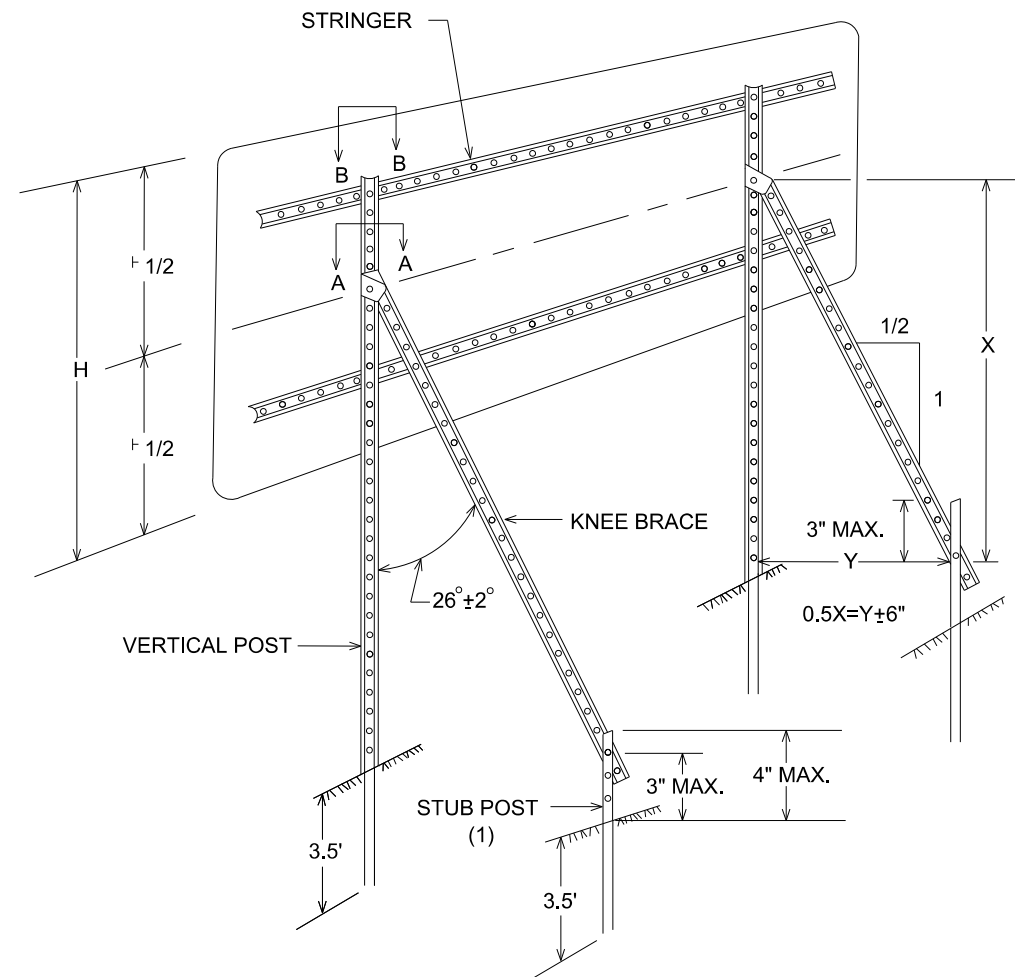
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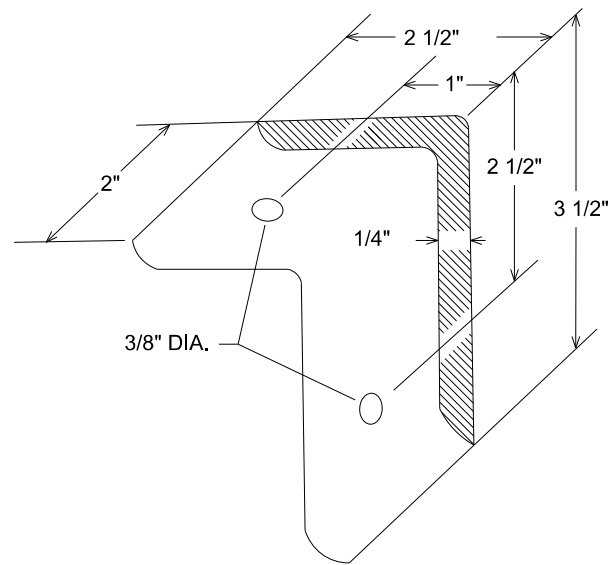
**LATERAL BRACE OR STRINGER
 SPLICE DETAIL (EXPLODED VIEW)**



SECTION A-A

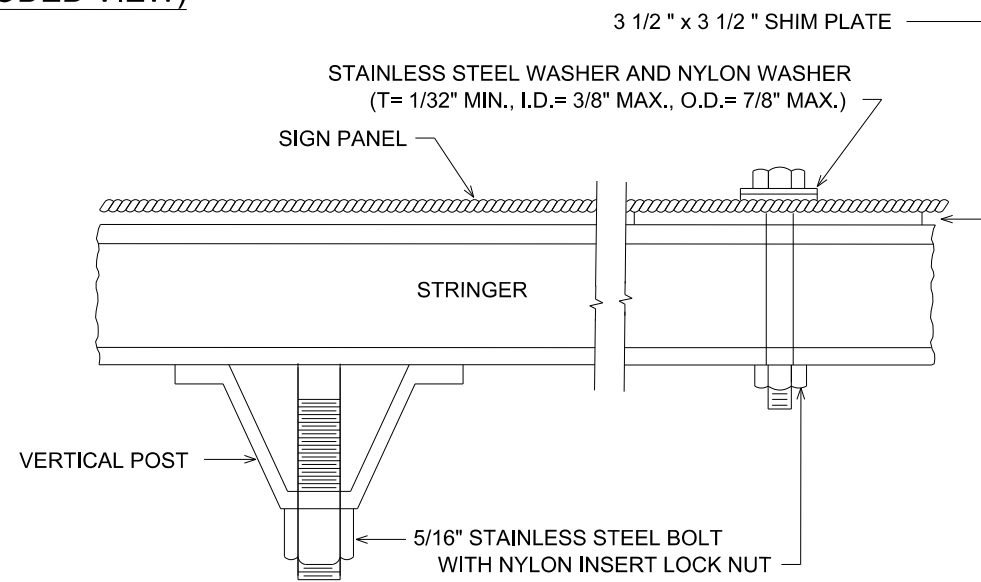


**TYPICAL "A-FRAME" INSTALLATION
 TYPE "D" SIGNS**

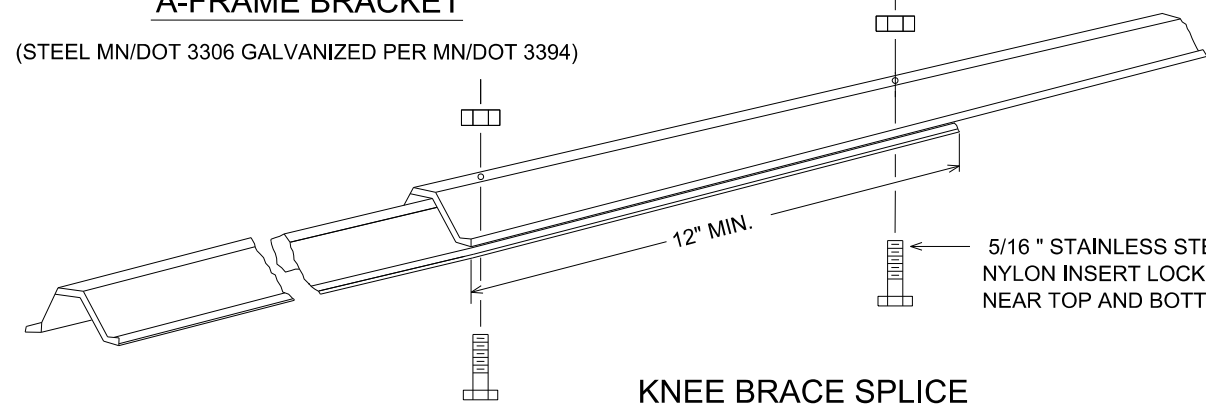


A-FRAME BRACKET

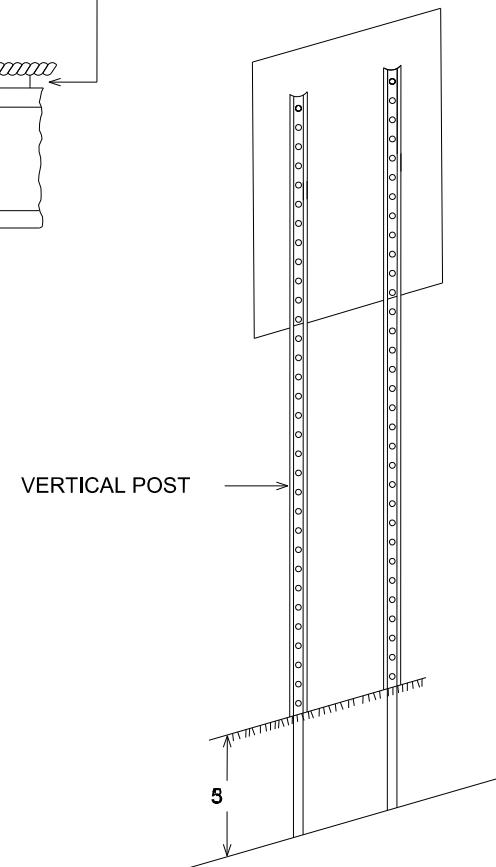
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



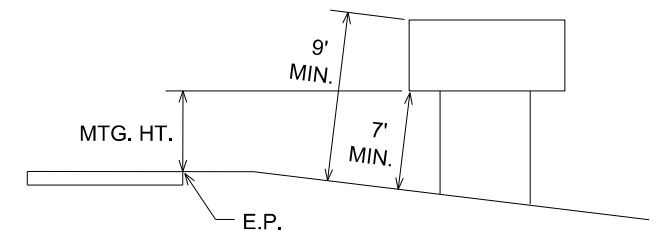
SECTION B-B



KNEE BRACE SPLICE



**TYPICAL INSTALLATION 36" AND LARGER
 TYPE "C" SIGNS**



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY
 RELATIVE TO VERTICAL POST.

**TYPE C & D SIGN
 STRUCTURAL DETAILS**

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: RRC	
CHK: JAH	

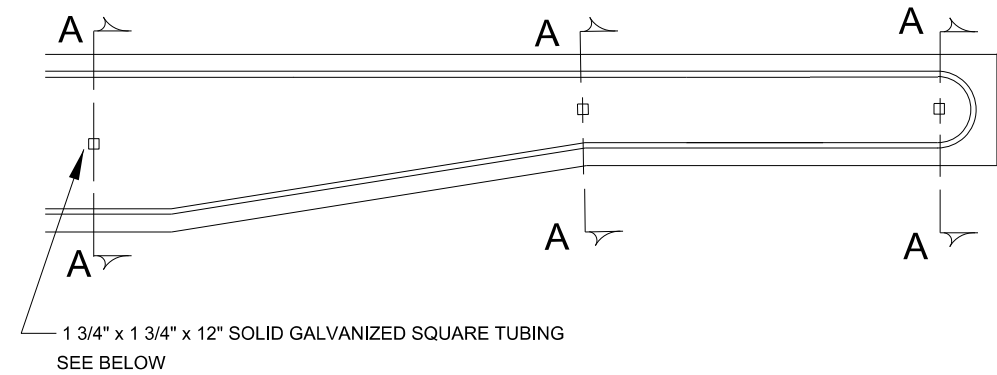
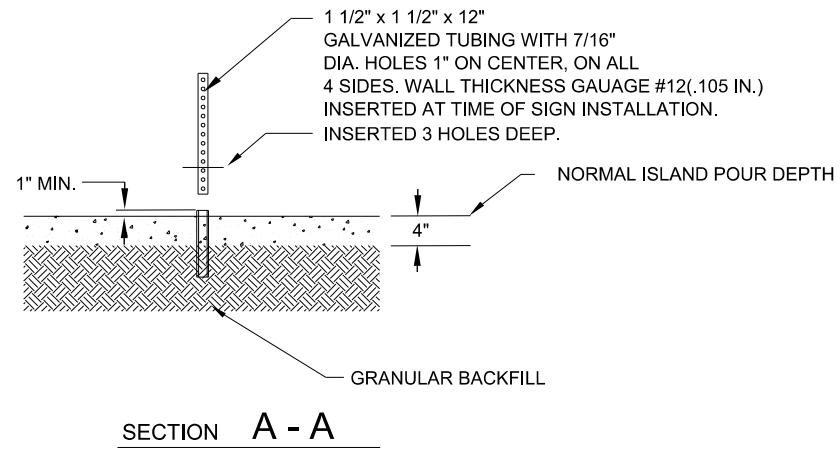
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020



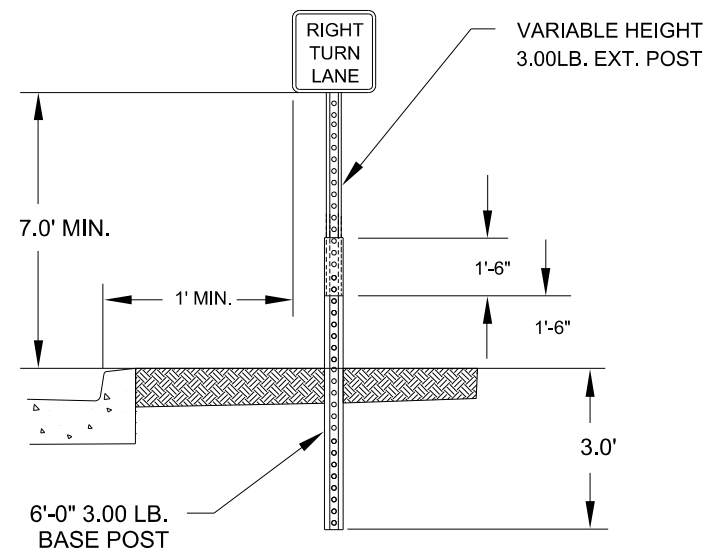
ANOKA COUNTY SIGNING DETAILS (1 OF 3)
 STATE PROJ. NO. 002-611-036

SIGNING PLANS
 SHEET NO. 356 OF 416 SHEETS

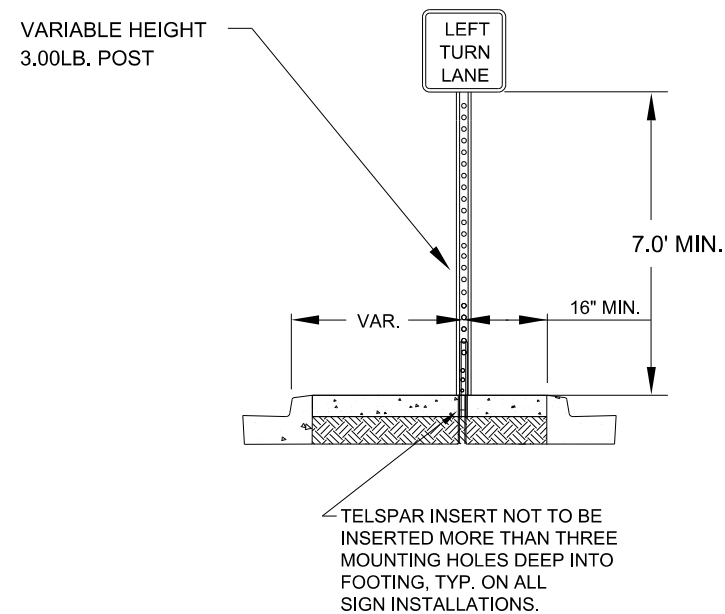
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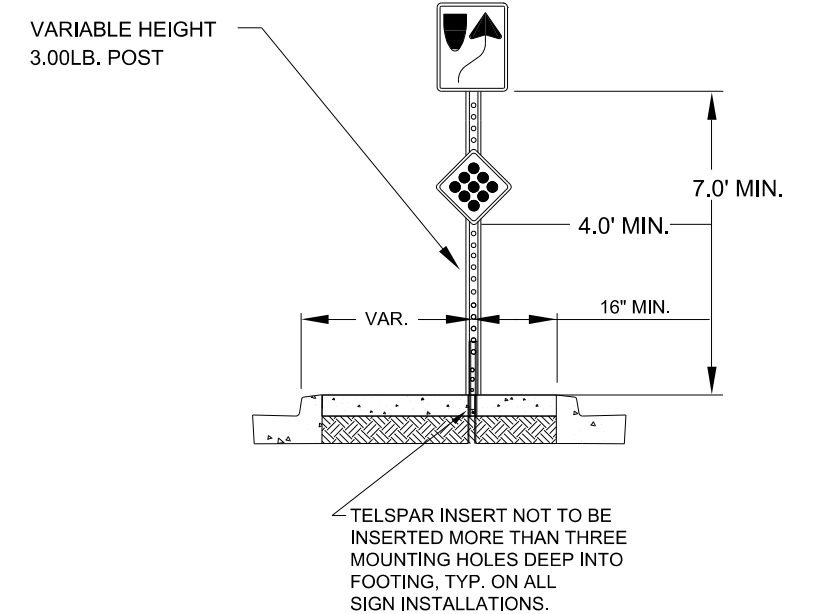
GROUND POST MOUNT SIGN
 INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
 INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
 SIGN INSTALLATION TYPICAL
 KEEP RIGHT/CLUSTER



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

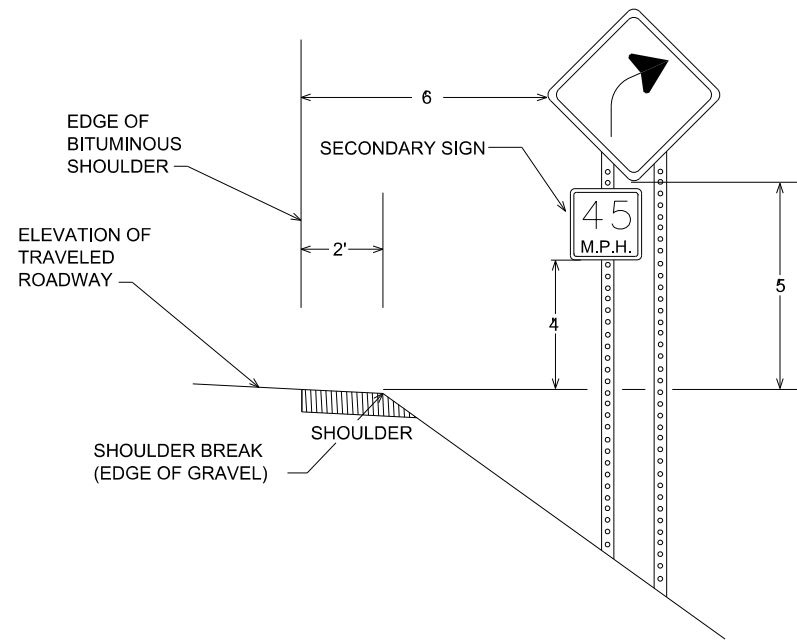


ANOKA COUNTY SIGNING DETAILS (2 OF 3)
 STATE PROJ. NO. 002-611-036

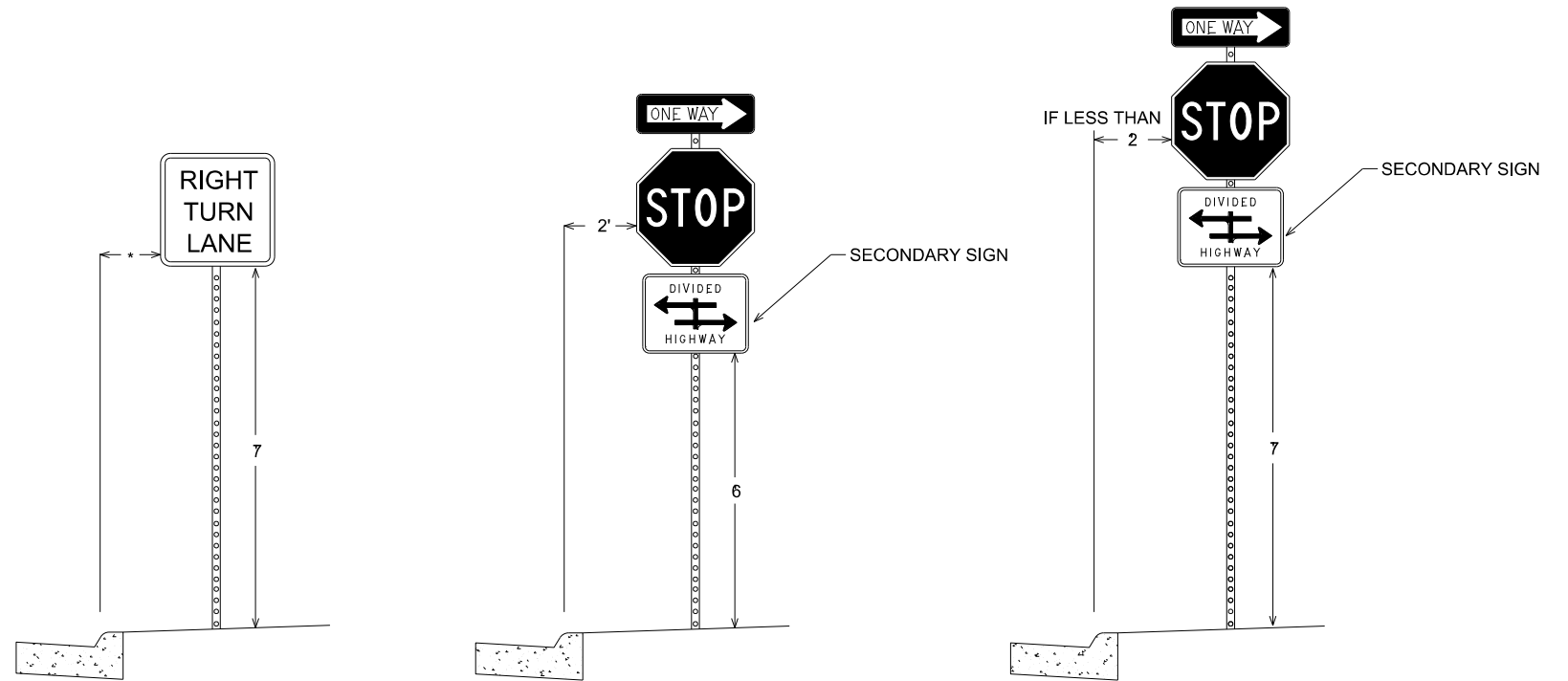
SIGNING PLANS
 SHEET NO. 357 OF 416 SHEETS

DATE: 11/25/2020 TIME: 2:26:34 PM
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TYPICAL SIGN PLACEMENT
(RURAL)



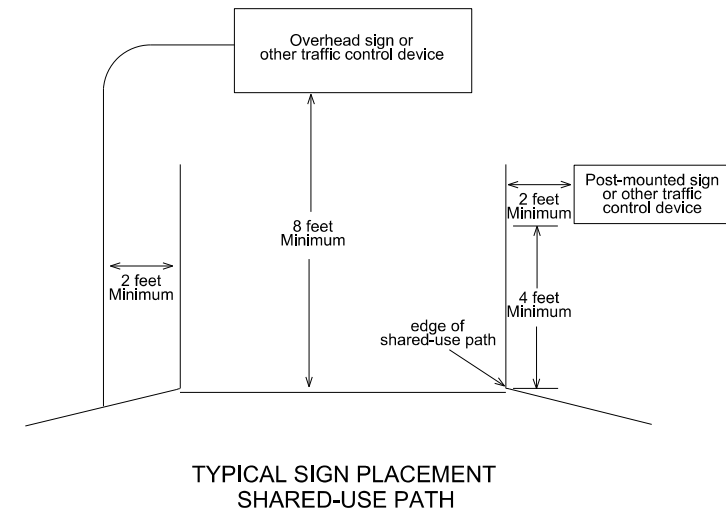
TYPICAL SIGN PLACEMENT
(URBAN)



* 2' - NARROW BOULEVARD (< 8' WIDE)
 6' - WIDE BOULEVARD

NOTES:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN A CLEAR DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL
- 7' SIGN CLEARANCE IF A CLEAR DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL CANNOT BE MAINTAINED



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: RRC	
CHK: JAH	
SIGNATURE: <i>Jeffrey A. Hilden</i>	LIC. NO. 20781 DATE: 11/25/2020



PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

MULTI COMPONENT (MULTI COMP):

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL MULTI COMP PAVEMENT MARKINGS.

MULTI COMPONENT (MULTI COMP) CONT.:

THE MULTI COMP MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI COMP LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

A MULTI COMP LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE. GLASS BEADS SHALL BE APPLIED AT A MINIMUM RATE OF 25LBS POUNDS PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM. OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PREFORMED THERMOPLASTIC:

THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

PAINT:




AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

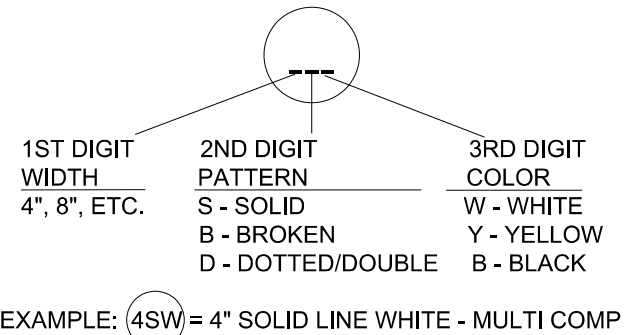
GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILD OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

STRIPING KEY




-  CIRCLE - MULTI COMP
-  TRIANGLE - PAINT
-  OCTAGON - POLY PREF THERMOPLASTIC



PERMANENT PAVEMENT MARKING PLAN INDEX

- 359 PERMANENT PAVEMENT MARKING TITLE SHEET AND TABULATION
- 360-365 PERMANENT PAVEMENT MARKING PLAN
- 366-368 DETAILS

SYMBOLS & MATERIALS LEGEND

-  CROSSWALK BLOCK WHITE-POLY PREFORM
-  PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM
-  PAVEMENT MESSAGE (ACCESSIBLE PARKING) POLY PREFORM

PERMANENT PAVEMENT MARKINGS

TAB Q

STATION	PAVEMENT MARKING REMOVAL	PAVEMENT MARKING REMOVAL	PAINT			MULTI-COMPONENT							MULTI-COMPONENT CONT		PREF THERMO								
			4" SOLID LINE		PAVT MSSG	4" SOLID LINE		8" SOLID LINE	4" BROKEN LINE (1)		8" DOTTED LINE (1)	4" DOUBLE SOLID LINE	4" BROKEN LINE (1)		8" DOTTED LINE (1)	24" SOLID LINE		4" DOTTED LINE (1)	PAVT MSSG (ARROWS)		PAVT MSSG (ADA SYMBOL, "ONLY")	CROSSWALK	
			WHITE	YELLOW		WHITE	WHITE		WHITE	WHITE			WHITE	WHITE		WHITE	WHITE		WHITE	WHITE			WHITE
			LIN FT	SQ FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ FT	SQ FT
CSAH 11																							
EB STA. 99+70.17 TO EB STA. 138+97.20	189	193				6926	11344		146	68	923	124		63	63	204	296	8	508.23		20.63	1464	
CSAH 1																							
NB STA. 38+57.64 TO NB STA. 47+21.35	623	96				1614	4014		184		240		91			18	84	60	216.3			684	
NW RAMP																							
STA. 21+50.00 TO STA. 24+13.98						355 (2)	97 (2)		93 (2)														
CR RD 3																							
STA. 300+00.00 TO STA. 308+67.75	327	840				508	1622				70		89			18	105	60	92.7			816	
CR 3 SB																							
STA. 400+00.00 TO STA. 413+99.12								454												30.9			
PARK & RIDE																							
STA. 22+50.00 TO STA. 26+64.36						531	799											42		106.53		252	
PARKING LOT	1735		4689	1204	1384	143															119.61		
NORWAY ST																							
STA. 3+76.94 TO STA. 18+25.35						2518					269												
96TH AVE																							
STA. 13+93.80 TO STA. 14+68.92						198																	
SUBTOTALS	2874	1129	4689	1204	1384	143	12650	17876	454	423	337	1233	124	180	63	63	240	527	128	924	31	140	3216
TOTALS	2874	1129	4689	2588		143	30980		423	1570		124	180	63	63	767		128	1,095		3216		

COST PARTICIPATION NOTES:

- (A) 100% ANOKA COUNTY S.P. 002-611-036 FUNDS.
- (D) 50% ANOKA COUNTY LOCAL FUNDS, 50% CITY OF COON RAPIDS LOCAL FUNDS.

SPECIFIC NOTES:

- (1) LENGTH DOES NOT INCLUDE GAPS.
- (2) GR IN

DES: NJZ
 DRW: NJZ
 CHK: JAH
 I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



TITLE SHEET

PAVEMENT MARKING PLAN

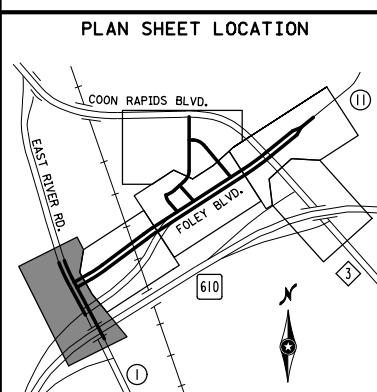
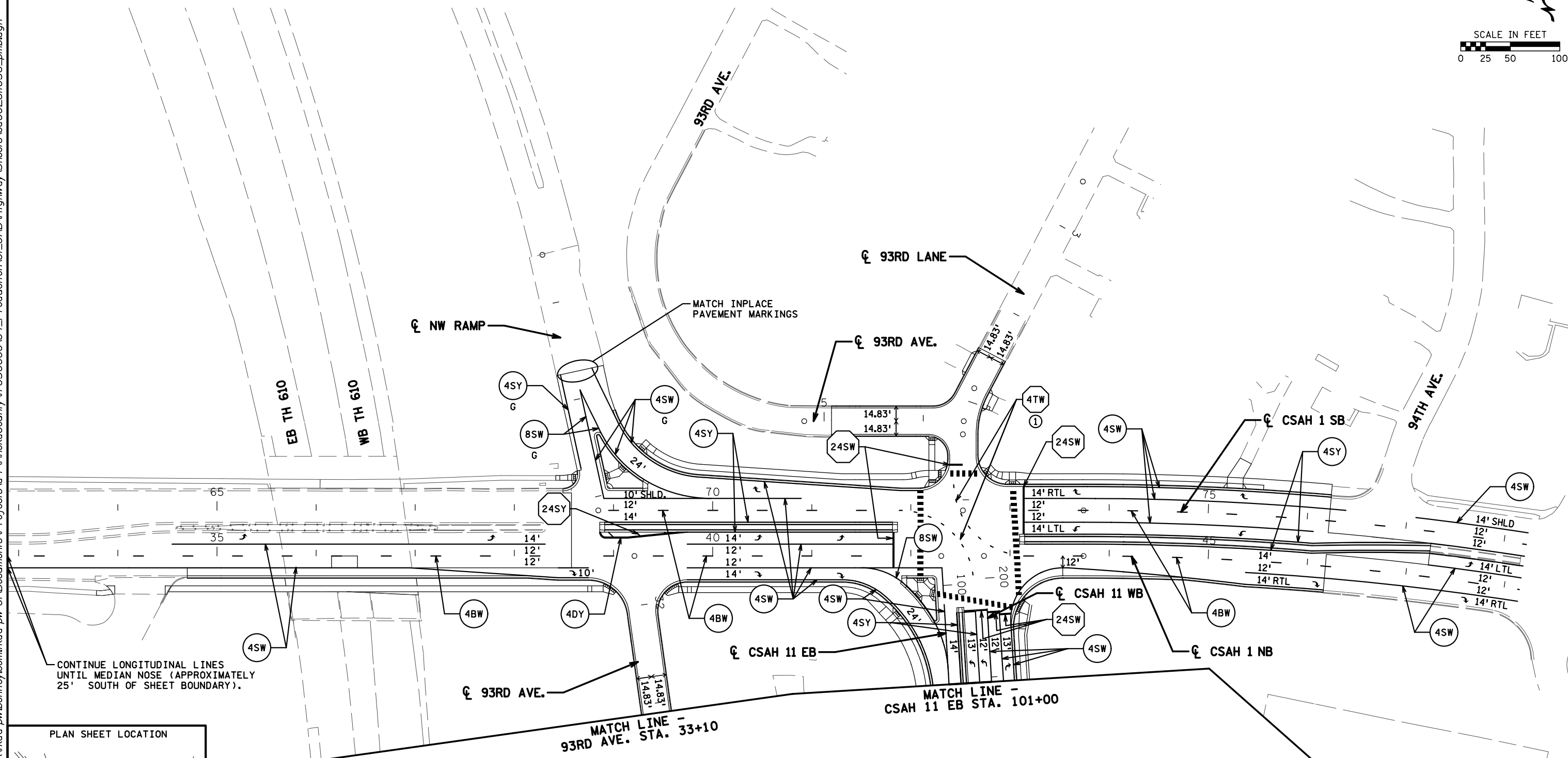
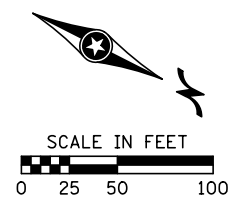
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SHEET NO. 359 OF 416 SHEETS

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NO.	DATE	BY	DESCRIPTION OF REVISIONS

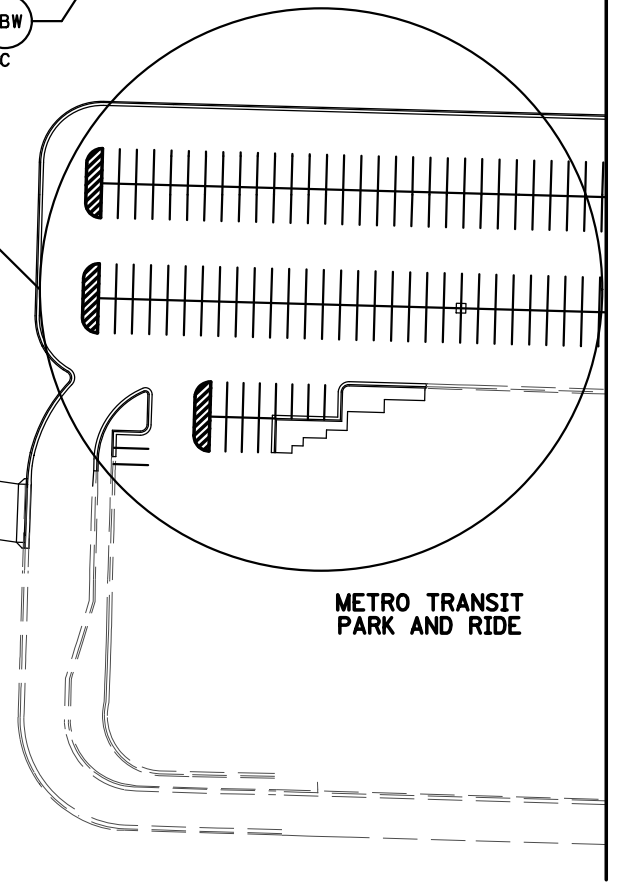
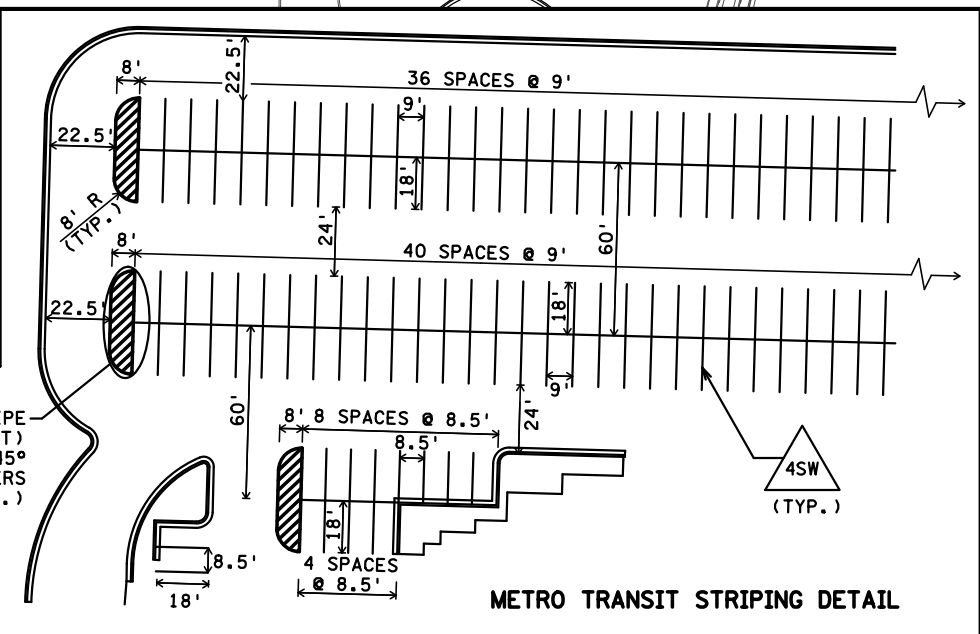
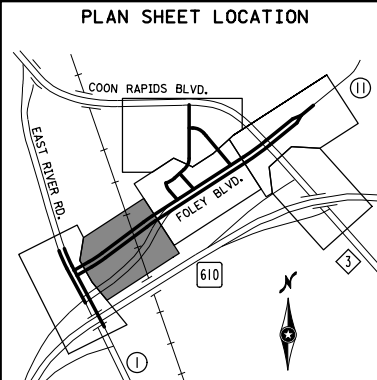
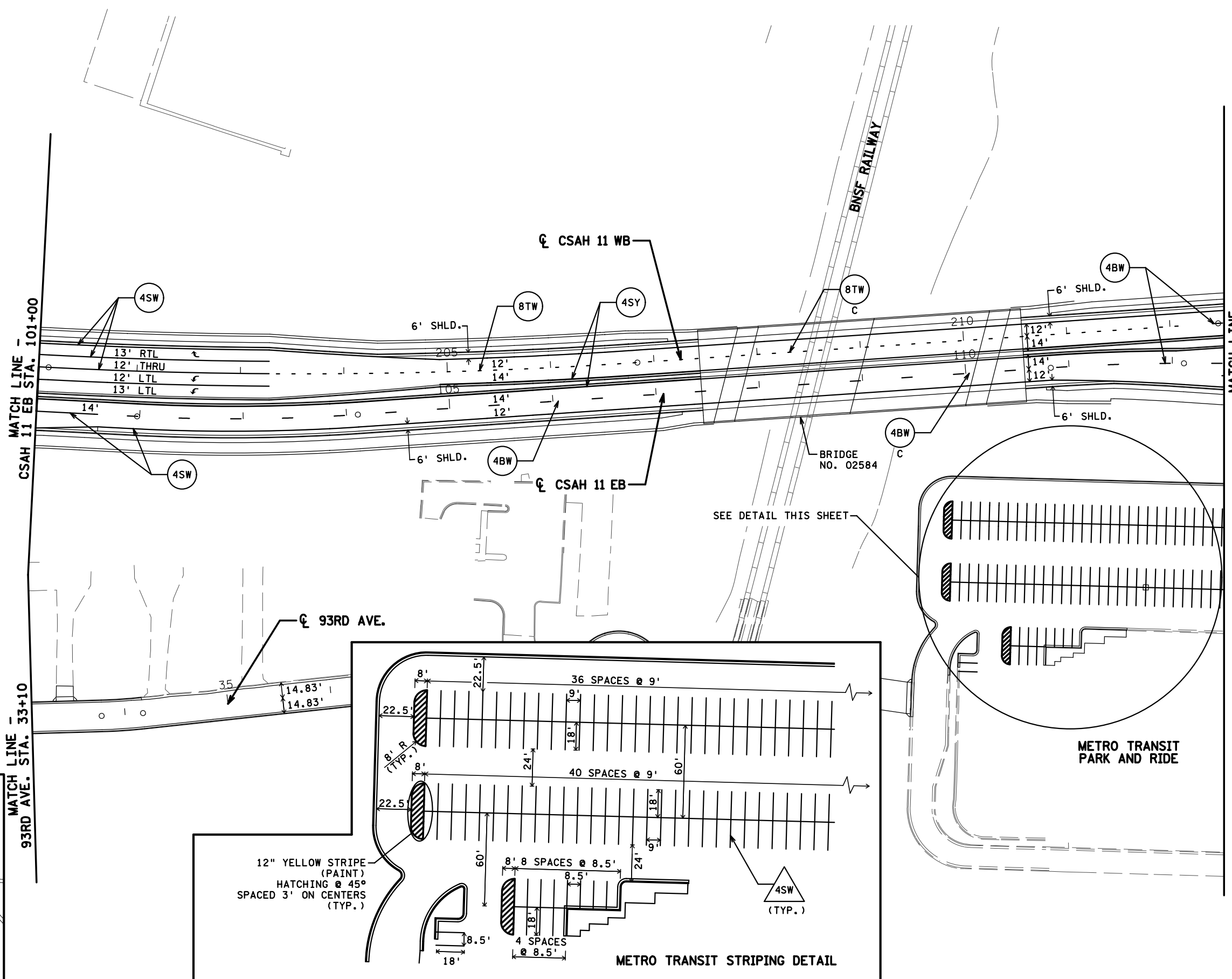
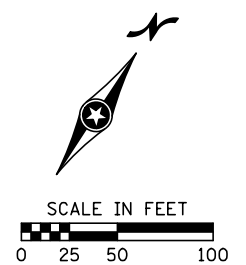
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SPECIFIC NOTES:
 ① 8' CYCLE (2' LINE, 6' GAP).

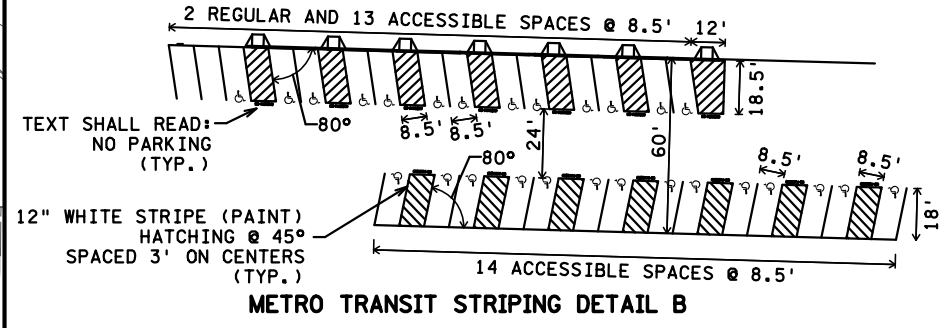
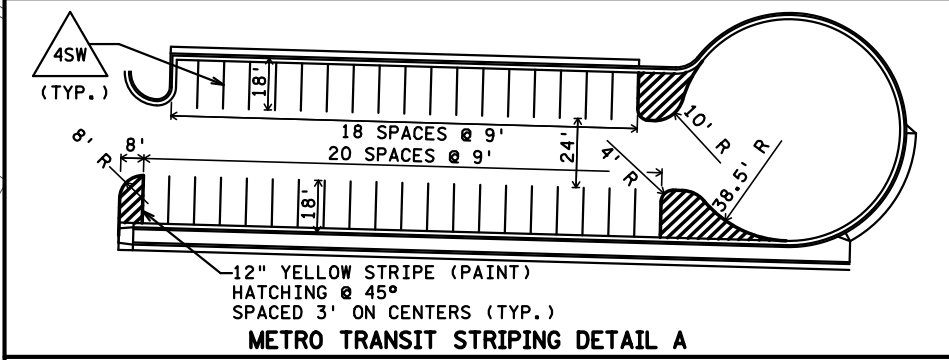
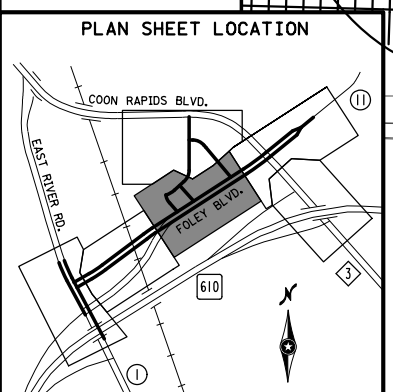
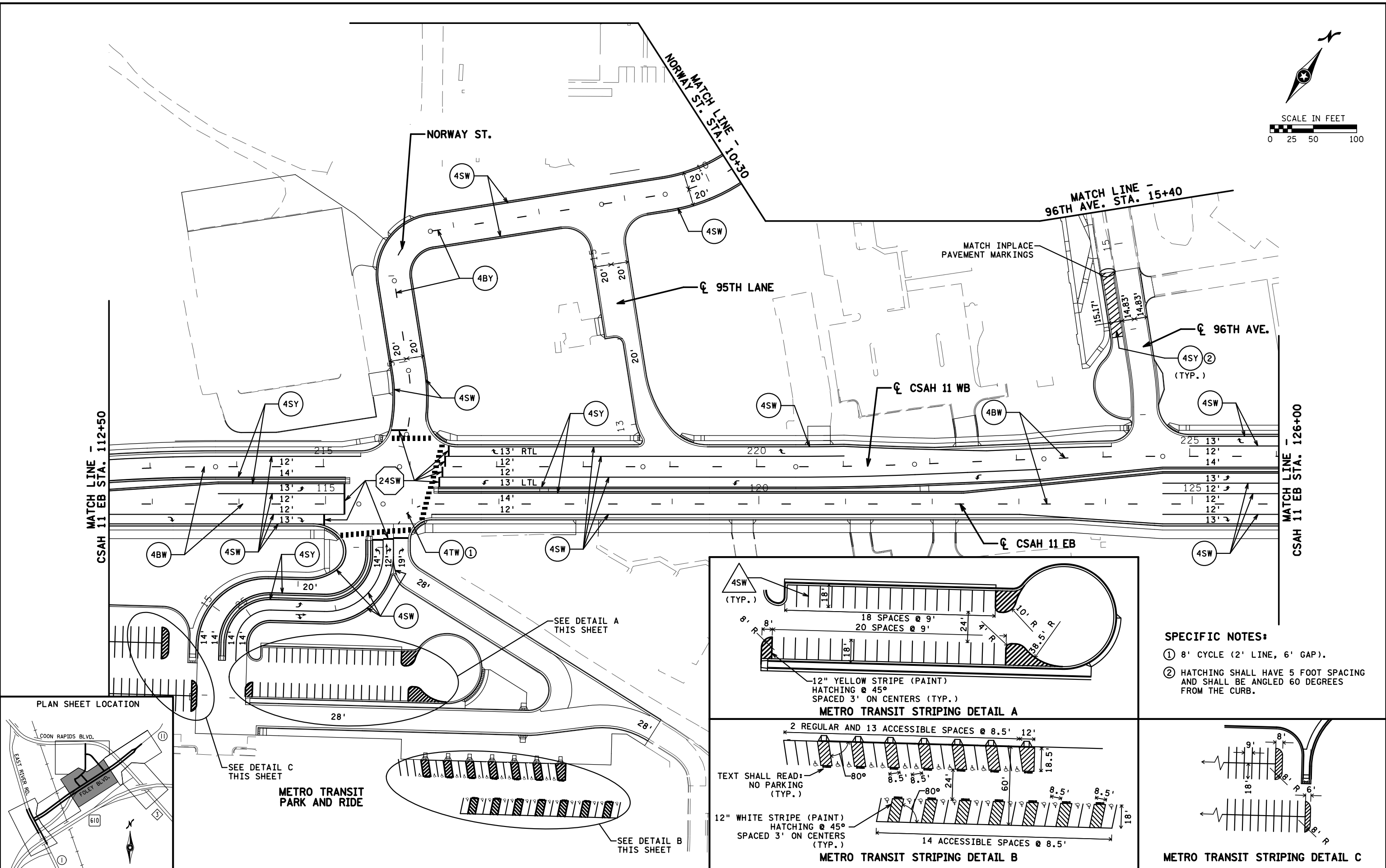
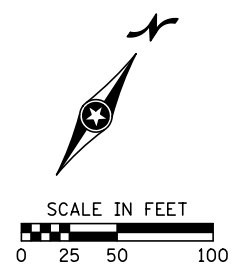
				DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			CSAH 1 NB STA. 34+69.98 TO STA. 47+21.35		PAVEMENT MARKING PLAN			
				DRW: NJZ	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020					STATE PROJ. NO. 002-611-036		SHEET NO. 360 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH									

DATE: 11/25/2020 TIME: 7:44:26 AM
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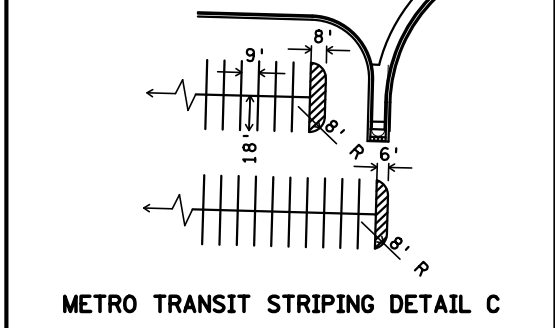
DES: NJZ				I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				CSAH 11 EB STA. 101+00 TO STA. 112+50				PAVEMENT MARKING PLAN							
DRW: NJZ				SIGNATURE: <i>Jeffrey A. Hilden</i>				TKDA				STATE PROJ. NO. 002-611-036				SHEET NO. 361 OF 416 SHEETS			
CHK: JAH				LIC. NO. 20781 DATE: 11/25/2020															
NO.	DATE	BY	DESCRIPTION OF REVISIONS																

DATE: 11/25/2020 TIME: 9:28:26 AM
 FILENAME: pw:\kda-pw-beinfley.com\kda-pw-ON Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_pmd.dgn



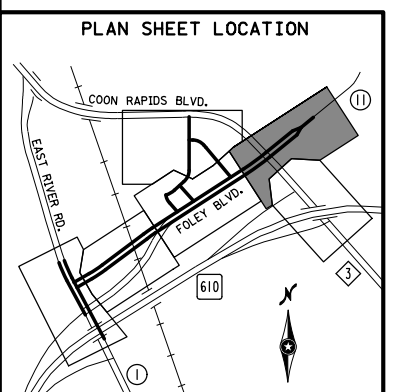
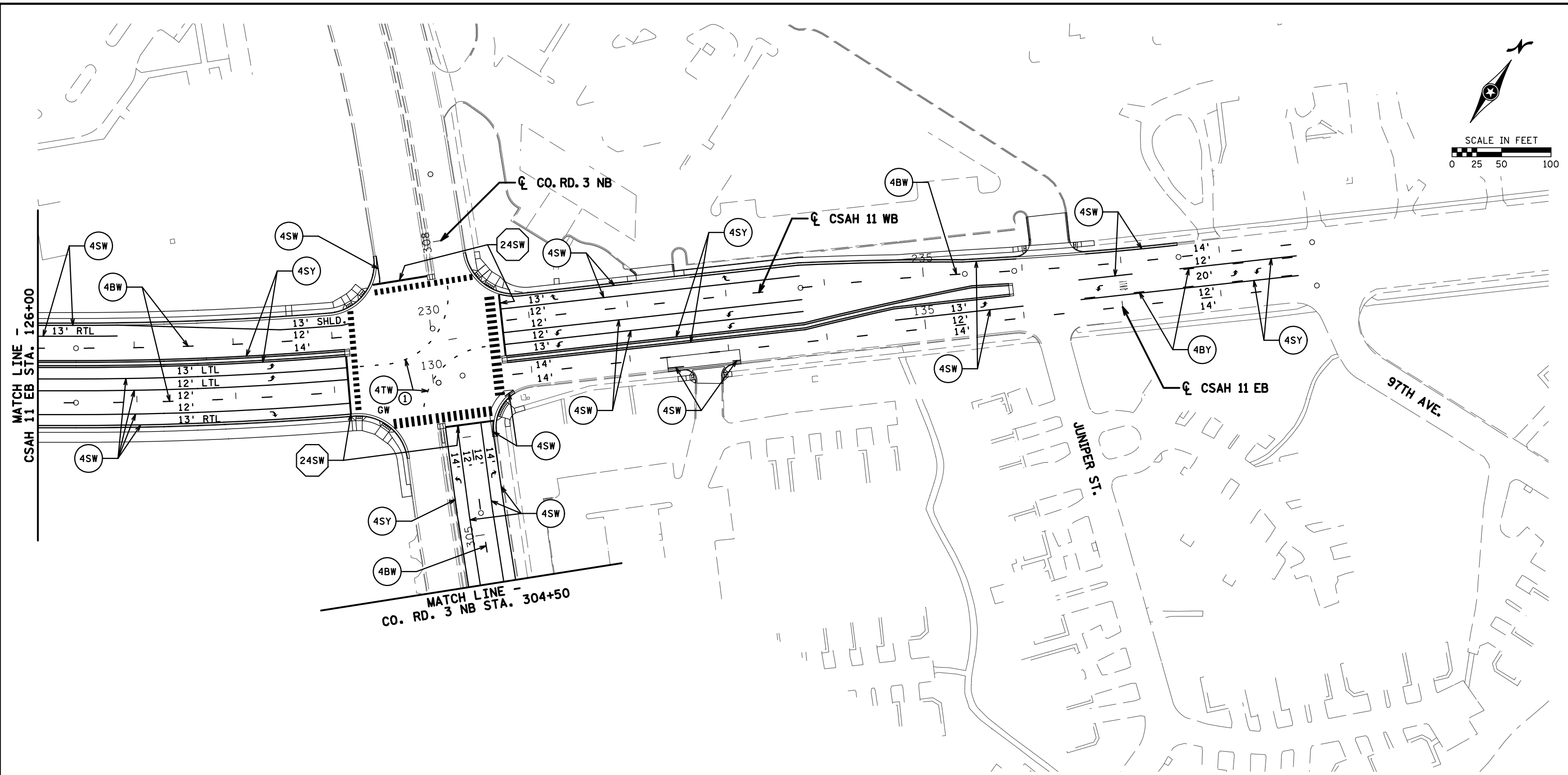
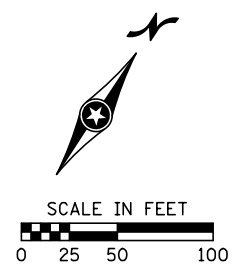
SPECIFIC NOTES:

- ① 8' CYCLE (2' LINE, 6' GAP).
- ② HATCHING SHALL HAVE 5 FOOT SPACING AND SHALL BE ANGLED 60 DEGREES FROM THE CURB.



	DES: NJZ DRW: NJZ CHK: JAH	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN	
NO. DATE BY DESCRIPTION OF REVISIONS		CSAH 11 EB STA. 112+50 TO STA. 126+00 STATE PROJ. NO. 002-611-036	
		PAVEMENT MARKING PLAN SHEET NO. 362 OF 416 SHEETS	

DATE: 11/25/2020 TIME: 7:44:40 AM
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SPECIFIC NOTES:
 ① 8' CYCLE (2' LINE, 6' GAP).

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ
 DRW: NJZ
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

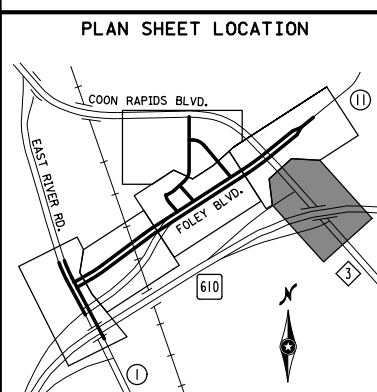
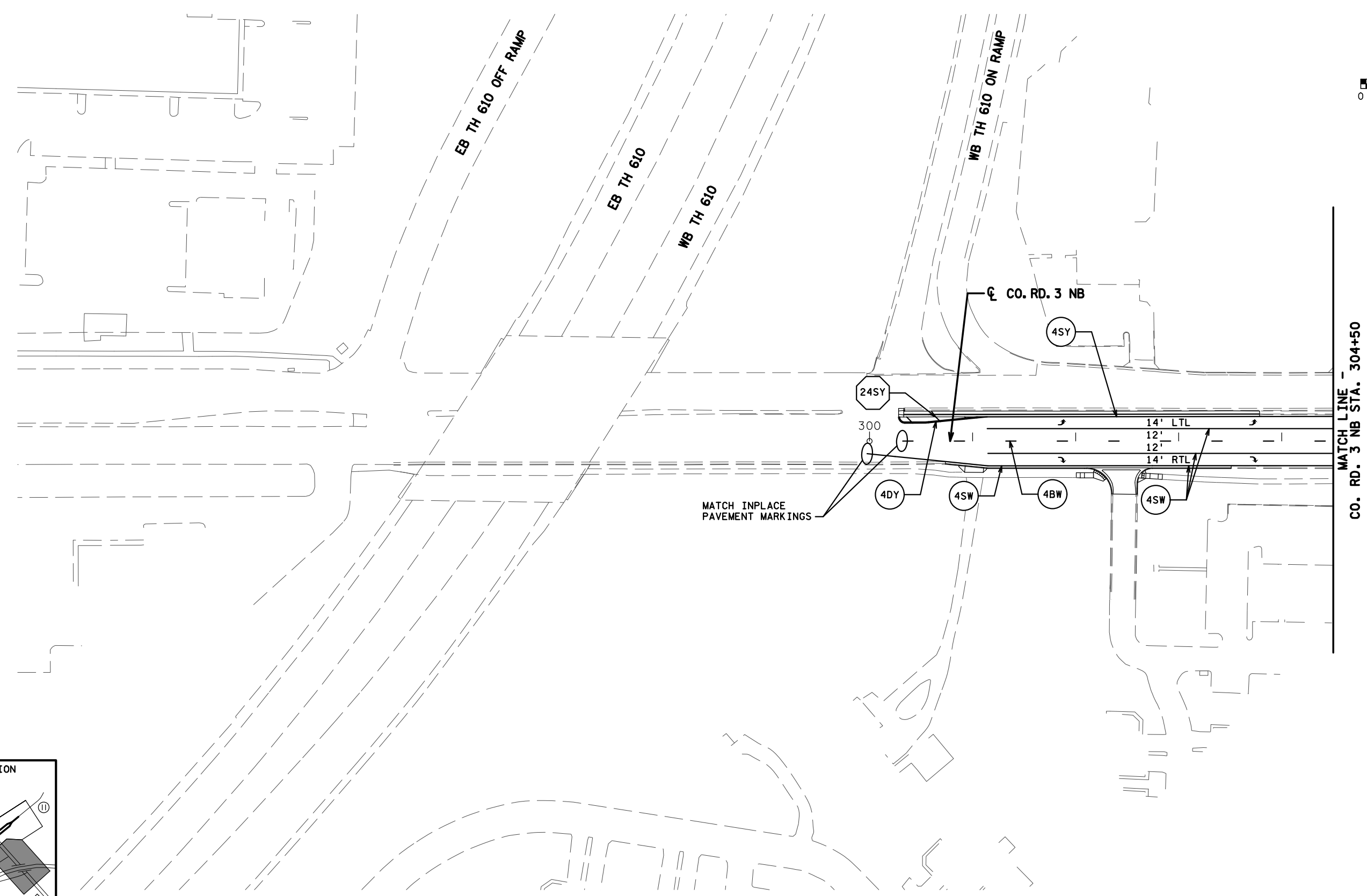
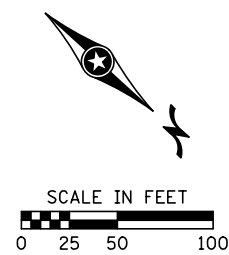
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



CSAH 11 EB STA .126+00 TO STA.137+61.57
 STATE PROJ. NO. 002-611-036

PAVEMENT MARKING PLAN
 SHEET NO. 363 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:44:48 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ
 DRW: NJZ
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

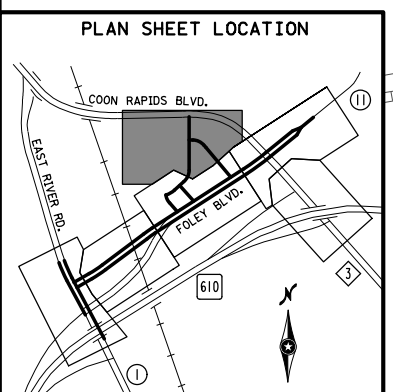
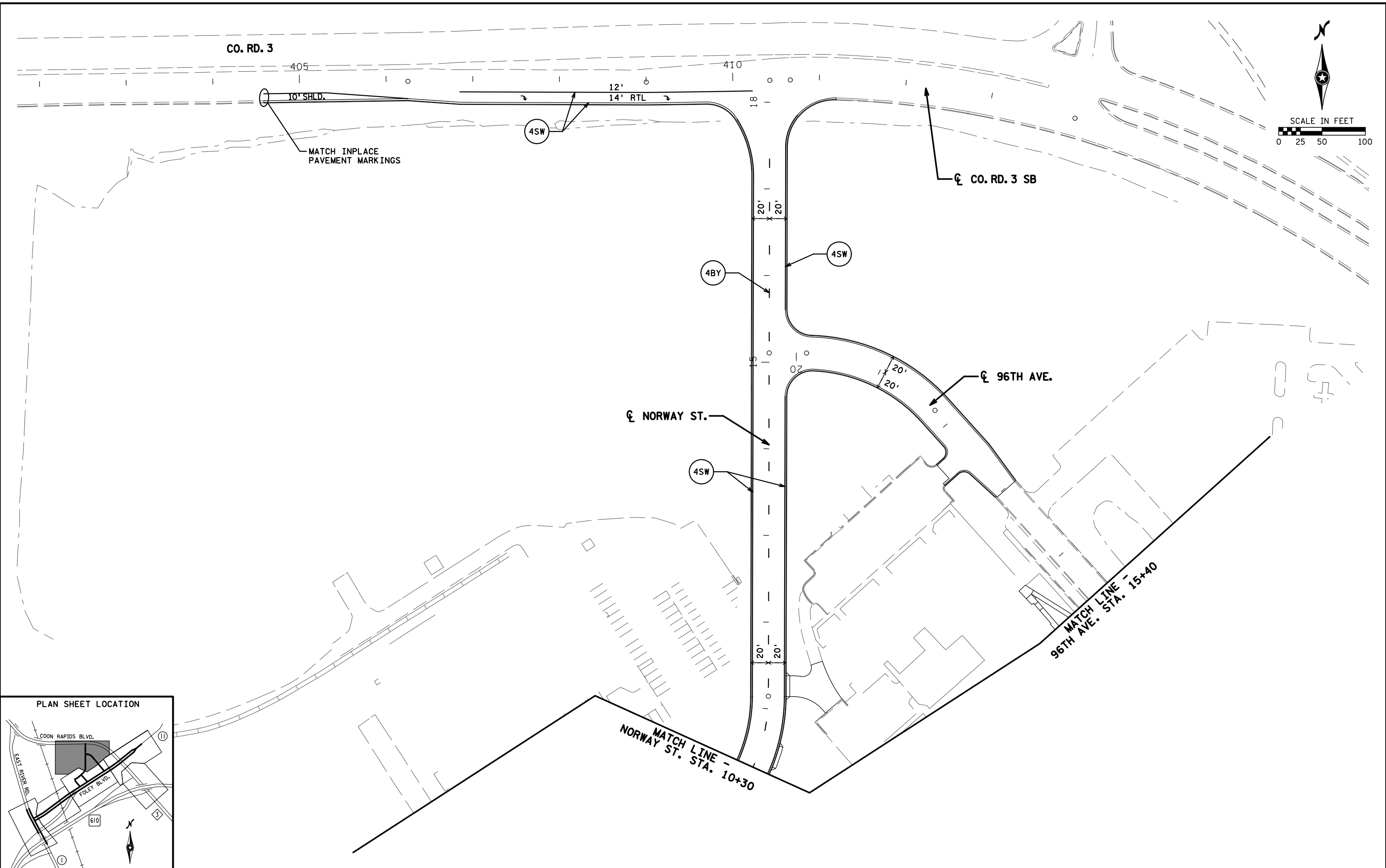
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



CO. RD. 3 STA. 300+00 TO STA. 304+50
 STATE PROJ. NO. 002-611-036

PAVEMENT MARKING PLAN
 SHEET NO. 364 OF 416 SHEETS

DATE: 11/25/2020 TIME: 9:28:36 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: NJZ
 DRW: NJZ
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

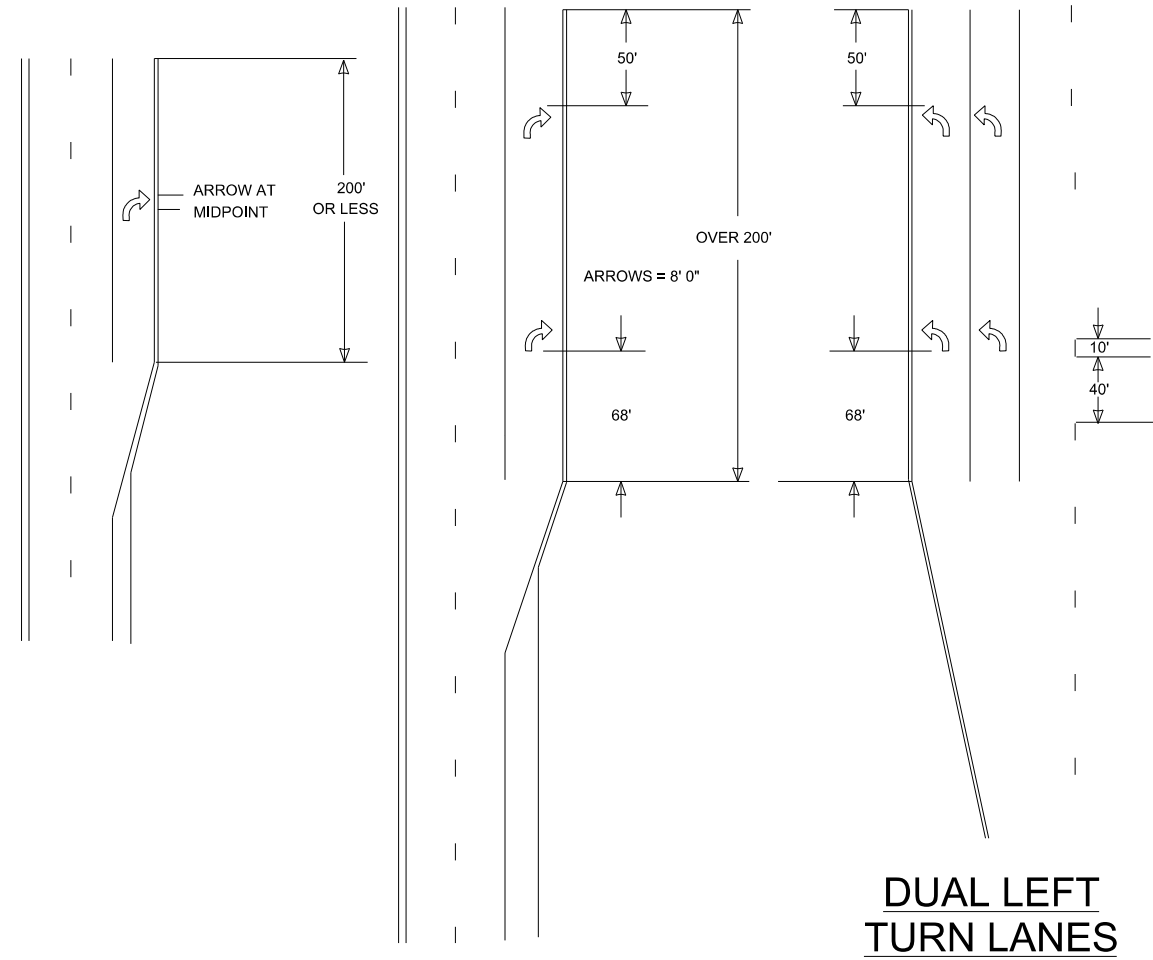


NORWAY ST STA. 10+30 TO STA. 18+24.35
 STATE PROJ. NO. 002-611-036

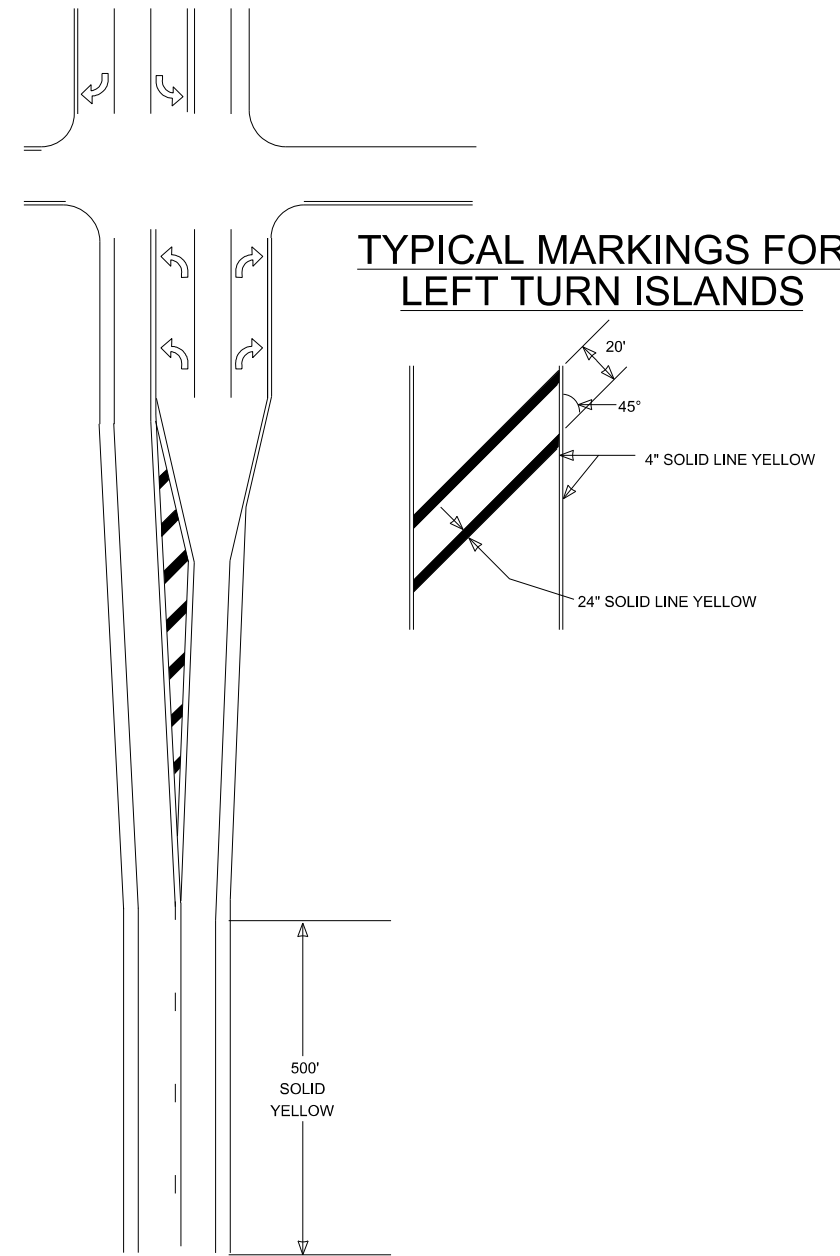
PAVEMENT MARKING PLAN
 SHEET NO. 365 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:45:46 AM
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TYPICAL MESSAGE PLACEMENT FOR TURN LANES



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



NO.	DATE	BY	DESCRIPTION OF REVISIONS

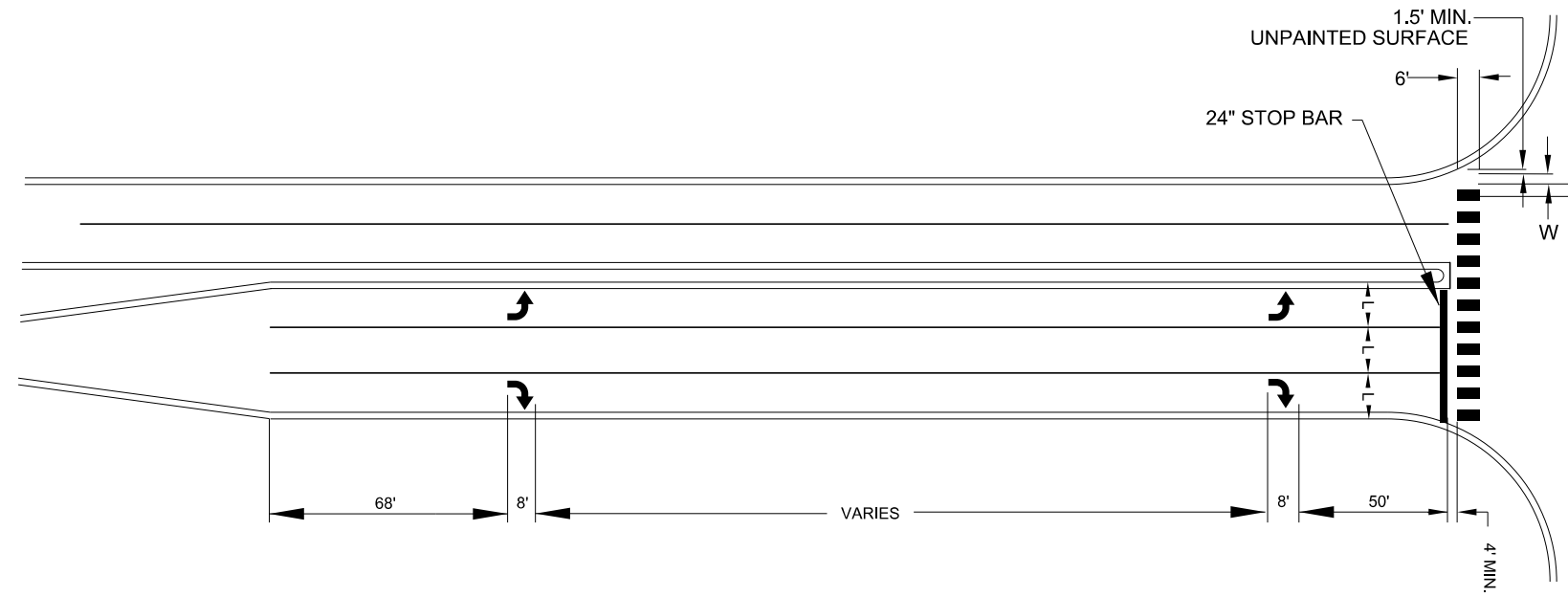
DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN
DRW: NJZ	
CHK: JAH	



DETAILS
STATE PROJ. NO. 002-611-036

PAVEMENT MARKING PLAN
SHEET NO. 366 OF 416 SHEETS

MARKINGS FOR PEDESTRIAN CROSSWALKS



(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

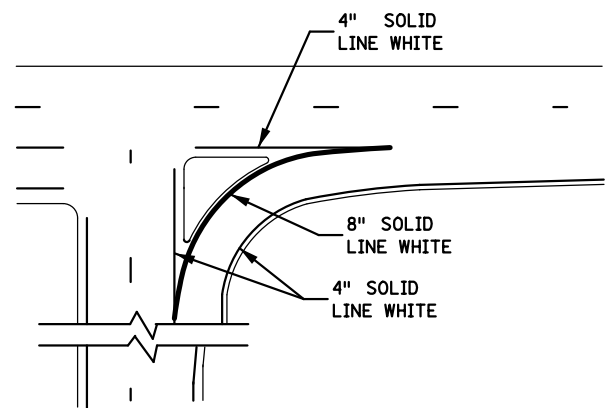
NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.

DATE: 12/14/2020 TIME: 12:25:58 PM FILENAME: pw:\tkda-pw-bentley.com\fkda-pw-ON Documents\Projects\AnokaCounty\7030000\04_Production\01_CAD\Highway\Sheets\cd00261036_pml.dgn

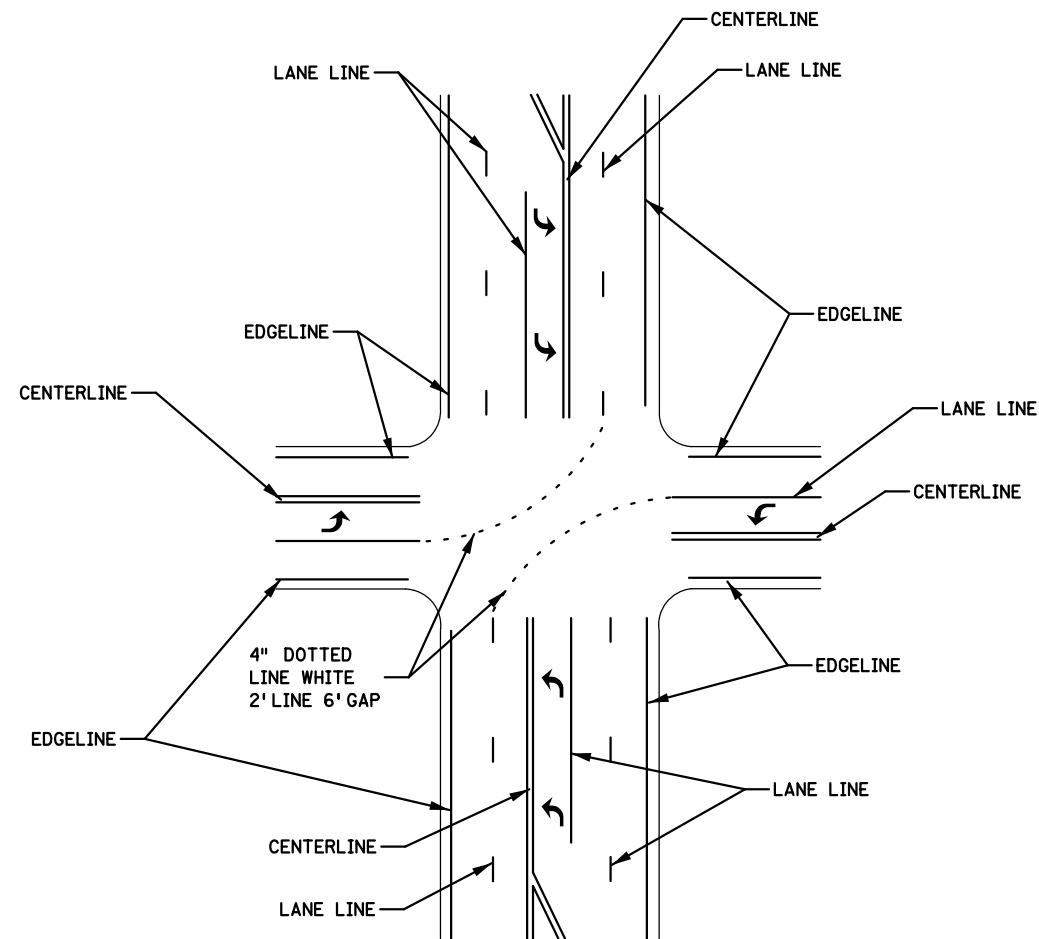
DATE: 11/25/2020 TIME: 7:46:42 AM
 FILENAME: c:\tkda\project\wise\m.vangstad\dms01247\cd00261036_pmj.dgn

FREE RIGHT MERGE/YIELD CONDITION



PUBLISHED BY OTE: 20 NOV 2015 MODIFIED:

LINE EXTENSIONS THRU INTERSECTIONS



PUBLISHED BY OTE: 17 MAY 2016 MODIFIED:

				DES: NJZ	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020 JEFFREY A. HILDEN		DETAILS	PAVEMENT MARKING PLAN
				DRW: NJZ			STATE PROJ. NO. 002-611-036	SHEET NO. 368 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH				

DATE: 12/14/2020 TIME: 12:38:54 PM
FILENAME: c:\kda\proj\tech\ise\hmv\angstad\dms01247\cd00261036_1a.dgn

FEED POINTS A, B, & D LIGHT STANDARDS AND FOUNDATIONS					
NO.	ALIGNMENT	STA.	LOCATION	TYPE	LUMINAIRE(S)
A1	CSAH 1 SB	68+43	40' LT	9-40	1
A2	CSAH 1 NB	39+74	40' RT	9-40	1
A3	93RD AVE.	39+03	60' RT	20' MH	1
B1	CSAH 11 WB	208+01	8' LT	UNDERPASS LED	1
B2	CSAH 11 EB	107+83	16' RT	UNDERPASS LED	1
B3	CSAH 11 WB	209+05	8' LT	UNDERPASS LED	1
B4	CSAH 11 EB	108+86	16' RT	UNDERPASS LED	1
B5	CSAH 11 WB	210+17	8' LT	UNDERPASS LED	1
B6	CSAH 11 EB	109+92	16' RT	UNDERPASS LED	1
B7	CSAH 11 WB	218+51	41' LT	9-40	1
B8	CSAH 11 WB	224+10	23' LT	9-40	1
B9	NORWAY ST.	8+23	26' RT	20' MH	1
B10	NORWAY ST.	6+73	26' RT	20' MH	1
D1	CO. RD. 3 SB	409+69	31' RT	9-40	1
D2	NORWAY ST.	15+44	28' LT	20' MH	1

FEED POINT T LIGHT STANDARDS AND FOUNDATIONS					
NO.	ALIGNMENT	STA.	LOCATION	TYPE	LUMINAIRE(S)
T1	PARK AND RIDE			1X-30	1 - PARKING LOT
T2	PARK AND RIDE			1DX-30	2 - PARKING LOT
T3	PARK AND RIDE			1X-30	1 - PARKING LOT
T4	PARK AND RIDE			1DX-30	2 - PARKING LOT
T5	PARK AND RIDE			1X-30	1 - PARKING LOT
T6	PARK AND RIDE			1DX-30	2 - PARKING LOT
T7	PARK AND RIDE			1DX-30	2 - PARKING LOT
T8	PARK AND RIDE			1DX-30	2 - PARKING LOT
T9	PARK AND RIDE			1DX-30	2 - PARKING LOT
T10	PARK AND RIDE			1DX-30	2 - PARKING LOT

LIGHTING				TAB R
ITEM	UNIT	TOTALS	(C)	(D)
REMOVE LIGHTING UNIT	EACH	14	14	
REMOVE LIGHT FOUNDATION	EACH	14	14	
(4) SALVAGE LUMINAIRE	EACH	10	10	
REMOVE UNDERGROUND WIRE	LIN FT	1800	1800	
REMOVE CONDUIT SYSTEM	LIN FT	1800	1800	
(1) LIGHTING UNIT TYPE SPECIAL 1	EACH	3		3
(2) LIGHTING UNIT TYPE SPECIAL 2	EACH	7	7	
(3) LIGHTING UNIT TYPE 1X-30	EACH	3	3	
LIGHTING UNIT TYPE 9-40	EACH	3	2	1
UNDERPASS LUMINAIRES TYPE LED	EACH	6	6	
LIGHT FOUNDATION DESIGN E	EACH	3	3	
LIGHT FOUNDATION DESIGN SPECIAL	EACH	10	10	
SERVICE CABINET-TYPE L1	EACH	1	1	
SERVICE CABINET-TYPE RLF	EACH	2	2	
HANDHOLE	EACH	4	4	
1" RIGID STEEL CONDUIT	LIN FT	740	740	
2" RIGID STEEL CONDUIT	LIN FT	515	515	
1.25" NON-METALLIC CONDUIT	LIN FT	2000	2000	
2" NON-METALLIC CONDUIT	LIN FT	260	260	
2" NON-METALLIC CONDUIT (DIRECTIONAL BORE)	LIN FT	100	100	
UNDERGROUND WIRE 1/C 2 AWG	LIN FT	515	515	
UNDERGROUND WIRE 1/C 8 AWG	LIN FT	6000	6000	
DIRECT BURIED LIGHTING CABLE 4/C 4 AWG	LIN FT	2067	1384	683

NOTES:

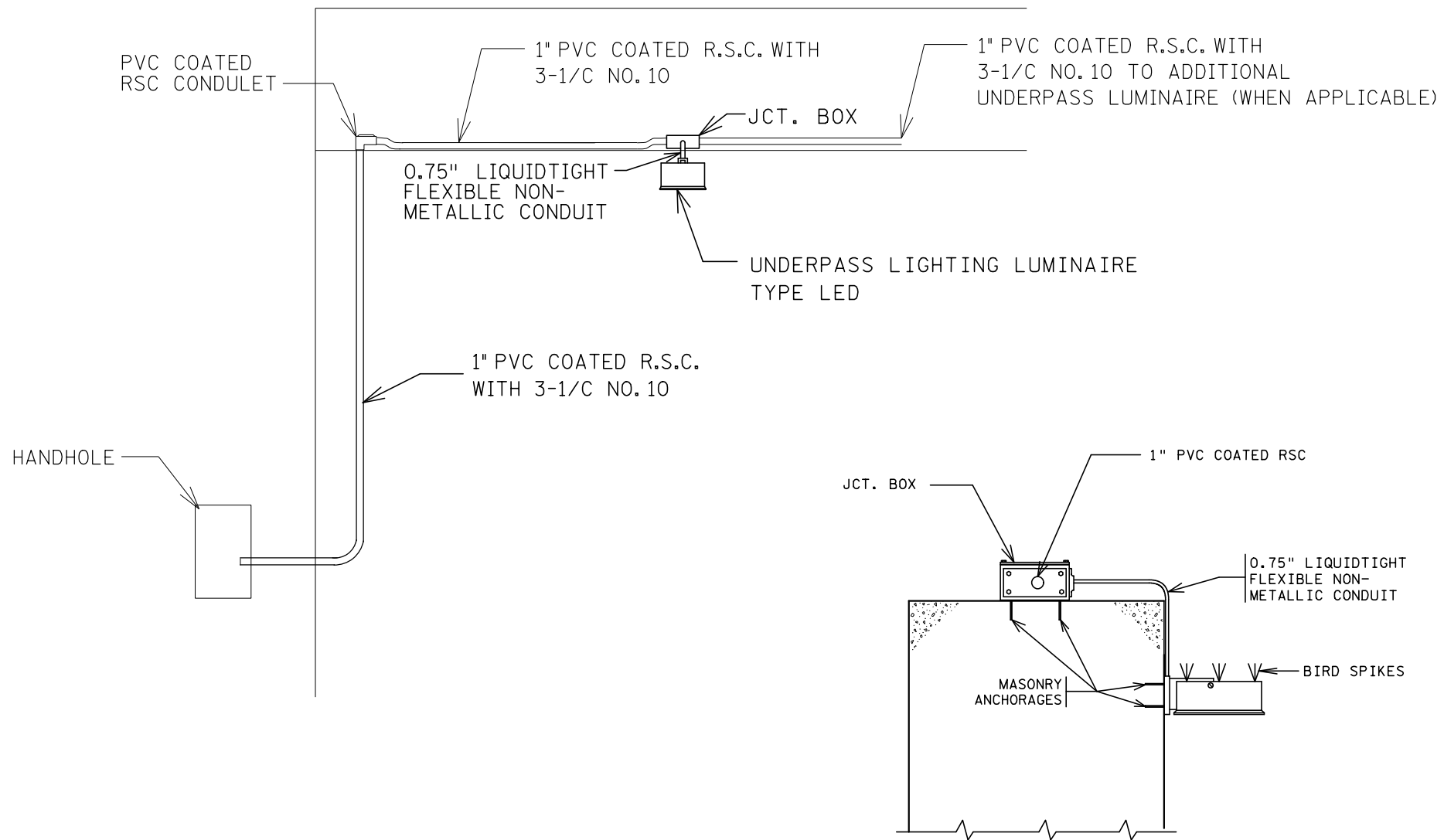
- (1) CITY 20' MOUNTING HEIGHT.
- (2) METRO TRANSIT PARK AND RIDE LIGHTING UNIT DOUBLE LUMINAIRE (TYPE 1DX-30).
- (3) METRO TRANSIT PARK AND RIDE LIGHTING UNIT SINGLE LUMINAIRE.
- (4) SALVAGE 10 METRO TRANSIT LED LUMINAIRES, STORE ON SITE AND NOTIFY METRO TRANSIT STAFF TO PICK UP.

COST PARTICIPATION NOTES:

- (C) 100% CITY OF COON RAPIDS S.P. 114-020-055 FUNDS.
- (D) 50% ANOKA COUNTY LOCAL FUND , 50% CITY OF COON RAPIDS LOCAL FUNDS.

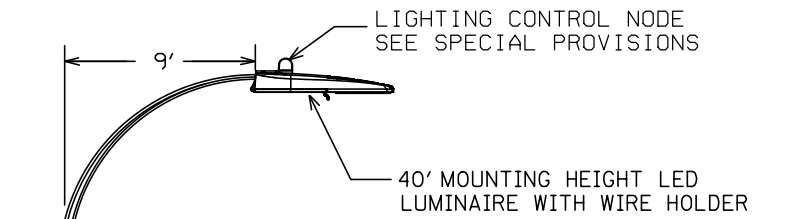


DATE: 11/25/2020 TIME: 7:47:30 AM
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1. THE JUNCTION BOXES SHALL BE 8-1/2" L. X 8-1/2" W. X 4" D. WITH REMOVABLE HUB PLATES AND MOUNTING LUGS.
2. FASTEN RIGID STEEL CONDUIT WITH CABLE CLAMPS ABOUT 5'-0" ON CENTER.
3. FASTEN CLAMPS AND JUNCTION BOXES TO CONCRETE WITH MASONRY ANCHORAGES OR POWER ACTUATED STUDS.

TYPICAL UNDERPASS DETAIL AT ABUTMENT



RADIUS CHART (ENGLISH)

MAST ARM LENGTH	RADIUS
6	5
9	8
12	10

LUMINAIRES
120-240 VOLT

- STAINLESS STEEL HIGH BASE
- ALUMINUM TRANSFORMER BASE
- LIGHT FOUNDATION DESIGN E STANDARD PLATE 8127

LIGHTING UNIT TYPE 9-40
(BREAKAWAY)

LIGHT FOUNDATIONS SHALL BE PLACED IN ACCORDANCE WITH 2545.3F2.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

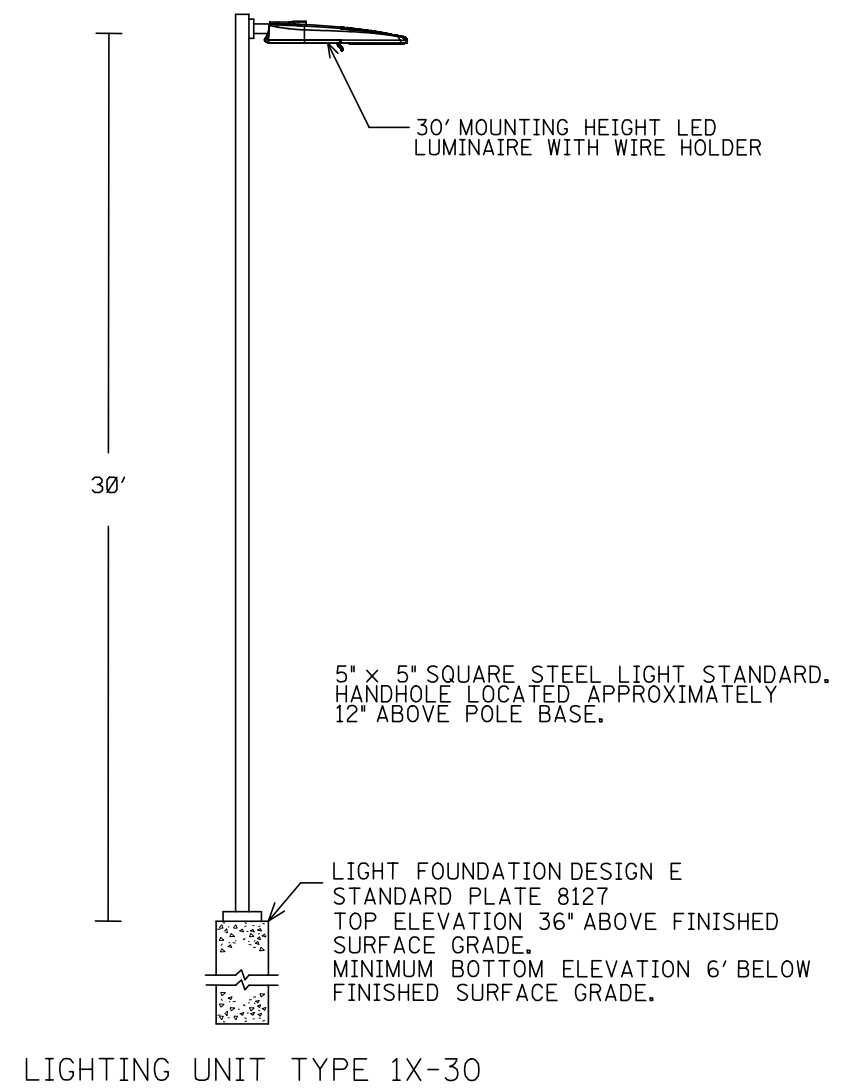
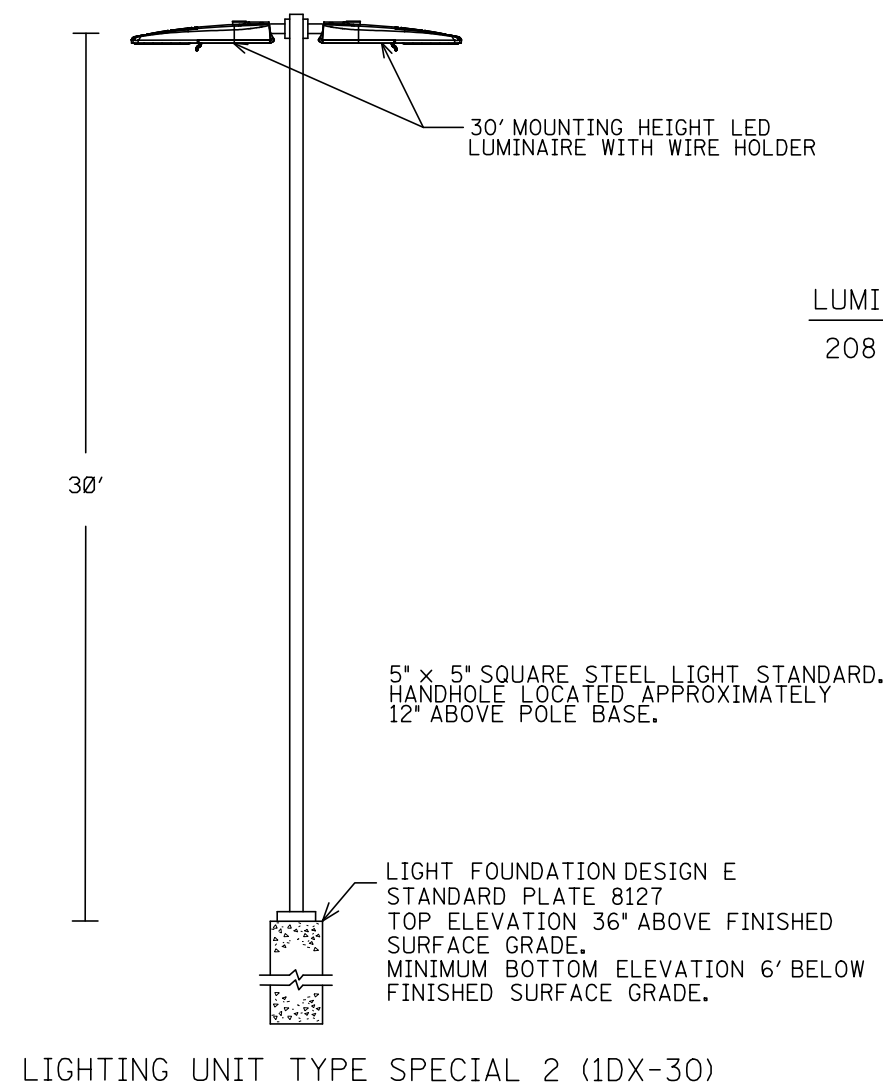
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020



JEFFREY A. HILDEN



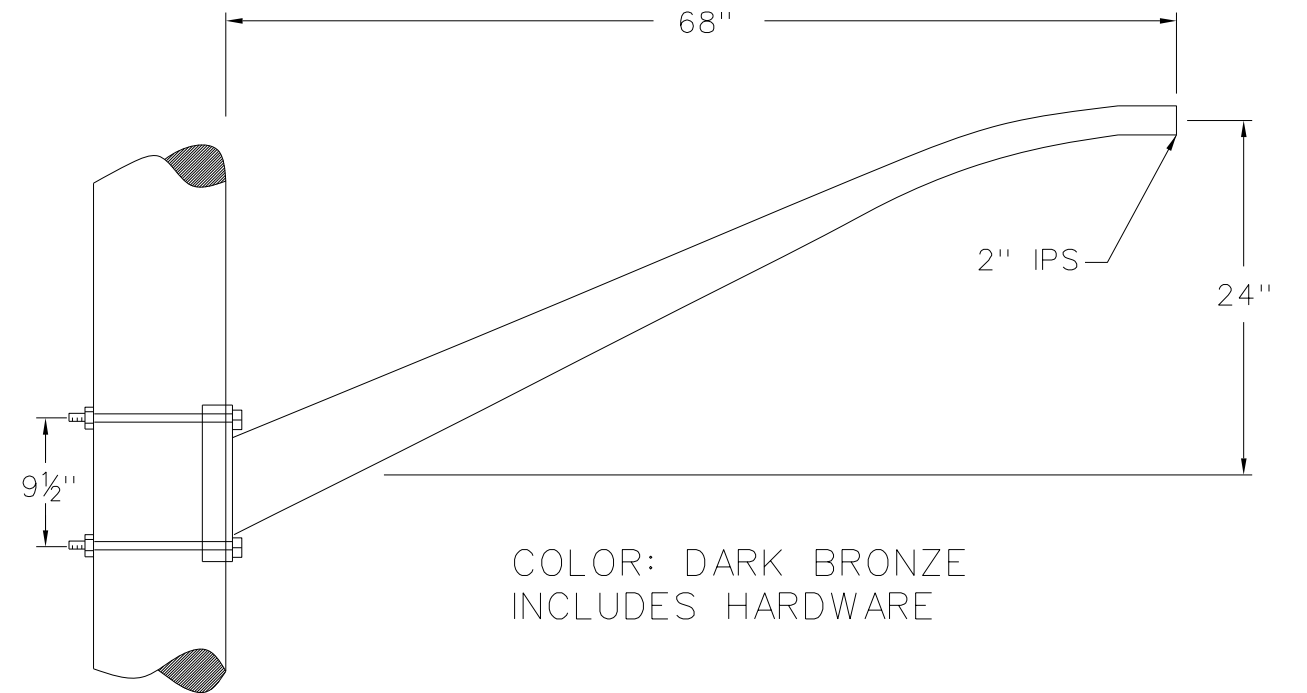
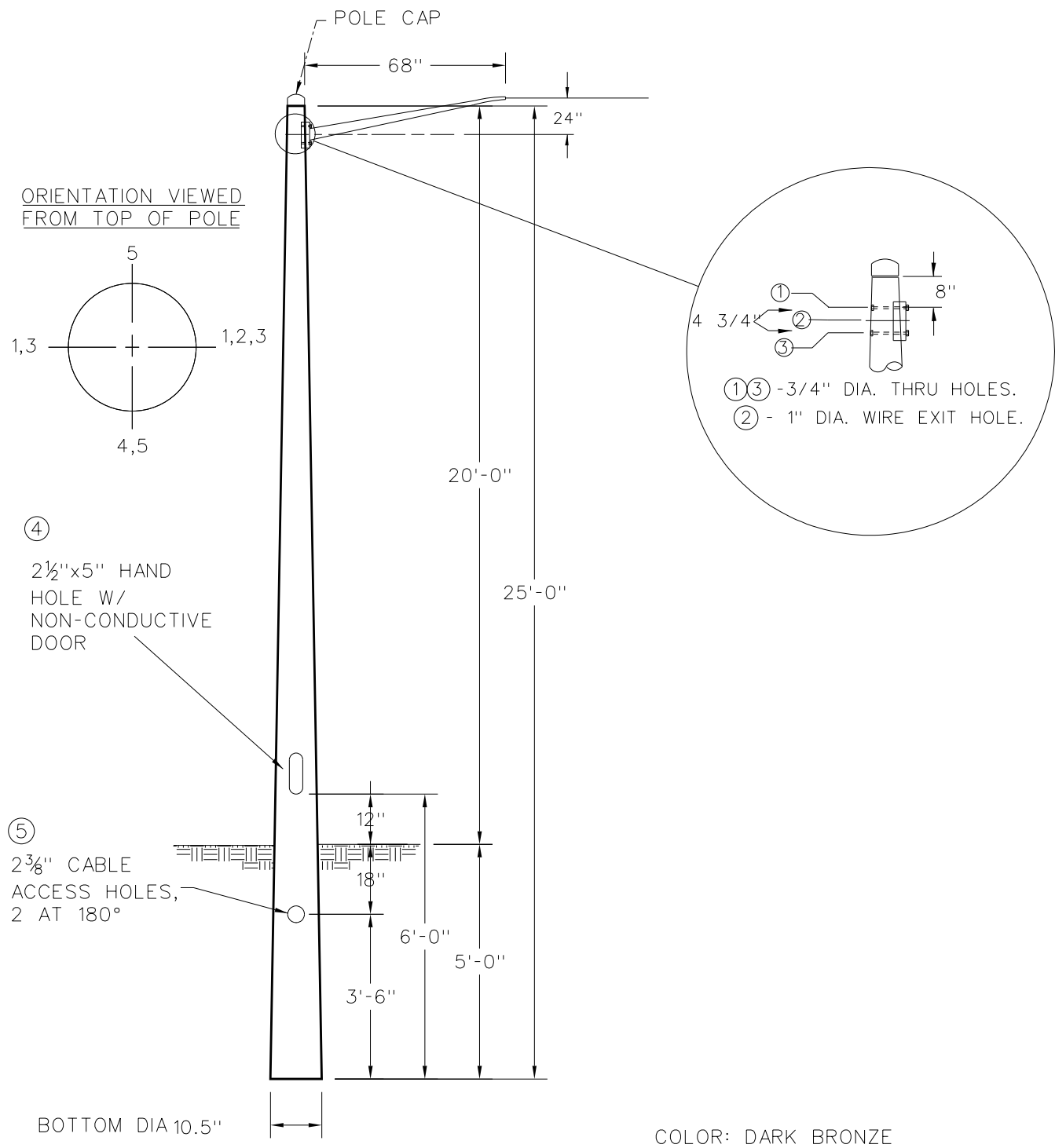
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LIGHT FOUNDATIONS SHALL BE PLACED IN ACCORDANCE WITH 2545.3F2.

				DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DETAILS		LIGHTING PLANS				
				DRW: RRC			SIGNATURE: 	LIC. NO. 20781	DATE: 11/25/2020	STATE PROJ. NO. 002-611-036		SHEET NO. 371 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH									

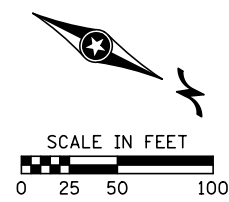
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- NOTES:
- ARM MADE OF 6063-T6-T4 ALUMINUM
 - WELDS ARE MIG ARGON SHIELDED

CMT 145 Wood Street Estill, SC 29918 800-416-4276 www.cmtpoles.com		COON RAPIDS	
CAT. NO.: MB25-F-50-S6-2-HS-PC		SPECS:	
QUANTITY:	JOB NUMBER:	TOT. LENGTH: 25'-0"	WIND VEL.: 100 @ 1.3
PO. NUMBER:		EMBED. DEPTH: 5'-0"	LUM. WEIGHT: 50 lbs.
REV.	DATE	BY	REMARKS
			TIP DIA: 5.12 "
			WEIGHT: 113 lbs.
			STATIC DEFL.:
			TOTAL DEFL.:
			DATE: 08/10/2020

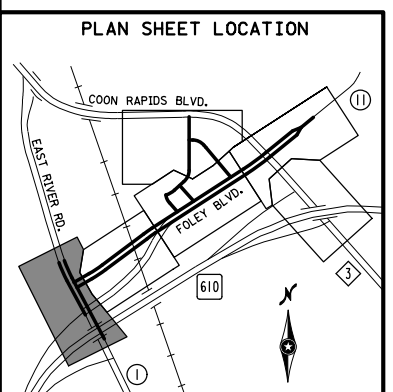
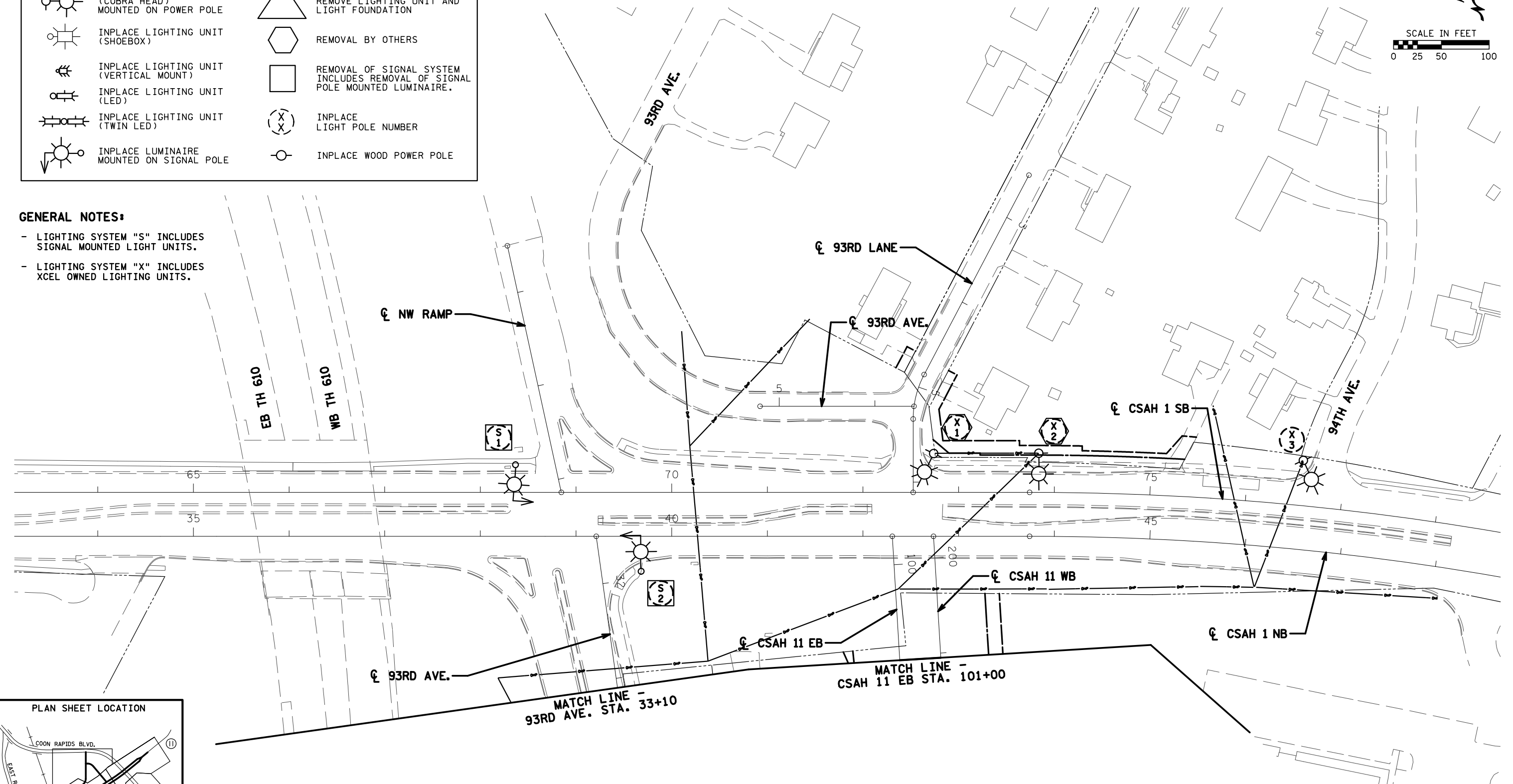
CMT 145 Wood Street Estill, SC 29918 800-416-4276 www.cmtpoles.com		COON RAPIDS	
CAT. NO.: S6-02		SPECS:	
QUANTITY:	JOB NUMBER:	TOT. LENGTH: N/A	WIND VEL.: N/A
PO#:	REF#:	EMBED. DEPTH: N/A	LUM. WEIGHT: N/A
REV.	DATE	BY	REMARKS
			TIP DIA: N/A
			EPA: 1.6
			STATIC DEFL.: N/A
			TOTAL DEFL.: N/A
			DATE: 08/10/2020



LEGEND	
	INPLACE LIGHTING UNIT (COBRA HEAD) MOUNTED ON POWER POLE
	INPLACE LIGHTING UNIT (SHOEBOX)
	INPLACE LIGHTING UNIT (VERTICAL MOUNT)
	INPLACE LIGHTING UNIT (LED)
	INPLACE LIGHTING UNIT (TWIN LED)
	INPLACE LUMINAIRE MOUNTED ON SIGNAL POLE
	REMOVE LIGHTING UNIT AND LIGHT FOUNDATION
	REMOVAL BY OTHERS
	REMOVAL OF SIGNAL SYSTEM INCLUDES REMOVAL OF SIGNAL POLE MOUNTED LUMINAIRE.
	INPLACE LIGHT POLE NUMBER
	INPLACE WOOD POWER POLE

GENERAL NOTES:

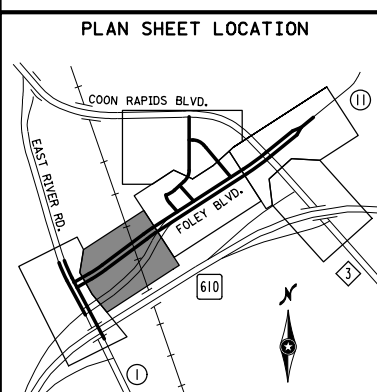
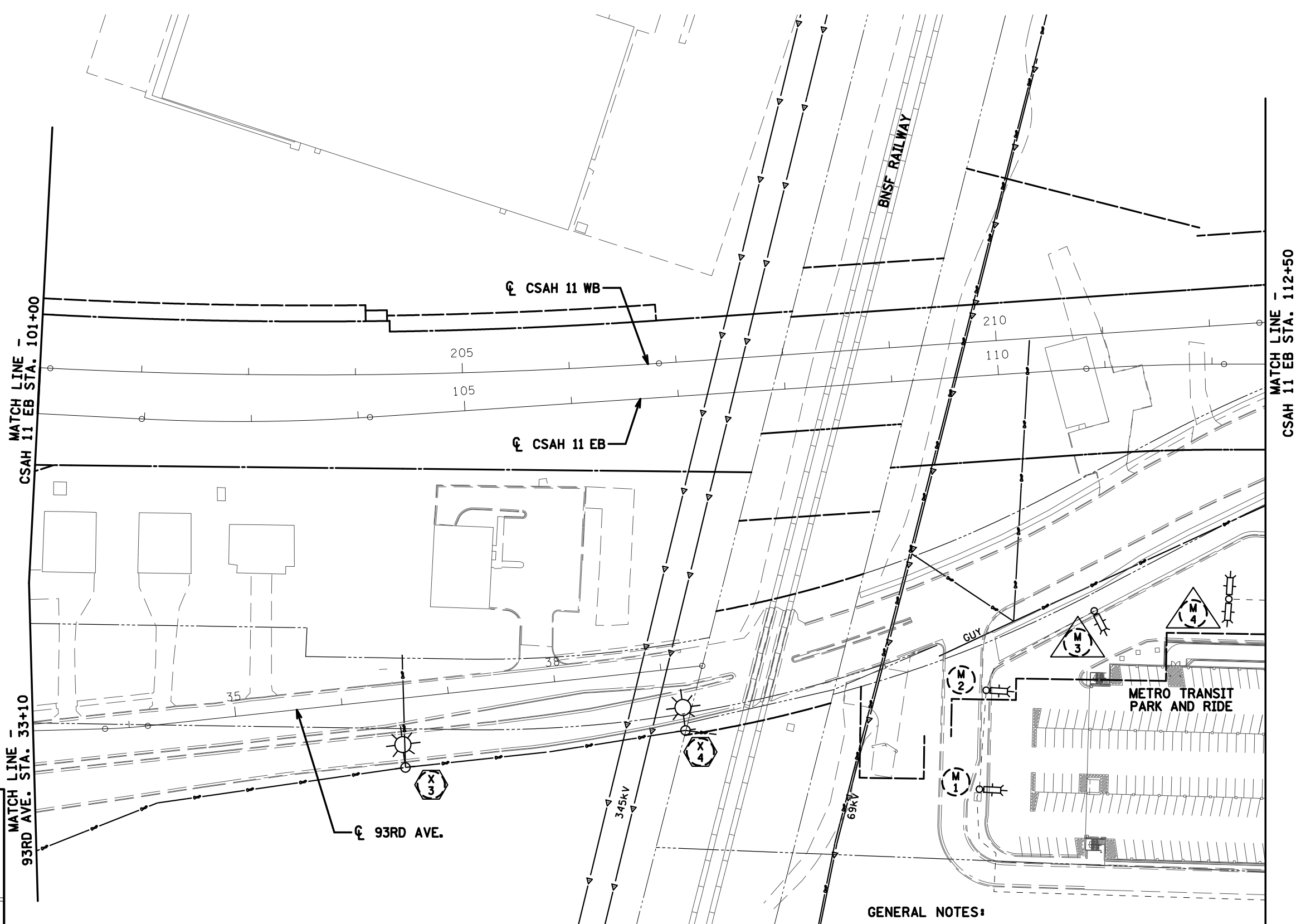
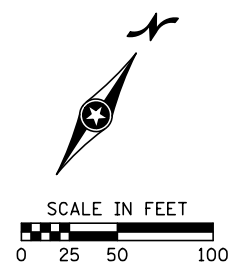
- LIGHTING SYSTEM "S" INCLUDES SIGNAL MOUNTED LIGHT UNITS.
- LIGHTING SYSTEM "X" INCLUDES XCEL OWNED LIGHTING UNITS.



DATE: 11/25/2020 TIME: 7:49:57 AM
 FILENAME: c:\nkda\proj\tech\wise\m.vangstad\dms01247\cd00261036_11e.dgn

			DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020		INPLACE	LIGHTING PLANS SHEET NO. 373 OF 416 SHEETS
			DRW: RRC			CSAH 1 NB STA. 34+69.98 TO STA. 47+21.35	
			CHK: JAH			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS				

DATE: 11/25/2020 TIME: 7:50:35 AM
 FILENAME: c:\tkda\proj\cthw\se\fm\vangstad\dms01247\cd00261036_lif.dgn



- GENERAL NOTES:**
- LIGHTING SYSTEM "X" INCLUDES XCEL OWNED LIGHTING UNITS.
 - LIGHTING SYSTEM "M" INCLUDES METRO TRANSIT OWNED LIGHTING UNITS.
 - SALVAGE 10 METRO TRANSIT LED LUMINAIRES, STORE ON SITE AND NOTIFY METRO TRANSIT STAFF TO PICK UP.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

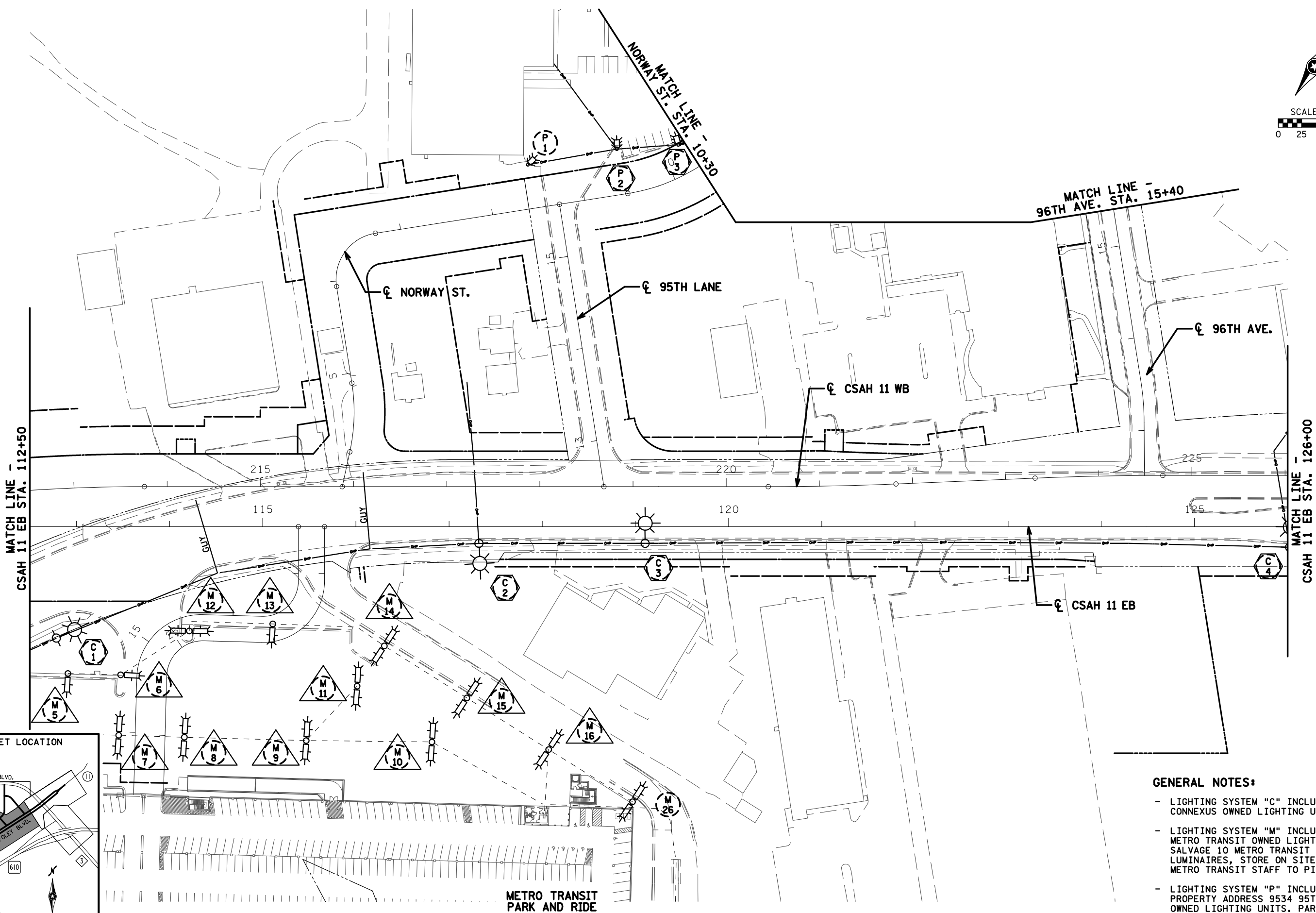
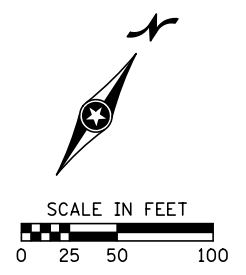
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



INPLACE
 CSAH 11 EB STA. 101+00 TO STA. 112+50
 STATE PROJ. NO. 002-611-036

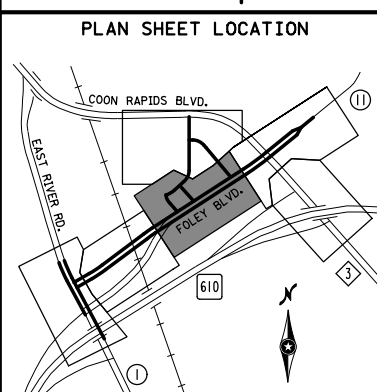
LIGHTING PLANS
 SHEET NO. 374 OF 416 SHEETS



MATCH LINE -
CSAH 11 EB STA. 112+50

MATCH LINE -
96TH AVE. STA. 15+40

MATCH LINE -
CSAH 11 EB STA. 126+00



- GENERAL NOTES:**
- LIGHTING SYSTEM "C" INCLUDES CONNEXUS OWNED LIGHTING UNITS.
 - LIGHTING SYSTEM "M" INCLUDES METRO TRANSIT OWNED LIGHTING UNITS. SALVAGE 10 METRO TRANSIT LED LUMINAIRES, STORE ON SITE AND NOTIFY METRO TRANSIT STAFF TO PICK UP.
 - LIGHTING SYSTEM "P" INCLUDES PROPERTY ADDRESS 9534 95TH LANE OWNED LIGHTING UNITS. PARCEL #064.

**METRO TRANSIT
PARK AND RIDE**

DATE: 11/25/2020 TIME: 7:51:44 AM
FILENAME: c:\tkda\proj\cthw\se\fm\vangstad\dms01247\cd00261036_11g.dgn

DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020
CHK: JAH	JEFFREY A. HILDEN

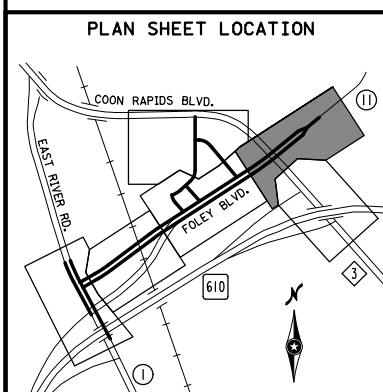
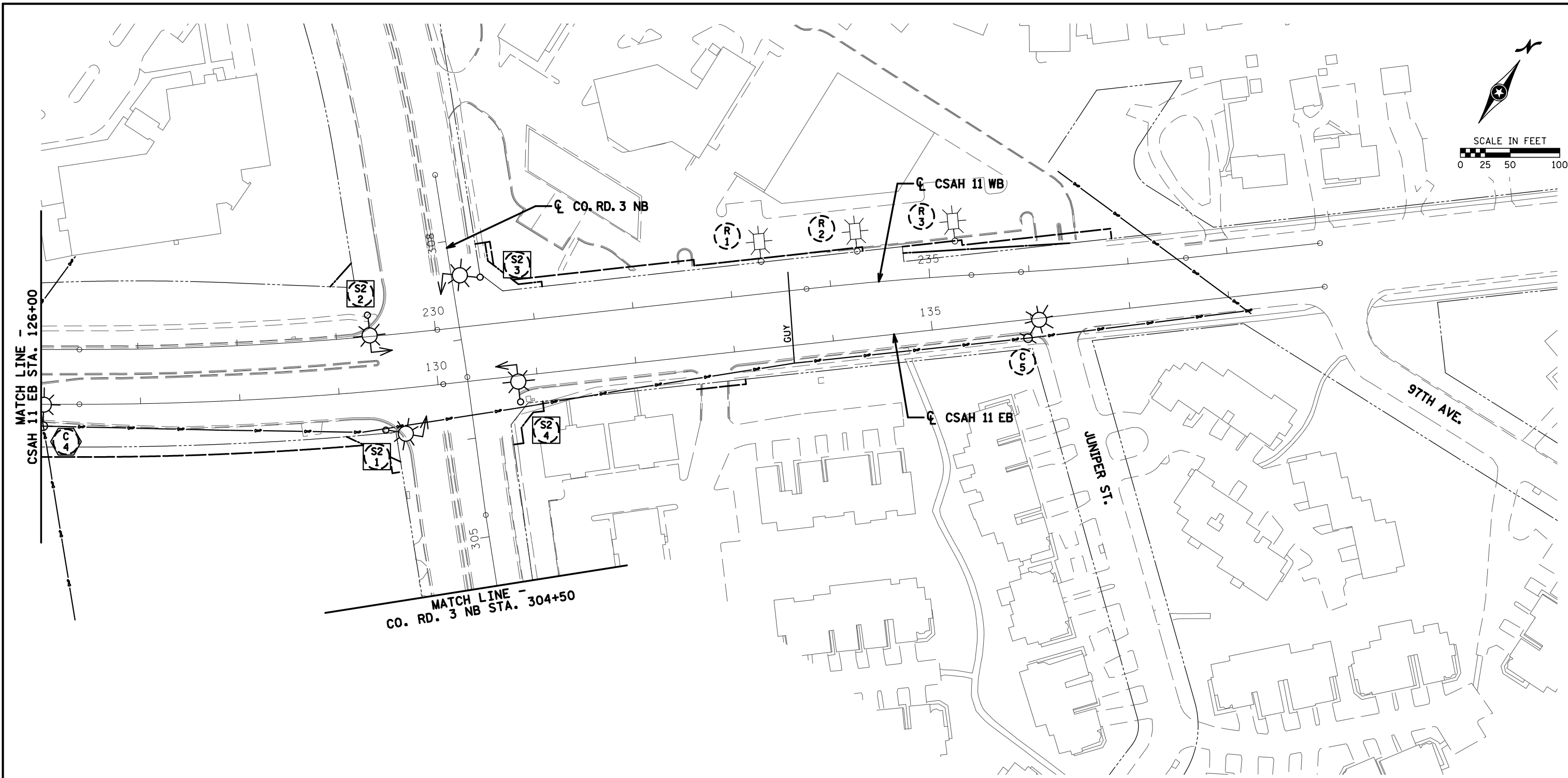


INPLACE
CSAH 11 EB STA. 112+50 TO STA. 126+00
STATE PROJ. NO. 002-611-036

LIGHTING PLANS
SHEET NO. 375 OF 416 SHEETS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/25/2020 TIME: 7:51:53 AM
 FILENAME: c:\nkda\proj\ctw\se\fm\vangstad\dms01247\cd00261036_11h.dgn



GENERAL NOTES:

- LIGHTING SYSTEM "S2" INCLUDES SIGNAL MOUNTED LIGHT UNITS.
- LIGHTING SYSTEM "C" INCLUDES CONNEXUS OWNED LIGHTING UNITS.
- LIGHTING SYSTEM "R" INCLUDES PRIVATELY OWNED LIGHTING UNITS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

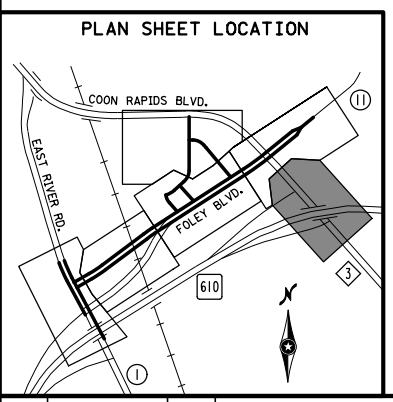
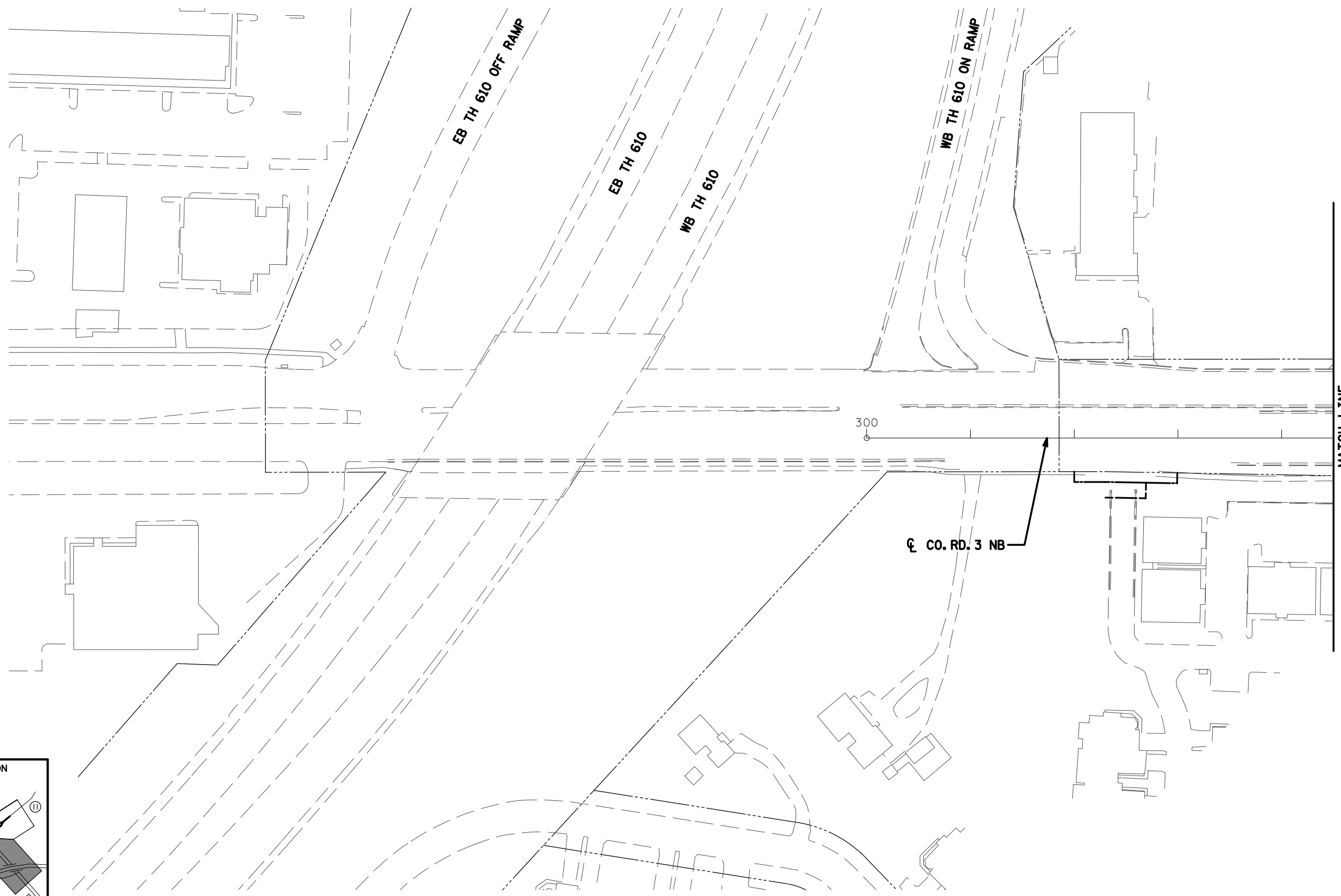
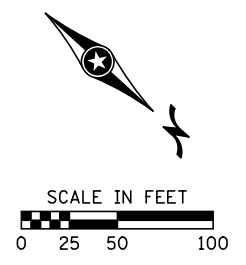
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



INPLACE
 CSAH 11 EB STA. 126+00 TO STA. 137+61.57
 STATE PROJ. NO. 002-611-036

LIGHTING PLANS
 SHEET NO. 376 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:52:00 AM
 FILENAME: c:\nkda\project\wise\m.vangstad\dms01247\cd00261036_111.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



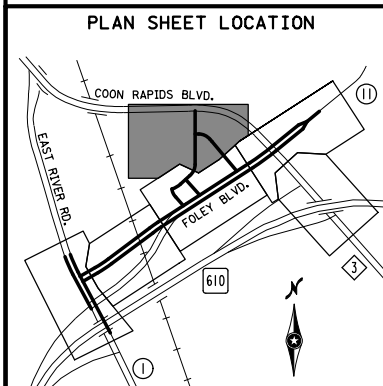
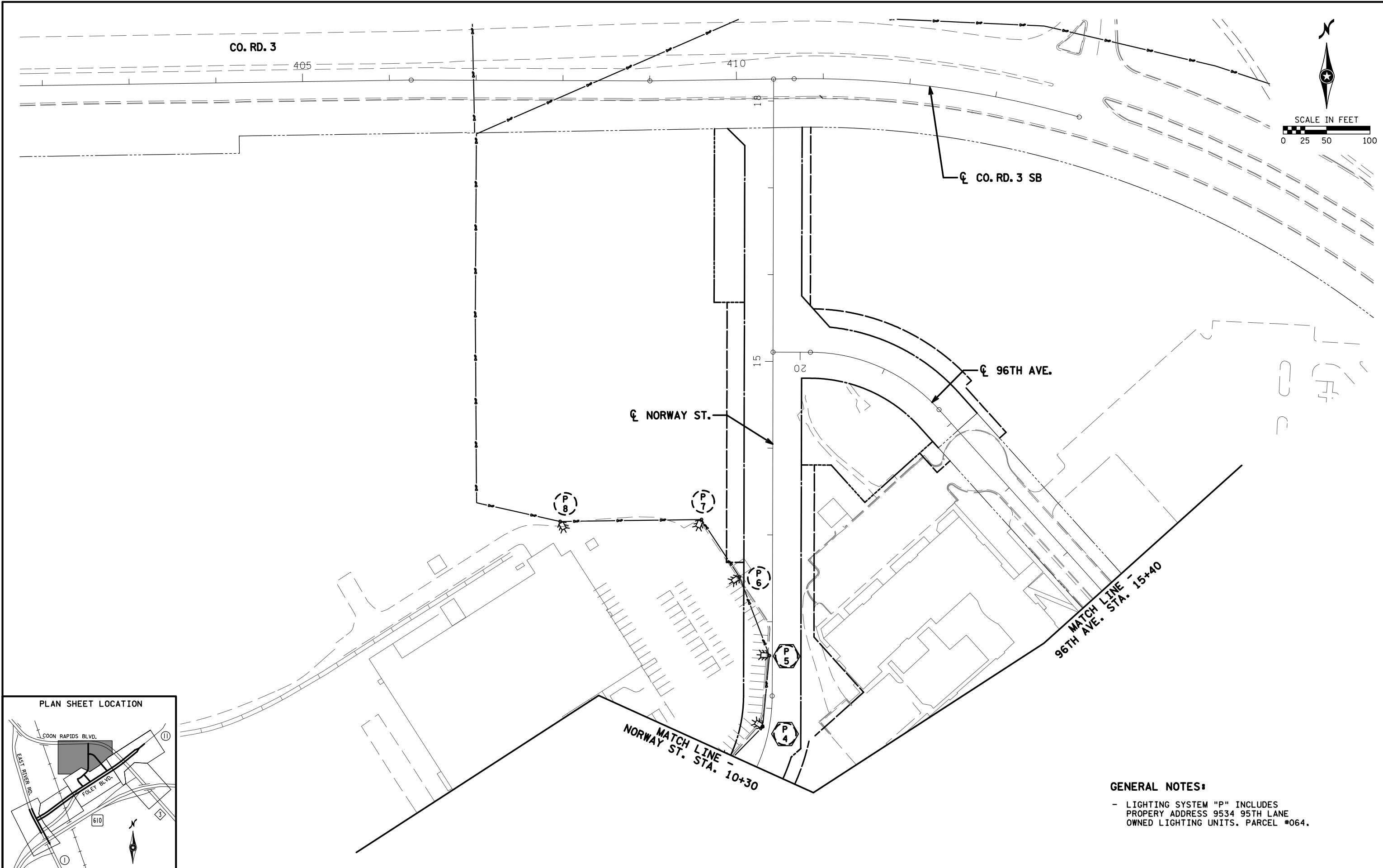
INPLACE
 CO. RD. 3 NB STA. 300+00 TO STA. 304+50

STATE PROJ. NO. 002-611-036

LIGHTING PLANS

SHEET NO. 377 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:52:07 AM
 FILENAME: c:\tkda\proj\ctw\se\fm\vangstad\dms01247\cd00261036_11.dgn



GENERAL NOTES:
 - LIGHTING SYSTEM "P" INCLUDES PROPERTY ADDRESS 9534 95TH LANE OWNED LIGHTING UNITS. PARCEL #064.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

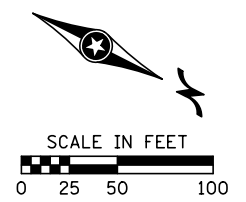
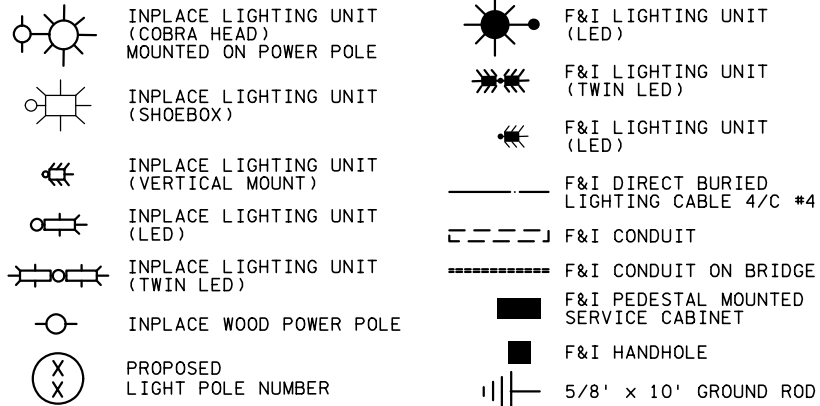
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



INPLACE
 NORWAY ST. STA. 10+30 TO STA. 18+24.35
 STATE PROJ. NO. 002-611-036

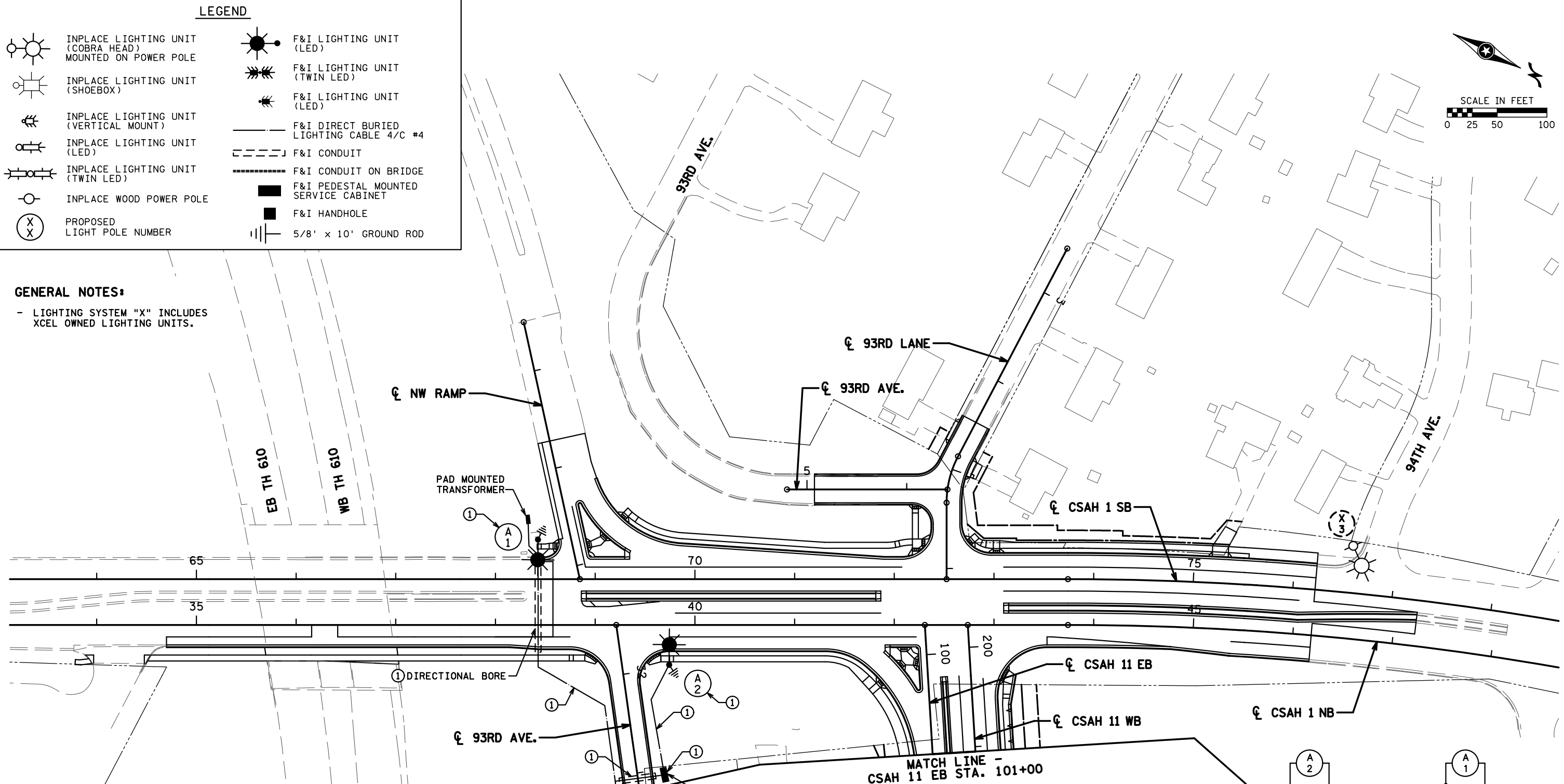
LIGHTING PLANS
 SHEET NO. 378 OF 416 SHEETS

LEGEND



GENERAL NOTES:

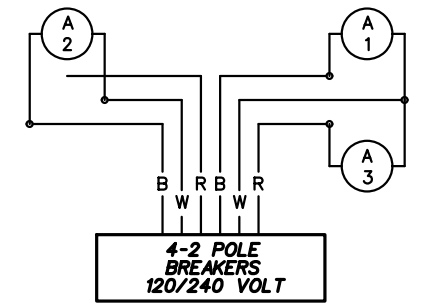
- LIGHTING SYSTEM "X" INCLUDES XCEL OWNED LIGHTING UNITS.



FD. PT. A
 PAD MOUNTED SERVICE CABINET
 TYPE RLF
 120/240 (METERED)
 EQUIPMENT PAD TYPE RLF REQUIRED
 2" R.S.C. 3-1/C #2 TO XCEL.
 PAD MOUNTED TRANSFORMER

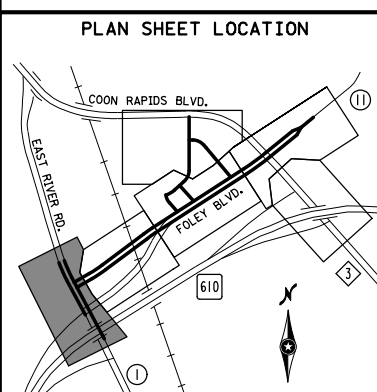
SPECIFIC NOTES:

① BY OTHERS.



FEEDPOINT A

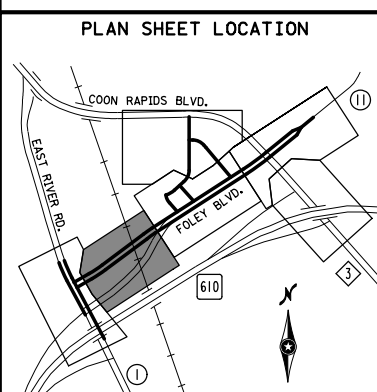
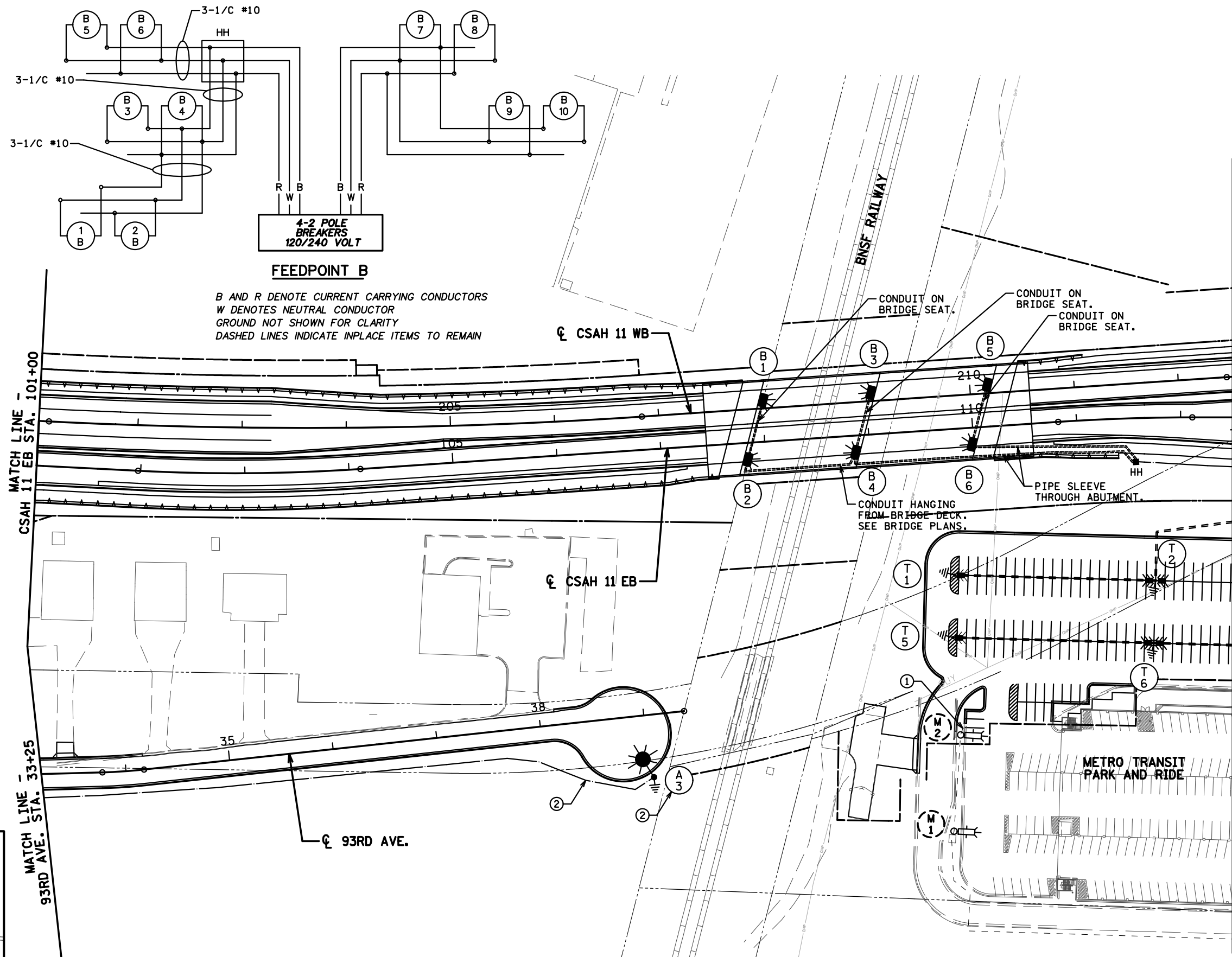
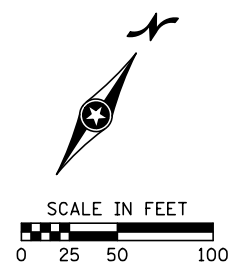
B AND R DENOTE CURRENT CARRYING CONDUCTORS
 W DENOTES NEUTRAL CONDUCTOR
 GROUND NOT SHOWN FOR CLARITY
 DASHED LINES INDICATE INPLACE ITEMS TO REMAIN



DATE: 11/25/2020 TIME: 7:52:16 AM FILENAME: c:\nkda\proj\tech\wise\hmv\vangstad\dms01247\cd00261036_11k.dgn

	DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	
	DRW: RRC	SIGNATURE:	PROPOSED CSAH 1 NB STA. 34+69.98 TO STA. 47+21.35
	CHK: JAH	LIC. NO. 20781 DATE: 11/25/2020	STATE PROJ. NO. 002-611-036
NO. DATE BY DESCRIPTION OF REVISIONS			LIGHTING PLANS SHEET NO. 379 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:52:23 AM
 FILENAME: c:\nkda\proj\cthw\se\fm\vangstad\dms01247\cd00261036_111.dgn



FEEDPOINT B
 B AND R DENOTE CURRENT CARRYING CONDUCTORS
 W DENOTES NEUTRAL CONDUCTOR
 GROUND NOT SHOWN FOR CLARITY
 DASHED LINES INDICATE INPLACE ITEMS TO REMAIN

- SPECIFIC NOTES:**
- ① CAP EXISTING CONDUIT.
 - ② BY OTHERS.

GENERAL NOTES:

- LIGHTING SYSTEM "M" AND "T" INCLUDES METRO TRANSIT OWNED LIGHTING UNITS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

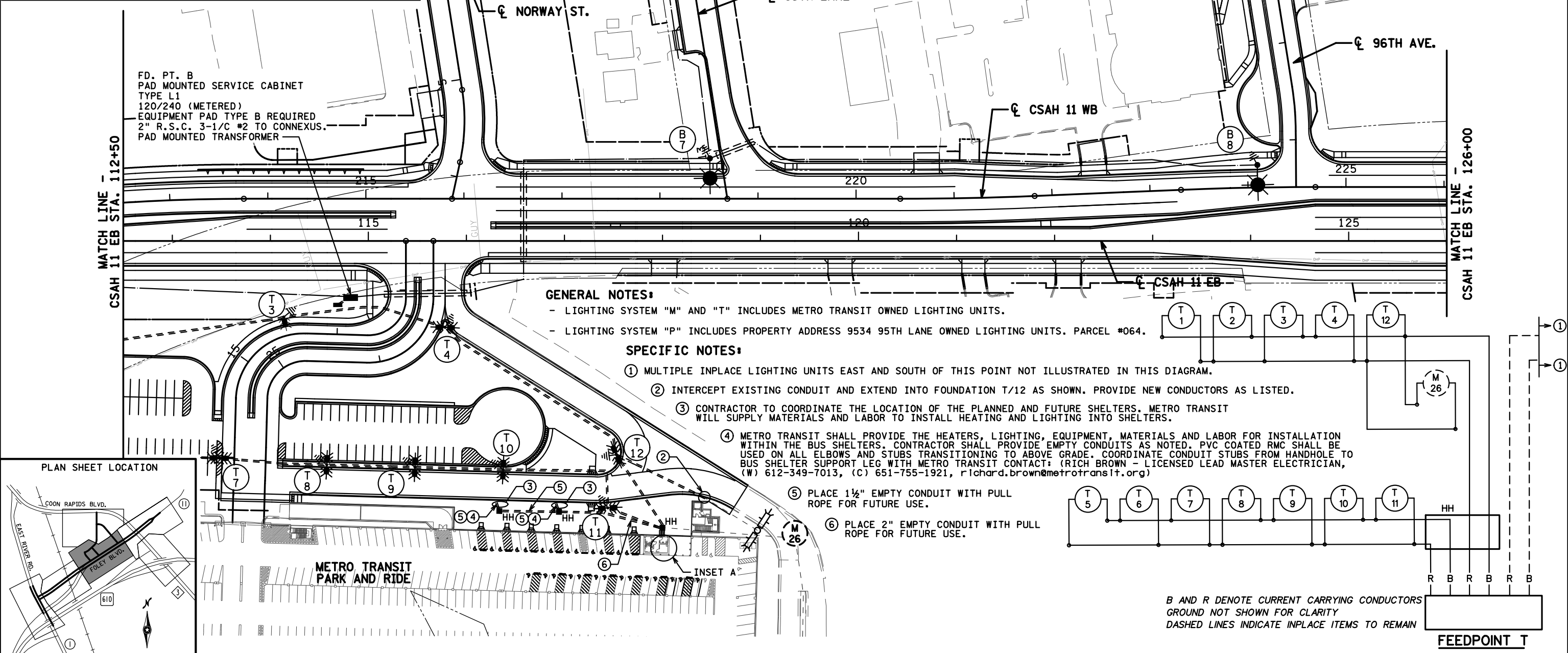
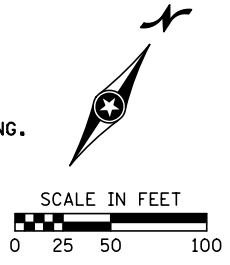
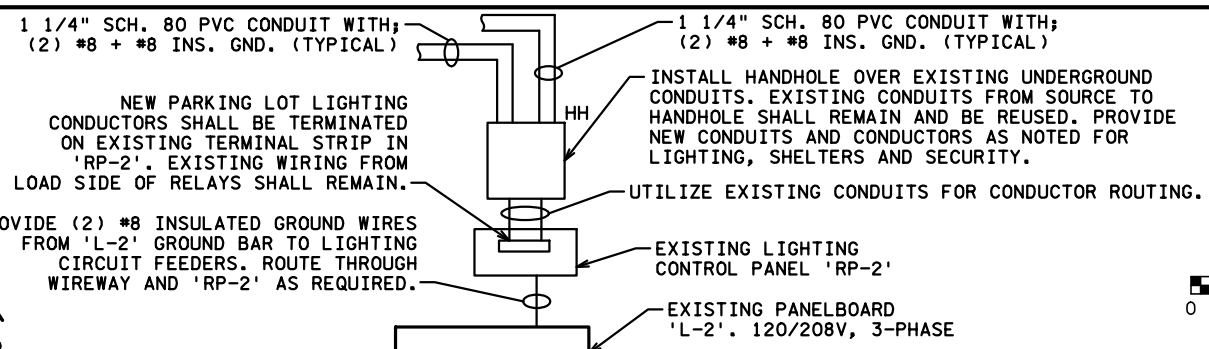
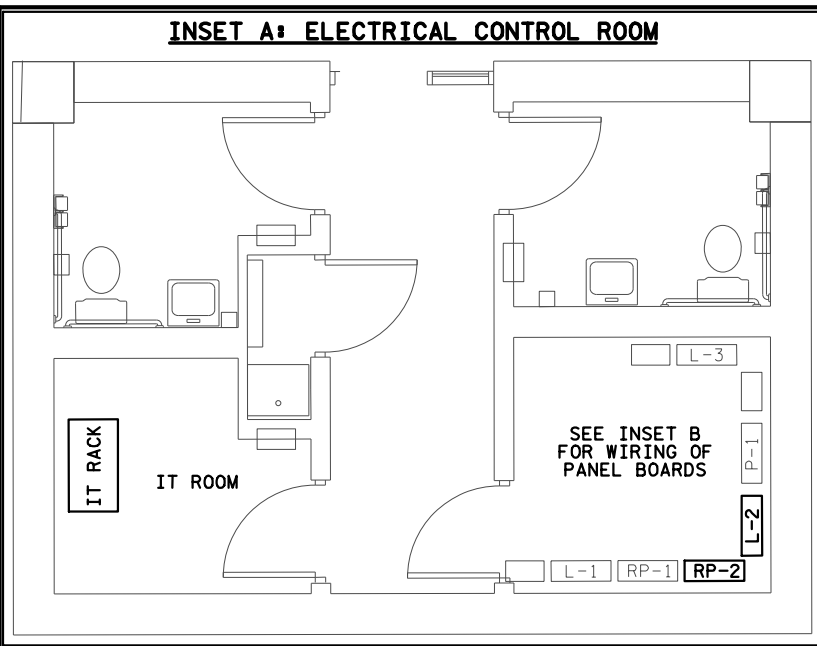
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



PROPOSED
 CSAH 11 EB STA. 101+00 TO STA. 112+50
 STATE PROJ. NO. 002-611-036

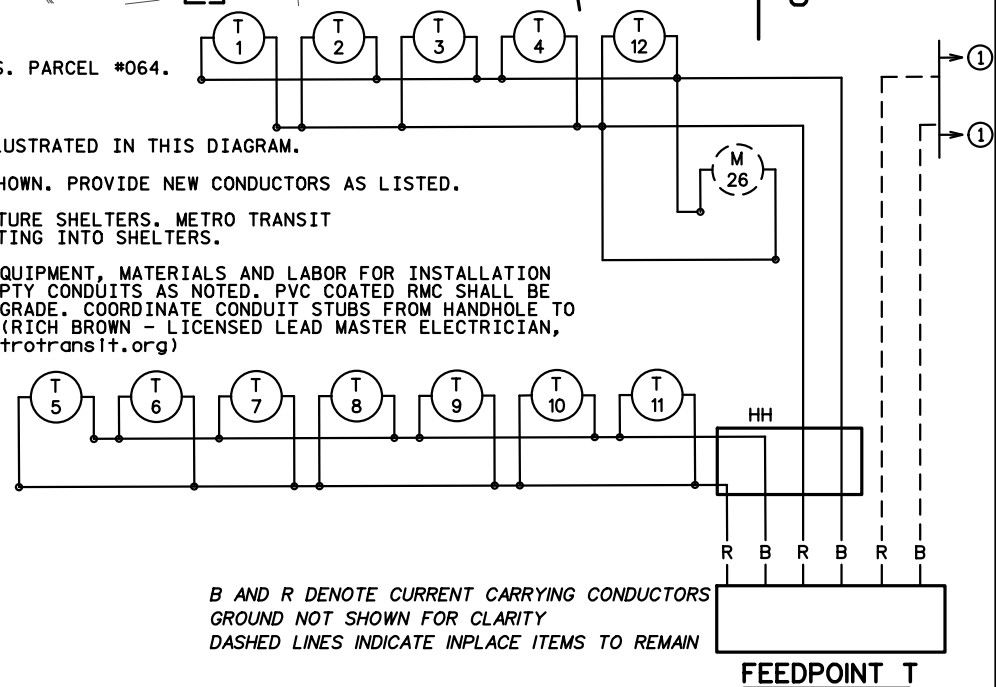
LIGHTING PLANS
 SHEET NO. 380 OF 416 SHEETS

DATE: 12/18/2020 TIME: 1:39:41 PM
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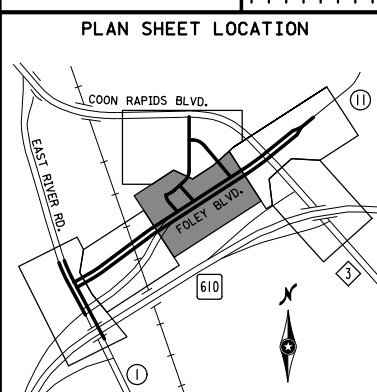


GENERAL NOTES:
 - LIGHTING SYSTEM "M" AND "T" INCLUDES METRO TRANSIT OWNED LIGHTING UNITS.
 - LIGHTING SYSTEM "P" INCLUDES PROPERTY ADDRESS 9534 95TH LANE OWNED LIGHTING UNITS. PARCEL #064.

- SPECIFIC NOTES:**
- ① MULTIPLE INPLACE LIGHTING UNITS EAST AND SOUTH OF THIS POINT NOT ILLUSTRATED IN THIS DIAGRAM.
 - ② INTERCEPT EXISTING CONDUIT AND EXTEND INTO FOUNDATION T/12 AS SHOWN. PROVIDE NEW CONDUCTORS AS LISTED.
 - ③ CONTRACTOR TO COORDINATE THE LOCATION OF THE PLANNED AND FUTURE SHELTERS. METRO TRANSIT WILL SUPPLY MATERIALS AND LABOR TO INSTALL HEATING AND LIGHTING INTO SHELTERS.
 - ④ METRO TRANSIT SHALL PROVIDE THE HEATERS, LIGHTING, EQUIPMENT, MATERIALS AND LABOR FOR INSTALLATION WITHIN THE BUS SHELTERS. CONTRACTOR SHALL PROVIDE EMPTY CONDUITS AS NOTED. PVC COATED RMC SHALL BE USED ON ALL ELBOWS AND STUBS TRANSITIONING TO ABOVE GRADE. COORDINATE CONDUIT STUBS FROM HANDHOLE TO BUS SHELTER SUPPORT LEG WITH METRO TRANSIT CONTACT: (RICH BROWN - LICENSED LEAD MASTER ELECTRICIAN, (W) 612-349-7013, (C) 651-755-1921, richard.brown@metrotransit.org)
 - ⑤ PLACE 1 1/2" EMPTY CONDUIT WITH PULL ROPE FOR FUTURE USE.
 - ⑥ PLACE 2" EMPTY CONDUIT WITH PULL ROPE FOR FUTURE USE.



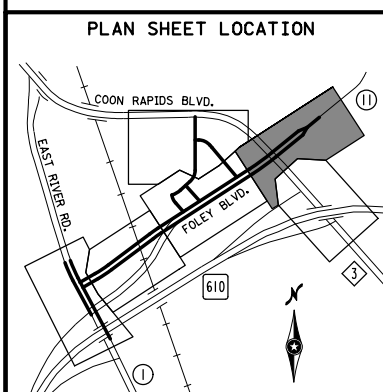
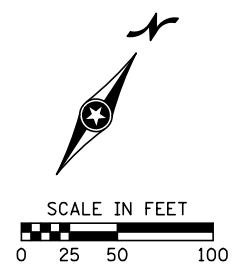
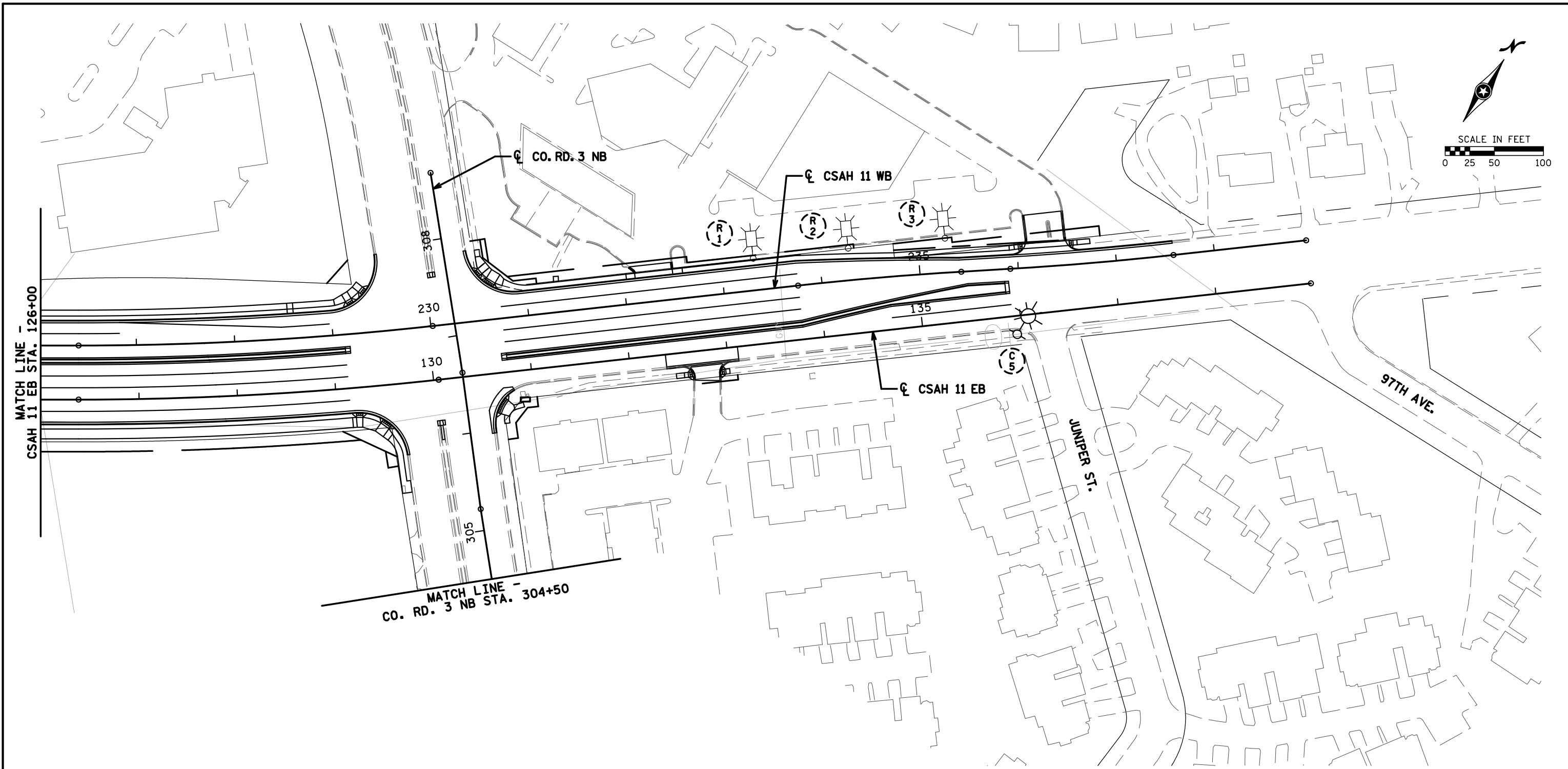
B AND R DENOTE CURRENT CARRYING CONDUCTORS
 GROUND NOT SHOWN FOR CLARITY
 DASHED LINES INDICATE INPLACE ITEMS TO REMAIN



DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 12/18/2020
CHK: JAH	JEFFREY A. HILDEN

	PROPOSED CSAH 11 EB STA. 112+50 TO STA. 126+00	LIGHTING PLANS
	STATE PROJ. NO. 002-611-036	SHEET NO. 381 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:52:35 AM
 FILENAME: c:\nkda\proj\techwise\hmv\vangstad\dms01247\cd00261036_1.in.dgn



- GENERAL NOTES:**
- LIGHTING SYSTEM "C" INCLUDES CONNEXUS OWNED LIGHTING UNITS.
 - LIGHTING SYSTEM "R" INCLUDES PRIVATELY OWNED LIGHTING UNITS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

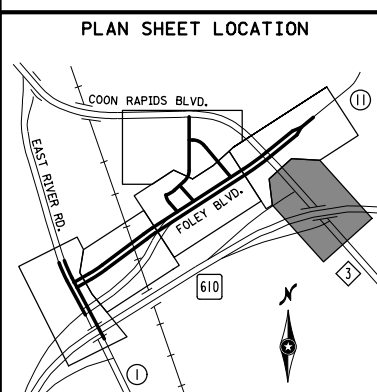
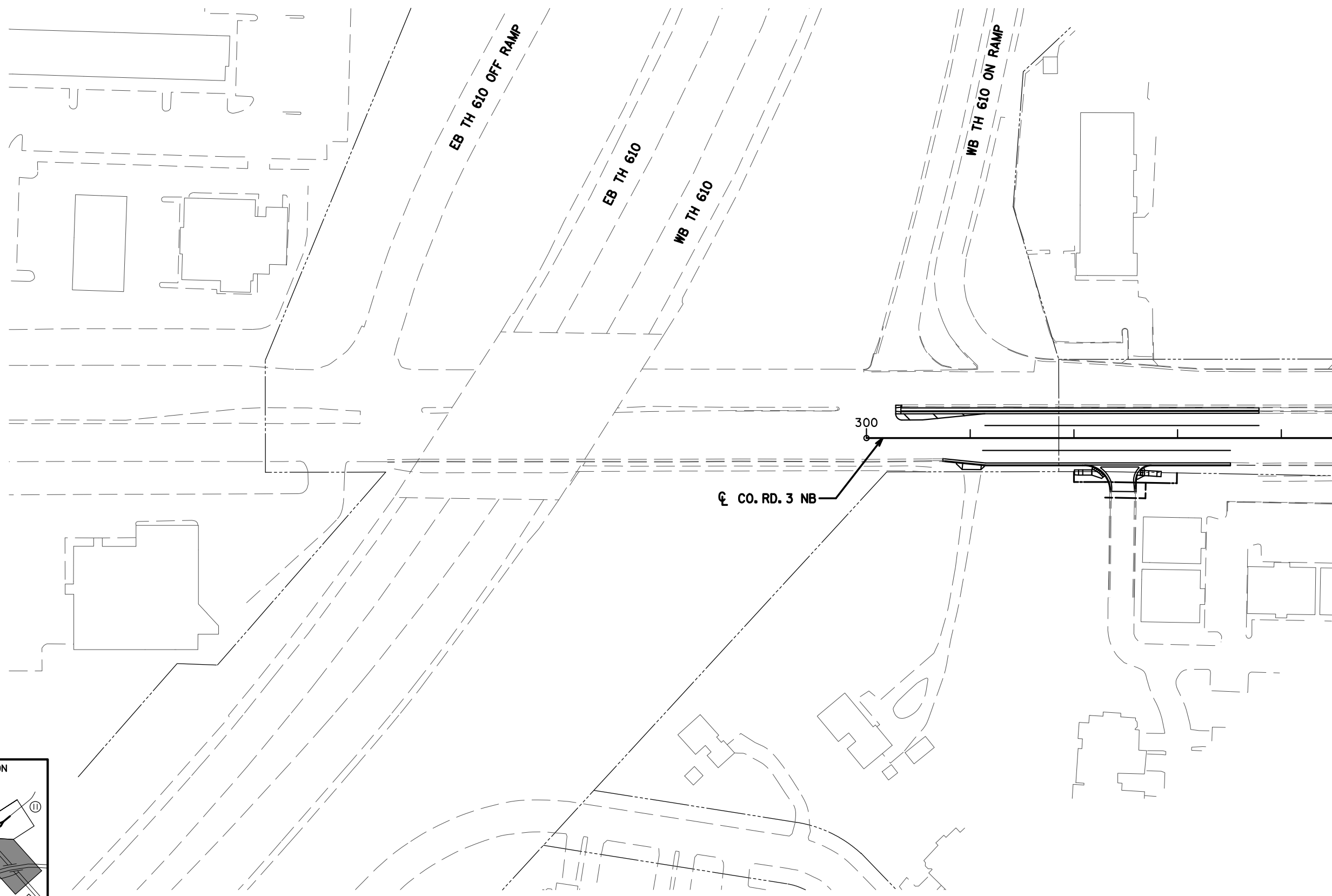
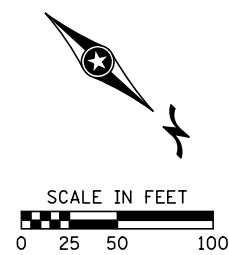
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



PROPOSED
 CSAH 11 EB STA. 126+00 TO STA. 137+61.57
 STATE PROJ. NO. 002-611-036

LIGHTING PLANS
 SHEET NO. 382 OF 416 SHEETS

DATE: 11/25/2020 TIME: 7:52:42 AM
 FILENAME: c:\nkda\project\wise\m.vangstad\dms01247\cd00261036_11o.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



PROPOSED
 CO. RD. 3 NB STA. 300+00 TO STA. 304+50
 STATE PROJ. NO. 002-611-036

LIGHTING PLANS
 SHEET NO. 383 OF 416 SHEETS

MATCH LINE -
 CO. RD. 3 NB STA. 304+50

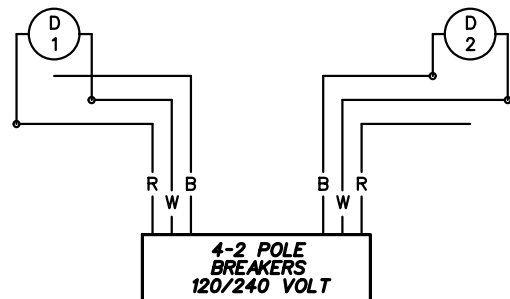
CO. RD. 3

405

410

18

SCALE IN FEET
0 25 50 100



FEEDPOINT D

B AND R DENOTE CURRENT CARRYING CONDUCTORS
W DENOTES NEUTRAL CONDUCTOR
GROUND NOT SHOWN FOR CLARITY
DASHED LINES INDICATE INPLACE ITEMS TO REMAIN

FD. PT.D.
PAD MOUNTED SERVICE CABINET
TYPE RLF
120/240 (METERED)
EQUIPMENT PAD TYPE RLF REQUIRED
2" R.S.C. 3-1/C #2 TO CONNEXUS
POLE MOUNTED TRANSFORMER

☉ CO. RD. 3 SB

D 2

☉ 96TH AVE.

☉ NORWAY ST.

P 8

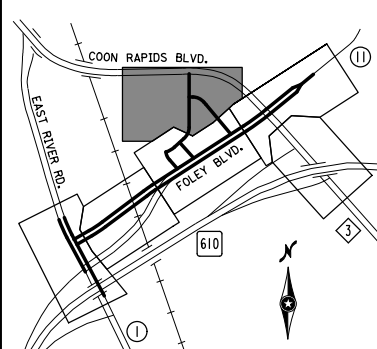
P 7

P 6

MATCH LINE
96TH AVE. STA. 15+40

MATCH LINE
NORWAY ST. STA. 10+30

PLAN SHEET LOCATION



GENERAL NOTES:

- LIGHTING SYSTEM "P" INCLUDES
PROPERTY ADDRESS 9534 95TH LANE
OWNED LIGHTING UNITS. PARCEL #064.

DATE: 11/25/2020 TIME: 7:52:53 AM
FILENAME: c:\nkda\project\wise\m.vangstad\dms01247\cd00261036_11p.dgn

				DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020		PROPOSED	LIGHTING PLANS
				DRW: RRC			NORWAY ST. STA. 10+30 TO STA. 18+24.35	
				CHK: JAH			STATE PROJ. NO. 002-611-036	
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

MAST ARM MOUNTED SIGNS								
SIGN NO.	SIGNAL SYSTEM	POLE NO.	a (FEET)	SIZE (INCHES)	MOUNTING BRACKET		AREA/SIGN (SQ. FT.)	NO. REQ.
					NUMBER	SPACING (1)		
D-4	A	1	9	114 X 18	4	30	14.25	1
R10-X12	A	2	3	36 X 42	2	30	10.5	1
D-2	A	2	25	96 X 36	3	32	24	1
R10-X12	A	3	3	36 X 42	2	30	10.5	1
D-4	A	3	15	114 X 18	4	30	14.25	1
R10-X12	A	5	3	36 X 42	2	30	10.5	1
D-3	A	5	27	96 X 36	3	32	24	1
D-1	B	1	9	78 X 18	3	26	9.75	1
R10-X12	B	2	3	36 X 42	2	30	10.5	1
D-5	B	2	27	102 X 60	3	34	42.5	1
R10-X12	B	4	3	36 X 42	2	30	10.5	1
D-1	B	4	18	78 X 18	3	26	9.75	1
R10-X12	B	5	3	36 X 42	2	30	10.5	1
D-6	B	5	29	102 X 60	3	34	42.5	1
R10-X12	C	1	3	36 X 42	2	30	10.5	1
D-7	C	1	39	120 X 18	4	30	15	1
R10-X12	C	2	3	36 X 42	2	30	10.5	1
D-1	C	2	27	78 X 18	3	26	9.75	1
R10-X12	C	3	3	36 X 42	2	30	10.5	1
D-7	C	3	35	120 X 18	4	30	15	1
R10-X12	C	4	3	36 X 42	2	30	10.5	1
D-1	C	4	27	78 X 18	3	26	9.75	1

SPECIFIC NOTE:

- (1) SPACING BETWEEN STRIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED.
SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE 1/1/03) FOR BRACKET SPACING REQUIREMENTS.

GENERAL NOTES:

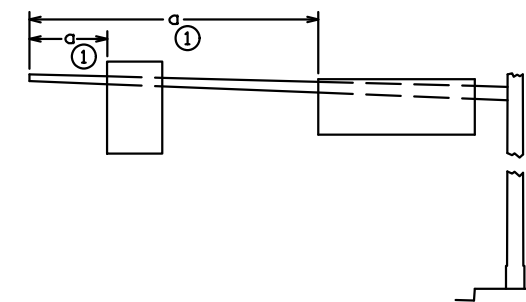
- CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
- TYPE D SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE STANDARD SIGNS MANUAL, PAGE 105A.
- FOR TYPE "D" STRINGER AND PANEL JOINT DETAILS SEE STANDARD SIGNS MANUAL, PAGE 105.
- THE MAST ARM MOUNTED SIGNS ARE INCIDENTAL.

SIGNALS		TAB S
ITEM	UNIT	TOTALS
(2) REMOVE SIGNAL SYSTEM	EACH	1
EMERGENCY VEHICLE PREEMPTION SYSTEM A	LUMP SUM	1
EMERGENCY VEHICLE PREEMPTION SYSTEM B	LUMP SUM	1
EMERGENCY VEHICLE PREEMPTION SYSTEM C	LUMP SUM	1
TRAFFIC CONTROL INTERCONNECT	LUMP SUM	1
TRAFFIC CONTROL SIGNAL SYSTEM A	SYSTEM	1
TRAFFIC CONTROL SIGNAL SYSTEM B	SYSTEM	1
REVISE SIGNAL SYSTEM C	SYSTEM	1
TEMPORARY SIGNAL SYSTEM A	SYSTEM	1
TEMPORARY SIGNAL SYSTEM B	SYSTEM	1
TEMPORARY SIGNAL SYSTEM C	SYSTEM	1

SPECIFIC NOTE:

- (2) EXISTING SIGNAL SYSTEM ON CSAH 1 AT TH 610 ON RAMP.

MAST ARM SIGN LOCATION



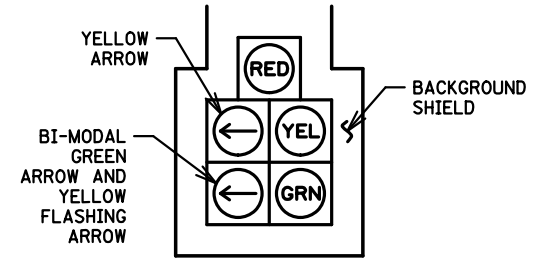
SPECIFIC NOTES:

- ① SEE TABULATIONS FOR DEFINITION OF DIMENSION AND MOUNTING LOCATION OF EACH SIGN PANEL.

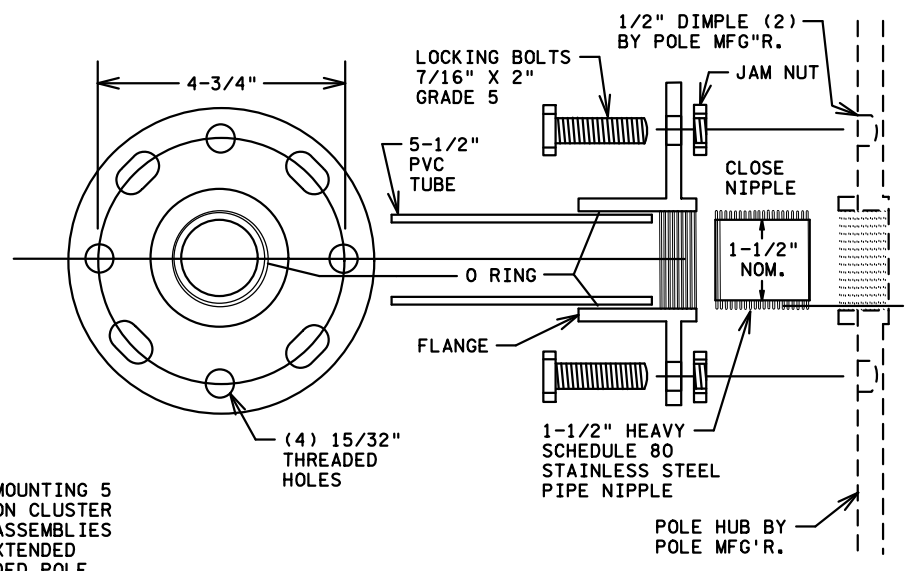
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			DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020				STATE PROJ. NO. 002-611-036	SHEET NO. 385 OF 416 SHEETS
NO.	DATE	BY	CHK: JAH	DESCRIPTION OF REVISIONS					

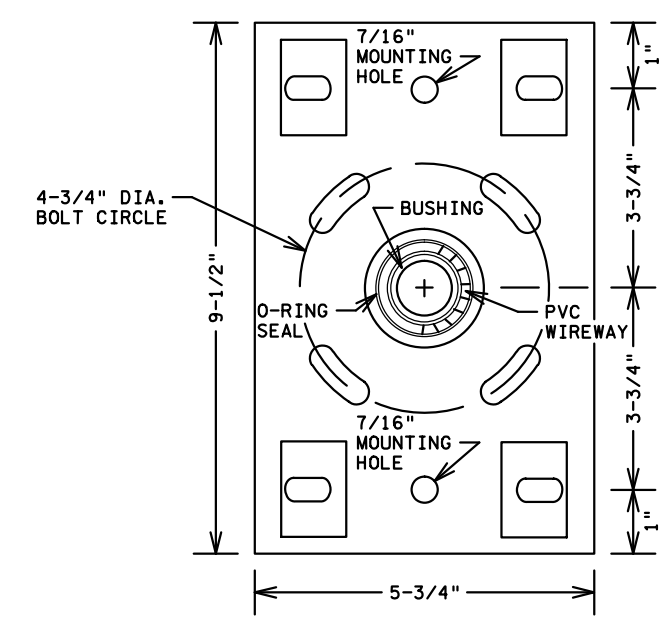
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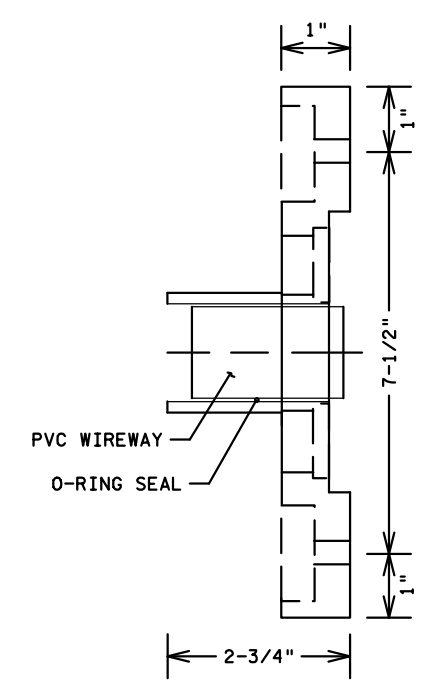
5 SECTION FYA CLUSTER HEAD DETAIL



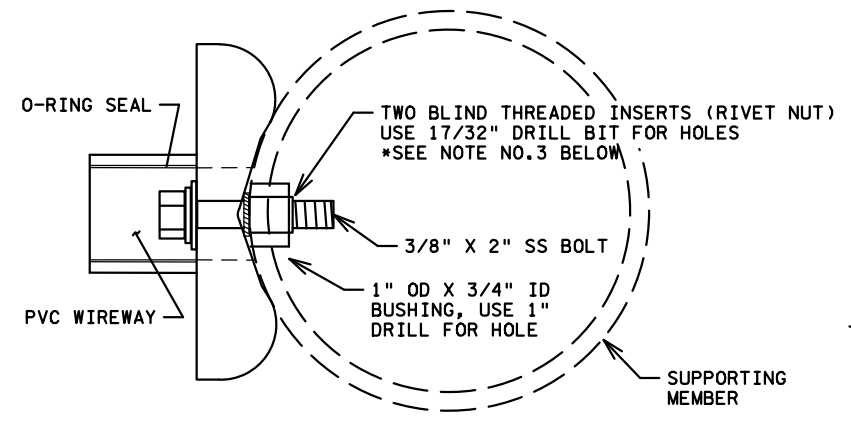
THREADED HUB AND FLANGE POLE ADAPTOR



BOLT ON HUB & FLANGE



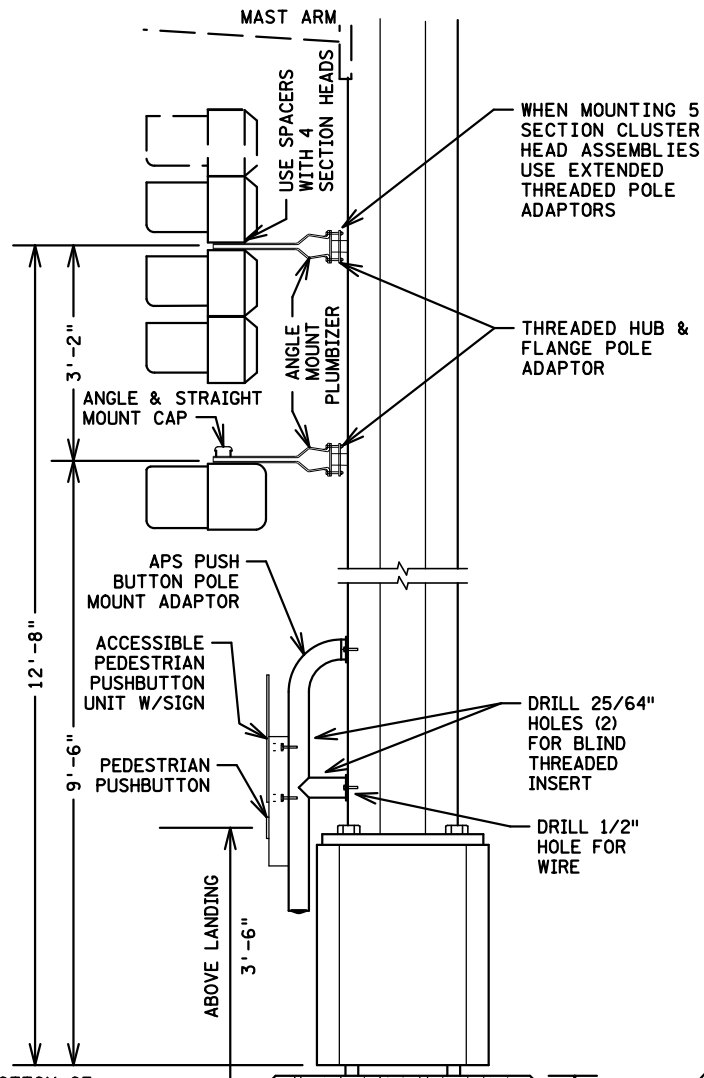
SIDE VIEW



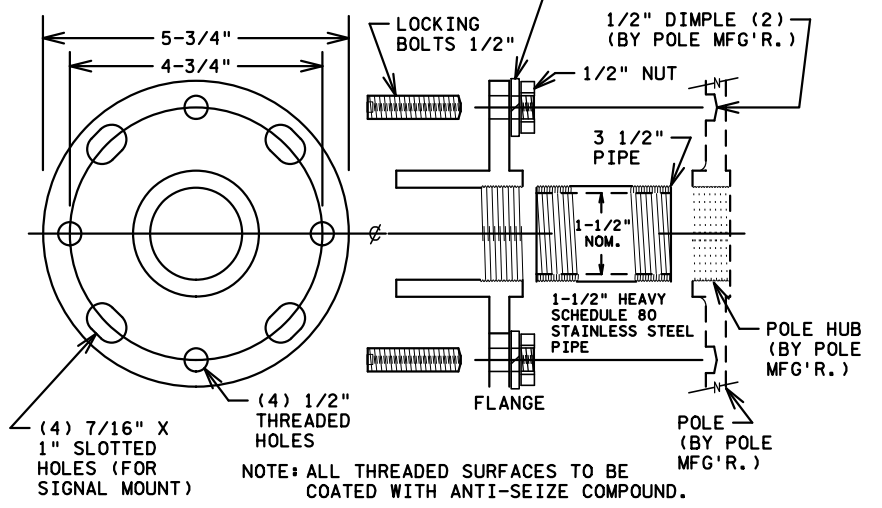
TOP VIEW



- NOTES:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
 3. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSERTION TOOL. NO OTHER METHOD IS ACCEPTABLE.
 4. SEE STANDARD PLATE NUMBER 8122 FOR ADDITIONAL PEDESTAL POLE DETAILS.

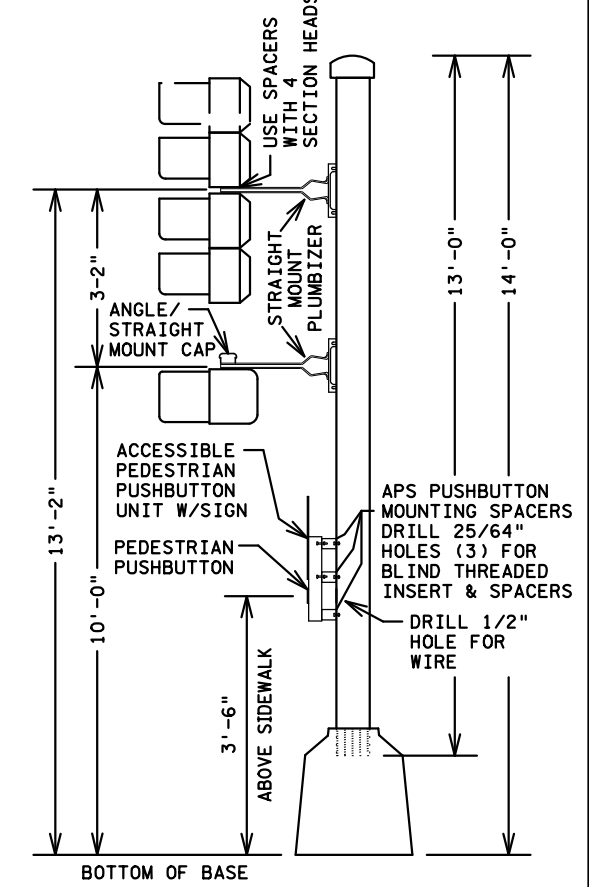


TYPICAL SIGNAL POLE MOUNTING
NOT TO SCALE



EXTENDED THREADED POLE ADAPTER

- NOTES:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
 3. SEE STANDARD PLATE NUMBER 8123 FOR ADDITIONAL SIGNAL POLE DETAILS.
 4. EXTENDED THREADED POLE ADAPTOR ONLY USED WITH 5 SECTION CLUSTER HEADS.



TYPICAL PEDESTAL MOUNTING
NOT TO SCALE

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 CHK: JAH

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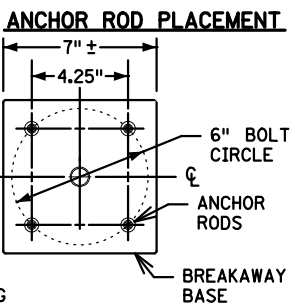
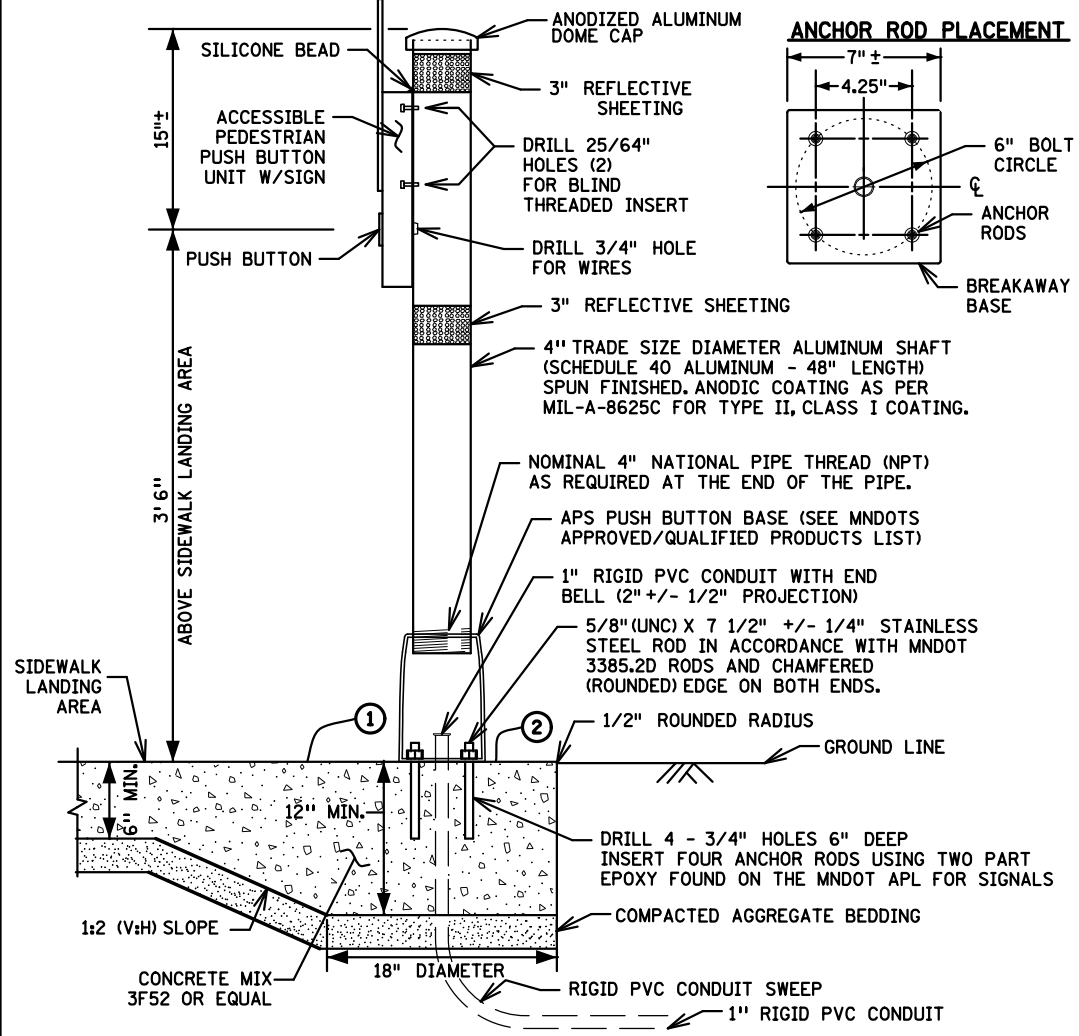
SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



POLE MOUNT DETAILS
 STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN
 SHEET NO. 386 OF 416 SHEETS

APS PUSH BUTTON STATION



NOTES:

PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK. SCREW IN SHAFT TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE SHAFT.

ORIENT ACCESS OPENING ON THE BREAKAWAY PEDESTAL DIRECTLY BELOW THE APS BUTTON.

PLUMB THE PUSH BUTTON STATION WITH LEVELING SHIMS IN ACCORDANCE WITH STANDARD PLATE 8129.

INSTALL BLIND THREADED INSERTS USING MANUFACTURER'S SPECIFIC INSERTION TOOL.

USE ZINC PLATED STEEL 1/4 - 20 UNC BLIND THREADED INSERTS SUITABLE FOR MOUNTING ON SURFACE WALL THICKNESS OF .337. APPROVED BLIND INSERTS ARE LISTED ON MNDOT'S APPROVED/QUALITY PRODUCTS LIST WEBSITE FOR TRAFFIC SIGNALS.

USE APS 1/4 - 20 STAINLESS STEEL MOUNTING BOLTS. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.

APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" SHAFT.

USE WHITE REFLECTIVE SHEETING AT INTERSECTION CORNERS AND YELLOW REFLECTIVE SHEETING IN CENTER MEDIANS. APPROVED TUBE DELINEATOR SHEETING IS LISTED ON MNDOT'S APPROVED/QUALIFIED PRODUCTS LIST WEBSITE FOR SIGNING.

AN 18" X 6" FIBER FORMING TUBE MAY BE USED FOR THE LOWER HALF OF THE FOUNDATION WHEN CONDITIONS DO NOT ALLOW FOR THE 18" X 6" HOLE TO STAND OPEN.

① THE PUSH BUTTON STATION FOUNDATION IS MONOLITHIC (POURED AT ONE TIME) WITH THE SIDEWALK. PROVIDE A 1:2 (V:H) SLOPE GRADE WHERE THE 6" MIN SIDEWALK DEPTH TRANSITIONS TO THE 12" MIN FOUNDATION DEPTH. MAINTAIN THE COMPACTED AGGREGATE BEDDING AND THICKNESS USED FOR THE SIDEWALK THROUGHOUT THE SLOPE AND FOUNDATION GRADING. PROVIDE 1:2 (V:H) SLOPE GRADING 360 DEGREES FOR THE TRANSITION FROM THE SIDEWALK TO THE FOUNDATION WHEN THE FOUNDATION IS NOT LOCATED NEAR EDGE OF SIDEWALK AND IS SURROUNDED BY CONCRETE WALK.

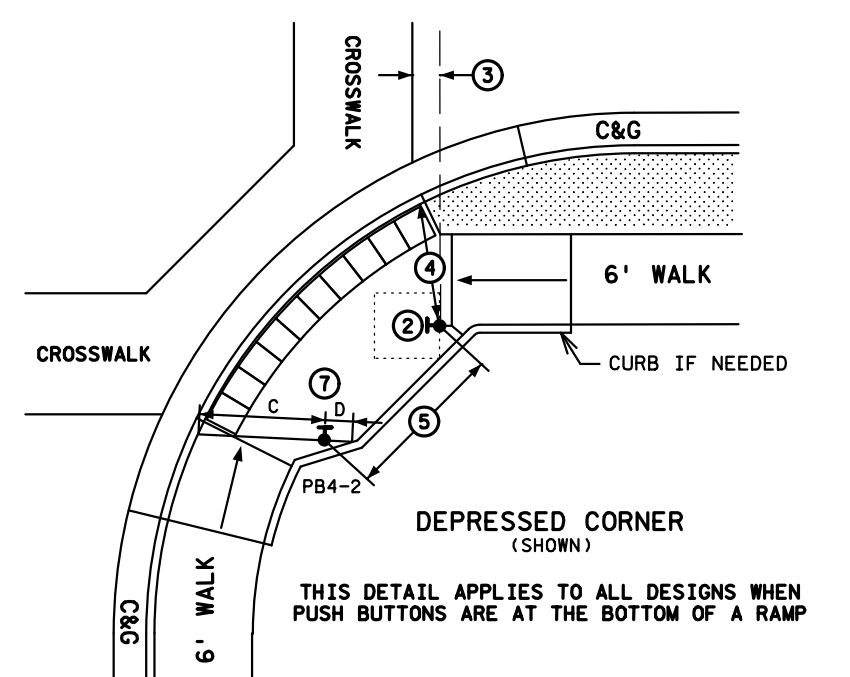
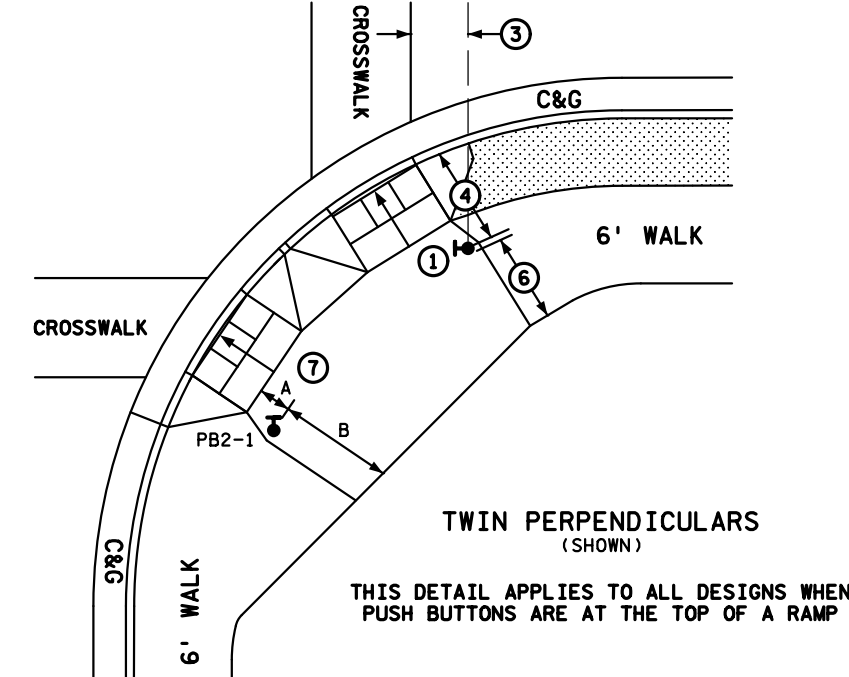
② ENSURE CONCRETE CONTROL JOINTS AND EDGE OF CONCRETE WALK ARE A MINIMUM 9" FROM THE CENTER OF THE PUSH BUTTON FOUNDATION.

TYPICAL APS PEDESTRIAN PUSH BUTTON LOCATION

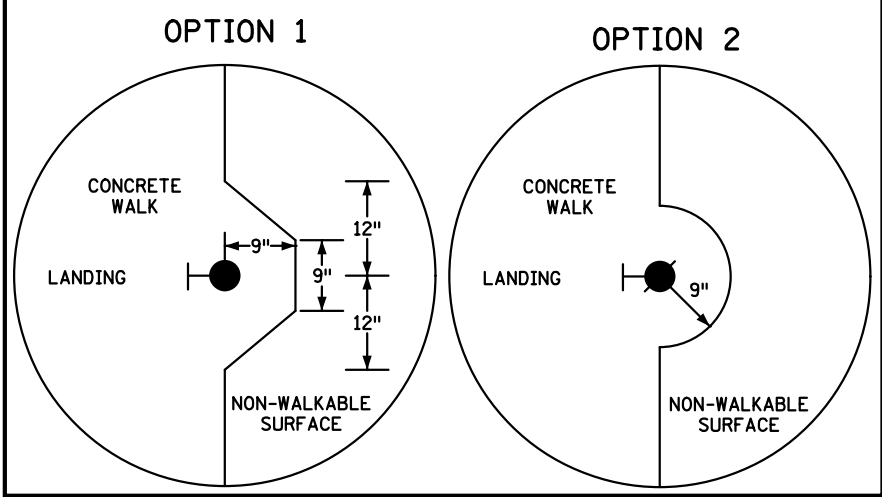
THIS IS A GENERAL DETAIL INTENDED TO SHOW THE REQUIREMENTS OF APS PUSH BUTTON LOCATION. FOR PROJECT SPECIFIC INFORMATION REGARDING PEDESTRIAN RAMP LAYOUT AND PUSH BUTTON LOCATIONS, SEE THE PLAN.

SUPPLEMENTAL GUIDANCE FOR CONSTRUCTING COMPLIANT APS PUSH BUTTONS:

- ① THE FACE OF THE BUTTON SHALL BE PARALLEL WITH THE OUTSIDE EDGE OF CROSSWALK.
- ② A MINIMUM 4 FT X 4 FT LANDING AREA SHALL BE PROVIDED ADJACENT TO EACH BUTTON, WITH A 2 PERCENT MAXIMUM SLOPE IN ALL DIRECTIONS.
- ③ BUTTONS SHALL BE WITHIN 5 FT OF THE OUTSIDE EDGE OF THE CROSSWALK.
- ④ BUTTONS SHALL BE BETWEEN 1.5 FT AND 10 FT FROM THE BACK OF CURB OR EDGE OF ROADWAY, MEASURED IN THE DIRECTION OF TRAVEL. STANDALONE PUSH BUTTON STATIONS SHOULD BE 4' MINIMUM FROM THE BACK OF CURB TO AVOID KNOCKDOWNS.
- ⑤ BUTTONS SHALL BE AT LEAST 10 FT APART.
- ⑥ PROVIDE A MAINTENANCE ACCESS ROUTE (MAR) WHEREVER POSSIBLE FOR SNOW REMOVAL PURPOSES. A MAR REQUIRES A 6 FT MINIMUM CLEAR DISTANCE BETWEEN A PUSH BUTTON AND ANY OBSTRUCTIONS, INCLUDING BUILDINGS, V-CURB, ELECTRICAL FOUNDATIONS, SIGNAL CABINETS, OR ANOTHER PUSH BUTTON.
- ⑦ BUTTON SHOULD BE 2 FT MINIMUM FROM RAMP GRADE BREAK AND BACK OF WALK.



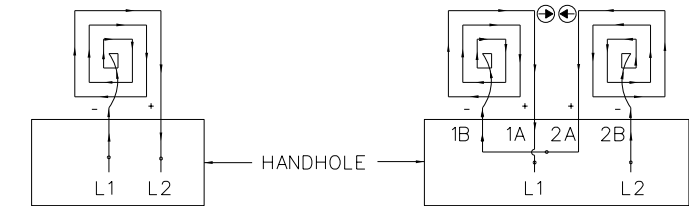
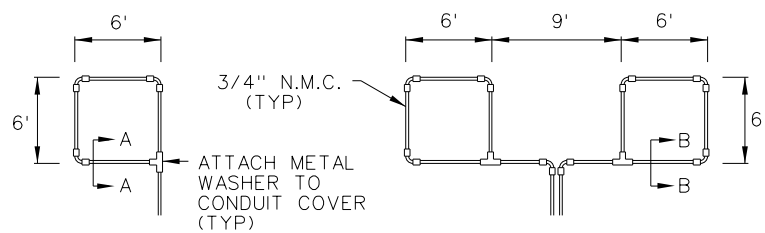
CONTRACTOR MUST USE OPTION 1 OR 2 WHEN THE APS PUSH BUTTON IS SHOWN AT THE EDGE OF WALK. OPTION USED (OR SELECTED) MUST BE THE SAME THROUGHOUT THE ENTIRE PROJECT.



SIGNAL CONTROL POINTS			DISTANCE TO FRONT OF LANDING (FT)	DISTANCE TO BACK OF LANDING (FT)
SIGNAL NO.	X	Y		
PB2-1	-	-	A	B
PB4-2	-	-	C	D

- A - DISTANCE MEASURED FROM THE PUSH BUTTON TO THE FRONT OF LANDING/TOP OF RAMP
- B - CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE BACK OF LANDING/EDGE OF WALK
- C - CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE OUTSIDE EDGE OF DOMES IN THE DIRECTION OF TRAVEL
- D - CLEAR DISTANCE FROM THE PUSH BUTTON TO THE BACK OF LANDING MEASURED IN THE OPPOSITE DIRECTION OF TRAVEL

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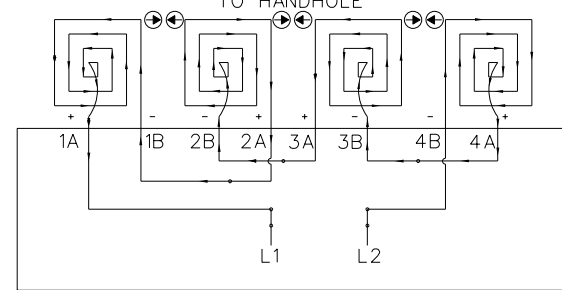
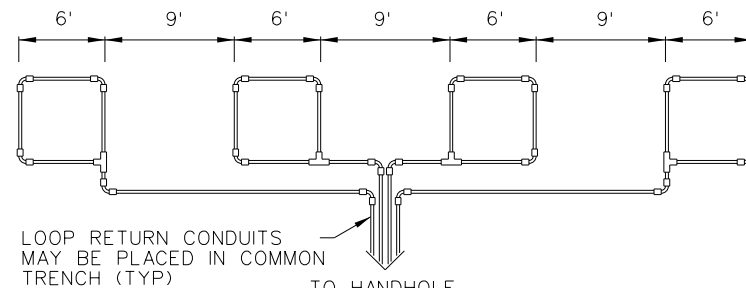


**LOOP DETECTOR
DETAIL 'A'**
(LOOP PHASING FOR
SINGLE CONNECTION)

LOOP CONNECTIONS SHALL BE
LABELED AND SPLICED IN THE
HANDHOLE AS FOLLOWS:

L1 TO 1A
1B TO 2A
2B TO L2

**LOOP DETECTOR
DETAIL 'B'**
(LOOP PHASING FOR
SERIES CONNECTION)

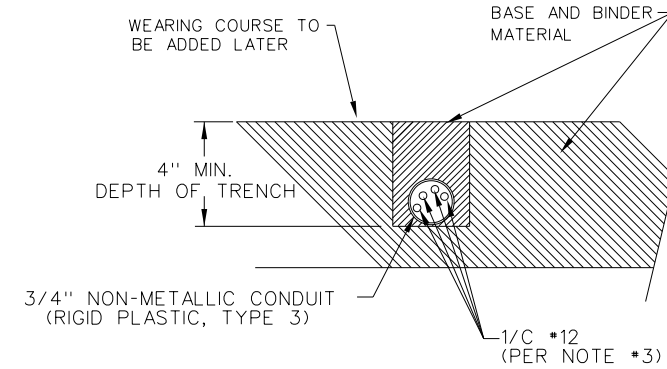


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED
IN THE HANDHOLE AS FOLLOWS:

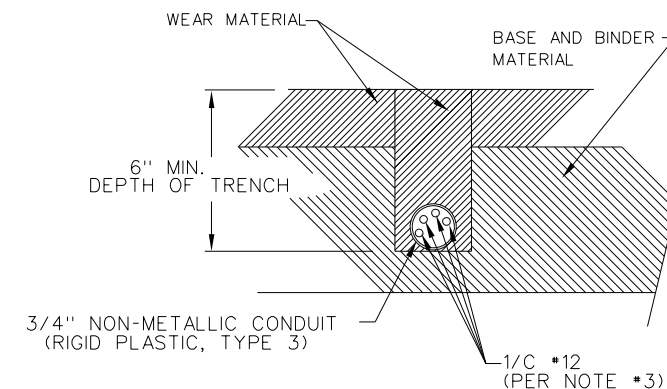
L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE.
ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE
(1A, 1B, ECT)

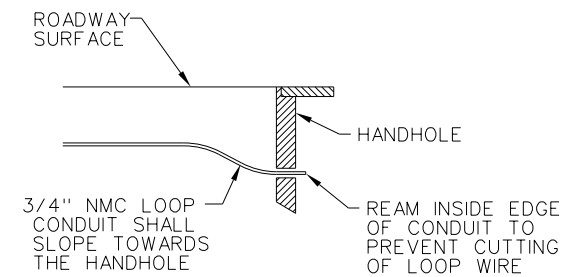
**LOOP DETECTOR
DETAIL 'C'**
(LOOP PHASING FOR
SERIES CONNECTION)



SECTION A-A
DETAIL FOR LOOP INSTALLATION
IN NEW ROADWAY



SECTION B-B
DETAIL FOR LOOP INSTALLATION
IN EXISTING ROADWAY



DRAINAGE DETAIL

LOOP DETECTOR WIRING

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
- 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
- 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's	(A)
SIGNAL BASE NO.	(B)
SIGNAL FACE NO.	(C)
LUMINAIRE NO.	(D)
CONTROLLER AND CABINET	(E)
CONTROLLER AND CABINET - IN PLACE	(F)
HANDHOLE	(G)
HANDHOLE - IN PLACE	(H)
RIGID STEEL CONDUIT (RSC)	(I)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(J)
SIGNAL FACE WITH BACKGROUND SHIELD	(K)
SIGNAL FACE W/O BACKGROUND SHIELD	(L)
SIGNAL FACE - IN PLACE	(M)
PEDESTRIAN INDICATORS	(N)
PEDESTRIAN INDICATORS - IN PLACE	(O)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(P)
PEDESTRIAN PUSH BUTTON STATION	(Q)
TRAFFIC SIGNAL PEDESTAL	(R)
TRAFFIC SIGNAL PEDESTAL - INPLACE	(S)
TRAFFIC SIGNAL POLE AND MAST ARM	(T)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(U)
STREET LIGHT POLE AND LUMINAIRE	(V)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(W)
MAST ARM AND LUMINAIRE	(X)
MAST ARM AND LUMINAIRE - INPLACE	(Y)
WOOD POLE	(Z)
WOOD POLE - IN PLACE	(AA)
SOURCE OF POWER	(AB)
RAILROAD SIGNAL - IN PLACE	(AC)
RIGHT OF WAY LINE	(AD)
CENTERLINE	(AE)
EDGE OF ROADWAY	(AF)
SHOULDERLINE	(AG)
CURB LINE	(AH)
STOP BAR	(AI)
EMERGENCY VEHICLE PREEMPTION DETECTOR	(AJ)

ABBREVIATIONS

3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG)	PED INDICATION PHASE "2" - NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" - NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQG	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

CONDUCTOR COLOR CODE

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

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 DRW: RRC
 CHK: JAH SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



LOOP DETECTOR DETAILS AND LEGEND

TRAFFIC SIGNAL PLAN

STATE PROJ. NO. 002-611-036

SHEET NO. 388 OF 416 SHEETS

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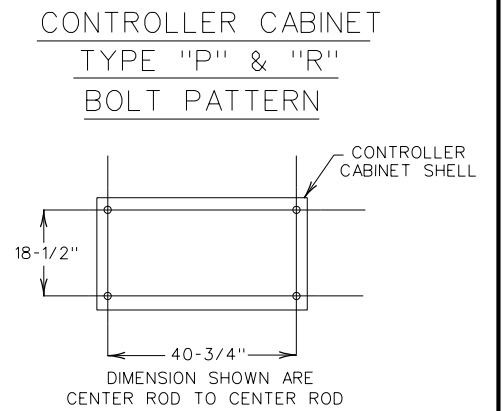
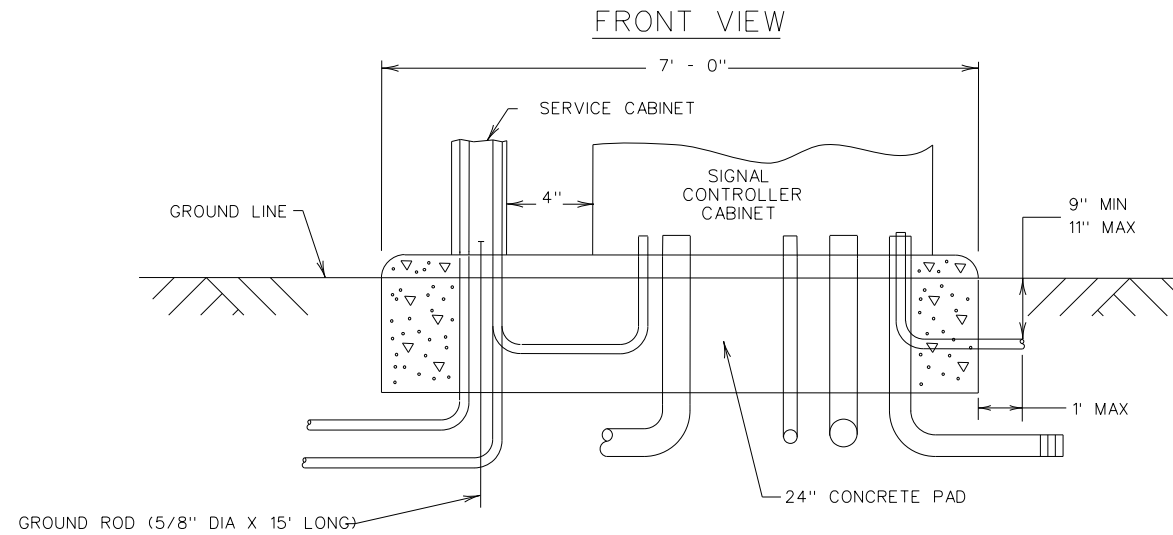
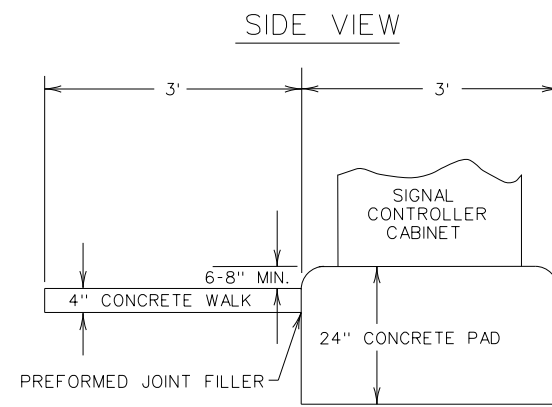
NO.	DATE	BY	DESCRIPTION OF REVISIONS

TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

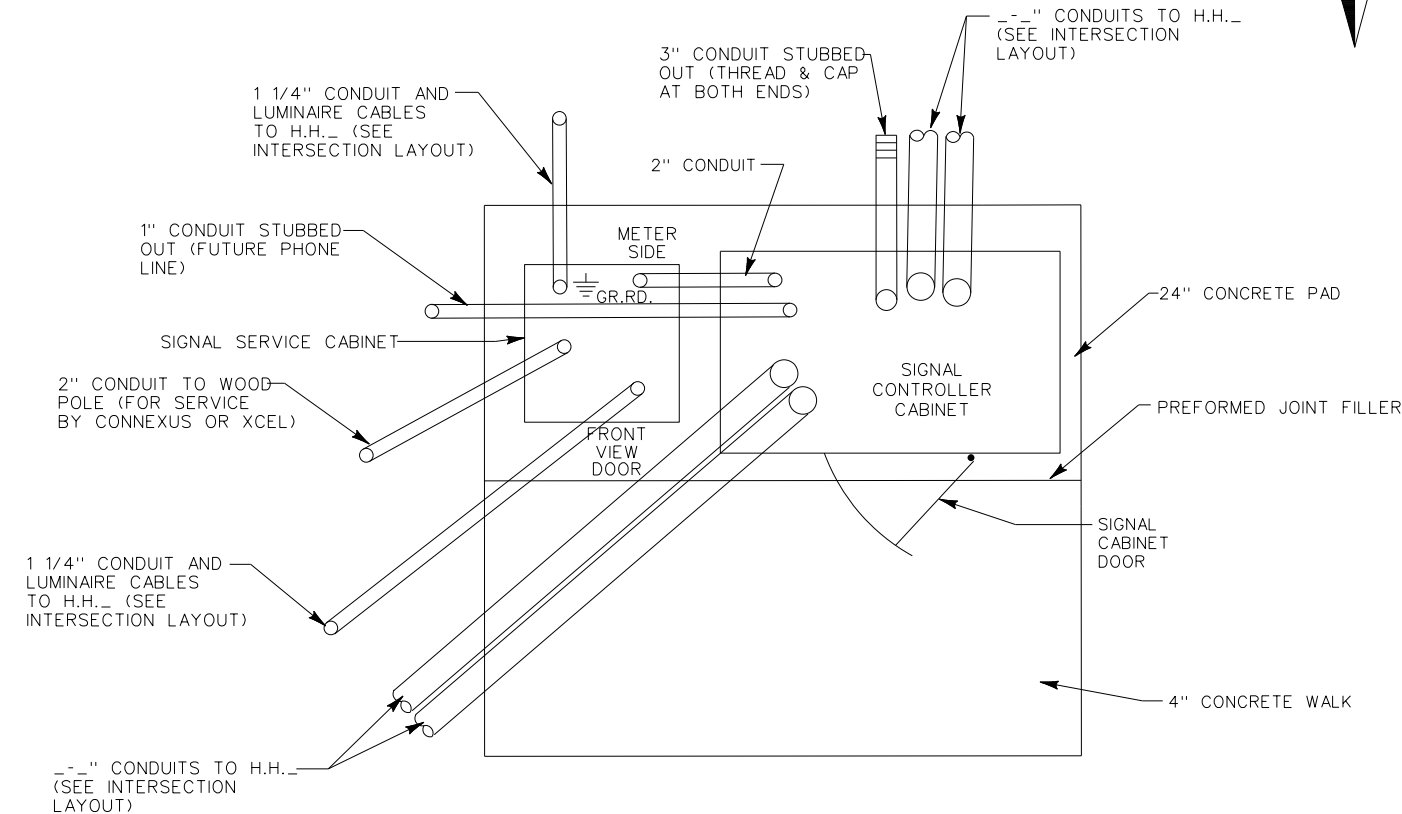
SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE COUNTY FURNISHED CONTROLLER AND CABINET SHALL BE FURNISHED BY THE COUNTY AND INSTALLED BY THE CONTRACTOR.
2. THE UPPER PART OF THE NEW EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE CONCRETE AND SHALL BE LOCATED INSIDE OF THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3F52 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
8. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
9. CONTRACTOR SHALL PROVIDE MINIMUM 4-INCH CLEARANCE BETWEEN CONTROLLER AND SERVICE CABINETS ON THE EQUIPMENT PAD FOUNDATION AS SHOWN.



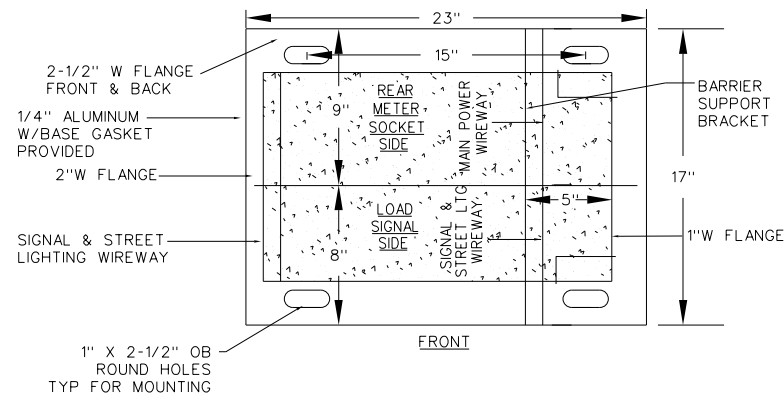
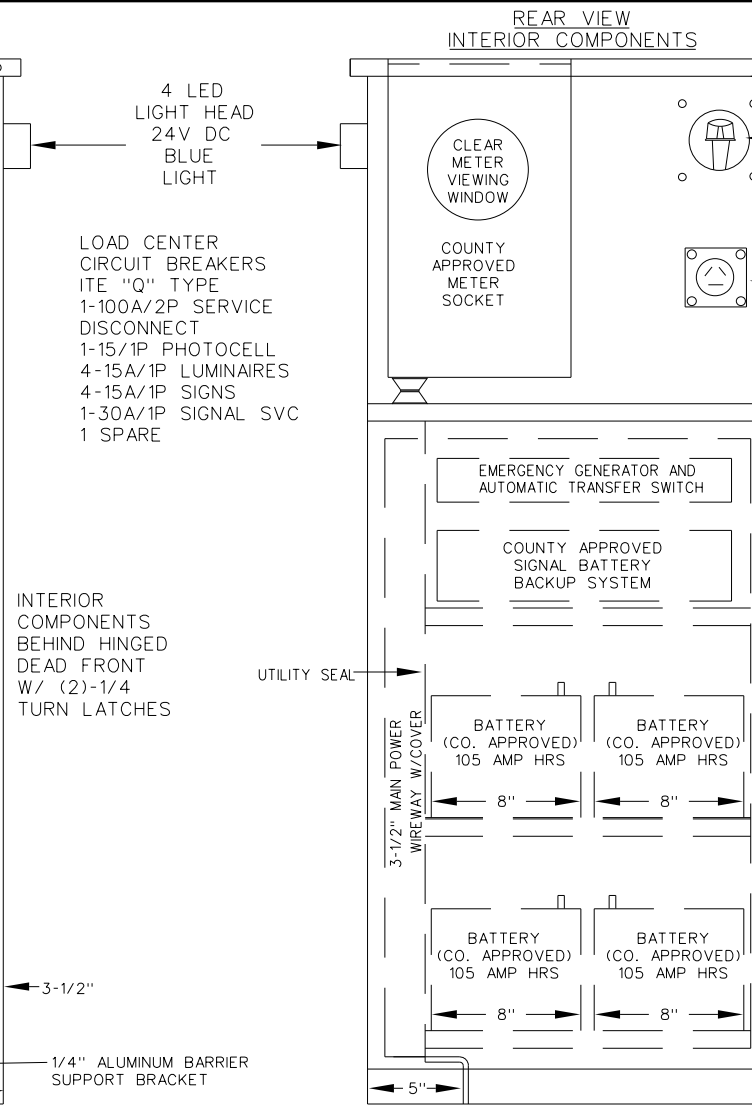
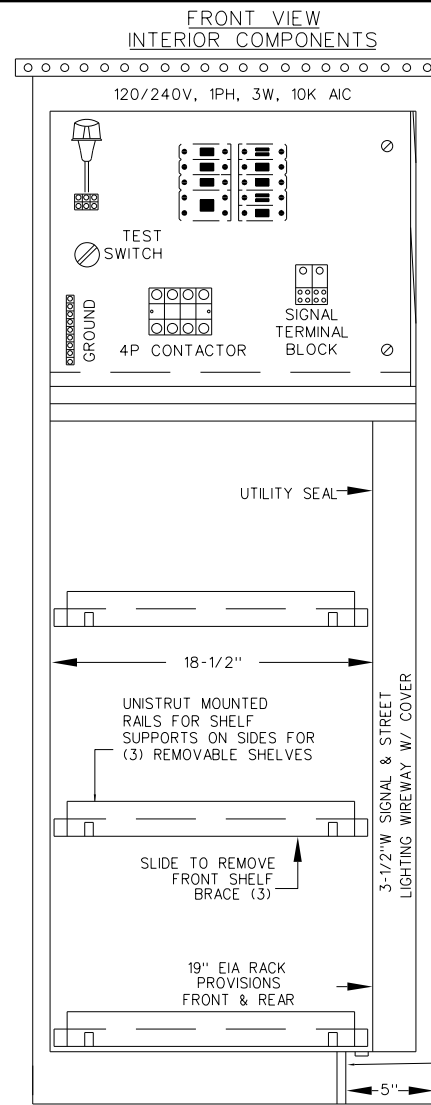
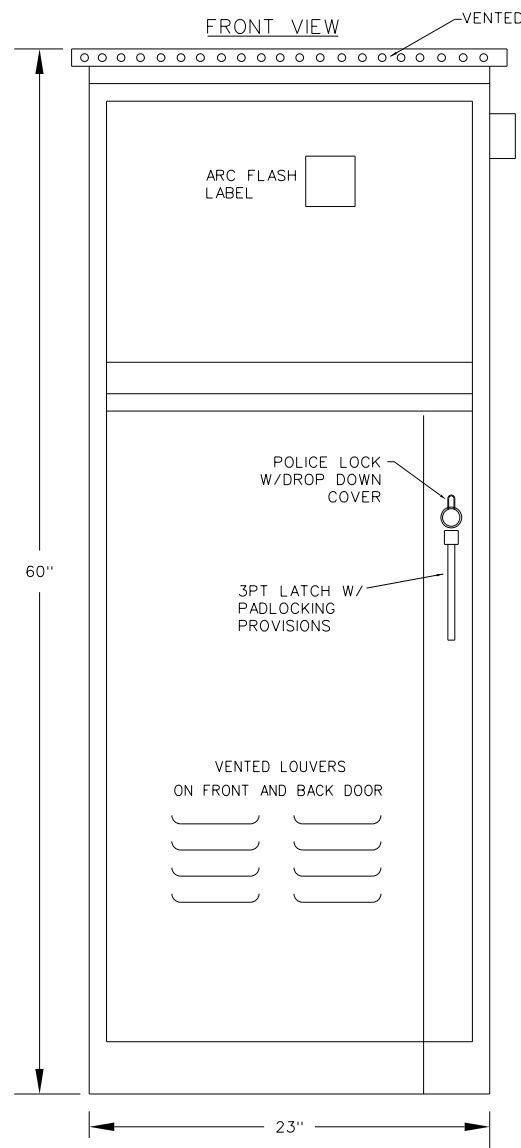
PLAN VIEW LOCATION



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				DRW: RRC			STATE PROJ. NO. 002-611-036		SHEET NO. 389 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH						

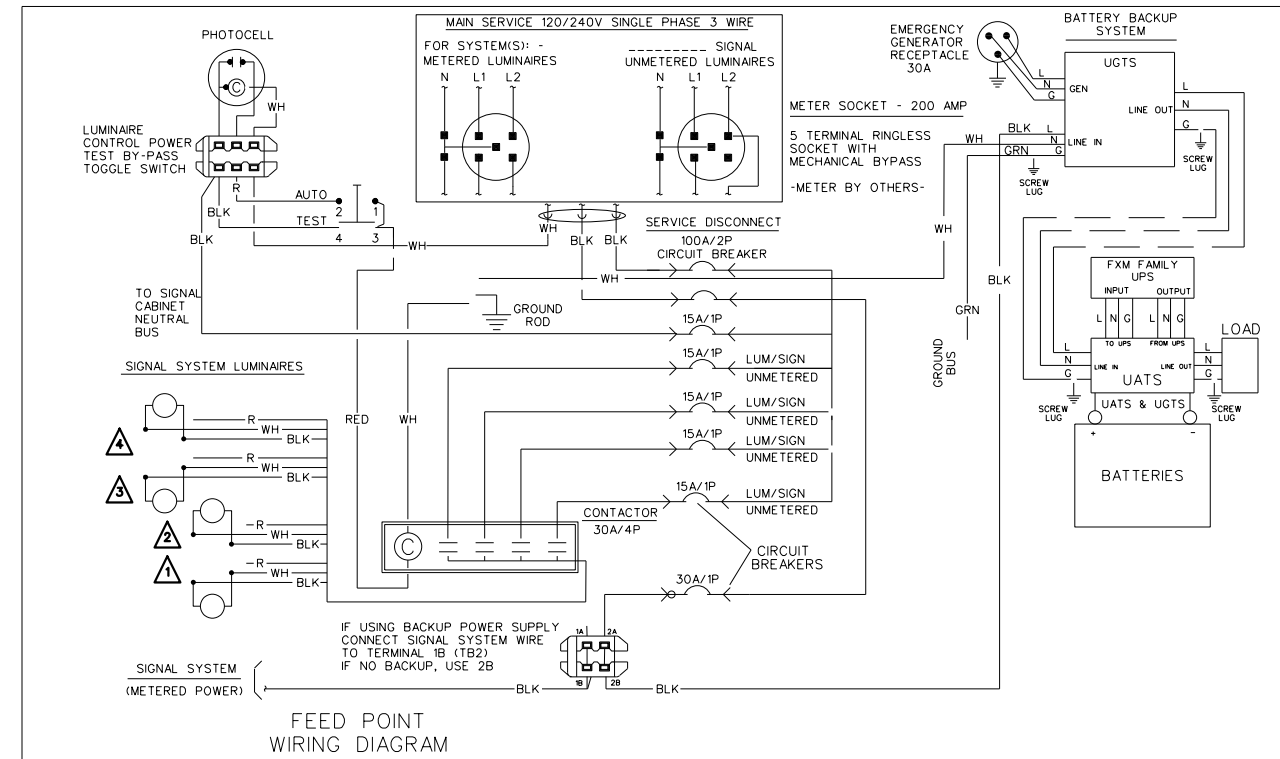
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CABINET CONSTRUCTION

- NEMA 3R
- 1/8" ALUMINUM 5052-H32
- ANODIZED 30 MINUTE CLEAR
- NEOPRENE GASKETED DOORS
- NON-CORRODING HARDWARE
- ETL LISTED IN ACCORDANCE W/UL508A

SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING SEPARATE PAY ITEM FOR FURNISHING & INSTALLING NEW BATTERY BACK-UP SIGNAL SERVICE CABINET.



NO.	DATE	BY	DESCRIPTION OF REVISIONS

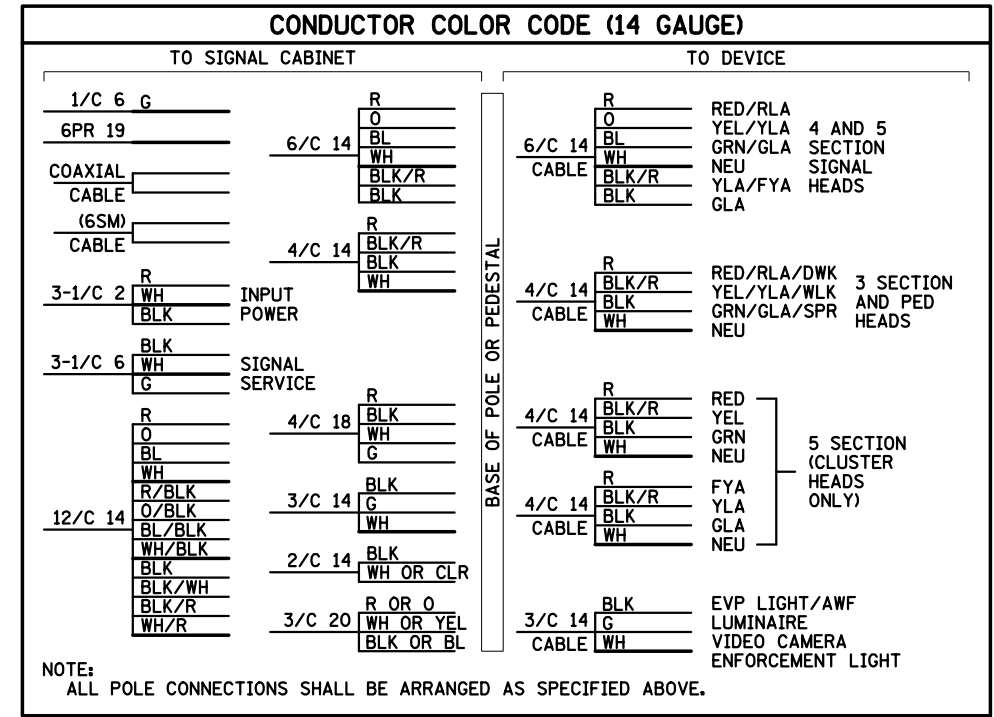
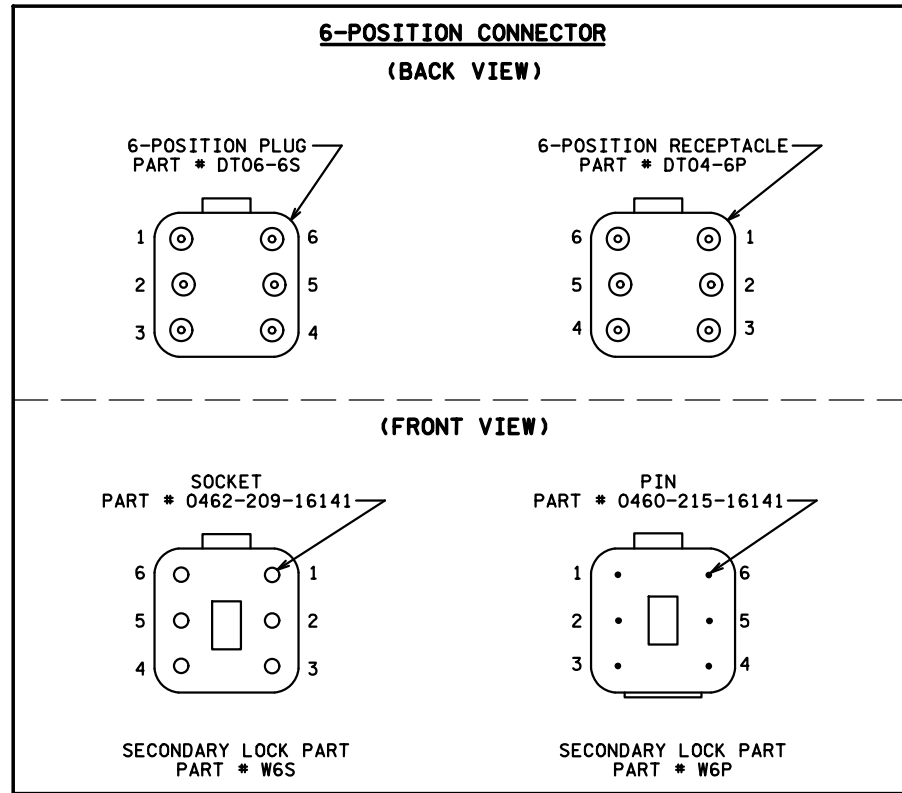
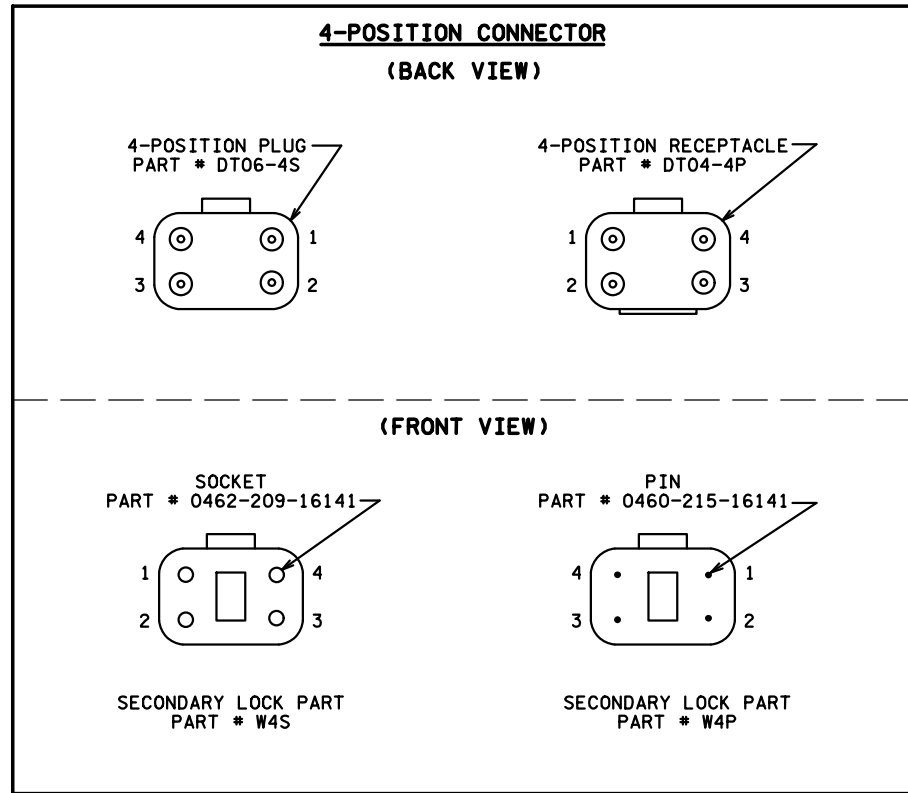
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 JEFFREY A. HILDEN



CABINET DETAILS
 STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN
 SHEET NO. 390 OF 416 SHEETS

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GENERAL NOTES:

- ANOKA COUNTY HIGHWAY DEPARTMENT DOES NOT USE POLE BASE CONNECTORS, USE TERMINAL BLOCKS INSTEAD. SEE SPECIAL PROVISIONS FOR DETAILS.

4 Position DT Connector (3 Section Head/DWK/WLK)

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R or R/BLK or BLK	1	R	RED or DWK
O or O/BLK or BLK/WH or BLK	2	BLK/R	YEL or WLK
BL or BL/BLK or BLK/R or BLK	3	BLK	GRN or SPR
WH or WH/BLK or WH/R	4	WH	NEU

6 Position DT Connector (4 and 5 Section Heads)

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R	1	R	RED
O	2	O	YEL
BL	3	BL	GRN
WH	4	WH	NEU
O/BLK or BLK/R (6/C)	5	BLK/R	YLA or FYLA
BL/BLK or BLK (6/C)	6	BLK	GLA

4 Position DT Connector (EVP LHT/AWF/ ENF LHT) (Used with 3 Conductor Cable Only)

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
BLK	1	BLK	EVP LHT or RED or YEL or ENF LHT or AWF
(Not Used)	2	(Not Used)	(Not Used) (See Note #8)
G	3	G	EQ.G
WH	4	WH	NEU

WIRE COLOR CODE KEY

R	Red
O	Orange
BL	Blue
WH	White
BLK	Black
BRN	Brown
CL	Clear
G	Green
R/BLK	Red with Black Stripe
O/BLK	Orange with Black Stripe
BL/BLK	Blue with Black Stripe
WH/BLK	White with Black Stripe
WH/R	White with Red Stripe
BLK/WH	Black with White Stripe
BLK/R	Black with Red Stripe

4 Position DT Connectors (Use Two Connectors for 5 Section FYA Cluster Heads)

12 Conductor Wire to Control Cabinet	Connector pin #	4 Conductor to Signal Indication	Signal Indication
R	1	R	RED
O	2	BLK/R	YEL
BL	3	BLK	GRN
WH	4	WH	NEU
R/BLK	1	R	FYA
O/BLK	2	BLK/R	YLA
BL/BLK	3	BLK	GLA
WH/BLK	4	WH	NEU

- NOTES:**
1. DT04-P RECEPTACLE SHALL BE TERMINATED TO THE WIRING HARNESS RUNNING FROM THE BASE/JUNCTION BOX OF THE POLE TO SIGNAL INDICATIONS.
 2. DT06-S PLUG SHALL BE TERMINATED TO THE CABLES RUNNING FROM THE TRAFFIC SIGNAL CABINET TO THE BASE/JUNCTION BOX OF THE POLE.
 3. THERE SHALL BE A MINIMUM OF 24 INCHES OF SLACK ON EACH CABLE IN EVERY POLE BASE /JUNCTION BOX.
 4. STRIP A MAXIMUM OF 6 INCHES OF THE OUTER JACKET OF EACH SIGNAL CABLE.
 5. STRIP .250 INCHES OF INSULATION FROM EACH INDIVIDUAL CONDUCTOR.
 6. CRIMP PINS OR SOCKETS USING RATCHETING TYPE CRIMPING TOOL HDT-48-00. NO OTHER CRIMPING TOOL WILL BE ALLOWED.
 7. WIRES MUST BE TERMINATED AS DETAILED IN TABLES DEPENDING ON WIRE COUNT.
 8. ANY UNUSED PIN MUST HAVE A SEALING PLUG PLACED IN BOTH THE PLUG & RECEPTACLE (PART # 114017).
 9. LABEL EACH HALF OF THE CONNECTOR (PLUG AND RECEPTACLE) WITH THE DEVICE DESIGNATION (AS INDICATED IN THE WIRING DIAGRAM) USING A PERMANENT BLACK MARKER.

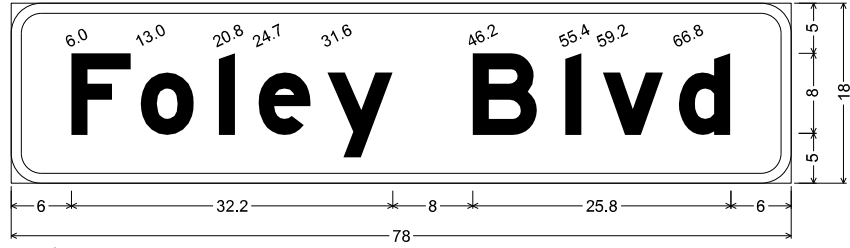
WIRE SPECIFICATION CHART

Type	Name	Specification Number
1/C 2	Power Conductors	3815.2B.1
1/C 6	Power Conductors	3815.2B.1
1/C 6 INS.GR.	Grounding Conductors	3815.2B.5
2/C 14	Loop Detector Lead-In Cable	3815.2C.4
3/C 14	Signal Control Cable	3815.2C.3
4/C 14	Signal Control Cable	3815.2C.3
6/C 14	Signal Control Cable	3815.2C.3
12/C 14	Signal Control Cable	3815.2C.3
6PR 19	Telephone Cables Outdoor	3815.2C.6.b
3/C 20	EVP Detector Cable	3815.2C.5

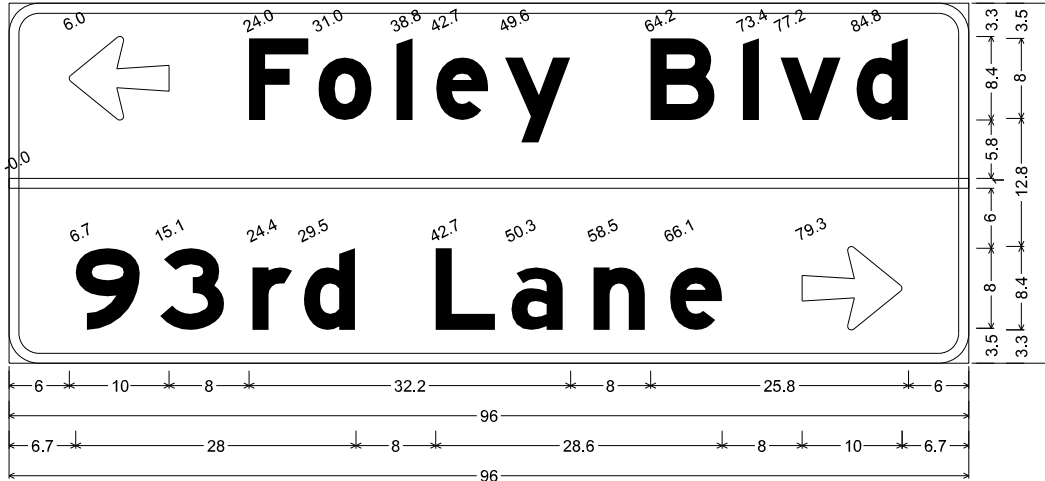
NO.	DATE	BY	DESCRIPTION OF REVISIONS	DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
1	4/8/21	JAH	ADDED NOTE ABOUT TERMINAL BLOCKS	DRW: RRC	 SIGNATURE: JEFFREY A. HILDEN LIC. NO. 20781 DATE: 4/8/2021
				CHK: JAH	



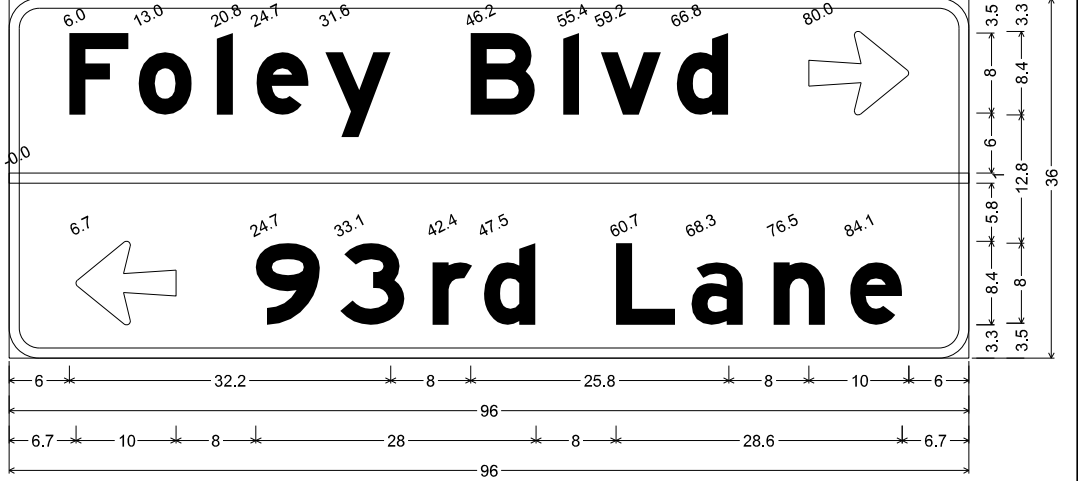
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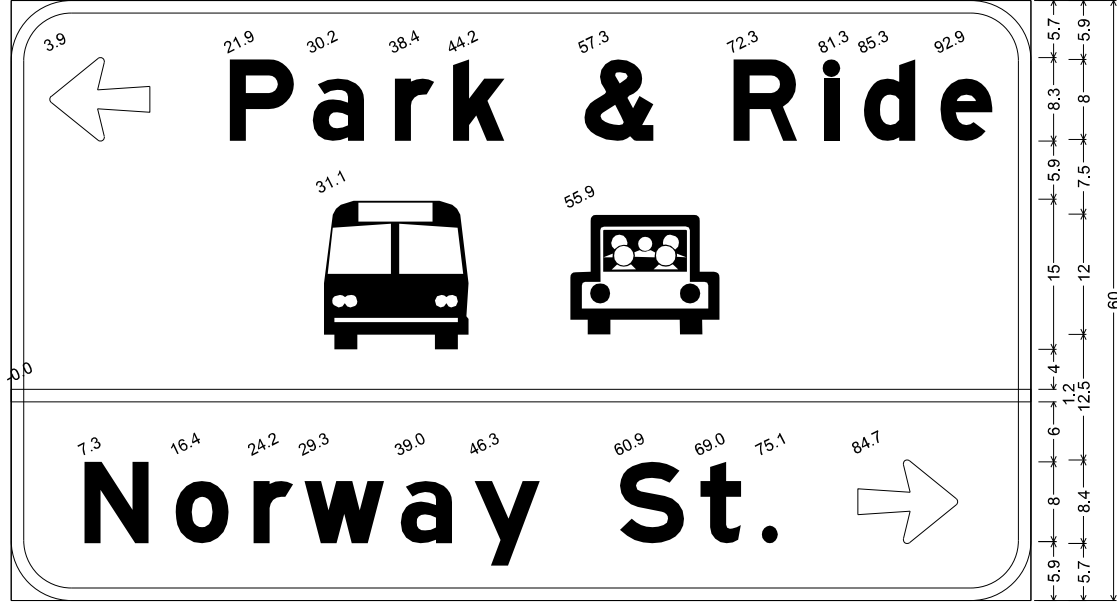
Identifier : D-1;
3.0" Radius, 1.0" Border, White on Green;
[Foley Blvd] E Mod;



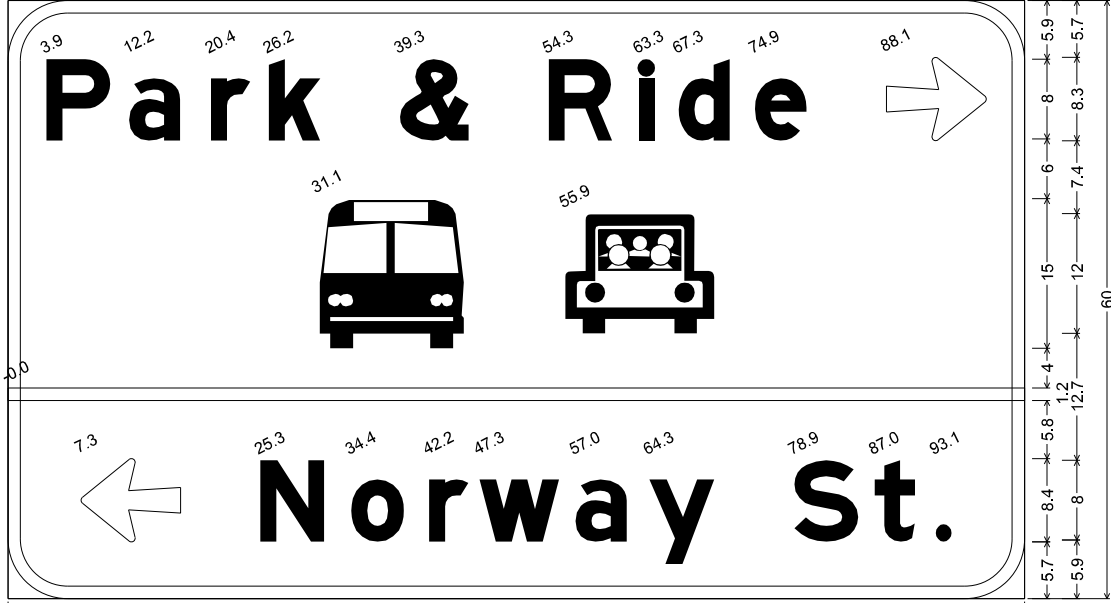
Identifier : D-2;
3.0" Radius, 1.0" Border, White on Green;
Arrow 3 - 10.0" 180"; [Foley Blvd] E Mod; [93rd Lane] E Mod; Arrow 3 - 10.0" 0°;



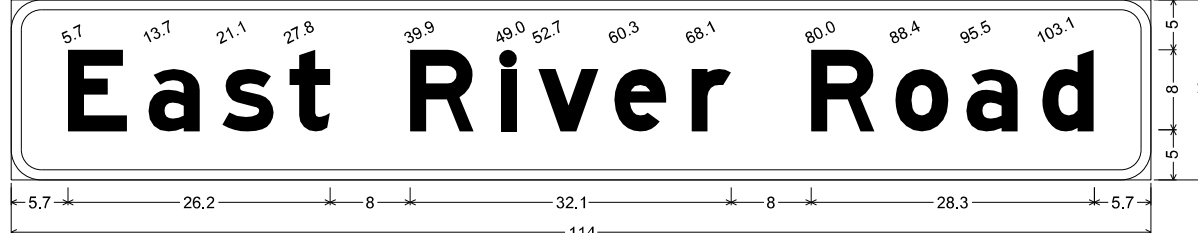
Identifier : D-3;
3.0" Radius, 1.0" Border, White on Green;
[Foley Blvd] E Mod; Arrow 3 - 10.0" 0°; Arrow 3 - 10.0" 180°; [93rd Lane] E Mod;



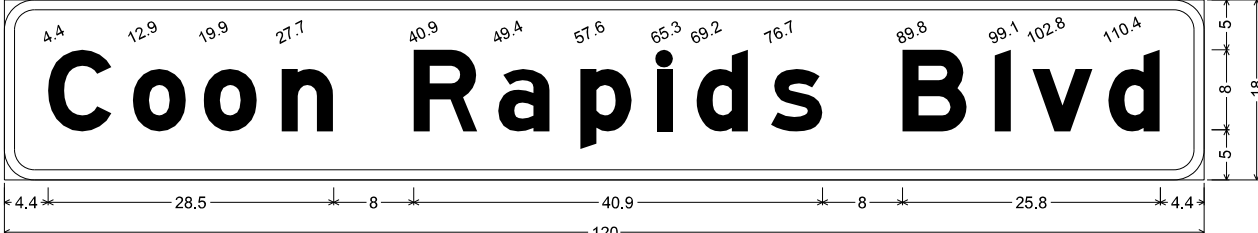
Identifier : D-5;
6.0" Radius, 1.3" Border, White on, Green;
Arrow 3 - 10.0" 180"; "Park & Ride", E Mod; Symbol RA020; Symbol RA074; "Norway St.", E Mod; Arrow 3 - 10.0" 0°;



Identifier : D-6;
6.0" Radius, 1.3" Border, White on, Green;
"Park & Ride", E Mod; Arrow 3 - 10.0" 0°; Symbol RA020; Symbol RA074; Arrow 3 - 10.0" 180°; "Norway St.", E Mod;



Identifier : D-4;
3.0" Radius, 1.0" Border, White on Green;
[East River Road] E Mod;



Identifier : D-7;
3.0" Radius, 1.0" Border, White on Green;
[Coon Rapids Blvd] E Mod;

GENERAL NOTES:
- DIMENSIONS ARE IN INCHES.

			DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TKDA	TYPE D SIGNS	TRAFFIC SIGNAL PLAN
			DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020			STATE PROJ. NO. 002-611-036	SHEET NO. 392 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS					

SIGNAL HEAD CHART

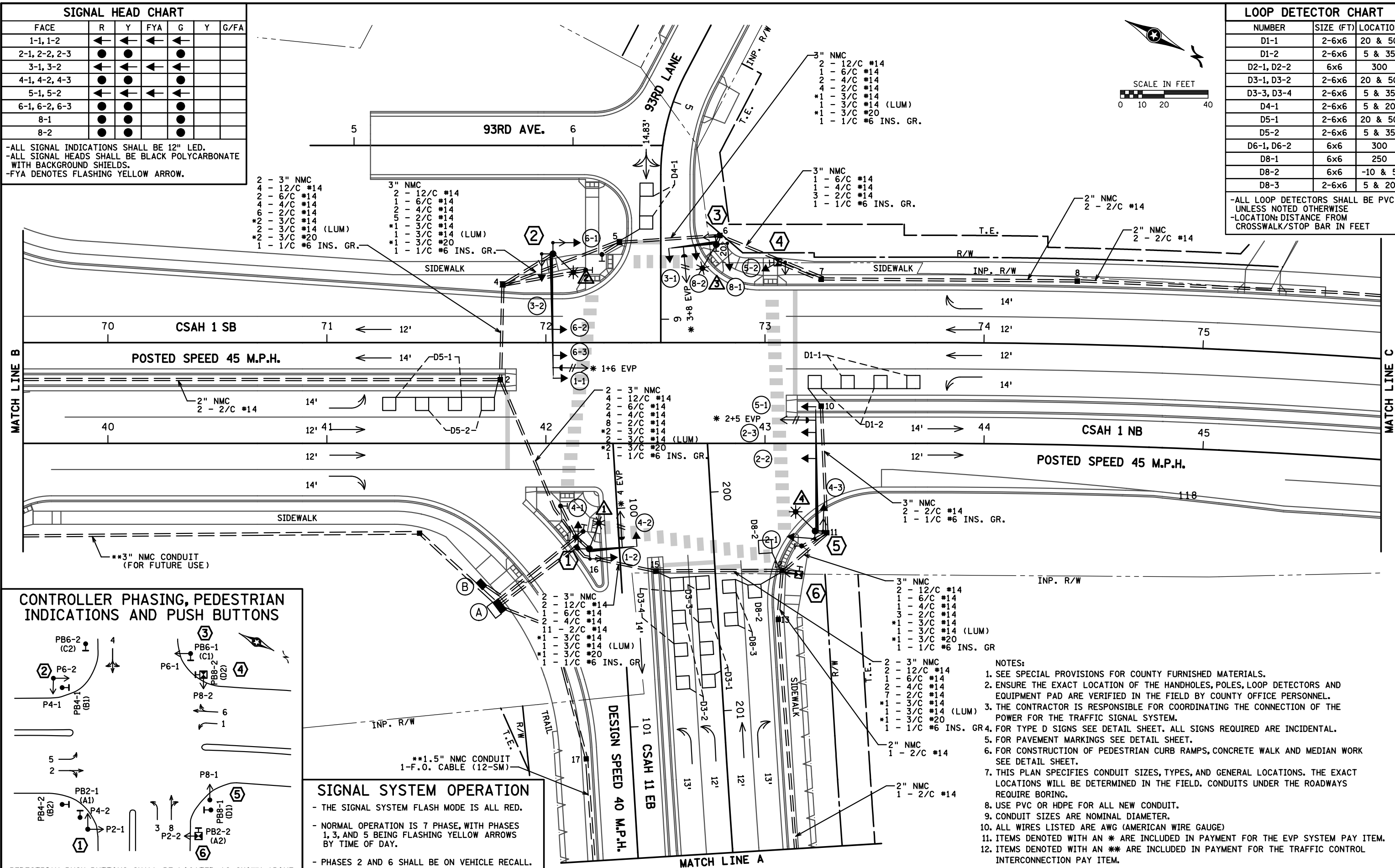
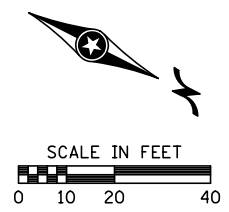
FACE	R	Y	FYA	G	Y	G/FA
1-1, 1-2	←	←	←	←		
2-1, 2-2, 2-3	●	●	●	●		
3-1, 3-2	←	←	←	←		
4-1, 4-2, 4-3	●	●	●	●		
5-1, 5-2	←	←	←	←		
6-1, 6-2, 6-3	●	●	●	●		
8-1	●	●	●	●		
8-2	●	●	●	●		

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

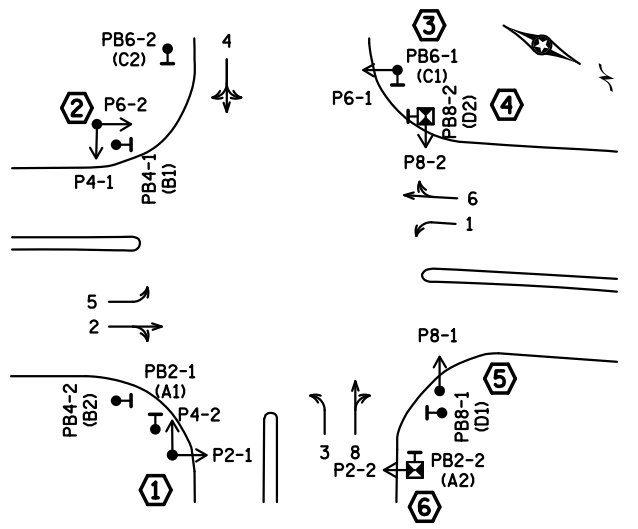
LOOP DETECTOR CHART

NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	20 & 50
D1-2	2-6x6	5 & 35
D2-1, D2-2	6x6	300
D3-1, D3-2	2-6x6	20 & 50
D3-3, D3-4	2-6x6	5 & 35
D4-1	2-6x6	5 & 20
D5-1	2-6x6	20 & 50
D5-2	2-6x6	5 & 35
D6-1, D6-2	6x6	300
D8-1	6x6	250
D8-2	6x6	-10 & 5
D8-3	2-6x6	5 & 20

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE
 -LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION

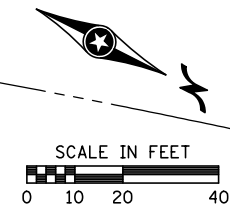
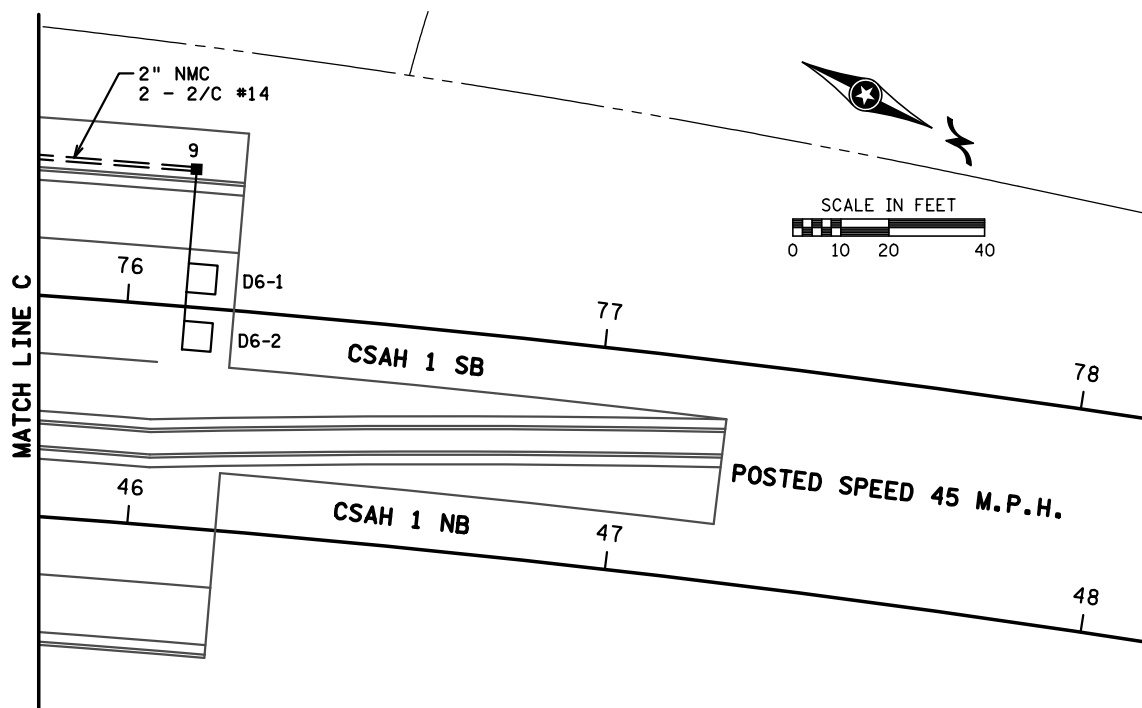
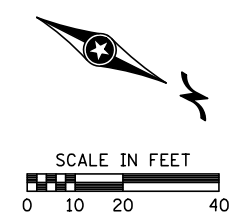
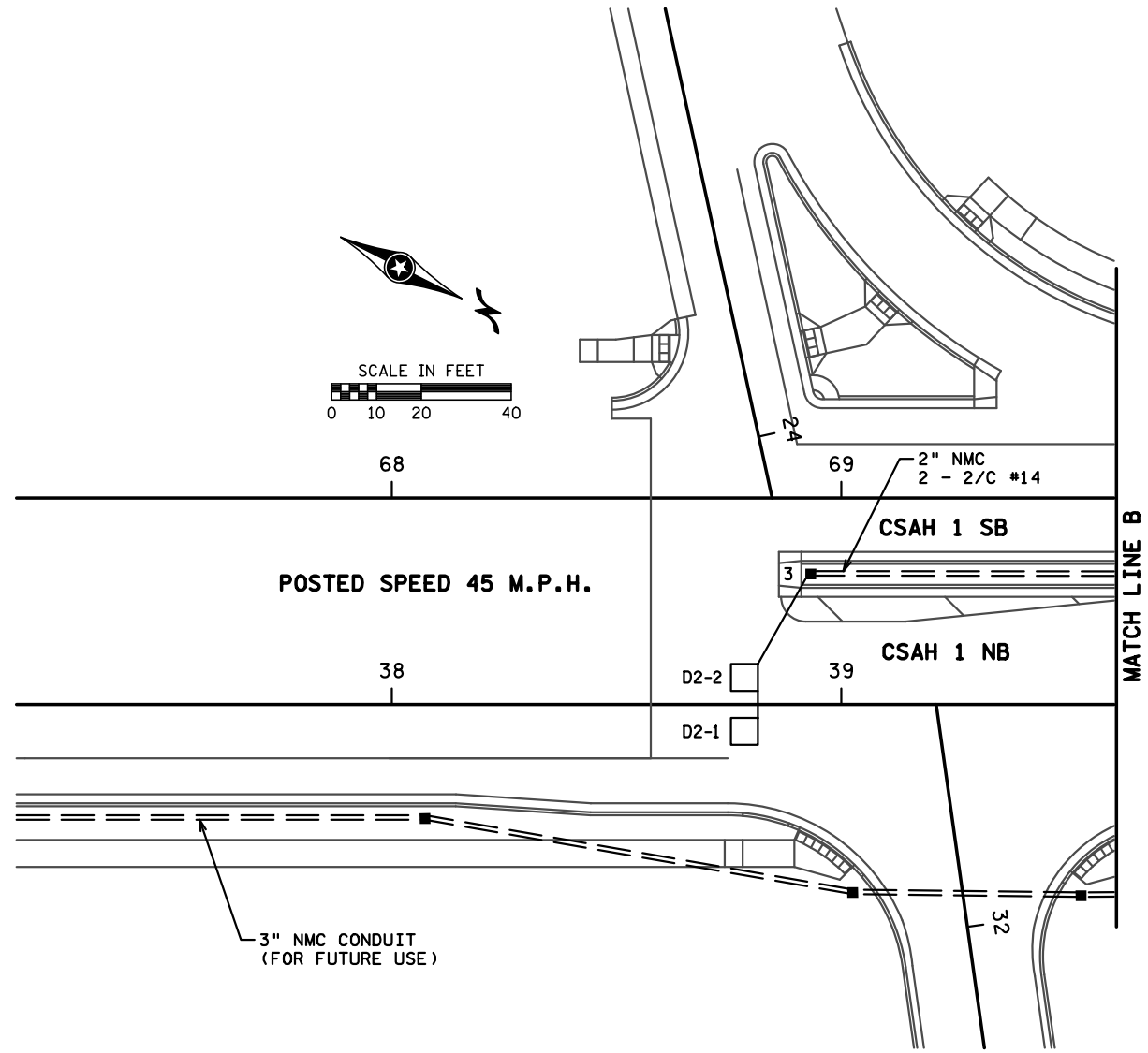
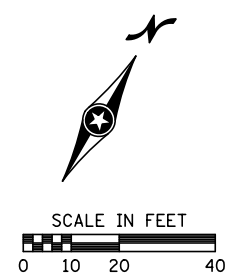
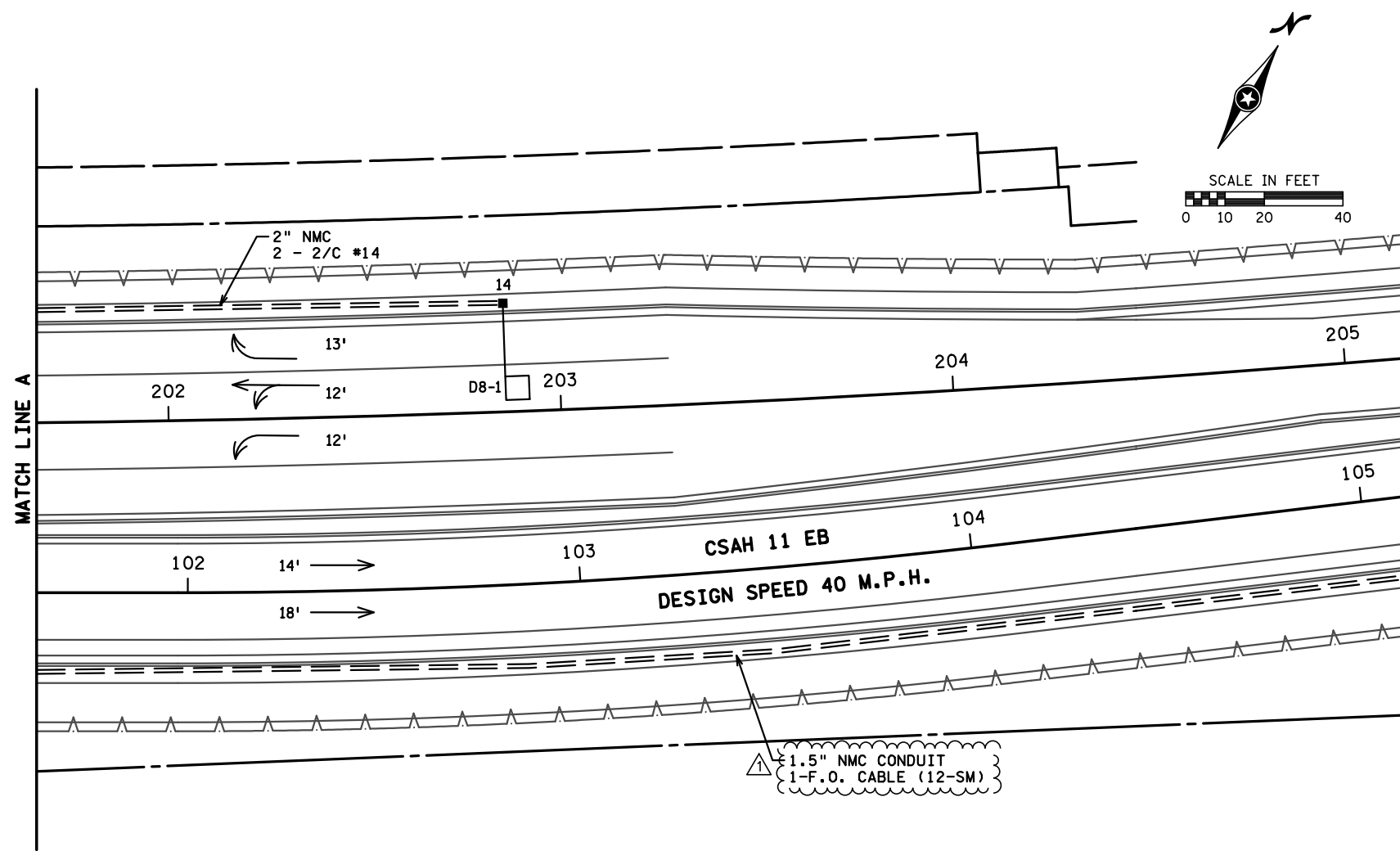
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 7 PHASE, WITH PHASES 1, 3, AND 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

- NOTES:**
- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY COUNTY OFFICE PERSONNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
 - FOR TYPE D SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCIDENTAL.
 - FOR PAVEMENT MARKINGS SEE DETAIL SHEET.
 - FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE DETAIL SHEET.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 - USE PVC OR HDPE FOR ALL NEW CONDUIT.
 - CONDUIT SIZES ARE NOMINAL DIAMETER.
 - ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE)
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

DATE: 12/14/2020 TIME: 12:47:07 PM FILENAME: c:\kda\proj\cthw\se\hmv\angstad\dms01247\cd00261036_slla.dgn

DES: JSB		I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		SIGNAL SYSTEM A INTERSECTION LAYOUT CSAH 1 AND CSAH 11		TRAFFIC SIGNAL PLAN	
DRW: RRC		SIGNATURE: <i>Jeffrey A. Hilden</i>		STATE PROJ. NO. 002-611-036		SHEET NO. 393 OF 416 SHEETS	
CHK: JAH		LIC. NO. 20781 DATE: 12/14/2020					
NO.	DATE	BY	DESCRIPTION OF REVISIONS				

DATE: 4/9/2021 TIME: 2:05:31 PM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	4-9-21	JAH	REVISED CONDUIT LABEL

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 4/9/2021
 JEFFREY A. HILDEN



SIGNAL SYSTEM A MATCH LINE LAYOUT
 CSAH 1 AT CSAH 11
 STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN
 SHEET NO. 394R OF 416 SHEETS

DATE: 12/18/2020 TIME: 1:39:48 PM
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Ⓑ SOP-GROUND MOUNTED TRANSFORMER (CONNEXUS ENERGY)
 2" CONDUIT INTO SERVICE CABINET:
 3-1/C 2

Ⓐ PA100 POLE FOUNDATION
 TYPE PA100-A-55-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2- STRAIGHT MOUNT SIGNALS OVERHEAD AT 10' AND 22'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 2-ANGLE MOUNT C.D. PED HEAD AT 90 AND 180 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)
 LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)
 3" CONDUIT TO HH #4:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14
 1-3/C 14 (LUM)
 * 1-3/C 20
 1-1/C 6 INS. GR.

Ⓒ PA85 POLE FOUNDATION
 TYPE PA85-A-20-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'
 1-ANGLE MOUNT SIGNALS AT 180 DEG
 1-ANGLE MOUNT C.D. PED HEAD AT 90 DEG
 1-PEDESTRIAN PUSH BUTTON AND SIGN (LT ARROW) (PB6-1)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 3+8)
 LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (3-1)
 1-TYPR D SIGN (D-4) (SEE SIGN DETAILS)
 3" CONDUIT TO HH #6:
 2-12/C 14
 1-4/C 14
 1-2/C 14
 * 1-3/C 14
 1-3/C 14 (LUM)
 * 1-3/C 20
 1-1/C 6 INS. GR.

Ⓓ PEDESTAL FOUNDATION
 13' PEDESTAL POLE PLUS BASE
 1-STRAIGHT MOUNT SIGNAL HEAD AT 335 DEG
 1-STRAIGHT MOUNT C.D. PED HEAD AT 180 DEG
 1-PEDESTRIAN PUSH BUTTON AND SIGN (RT ARROW) (PB8-2)
 3" CONDUIT TO HH #7:
 1-6/C 14
 1-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB) WITH BATTERY BACKUP SYSTEM AND BATTERIES
 CONTROLLER AND CABINET (COUNTY FURNISHED)

CABINET TO HH 1:	CABINET TO HH 16:
3 - 3" NMC	2 - 3" NMC
5 - 12/C 14	2 - 12/C 14
3 - 6/C 14	1 - 6/C 14
6 - 4/C 14	2 - 4/C 14
8 - 2/C 14	11 - 2/C 14
* 3 - 3/C 14	* 1 - 3/C 14
* 3 - 3/C 20	* 1 - 3/C 20
1 - 1/C 6 INS. GR.	1 - 1/C 6 INS. GR.

GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD
 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
 1-1/2" CONDUIT TO HH 17:
 1-FO PIGTAIL (12-SM) (FOR FUTURE USE)
 CONTROLLER CABINET TO SERVICE CABINET:
 2" CONDUIT
 3-1/C 6
 CONTROLLER CABINET TO SERVICE CABINET (COMMS):
 2" CONDUIT
 1-6PR 19
 SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:
 2" CONDUIT
 3-1/C 2

SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.
 (SEE EQUIPMENT PAD LAYOUT)

SERVICE CABINET TO HH1:
 1-1/4" CONDUIT AND LUMINAIRE CABLES (3 - 3/C #14)

SERVICE CABINET TO HH16:
 1-1/4" CONDUIT AND LUMINAIRE CABLES (1 - 3/C #14)

Ⓐ PA85 POLE FOUNDATION
 TYPE PA85-A-20-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 2-ANGLE MOUNT C.D. PED HEAD AT 90 AND 180 DEG
 1-PEDESTRIAN PUSH BUTTON AND SIGN (LT ARROW) (PB2-1)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 4)
 LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-TYPE D SIGN (D-4) (SEE SIGN DETAILS)
 3" CONDUIT TO HH #1:
 1-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14
 1-3/C 14 (LUM)
 * 1-3/C 20
 1-1/C 6 INS. GR.

Ⓒ PEDESTAL FOUNDATION
 13' PEDESTAL POLE PLUS BASE
 1-STRAIGHT MOUNT C.D. PED HEAD AT 270 DEG
 1-PEDESTRIAN PUSH BUTTON AND SIGN (RT ARROW) (PB2-2)
 3" CONDUIT TO HH #12:
 1-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

Ⓐ PA100 POLE FOUNDATION
 TYPE PA100-A-55-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2- STRAIGHT MOUNT SIGNALS OVERHEAD AT 12' AND 24'
 1-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 1-ANGLE MOUNT C.D. PED HEAD AT 90 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2+5)
 LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 1-TYPE D SIGN (D-3) (SEE SIGN DEATILS)
 3" CONDUIT TO HH #11:
 2-12/C 14
 1-6/C 14
 1-4/C 14
 * 1-3/C 14
 1-3/C 14 (LUM)
 * 1-3/C 20
 1-1/C 6 INS. GR.

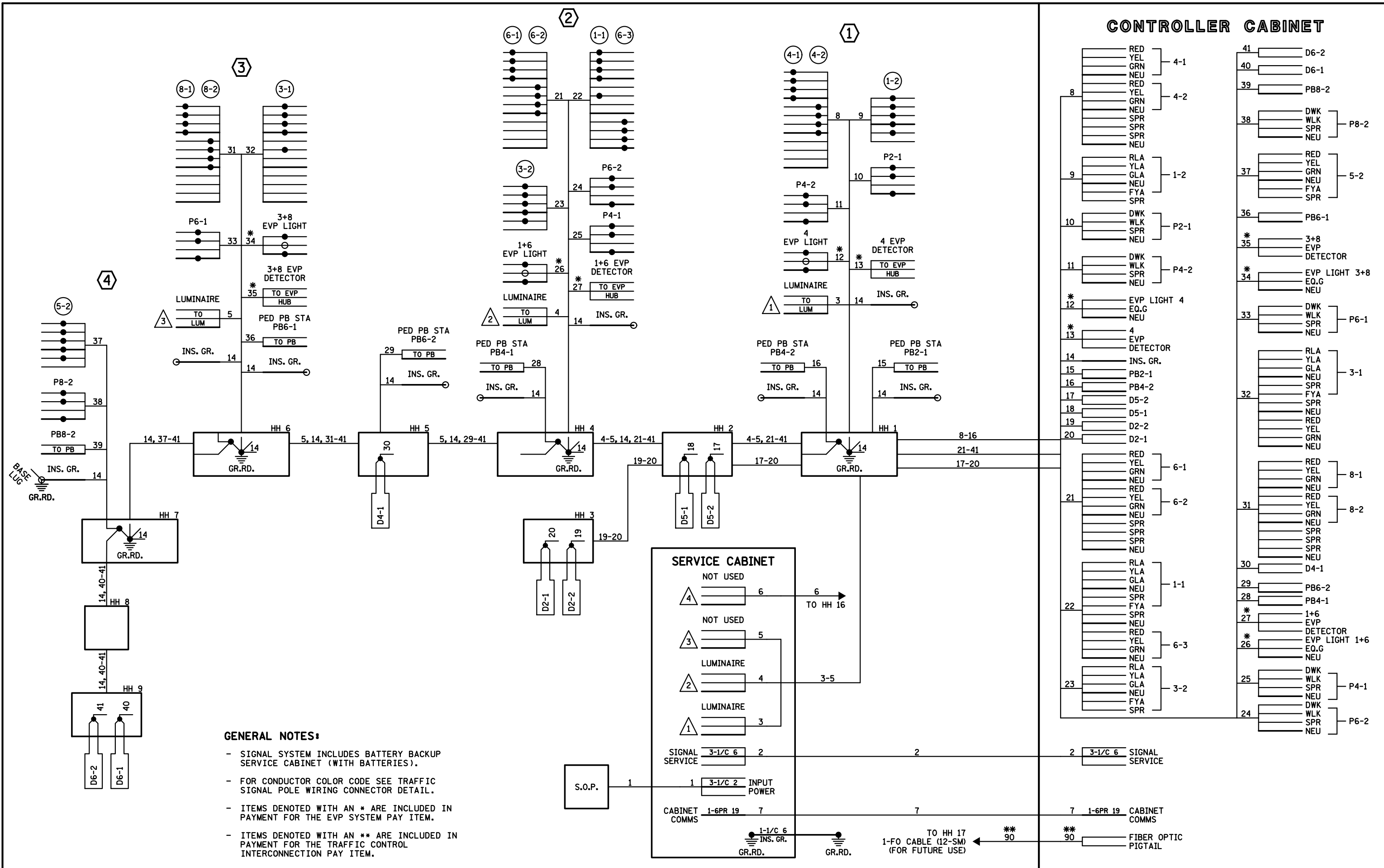
GENERAL NOTES:

- ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

			DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		SIGNAL SYSTEM A POLE NOTES CSAH 1 AT CSAH 11		TRAFFIC SIGNAL PLAN	
			DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 12/18/2020		STATE PROJ. NO. 002-611-036		SHEET NO. 395 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS		CHK: JAH				



DATE: 11/25/2020 TIME: 8:00:28 AM
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- GENERAL NOTES:**
- SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (WITH BATTERIES).
 - FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: JSB
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020

JEFFREY A. HILDEN



SIGNAL SYSTEM A WIRING DIAGRAM
 CSAH 1 AT CSAH 11

STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN

SHEET NO. 396 OF 416 SHEETS

SIGNAL HEAD CHART

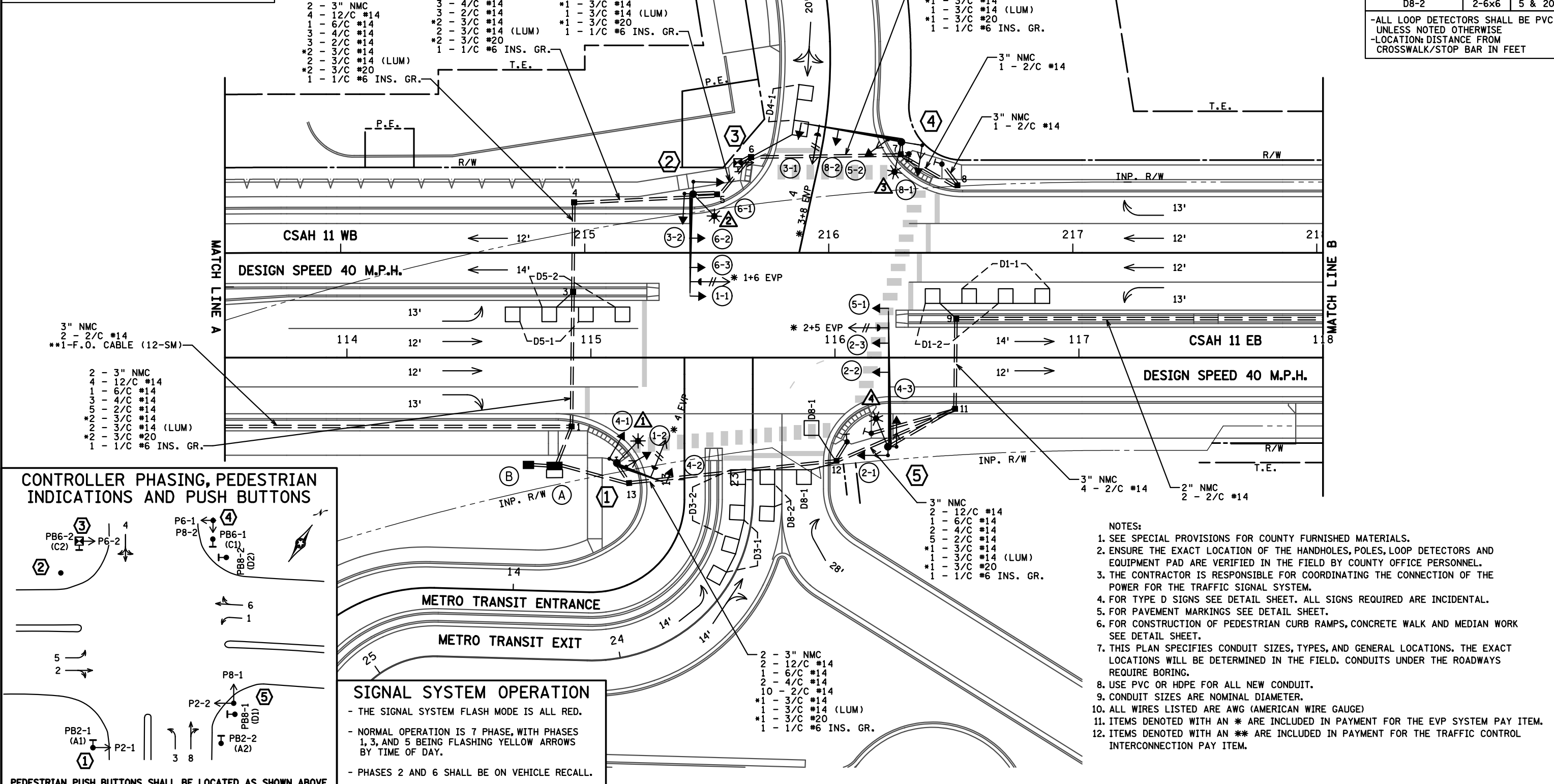
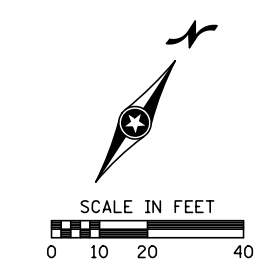
FACE	R	Y	FYA	G	Y	G/FA
1-1, 1-2	←	←	←	←		
2-1, 2-2, 2-3	●	●	●	●		
3-1, 3-2	←	←	←	←		
4-1, 4-2, 4-3	●	●	●	●		
5-1, 5-2	←	←	←	←		
6-1, 6-2, 6-3	●	●	●	●		
8-1, 8-2	●	●				

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

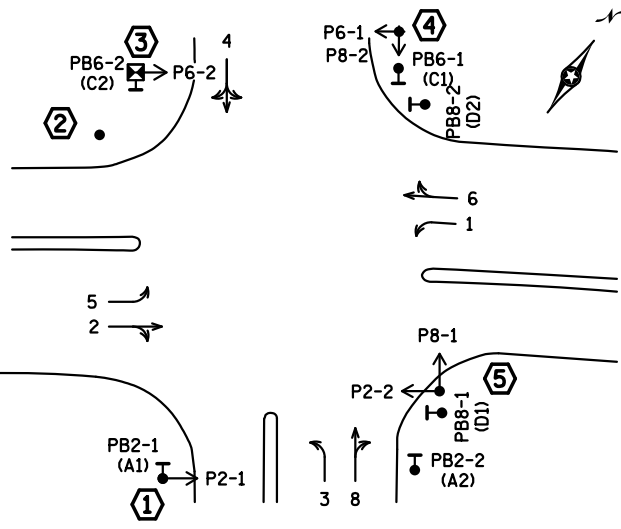
LOOP DETECTOR CHART

NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	20 & 50
D1-2	2-6x6	5 & 35
D2-1, D2-2	6x6	250
D3-1	2-6x6	20 & 50
D3-2	2-6x6	5 & 35
D4-1	2-6x6	5 & 20
D5-1	2-6x6	20 & 50
D5-2	2-6x6	5 & 35
D6-1, D6-2	6x6	250
D8-1	6x6	-10 & 5
D8-2	2-6x6	5 & 20

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE
 -LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

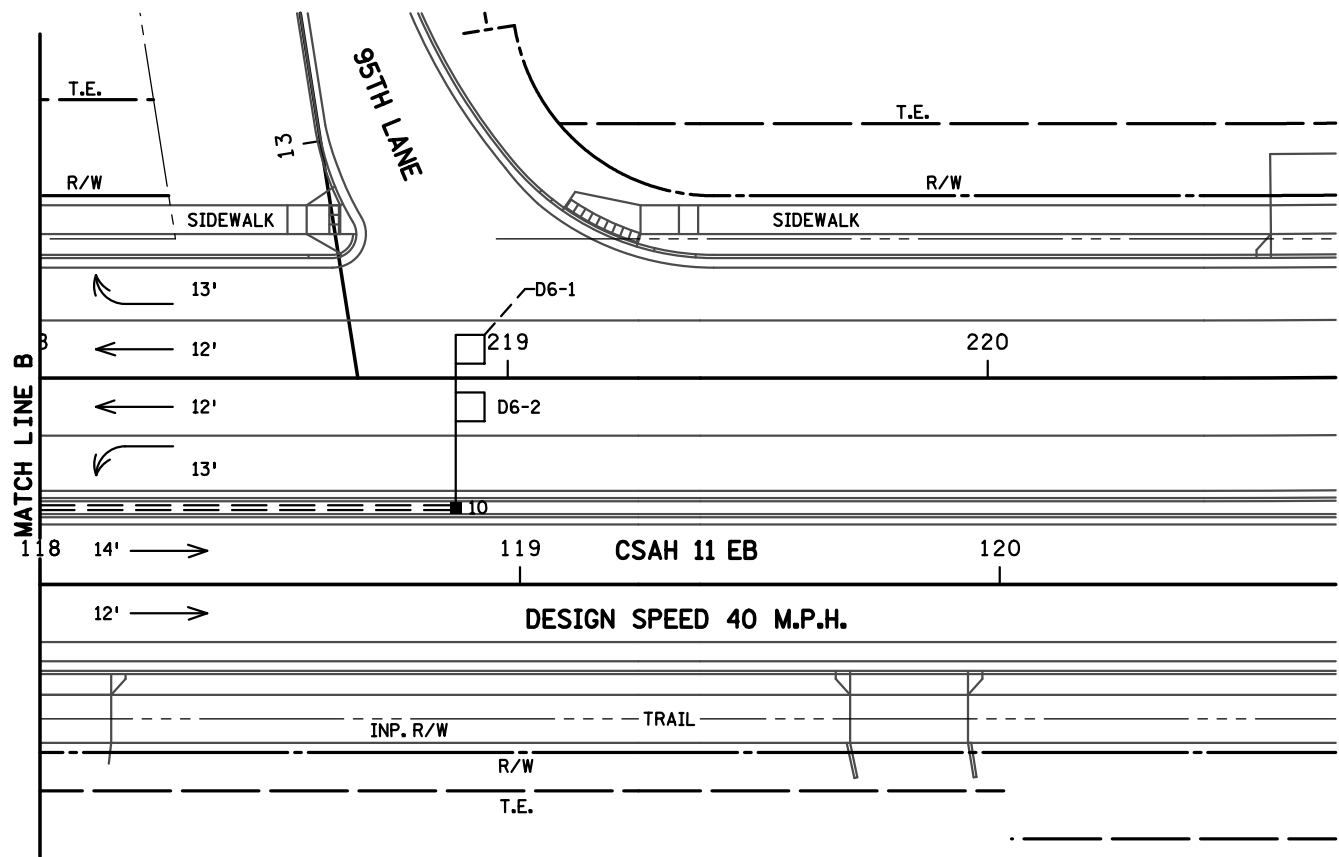
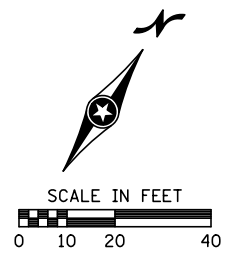
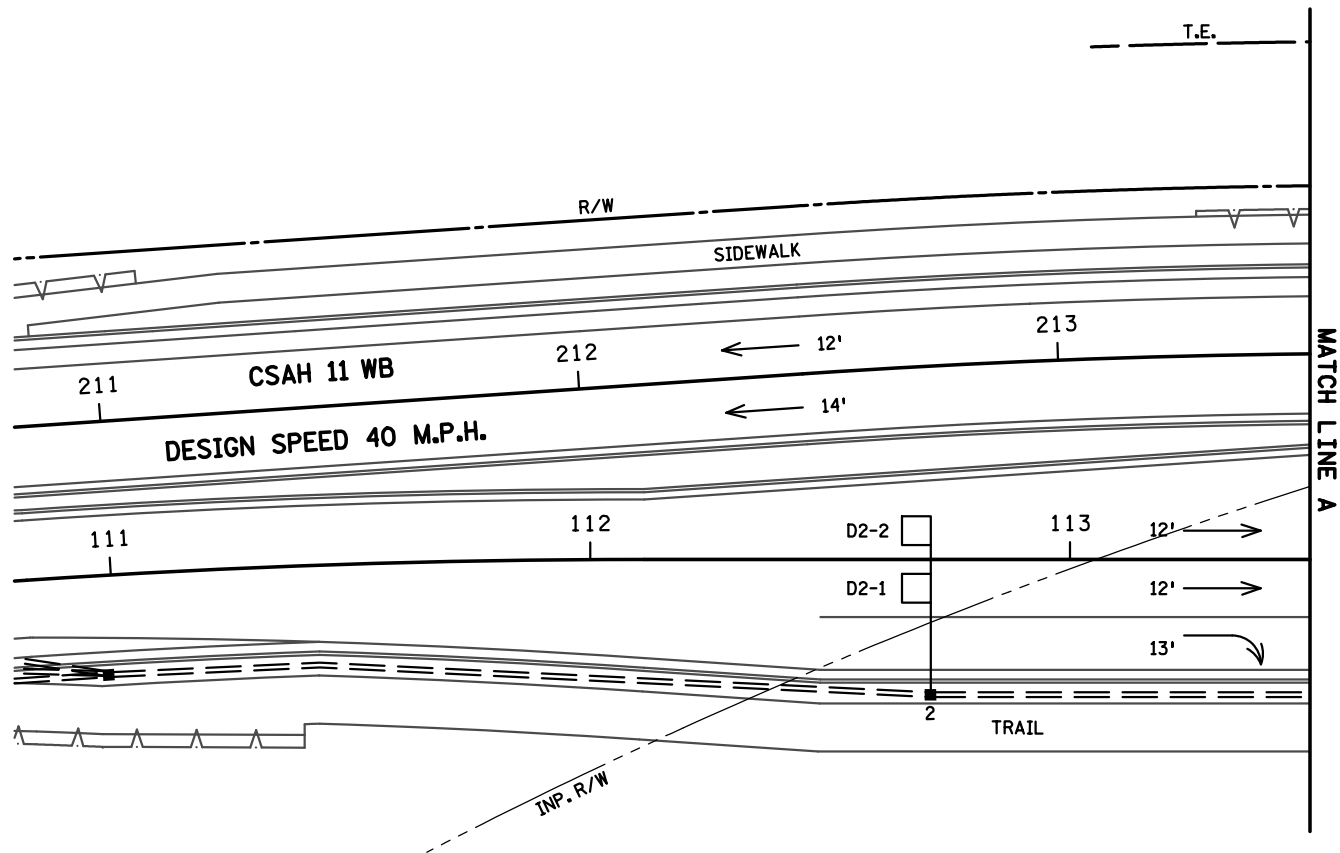
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
 - NORMAL OPERATION IS 7 PHASE, WITH PHASES 1, 3, AND 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
 - PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

- NOTES:**
- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY COUNTY OFFICE PERSONNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
 - FOR TYPE D SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCIDENTAL.
 - FOR PAVEMENT MARKINGS SEE DETAIL SHEET.
 - FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE DETAIL SHEET.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 - USE PVC OR HDPE FOR ALL NEW CONDUIT.
 - CONDUIT SIZES ARE NOMINAL DIAMETER.
 - ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE)
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

DATE: 12/14/2020 TIME: 12:51:59 PM FILENAME: c:\nkda\proj\cthw\se\hmv\angstad\dms01247\cd00261036...s12a.dgn

DES: JSB			I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		
DRW: RRC			SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 12/14/2020		
CHK: JAH			JEFFREY A. HILDEN		
NO.			STATE PROJ. NO. 002-611-036		
DATE			SIGNAL SYSTEM B INTERSECTION LAYOUT CSAH 11 AT METRO TRANSIT AND NORWAY ST.		
BY			TRAFFIC SIGNAL PLAN		
DESCRIPTION OF REVISIONS			SHEET NO. 398 OF 416 SHEETS		

DATE: 11/25/2020 TIME: 8:01:15 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



SIGNAL SYSTEM B MATCH LINE LAYOUT
 CSAH 11 AT METRO TRANSIT AND NORWAY ST.
 STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN
 SHEET NO. 399 OF 416 SHEETS

DATE: 12/18/2020 TIME: 1:39:57 PM
 FILENAME: c:\nkda\proj\techwise\jonathan.briffon\dms01247\cd00261036_sl2c.dgn

Ⓑ SOP-GROUND MOUNTED TRANSFORMER (CONNEXUS ENERGY) 2" CONDUIT INTO SERVICE CABINET: 3-1/C 2

Ⓒ PA90 POLE FOUNDATION
 TYPE PA90-A-40-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2- STRAIGHT MOUNT SIGNALS OVERHEAD AT 12' AND 24'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)
 LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 1-TYPE D SIGN (D-5) (SEE SIGN DETAILS)
 3" CONDUIT TO HH #5:
 2-12/C 14
 1-6/C 14
 * 1-3/C 14
 1-3/C 14 (LUM)
 * 1-3/C 20
 1-1/C 6 INS. GR.

Ⓓ PEDESTAL FOUNDATION
 13' PEDESTAL POLE PLUS BASE
 1-STRAIGHT MOUNT C.D. PED HEAD AT 270 DEG
 1-PEDESTRIAN PUSH BUTTON AND SIGN (RT ARROW) (PB6-2)
 3" CONDUIT TO HH #6:
 1-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

Ⓔ PA90 POLE FOUNDATION
 TYPE PA90-B-40-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1- STRAIGHT MOUNT SIGNAL OVERHEAD AT 15'
 2-ANGLE MOUNT SIGNALS AT 0 AND 180 DEG
 2-ANGLE MOUNT C.D. PED HEAD AT 0 AND 180 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 3+8)
 LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (3-1)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH #7:
 2-12/C 14
 2-4/C 14
 * 1-3/C 14
 1-3/C 14 (LUM)
 * 1-3/C 20
 1-1/C 6 INS. GR.

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB) WITH BATTERY BACKUP SYSTEM AND BATTERIES CONTROLLER AND CABINET (COUNTY FURNISHED)

CABINET TO HH 1:	CABINET TO HH 13:
2 - 3" NMC	2 - 3" NMC
4 - 12/C 14	3 - 12/C 14
1 - 6/C 14	2 - 6/C 14
3 - 4/C 14	3 - 4/C 14
7 - 2/C 14	11 - 2/C 14
* 2 - 3/C 14	* 2 - 3/C 14
* 2 - 3/C 20	* 2 - 3/C 20
1 - 1/C 6 INS. GR.	1 - 1/C 6 INS. GR..
1 - FO CABLE (12-SM)	

Ⓘ PA85 POLE FOUNDATION
 TYPE PA85-B-20-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2-ANGLE MOUNT SIGNALS AT 0 AND 180 DEG
 1-ANGLE MOUNT C.D. PED HEAD AT 0 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 4)
 LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH #13:
 1-12/C 14
 1-6/C 14
 1-4/C 14
 1-2/C 14
 * 1-3/C 14
 1-3/C 14 (LUM)
 * 1-3/C 20
 1-1/C 6 INS. GR.

Ⓢ PA100 POLE FOUNDATION
 TYPE PA100-A-55-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2- STRAIGHT MOUNT SIGNALS OVERHEAD AT 14' AND 26'
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
 2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2+5)
 LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 1-TYPE D SIGN (D-6) (SEE SIGN DETAILS)
 3" CONDUIT TO HH #11:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14
 1-3/C 14 (LUM)
 * 1-3/C 20
 1-1/C 6 INS. GR.

GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD
 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
 1-1/2" CONDUIT TO HH 1:
 1-FO PIGTAIL (12-SM)
 CONTROLLER CABINET TO SERVICE CABINET:
 2" CONDUIT
 3-1/C 6
 CONTROLLER CABINET TO SERVICE CABINET (COMMS):
 2" CONDUIT
 1-6PR 19
 SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:
 2" CONDUIT
 3-1/C 2

SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.
 (SEE EQUIPMENT PAD LAYOUT)

SERVICE CABINET TO HH1:
 1-1/4" CONDUIT AND LUMINAIRE CABLES (2 - 3/C #14)

SERVICE CABINET TO HH13:
 1-1/4" CONDUIT AND LUMINAIRE CABLES (2 - 3/C #14)

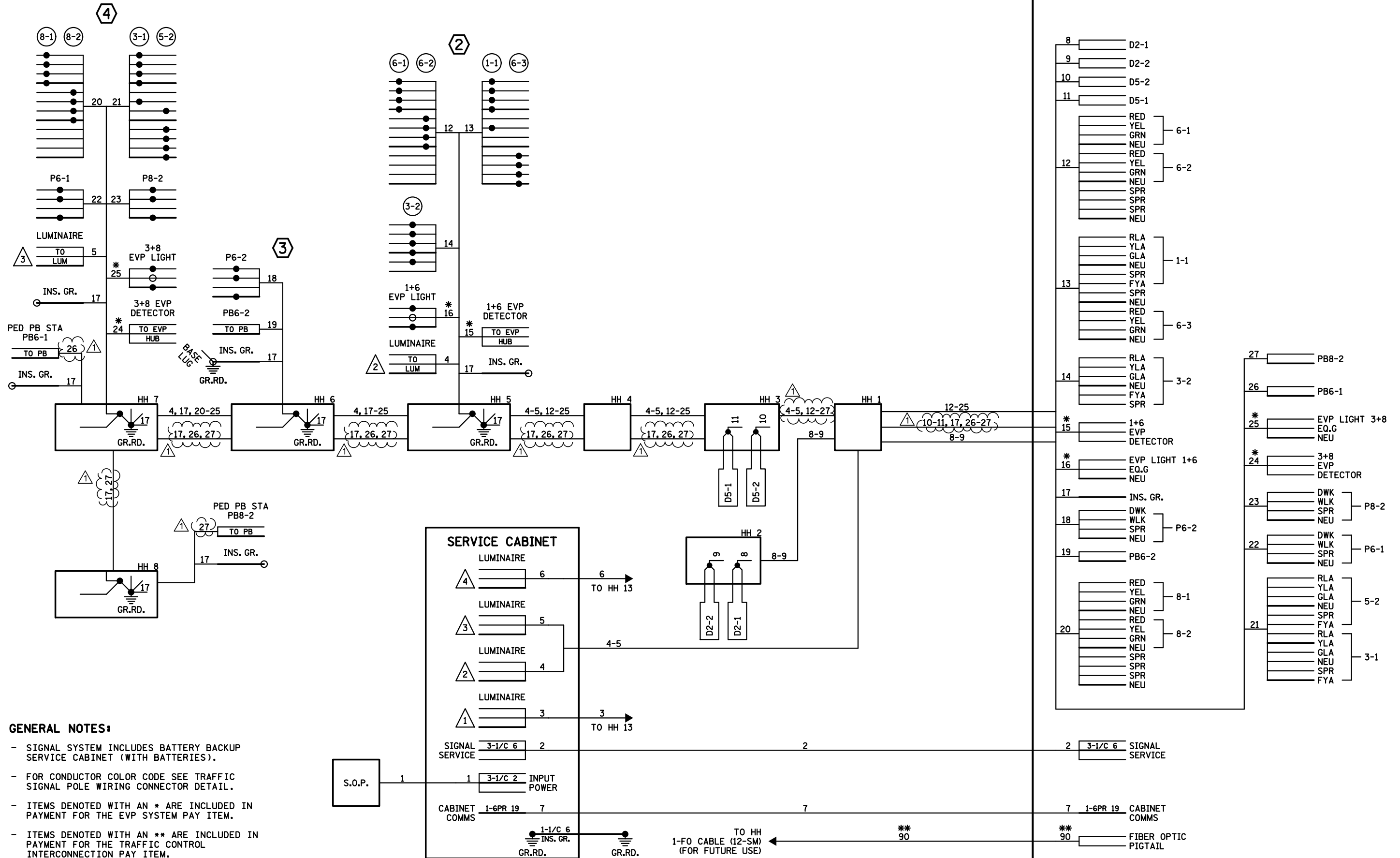
GENERAL NOTES:
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

			DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		SIGNAL SYSTEM B POLE NOTES CSAH 11 AT METRO TRANSIT AND NORWAY ST.		TRAFFIC SIGNAL PLAN	
			DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 12/18/2020		STATE PROJ. NO. 002-611-036		SHEET NO. 400 OF 416 SHEETS	
NO.	DATE	BY	CHK: JAH	DESCRIPTION OF REVISIONS					



DATE: 4/8/2021 TIME: 12:22:38 PM
 FILENAME: c:\tkda\proj\techwise\jonathan\ms01247\cd00261036_sl2d.dgn

CONTROLLER CABINET



GENERAL NOTES:

- SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (WITH BATTERIES).
- FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
- ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
- ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

S.O.P.

DES: JSB I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: JSB
 CHK: JAH SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 4/8/2021
 JEFFREY A. HILDEN



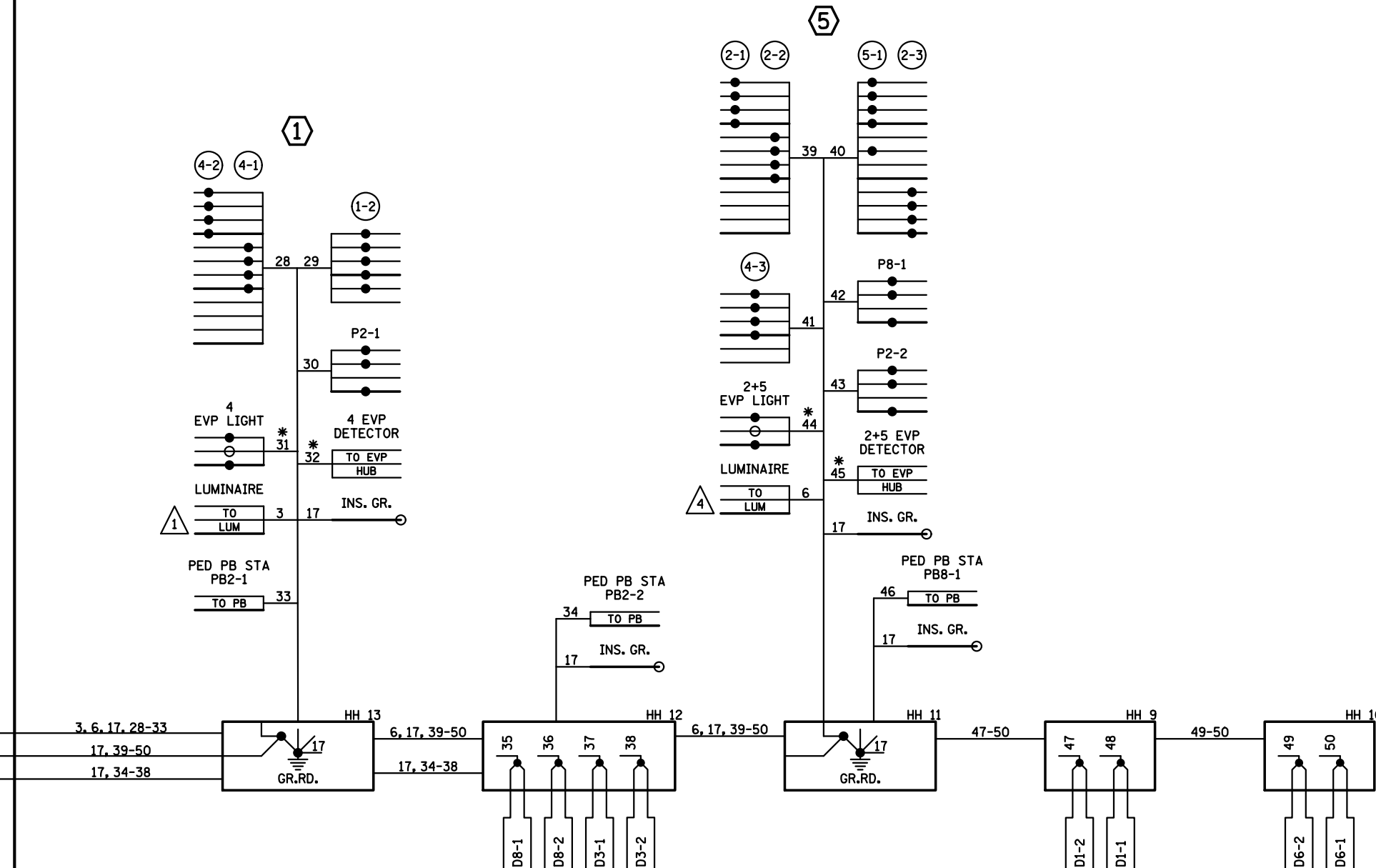
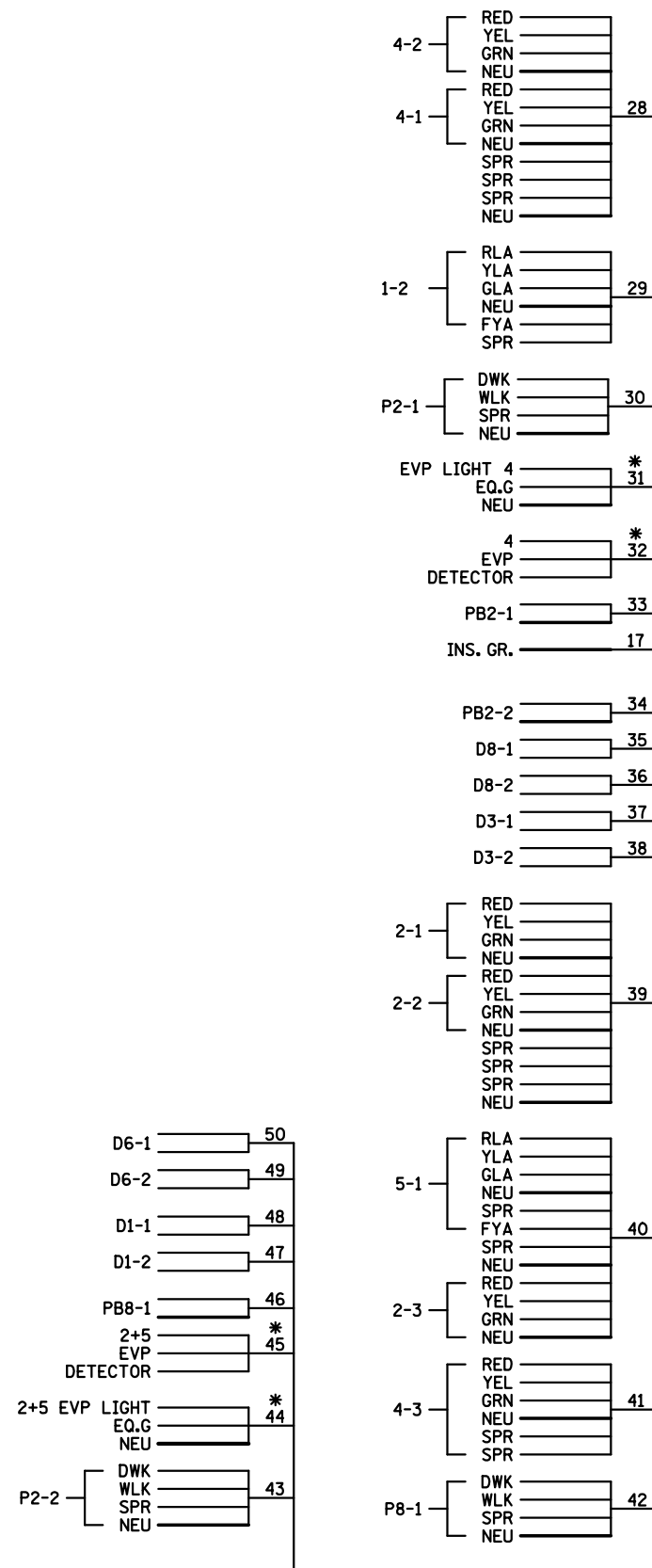
SIGNAL SYSTEM B WIRING DIAGRAM
 CSAH 11 AT METRO TRANSIT AND NORWAY ST.
 STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN

SHEET NO. 401R OF 416 SHEETS

NO.	DATE	BY	DESCRIPTION OF REVISIONS
1	4/8/21	JAH	REVISED WIRE NUMBERS

CONTROLLER CABINET



- GENERAL NOTES:**
- SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (WITH BATTERIES).
 - FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

DATE: 11/25/2020 TIME: 8:03:58 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: JSB
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



SIGNAL SYSTEM B WIRING DIAGRAM
 CSAH 11 AT METRO TRANSIT AND NORWAY ST.
 STATE PROJ. NO. 002-611-036

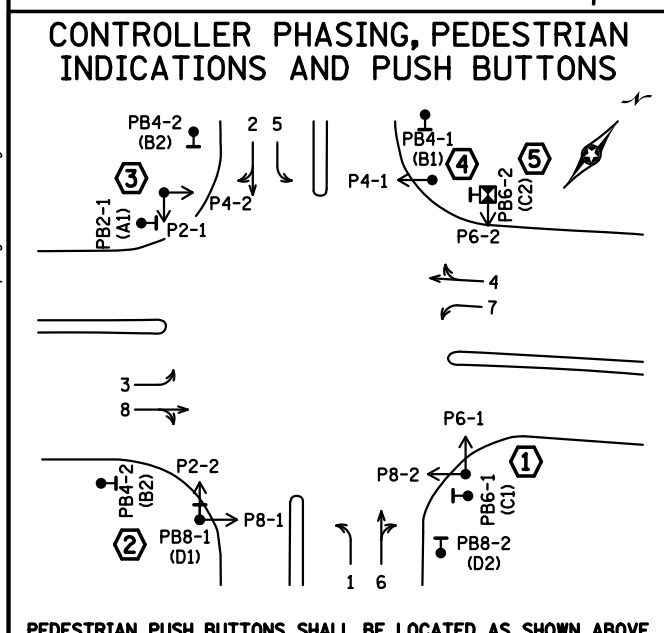
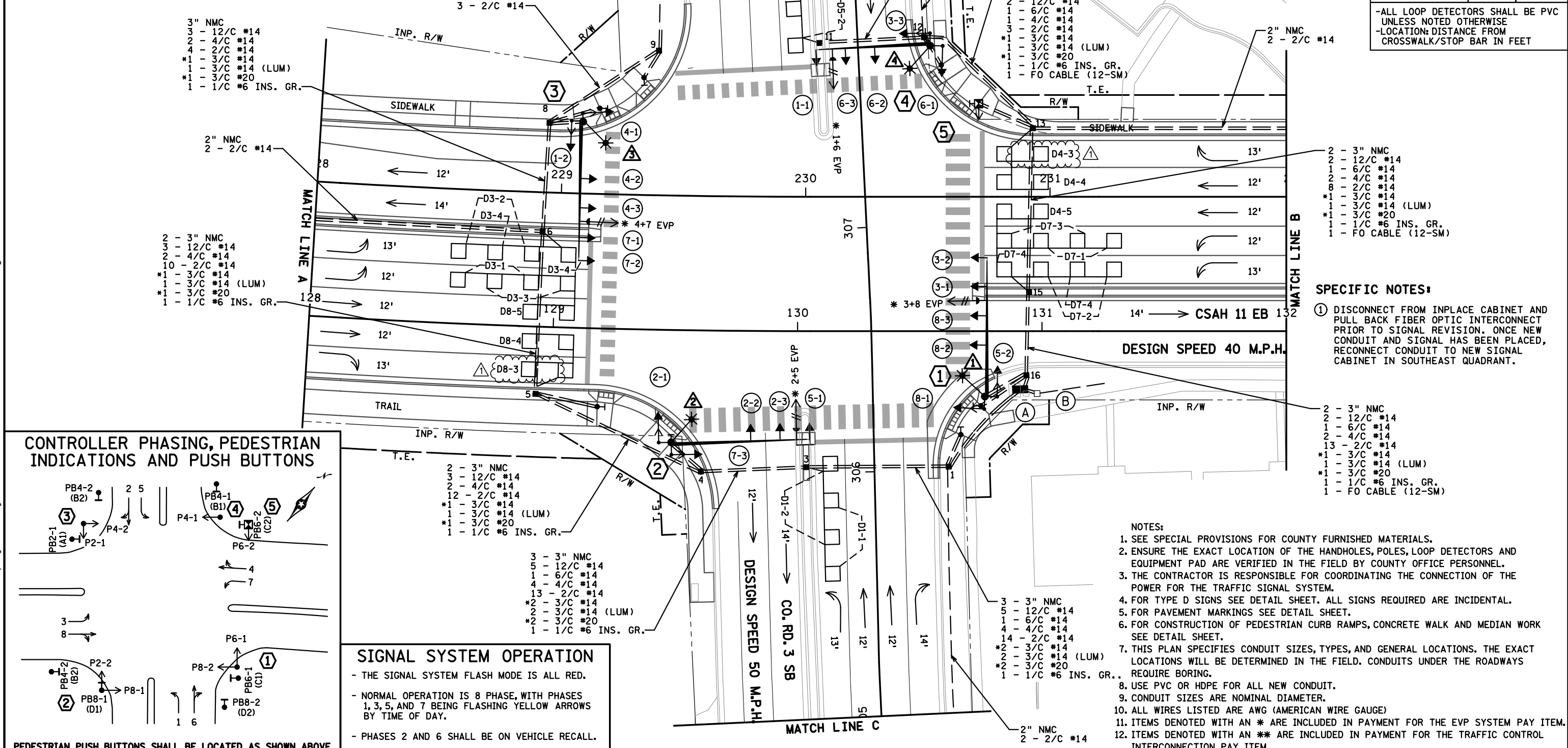
TRAFFIC SIGNAL PLAN
 SHEET NO. 402 OF 416 SHEETS

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

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

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D5-1	2-6x6	20 & 50
D1-2, D5-2	2-6x6	5 & 35
D2-1, D2-2	6x6	400
D3-1, D3-2	2-6x6	20 & 50
D3-3, D3-4	2-6x6	5 & 35
D4-1, D4-2	6x6	250
D4-3, D8-3	2-6x6	5 & 20
D4-4, D4-5	2-6x6	5 & 20
D6-1, D6-2	6x6	400
D7-1, D7-2	2-6x6	20 & 50
D7-3, D7-4	2-6x6	5 & 35
D8-1, D8-2	6x6	250
D8-4, D8-5	2-6x6	5 & 20

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE
 -LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5, AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

SPECIFIC NOTES:

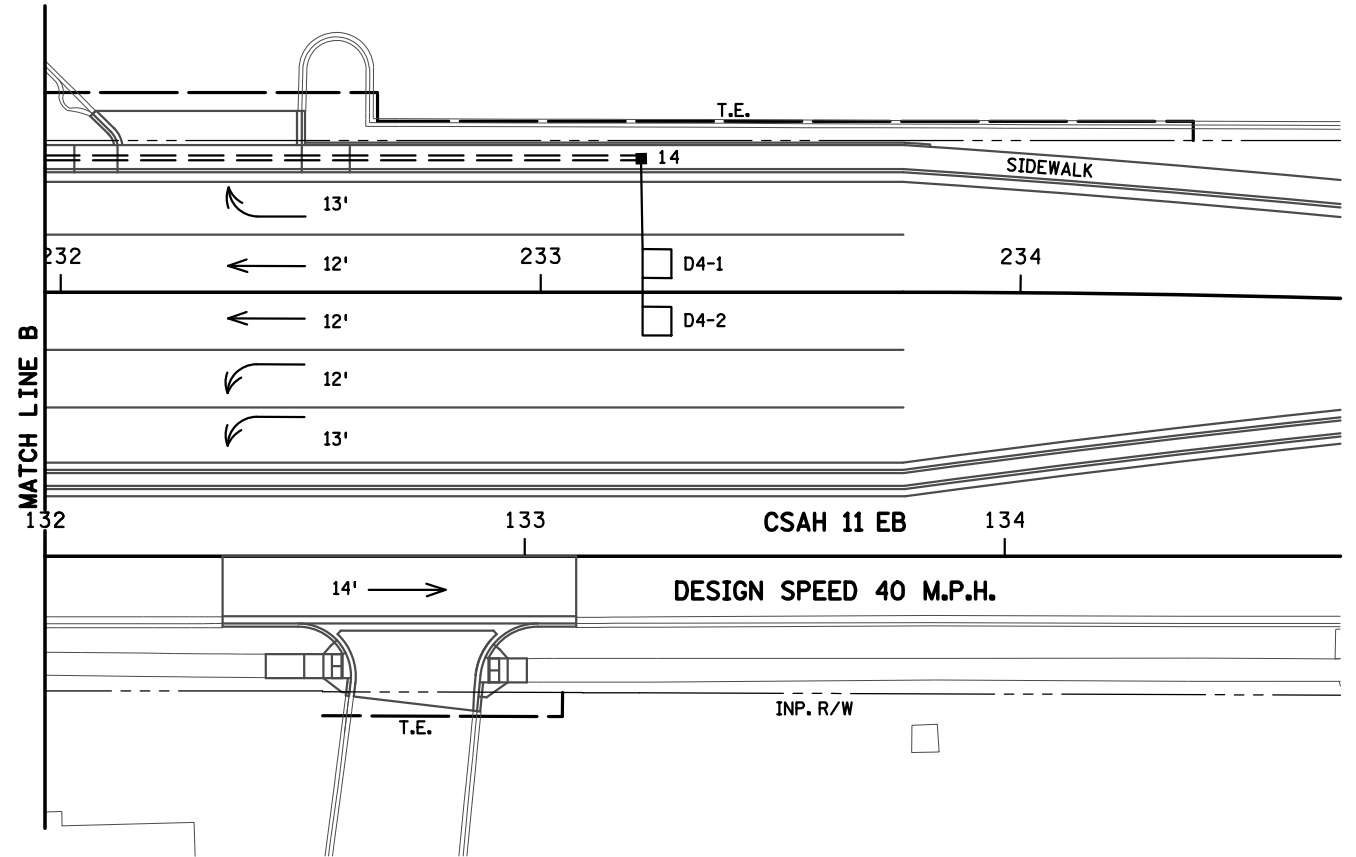
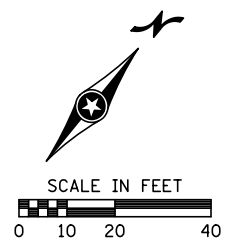
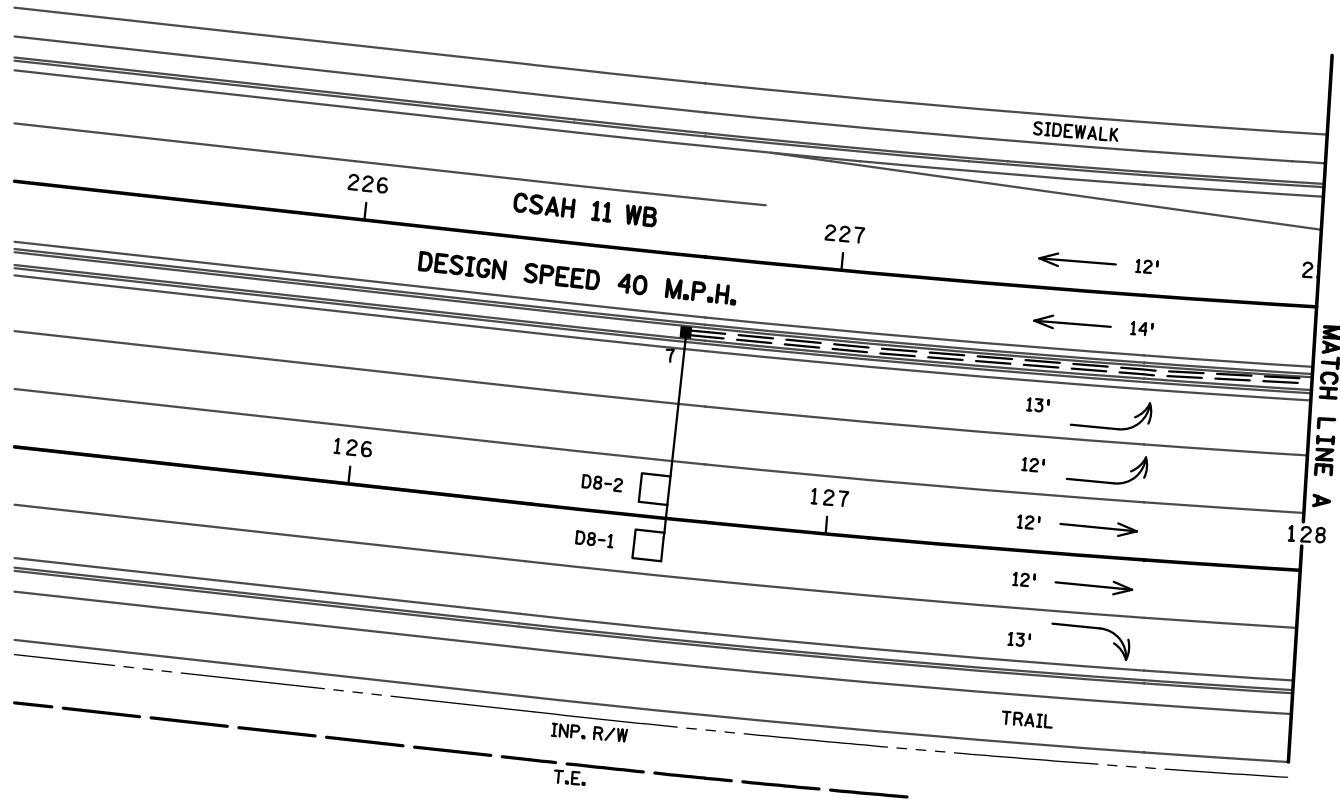
① DISCONNECT FROM INPLACE CABINET AND PULL BACK FIBER OPTIC INTERCONNECT PRIOR TO SIGNAL REVISION. ONCE NEW CONDUIT AND SIGNAL HAS BEEN PLACED, RECONNECT CONDUIT TO NEW SIGNAL CABINET IN SOUTHEAST QUADRANT.

- ### NOTES:
- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY COUNTY OFFICE PERSONNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
 - FOR TYPE D SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCIDENTAL.
 - FOR PAVEMENT MARKINGS SEE DETAIL SHEET.
 - FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE DETAIL SHEET.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 - USE PVC OR HDPE FOR ALL NEW CONDUIT.
 - CONDUIT SIZES ARE NOMINAL DIAMETER.
 - ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE)
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

DATE: 4/8/2021 TIME: 1:14:45 PM FILENAME: c:\nkda\proj\techwise\jonathan\briffon\dms01247\cd00261036...s13a.dgn

DES: JSB		I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			SIGNAL SYSTEM C INTERSECTION LAYOUT CSAH 11 AT CO. RD. 3		TRAFFIC SIGNAL PLAN		
DRW: RRC		SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 4/8/2021			STATE PROJ. NO. 002-611-036		SHEET NO. 403R OF 416 SHEETS		
CHK: JAH									

DATE: 11/25/2020 TIME: 8:05:31 AM
 FILENAME: c:\kda_project\ise\m.vangstad\dms01247\cd00261036_s13b.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



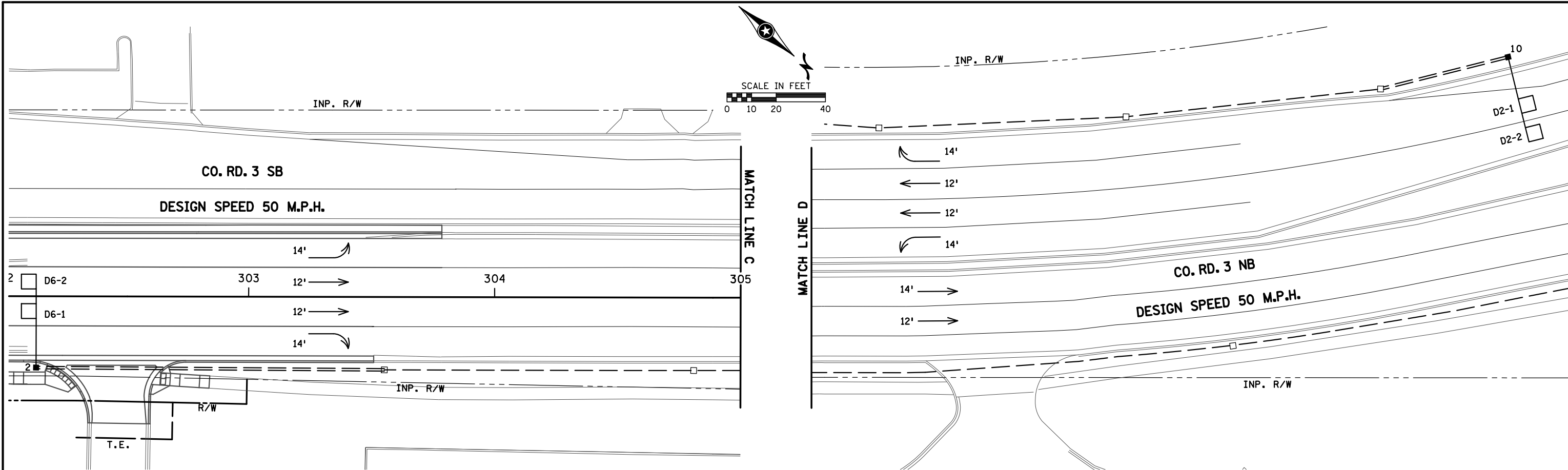
SIGNAL SYSTEM C MATCH LINE LAYOUT
 CSAH 11 AT CO. RD. 3

STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN

SHEET NO. 404 OF 416 SHEETS

DATE: 11/25/2020 TIME: 8:06:17 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: RRC
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



SIGNAL SYSTEM C MATCH LINE LAYOUT
 CSAH 11 AT CR. RD. 3

STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN

SHEET NO. 405 OF 416 SHEETS

DATE: 12/18/2020 TIME: 1:41:00 PM
FILENAME: c:\tkda\proj\techwise\ondatran.br\trf\on\ms01247\cd00261036_sl3d.dgn

- ③ PA100 POLE FOUNDATION
TYPE PA100-A-55-D30-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
3-STRAIGHT MOUNT SIGNALS OVERHEAD
AT 8', 20' AND 32'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C. D. PED HEADS
AT 90 AND 180 DEG
* 1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 4+7)
LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
1-R10-X12 SIGN ADJACENT TO HEAD (7-2)
1-TYPE D SIGN (D-7) (SEE SIGN DETAILS)
3" CONDUIT TO HH #8:
3-12/C 14
2-4/C 14
* 1-3/C 14
1-3/C 14 (LUM)
* 1-3/C 20
1-1/C 6 INS. GR.

- ④ PA100 POLE FOUNDATION
TYPE PA100-A-45-D30-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS OVERHEAD
AT 12' AND 24'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
1-ANGLE MOUNT C. D. PED HEAD
AT 90 DEG
* 1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 1+6)
LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
3" CONDUIT TO HH #12:
2-12/C 14
1-6/C 14
1-4/C 14
* 1-3/C 14
1-3/C 14 (LUM)
* 1-3/C 20
1-1/C 6 INS. GR.

- ⑤ PEDESTAL FOUNDATION
13' PEDESTAL POLE PLUS BASE
1-STRAIGHT MOUNT C. D. PED HEAD
AT 270 DEG
1-PEDESTRIAN PUSH BUTTON AND SIGN (RT ARROW) (PB6-2)
3" CONDUIT TO HH #13:
1-4/C 14
1-2/C 14
1-1/C 6 INS. GR.

- ② PA100 POLE FOUNDATION
TYPE PA100-A-55-D30-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS OVERHEAD
AT 12' AND 24'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C. D. PED HEADS
AT 90 AND 180 DEG
1-PEDESTRIAN PUSH BUTTON AND SIGN (LT ARROW) (PB8-1)
* 1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 2+5)
LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
3" CONDUIT TO HH #4:
2-12/C 14
1-6/C 14
2-4/C 14
1-2/C 14
* 1-3/C 14
1-3/C 14 (LUM)
* 1-3/C 20
1-1/C 6 INS. GR.

- ① PA100 POLE FOUNDATION
TYPE PA100-A-55-D30-9 (DAVIT AT 350 DEG)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
3-STRAIGHT MOUNT SIGNALS OVERHEAD
AT 12', 24' AND 36'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C. D. PED HEADS
AT 90 AND 180 DEG
* 1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 3+8)
LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
1-R10-X12 SIGN ADJACENT TO HEAD (3-2)
1-TYPE D SIGN (D-7) (SEE SIGN DETAILS)
3" CONDUIT TO HH #16:
3-12/C 14
2-4/C 14
* 1-3/C 14
1-3/C 14 (LUM)
* 1-3/C 20
1-1/C 6 INS. GR.


- Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
SERVICE CABINET (SSB) WITH BATTERY BACKUP SYSTEM AND BATTERIES
CONTROLLER AND CABINET (COUNTY FURNISHED)
- | | |
|--------------------|----------------------|
| CABINET TO HH 1: | CABINET TO HH 16: |
| 3 - 3" NMC | 3 - 3" NMC |
| 5 - 12/C 14 | 5 - 12/C 14 |
| 1 - 6/C 14 | 1 - 6/C 14 |
| 4 - 4/C 14 | 4 - 4/C 14 |
| 15 - 2/C 14 | 14 - 2/C 14 |
| * 2 - 3/C 14 | * 2 - 3/C 14 |
| * 2 - 3/C 20 | * 2 - 3/C 20 |
| 1 - 1/C 6 INS. GR. | 1 - 1/C 6 INS. GR. |
| | 1 - FO CABLE (12-SM) |

- Ⓑ SOP-GROUND MOUNTED
TRANSFORMER (CONNEXUS ENERGY)
2" CONDUIT INTO SERVICE CABINET:
3-1/C 2

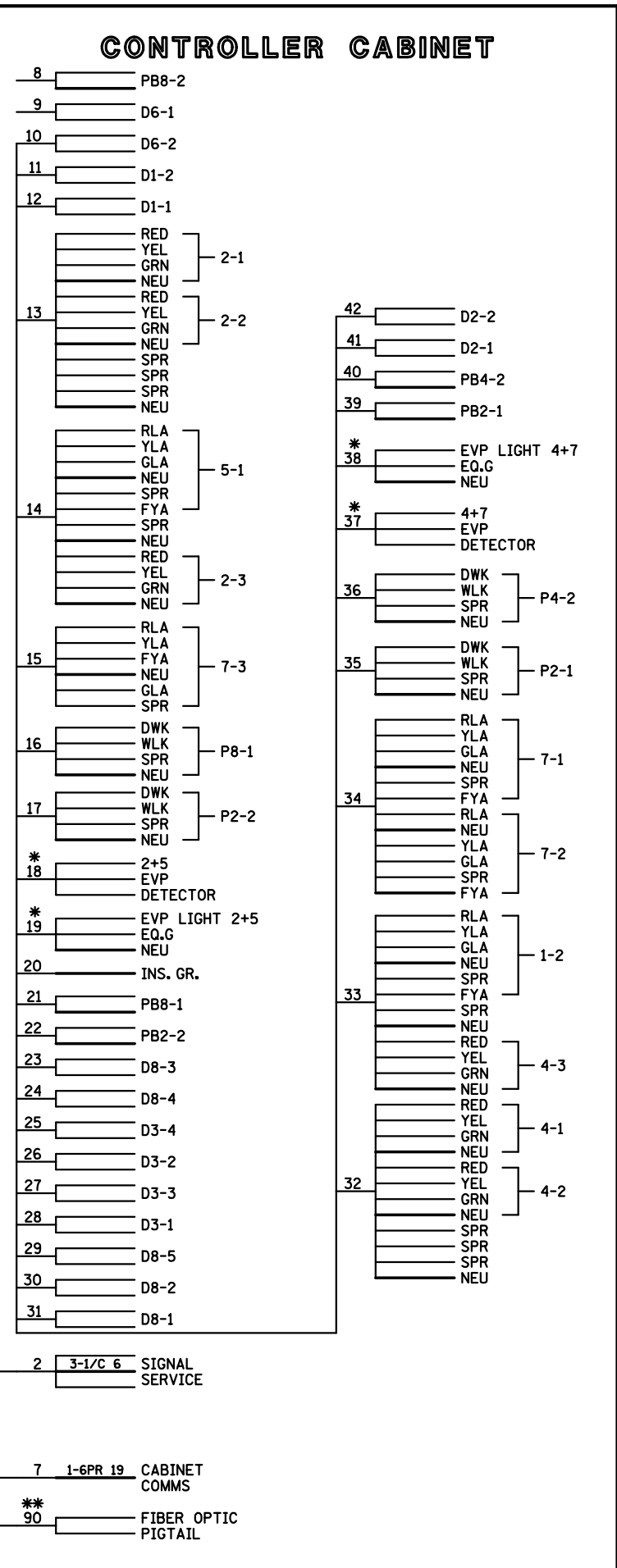
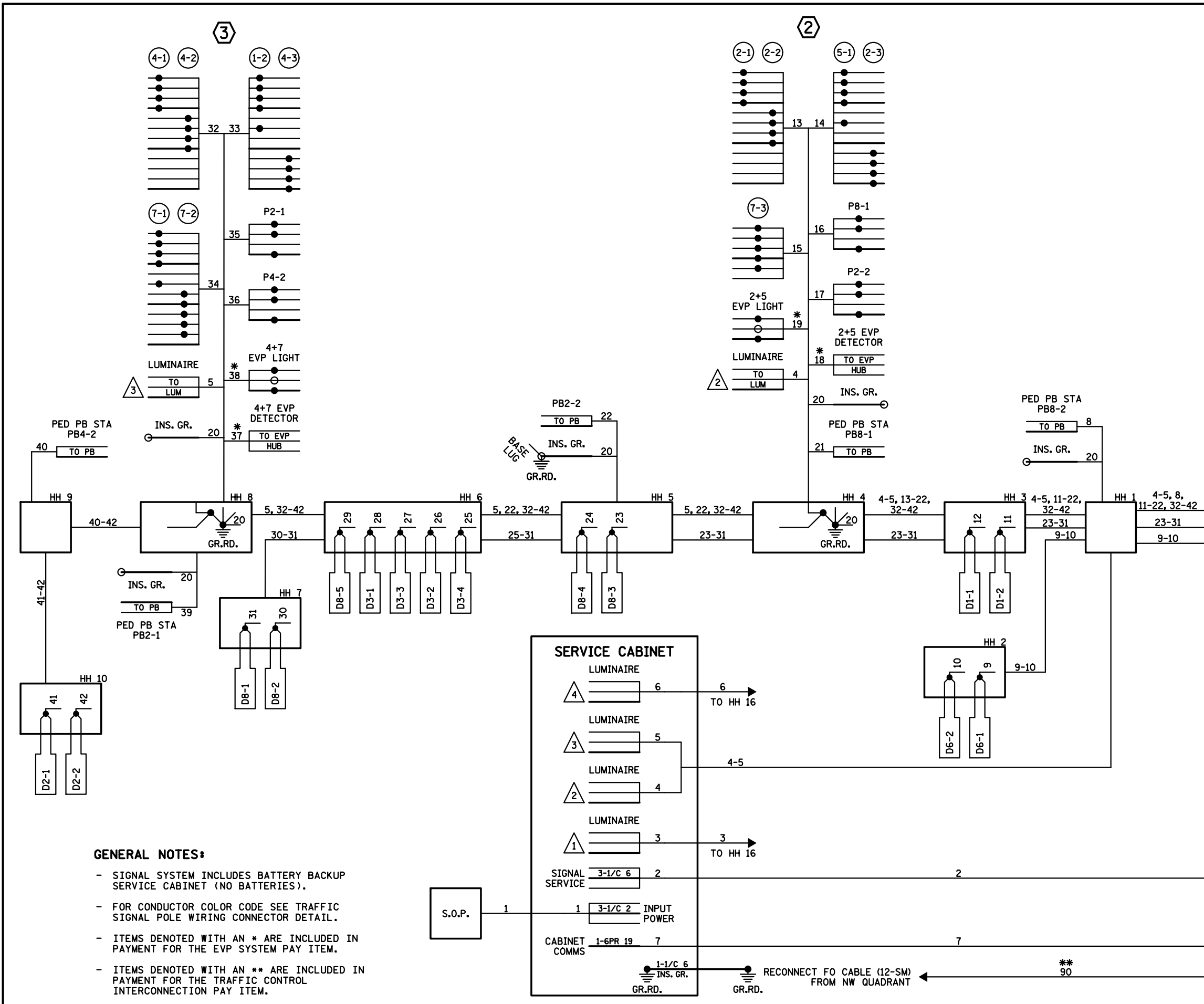
- GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD
2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
1-1/2" CONDUIT TO HH:
1-FO PIGTAIL (12-SM) (FOR FUTURE USE)
CONTROLLER CABINET TO SERVICE CABINET:
2" CONDUIT
3-1/C 6
CONTROLLER CABINET TO SERVICE CABINET (COMMS):
2" CONDUIT
1-6PR 19
SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:
2" CONDUIT
3-1/C 2
- SERVICE CABINET TO EXTERNAL GR. RD.:
1" CONDUIT
1-1/C 6 INS. GR.
(SEE EQUIPMENT PAD LAYOUT)
- SERVICE CABINET TO HH1:
1-1/4" CONDUIT AND LUMINAIRE CABLES (2 - 3/C #14)
- SERVICE CABINET TO HH16:
1-1/4" CONDUIT AND LUMINAIRE CABLES (2 - 3/C #14)

GENERAL NOTES:

- ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

				DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		SIGNAL SYSTEM C POLE NOTES CSAH 11 AT CO. RD. 3		TRAFFIC SIGNAL PLAN		
				DRW: RRC			SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 12/18/2020	STATE PROJ. NO. 002-611-036		SHEET NO. 406 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: JAH							

DATE: 11/25/2020 TIME: 8:06:23 AM
 FILENAME: c:\tkda\proj\tech\wise\hfm\vangstad\dms01247\cd00261036...s13e.dgn



GENERAL NOTES:

- SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (NO BATTERIES).
- FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
- ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
- ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

S.O.P.

DES: JSB
 DRW: JSB
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020

JEFFREY A. HILDEN



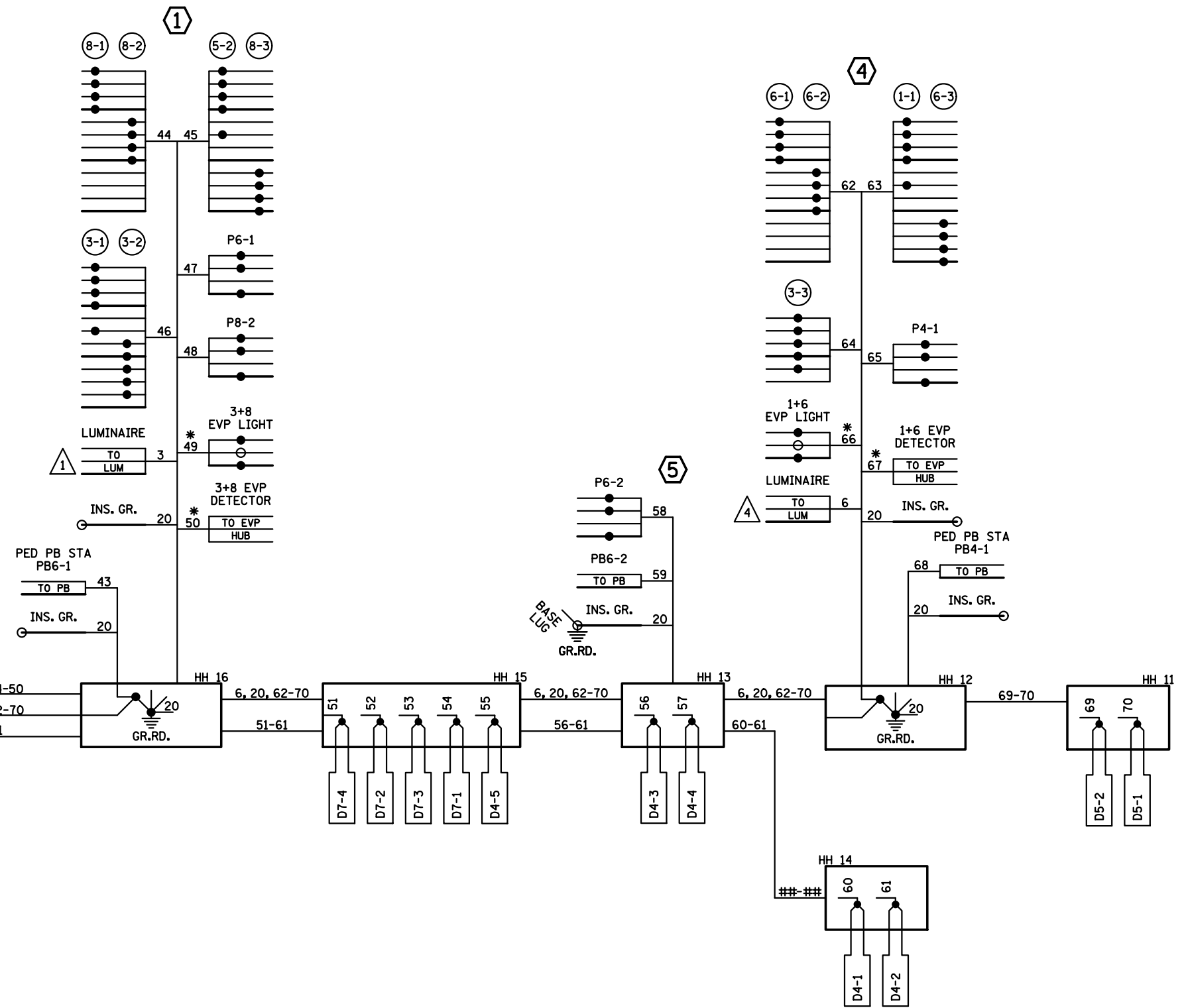
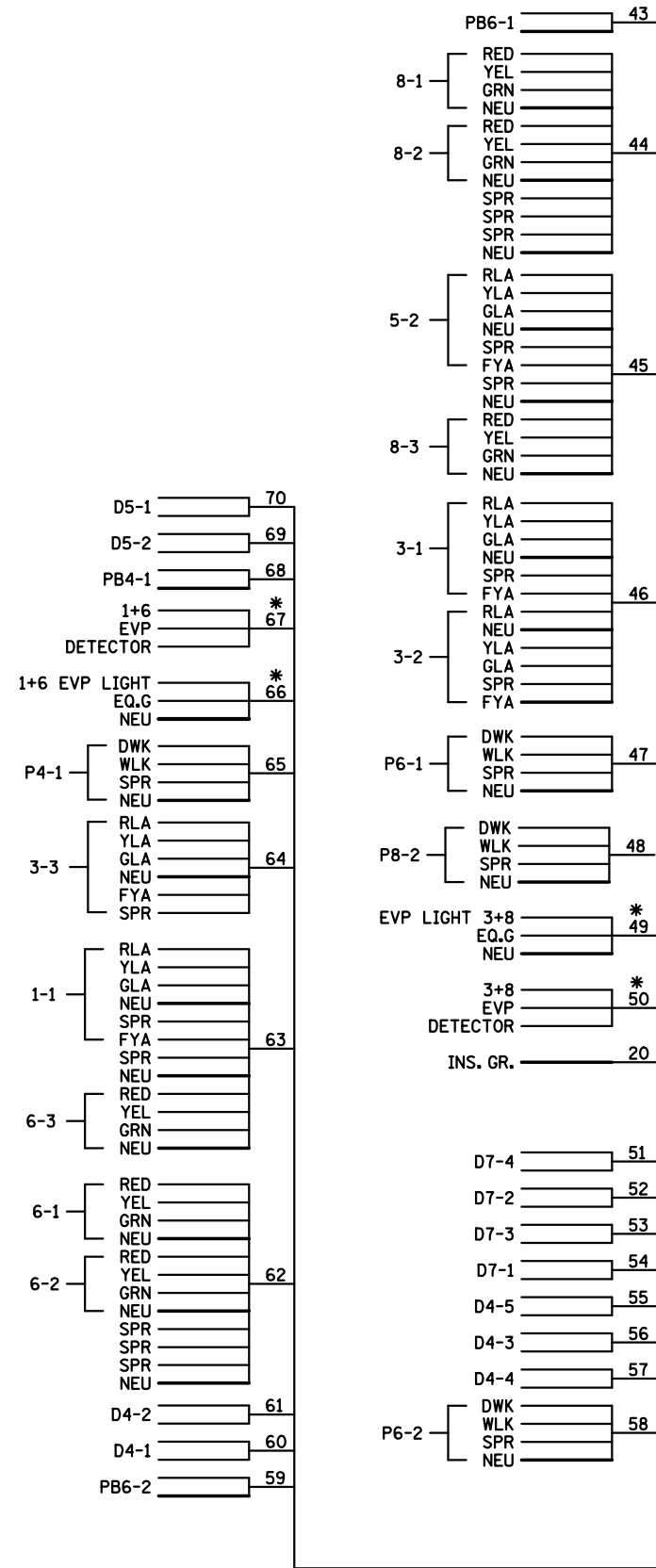
SIGNAL SYSTEM C WIRING DIAGRAM
 CSAH 11 AT CO. RD. 3
 STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN
 SHEET NO. 407 OF 416 SHEETS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/25/2020 TIME: 8:06:26 AM
 FILENAME: c:\tkda\proj\tech\wise\hmv\angstad\dms01247\cd00261036_s13f.dgn

CONTROLLER CABINET



- GENERAL NOTES:**
- SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (NO BATTERIES).
 - FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: JSB
 CHK: JAH

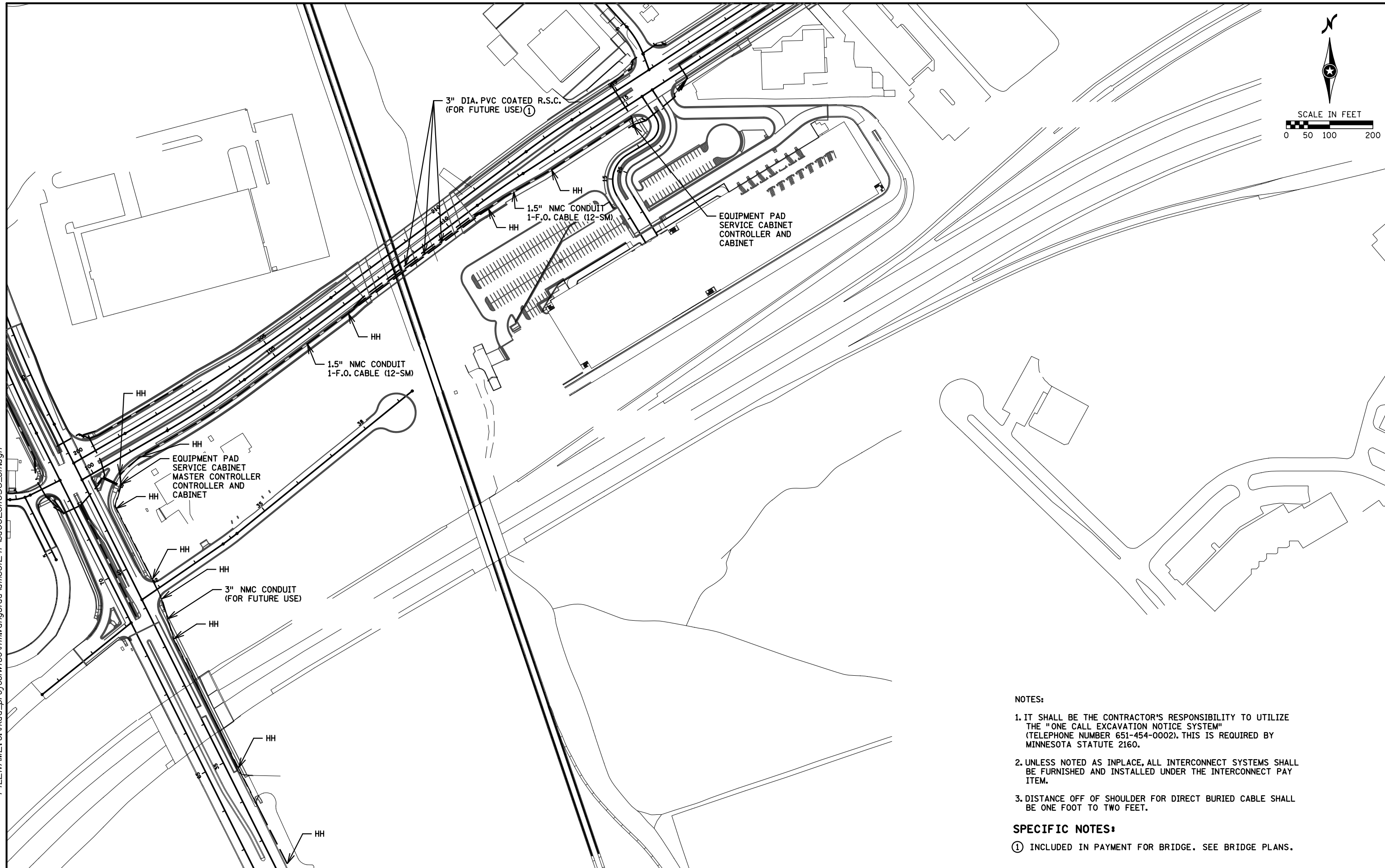
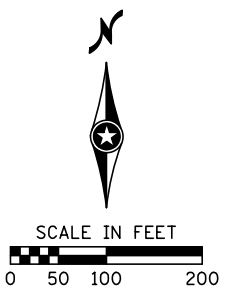
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



SIGNAL SYSTEM C WIRING DIAGRAM
 CSAH 11 AT CO. RD. 3
 STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN
 SHEET NO. 408 OF 416 SHEETS



DATE: 11/25/2020 TIME: 8:06:29 AM
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NOTES:

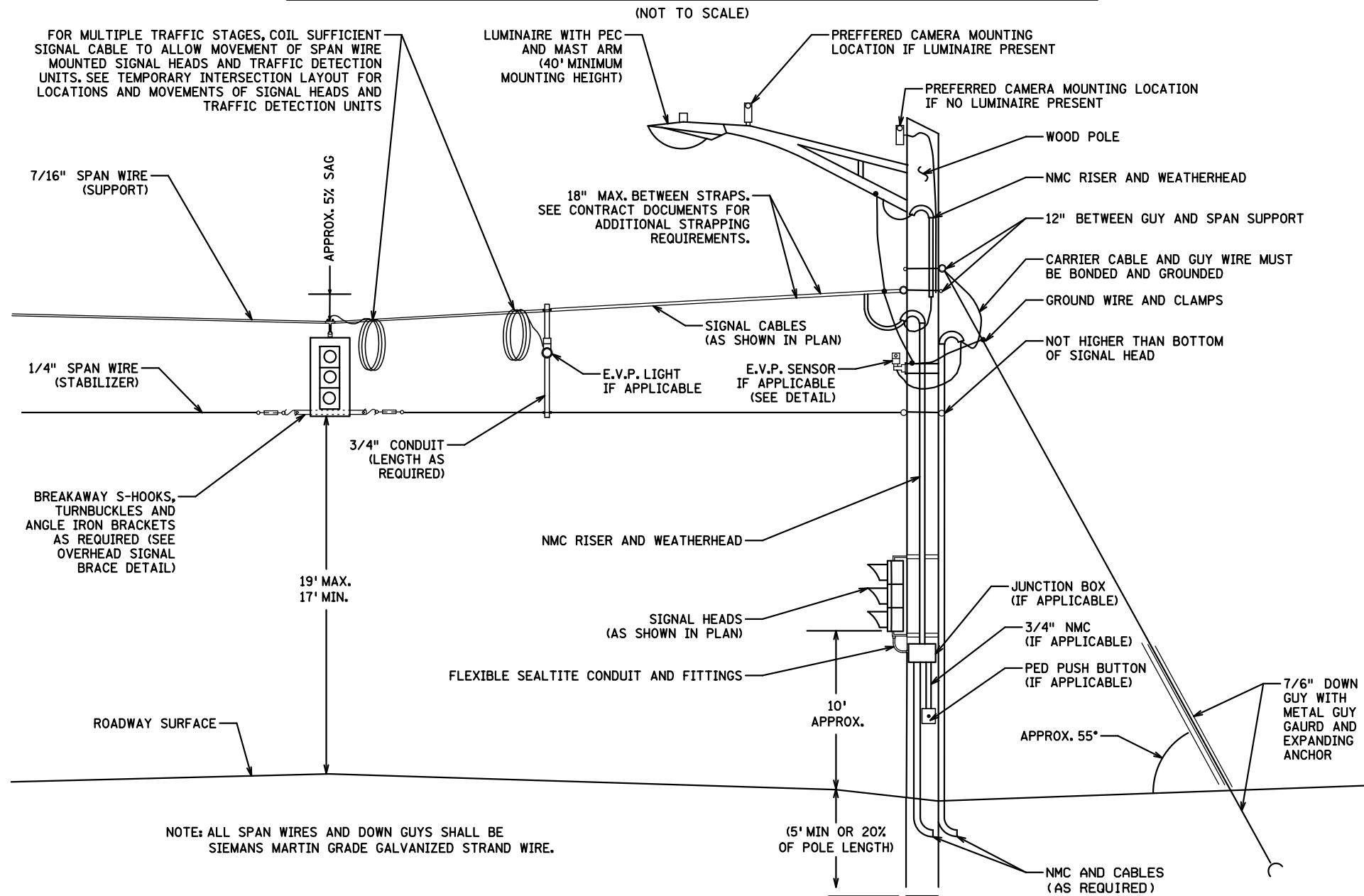
1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002). THIS IS REQUIRED BY MINNESOTA STATUTE 2160.
2. UNLESS NOTED AS INPLACE, ALL INTERCONNECT SYSTEMS SHALL BE FURNISHED AND INSTALLED UNDER THE INTERCONNECT PAY ITEM.
3. DISTANCE OFF OF SHOULDER FOR DIRECT BURIED CABLE SHALL BE ONE FOOT TO TWO FEET.

SPECIFIC NOTES:

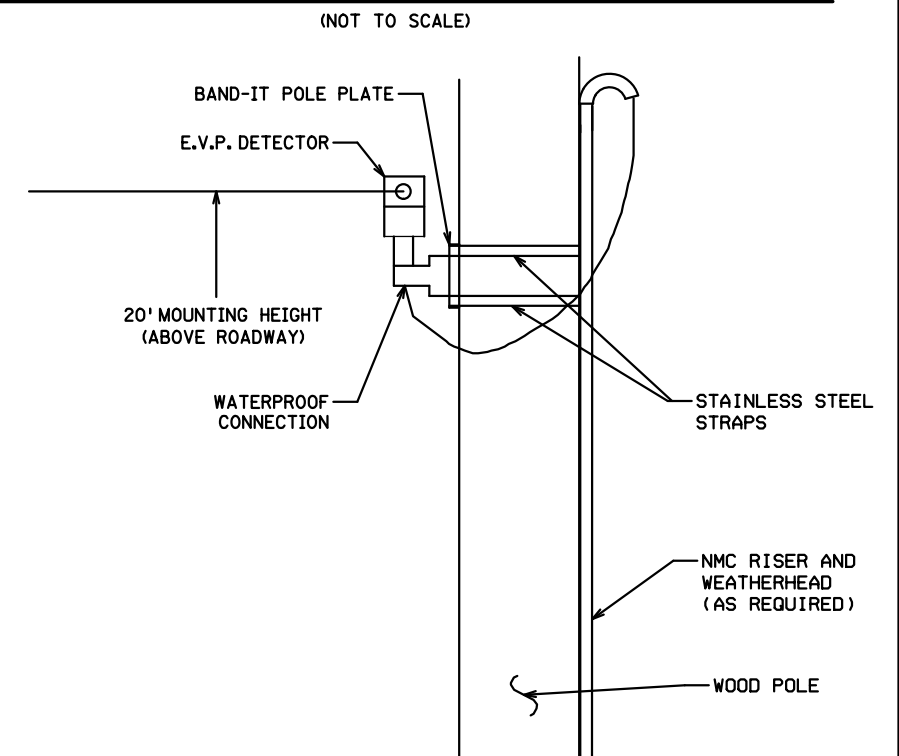
- ① INCLUDED IN PAYMENT FOR BRIDGE. SEE BRIDGE PLANS.

	DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		INTERCONNECT LAYOUT	TRAFFIC SIGNAL PLAN
	DRW: RRC	SIGNATURE:		STATE PROJ. NO. 002-611-036	SHEET NO. 409 OF 416 SHEETS
	CHK: JAH	LIC. NO. 20781 DATE: 11/25/2020			
NO.	DATE	BY	DESCRIPTION OF REVISIONS		

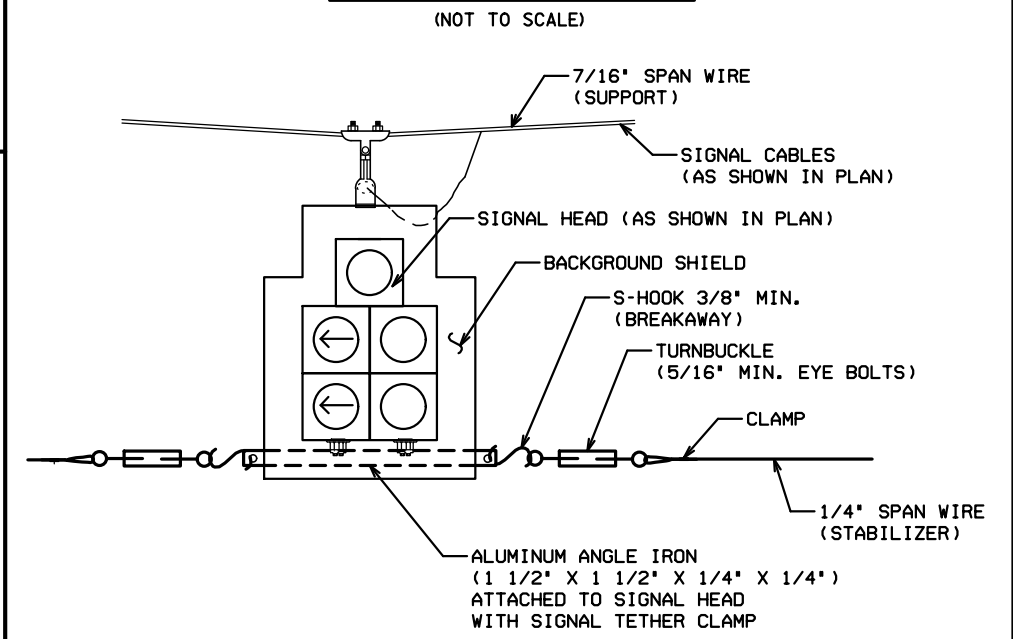
TYPICAL WOOD POLE AND SPAN WIRE MOUNTED TRAFFIC SIGNALS



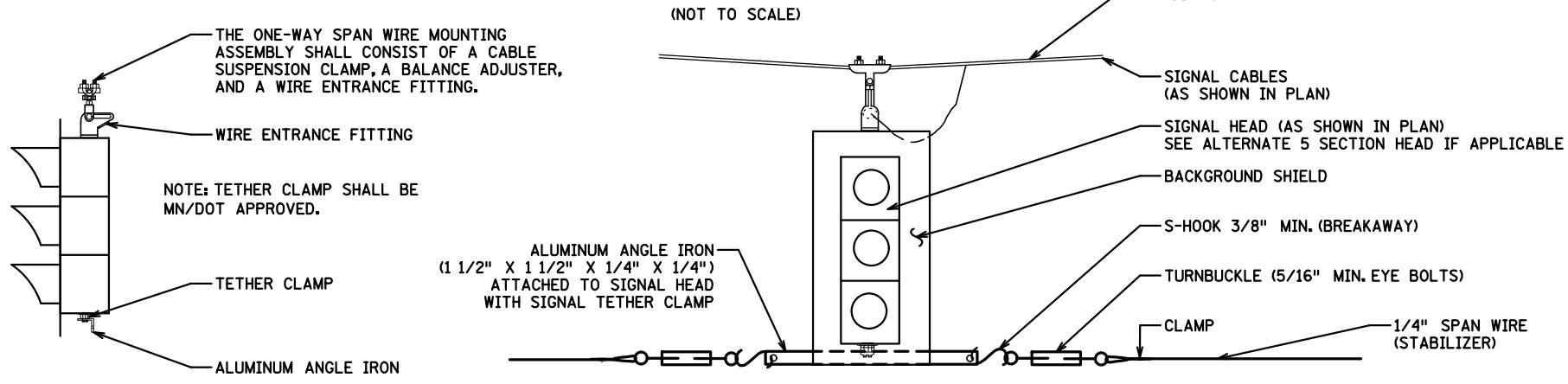
E.V.P. OR TRAFFIC DETECTOR WOOD POLE MOUNT



5 SECTION HEAD OVERHEAD SIGNAL BRACE DETAIL



OVERHEAD SIGNAL BRACE DETAIL



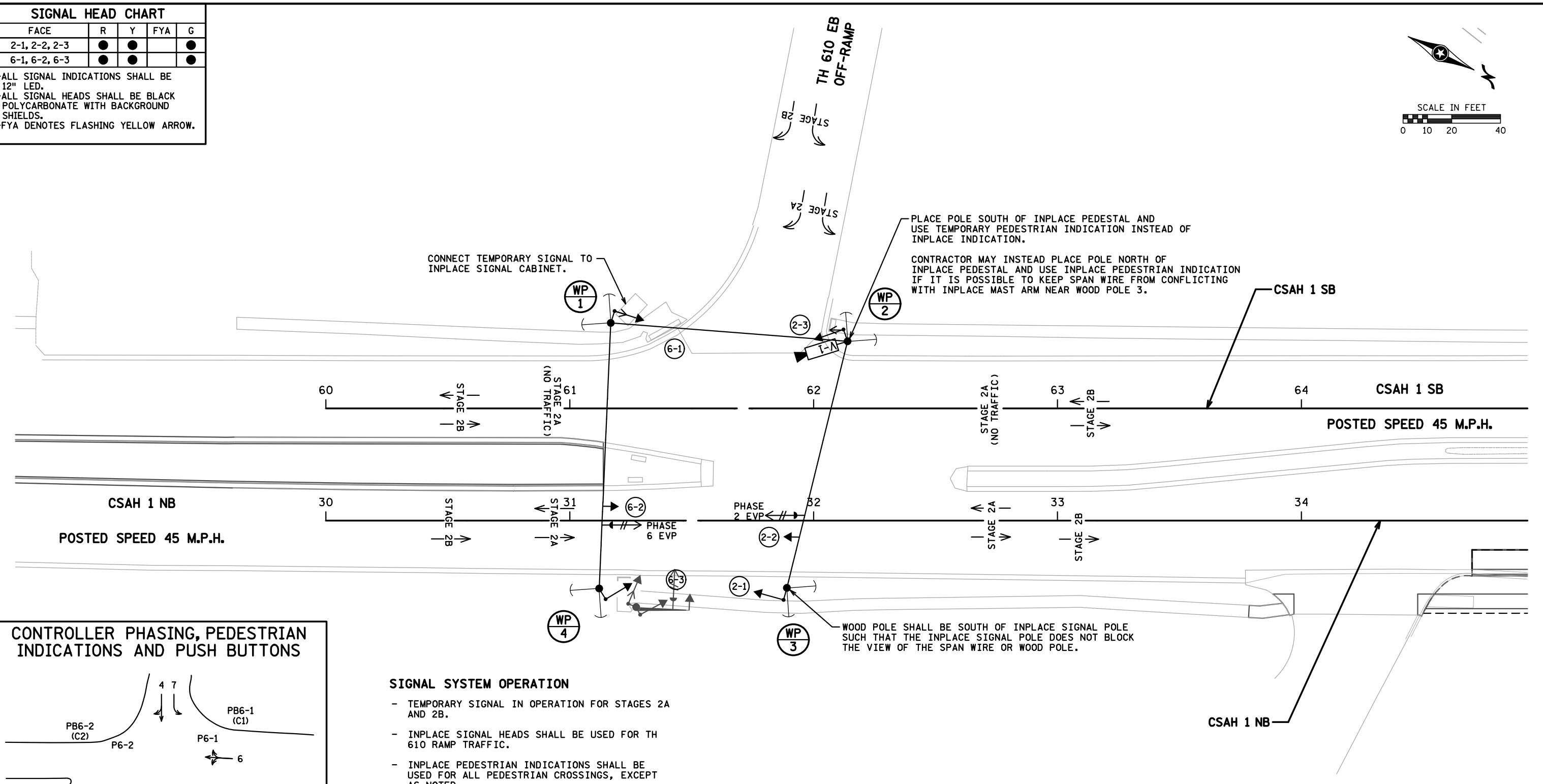
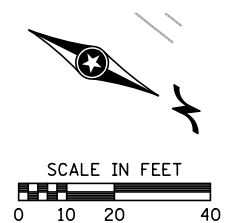
DATE: 11/25/2020 TIME: 8:06:33 AM FILENAME: c:\nkda\proj\tech\wise\hmv\angstad\dms01247\cd00261036_slj.dgn

				DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 11/25/2020	TKDA	SPAN WIRE DETAILS		TRAFFIC SIGNAL PLAN		
				DRW: RRC			STATE PROJ. NO. 002-611-036		SHEET NO. 410 OF 416 SHEETS		
				CHK: JAH							
NO.	DATE	BY	DESCRIPTION OF REVISIONS								

SIGNAL HEAD CHART

FACE	R	Y	FYA	G
2-1, 2-2, 2-3	●	●		●
6-1, 6-2, 6-3	●	●		●

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

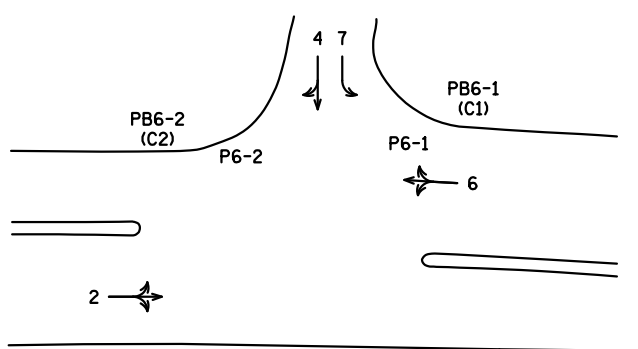


PLACE POLE SOUTH OF INPLACE PEDESTAL AND USE TEMPORARY PEDESTRIAN INDICATION INSTEAD OF INPLACE INDICATION.
 CONTRACTOR MAY INSTEAD PLACE POLE NORTH OF INPLACE PEDESTAL AND USE INPLACE PEDESTRIAN INDICATION IF IT IS POSSIBLE TO KEEP SPAN WIRE FROM CONFLICTING WITH INPLACE MAST ARM NEAR WOOD POLE 3.

CONNECT TEMPORARY SIGNAL TO INPLACE SIGNAL CABINET.

WOOD POLE SHALL BE SOUTH OF INPLACE SIGNAL POLE SUCH THAT THE INPLACE SIGNAL POLE DOES NOT BLOCK THE VIEW OF THE SPAN WIRE OR WOOD POLE.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

- TEMPORARY SIGNAL IN OPERATION FOR STAGES 2A AND 2B.
- INPLACE SIGNAL HEADS SHALL BE USED FOR TH 610 RAMP TRAFFIC.
- INPLACE PEDESTRIAN INDICATIONS SHALL BE USED FOR ALL PEDESTRIAN CROSSINGS, EXCEPT AS NOTED.
- INPLACE LIGHTING SHALL BE MAINTAINED DURING THE TEMPORARY CONDITION.
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- STAGE 2A AND 2B NORMAL OPERATION SHALL BE 3 PHASE.
- PHASE 2 AND 6 SHALL BE ON VEHICLE RECALL.
- PRIOR TO STAGE 2A THIS INTERSECTION SHALL USE EXISTING SIGNAL.
- STAGE 3A, 3B, 4 AND 5 SHALL USE INPLACE SIGNAL.
- V1 CAMERA IS STATE FURNISHED GRIDSMAST SYSTEM. SEE SPECIAL PROVISIONS.

NOTE: THIS PLAN IS INTENDED TO SHOW WOOD POLE LOCATIONS AND EQUIPMENT THAT IS TO BE USED AS PART OF THE TEMPORARY SIGNAL SYSTEM INSTALLATION. SPECIFIC ROADWAY ELEMENTS MAY OR MAY NOT BE INPLACE AT THE TIME THE TEMPORARY SIGNAL IS IN OPERATION. THE LOCATION OF THE OVERHEAD SIGNALS, PORTABLE PEDESTALS, PUSH BUTTONS, AND PEDESTRIAN INDICATIONS FOR EACH STAGE OR PHASE WILL NEED TO BE ADJUSTED ACCORDINGLY.

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SYSTEM ID: 1735861 TH 610 AT CSAH 1 SOUTH RAMP
 TE# 28999

DATE: 12/18/2020 TIME: 1:41:52 PM
 FILENAME: c:\kda\proj\wise\jonathan.britton\dms01247\cd00261036_sl4a.dgn

			DES: JSB	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		TKDA	TEMPORARY SIGNAL SYSTEM A LAYOUT CSAH 1 AT TH 610 OFF-RAMP	TRAFFIC SIGNAL PLAN
			DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 12/18/2020			STATE PROJ. NO. 002-611-036	SHEET NO. 411 OF 416 SHEETS
NO.	DATE	BY	DESCRIPTION OF REVISIONS			CHK: JAH		

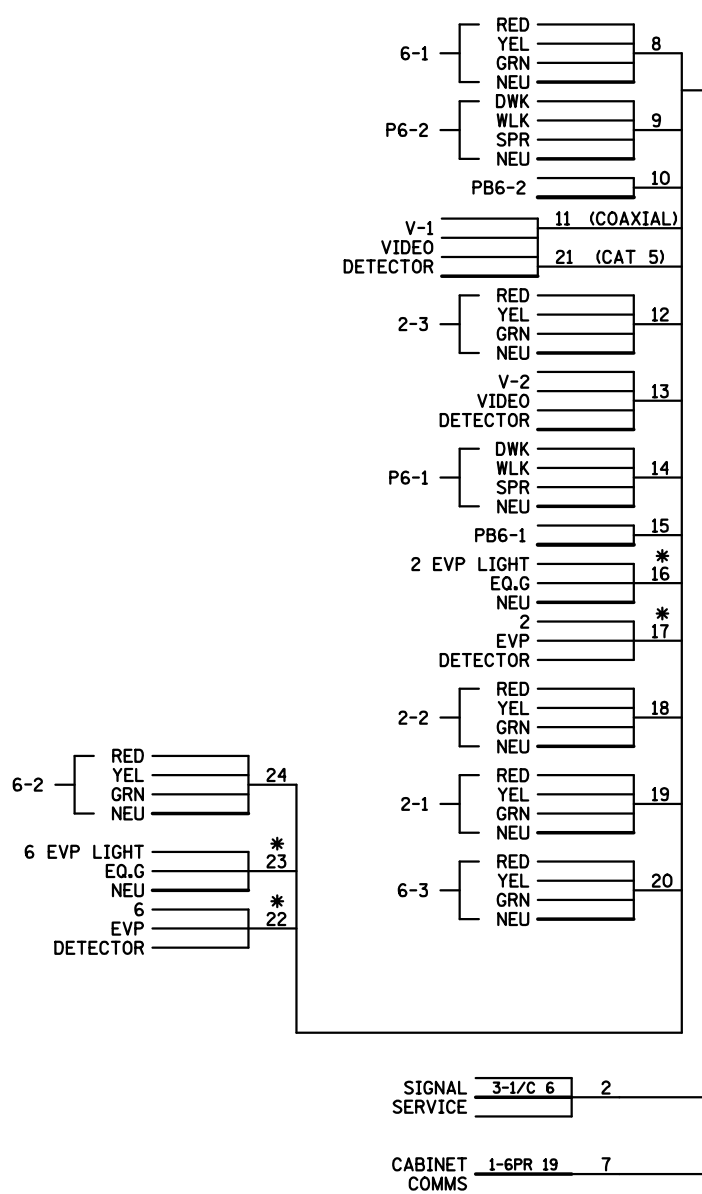
WP 1 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 1-TYPE 10B-WOOD POLE MOUNTED
 AT 180 DEG
 1-PEDESTRIAN PUSH BUTTONS AND SIGNS
 (R10-4b)(RIGHT)
 METAL JUNCTION BOX WITH TERMINAL BLOCK

WP 2 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 1-TYPE 10B-WOOD POLE MOUNTED
 AT 180 DEG
 1-PEDESTRIAN PUSH BUTTONS AND SIGNS
 (R10-4b)(LEFT)
 VIDEO DETECTION - GRIDSMART CAMERA
 METAL JUNCTION BOX WITH TERMINAL BLOCK

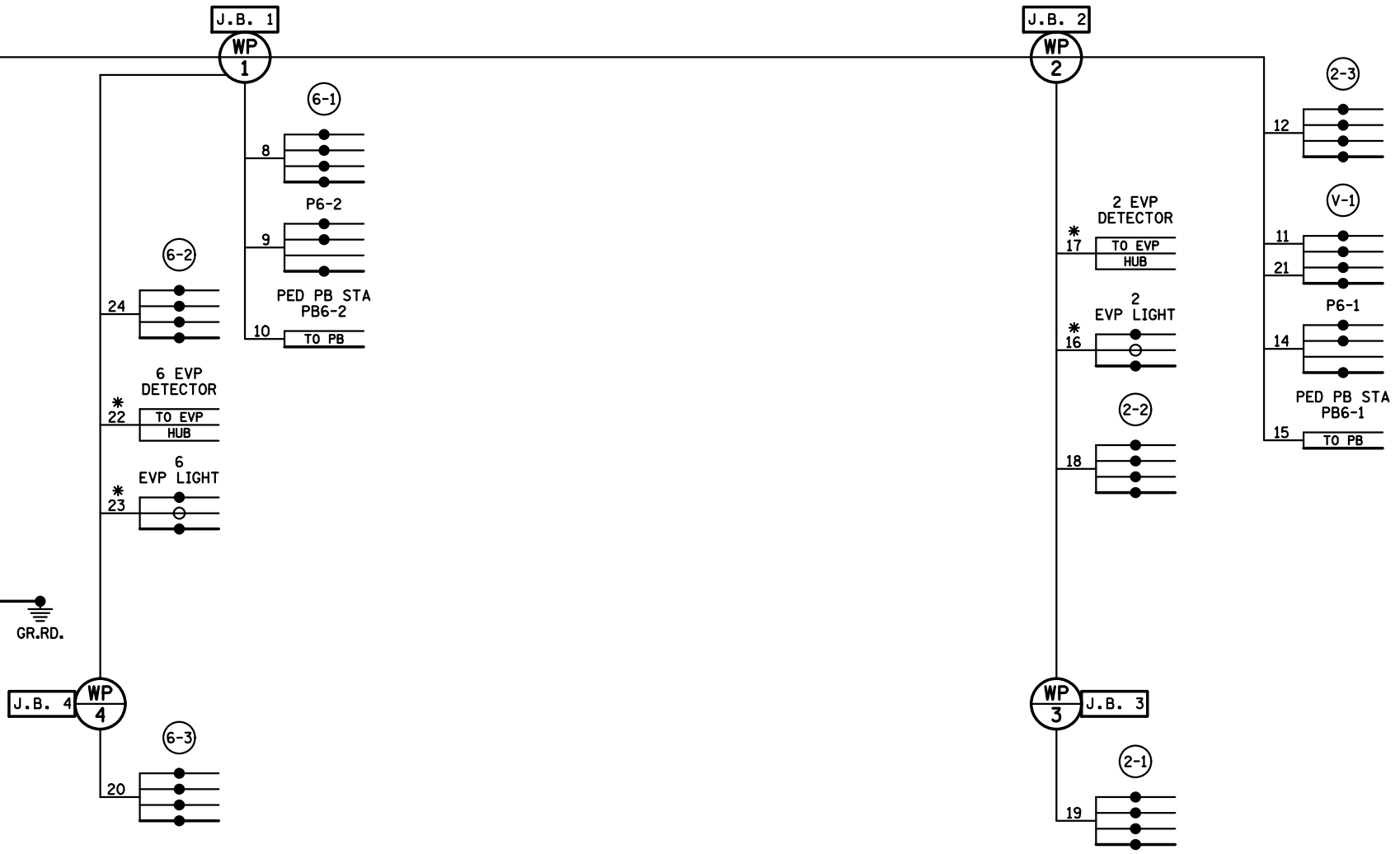
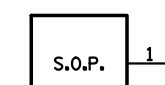
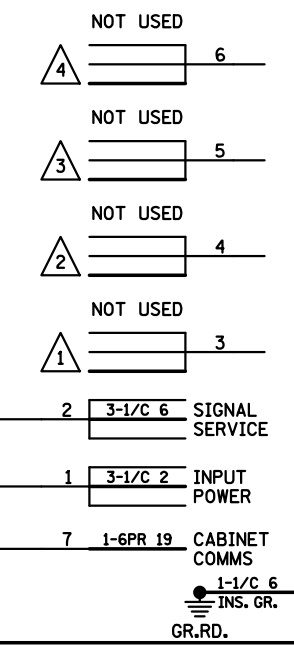
WP 4 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 1-TYPE 10B-WOOD POLE MOUNTED
 AT 90 AND 180 DEG
 METAL JUNCTION BOX WITH TERMINAL BLOCK

WP 3 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 1-TYPE 10B-WOOD POLE MOUNTED
 AT 90 AND 180 DEG
 METAL JUNCTION BOX WITH TERMINAL BLOCK

CONTROLLER CABINET



SERVICE CABINET



DATE: 11/25/2020 TIME: 8:06:40 AM FILENAME: c:\tkda\proj\tech\wise\fm\vangstad\dms01247\cd00261036_sl4b.dgn

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: JSB
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN



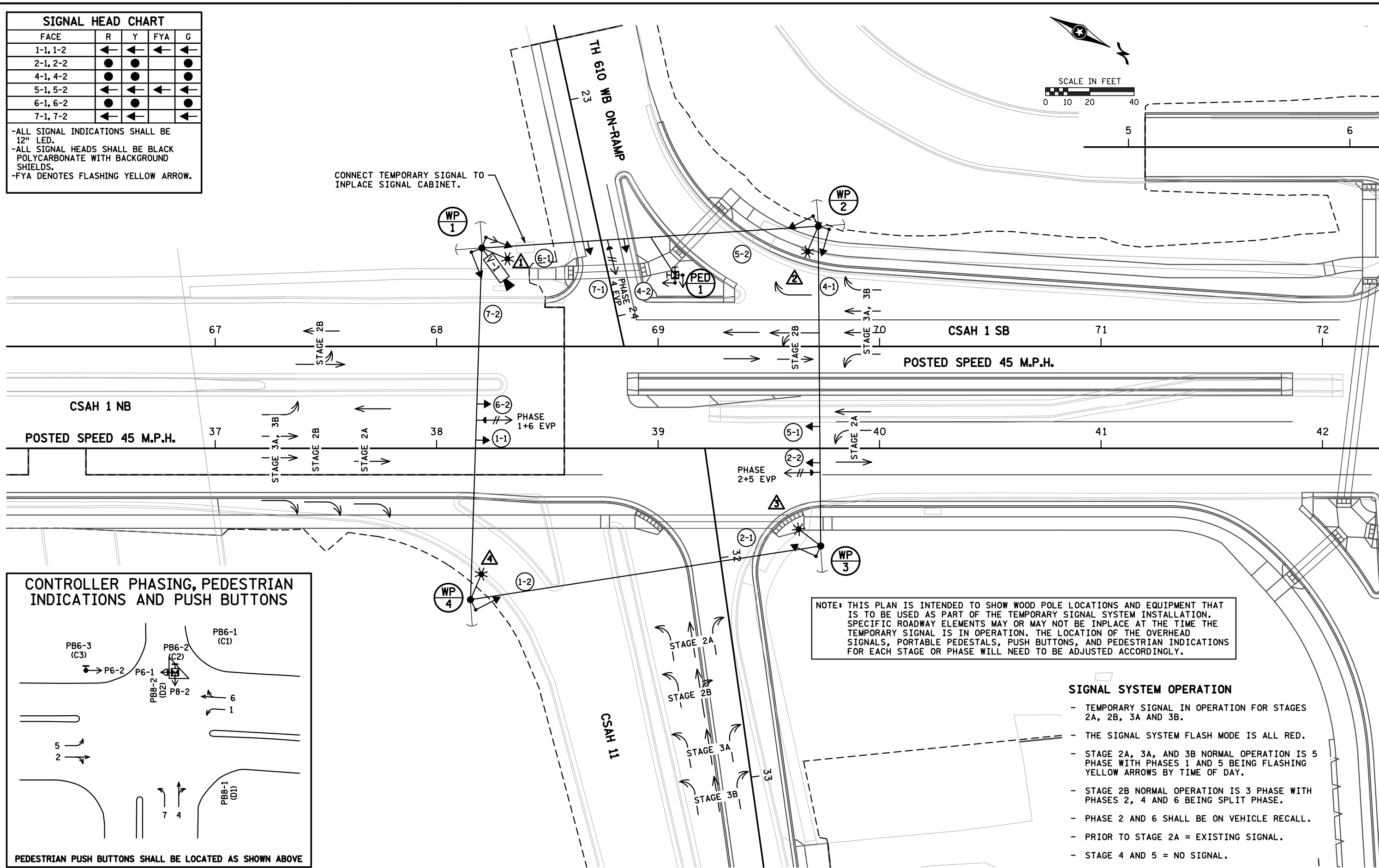
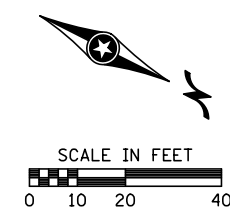
TEMPORARY SIGNAL SYSTEM A WIRING DIAGRAM
 CSAH 1 AT TH 610 OFF-RAMP
 STATE PROJ. NO. 002-611-036

TRAFFIC SIGNAL PLAN
 SHEET NO. 412 OF 416 SHEETS

SIGNAL HEAD CHART

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

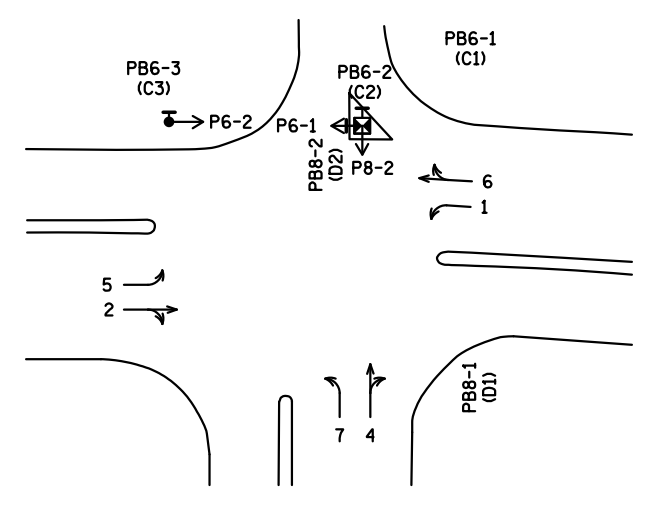
-ALL SIGNAL INDICATIONS SHALL BE 12" LED.
 -ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS.
 -FYA DENOTES FLASHING YELLOW ARROW.



CONNECT TEMPORARY SIGNAL TO INPLACE SIGNAL CABINET.

POSTED SPEED 45 M.P.H.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

NOTE: THIS PLAN IS INTENDED TO SHOW WOOD POLE LOCATIONS AND EQUIPMENT THAT IS TO BE USED AS PART OF THE TEMPORARY SIGNAL SYSTEM INSTALLATION. SPECIFIC ROADWAY ELEMENTS MAY OR MAY NOT BE INPLACE AT THE TIME THE TEMPORARY SIGNAL IS IN OPERATION. THE LOCATION OF THE OVERHEAD SIGNALS, PORTABLE PEDESTALS, PUSH BUTTONS, AND PEDESTRIAN INDICATIONS FOR EACH STAGE OR PHASE WILL NEED TO BE ADJUSTED ACCORDINGLY.

SIGNAL SYSTEM OPERATION

- TEMPORARY SIGNAL IN OPERATION FOR STAGES 2A, 2B, 3A AND 3B.
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- STAGE 2A, 3A, AND 3B NORMAL OPERATION IS 5 PHASE WITH PHASES 1 AND 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- STAGE 2B NORMAL OPERATION IS 3 PHASE WITH PHASES 2, 4 AND 6 BEING SPLIT PHASE.
- PHASE 2 AND 6 SHALL BE ON VEHICLE RECALL.
- PRIOR TO STAGE 2A = EXISTING SIGNAL.
- STAGE 4 AND 5 = NO SIGNAL.
- V1 CAMERA IS STATE FURNISHED GRIDSART SYSTEM. SEE SPECIAL PROVISIONS.

SYSTEM ID: 1735860 TH 610 AT CSAH 1/CSAH 11 NORTH RAMP
 TE# 29000

DATE: 12/18/2020 TIME: 1:42:46 PM
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			DRW: RRC	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 12/18/2020			STATE PROJ. NO. 002-611-036		SHEET NO. 413 OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS			CHK: JAH				

WP 1 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 2-TYPE 10B-WOOD POLE MOUNTED AT 90 AND 180 DEG
 15' MAST ARM AND LUMINARE (250W HPS) WITH PEC.
 1-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)(LEFT AND RIGHT)
 VIDEO DETECTION - GRIDSMART CAMERA
 METAL JUNCTION BOX WITH TERMINAL BLOCK

PED 1 13' POTABLE PEDESTAL
 2-TYPE 30A-WOOD POLE MOUNTED AT 0 AND 270 DEG
 2-PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)(LEFT AND RIGHT)
 METAL JUNCTION BOX WITH TERMINAL BLOCK

WP 2 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 2-TYPE 10B-WOOD POLE MOUNTED AT 90 AND 180 DEG
 15' MAST ARM AND LUMINARE (250W HPS) WITH PEC.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)(LEFT AND RIGHT)
 METAL JUNCTION BOX WITH TERMINAL BLOCK

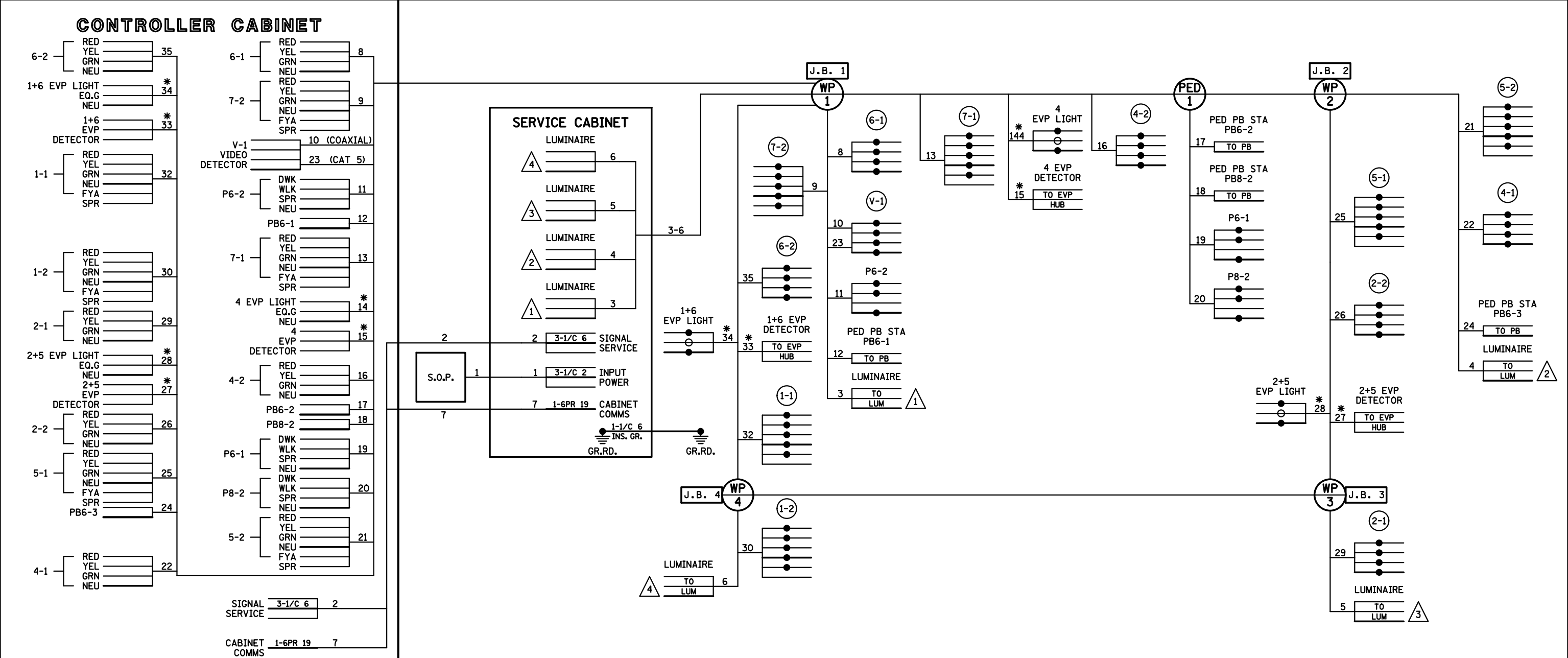
B SOP-GROUND MOUNTED TRANSFORMER (XCEL ENERGY)
 2" CONDUIT INTO SERVICE CABINET;
 3-1/C 2

A INPLACE TYPE 332D CONTROLLER CABINET ASSEMBLY OR TEMPORARY CABINET
 INPLACE PRECAST CONTROLLER CABINET FOUNDATION OR TEMPORARY FOUNDATION
 INPLACE SAFETRAN COBALT RACK MOUNT CONTROLLER OR TEMPORARY CONTROLLER

WP 4 45' WOOD POLE
 1-DOWN GUYS, GUARDS AND ANCHORS
 1-TYPE 10B-WOOD POLE MOUNTED AT 90 DEG
 15' MAST ARM AND LUMINARE (250W HPS) WITH PEC.
 1-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)(LEFT AND RIGHT)
 METAL JUNCTION BOX WITH TERMINAL BLOCK

WP 3 45' WOOD POLE
 1-DOWN GUYS, GUARDS AND ANCHORS
 1-TYPE 10B-WOOD POLE MOUNTED AT 180 DEG
 15' MAST ARM AND LUMINARE (250W HPS) WITH PEC.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)(LEFT AND RIGHT)
 METAL JUNCTION BOX WITH TERMINAL BLOCK

DATE: 11/25/2020 TIME: 8:06:46 AM FILENAME: c:\kda_proj\tech\se\hmv\angstad\dms01247\cd00261036_s15b.dgn



NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB
 DRW: JSB
 CHK: JAH

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020

JEFFREY A. HILDEN



TEMPORARY SIGNAL SYSTEM B WIRING DIAGRAM
 CSAH 1 AT CSAH 11

STATE PROJ. NO. 002-611-036

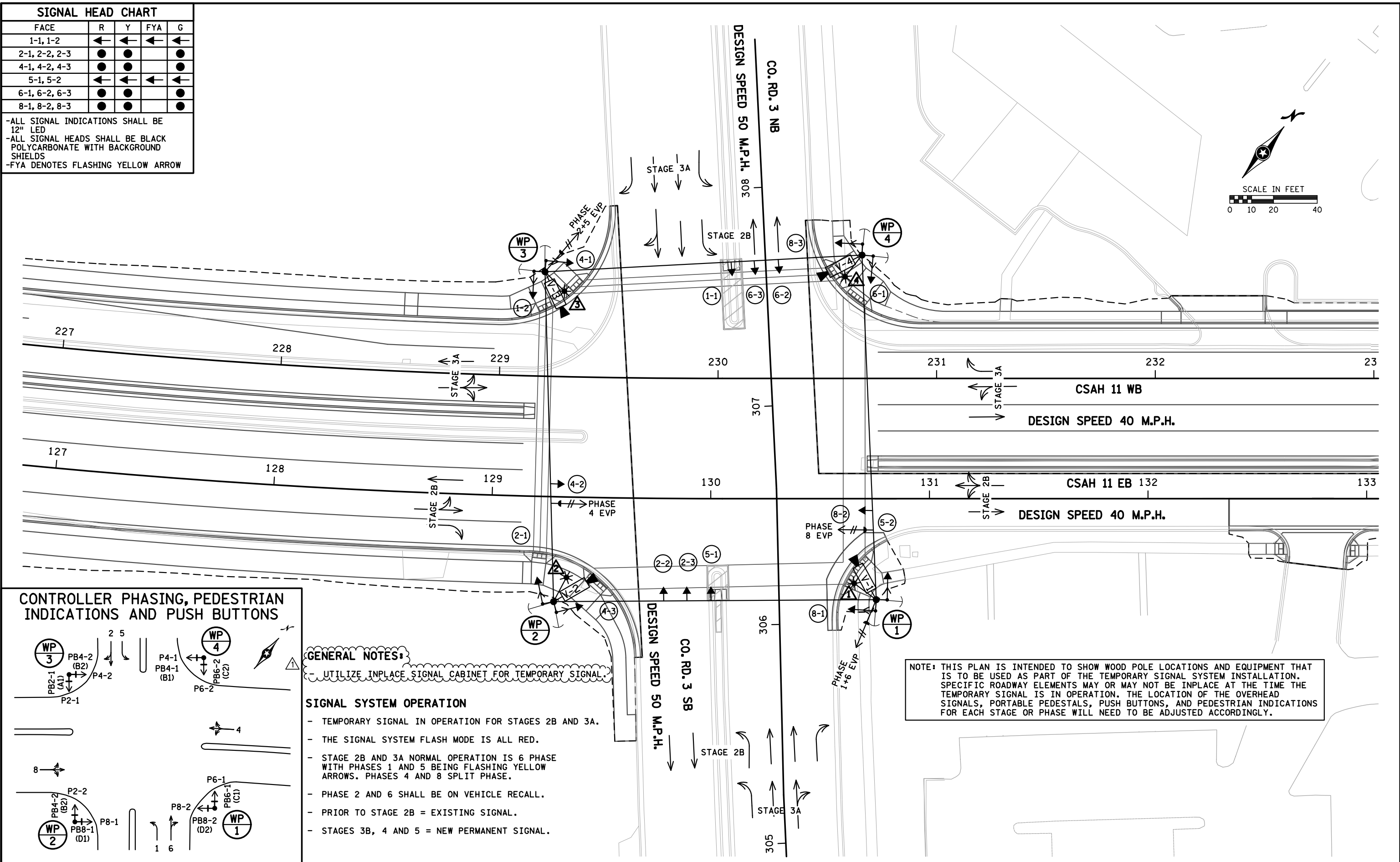
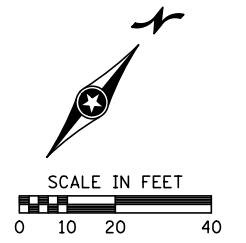
TRAFFIC SIGNAL PLAN

SHEET NO. 414 OF 416 SHEETS

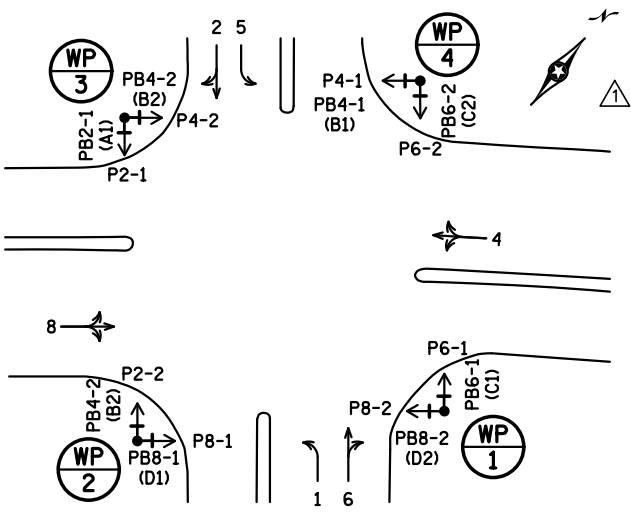
SIGNAL HEAD CHART

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

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



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



GENERAL NOTES:

- UTILIZE INPLACE SIGNAL CABINET FOR TEMPORARY SIGNAL.

SIGNAL SYSTEM OPERATION

- TEMPORARY SIGNAL IN OPERATION FOR STAGES 2B AND 3A.
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- STAGE 2B AND 3A NORMAL OPERATION IS 6 PHASE WITH PHASES 1 AND 5 BEING FLASHING YELLOW ARROWS. PHASES 4 AND 8 SPLIT PHASE.
- PHASE 2 AND 6 SHALL BE ON VEHICLE RECALL.
- PRIOR TO STAGE 2B = EXISTING SIGNAL.
- STAGES 3B, 4 AND 5 = NEW PERMANENT SIGNAL.

NOTE: THIS PLAN IS INTENDED TO SHOW WOOD POLE LOCATIONS AND EQUIPMENT THAT IS TO BE USED AS PART OF THE TEMPORARY SIGNAL SYSTEM INSTALLATION. SPECIFIC ROADWAY ELEMENTS MAY OR MAY NOT BE INPLACE AT THE TIME THE TEMPORARY SIGNAL IS IN OPERATION. THE LOCATION OF THE OVERHEAD SIGNALS, PORTABLE PEDESTALS, PUSH BUTTONS, AND PEDESTRIAN INDICATIONS FOR EACH STAGE OR PHASE WILL NEED TO BE ADJUSTED ACCORDINGLY.

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

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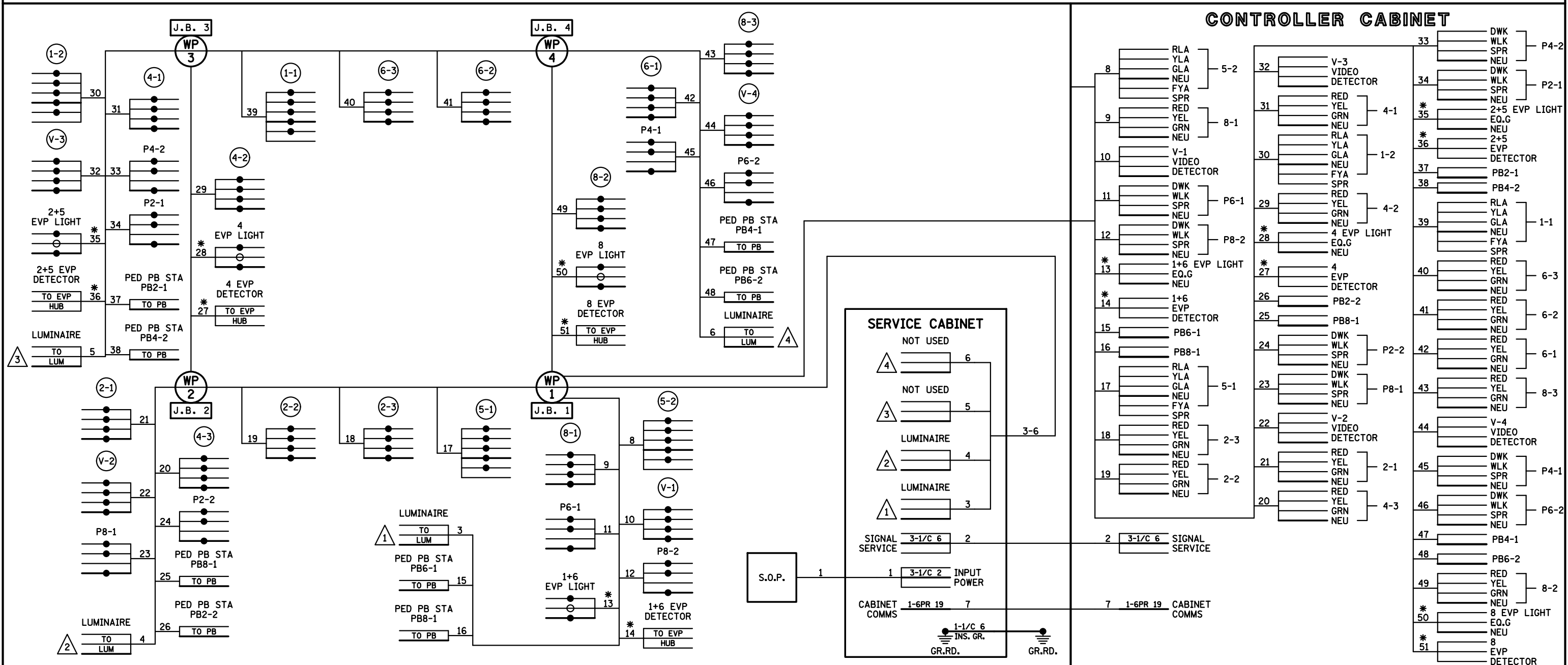
				DES:	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			TEMPORARY SIGNAL SYSTEM C LAYOUT CSAH 11 AT CO. RD. 3		TRAFFIC SIGNAL PLAN	
				DRW:	SIGNATURE: <i>Jeffrey A. Hilden</i> LIC. NO. 20781 DATE: 4/8/2021			STATE PROJ. NO. 002-611-036		SHEET NO. 415R OF 416 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK:							
1	4/8/21	JAH	ADD NOTE REGARDING USING INPLACE SIGNAL CABINET								

WP 3 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 2-TYPE 10B-WOOD POLE MOUNTED
 AT 90 AND 180 DEG
 1-WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 2+5) POLE MOUNTED
 15' MAST ARM AND LUMINAIRE (250W HPS) WITH PEC.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 (R10-4b)(LEFT AND RIGHT)
 VIDEO DETECTION
 METAL JUNCTION BOX WITH TERMINAL BLOCK

WP 4 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 2-TYPE 10B-WOOD POLE MOUNTED
 AT 90 AND 180 DEG
 15' MAST ARM AND LUMINAIRE (250W HPS) WITH PEC.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 (R10-4b)(LEFT AND RIGHT)
 VIDEO DETECTION
 METAL JUNCTION BOX WITH TERMINAL BLOCK

WP 2 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 2-TYPE 10B-WOOD POLE MOUNTED
 AT 90 AND 180 DEG
 15' MAST ARM AND LUMINAIRE (250W HPS) WITH PEC.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 (R10-4b)(LEFT AND RIGHT)
 VIDEO DETECTION
 METAL JUNCTION BOX WITH TERMINAL BLOCK

WP 1 45' WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 2-TYPE 10B-WOOD POLE MOUNTED
 AT 90 AND 180 DEG
 1-WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 1+6) POLE MOUNTED
 15' MAST ARM AND LUMINAIRE (250W HPS) WITH PEC.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 (R10-4b)(LEFT AND RIGHT)
 VIDEO DETECTION
 METAL JUNCTION BOX WITH TERMINAL BLOCK



DATE: 11/25/2020 TIME: 8:06:54 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

DES: JSB I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DRW: JSB
 CHK: JAH SIGNATURE: *Jeffrey A. Hilden* LIC. NO. 20781 DATE: 11/25/2020
 JEFFREY A. HILDEN

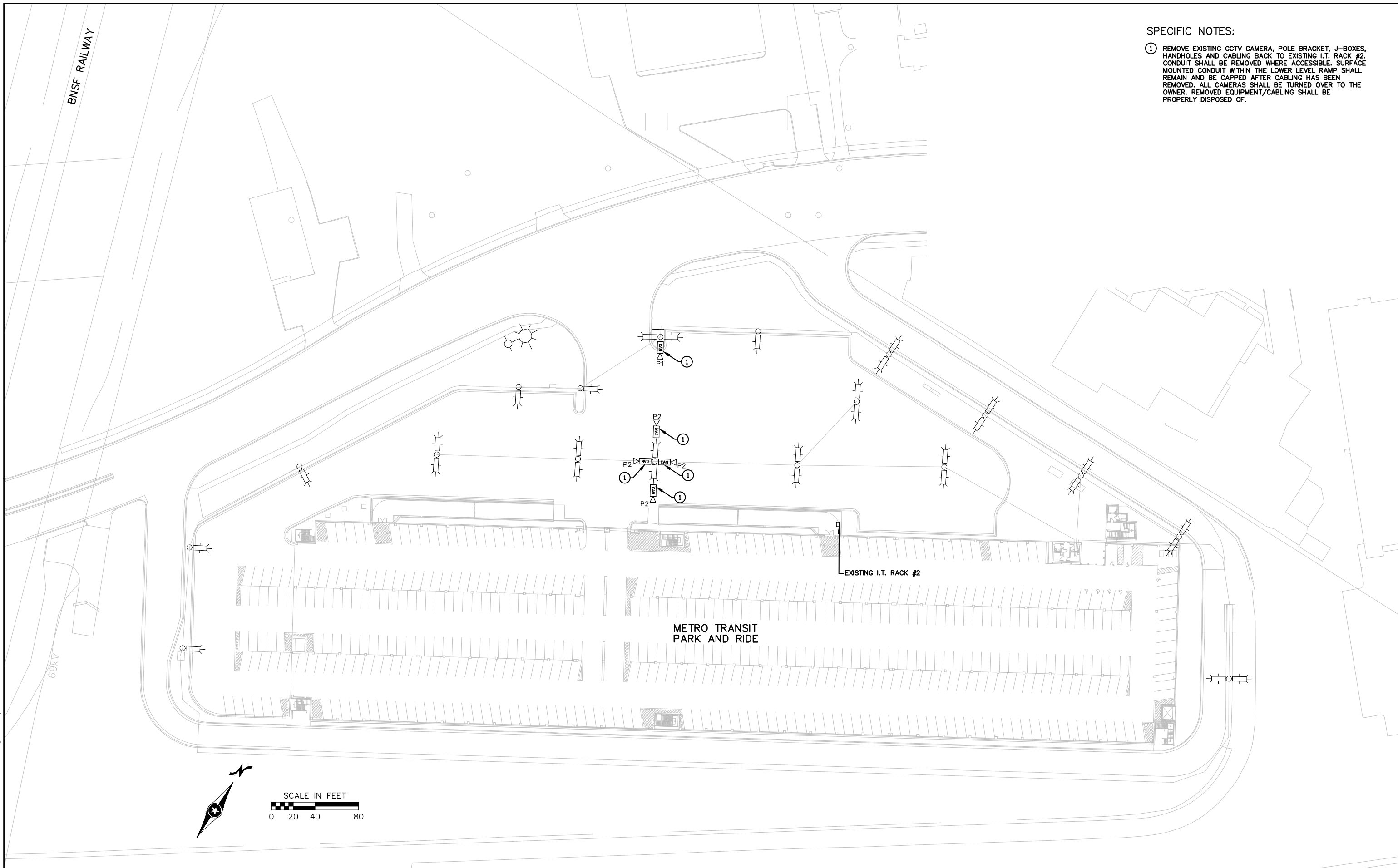


TEMPORARY SIGNAL SYSTEM C WIRING DIAGRAM
 CSAH 11 AT CO. RD. 3
 STATE PROJ. NO. 002-611-036



TRAFFIC SIGNAL PLAN
 SHEET NO. 416 OF 416 SHEETS

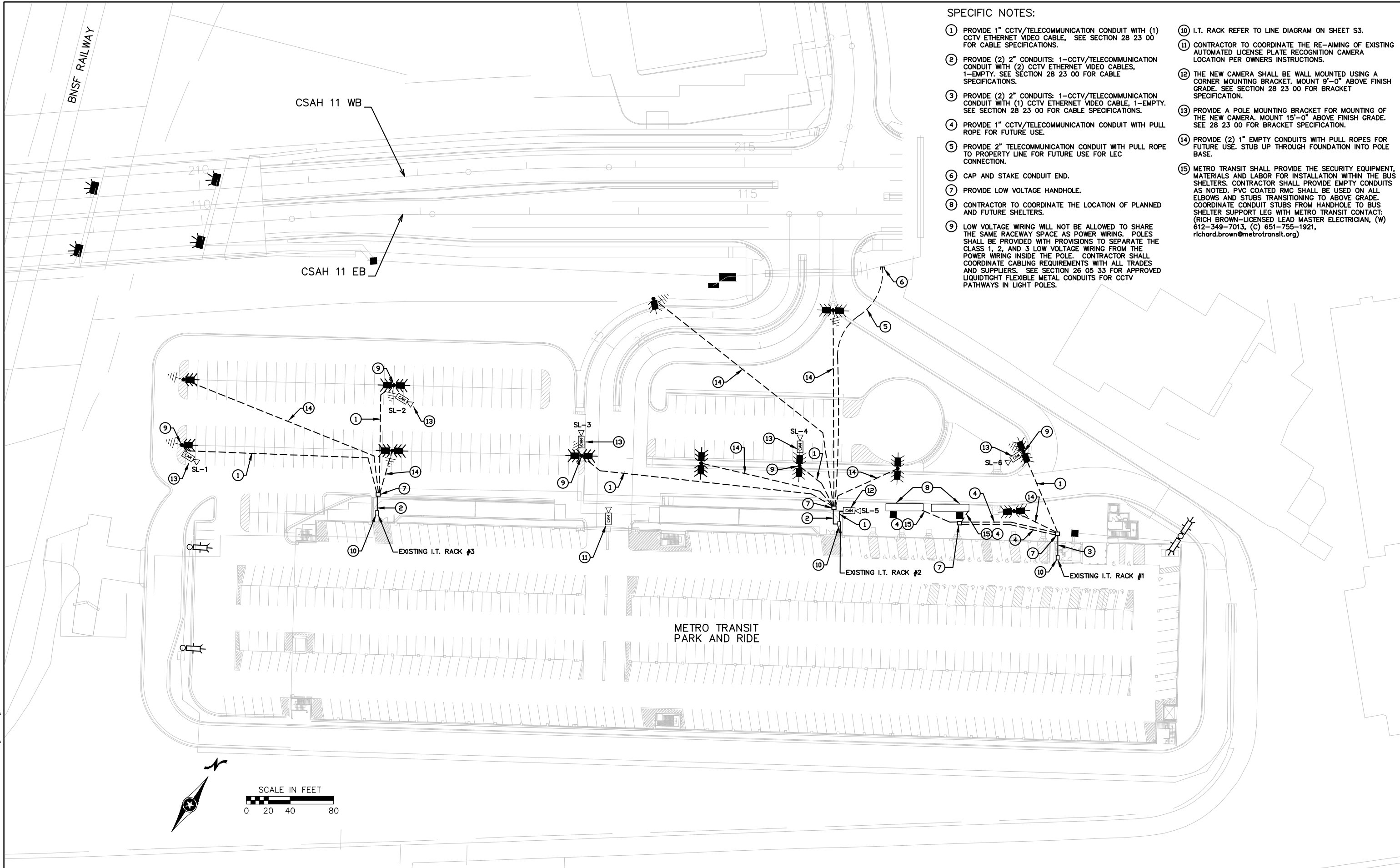
SPECIFIC NOTES:

- ① REMOVE EXISTING CCTV CAMERA, POLE BRACKET, J-BOXES, HANDHOLES AND CABLING BACK TO EXISTING I.T. RACK #2. CONDUIT SHALL BE REMOVED WHERE ACCESSIBLE. SURFACE MOUNTED CONDUIT WITHIN THE LOWER LEVEL RAMP SHALL REMAIN AND BE CAPPED AFTER CABLING HAS BEEN REMOVED. ALL CAMERAS SHALL BE TURNED OVER TO THE OWNER. REMOVED EQUIPMENT/CABLING SHALL BE PROPERLY DISPOSED OF.



DATE: \$DATE\$ TIME: \$TIME\$
 FILENAME: \$FILE\$

			DES: JRY	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DEMOLITION PLAN	SECURITY CAMERA PLAN
			DRW: JRY			SIGNATURE:  LIC. NO. 47889 DATE: 11/25/2020	STATE PROJ. NO. 002-611-036
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: CJL			



SPECIFIC NOTES:

- ① PROVIDE 1" CCTV/TELECOMMUNICATION CONDUIT WITH (1) CCTV ETHERNET VIDEO CABLE, SEE SECTION 28 23 00 FOR CABLE SPECIFICATIONS.
- ② PROVIDE (2) 2" CONDUITS: 1-CCTV/TELECOMMUNICATION CONDUIT WITH (2) CCTV ETHERNET VIDEO CABLES, 1-EMPTY. SEE SECTION 28 23 00 FOR CABLE SPECIFICATIONS.
- ③ PROVIDE (2) 2" CONDUITS: 1-CCTV/TELECOMMUNICATION CONDUIT WITH (1) CCTV ETHERNET VIDEO CABLE, 1-EMPTY. SEE SECTION 28 23 00 FOR CABLE SPECIFICATIONS.
- ④ PROVIDE 1" CCTV/TELECOMMUNICATION CONDUIT WITH PULL ROPE FOR FUTURE USE.
- ⑤ PROVIDE 2" TELECOMMUNICATION CONDUIT WITH PULL ROPE TO PROPERTY LINE FOR FUTURE USE FOR LEC CONNECTION.
- ⑥ CAP AND STAKE CONDUIT END.
- ⑦ PROVIDE LOW VOLTAGE HANDHOLE.
- ⑧ CONTRACTOR TO COORDINATE THE LOCATION OF PLANNED AND FUTURE SHELTERS.
- ⑨ LOW VOLTAGE WIRING WILL NOT BE ALLOWED TO SHARE THE SAME RACEWAY SPACE AS POWER WIRING. POLES SHALL BE PROVIDED WITH PROVISIONS TO SEPARATE THE CLASS 1, 2, AND 3 LOW VOLTAGE WIRING FROM THE POWER WIRING INSIDE THE POLE. CONTRACTOR SHALL COORDINATE CABLING REQUIREMENTS WITH ALL TRADES AND SUPPLIERS. SEE SECTION 26 05 33 FOR APPROVED LIQUIDTIGHT FLEXIBLE METAL CONDUITS FOR CCTV PATHWAYS IN LIGHT POLES.
- ⑩ I.T. RACK REFER TO LINE DIAGRAM ON SHEET S3.
- ⑪ CONTRACTOR TO COORDINATE THE RE-AIMING OF EXISTING AUTOMATED LICENSE PLATE RECOGNITION CAMERA LOCATION PER OWNERS INSTRUCTIONS.
- ⑫ THE NEW CAMERA SHALL BE WALL MOUNTED USING A CORNER MOUNTING BRACKET. MOUNT 9'-0" ABOVE FINISH GRADE. SEE SECTION 28 23 00 FOR BRACKET SPECIFICATION.
- ⑬ PROVIDE A POLE MOUNTING BRACKET FOR MOUNTING OF THE NEW CAMERA. MOUNT 15'-0" ABOVE FINISH GRADE. SEE 28 23 00 FOR BRACKET SPECIFICATION.
- ⑭ PROVIDE (2) 1" EMPTY CONDUITS WITH PULL ROPES FOR FUTURE USE. STUB UP THROUGH FOUNDATION INTO POLE BASE.
- ⑮ METRO TRANSIT SHALL PROVIDE THE SECURITY EQUIPMENT, MATERIALS AND LABOR FOR INSTALLATION WITHIN THE BUS SHELTERS. CONTRACTOR SHALL PROVIDE EMPTY CONDUITS AS NOTED. PVC COATED RMC SHALL BE USED ON ALL ELBOWS AND STUBS TRANSITIONING TO ABOVE GRADE. COORDINATE CONDUIT STUBS FROM HANDHOLE TO BUS SHELTER SUPPORT LEG WITH METRO TRANSIT CONTACT: (RICH BROWN-LICENSED LEAD MASTER ELECTRICIAN, (W) 612-349-7013, (C) 651-755-1921, richard.brown@metrotransit.org)

DATE: \$DATE\$ FILENAME: \$FILE\$
 TIME: \$TIME\$



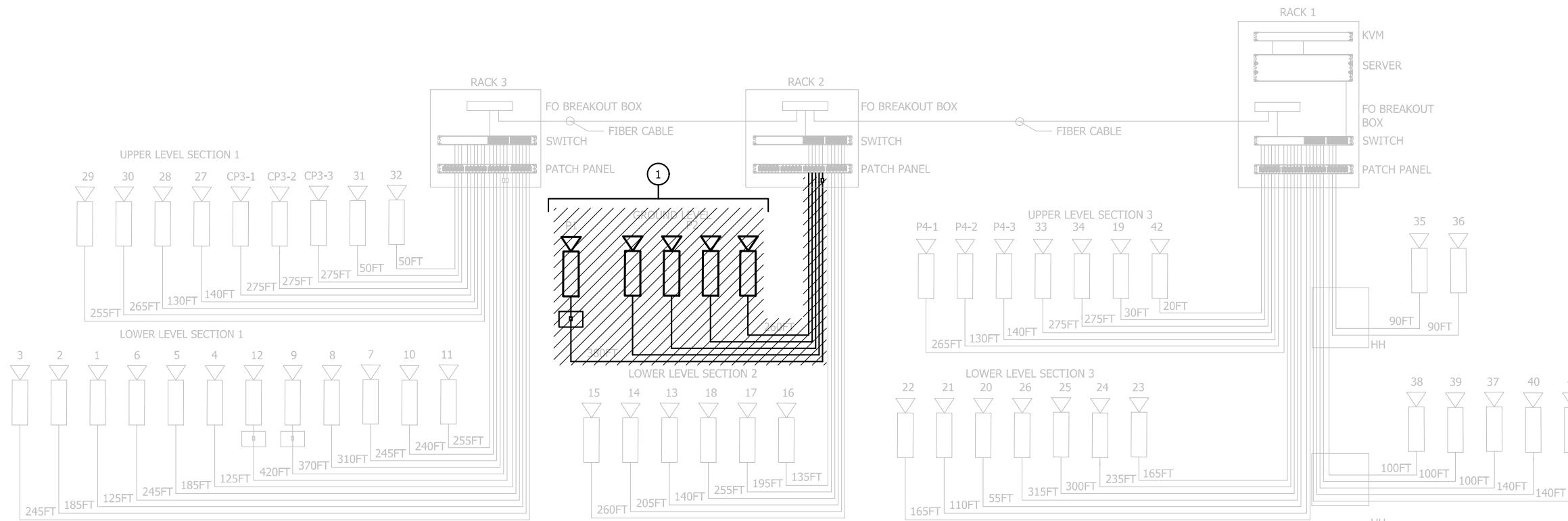
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				DRW: FTP			SIGNATURE: LIC. NO. 47889 DATE: 11/25/2020	STATE PROJ. NO. 002-611-036 SHEET NO.		S2 OF S3 SHEETS	
NO.	DATE	BY	DESCRIPTION OF REVISIONS	CHK: CJL							

GENERAL NOTES:

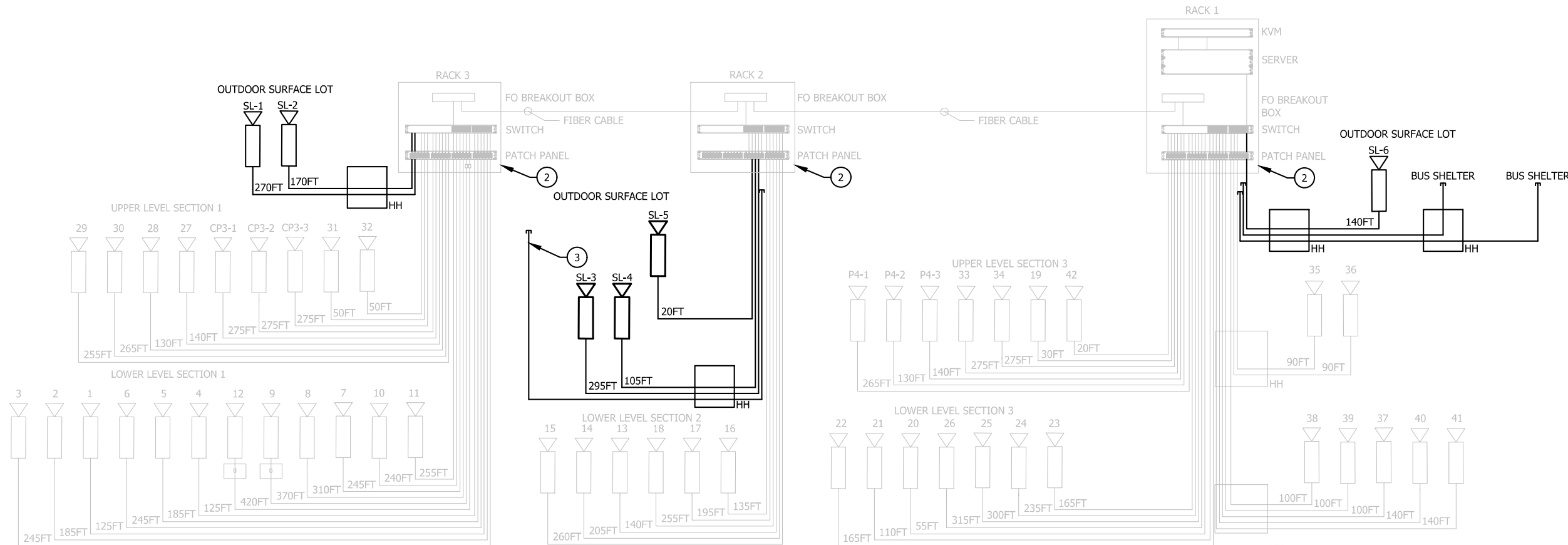
- DISTANCES LISTED ON THIS DRAWING ARE FOR COORDINATION WITH THE ETHERNET DISTANCE LIMITATION OF 330 FEET. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN MEASUREMENTS AND PRICING BASED ON THEIR OWN TAKE-OFF.

SPECIFIC NOTES:

- REMOVE EXISTING CAMERAS AND CABLING. SEE SHEET S1 FOR MORE INFORMATION AND LOCATIONS.
- CONTRACTOR TO PROVIDE ALL CCTV TERMINATION MATERIAL INCLUDING PATCH CABLES AND LEVITON MODULAR KEYSTONE JACKS FOR USE IN EXISTING KEYSTONE PATCH PANEL. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNERS IS DEPARTMENT WHEN CONNECTING NEW CAMERAS INTO EXISTING SWITCHES. SEE SHEET S2 FOR NEW CAMERA LOCATIONS.
- 2" CCTV/TELECOMMUNICATION CONDUIT WITH PULL ROPE. CAP AS SHOWN (FUTURE).



1 FOLEY PARK AND RIDE DEMOLITION - LINE DIAGRAM
NO SCALE



2 FOLEY PARK AND RIDE MODIFICATIONS - LINE DIAGRAM
NO SCALE

DATE: \$DATE\$ FILENAME: \$FILE\$ TIME: \$TIME\$

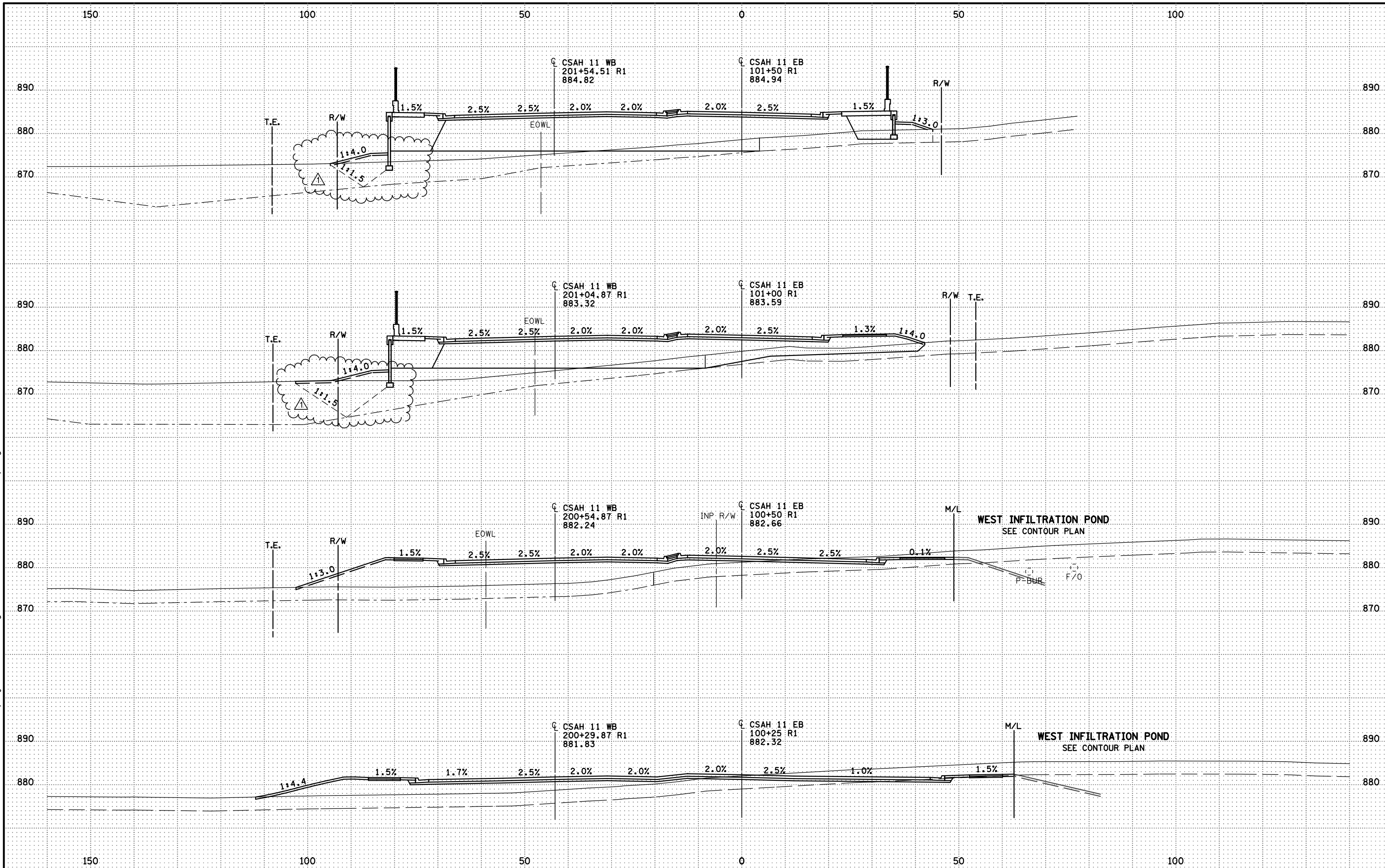
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DRW: JRY	SIGNATURE: <i>Christopher J. Leiter</i> LIC. NO. 47889 DATE: 11/25/2020		
CHK: CJL	CHRISTOPHER J. LEITER		
NO.	DATE	BY	DESCRIPTION OF REVISIONS



LINE DIAGRAM
STATE PROJ. NO. 002-611-036

SECURITY CAMERA PLAN
SHEET NO. S3 OF S3 SHEETS

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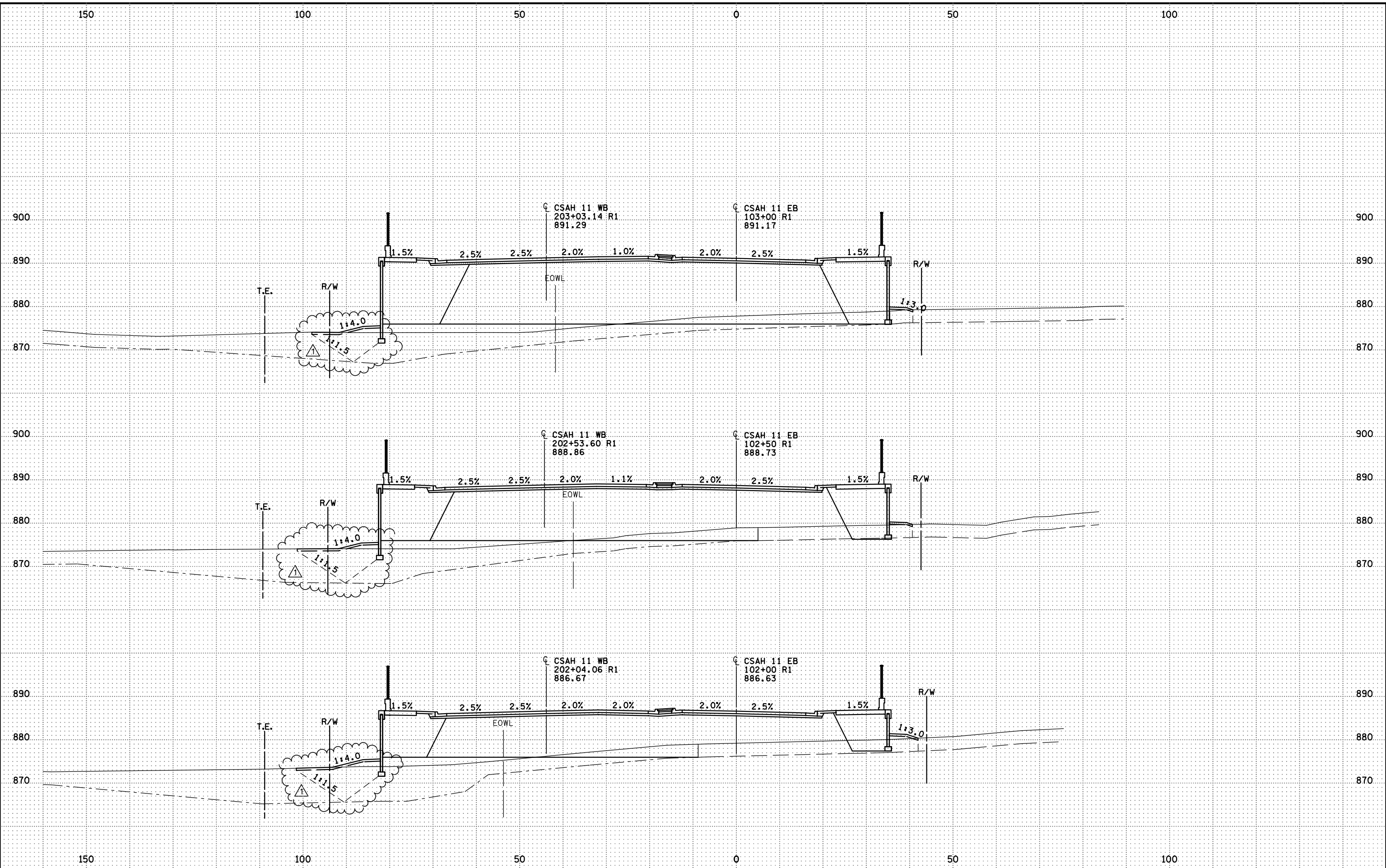
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CHK: SAO			
NO. 1	DATE 4/6/21	BY SAO	DESCRIPTION OF REVISIONS ADDED EXCAVATION LINEWORK



CSAH 11 EB STA. 100+25 TO STA. 101+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X1R OF X44 SHEETS

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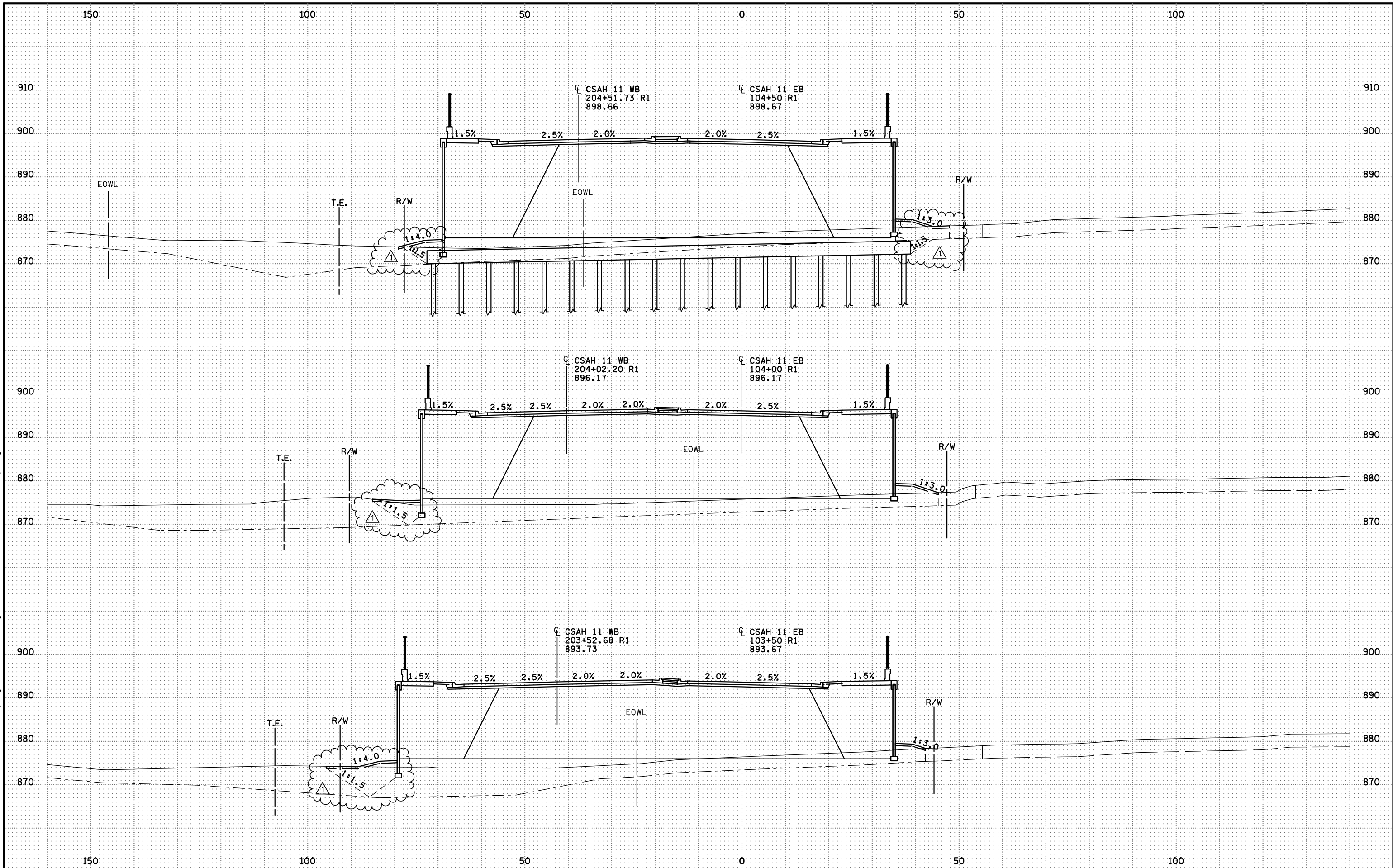


DES: TJV
DRW: TJV
CHK: SAO

NO.	DATE	BY	DESCRIPTION OF REVISIONS
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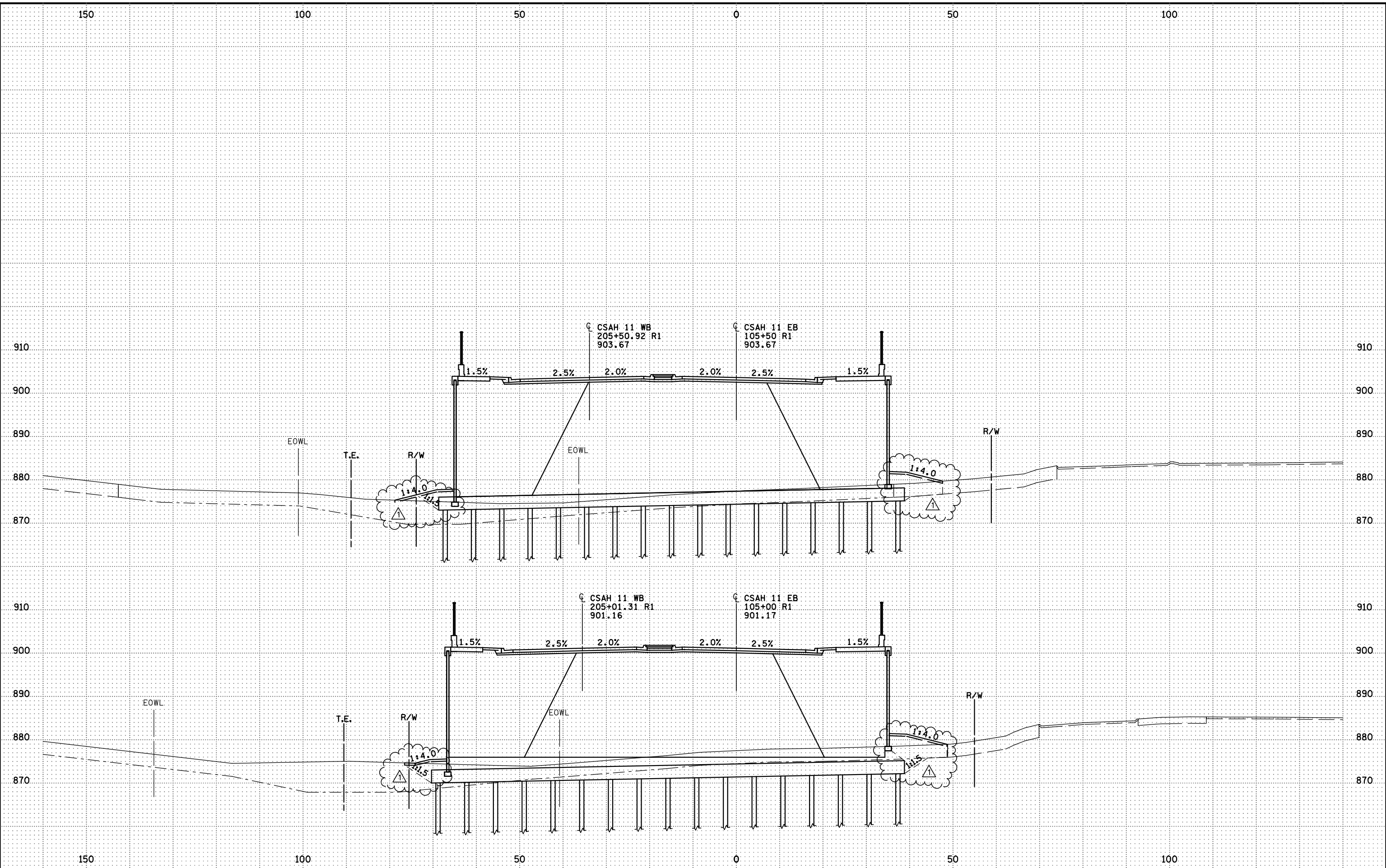
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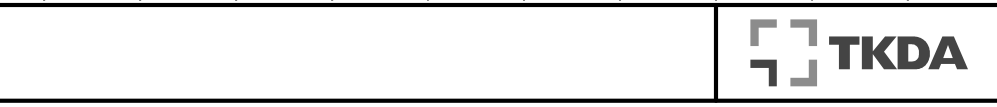
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 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
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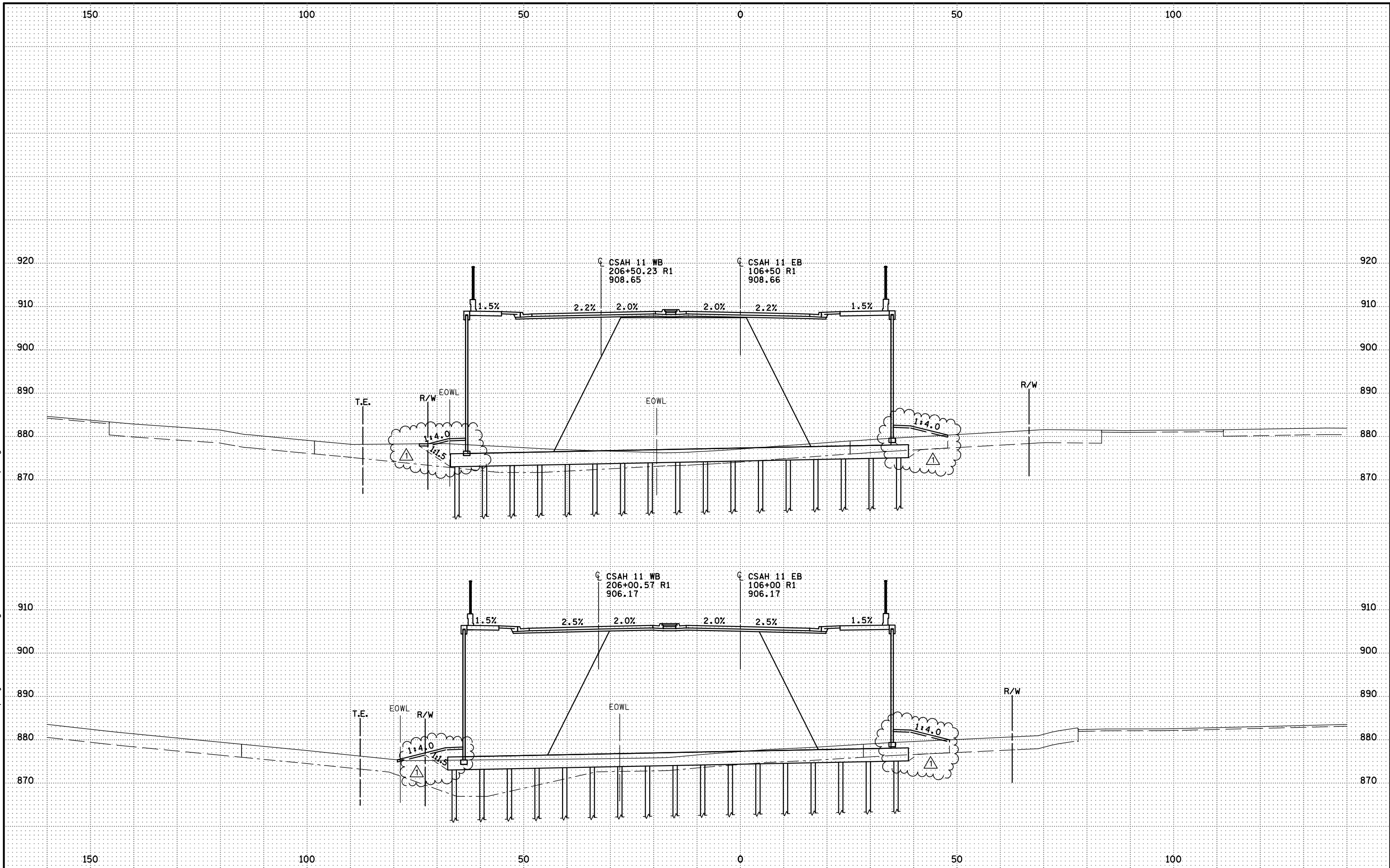


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CHK:	SAO

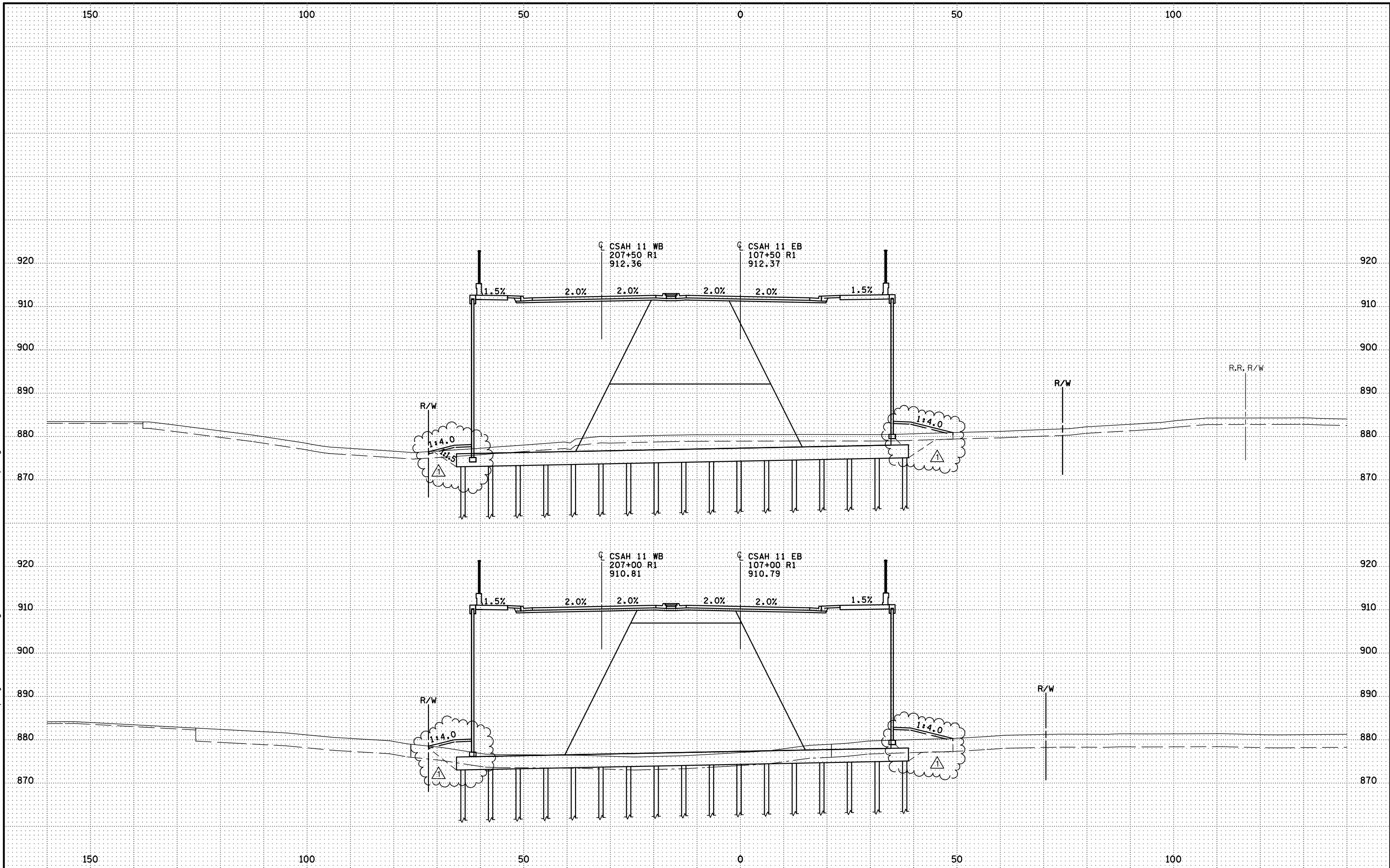
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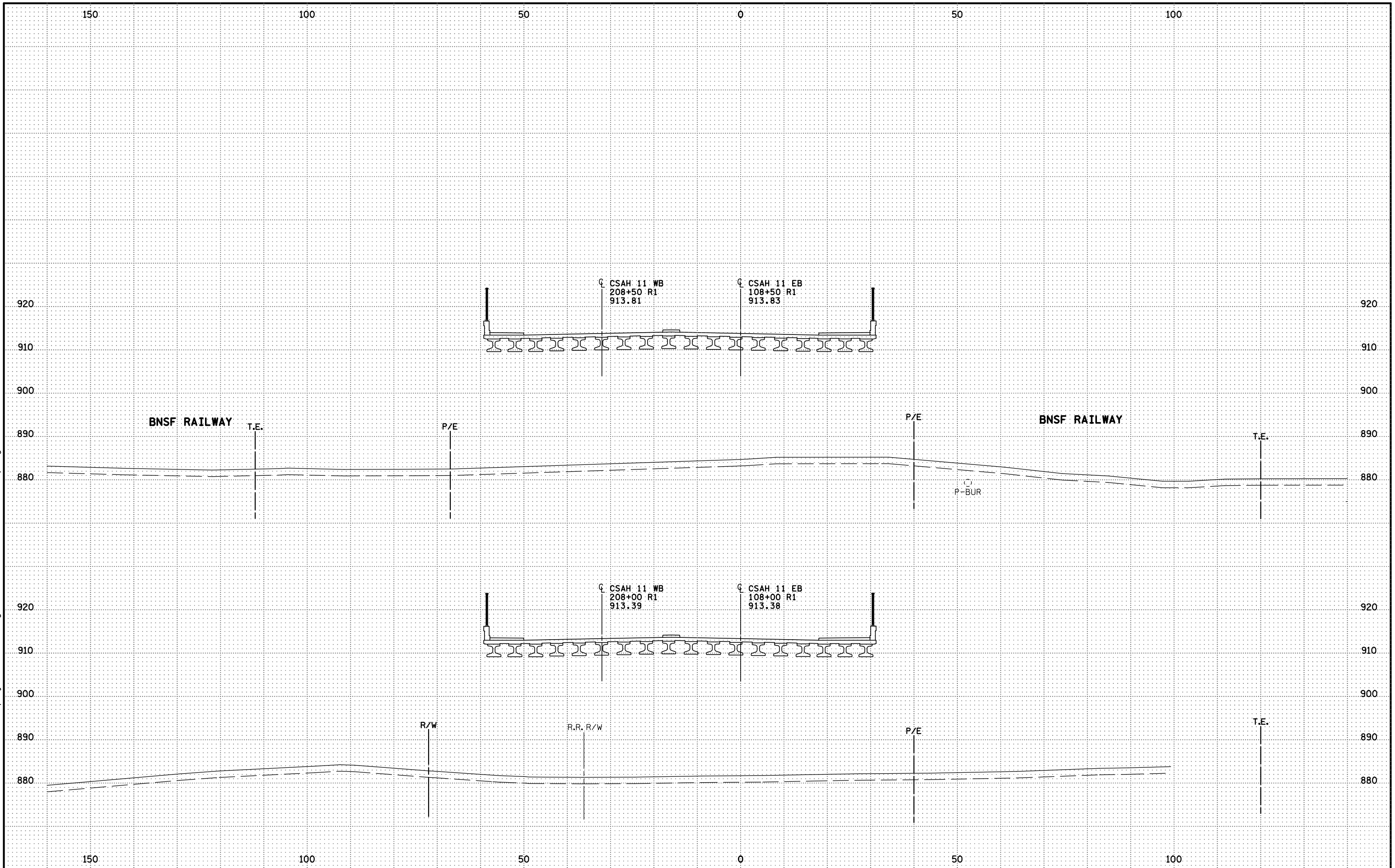
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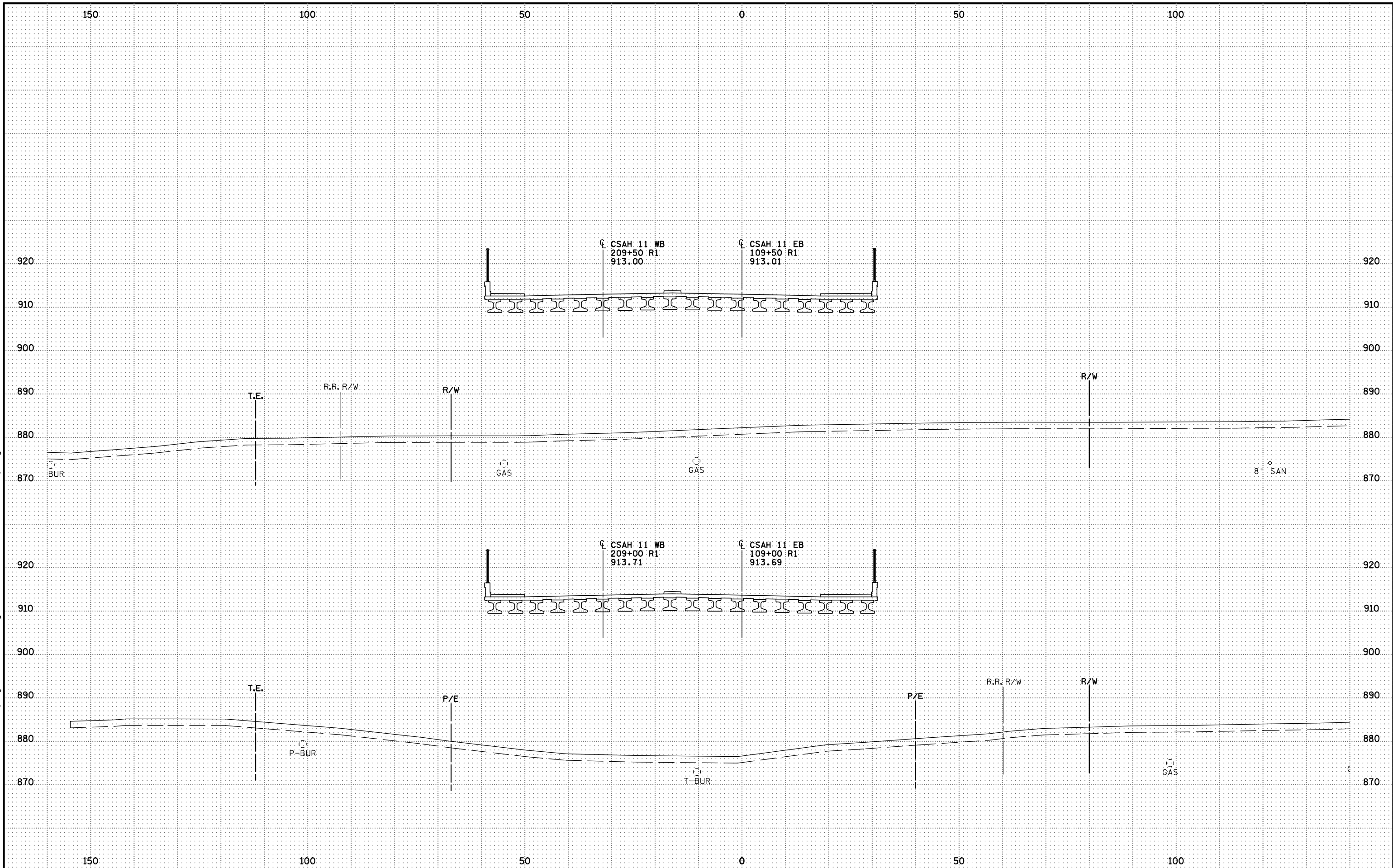
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CSAH 11 EB STA. 108+00 TO STA. 108+50
 STATE PROJ. NO. 002-611-036

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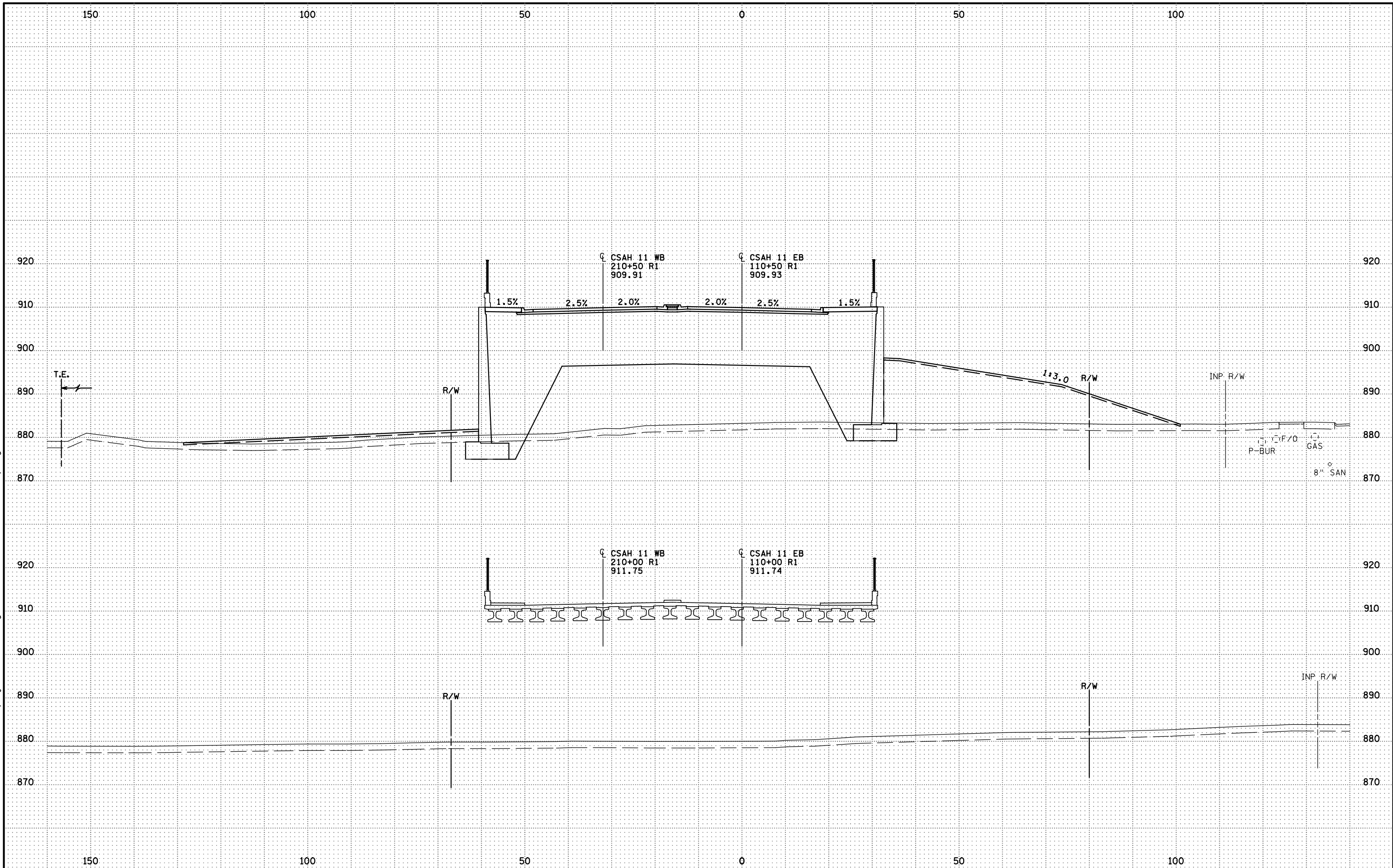
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CSAH 11 EB STA. 109+00 TO STA. 109+50
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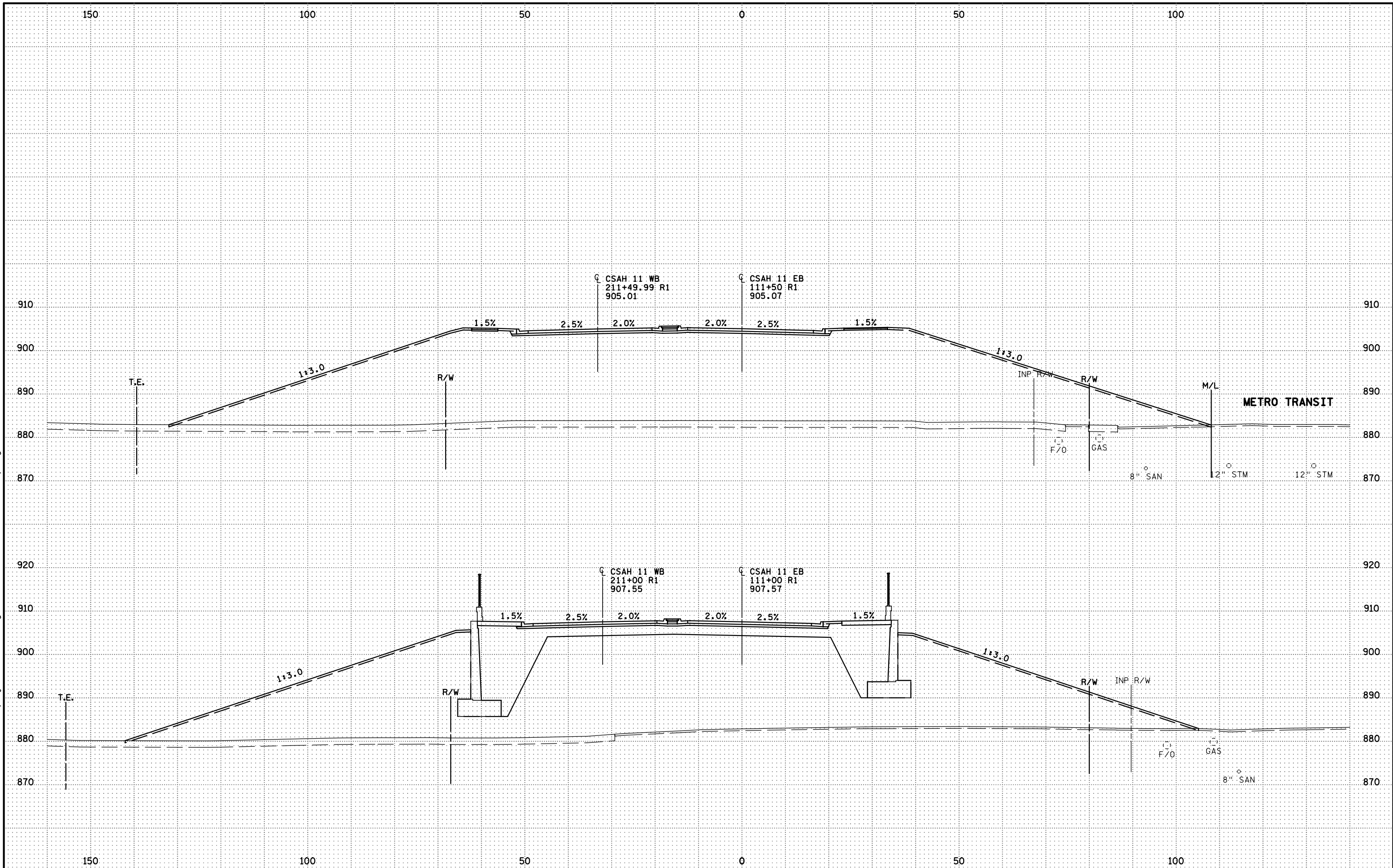
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CROSS SECTIONS
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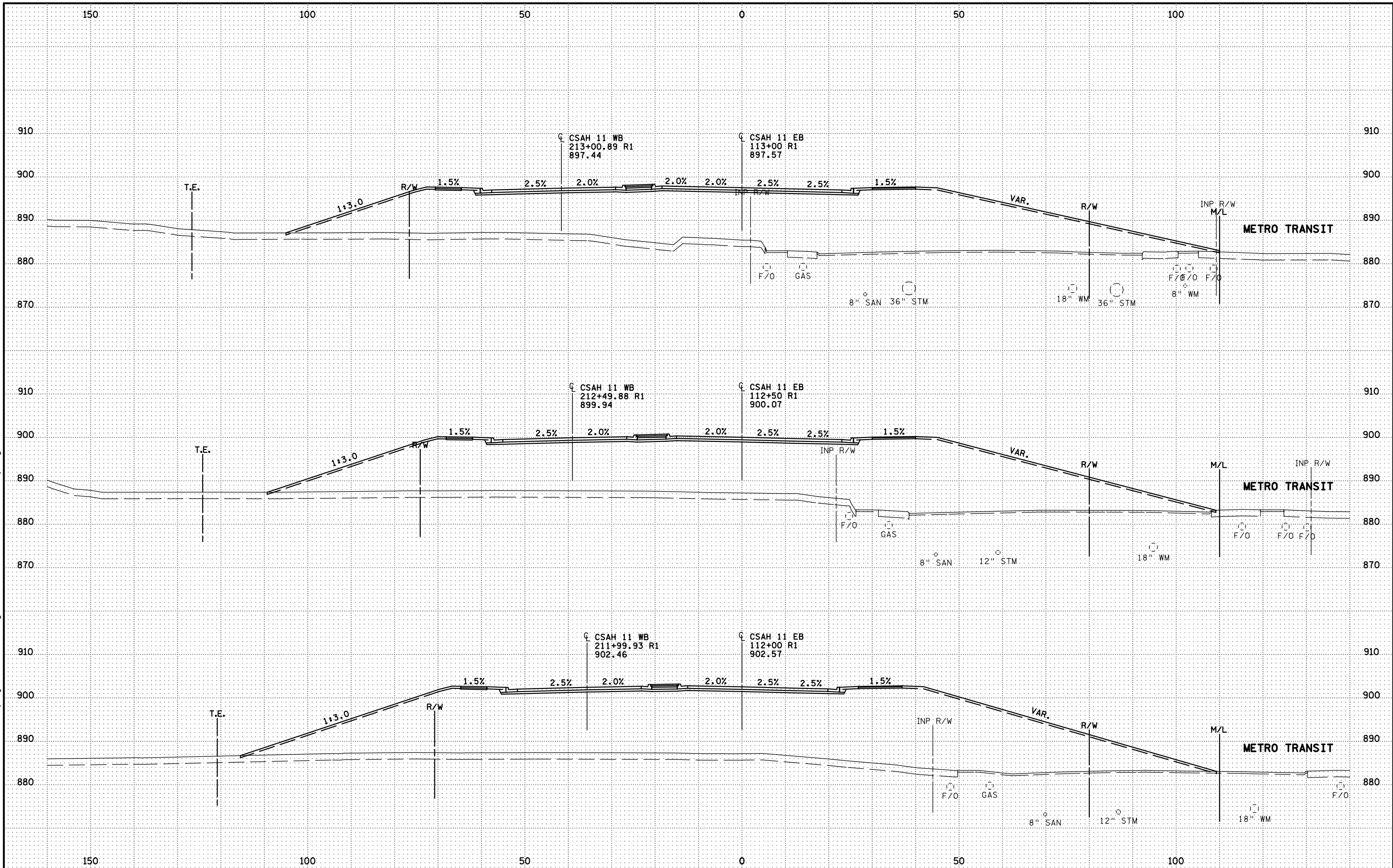
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CSAH 11 EB STA. 111+00 TO STA. 111+50
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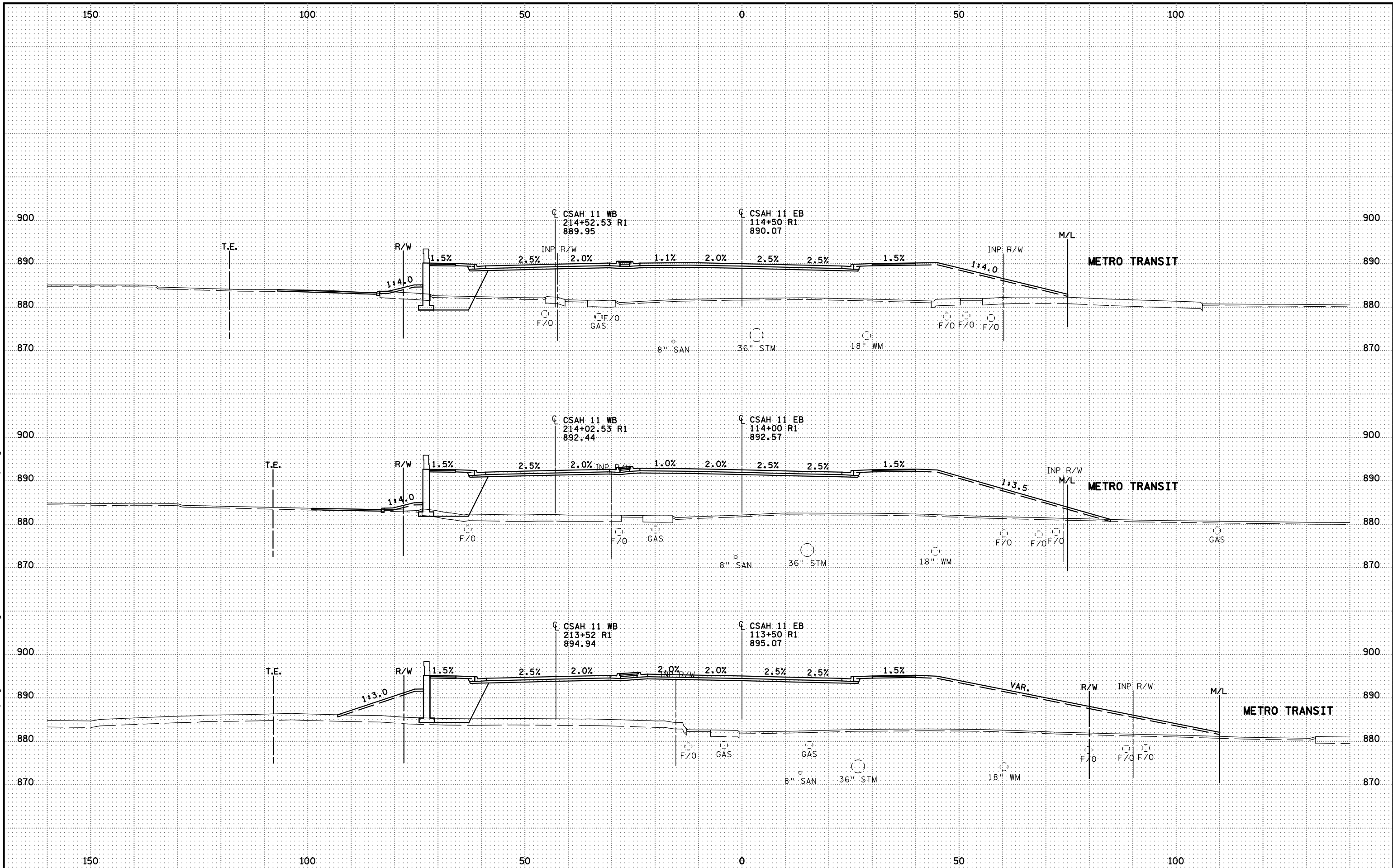
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CSAH 11 EB STA. 112+00 TO STA. 113+00
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CROSS SECTIONS
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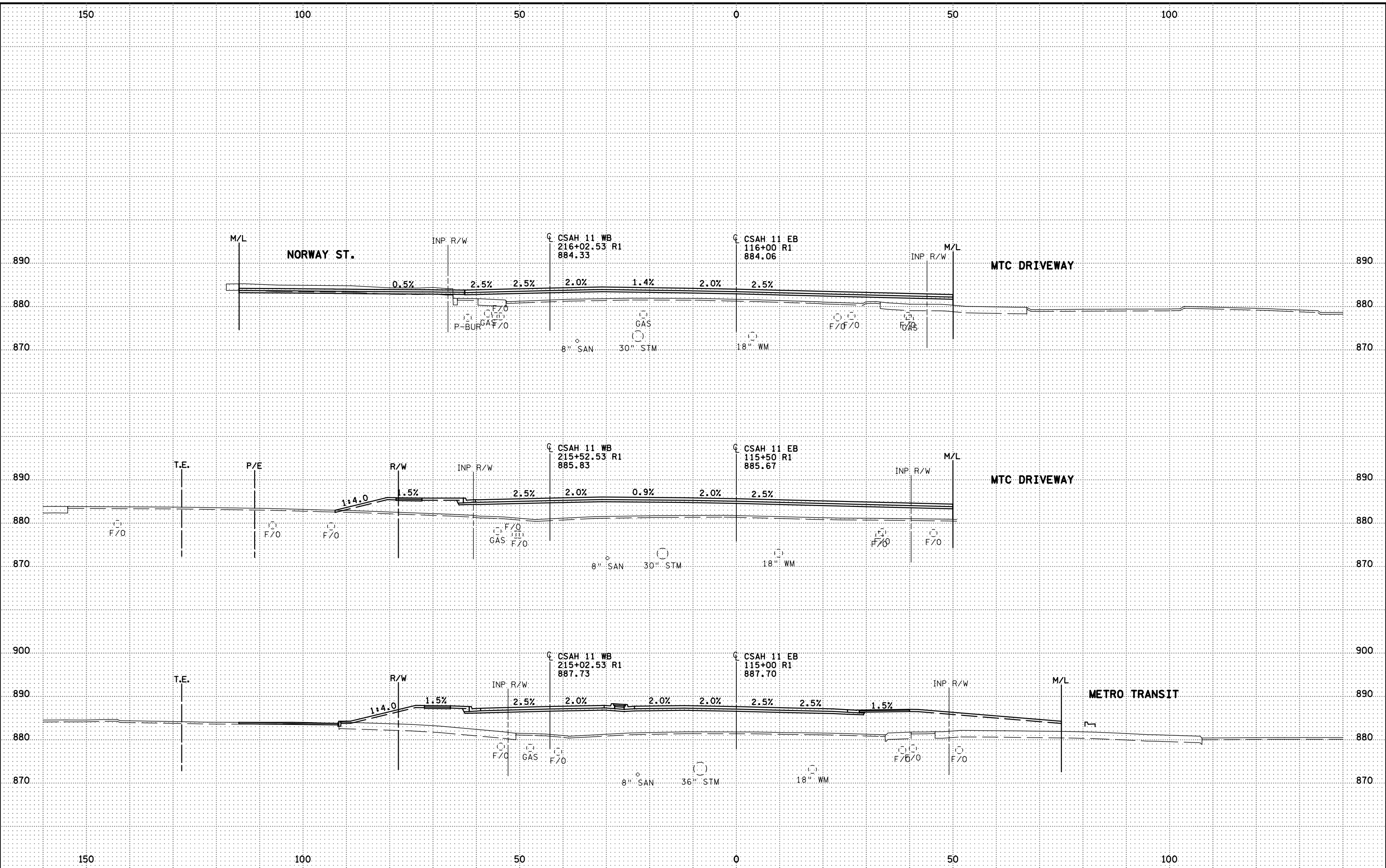


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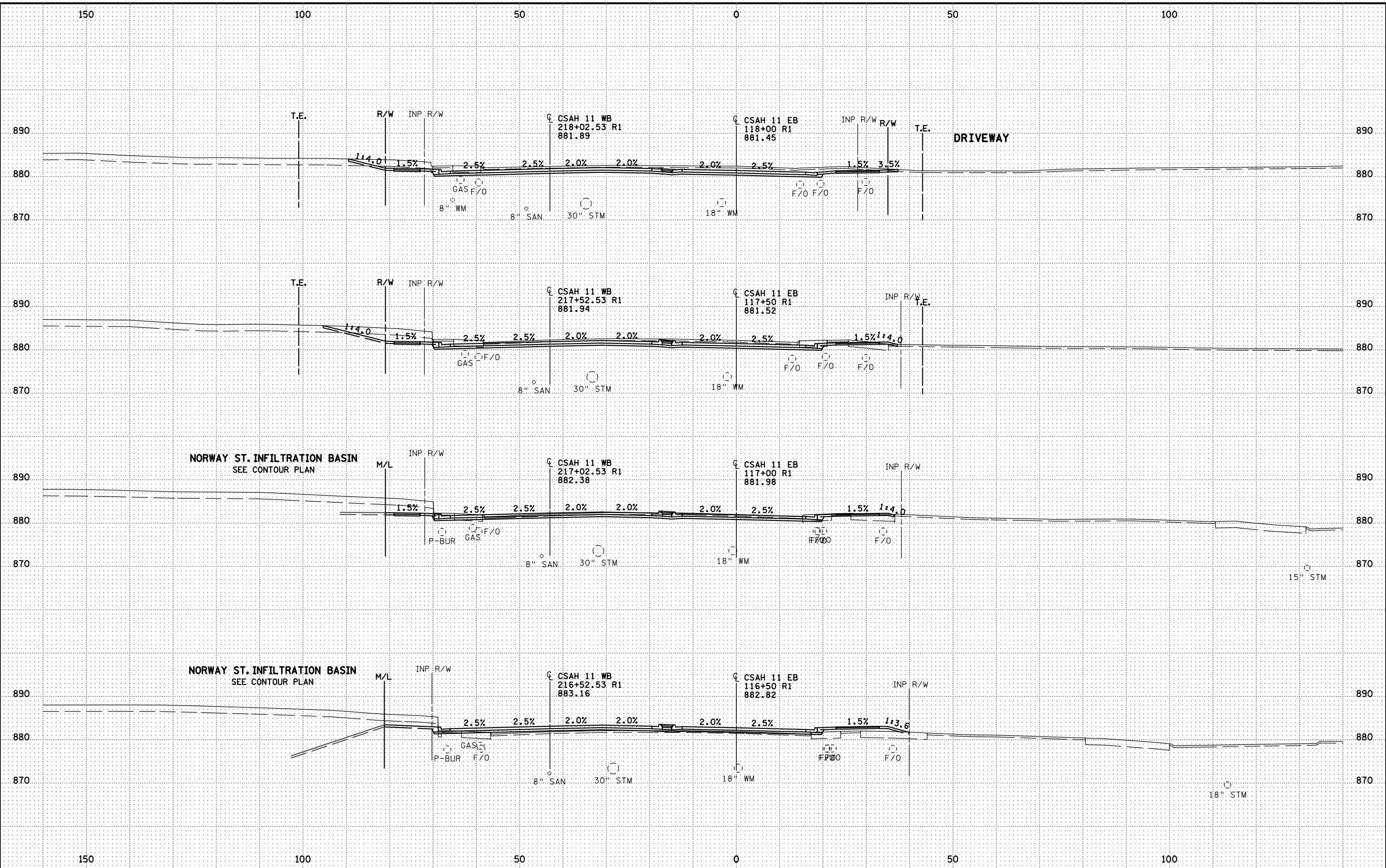
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CSAH 11 EB STA. 115+00 TO STA. 116+00
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CROSS SECTIONS
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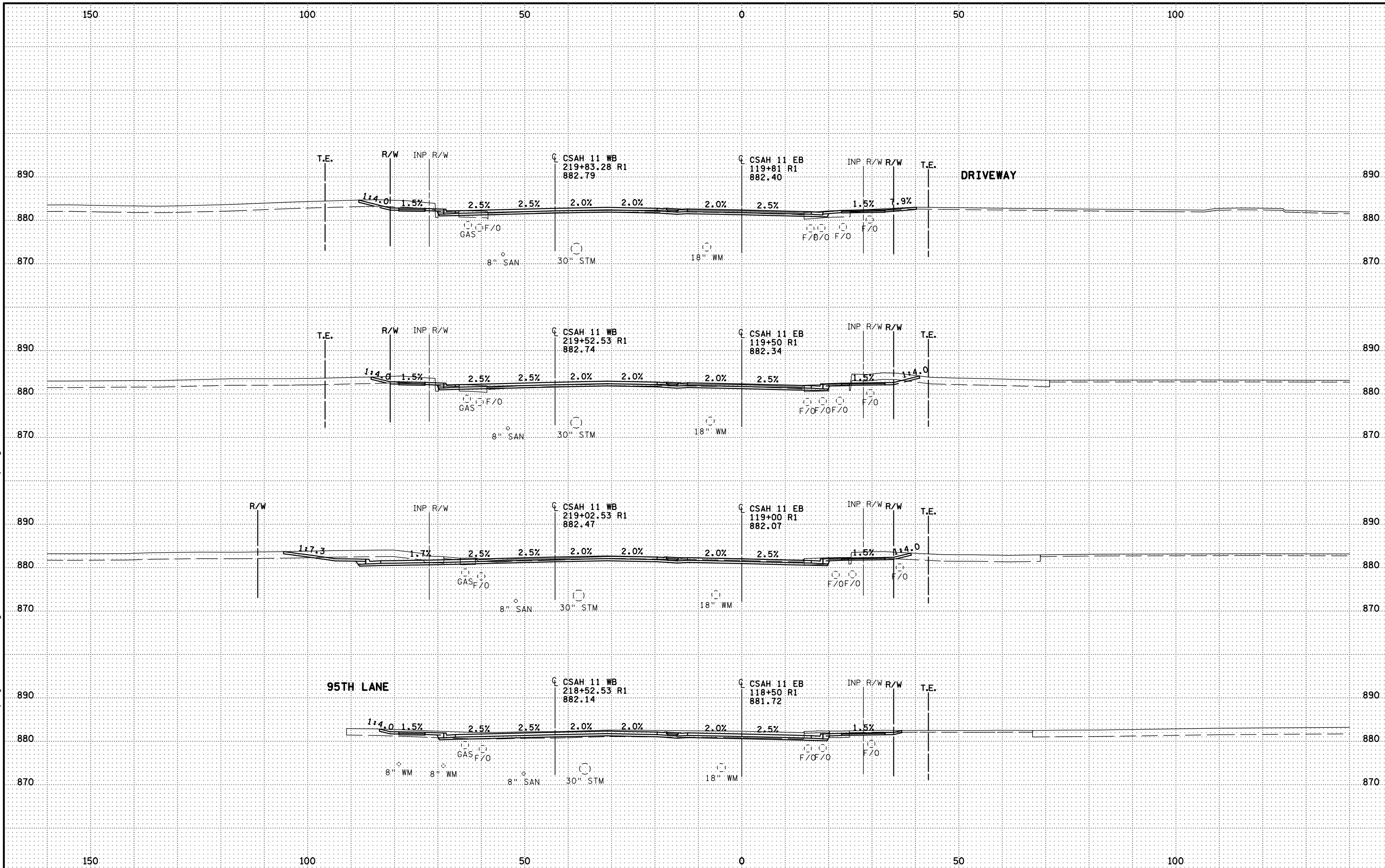
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NO. DATE BY DESCRIPTION OF REVISIONS

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CSAH 11 EB STA. 116+50 TO STA. 118+00
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CROSS SECTIONS
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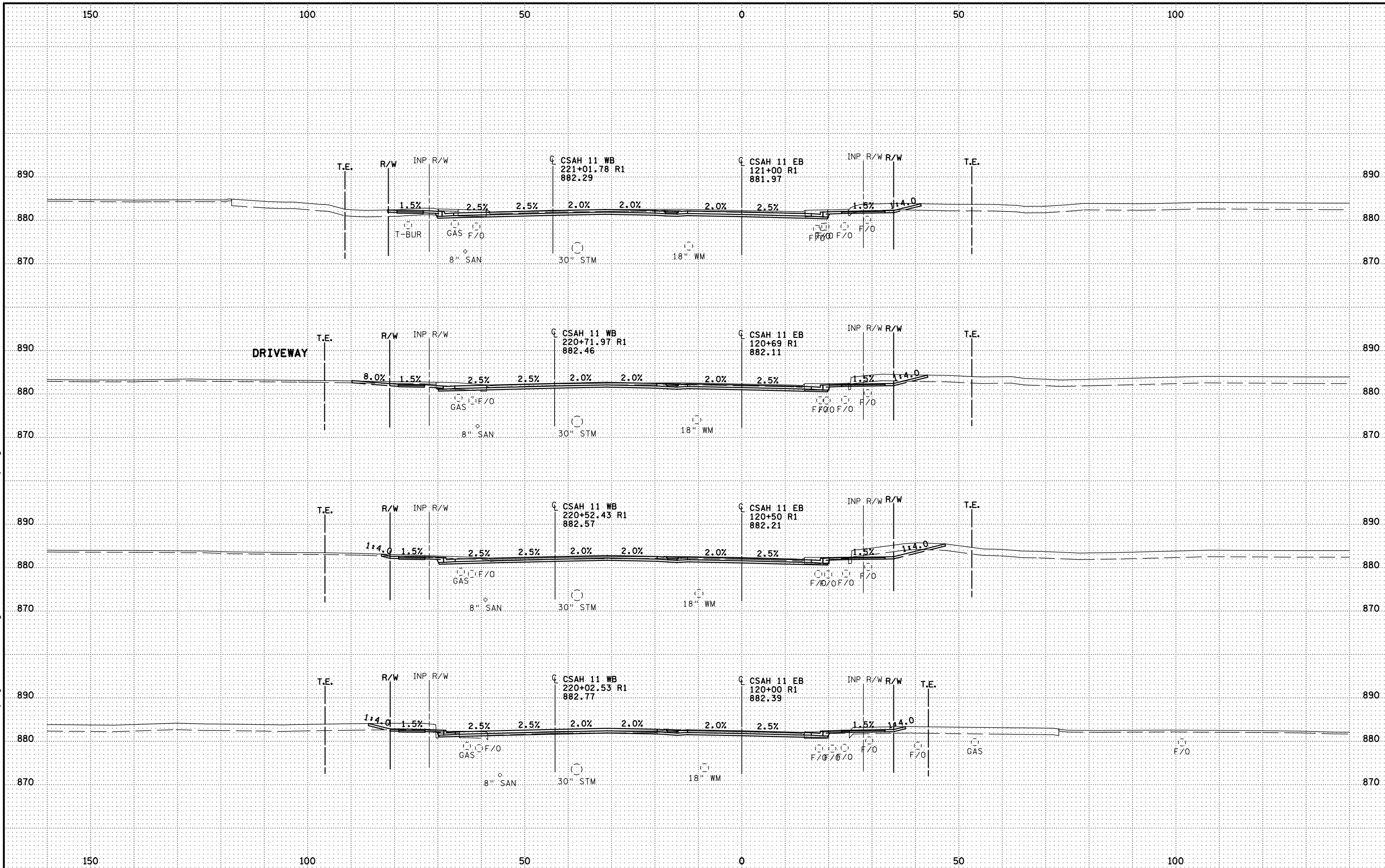
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CSAH 11 EB STA. 118+50 TO STA. 119+81
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CROSS SECTIONS
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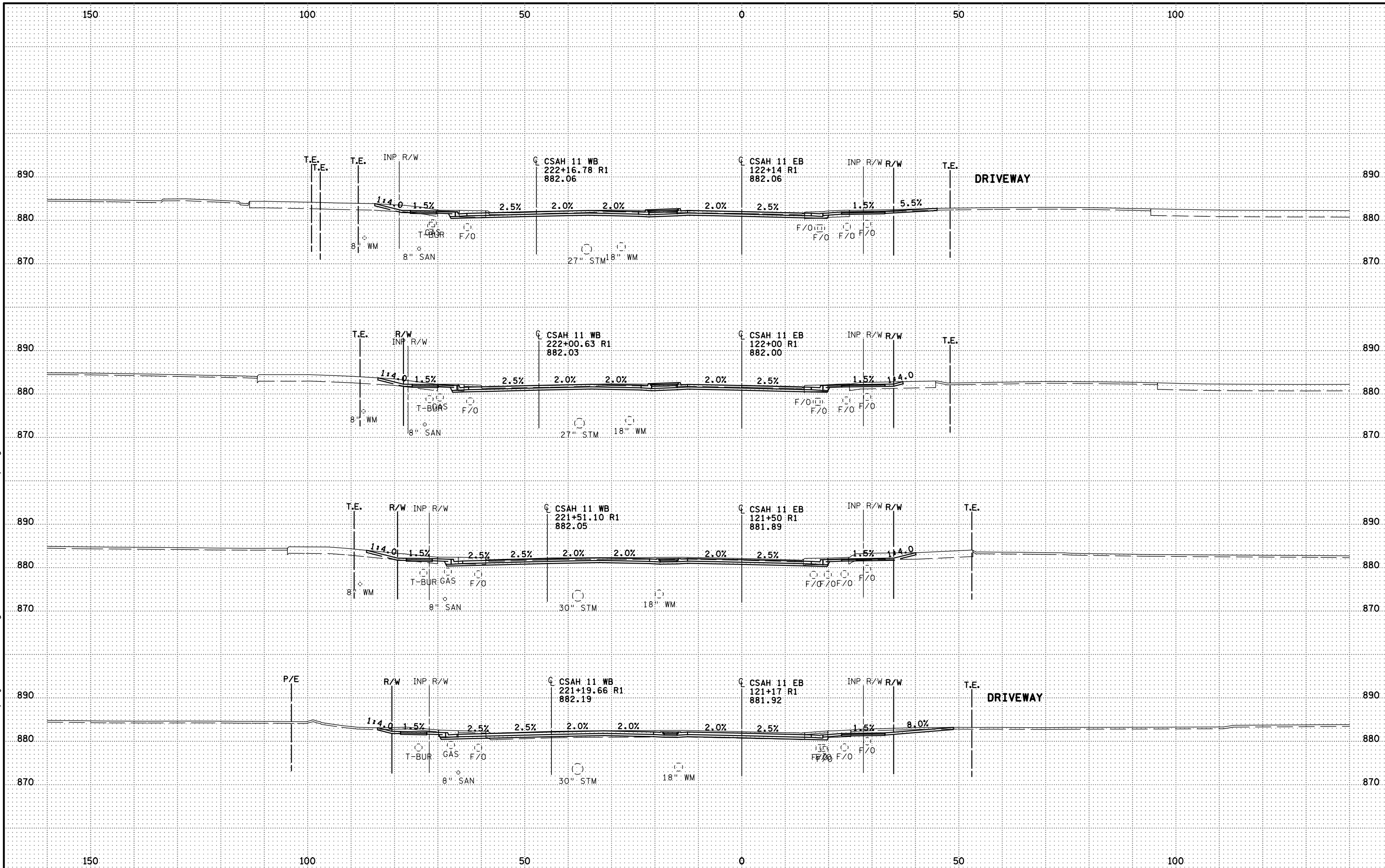
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CSAH 11 EB STA. 120+00 TO STA. 121+00
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
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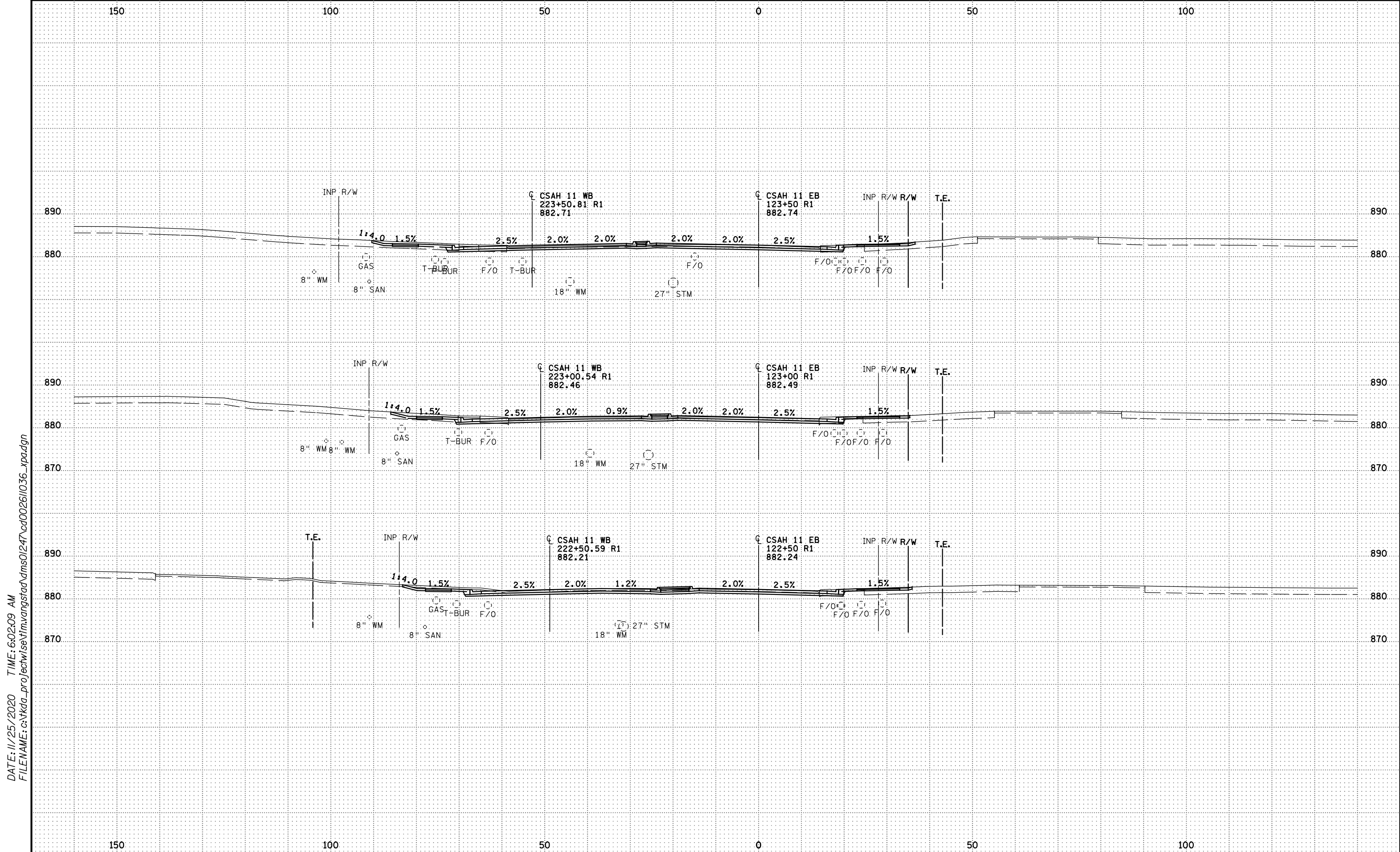


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NO.	DATE	BY	DESCRIPTION OF REVISIONS



CSAH 11 EB STA. 121+17 TO STA. 122+14
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X17 OF X44 SHEETS



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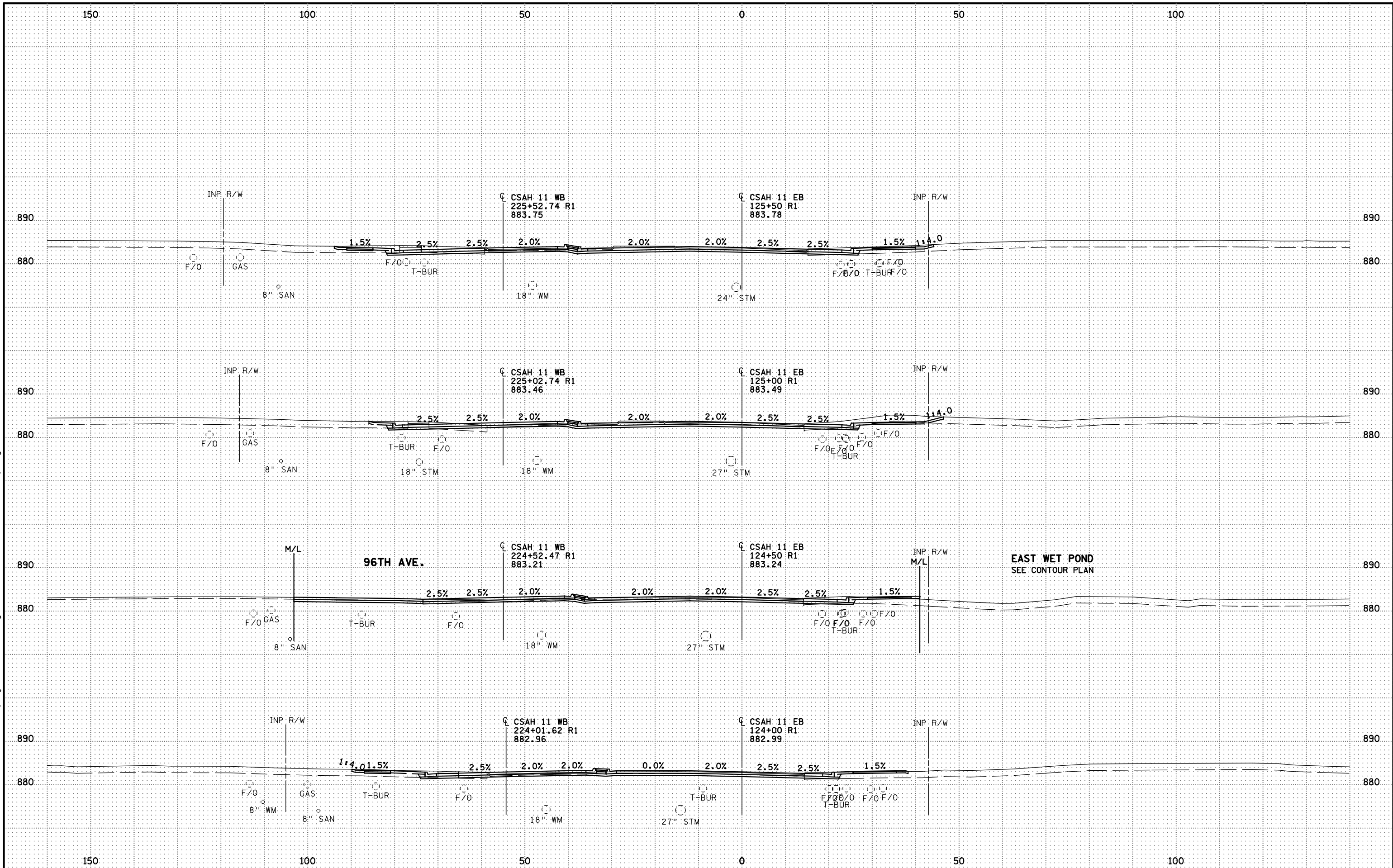
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CSAH 11 EB STA. 122+50 TO STA. 123+50
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CROSS SECTIONS
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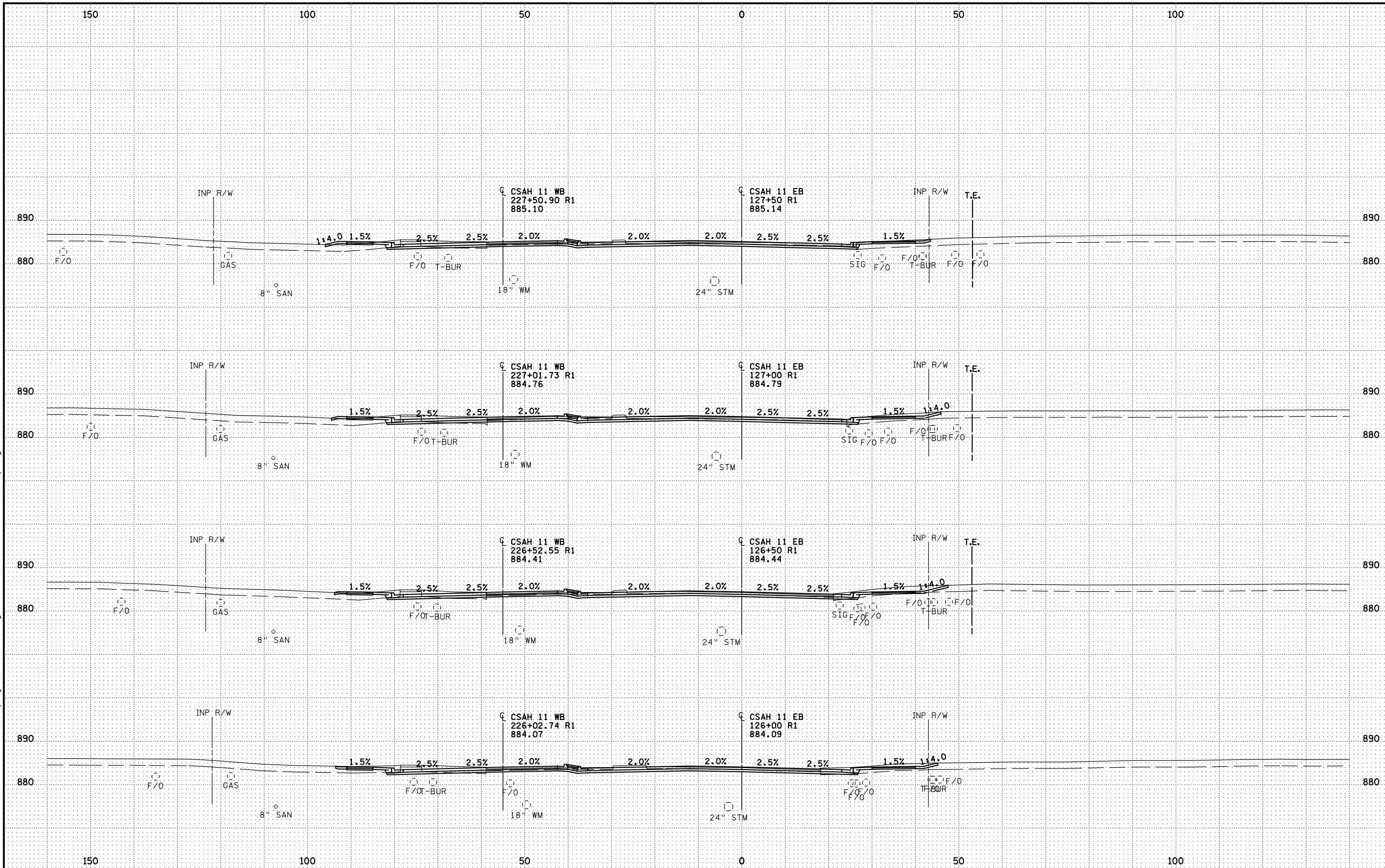
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CSAH 11 EB STA. 124+00 TO STA. 125+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
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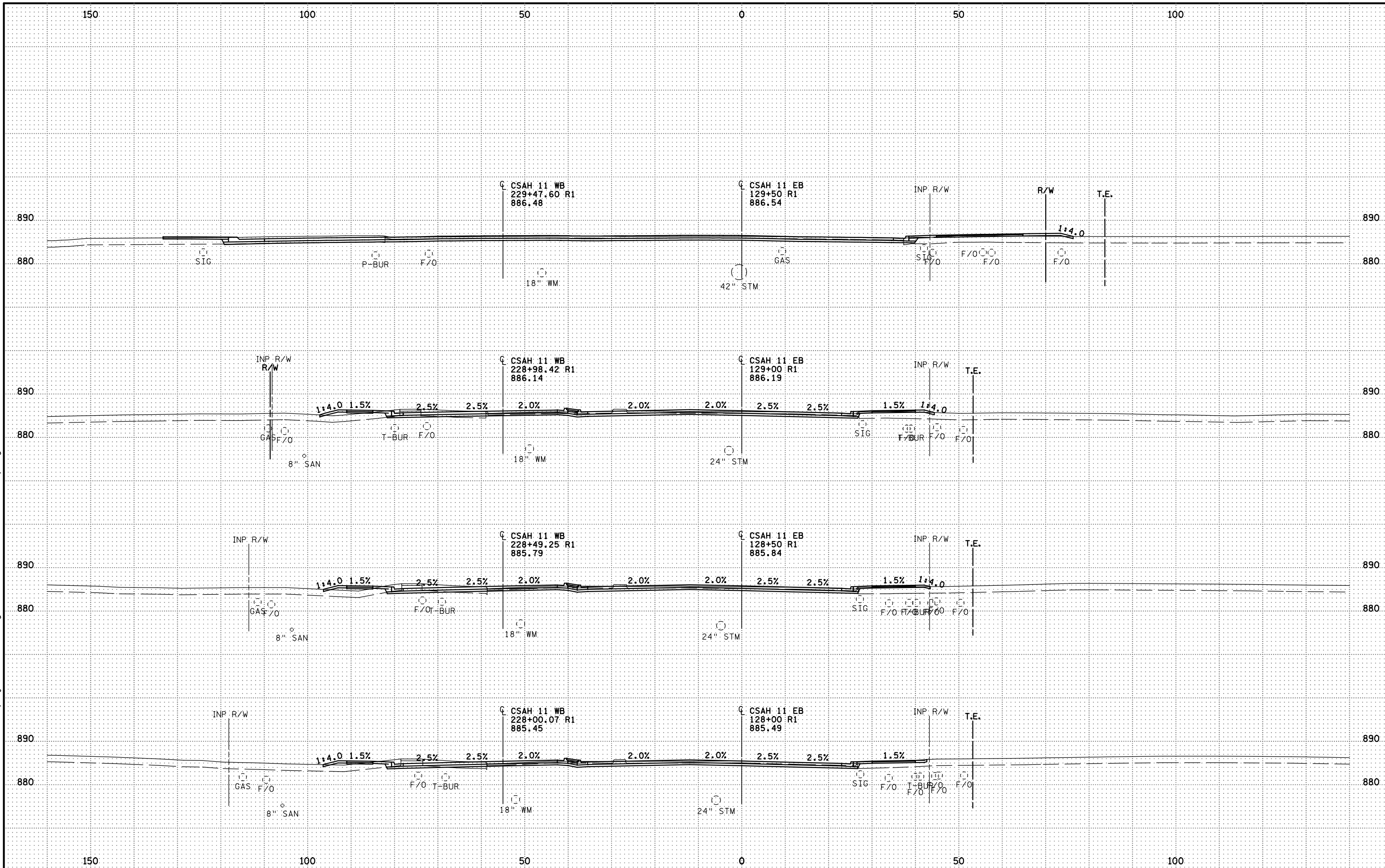
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NO.	DATE	BY	DESCRIPTION OF REVISIONS



CSAH 11 EB STA. 126+00 TO STA. 127+50
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CROSS SECTIONS
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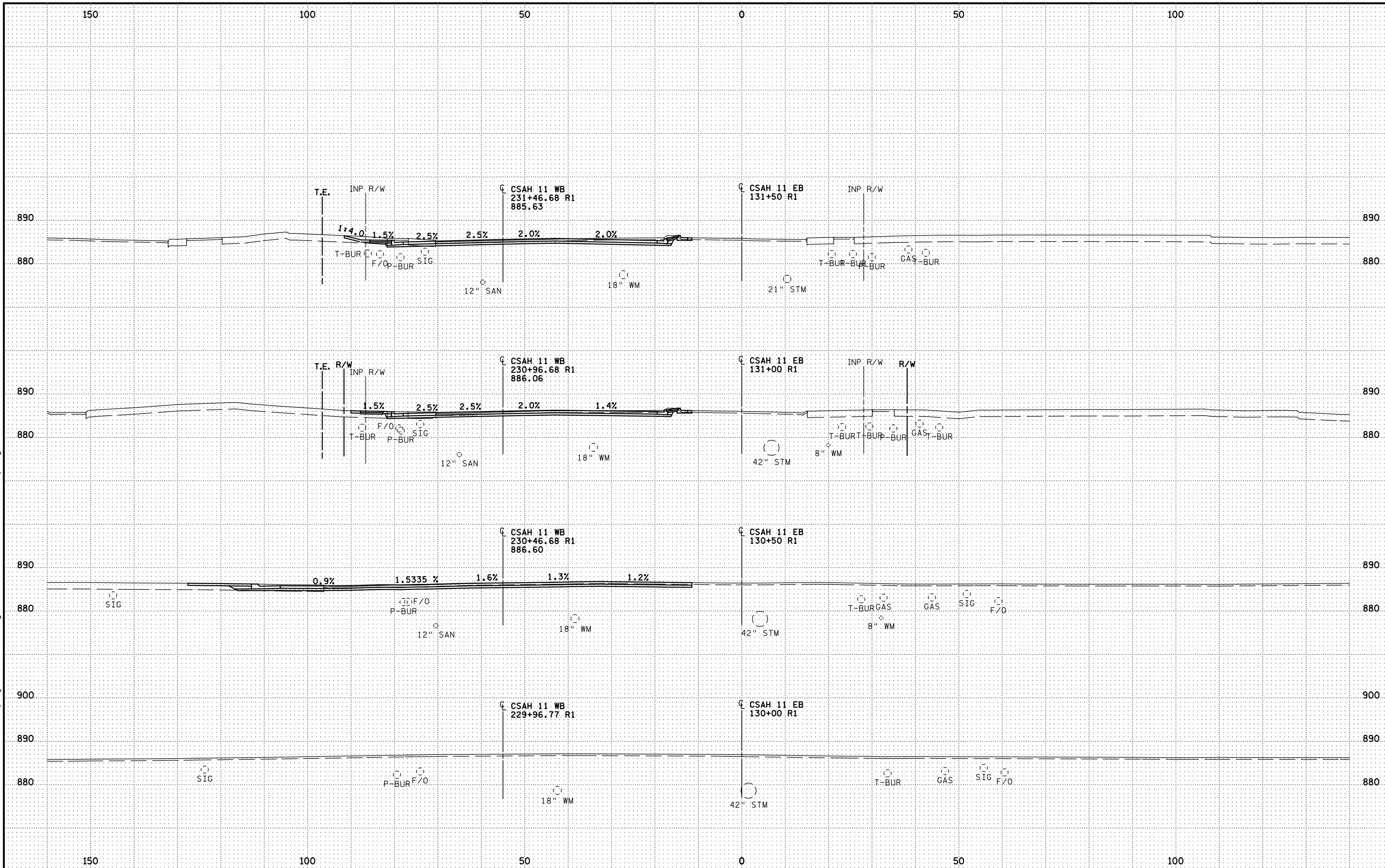
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CSAH 11 EB STA. 128+00 TO STA. 129+50
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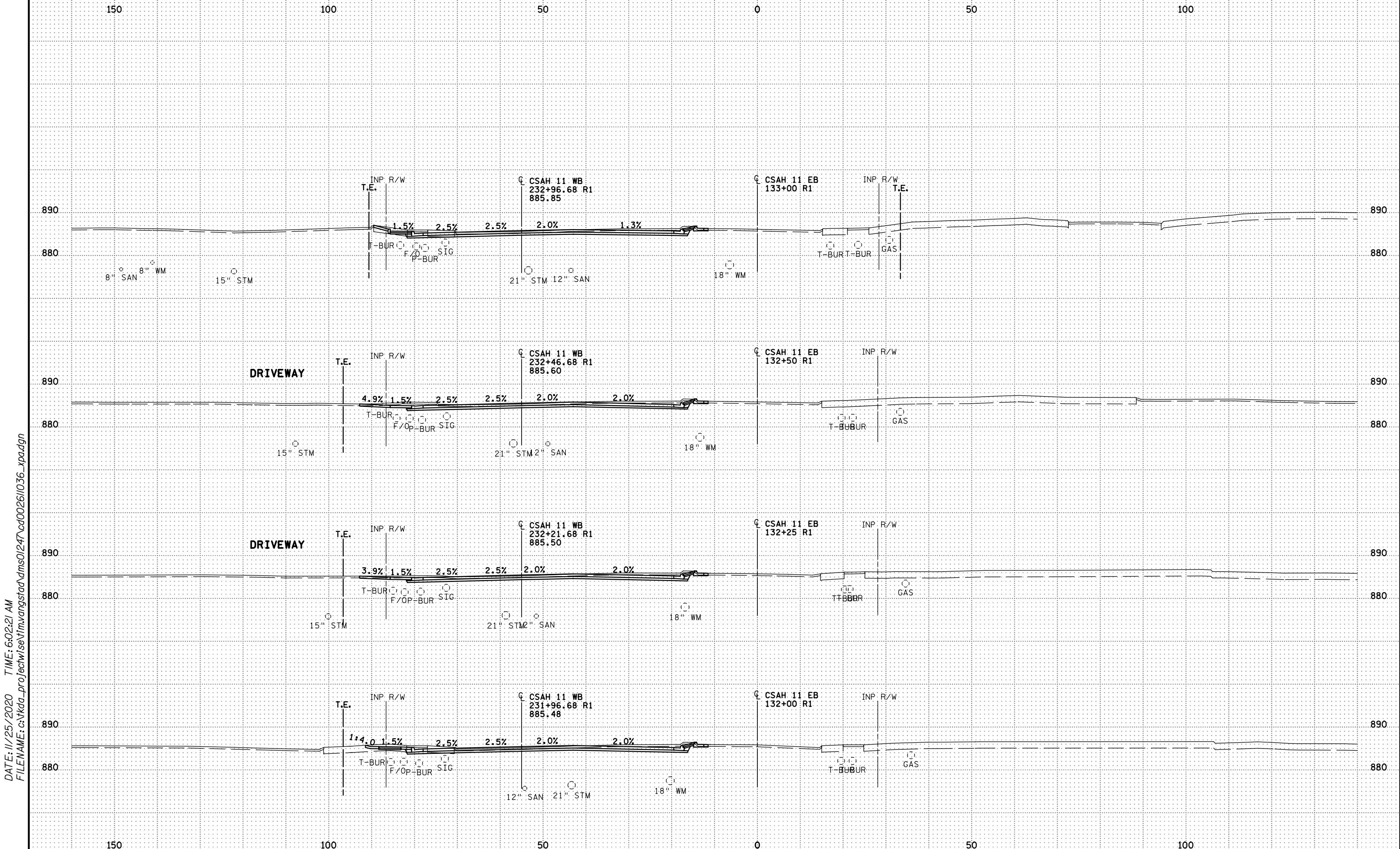


DES:	TJV		
DRW:	TJV		
CHK:	SAO		
NO.	DATE	BY	DESCRIPTION OF REVISIONS



CSAH 11 EB STA. 130+00 TO STA. 131+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X22 OF X44 SHEETS



DATE: 11/25/2020 TIME: 6:02:21 AM
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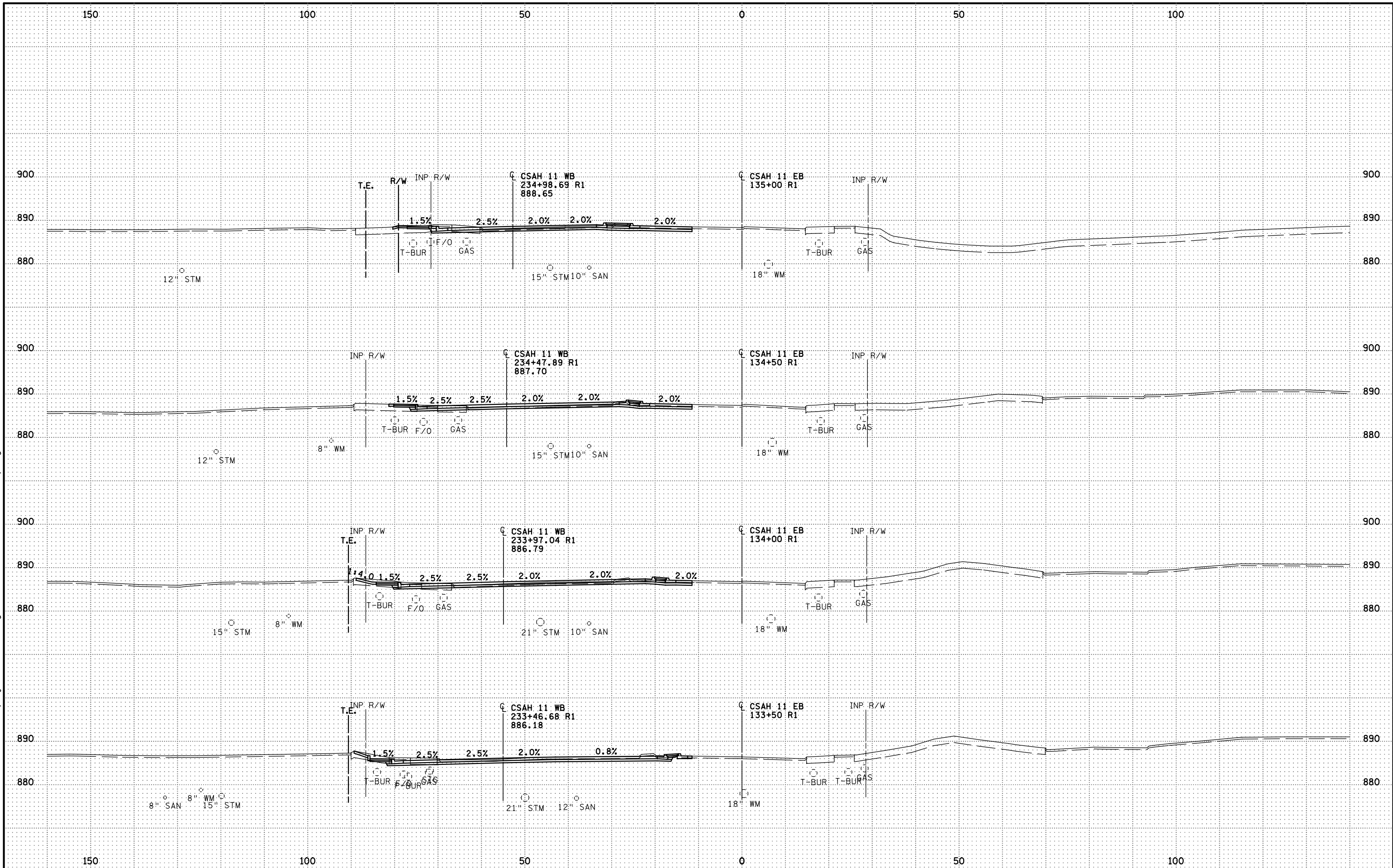
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CSAH 11 EB STA. 132+00 TO STA. 133+00
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X23 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:02:24 AM
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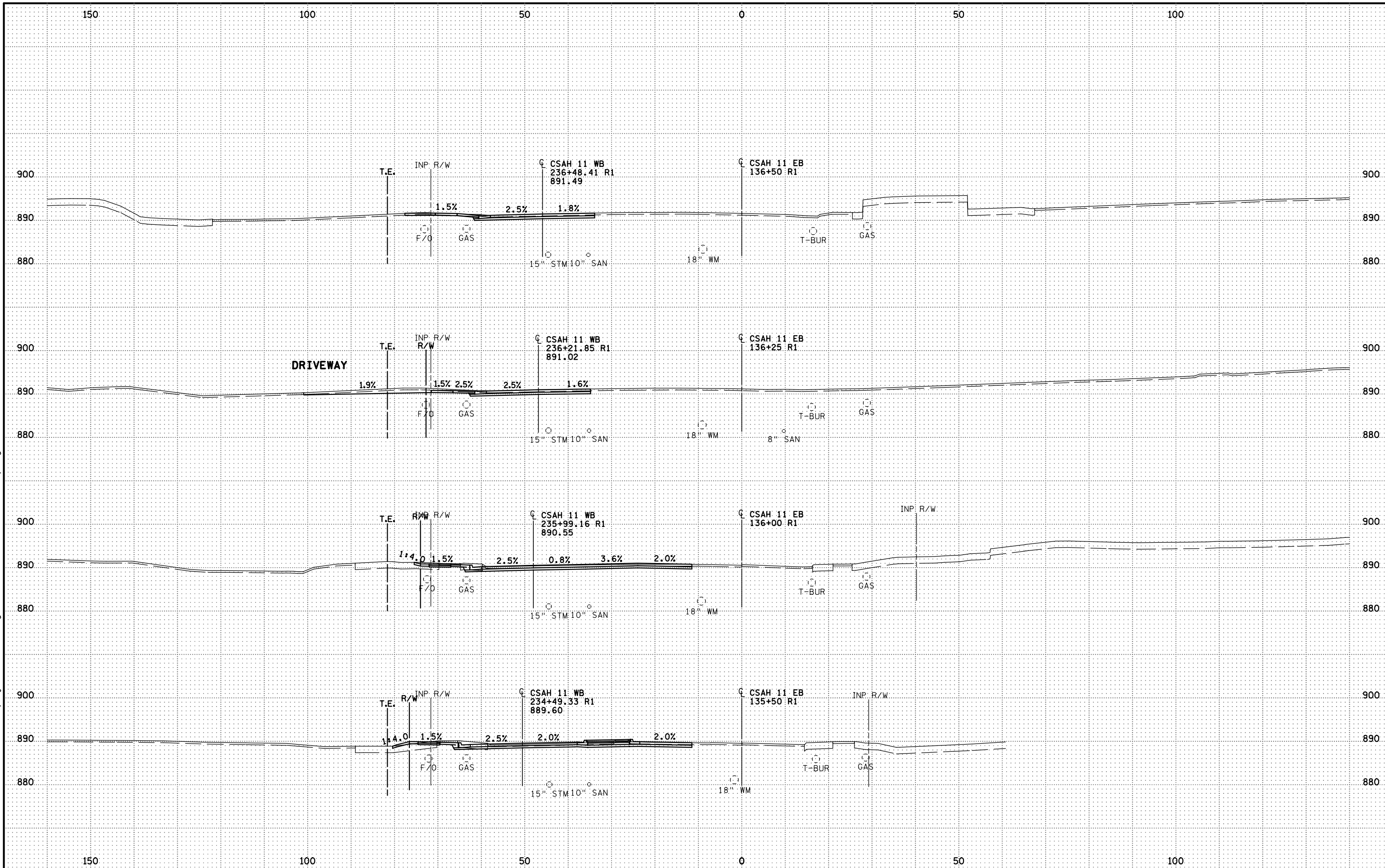
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DRW: TJV
CHK: SAO
NO. DATE BY DESCRIPTION OF REVISIONS



CSAH 11 EB STA. 133+50 TO STA. 135+00
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X24 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:02:26 AM
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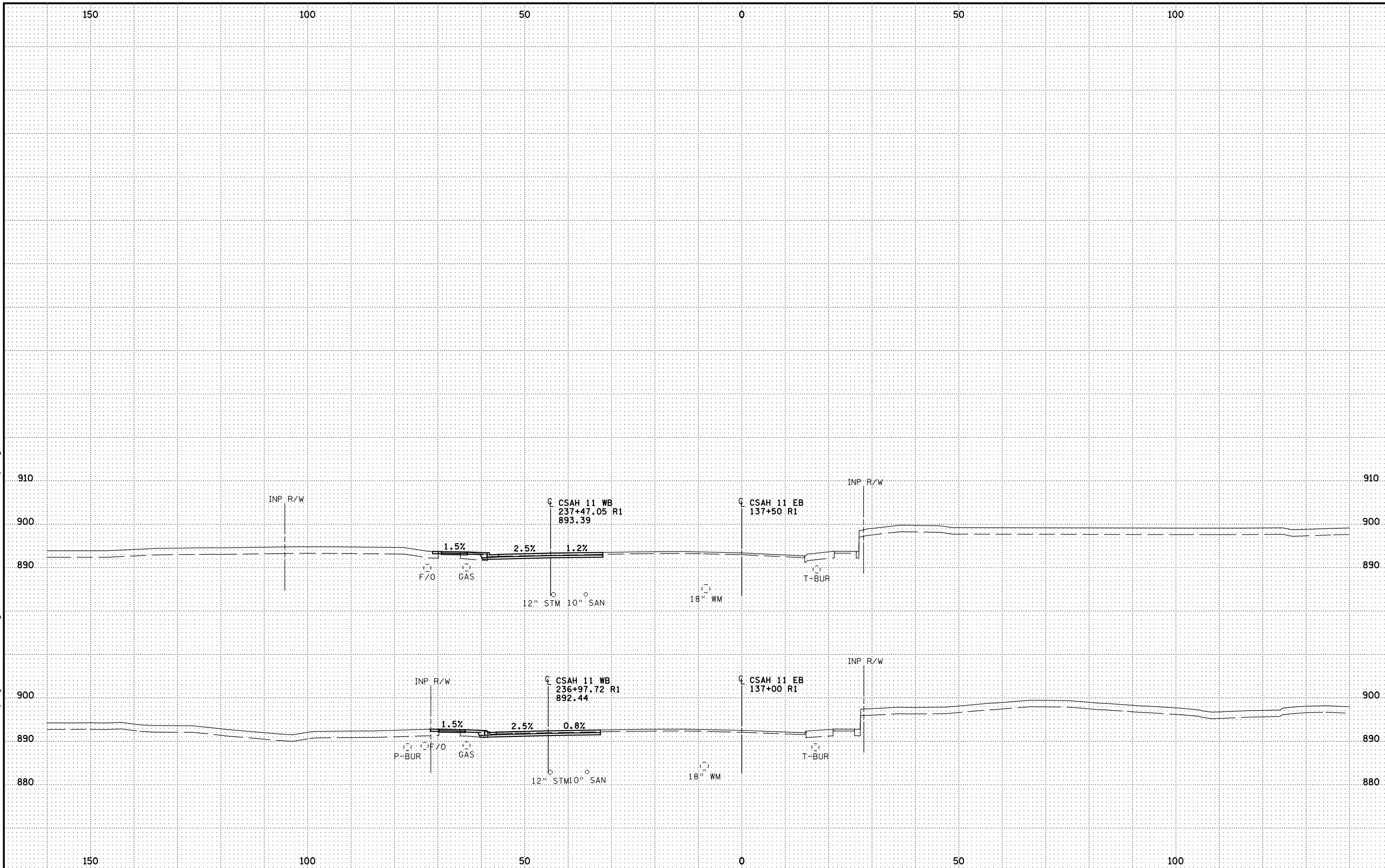
DES: TJV
DRW: TJV
CHK: SAO
NO. DATE BY DESCRIPTION OF REVISIONS



CSAH 11 EB STA. 135+50 TO STA. 136+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X25 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:02:29 AM
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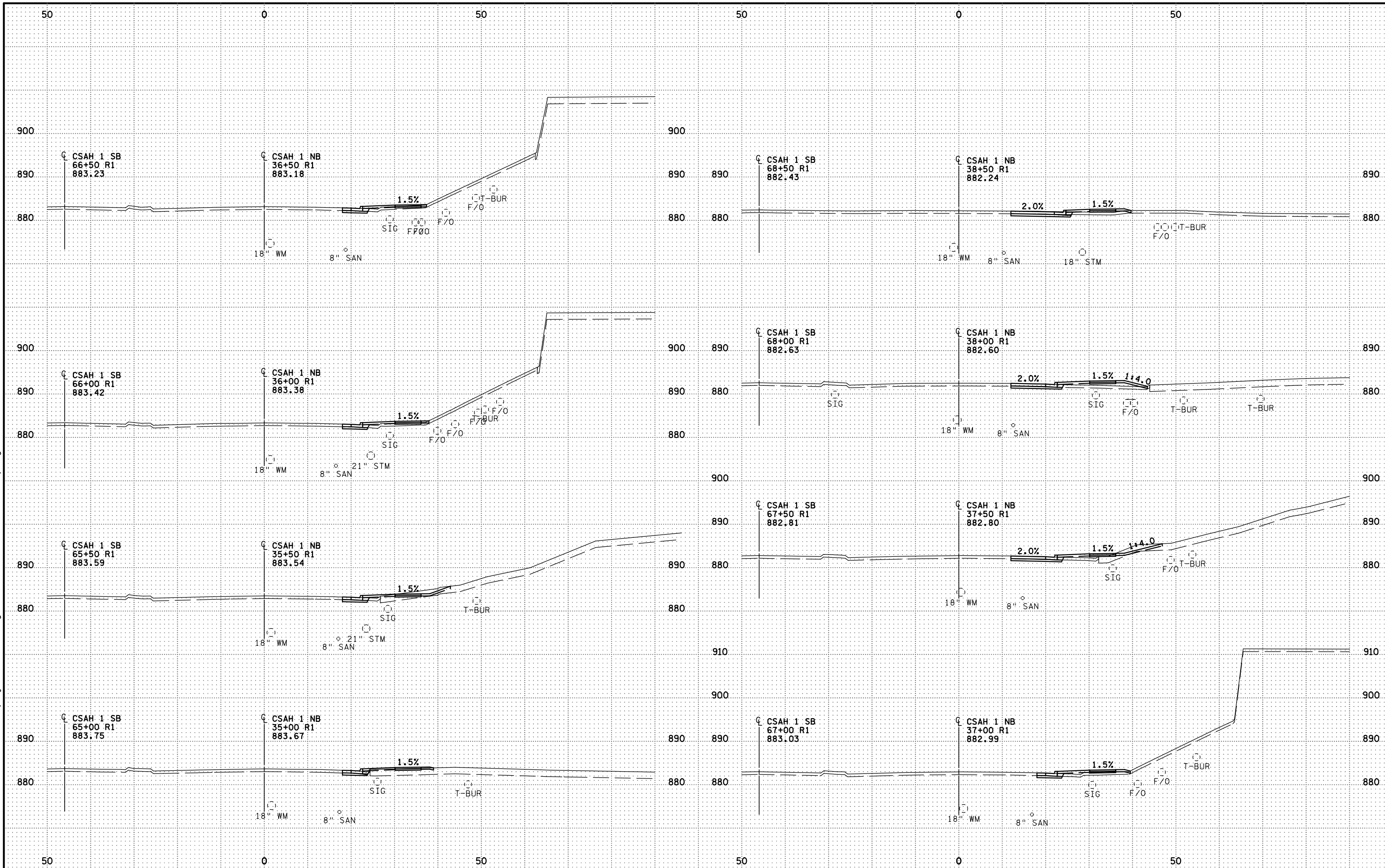
DES: TJV
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 CHK: SAO



CSAH 11 EB STA. 137+00 TO STA. 137+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X26 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:02:38 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

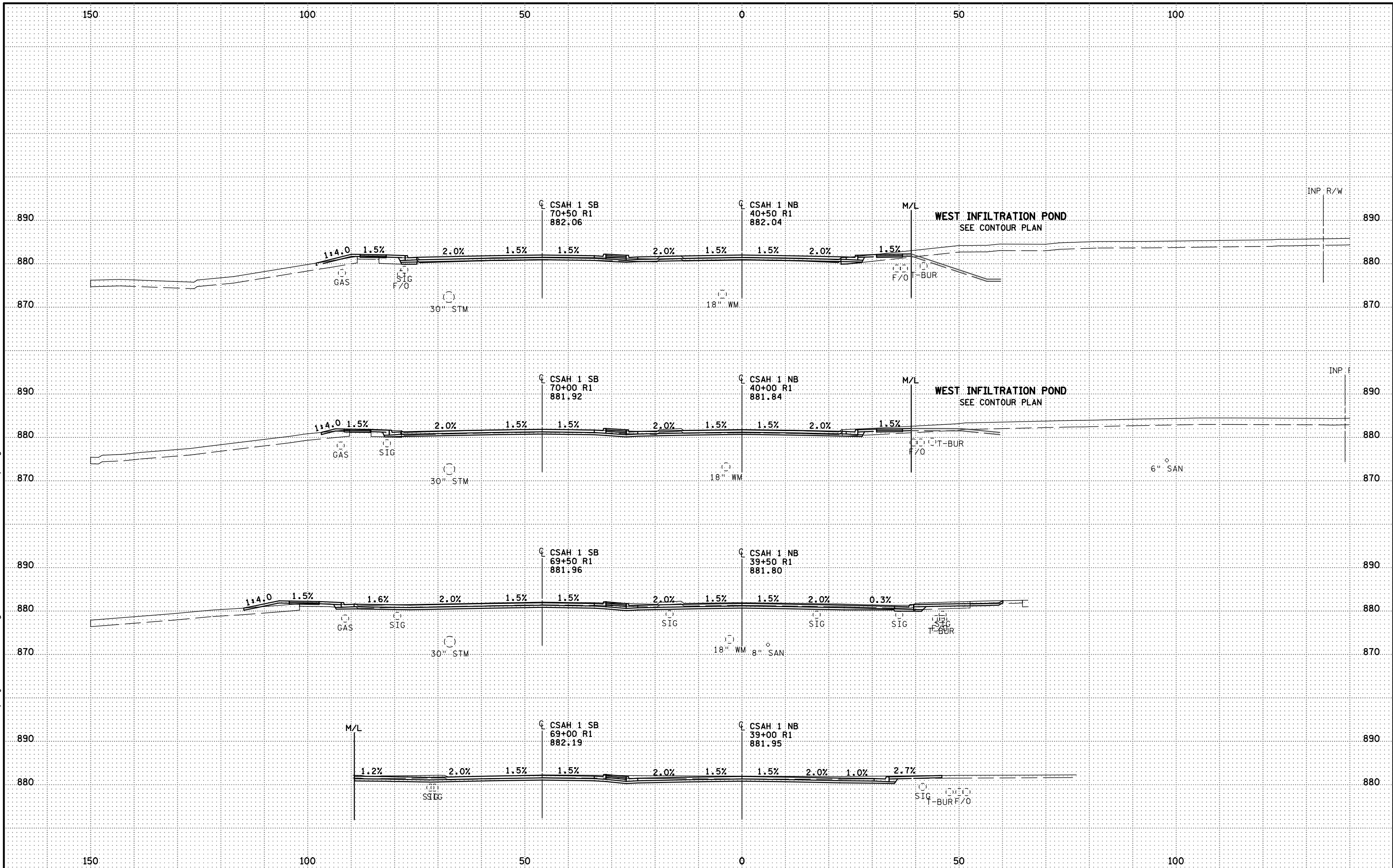
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 CHK: SAO



CSAH 1 NB STA. 35+00 TO STA. 38+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X27 OF X44 SHEETS

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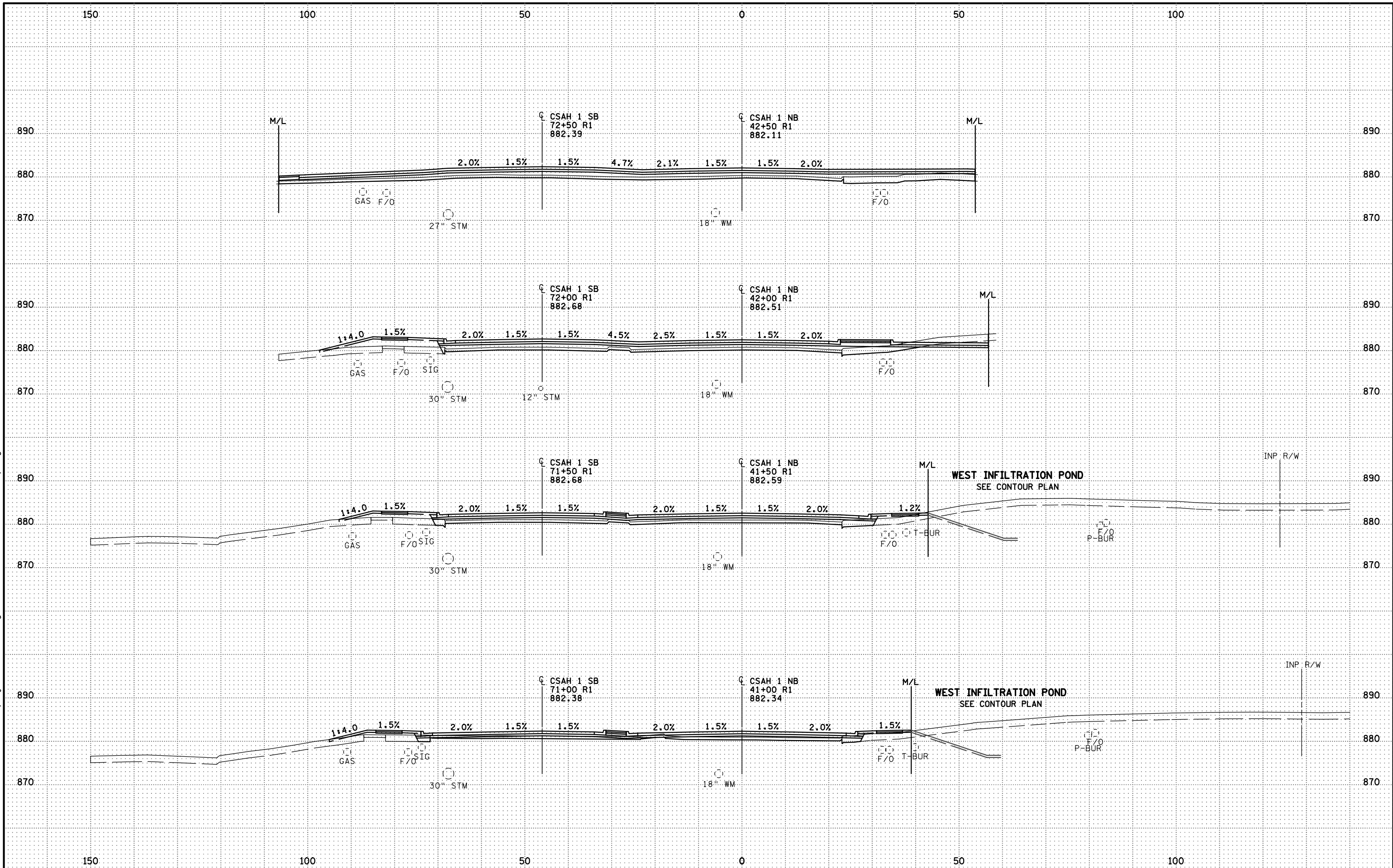
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DRW: TJV			
CHK: SAO			
NO.	DATE	BY	DESCRIPTION OF REVISIONS



CSAH 1 NB STA. 39+00 TO STA. 40+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X28 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:02:50 AM
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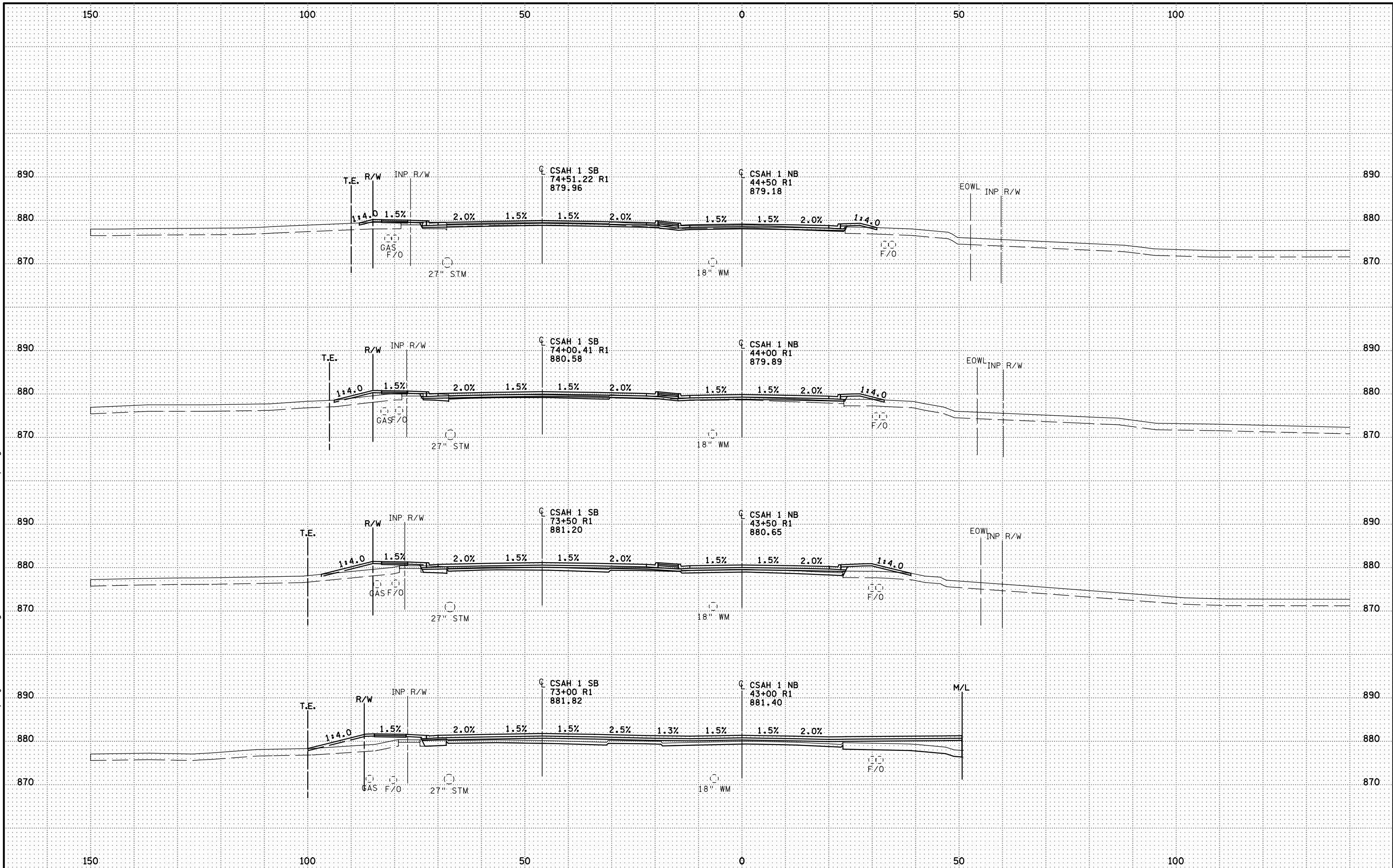
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CHK: SAO
NO. DATE BY DESCRIPTION OF REVISIONS



CSAH 1 NB STA. 41+00 TO STA. 42+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X29 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:02:51 AM
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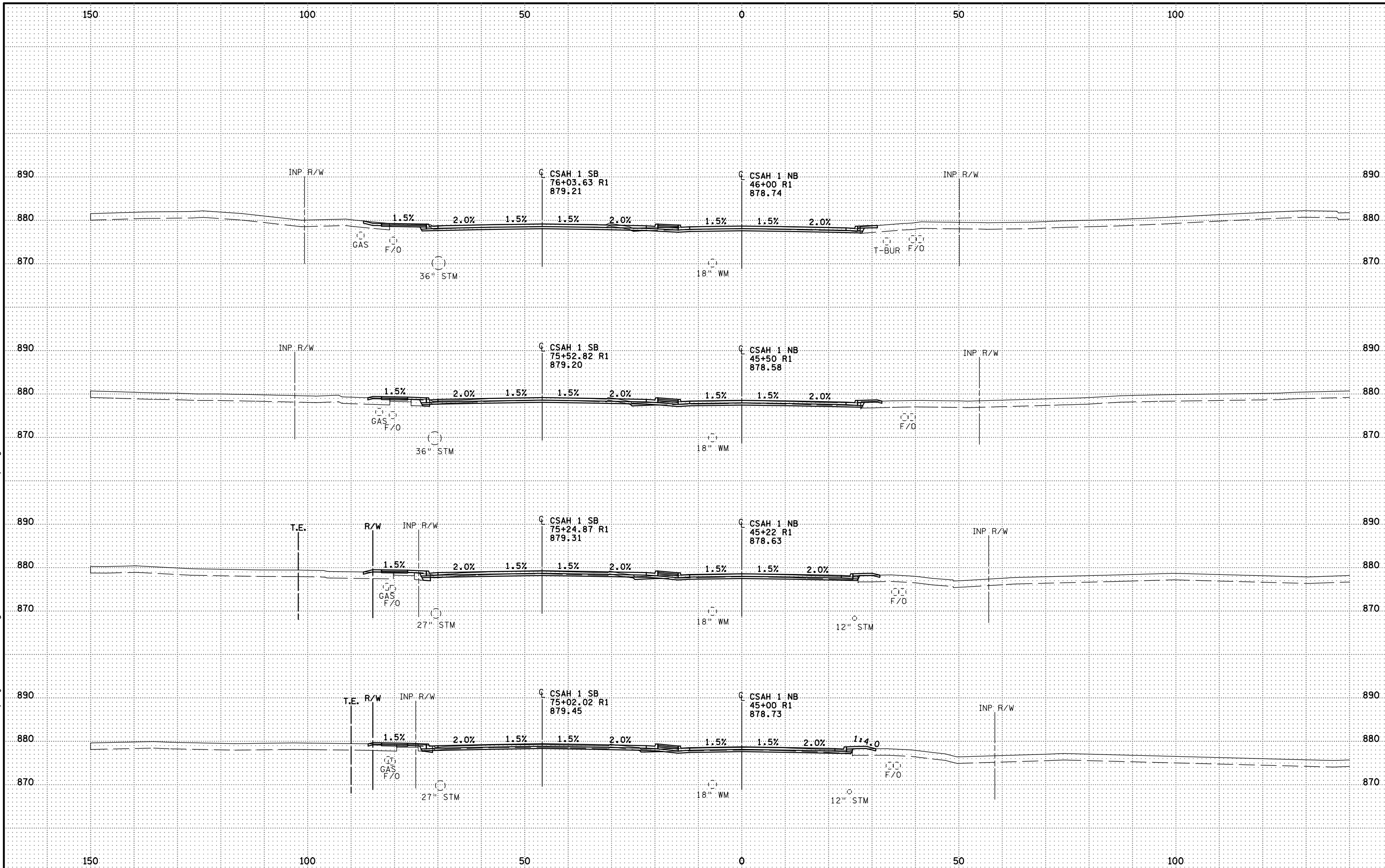
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CHK: SAO
NO. DATE BY DESCRIPTION OF REVISIONS



CSAH 1 NB STA. 43+00 TO STA. 44+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X30 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:02:54 AM
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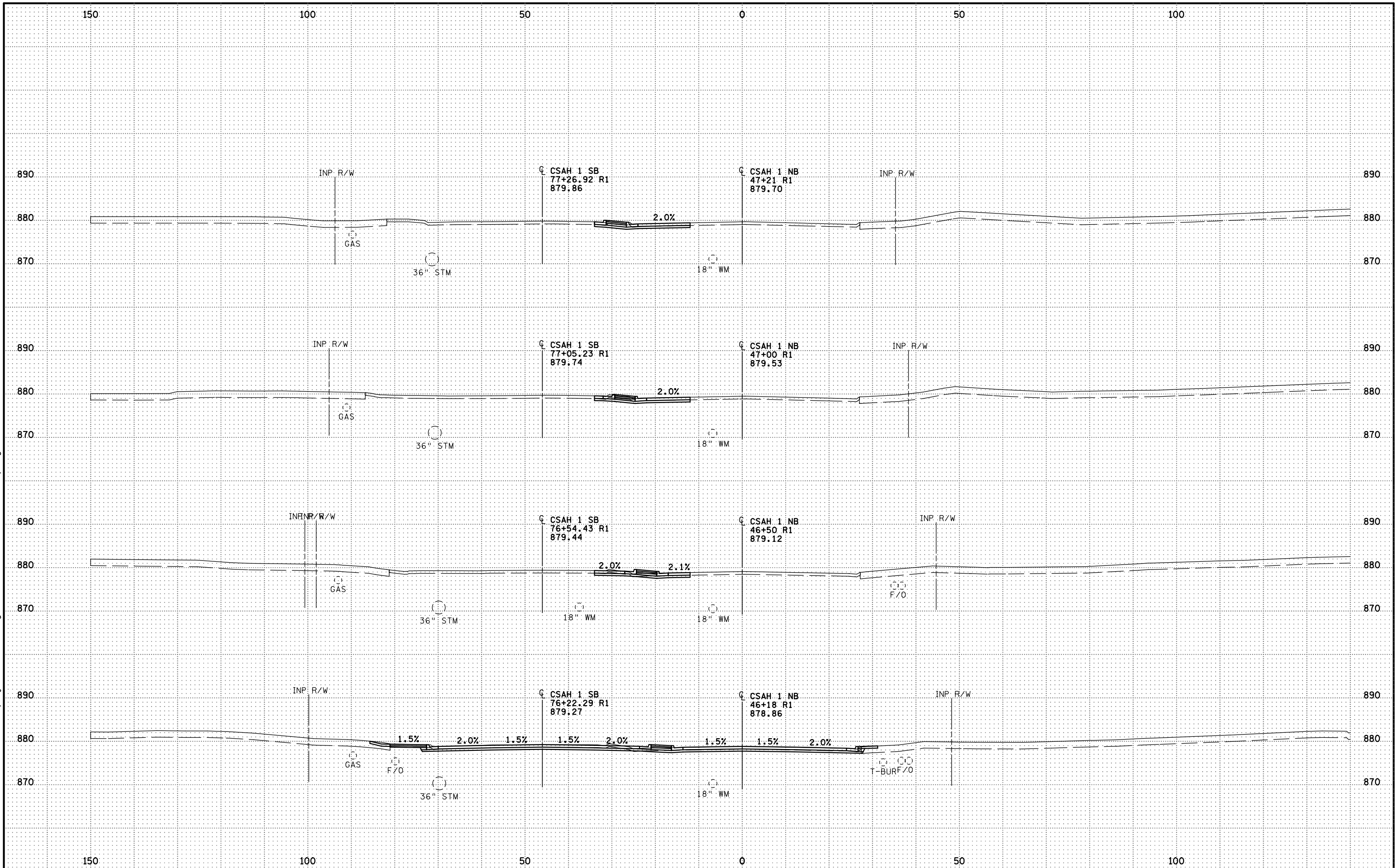
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CHK: SAO
NO. DATE BY DESCRIPTION OF REVISIONS



CSAH 1 NB STA. 45+00 TO STA. 46+00
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X31 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:02:55 AM
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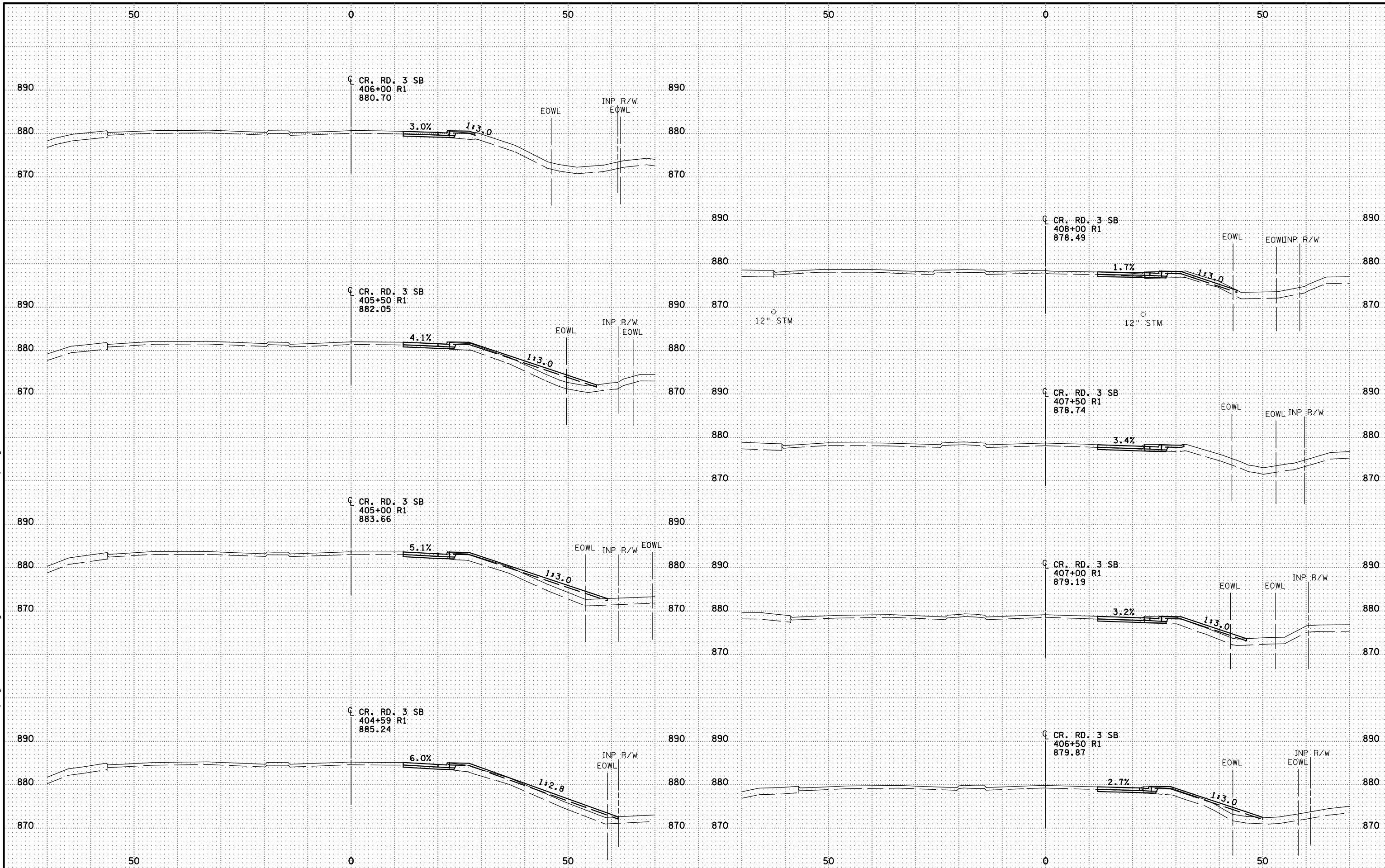
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CHK: SAO
NO. DATE BY DESCRIPTION OF REVISIONS



CSAH 1 NB STA. 46+18 TO STA. 47+21
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X32 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:03:08 AM
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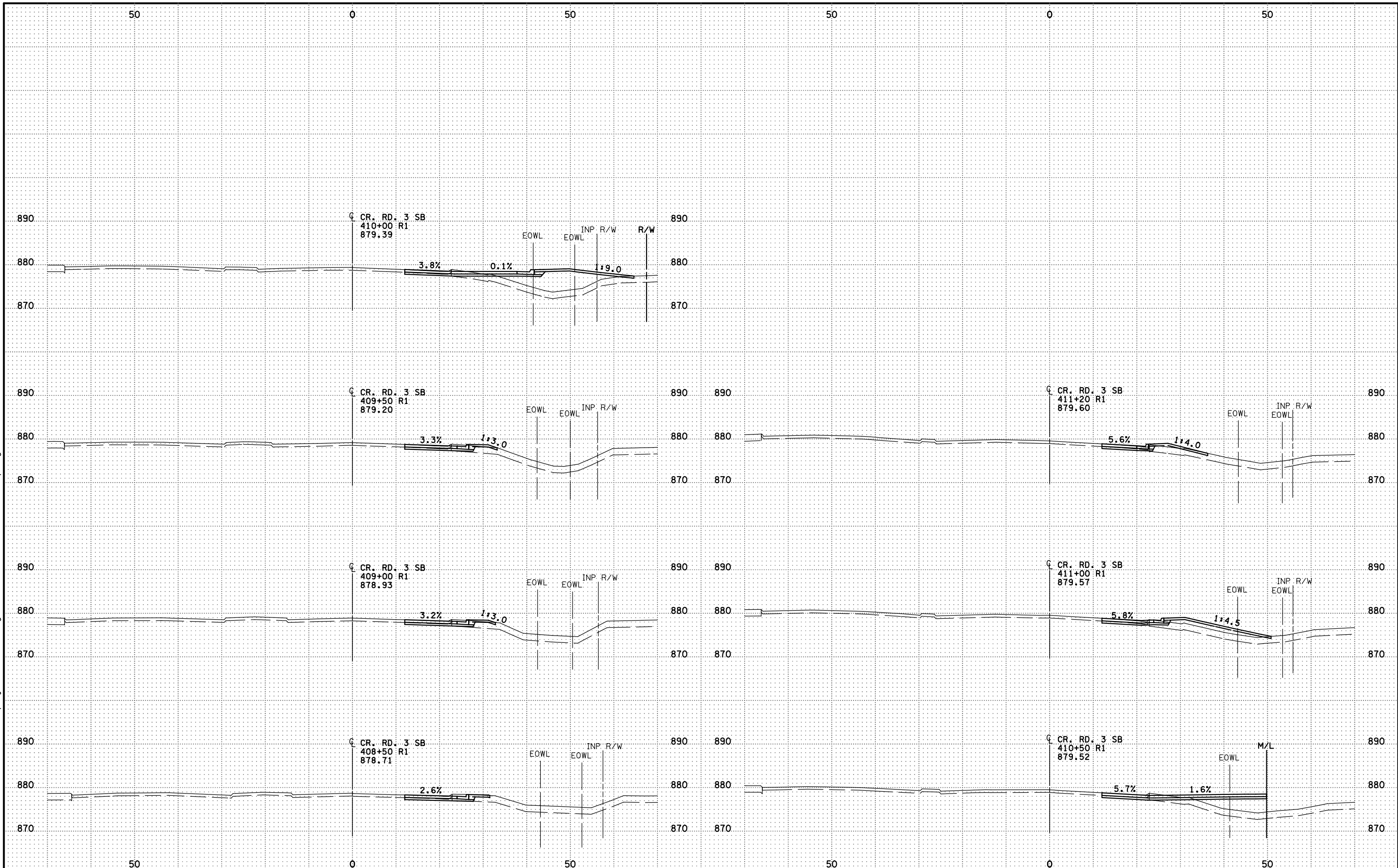
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DRW: TJV
CHK: SAO



CO. RD. 3 SB STA. 404+59 TO STA. 408+00
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X33 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:03:09 AM
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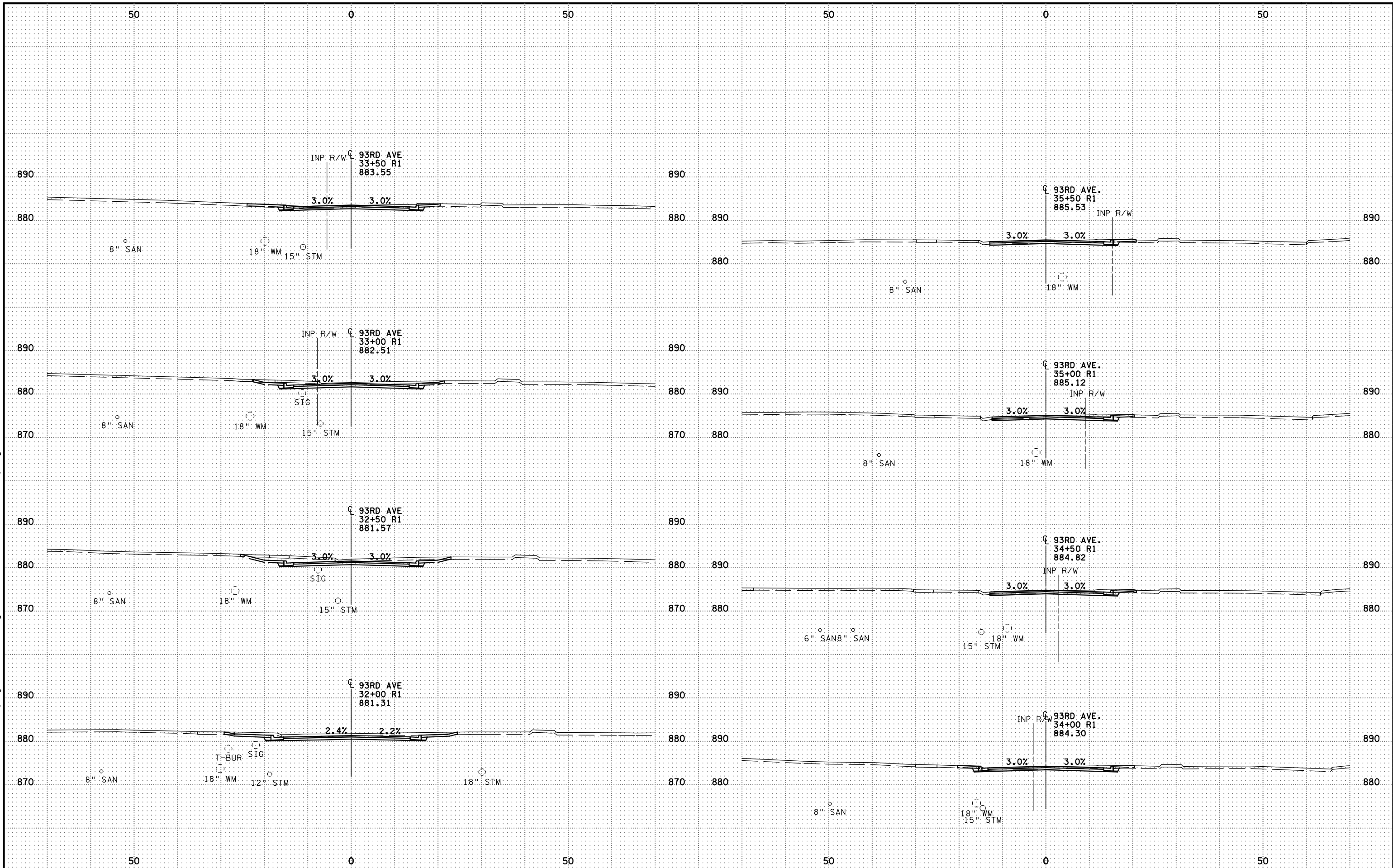
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CHK: SAO
NO. DATE BY DESCRIPTION OF REVISIONS



CO. RD. 3 SB STA. 408+50 TO STA. 411+20
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X34 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:03:19 AM
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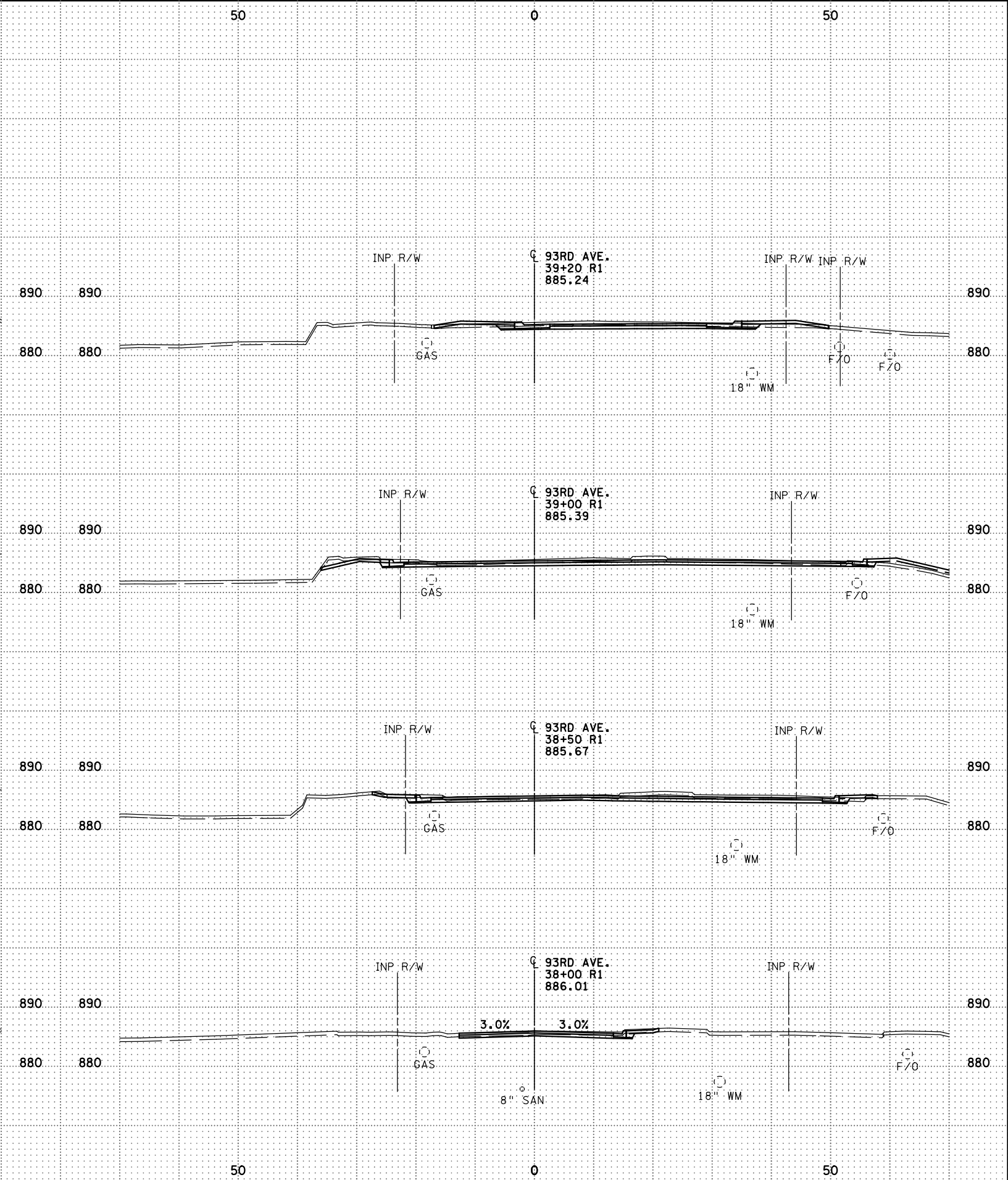
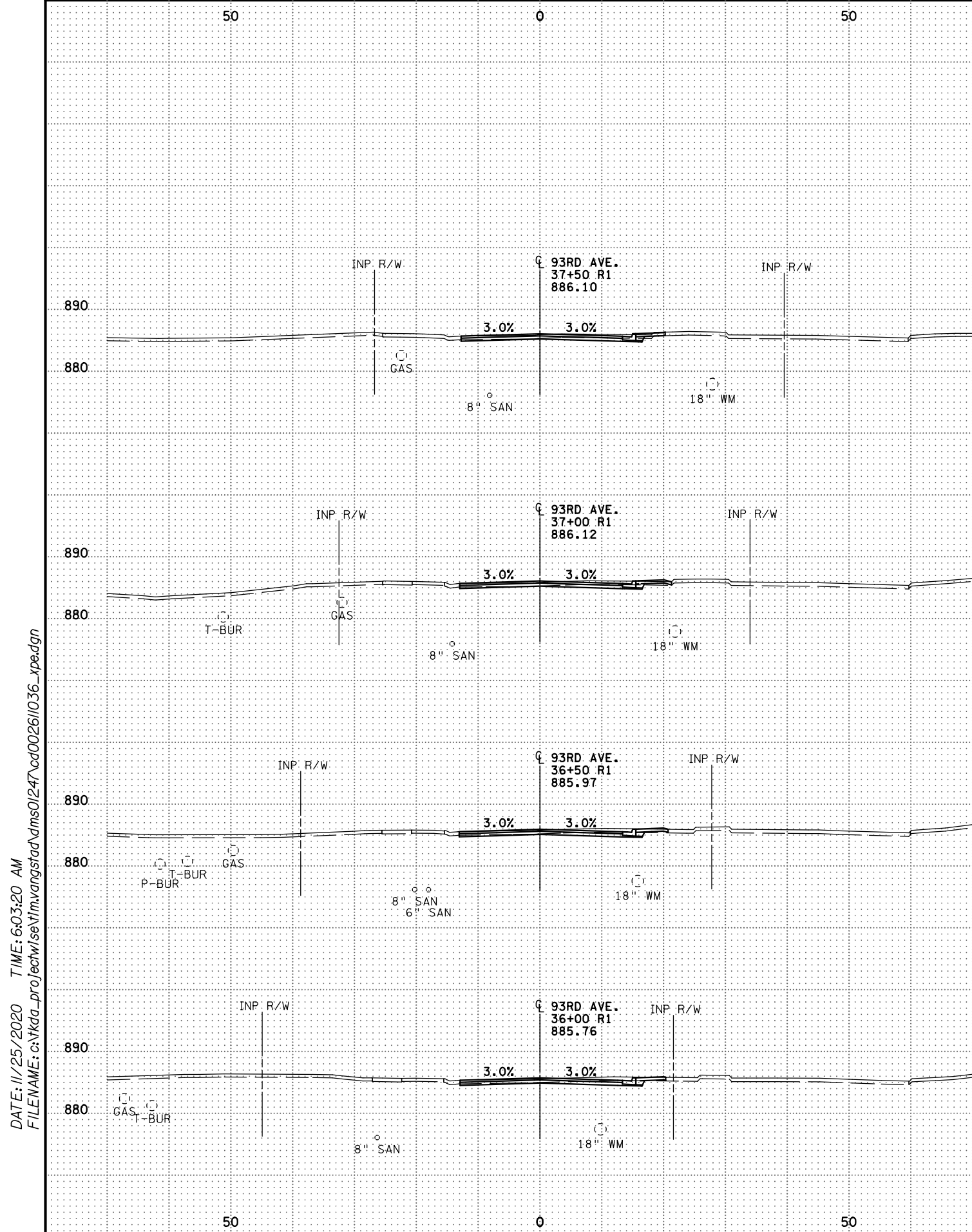


DES: TJV
DRW: TJV
CHK: SAO
NO. DATE BY DESCRIPTION OF REVISIONS



93RD AVE. STA. 32+00 TO STA. 35+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X35 OF X44 SHEETS



DATE: 11/25/2020 TIME: 6:03:20 AM
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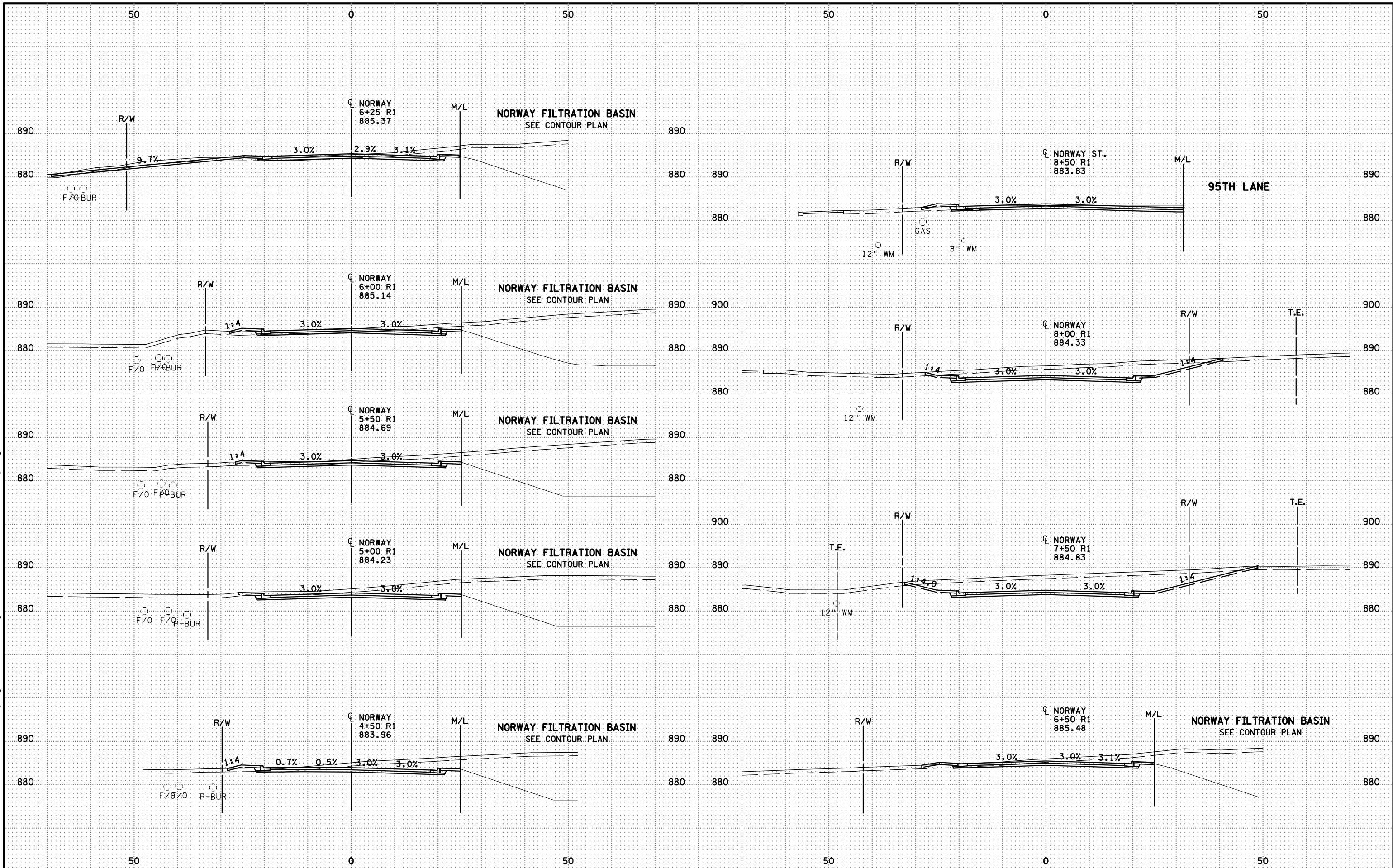
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DRW: TJV
CHK: SAO
NO.
DATE
BY
DESCRIPTION OF REVISIONS



93RD AVE. STA. 36+00 TO STA. 39+20
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X36 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:03:28 AM
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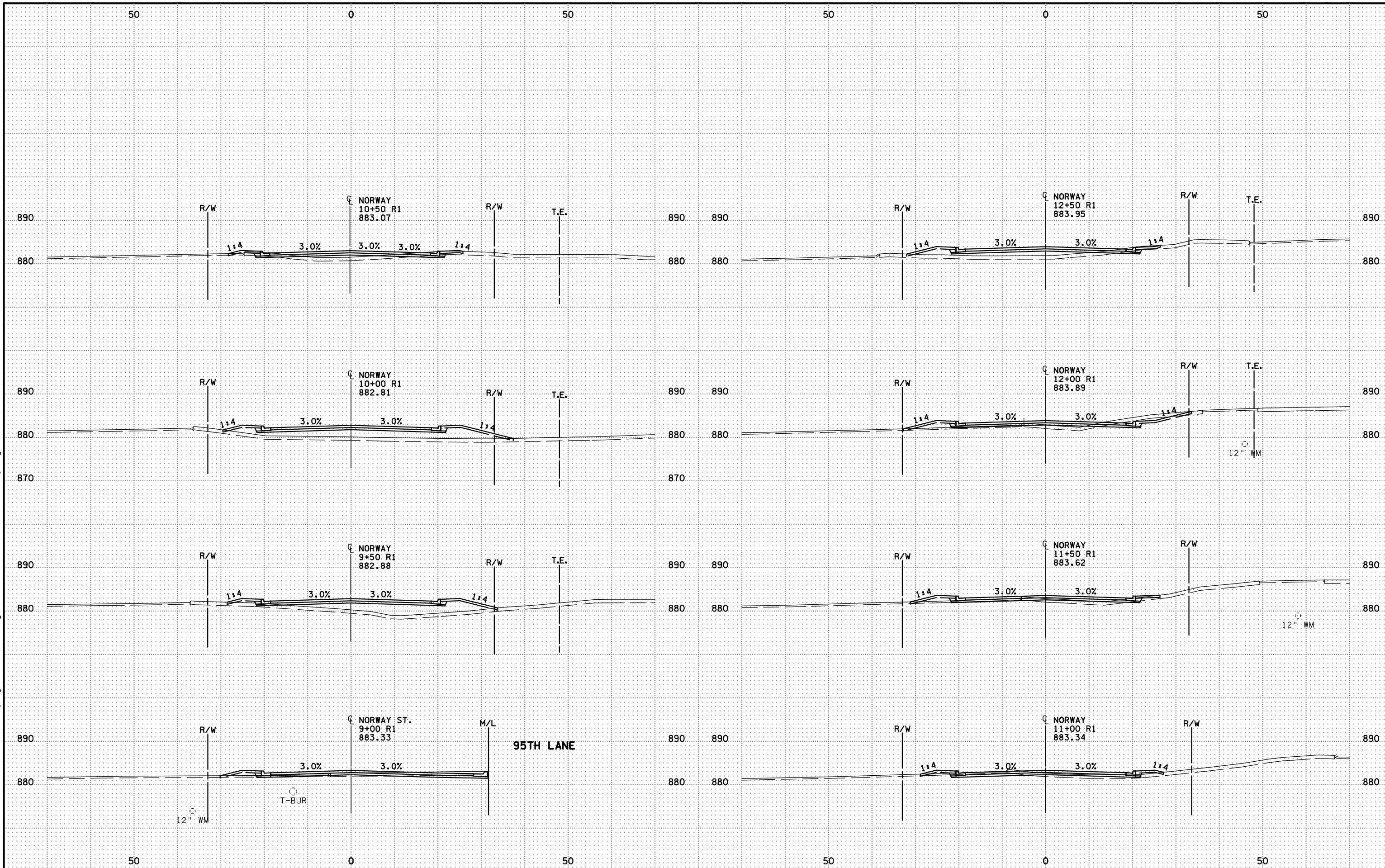
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NO. DATE BY DESCRIPTION OF REVISIONS



NORWAY ST. STA. 4+50 TO STA. 8+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X37 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:03:30 AM
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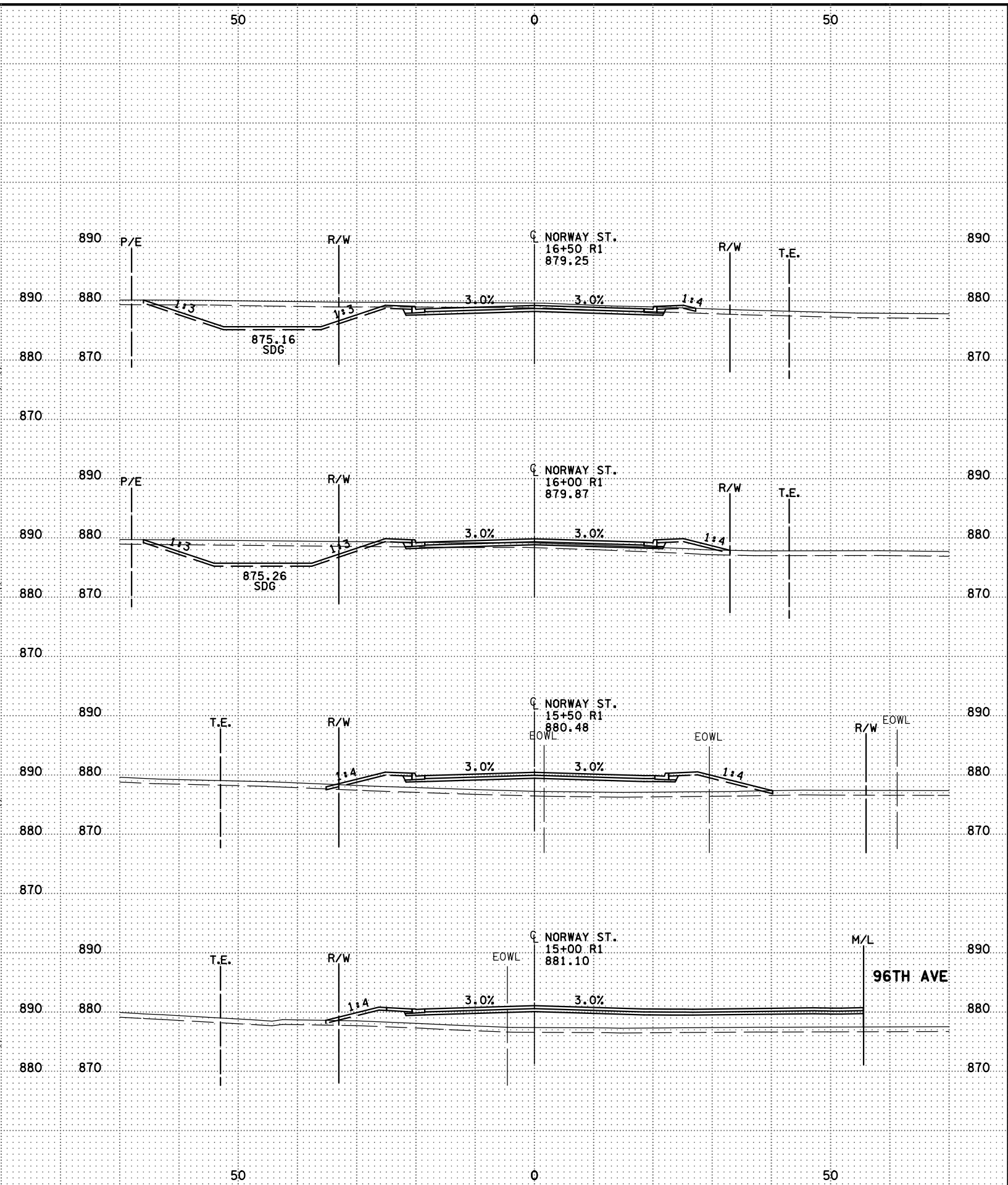
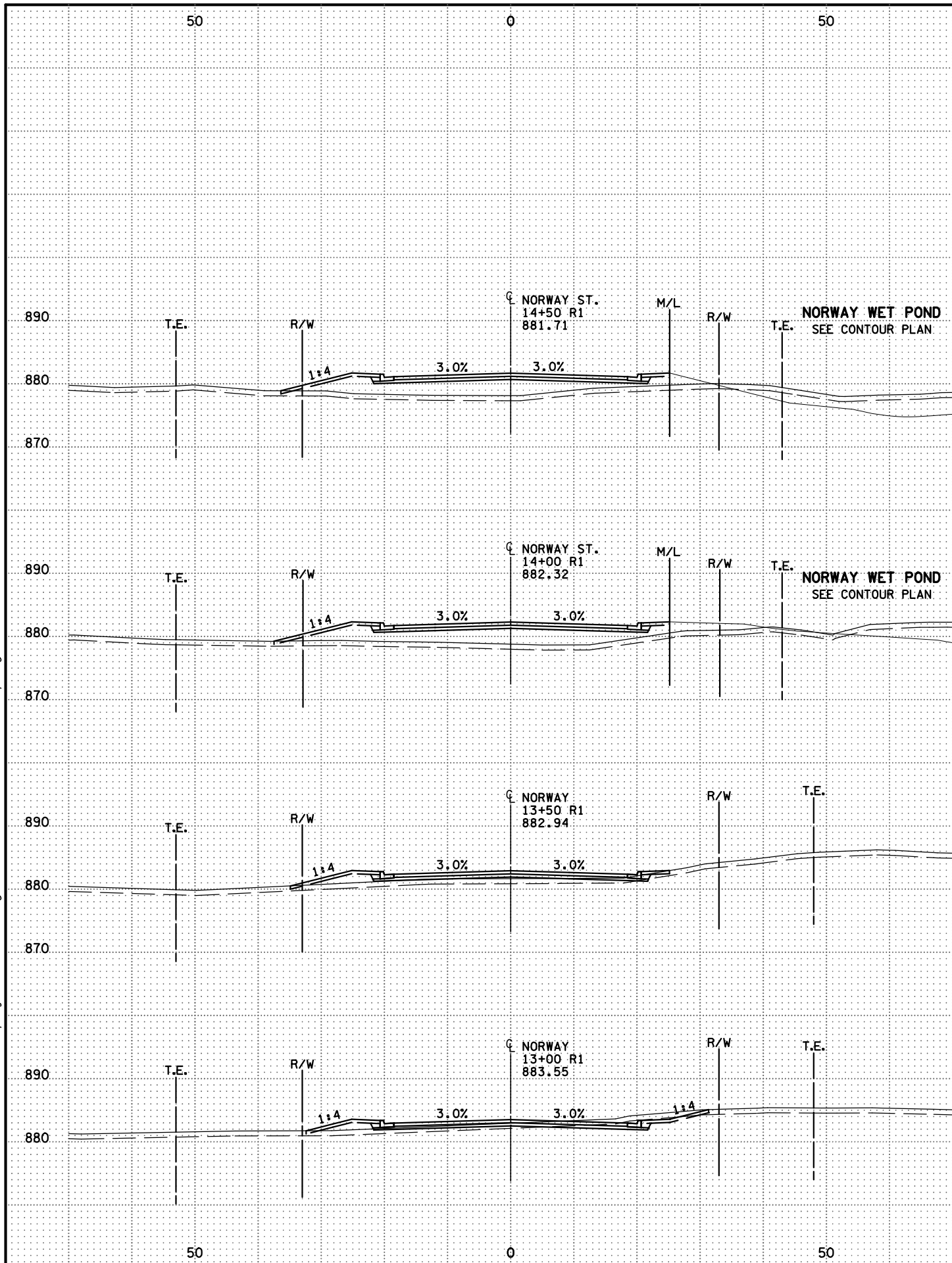
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NO. DATE BY DESCRIPTION OF REVISIONS



NORWAY ST. STA. 9+00 TO STA. 12+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X38 OF X44 SHEETS

DATE: 11/25/2020 TIME: 6:03:31 AM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

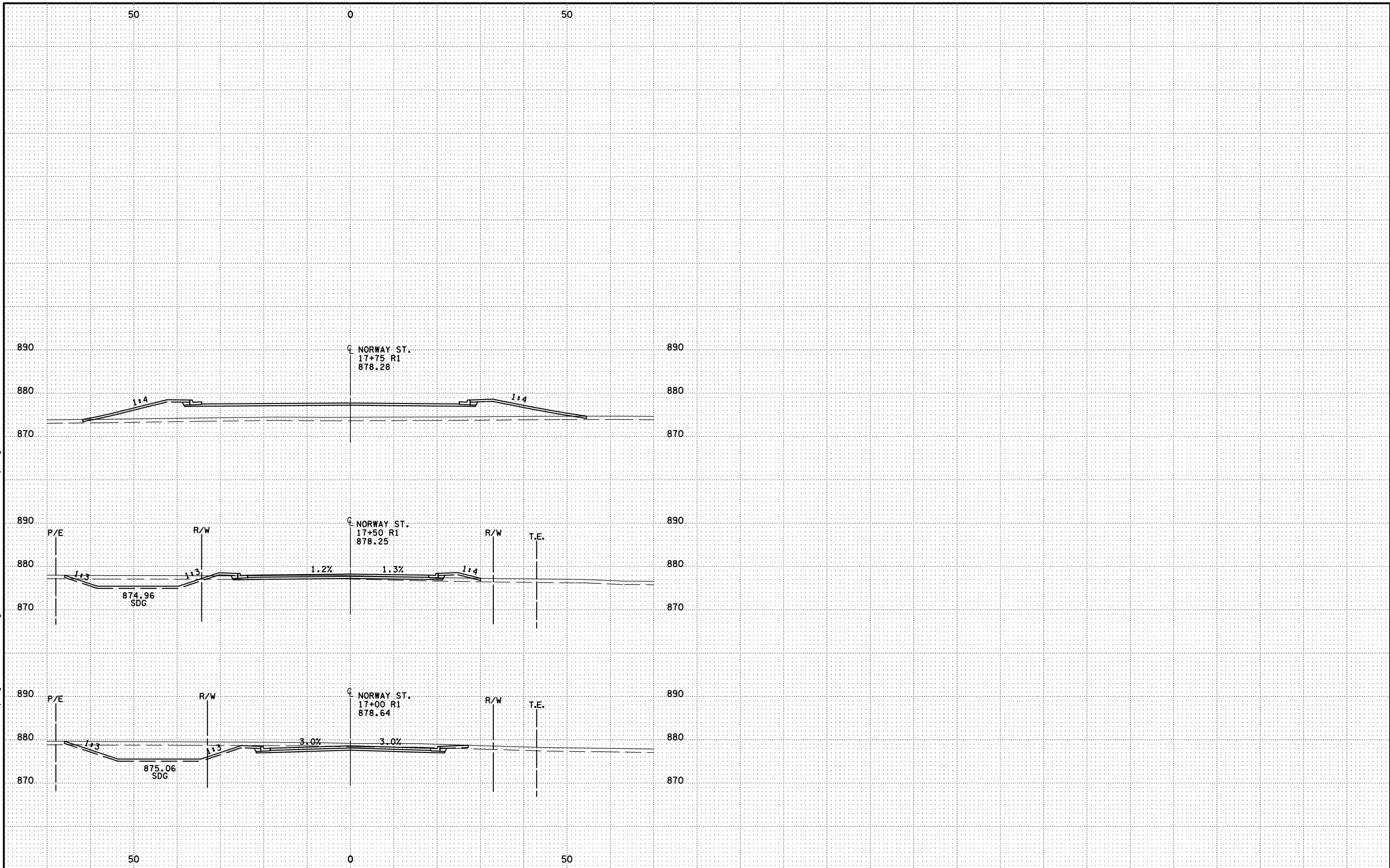
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NORWAY ST. STA. 13+00 TO STA. 16+50
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
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DATE: 11/25/2020 TIME: 6:03:34 AM
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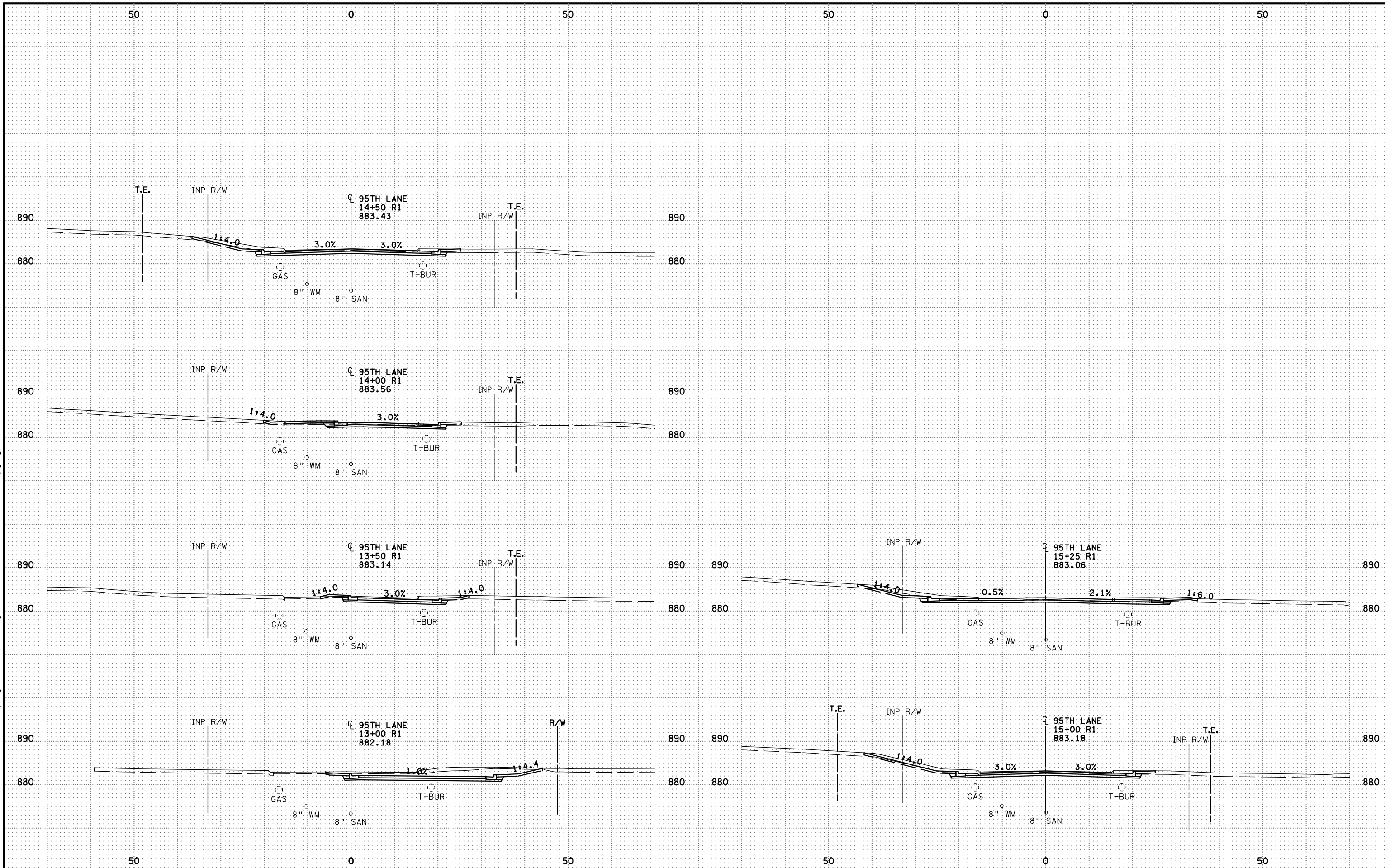
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NORWAY ST. STA. 17+00 TO STA. 17+75
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
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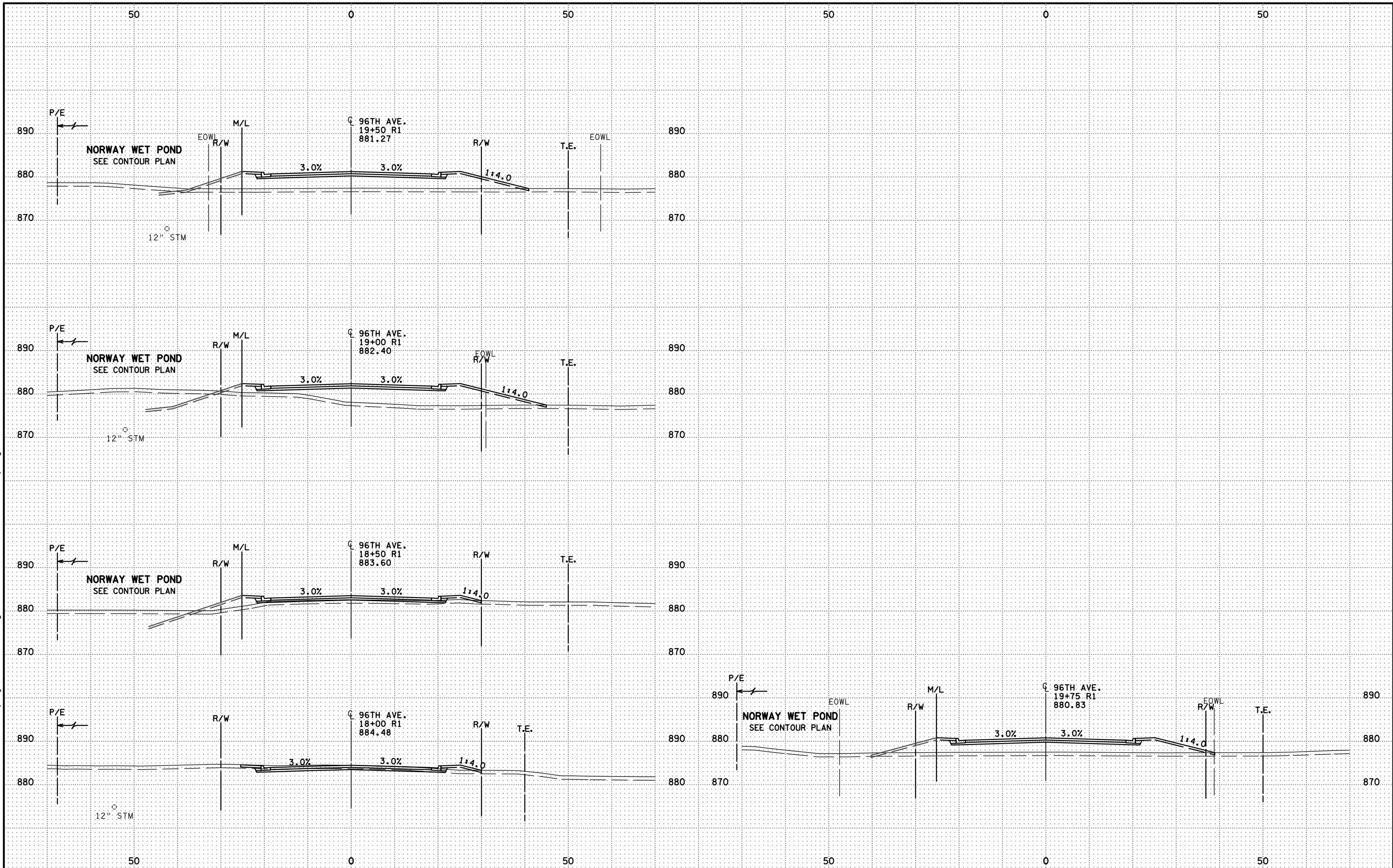
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CHK: SAO
NO.
DATE
BY
DESCRIPTION OF REVISIONS



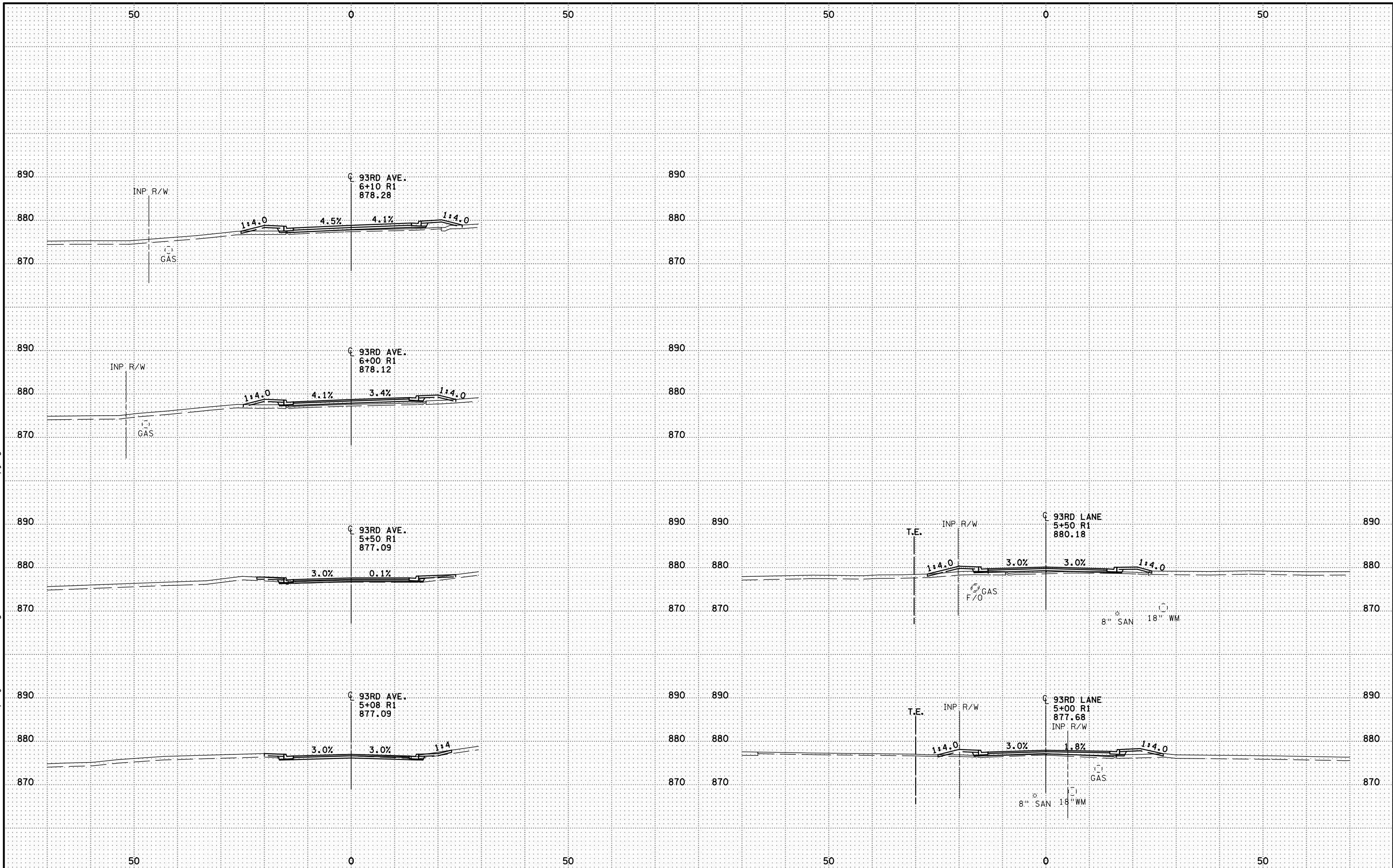
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NO. DATE BY DESCRIPTION OF REVISIONS



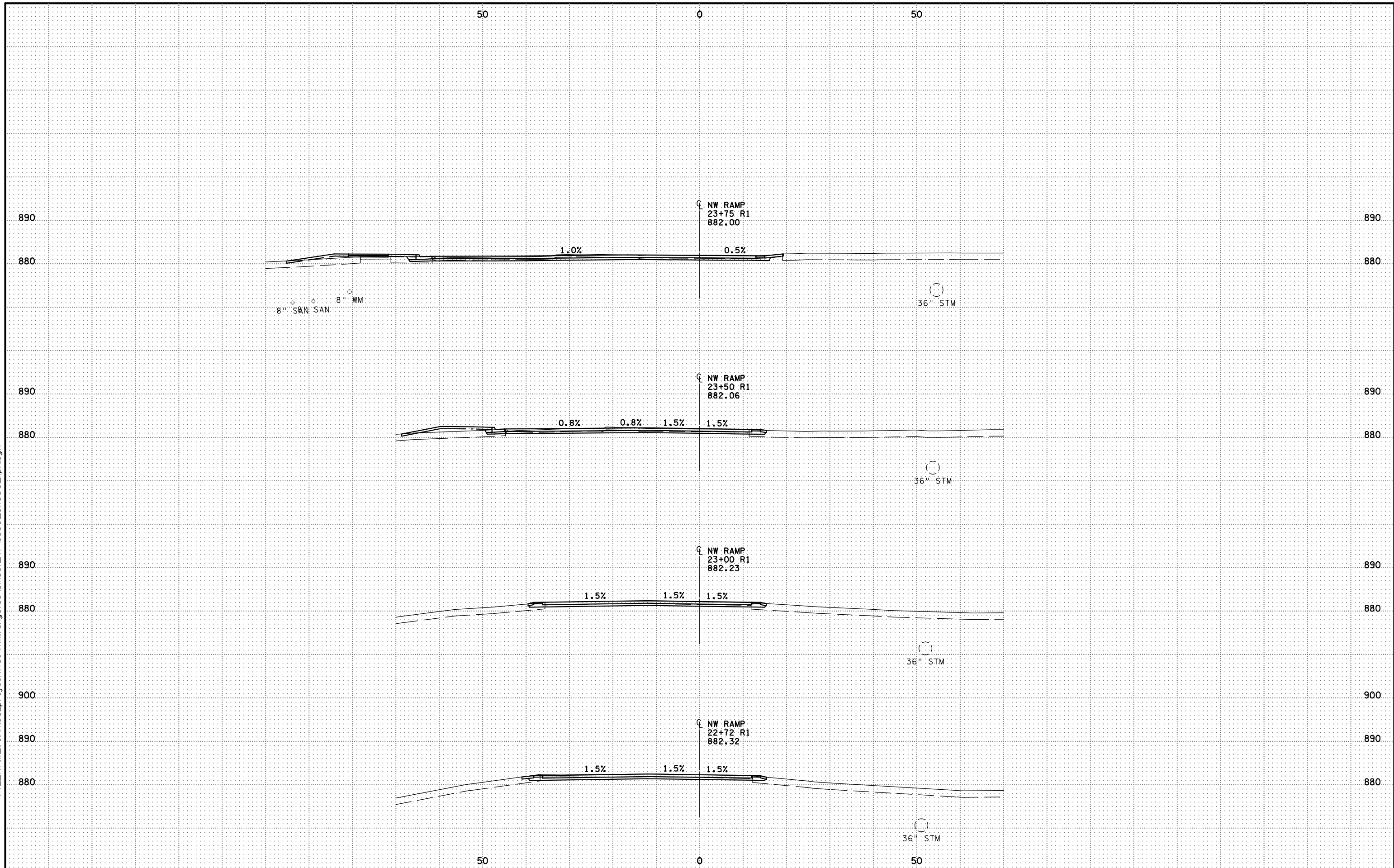
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NO. DATE BY DESCRIPTION OF REVISIONS



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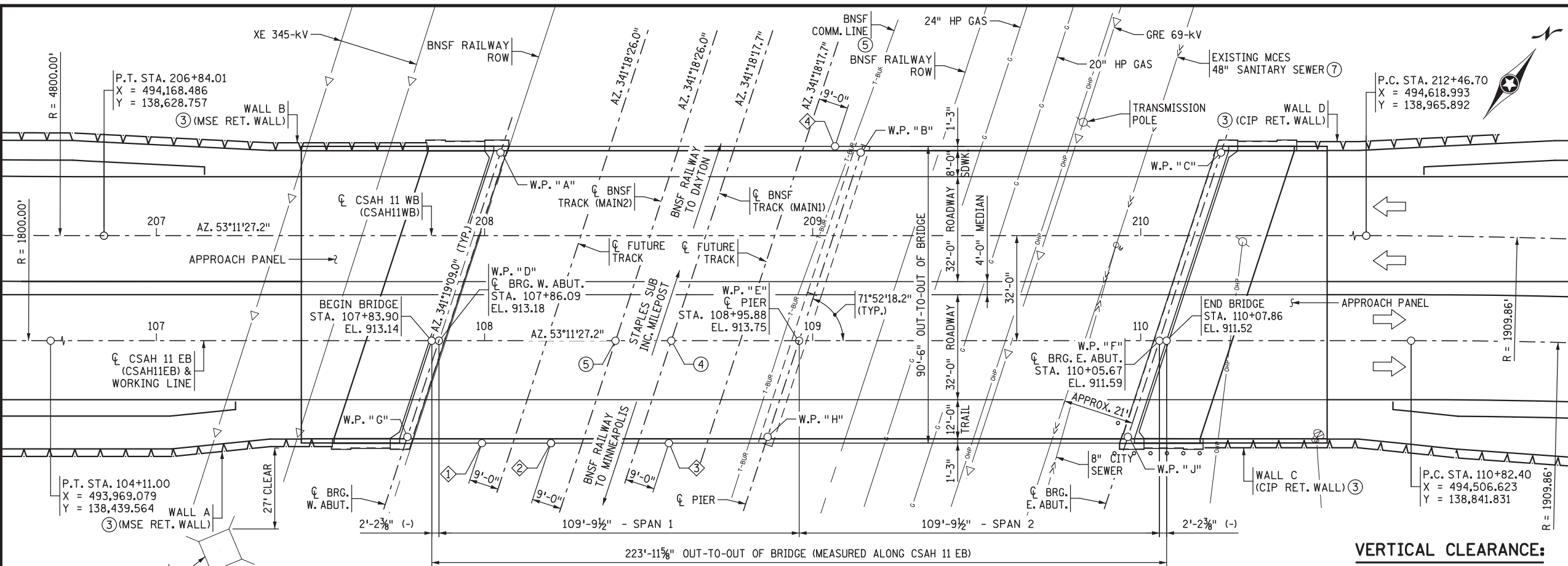
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NW RAMP STA. 22+72 TO STA. 23+75
 STATE PROJ. NO. 002-611-036

CROSS SECTIONS
 SHEET NO. X44 OF X44 SHEETS

DATE: 11/19/2020 TIME: 4:09:01 PM
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GENERAL PLAN

NOTES:

- ① MINIMUM 20'-0" CLEARANCE REQUIRED BY EXCEL ENERGY.
- ② UNDERPASS BRIDGE LIGHTING.
- ③ SEE ROADWAY PLANS FOR RETAINING WALL PLANS.
- ④ CONTROL POINT 1
 C. CSAH 11 EB (CSAH11EB) STA. 108+56.92
 C. BNSF TRACK (MAIN1) STA. 514+36.37
 X = 494,326.099
 Y = 138,706.738
 A = 108°06'50.5"
- ⑤ CONTROL POINT 2
 C. CSAH 11 EB (CSAH11EB) STA. 108+39.93
 C. BNSF TRACK (MAIN2) STA. 614+31.12
 X = 494,312.494
 Y = 138,696.557
 A = 108°06'58.8"
- ⑥ SEE "BNSF COMMUNICATION LINE" SHEET FOR PROTECTION DETAILS.
- ⑦ SEE SPECIAL PROVISIONS FOR RESTRICTIONS ON STORING MATERIALS OR DRIVING VEHICLES ACROSS A 45 FT. ZONE CENTERED ON THE PIPE.

2040 PROJECTED TRAFFIC VOLUMES

ROADWAY OVER	ROADWAY UNDER	
5,293	A.A.D.T.	N/A
909	D.H.V.	N/A
111	H.C.A.A.D.T.	N/A

VERTICAL CLEARANCE:

VERTICAL CLEARANCE IS FROM TOP OF BNSF RAILWAY TRACK TO LOW MEMBER. 23'-6" MIN. VERTICAL CLEARANCE REQUIRED.

- ① CLEARANCE POINT "A" 23'-7 3/8"
- ② CLEARANCE POINT "B" 23'-9 3/4"
- ③ CLEARANCE POINT "C" 23'-8 7/8"
- ④ CLEARANCE POINT "D" 23'-9 1/4"

CONSTRUCTION NOTES:

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

SEE SPECIAL PROVISIONS FOR ALL XXXX.6XX SERIES PAY ITEMS FOR ADDITIONAL REQUIREMENTS.

THE BAR SIZES SHOWN IN THIS PLAN ARE IN U.S. CUSTOMARY DESIGNATIONS.

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301.

BARS MARKED WITH THE SUFFIX "S" SHALL BE STAINLESS STEEL IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

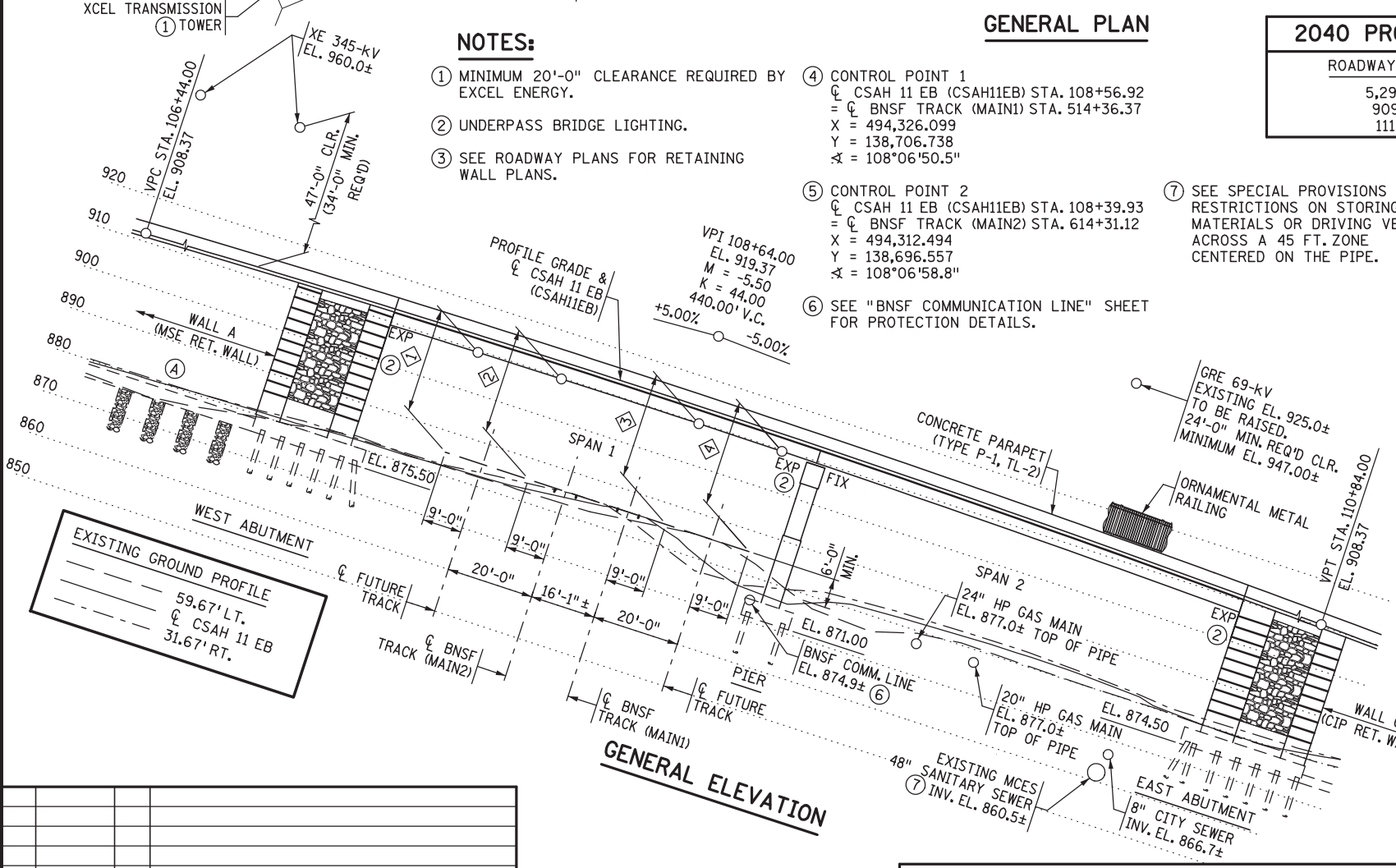
THE GIRDERS HAVE BEEN DESIGNED AND DETAILED WITHOUT DIAPHRAGMS. THE CONTRACTOR'S ENGINEER SHALL DESIGN, AND THE CONTRACTOR SHALL CONSTRUCT A TEMPORARY BRACING SYSTEM AND/OR A DECK FALSEWORK/FORMWORK SYSTEM. THE SYSTEM SHALL PROVIDE LATERAL AND ROTATIONAL STABILITY OF THE GIRDERS TO RESIST UNSYMMETRICAL CONCRETE AND CONSTRUCTION LOADS UNTIL THE DECK CONCRETE HAS ATTAINED A MINIMUM STRENGTH OF 2800 PSI.

PROTECT EXISTING UTILITIES. SEE SPECIAL PROVISIONS.

SEE "INPLACE TOPOGRAPHY AND UTILITIES" SHEET FOR INPLACE UTILITIES.

SEE "RAILROAD CLEARANCE ENVELOPE" FOR RAILROAD CONSTRUCTION NOTES.

① SEE "GROUND IMPROVEMENT PLAN" IN THE ROADWAY PLANS AND SPECIAL PROVISIONS FOR REQUIREMENTS.



GENERAL ELEVATION

DESIGN DATA

DESIGNED IN ACCORDANCE WITH 2017 AND CURRENT INTERIM AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
 HL 93 LIVE LOAD
 DEAD LOAD INCLUDES 20 POUNDS PER SQUARE FOOT ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS

MATERIAL DESIGN PROPERTIES:
 REINFORCED CONCRETE:
 f'c = 4 KSI CONCRETE
 fy = 60 KSI PLAIN AND EPOXY COATED BARS
 fy = 75 KSI STAINLESS STEEL BARS
 n = 8 FOR REINFORCEMENT
 PRETENSIONED CONCRETE:
 f'c = 9.0 KSI CONCRETE
 fpu = 270 KSI LOW RELAXATION STRANDS
 n = 1 FOR PRETENSIONED STRANDS
 0.75 fpu FOR INITIAL PRESTRESS

DESIGN SPEED:
 OVER = 40 MPH
 APPROXIMATE DECK AREA = 20,269 SQUARE FEET

HL 93 LRFR
 BRIDGE OPERATING RATING RF = 1.92

LIST OF SHEETS

NO.	DESCRIPTION
1	GENERAL PLAN AND ELEVATION
2	TRANSVERSE SECTION & SUM. OF QTY'S
3	BRIDGE LAYOUT
4	AESTHETIC DETAILS
5-26	ABUTMENT DETAILS
27-36	PIER DETAILS
37	CORNER DETAILS
38	FRAMING PLAN
39-45	SUPERSTRUCTURE DETAILS
46-50	PARAPET DETAILS
51-53	CONDUIT DETAILS
54-58	STANDARD DETAILS
59	ALIGNMENT TABULATION
60-61	BRIDGE SURVEY SHEETS
62	RAILROAD CLEARANCE ENVELOPE
63	BNSF COMMUNICATION LINE
64	INPLACE TOPOGRAPHY AND UTILITIES
65	BRIDGE SURVEY PLAN AND PROFILE
66	BORINGS



MINNESOTA DEPARTMENT OF TRANSPORTATION

**BRIDGE NO. 02584
GENERAL PLAN AND ELEVATION**

CSAH 11 (FOLEY BOULEVARD) OVER BNSF RAILROAD
 1.0 MI SW OF JCT TH 10
 BNSF RAILWAY LS AND MAP (0025-0020.542)
 109' PRESTRESSED CONC. BEAM SPANS
 64'-0" ROADWAY, 18°07'41.8" SKEW
 2 TYPE P-1 CONCRETE PARAPETS WITH ORNAMENTAL METAL RAILING

IDENTIFICATION NO. 501

SEC. 26 T 31 N R 24 W

COON RAPIDS ANOKA COUNTY

APPROVED Joe MacPherson COUNTY ENGINEER

DATE _____

APPROVED Kevin Western STATE BRIDGE ENGINEER

DATE _____

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED Lindsey J. Lawrence LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

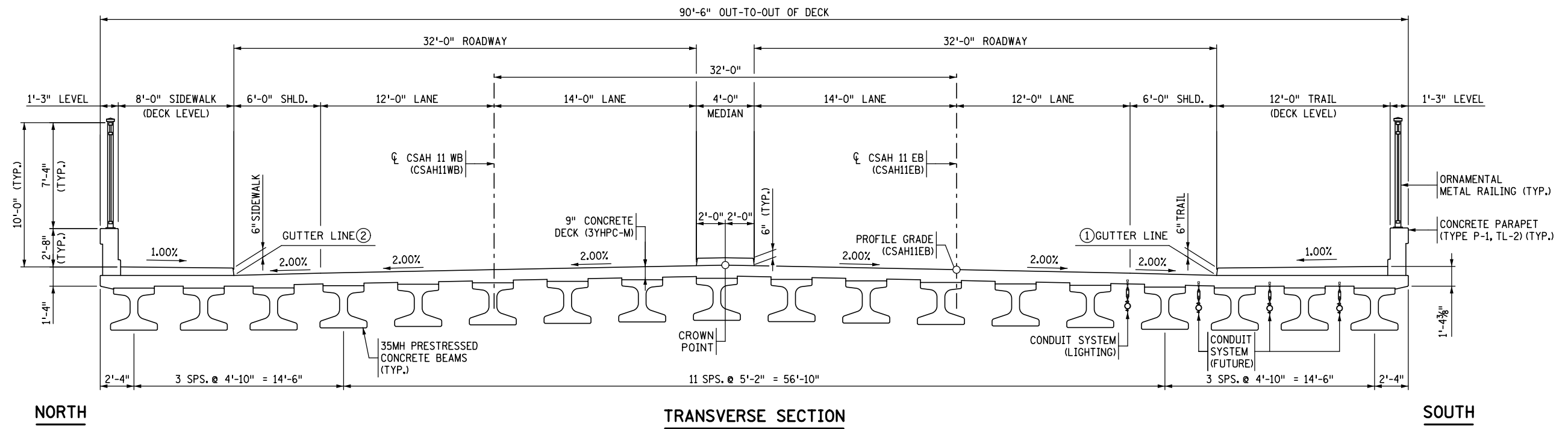
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 CHK: LJL CHK: LJL

SHEET NO. 1 OF 66 SHEETS 02584

STATE PROJECT NO. 002-611-036

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DATE: 11/19/2020 TIME: 4:09:07 PM
 FILE NAME: pm:\tkda-pw\benfley.com\tkda-pw-ON Documents\Projects\A-F\AnokaCounty\703000004-Production\01_CAD\Bridges\General\CBR02584_sl202.dgn



SCHEDULE OF QUANTITIES			
ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
2401.503	TYPE P-1 BARRIER CONCRETE (3S52)	LIN FT	626 (P)
2401.507	STRUCTURAL CONCRETE (1G52)	CU YD	809 (P)
2401.507	STRUCTURAL CONCRETE (3B52)	CU YD	1556 (P)
2401.508	REINFORCEMENT BARS	POUND	81520 (P)
2401.508	REINFORCEMENT BARS (EPOXY COATED)	POUND	329010 (P)
2401.508	REINFORCEMENT BARS (STAINLESS-75 KSI)	POUND	2010 (P)
2401.518	SIDEWALK CONCRETE (3S52)	SQ FT	6150 (P)
2401.518	RAISED MEDIAN CONCRETE (3S52)	SQ FT	1251 (P)
2401.601	STRUCTURE EXCAVATION	LUMP SUM	1
2401.618	BRIDGE DECK PLANING	SQ FT	17927 (P)
2401.618	BRIDGE SLAB CONCRETE (3YHPC-M)	SQ FT	20269 (P)
2402.502	BEARING ASSEMBLY	EACH	72
2402.503	ORNAMENTAL METAL RAILING TYPE SPECIAL 1	LIN FT	448 (P)
2402.503	ORNAMENTAL METAL RAILING TYPE SPECIAL 2	LIN FT	174 (P)
2405.503	PRESTRESSED CONCRETE BEAMS 35MH	LIN FT	3972 (P)
2411.618	ARCH SURFACE FINISH (SINGLE COLOR)	SQ FT	4963 (P)
2411.618	ARCH CONC TEXTURE (ASHLAR STONE)	SQ FT	4963 (P)
2452.502	C-I-P CONC TEST PILE 75 FT LONG 12"	EACH	3
2452.502	C-I-P CONC TEST PILE 80 FT LONG 12"	EACH	3
2452.502	C-I-P CONC TEST PILE 90 FT LONG 12"	EACH	3
2452.603	C-I-P CONCRETE PILING 12"	LIN FT	14615
2502.501	DRAINAGE SYSTEM TYPE (B910)	LUMP SUM	1
2545.501	CONDUIT SYSTEM (LIGHTING)	LUMP SUM	1
2545.501	CONDUIT SYSTEM (FUTURE)	LUMP SUM	1

(P) DENOTES PLAN QUANTITY PAY ITEM AS PER SPEC 1901.
 1 INCLUDES BRIDGE ELEMENTS WITH MASS CONCRETE REQUIREMENTS. SEE SPECIAL PROVISIONS.

NOTES:

- ① ELEVATION CHANGE FROM PROFILE GRADE (CSAH11EB) TO SOUTH GUTTER LINE IS -0.36'.
- ② ELEVATION CHANGE FROM PROFILE GRADE (CSAH11EB) TO NORTH GUTTER LINE IS -0.36'.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



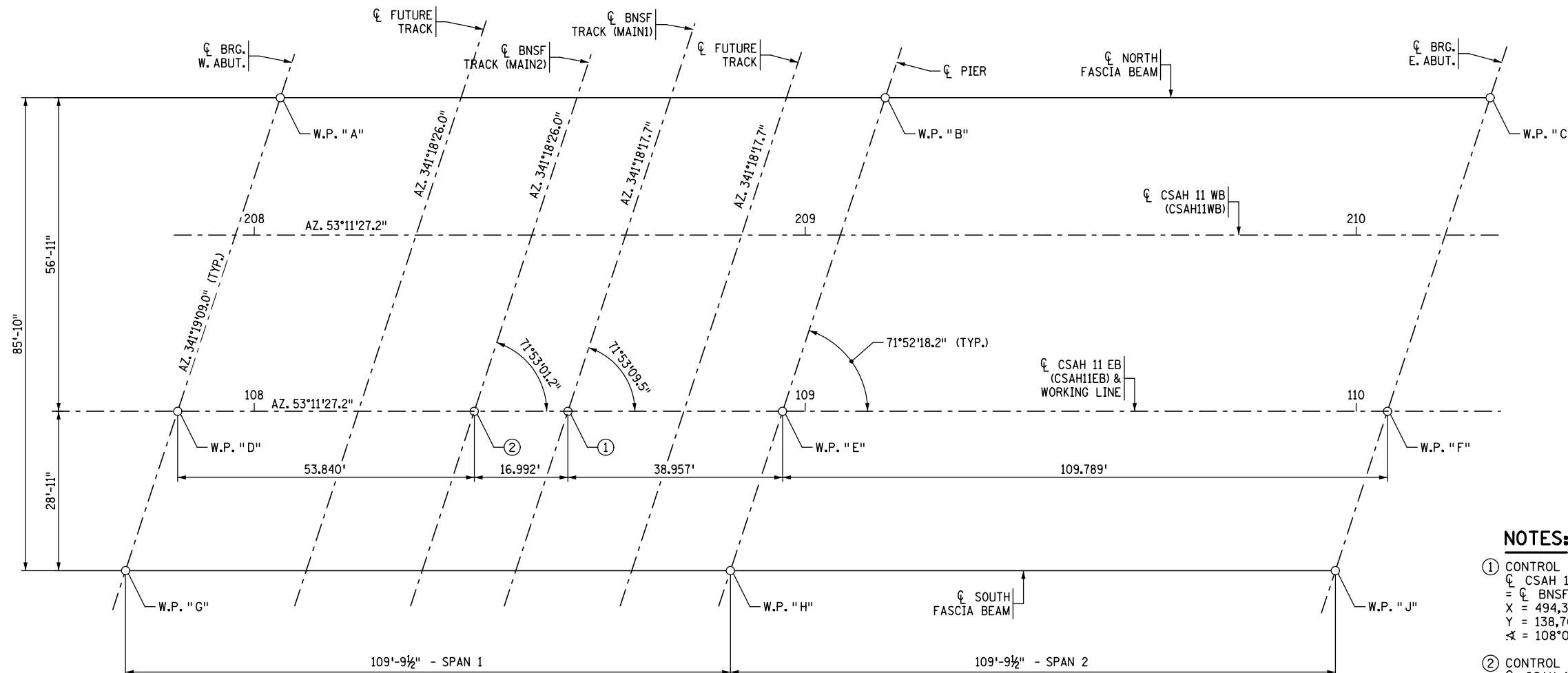
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 TRANSVERSE SECTION

DES: ADL DR: ADL APPROVED
 CHK: LJJ CHK: LJJ
 SHEET NO. 2 OF 66 SHEETS

BRIDGE NO.
 02584

DATE: 11/19/2020 TIME: 4:09:11 PM
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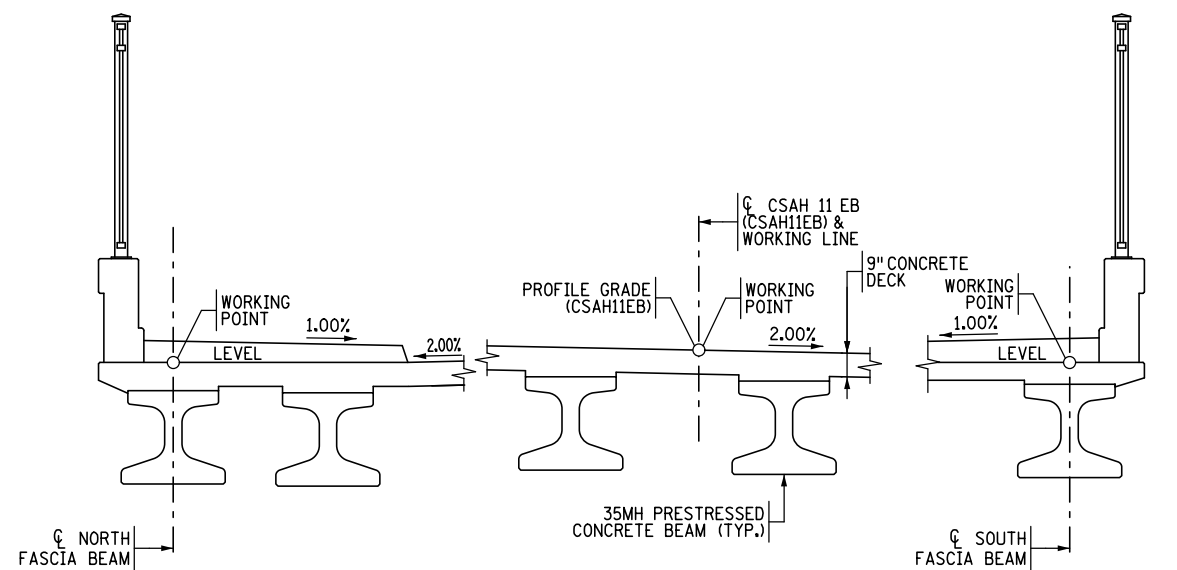


WORKING POINT LAYOUT

- NOTES:**
- CONTROL POINT 1
 = ϕ CSAH 11 EB (CSAH11EB) STA. 108+56.92
 = ϕ BNSF TRACK (MAIN1) STA. 514+36.37
 X = 494,326.099
 Y = 138,706.738
 α = 108°06'50.5"
 - CONTROL POINT 2
 = ϕ CSAH 11 EB (CSAH11EB) STA. 108+39.93
 = ϕ BNSF TRACK (MAIN2) STA. 614+31.12
 X = 494,312.494
 Y = 138,696.557
 α = 108°06'58.8"

TOP OF ROADWAY TO BRIDGE SEAT				
	W. ABUT.	PIER		E. ABUT.
		SPAN 1	SPAN 2	
SLAB THICKNESS	9"	9"	9"	9"
STOOL HEIGHT	2"	2.125"	2"	2"
BEAM HEIGHT	35"	35"	35"	35"
BEARING ASSEMBLY HEIGHT	7.125"	3.25"	3.25"	7.125"
TOTAL (INCHES)	53.125	49.375	49.25	53.125
TOTAL (FEET)	4.43	4.11	4.10	4.43

DIMENSIONS BETWEEN WORKING POINTS												ELEVATIONS				
POINT	STATION	X-COORD.	Y-COORD.	A	B	C	D	E	F	G	H	J	TOP OF DECK	TOP/DECK TO BR. SEAT	BRIDGE SEAT	POINT
A	108+04.73	494,250.206	138,721.033		109.79		59.89	107.46			118.49	209.84	913.11	4.43	908.68	A
B	109+14.51	494,338.107	138,786.813			109.79		59.89	107.46	162.42		118.49	913.22	4.11	909.11	B
C	110+24.30	494,426.008	138,852.593					59.89	262.13	162.42			910.59	4.43	906.16	C
D	107+86.09	494,269.388	138,664.298					109.79		30.43	104.41		913.18			D
E	108+95.88	494,357.289	138,730.079						109.79		30.43	104.41	913.75			E
F	110+05.67	494,445.190	138,795.859								30.43		911.59			F
G	107+76.62	494,279.134	138,635.474							109.79			912.64	4.43	908.21	G
H	108+86.41	494,367.035	138,701.255								109.79		913.45	4.11	909.34	H
J	109+96.20	494,454.936	138,767.035										911.52	4.43	907.09	J



WORKING POINT LOCATIONS

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



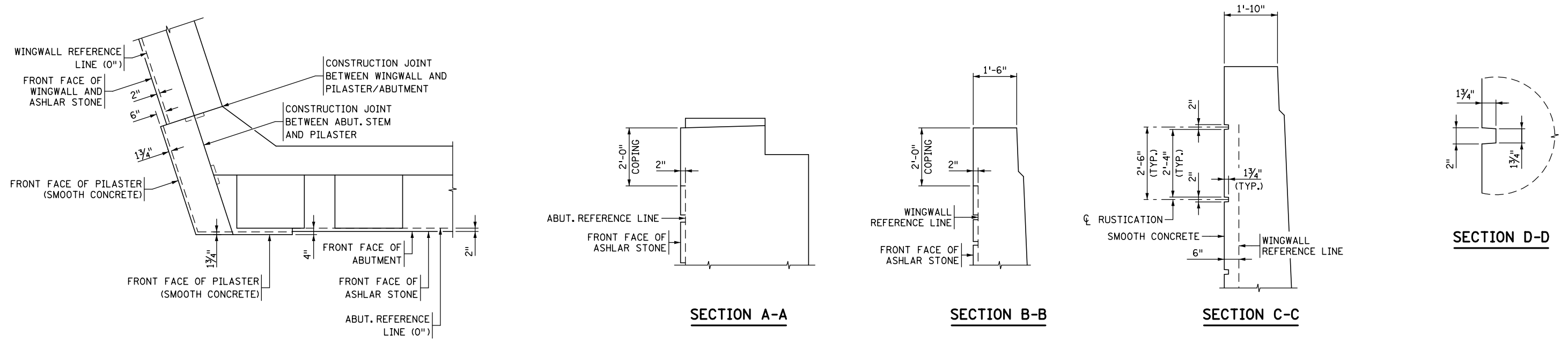
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 BRIDGE LAYOUT

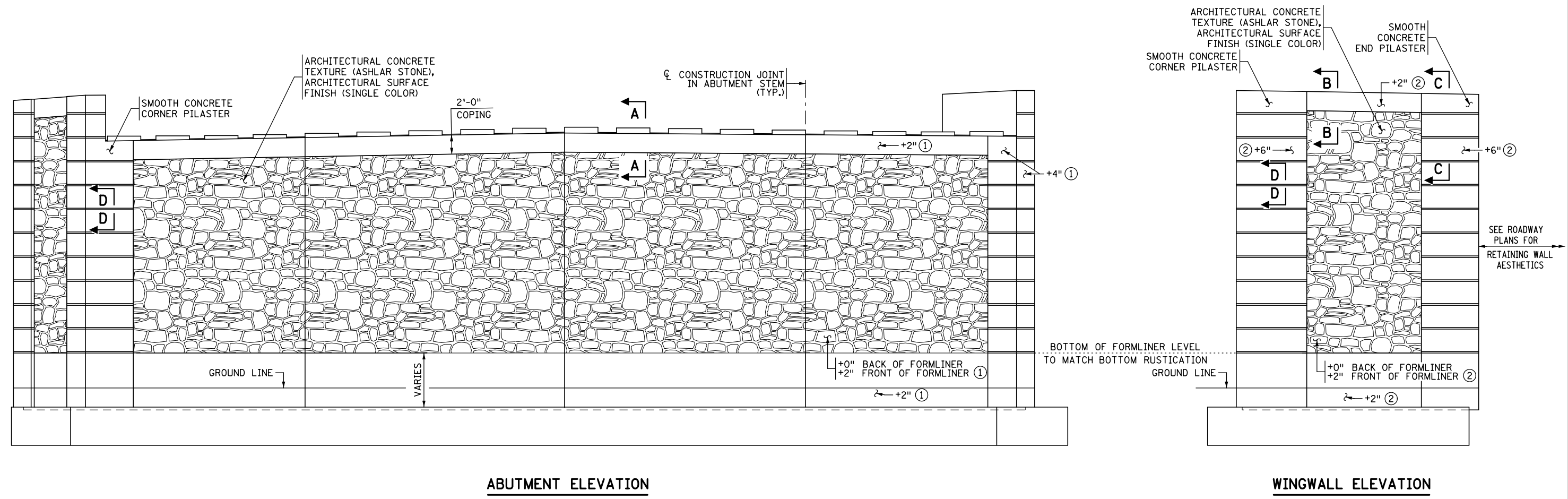
DES: ADL DR: ADL APPROVED
 CHK: LJJ CHK: LJJ
 SHEET NO. 3 OF 66 SHEETS

BRIDGE NO.
 02584

DATE: 11/19/2020 TIME: 4:09:16 PM
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- NOTES:**
- ① MEASURED FROM ABUTMENT REFERENCE LINE.
 - ② MEASURED FROM WINGWALL REFERENCE LINE.



	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA SIGNED <i>Lindsey J. Lawrence</i> LINDSEY J. LAWRENCE DATE: 11/19/2020 LIC. NO.: 48298	 444 Cedar Street, Suite 1500 Saint Paul, MN 55101 651.292.4400 tkda.com	ANOKA COUNTY FOLEY BLVD. OVER BNSF RR. S.P. 002-611-036	TITLE: ABUTMENT AESTHETIC DETAILS	DES: ADL CHK: LJL DR: ADL CHK: LJL APPROVED SHEET NO. 4 OF 66 SHEETS	BRIDGE NO. 02584
NO. DATE BY DESCRIPTION OF REVISIONS						

DATE: 11/19/2020 TIME: 4:09:20 PM
 FILENAME: pm:\tkda-pw\benfley.com\tkda-pw-ONDocuments\Projects\A-AnokaCounty\703000004_Production\OL_CAD\Bridges\Abut\CBR02584_wabt01.dgn

WEST ABUTMENT COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD & EARTH PRESSURE	87.5
FACTORED LIVE LOAD	8.0
* FACTORED DESIGN LOAD	95.5

* BASED ON STRENGTH I LOAD COMBINATION

WEST ABUTMENT REQUIRED NOMINAL PILE BEARING RESISTANCE FOR CIP PILES R_n - TONS/PILE		
FIELD CONTROL METHOD	ϕ_{dyn}	** R_n
MnDOT PILE FORMULA 2012 (MPF12)	0.50	191.0
$R_n = 20 \sqrt{\frac{W \times H}{1000}} \times \log\left(\frac{10}{S}\right)$		
PDA	0.65	146.9

** R_n = (FACTORED DESIGN LOAD) / ϕ_{dyn}

WEST ABUTMENT COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD & EARTH PRESSURE	87.5
FACTORED DOWNDRAW	56.0
*** FACTORED DEAD LOAD + EARTH PRESSURE + DOWNDRAW	143.5

*** BASED ON STRENGTH I LOAD COMBINATION, NOT INCLUDING TRANSIENT LOADS. ONLY USED FOR COMPARISON WITH FACTORED STRUCTURAL RESISTANCE. NOT TO BE USED FOR DRIVING.

PILE NOTES:

PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.

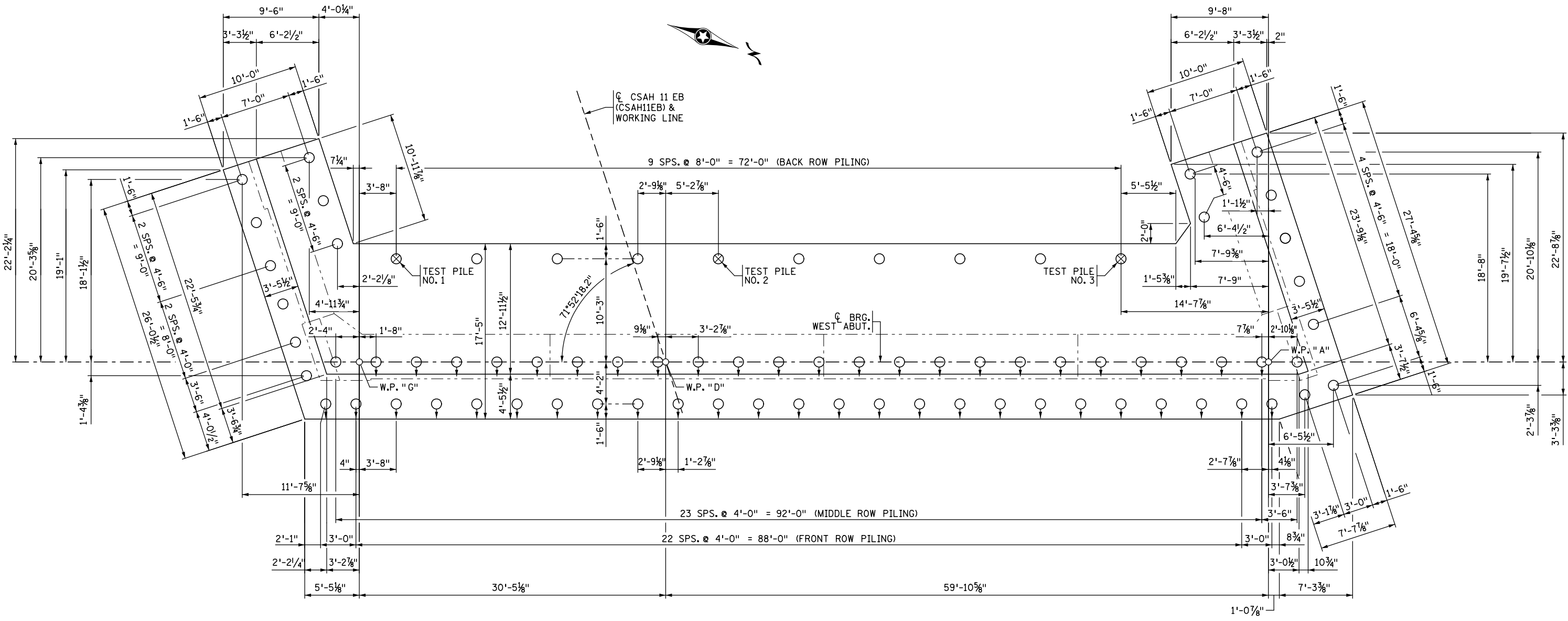
PILES TO HAVE A NOMINAL DIAMETER OF 12" AND 1/4" WALL THICKNESS.

PILES MARKED $\odot \rightarrow$ ARE BATTERED 3 INCHES PER FOOT IN THE DIRECTION SHOWN.

ALL PILE SPLICES TO BE WELDED. FOR PILE SPLICE DETAILS SEE STANDARD DETAIL B201.

3 CAST-IN-PLACE CONCRETE TEST PILE 80 FT. LONG.
 75 CAST-IN-PLACE CONCRETE PILES EST. LENGTH 70 FT.
 78 CAST-IN-PLACE CONCRETE PILES REQ'D FOR WEST ABUT.

CONTRACTOR ALLOWED TO PREDRILL IN LOW-OVERHEAD CONDITIONS NEAR THE XCEL ENERGY TOWER. THE DIAMETER OF THE PREDRILL MUST BE SMALLER THAN THE PILE. ANY PREDRILLING IS INCIDENTAL TO PILING PAY ITEMS.



SOUTH END

WEST ABUTMENT FOOTING PLAN & PILE LAYOUT

NORTH END

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

TKDA
 444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

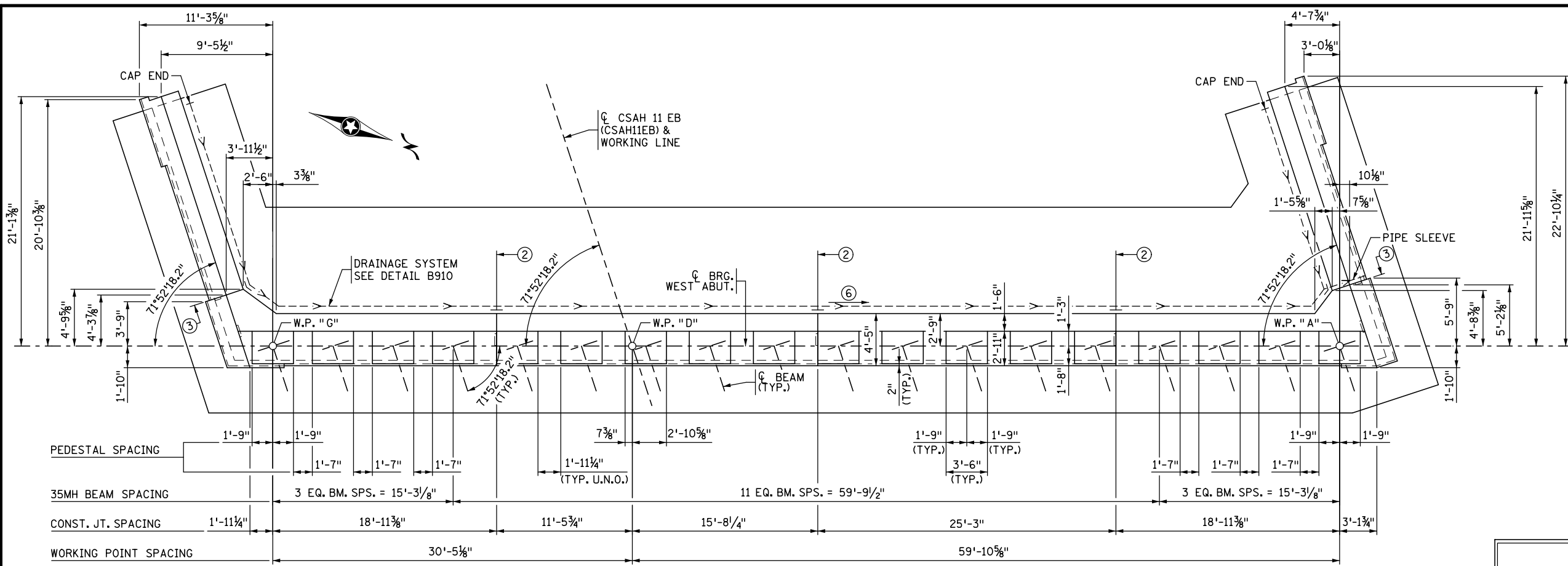
TITLE:
**WEST ABUTMENT
 FTG. PLAN & PILE LAYOUT**

DES: LJL	DR: LJL	APPROVED
CHK: ADL	CHK: ADL	

SHEET NO. 5 OF 66 SHEETS

BRIDGE NO.
02584

DATE: 11/19/2020 TIME: 4:09:26 PM
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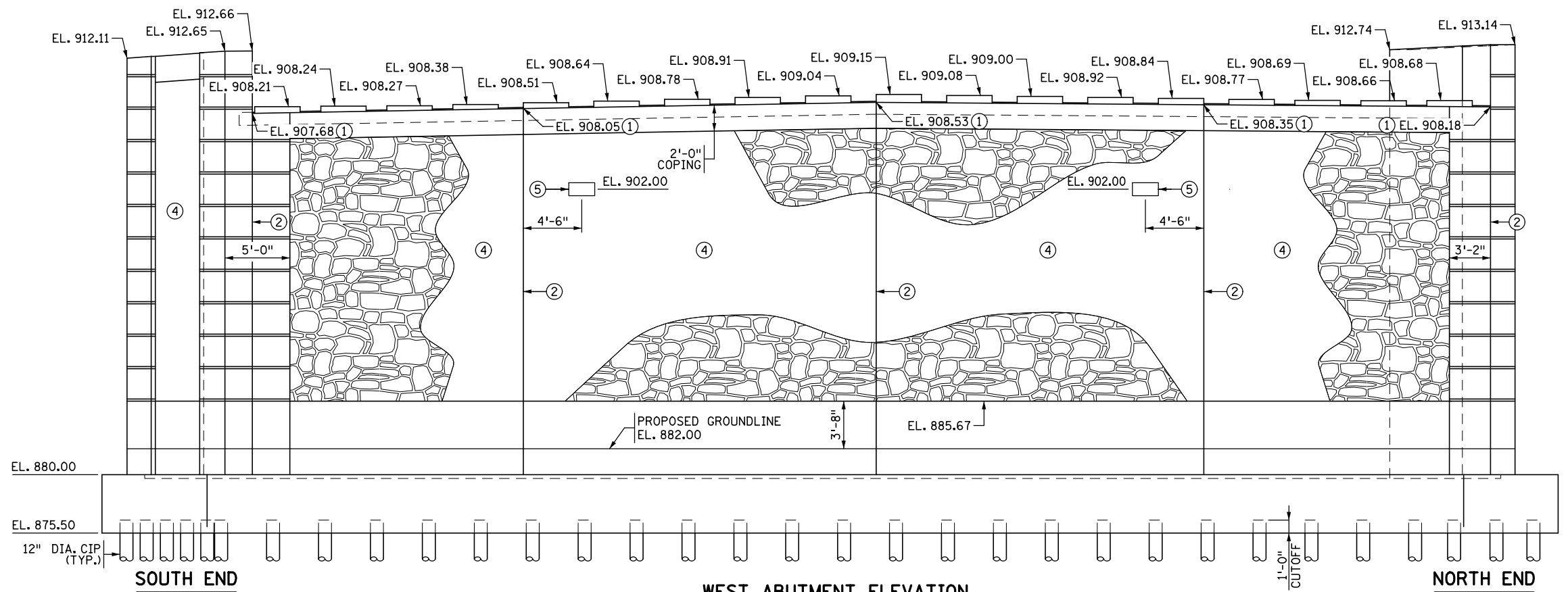


- NOTES:**
- SEE "NORTHWEST WINGWALL PLAN AND ELEVATION" FOR NORTHWEST WINGWALL GEOMETRY.
 - SEE "SOUTHWEST WINGWALL PLAN AND ELEVATION" FOR SOUTHWEST WINGWALL GEOMETRY.
 - SEE "WEST ABUTMENT REINFORCEMENT DETAILS" FOR TYPICAL SECTION.
 - ① ELEVATION AT FRONT FACE OF ABUTMENT.
 - ② CONSTRUCTION JOINT WITH 2" X12" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B. ⑦
 - ③ CONSTRUCTION JOINT WITH 2" X6" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B. ⑦
 - ④ ARCHITECTURAL CONCRETE TEXTURE (ASHLAR STONE), ARCHITECTURAL SURFACE FINISH (SINGLE COLOR).
 - ⑤ UNDERPASS BRIDGE LIGHTING. SEE LIGHTING PLAN IN THE ROADWAY PLANS FOR DETAILS. DIMENSIONS TO CENTER OF LIGHT STANDARD SHOWN. SEE "LIGHTING AND FUTURE CONDUIT PLAN" FOR CONDUIT SYSTEM (LIGHTING) LAYOUT.
 - ⑥ DIRECTION OF FLOW.
 - ⑦ LOCATION OF KEYWAY IS PLACED IN THE MIDDLE THIRD OF THE MEMBER AND STARTS APPROXIMATELY 6" FROM THE TOP OF FOOTING AND ENDS 6" BELOW THE TOP FACE.

SOUTH END

WEST ABUTMENT PLAN

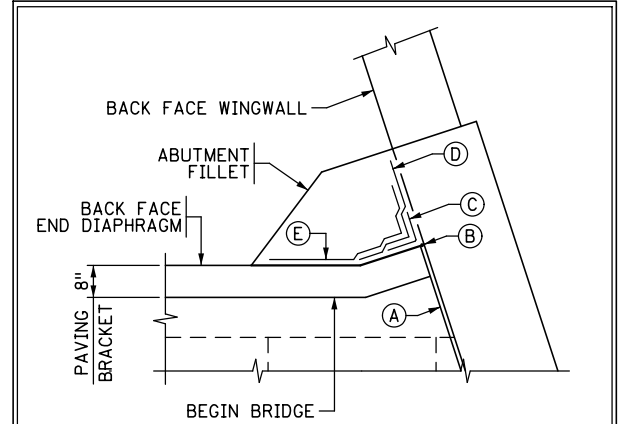
NORTH END



SOUTH END

WEST ABUTMENT ELEVATION

NORTH END

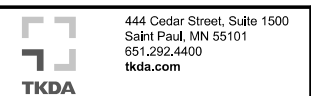


- NOTES:**
- (A) 1" LOW DENSITY POLYSTYRENE BETWEEN BRIDGE DECK AND ABUTMENT WINGWALL. SEAL TOP WITH SELF-LEVELING SILICONE PER SPEC. 3722.
 - (B) 1" BACKER ROD.
 - (C) MEMBRANE WATERPROOFING SYSTEM PER MNDOT SPEC. 2481.3.B.
 - (D) GEOTEXTILE FILTER TYPE II ATTACHED TO WINGWALL. DO NOT ATTACH TO END DIAPHRAGM OR OTHER LAYER. LAP 2'-0" MIN.
 - (E) GEOTEXTILE FILTER TYPE II ATTACHED TO END DIAPHRAGM. DO NOT ATTACH TO WINGWALL OR OTHER LAYER TO ALLOW MOVEMENT BETWEEN END DIAPHRAGM AND WINGWALL.

GEOTEXTILE FILTER DETAIL

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: WEST ABUTMENT
 PLAN AND ELEVATION

DES: LJL	DR: LJL	APPROVED
CHK: ADL	CHK: ADL	

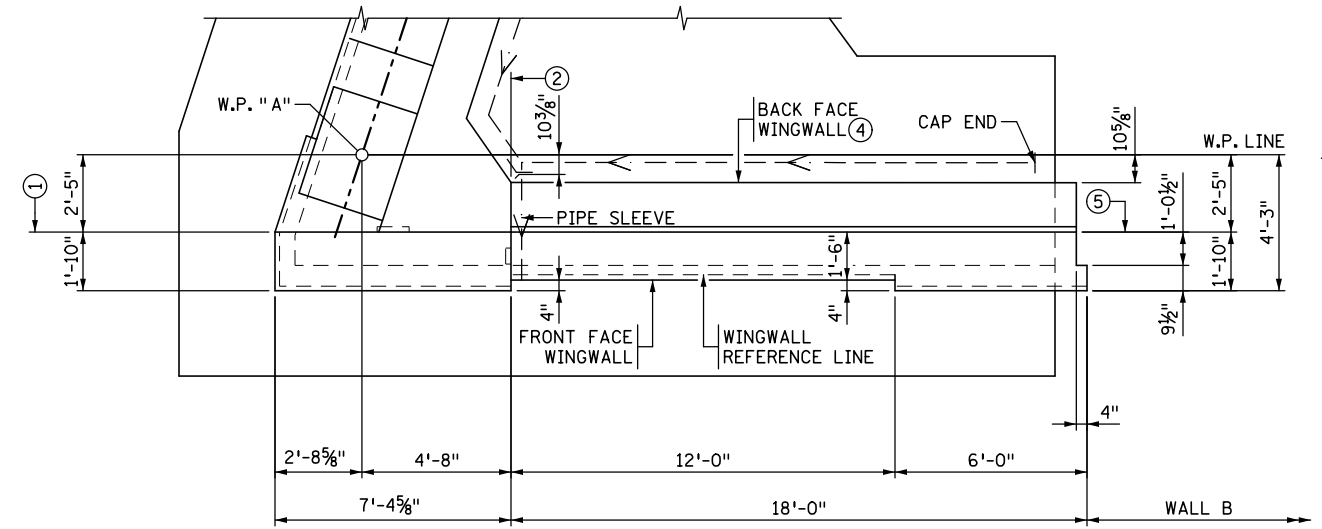
SHEET NO. 6 OF 66 SHEETS

BRIDGE NO.
 02584

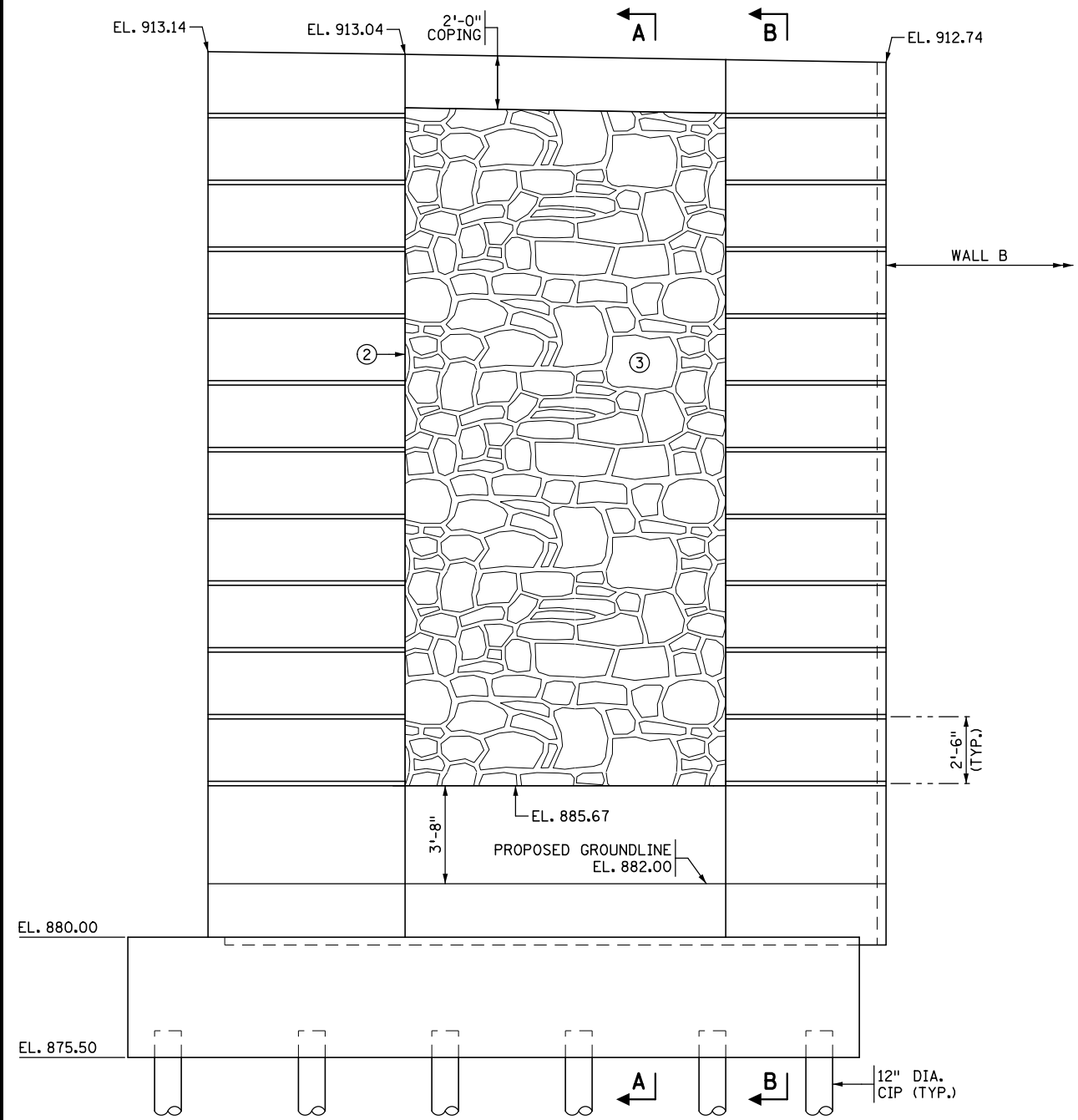
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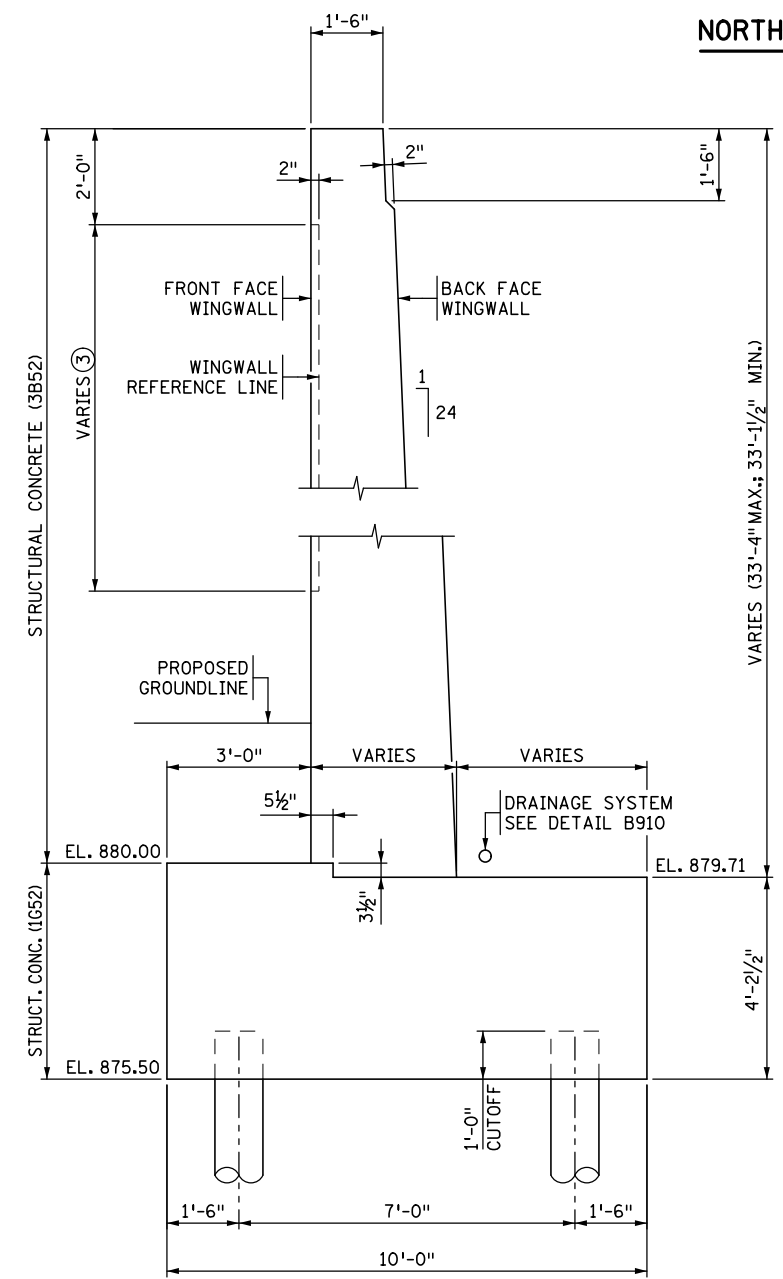
- ① CONSTRUCTION JOINT WITH 2"X12" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B.⑥
- ② CONSTRUCTION JOINT WITH 2"X6" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B.⑥
- ③ ARCHITECTURAL CONCRETE TEXTURE (ASHLAR STONE), ARCHITECTURAL SURFACE FINISH (SINGLE COLOR).
- ④ BACK FACE OF SLOPED WINGWALL AT TOP OF FOOTING.
- ⑤ BACKFACE OF SLOPED WINGWALL AT TOP OF WINGWALL.
- ⑥ LOCATION OF KEYWAY IS PLACED IN THE MIDDLE THIRD OF THE TOP MEMBER AND STARTS APPROXIMATELY 6" FROM THE TOP OF FOOTING AND ENDS 6" BELOW TOP FACE.



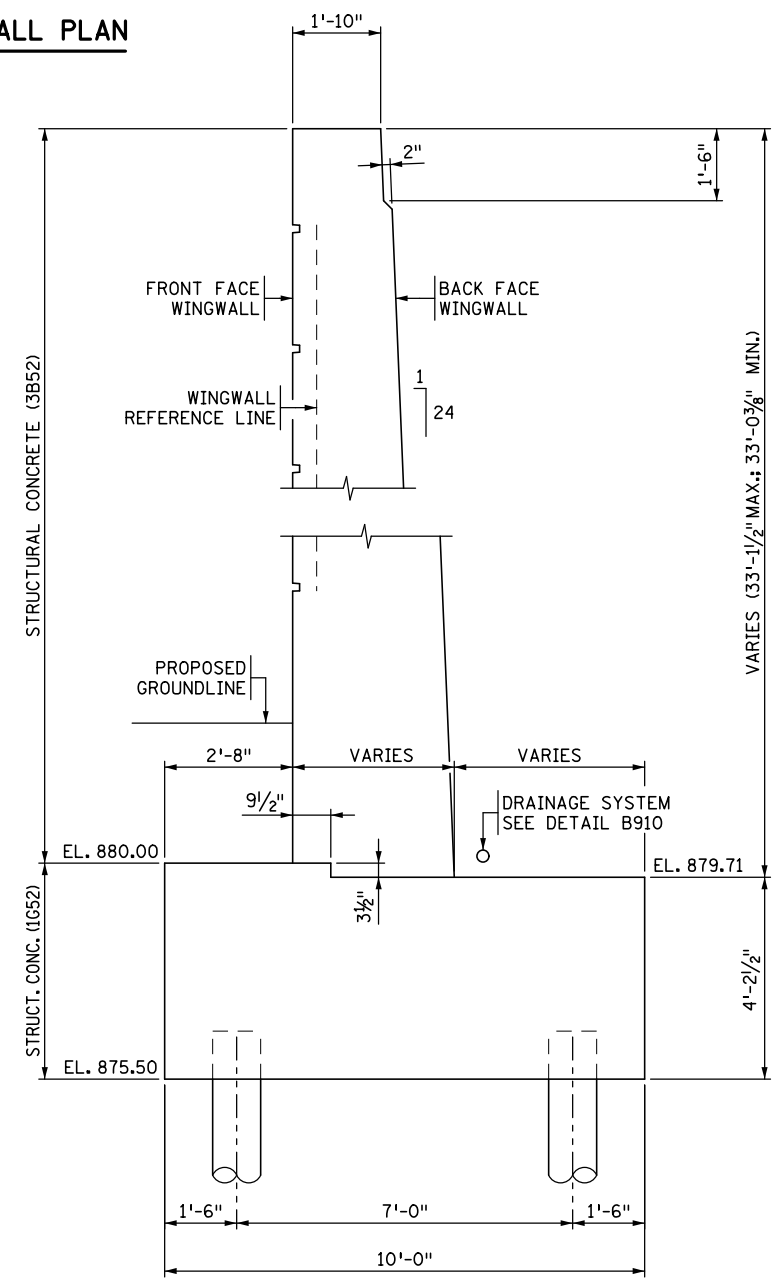
NORTHWEST WINGWALL PLAN



NORTHWEST WINGWALL ELEVATION



SECTION A-A



SECTION B-B

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **NORTHWEST WINGWALL PLAN AND ELEVATION**

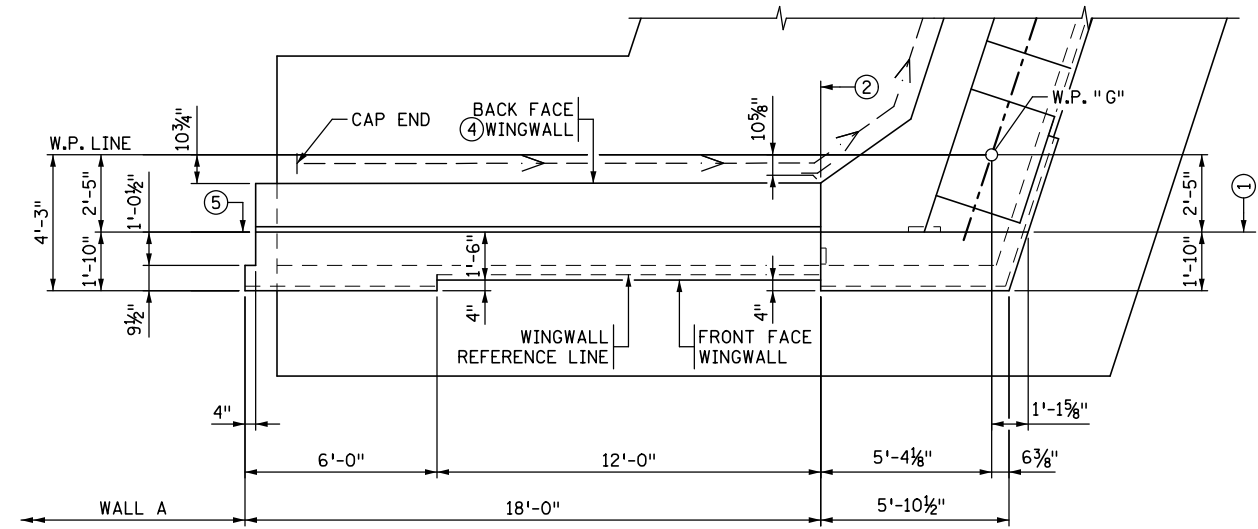
DES: L.J.L.	DR: L.J.L.	APPROVED
CHK: ADL	CHK: ADL	
SHEET NO. 7 OF 66 SHEETS		

BRIDGE NO. **02584**

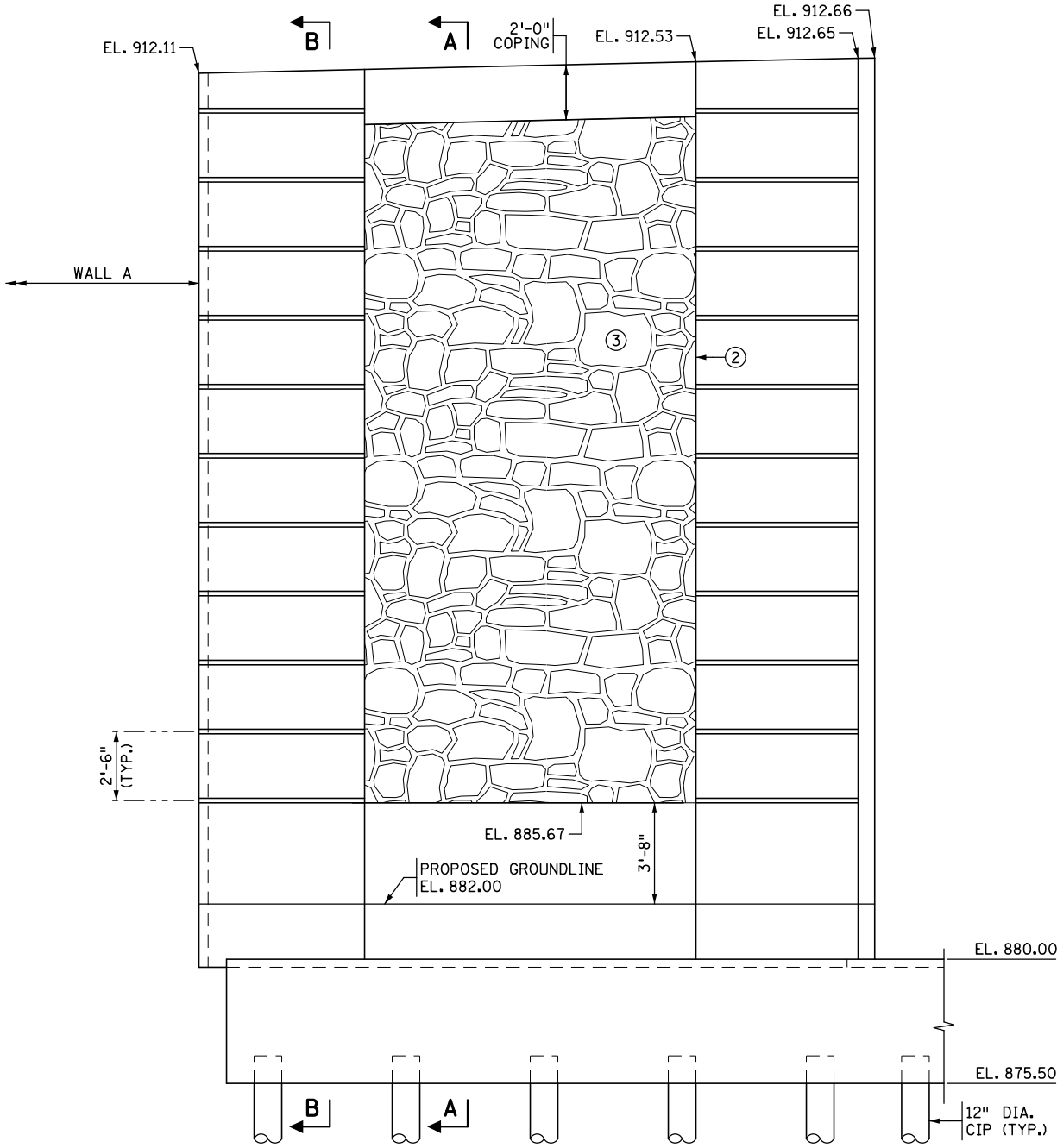
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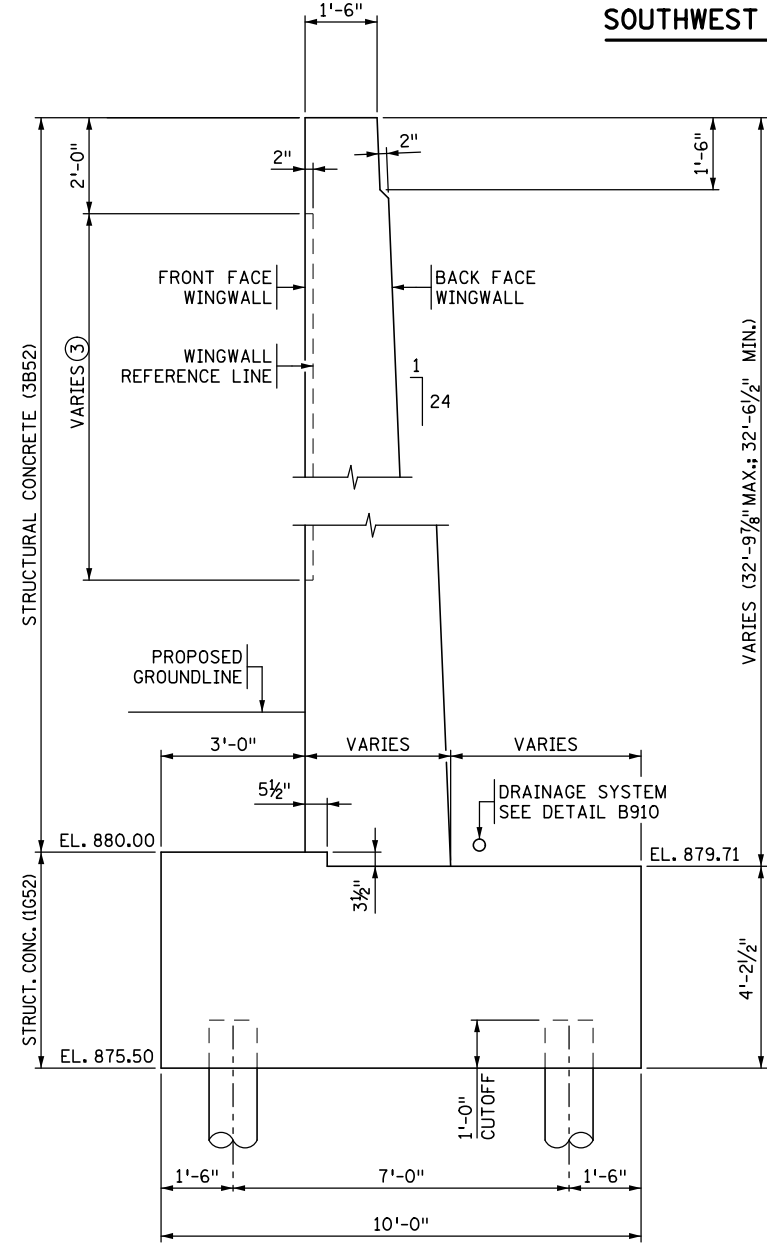
- ① CONSTRUCTION JOINT WITH 2" X 12" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B.⑥
- ② CONSTRUCTION JOINT WITH 2" X 6" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B.⑥
- ③ ARCHITECTURAL CONCRETE TEXTURE (ASHLAR STONE), ARCHITECTURAL SURFACE FINISH (SINGLE COLOR).
- ④ BACK FACE OF SLOPED WINGWALL AT TOP OF FOOTING.
- ⑤ BACK FACE OF SLOPED WINGWALL AT TOP OF WINGWALL.
- ⑥ LOCATION OF KEYWAY IS PLACED IN THE MIDDLE THIRD OF THE MEMBER AND STARTS APPROXIMATELY 6" FROM THE TOP OF FOOTING AND ENDS 6" BELOW TOP FACE.



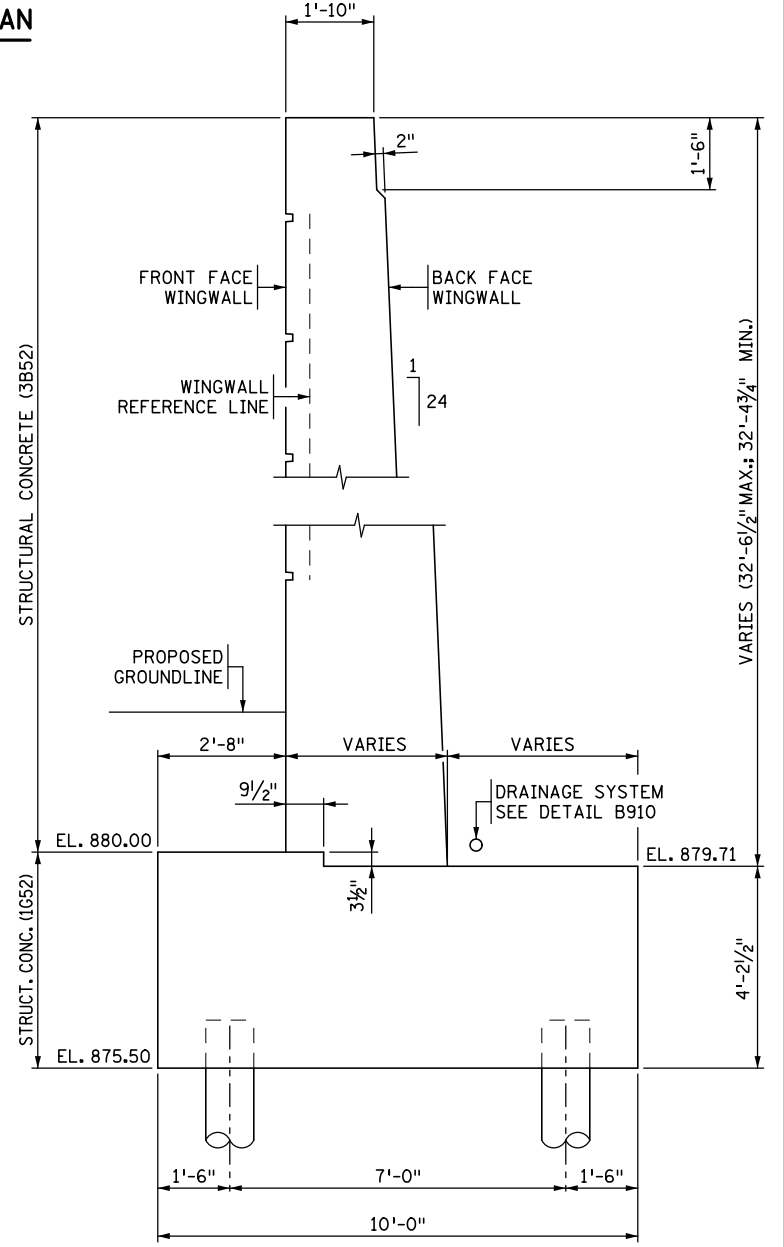
SOUTHWEST WINGWALL PLAN



SOUTHWEST WINGWALL ELEVATION



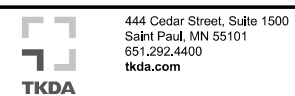
SECTION A-A



SECTION B-B

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



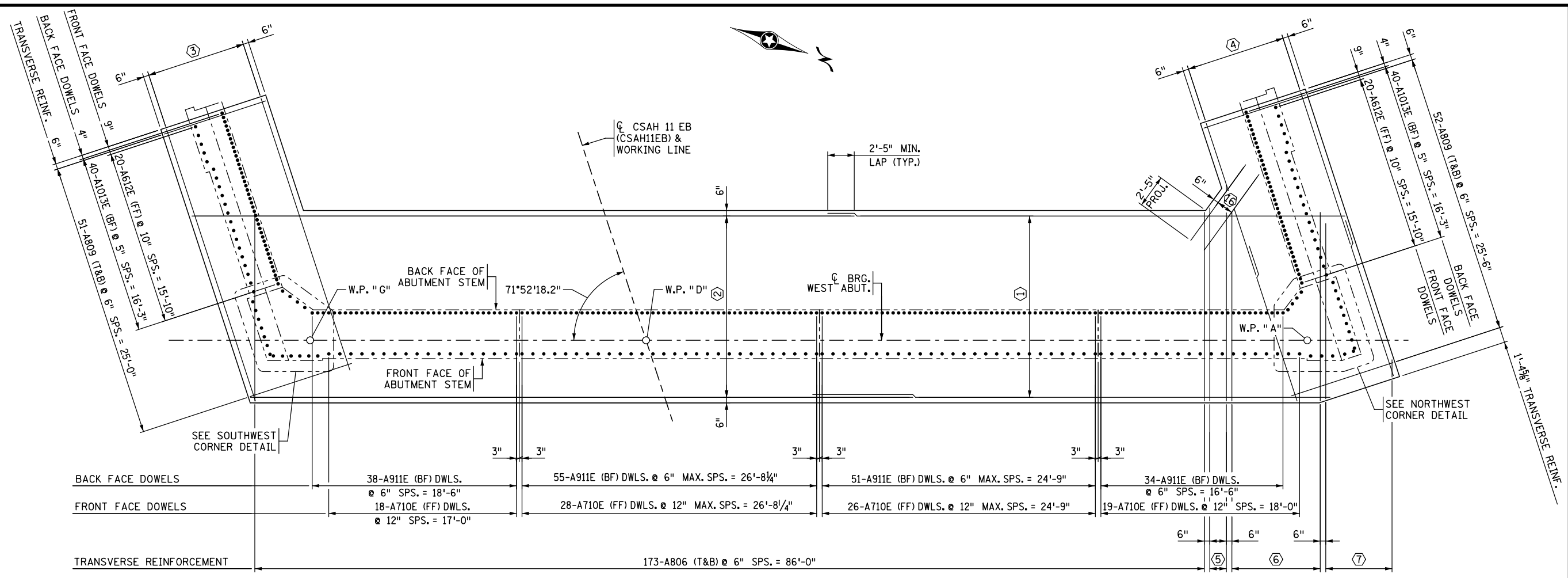
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **SOUTHWEST WINGWALL PLAN AND ELEVATION**

DES: LJJ	DR: LJJ	APPROVED
CHK: ADL	CHK: ADL	
SHEET NO. 8 OF 66 SHEETS		

BRIDGE NO. **02584**

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NOTES:

TOP MAT FOOTING REINFORCEMENT SHALL BE ADJUSTED TO FACILITATE ACCURATE PLACEMENT OF FOOTING DOWELS.

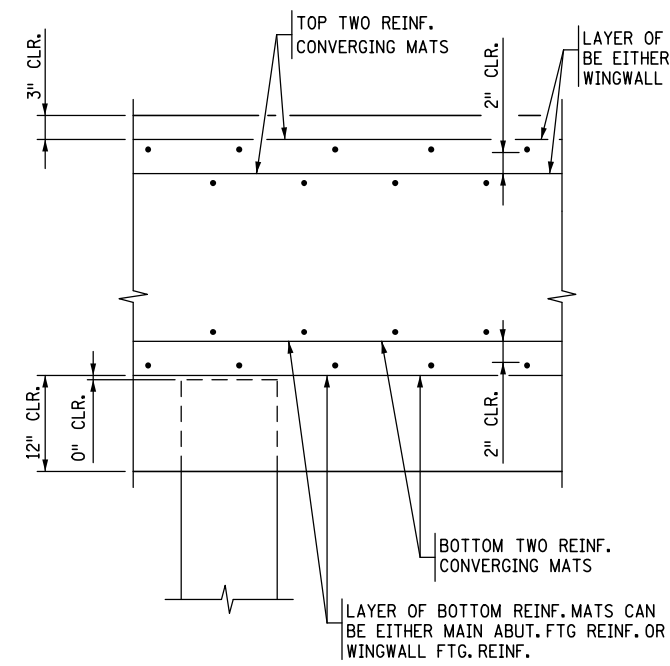
BAR CALL-OUTS:

- ① 18-A602 (T&B) @ 12" MAX. SPS. = 16'-5"
- ② 18-A601 (T&B) @ 12" MAX. SPS. = 16'-5"
- ③ 10-A603 (T&B) @ 12" SPS. = 9'-0"
- ④ 20-A604 (T&B) (PLACED IN PAIRS) @ 12" SPS. = 9'-0"
- ⑤ 1 SER. OF 4-A807 (T&B) @ 6" SPS. = 1'-6"
- ⑥ 17-A806 (T&B) @ 6" SPS. = 8'-0"
- ⑦ 1 SER. OF 13-A808 (T&B) @ 6" SPS. = 6'-0"
- ⑧ 7-A612E (FF) @ 10" SPS. = 5'-0"
- ⑨ 2-A612E (FF) @ 10" SPS.
- ⑩ 4-A710E (FF) @ 12" MAX. SPS. = 2'-5"
- ⑪ 4-A911E (BF) @ 10" SPS. = 2'-6"
- ⑫ 9-A612E (FF) @ 10" MAX. SPS. = 6'-3"
- ⑬ 3-A710E (FF) @ 12" SPS. = 2'-0"
- ⑭ 2-A612E @ 10" SPS.
- ⑮ 4-A911E (BF) @ 8" SPS. = 2'-0"
- ⑯ 4-A605 (T&B) @ 6" SPS. = 1'-6"

SOUTH END

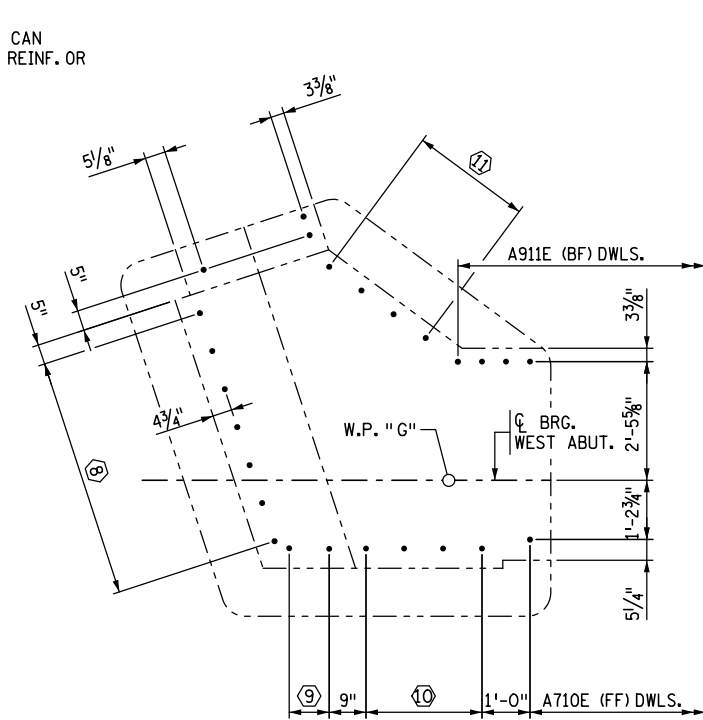
WEST ABUTMENT FOOTING REINFORCEMENT

NORTH END

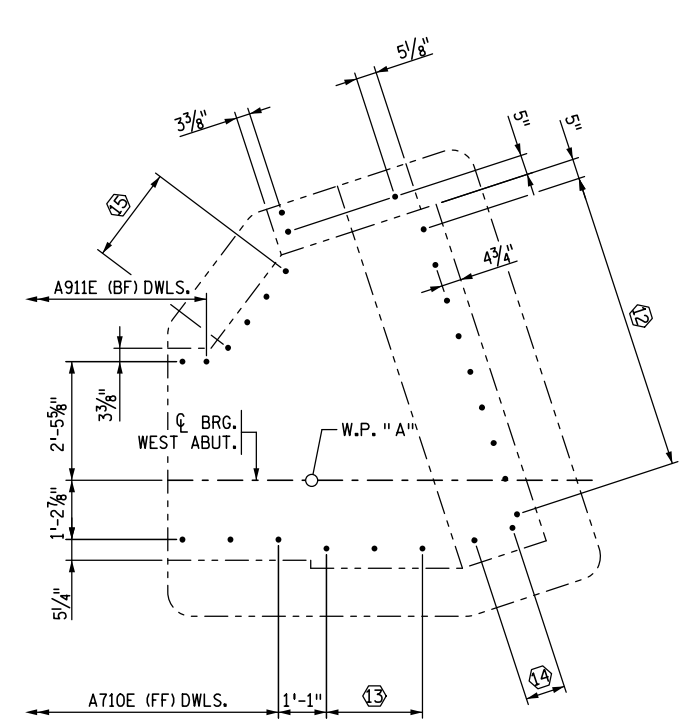


DOUBLE MAT DETAIL

SHALL BE IMPLEMENTED WHERE REINFORCEMENT MATS CONVERGE FROM WINGWALL FOOTING AREA INTO ABUTMENT SEAT FOOTING AREA AT CORNER AS DEPICTED IN THE FOOTING REINFORCEMENT PLAN.



SOUTHWEST CORNER DETAIL



NORTHWEST CORNER DETAIL

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 DATE: 11/19/2020 LIC. NO.: 48298



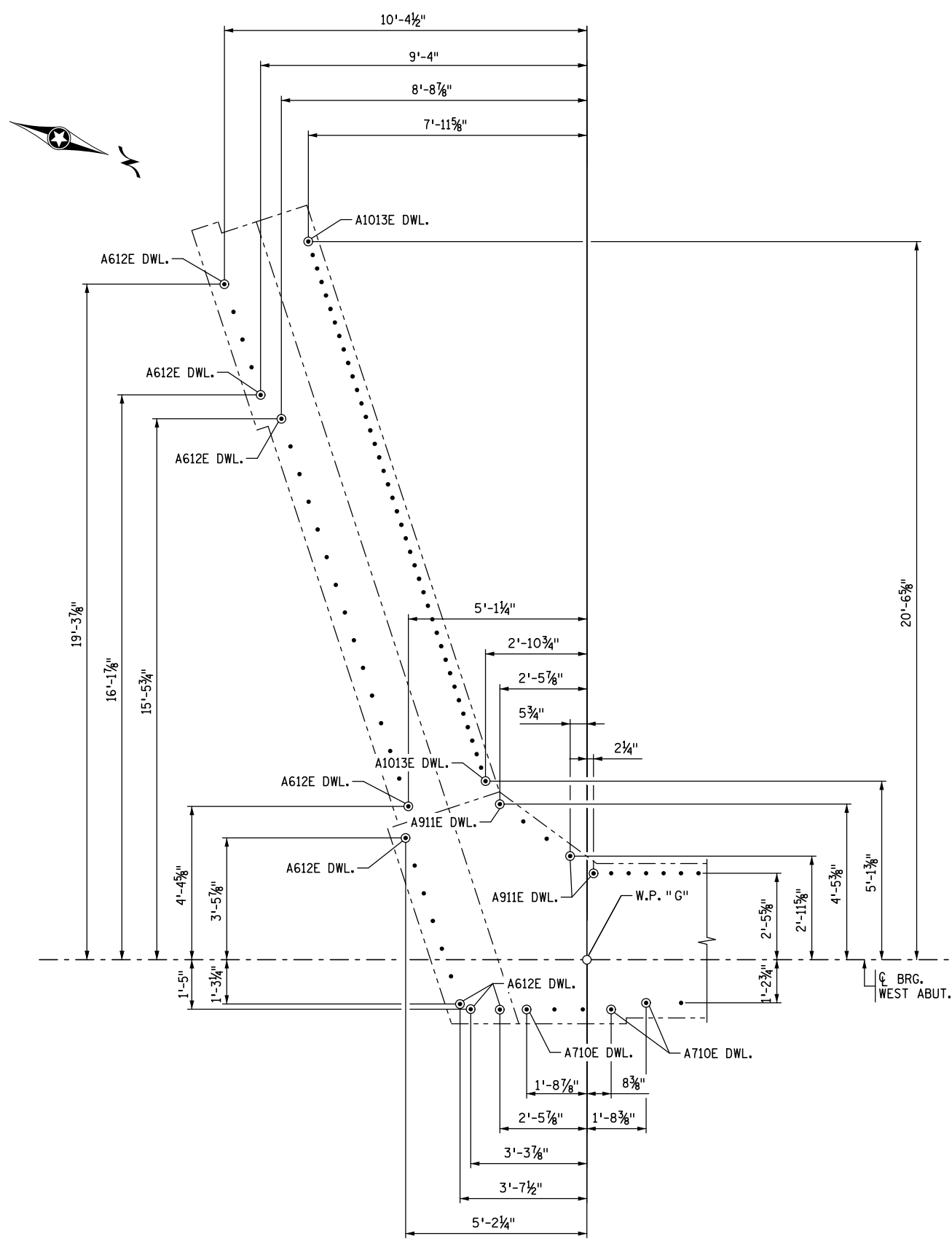
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 WEST ABUTMENT
 FOOTING REINFORCEMENT

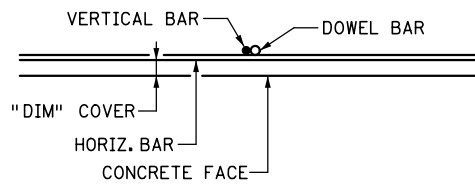
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BRIDGE NO.
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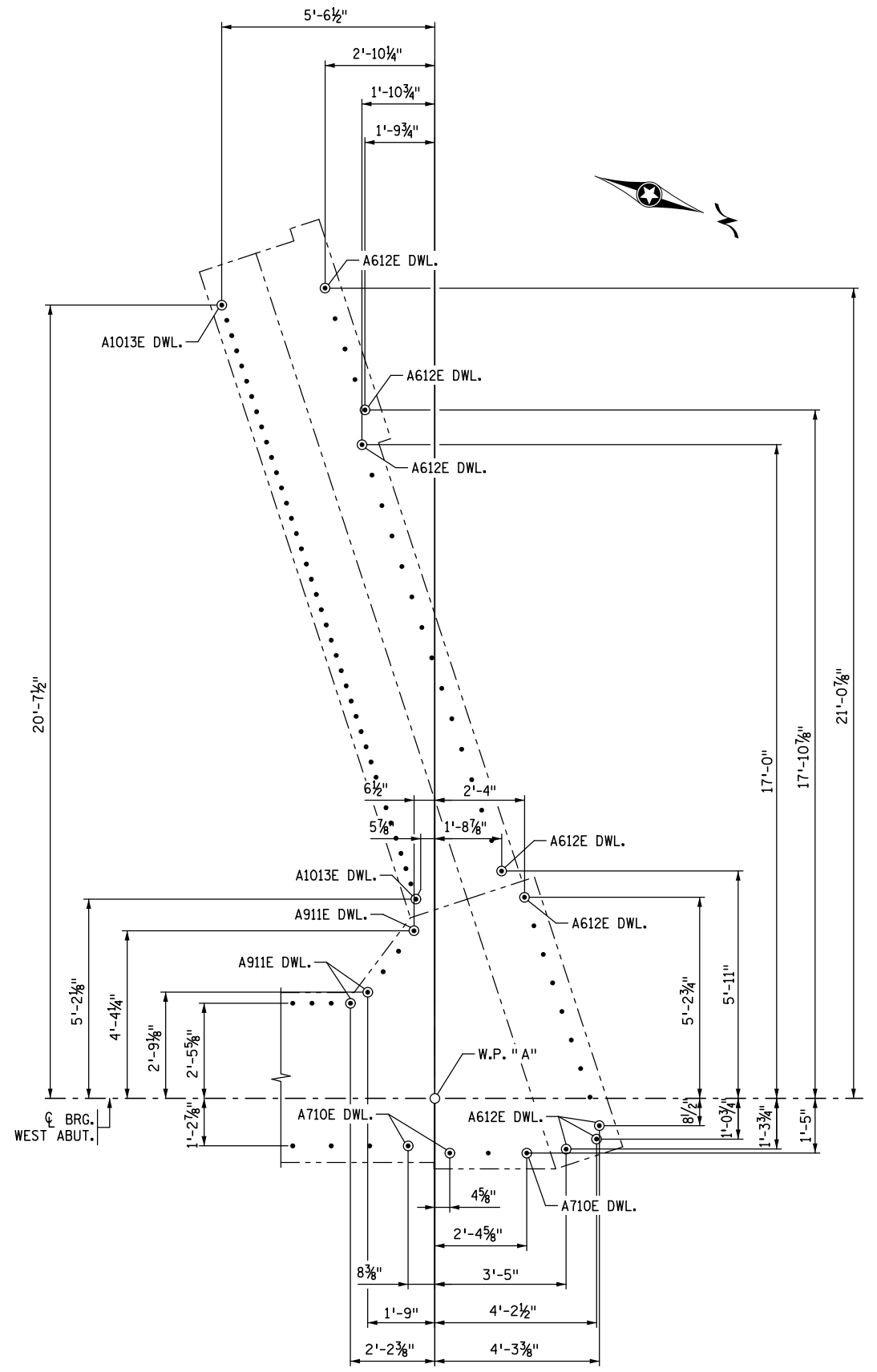


SOUTHWEST CORNER AND WINGWALL



TYPICAL BAR PLACEMENT

LOCATION	"DIM" COVER
ABUT. BACK FACE	2"
ABUT. FRONT FACE	4"
WINGWALL BACK FACE	2"
WINGWALL FRONT FACE	4"
PILASTER FRONT FACE	3 3/4"



NORTHWEST CORNER AND WINGWALL

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

TKDA
 444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

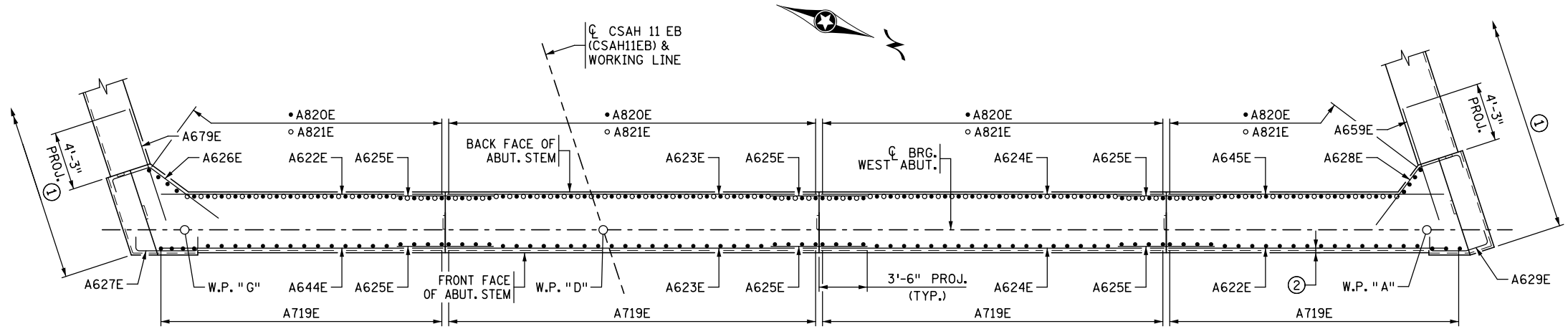
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
WEST ABUTMENT FOOTING
REINFORCEMENT DETAILS

DES: LJJ DR: HAP APPROVED
 CHK: ADL CHK: LJJ
 SHEET NO. 10 OF 66 SHEETS

BRIDGE NO.
02584

DATE: 11/19/2020 TIME: 4:09:49 PM
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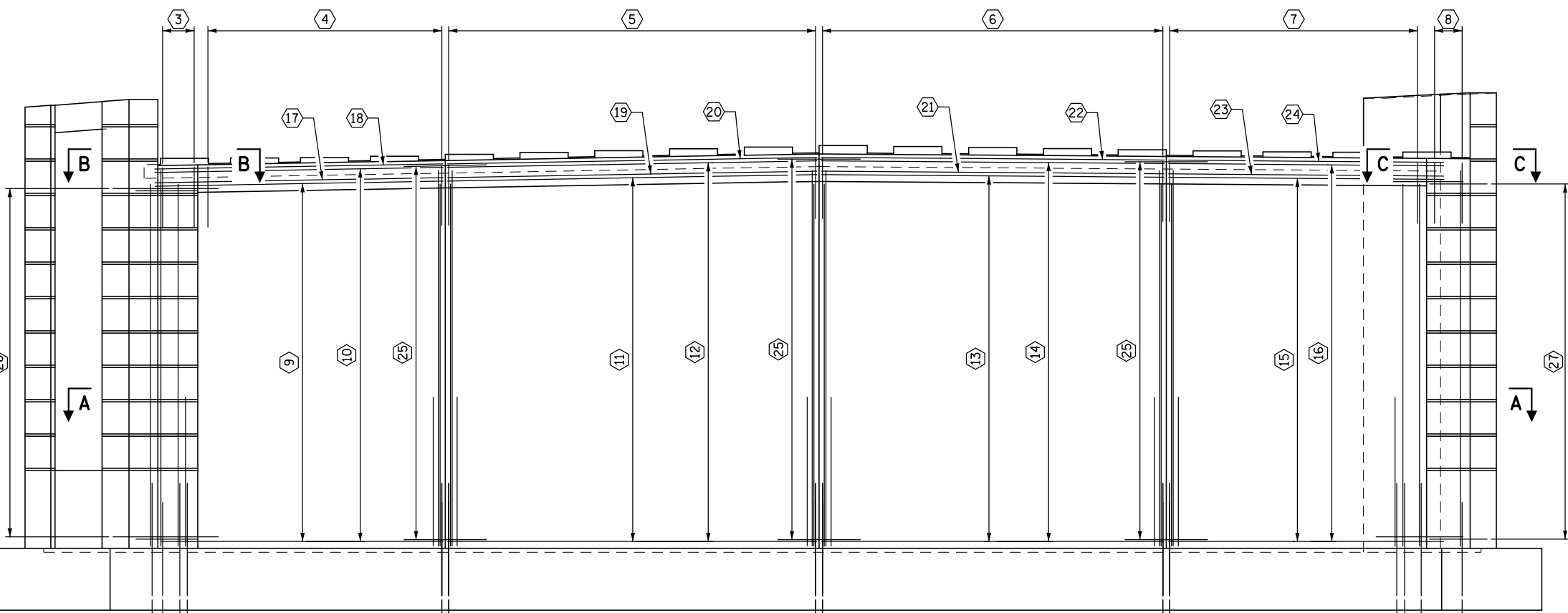
SOUTH END

SECTION A-A

NORTH END

BAR CALL-OUTS:

- ① 4-A820E (BF) SPACED TO MATCH A911E DOWELS.
- ② 4-A820E (BF) SPACED TO MATCH A911E DOWELS.
- ③ 3-A633E, 1-A634E, AND 1-A632E BRIDGE SEAT TIES AND 4-A631E TOP TIES. PLACE TO MATCH A719E (FF). SEE SECTION B-B FOR FURTHER PLACEMENT INFORMATION.
- ④ 18-A632E BRIDGE SEAT TIES & 18-A630E TOP TIES SPACED TO MATCH A719E (FF).
- ⑤ 28-A632E BRIDGE SEAT TIES & 28-A630E TOP TIES SPACED TO MATCH A719E (FF).
- ⑥ 26-A632E BRIDGE SEAT TIES & 26-A630E TOP TIES SPACED TO MATCH A719E (FF).
- ⑦ 19-A632E BRIDGE SEAT TIES & 19-A630E TOP TIES SPACED TO MATCH A719E (FF).
- ⑧ 1-A635E, 1-A636E, AND 1-A637E BRIDGE SEAT TIES AND 3-A631E TOP TIES. PLACE TO MATCH A719E (FF). SEE SECTION C-C FOR FURTHER PLACEMENT INFORMATION.
- ⑨ 34-A622E (BF) SPACED AS SHOWN IN TYPICAL SECTION.
- ⑩ 35-A644E (FF) SPACED AS SHOWN IN TYPICAL SECTION.
- ⑪ 34-A623E (BF) SPACED AS SHOWN IN TYPICAL SECTION.
- ⑫ 35-A623E (FF) SPACED AS SHOWN IN TYPICAL SECTION.
- ⑬ 34-A624E (BF) SPACED AS SHOWN IN TYPICAL SECTION.
- ⑭ 35-A624E (FF) SPACED AS SHOWN IN TYPICAL SECTION.
- ⑮ 34-A645E (BF) SPACED AS SHOWN IN TYPICAL SECTION.
- ⑯ 35-A622E (FF) SPACED AS SHOWN IN TYPICAL SECTION.
- ⑰ 1 SER. OF 5-A646E SPACED AS SHOWN IN TYPICAL SECTION.
- ⑱ 1 SER. OF 4-A647E SPACED AS SHOWN IN TYPICAL SECTION.
- ⑲ 5-A623E SPACED AS SHOWN IN TYPICAL SECTION.
- ⑳ 4-A623E SPACED AS SHOWN IN TYPICAL SECTION.
- ㉑ 5-A624E SPACED AS SHOWN IN TYPICAL SECTION.
- ㉒ 4-A624E SPACED AS SHOWN IN TYPICAL SECTION.
- ㉓ 1 SER. OF 5-A648E SPACED AS SHOWN IN TYPICAL SECTION.
- ㉔ 1 SER. OF 4-A649E SPACED AS SHOWN IN TYPICAL SECTION.
- ㉕ 78-A625E SPACED TO MATCH HORIZONTAL REINFORCEMENT.
- ㉖ 34-A626E TIES SPACED TO MATCH A622E (BF) & 35-A627E TIES SPACED TO MATCH A644E (FF).
- ㉗ 34-A628E TIES SPACED TO MATCH A645E (BF) & 35-A629E TIES SPACED TO MATCH A622E (FF).



SOUTH END

WEST ABUTMENT REINFORCEMENT ELEVATION

NORTH END

NOTES:

- FOR TYPICAL SECTION, SECTION B-B, AND SECTION C-C, SEE "ABUTMENT REINFORCEMENT DETAILS" SHEET.
- ① FOR REINFORCEMENT IN WINGWALLS, SEE "SOUTHWEST WINGWALL REINFORCEMENT" SHEET OR "NORTHWEST WINGWALL REINFORCEMENT" SHEET.
- ② 2" CLR FROM ABUTMENT REFERENCE LINE.
4" CLR. FROM FRONT FACE OF ABUTMENT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



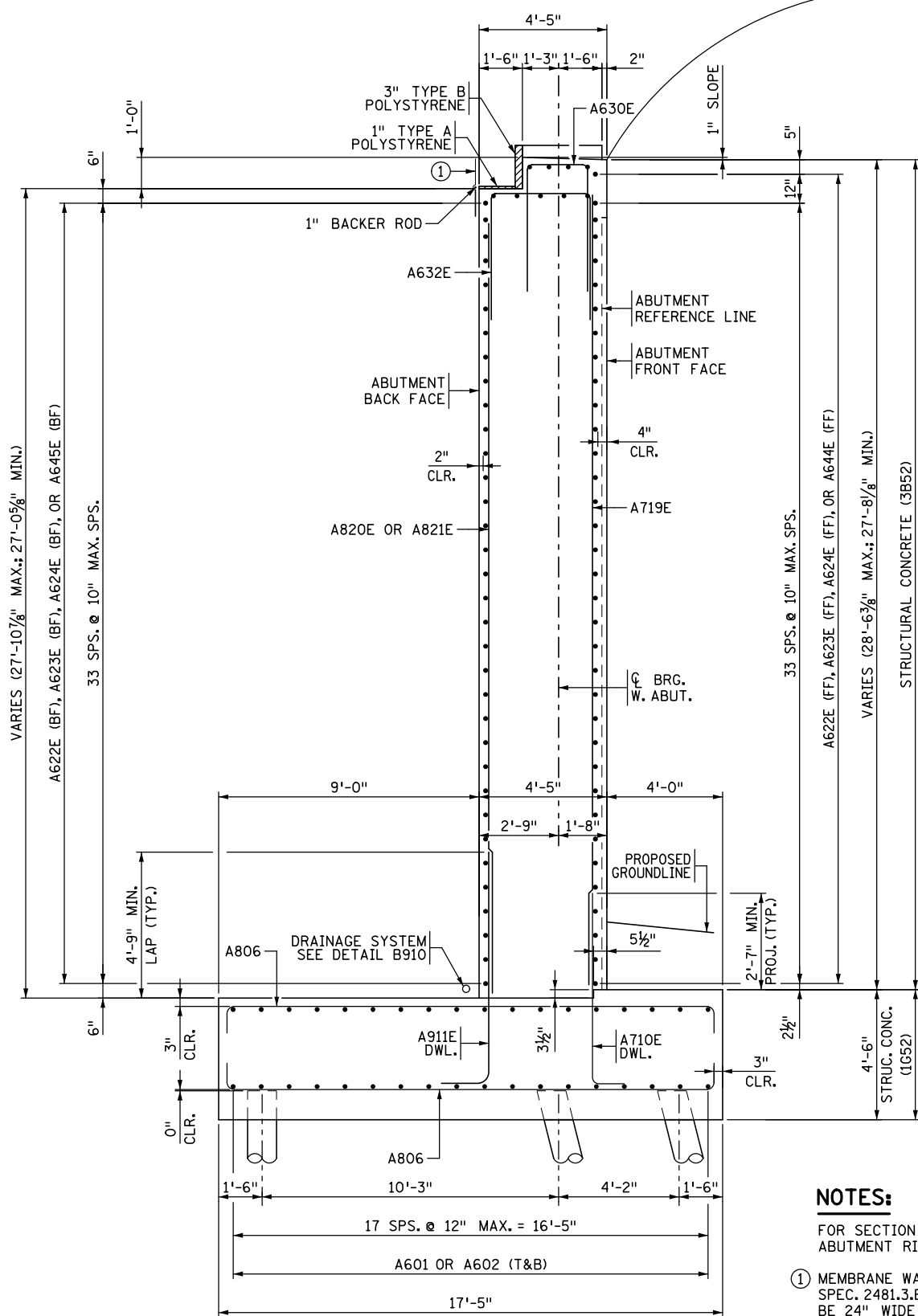
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: WEST ABUTMENT REINFORCEMENT

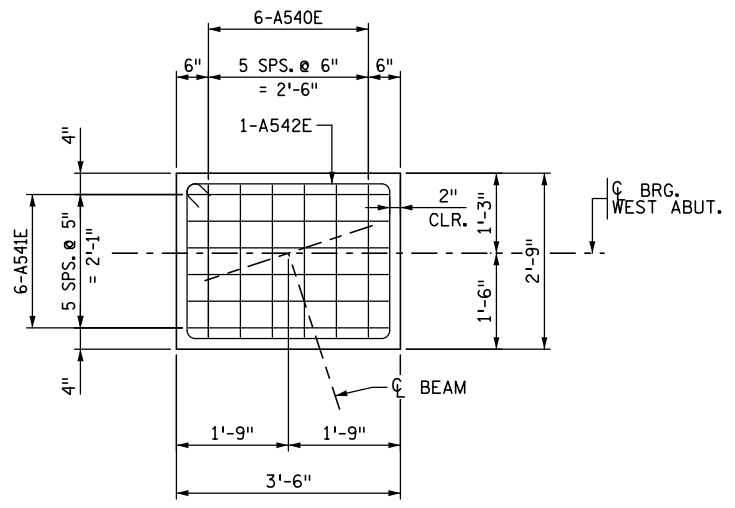
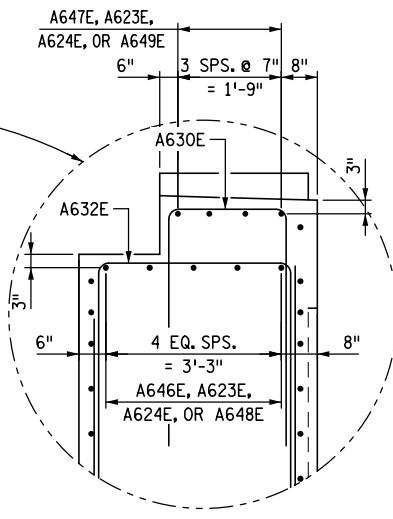
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CHK: ADL	CHK: LJJ	
SHEET NO. 11 OF 66 SHEETS		

BRIDGE NO.
02584

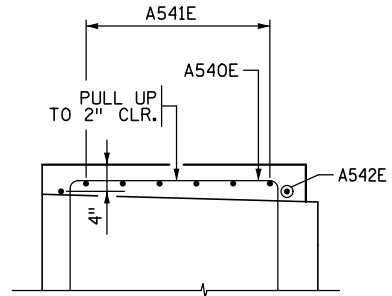
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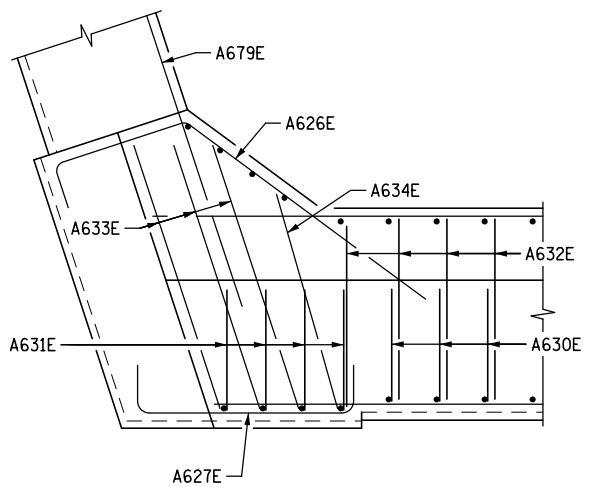
TYPICAL SECTION



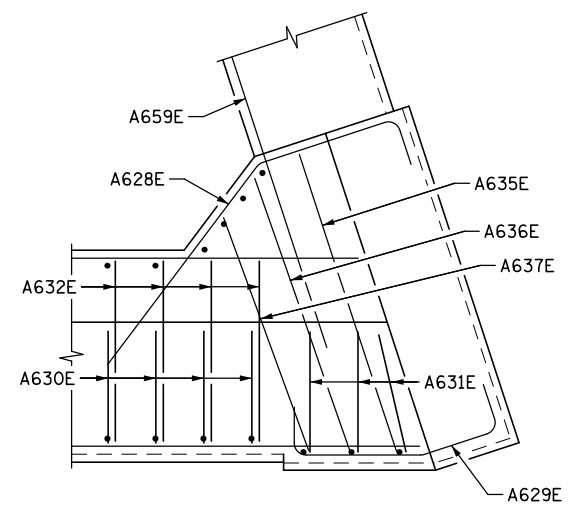
TYPICAL PEDESTAL
(18 THUS)



TYPICAL PEDESTAL SECTION



SECTION B-B

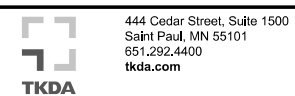


SECTION C-C

NOTES:
 FOR SECTION B-B AND C-C, SEE "WEST ABUTMENT REINFORCEMENT" SHEET.
 ① MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B EXCEPT THE STRIP SHALL BE 24" WIDE TO ALLOW MOVEMENT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **WEST ABUTMENT REINFORCEMENT DETAILS**

DES: LJL	DR: HAP	APPROVED
CHK: ADL	CHK: LJL	
SHEET NO. 12 OF 66 SHEETS		

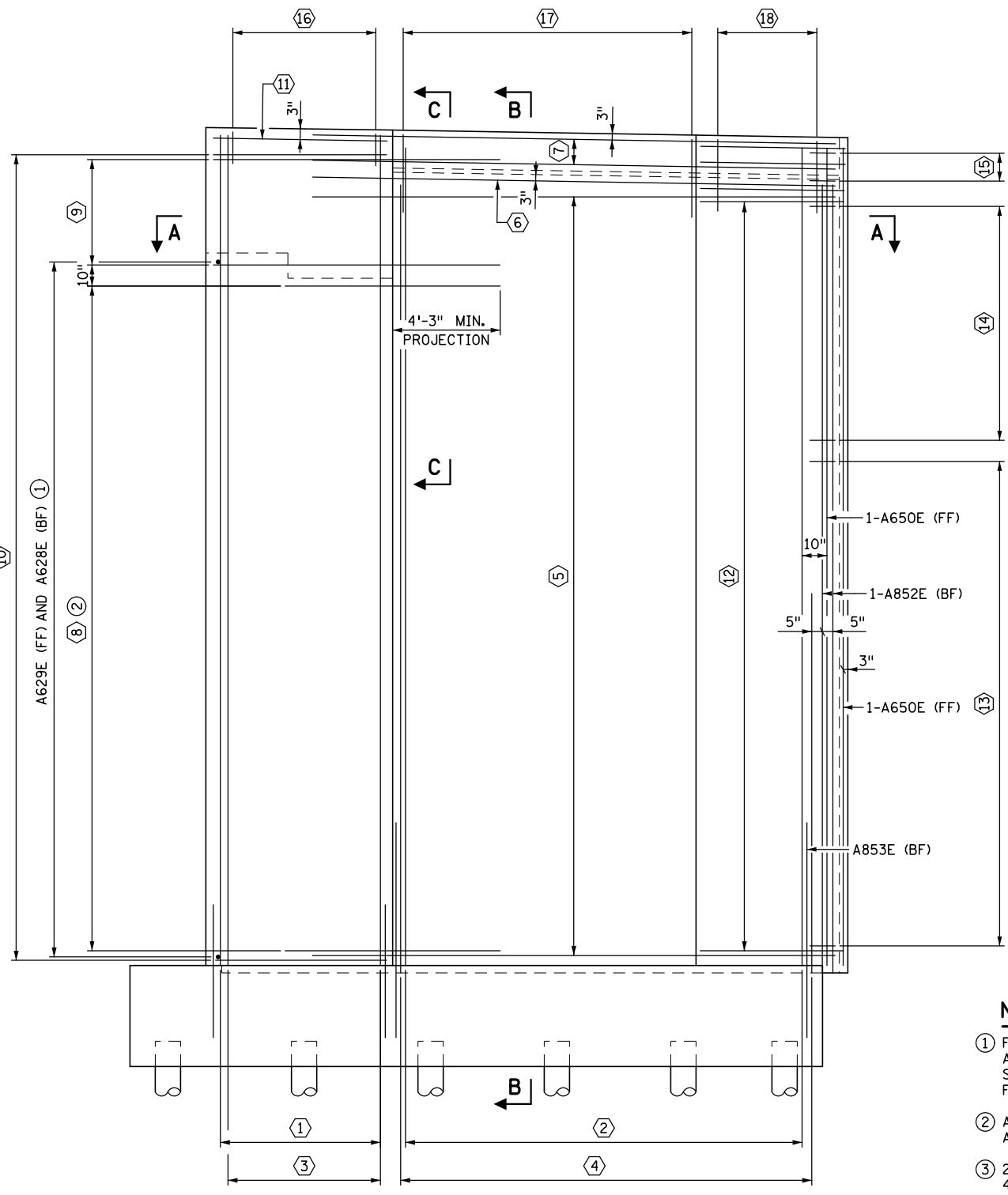
BRIDGE NO.
02584

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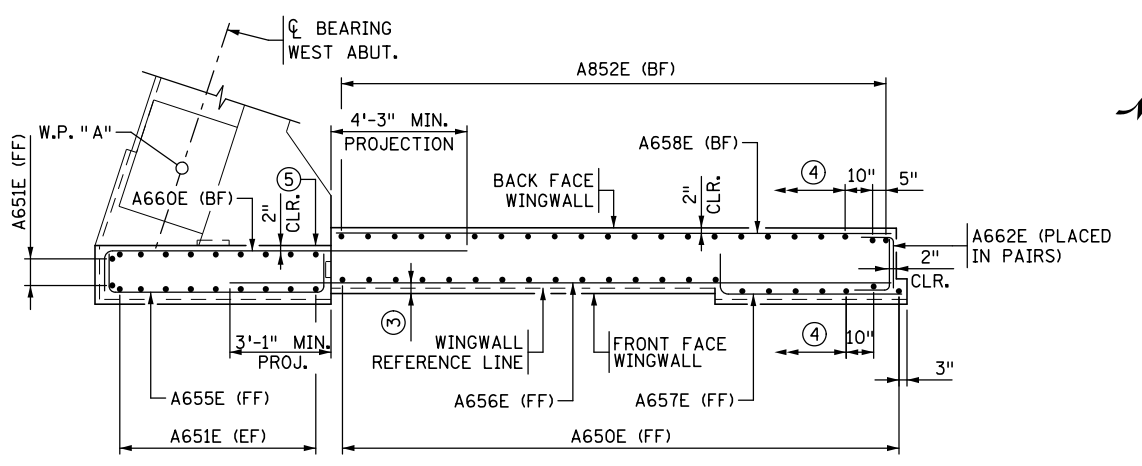


BAR CALL-OUTS:

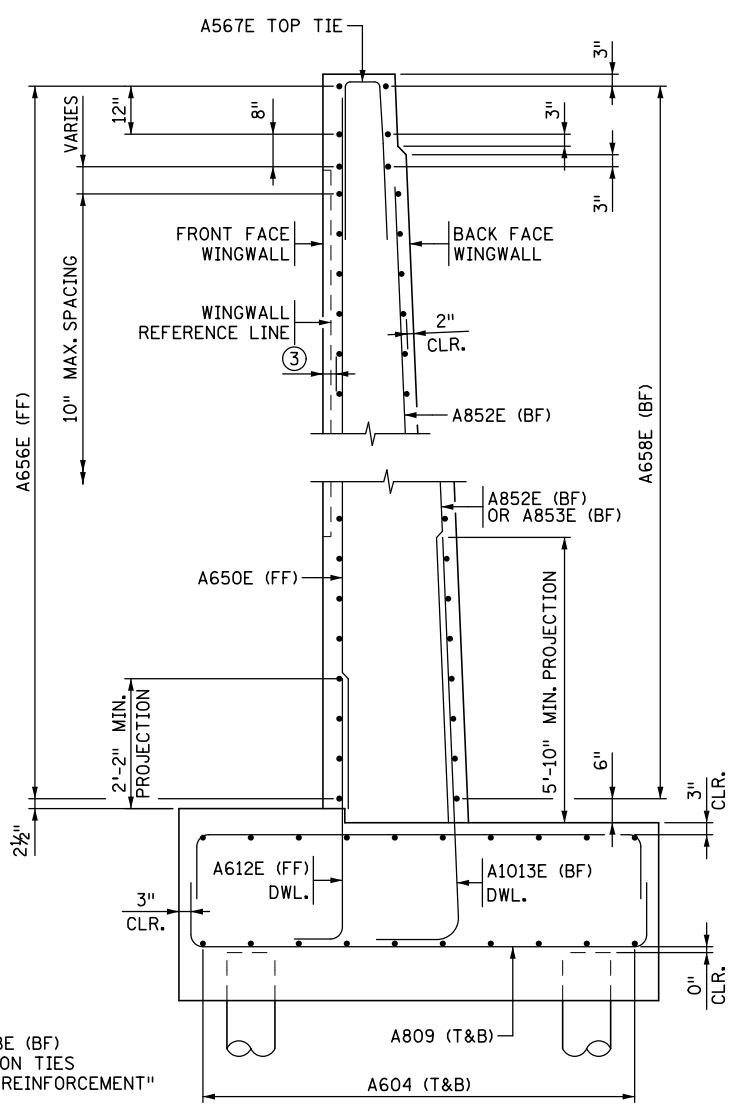
- ① 11-A651E (FF) SPACED TO MATCH A612E (FF) DWLS.
- ② 20-A650E (FF) SPACED TO MATCH A612E (FF) DWLS.
- ③ 9-A651E (BF) SPACED TO MATCH A651E (FF).
- ④ 20-A852E (BF) & 20-A853E (BF) ALTERNATE BARS, SPACED TO MATCH A1013E (BF) DWLS.
- ⑤ 38-A656E (FF) & 38-A658E (BF) @ 10" MAX. SPS. = 30'-0".
- ⑥ 1-A656E (FF), 1-A657E (FF) & 1-A658E (BF).
- ⑦ 2-A656E (FF), 2-A657E (FF) & 2-A658E (BF) @ 12" SPS.
- ⑧ 34-A659E (BF) TO MATCH A628E.
- ⑨ 6-A660E (BF) @ 10" SPS. = 4'-2".
- ⑩ 40-A655E (FF) TO MATCH A629E AND @ 10" MAX. SPS.
- ⑪ 1-A655E (FF) & 1-A660E (BF).
- ⑫ 38-A657E (FF) SPACED TO MATCH A656E (FF).
- ⑬ 50-A661E (PLACED IN PAIRS) END TIES SPACED TO MATCH A657E (FF).
- ⑭ 26-A662E (PLACED IN PAIRS) END TIES SPACED TO MATCH A657E (FF).
- ⑮ 6-A663E (PLACED IN PAIRS) END TIES SPACED TO MATCH A657E (FF).
- ⑯ 9-A666E TOP TIES SPACED TO MATCH A651E (FF).
- ⑰ 15-A667E TOP TIES SPACED TO MATCH A650E (FF).
- ⑱ 6-A668E TOP TIES SPACED TO MATCH A650E (FF).



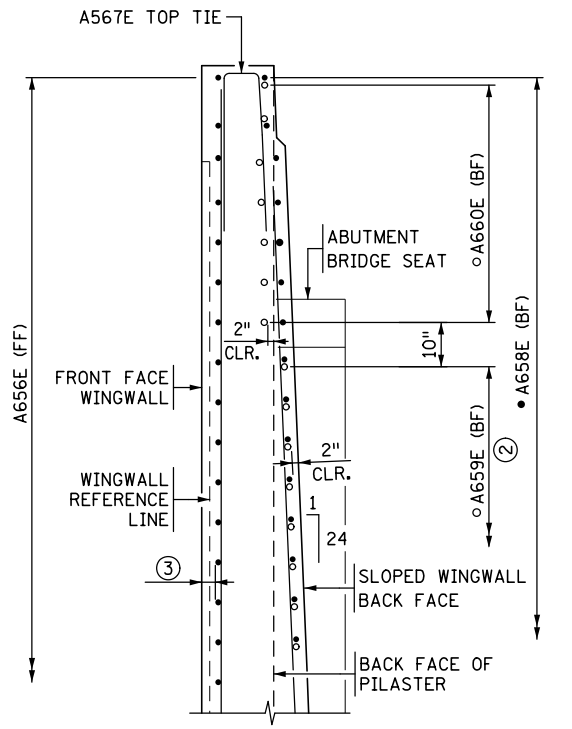
NORTHWEST WINGWALL REINFORCEMENT



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

- ① FOR A629E (FF) & A628E (BF) ABUTMENT CONSTRUCTION TIES SEE "WEST ABUTMENT REINFORCEMENT" FOR CALL-OUTS.
- ② A659E (BF) TO BE CAST WITH WEST ABUTMENT STEM CONSTRUCTION.
- ③ 2" CLR. FROM WINGWALL REFERENCE LINE.
4" CLR. FROM FRONT FACE OF WINGWALL.
- ④ SPACED TO MATCH DOWELS.
- ⑤ BACK FACE OF PILASTER

4/01/21	ADL	SIGNATURE BLOCK UPDATED

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 4/1/2021 LIC. NO.: 48298



444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **NORTHWEST WINGWALL REINFORCEMENT**

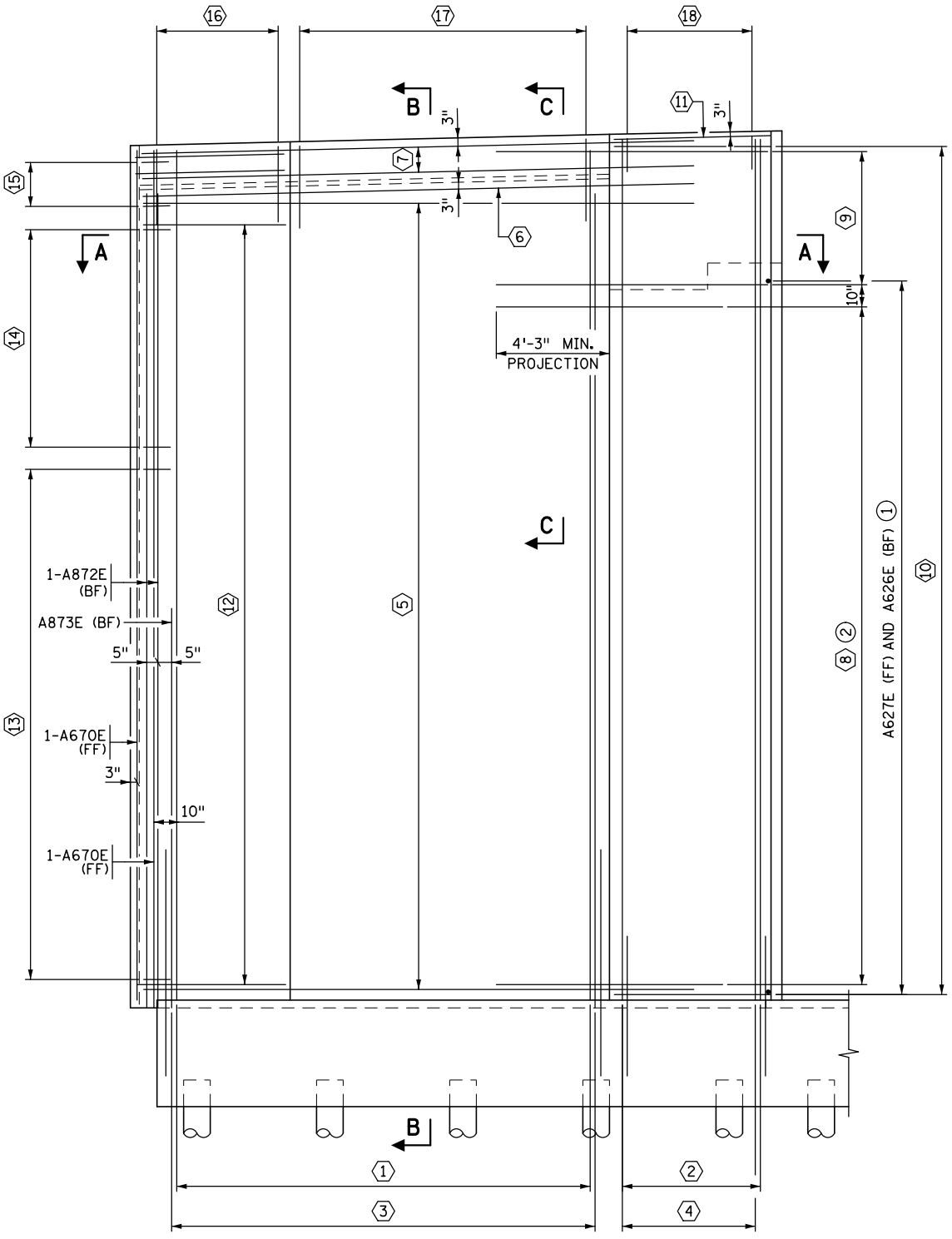
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CHK: ADL	CHK: L.J.L.	
SHEET NO. 13 OF 66 SHEETS		

BRIDGE NO.
02584

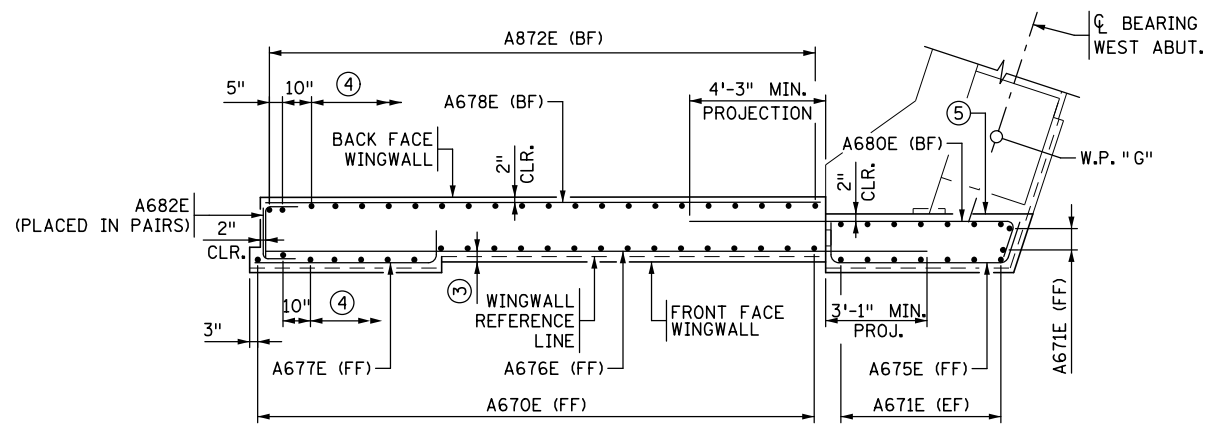
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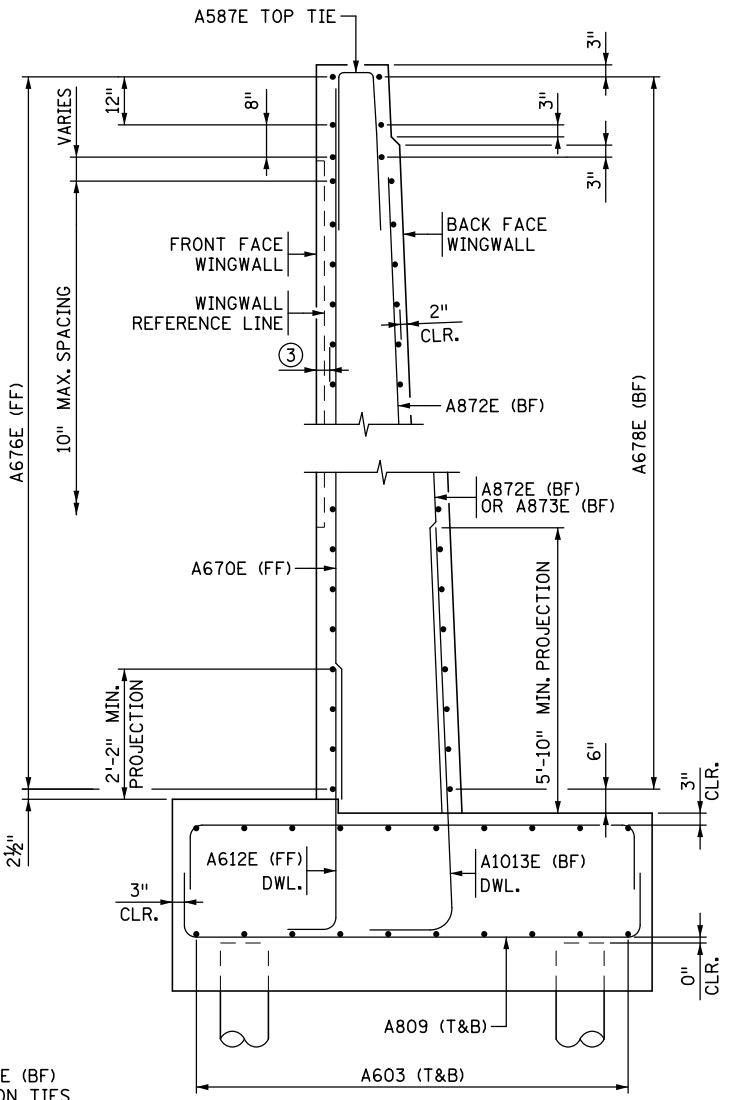
- | | | | |
|---|---|---|---|
| ① 20-A670E (FF) SPACED TO MATCH A612E (FF) DWLS. | ⑤ 38-A676E (FF) & 38-A678E (BF) @ 10" MAX. SPS. = 30'-0". | ⑩ 40-A675E (FF) TO MATCH A627E (FF) AND @ 10" MAX. SPS. | ⑮ 6-A683E END TIES SPACED TO MATCH A677E (FF). |
| ② 9-A671E (FF) SPACED TO MATCH A612E (FF) DWLS. | ⑥ 1-A676E (FF), 1-A677E (FF) & 1-A678E (BF). | ⑪ 1-A675E (FF) & 1-A680E (BF). | ⑯ 6-A588E TOP TIES SPACED TO MATCH B670E (FF). |
| ③ 20-A872E (BF) & 20-A873E (BF) ALTERNATE BARS, SPACED TO MATCH A1013E (BF) DWLS. | ⑦ 2-A676E (FF), 2-A677E (FF) & 2-A678E (BF) @ 12" SPS. | ⑫ 38-A677E (FF) SPACED TO MATCH A676E (FF). | ⑰ 15-A587E TOP TIES SPACED TO MATCH B670E (FF). |
| ④ 7-A671E (BF) SPACED TO MATCH A671E (FF). | ⑧ 34-A679E (BF) TO MATCH A626E (BF). | ⑬ 50-A681E END TIES (PLACED IN PAIRS) SPACED TO MATCH A677E (FF). | ⑱ 7-A586E TOP TIES SPACED TO MATCH B671E (FF). |
| | ⑨ 6-A680E (BF) @ 10" SPS. = 4'-2". | ⑭ 26-A682E END TIES (PLACED IN PAIRS) SPACED TO MATCH A677E (FF). | |



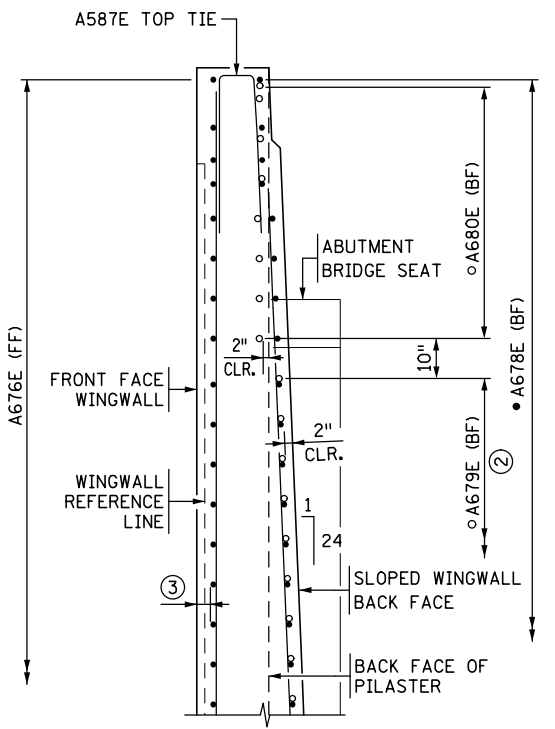
SOUTHWEST WINGWALL REINFORCEMENT



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

- ① FOR A627E (FF) & A626E (BF) ABUTMENT CONSTRUCTION TIES SEE "WEST ABUTMENT REINFORCEMENT" FOR CALL-OUTS.
- ② A679E (BF) TO BE CAST WITH WEST ABUTMENT STEM CONSTRUCTION.
- ③ 2" CLR. FROM WINGWALL REFERENCE LINE.
4" CLR. FROM FRONT FACE OF WINGWALL.
- ④ SPACED TO MATCH DOWELS.
- ⑤ BACK FACE OF PILASTER

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **SOUTHWEST WINGWALL REINFORCEMENT**

DES: L.JL	DR: ADL	APPROVED
CHK: ADL	CHK: L.JL	
SHEET NO. 14 OF 66 SHEETS		

BRIDGE NO.
02584

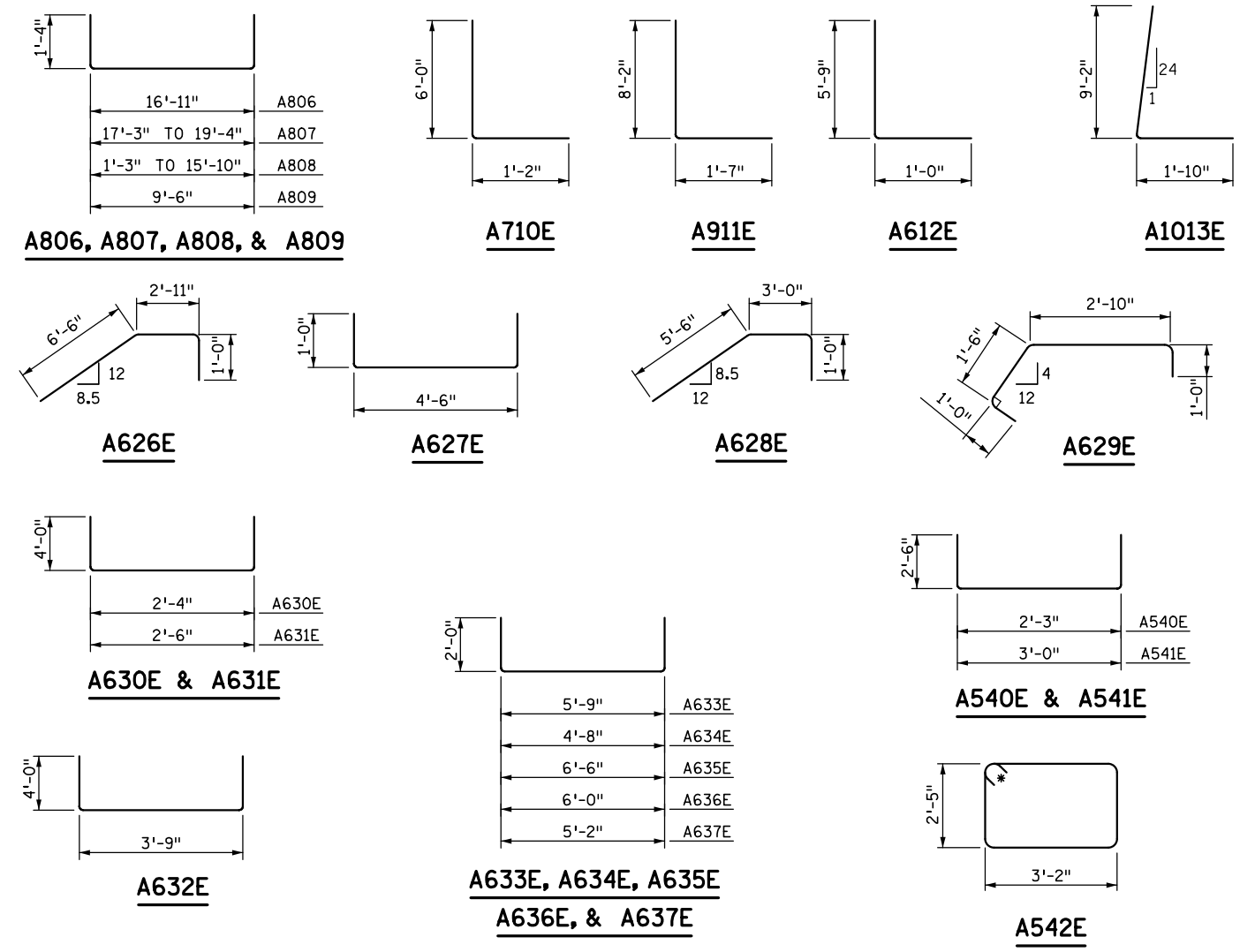


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BILL OF REINFORCEMENT - WEST ABUTMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
A601	36	60'-0"	—	FOOTING LONGITUDINAL TOP & BOTTOM
A602	36	47'-0"	—	FOOTING LONGITUDINAL TOP & BOTTOM
A603	20	25'-10"	—	FOOTING LONGITUDINAL TOP & BOTTOM
A604	40	14'-8"	—	FOOTING LONGITUDINAL TOP & BOTTOM
A605	8	8'-6"	—	FOOTING FILLET TOP & BOTTOM
A806	380	19'-7"	⌋	FOOTING TRANSVERSE TOP & BOTTOM
A807	8	SER. 1	⌋	FOOTING TRANSVERSE TOP & BOTTOM
A808	26	SER. 2	⌋	FOOTING TRANSVERSE TOP & BOTTOM
A809	206	12'-2"	⌋	FOOTING TRANSVERSE TOP & BOTTOM
A710E	98	7'-2"	⌋	FOOTING DOWEL FRONT FACE
A911E	186	9'-9"	⌋	FOOTING DOWEL BACK FACE
A612E	60	6'-9"	⌋	FOOTING DOWEL W.W. FRONT FACE
A1013E	80	11'-0"	⌋	FOOTING DOWEL W.W. BACK FACE
A719E	98	27'-4"	—	STEM VERTICAL FRONT FACE
A820E	98	26'-8"	—	STEM VERTICAL BACK FACE
A821E	88	11'-0"	—	STEM VERTICAL BACK FACE
A622E	69	21'-7"	—	STEM HORIZONTAL
A623E	78	26'-10"	—	STEM HORIZONTAL
A624E	78	24'-11"	—	STEM HORIZONTAL
A625E	234	7'-0"	—	STEM CONST. JOINT TIE
A626E	34	10'-5"	⌋	STEM TIE
A627E	35	6'-6"	⌋	STEM TIE
A628E	34	9'-6"	⌋	STEM TIE
A629E	35	6'-4"	⌋	STEM TIE
A630E	91	10'-4"	⌋	STEM TOP TIE
A631E	7	10'-6"	⌋	STEM TOP TIE
A632E	92	11'-9"	⌋	STEM BRIDGE SEAT TIE
A633E	3	9'-9"	⌋	STEM BRIDGE SEAT TIE
A634E	1	8'-8"	⌋	STEM BRIDGE SEAT TIE
A635E	1	10'-6"	⌋	STEM BRIDGE SEAT TIE
A636E	1	10'-0"	⌋	STEM BRIDGE SEAT TIE
A637E	1	9'-2"	⌋	STEM BRIDGE SEAT TIE
A540E	108	7'-3"	⌋	PEDESTAL TRANSVERSE
A541E	108	8'-0"	⌋	PEDESTAL LONGITUDINAL
A542E	18	12'-1"	⌋	PEDESTAL TIE
A644E	35	20'-8"	—	STEM HORIZONTAL FRONT FACE
A645E	34	20'-0"	—	STEM HORIZONTAL BACK FACE
A646E	5	SER. 3	—	STEM HORIZONTAL
A647E	4	SER. 4	—	STEM HORIZONTAL
A648E	5	SER. 5	—	STEM HORIZONTAL
A649E	4	SER. 6	—	STEM HORIZONTAL

BILL OF REINFORCEMENT - WEST ABUTMENT WINGWALLS				
BAR	NO.	LENGTH	SHAPE	LOCATION
A650E	22	32'-6"	—	NW WW VERTICAL - FRONT FACE
A651E	20	32'-10"	—	NW WW VERTICAL - EACH FACE
A852E	22	31'-2"	—	NW WW VERTICAL - BACK FACE
A853E	20	15'-0"	—	NW WW VERTICAL - BACK FACE
A655E	41	9'-7"	⌋	NW WW HORIZONTAL - FRONT FACE
A656E	41	20'-8"	—	NW WW HORIZONTAL - FRONT FACE
A657E	41	7'-0"	⌋	NW WW HORIZONTAL - FRONT FACE
A658E	41	17'-4"	—	NW WW HORIZONTAL - BACK FACE
A659E	34	8'-6"	—	NW WW CONSTRUCTION TIE - BACK FACE
A660E	7	12'-8"	⌋	NW WW HORIZONTAL - BACK FACE
A661E	50	3'-0"	⌋	NW WW END TIE
A662E	26	2'-6"	⌋	NW WW END TIE
A663E	6	2'-3"	⌋	NW WW END TIE
A566E	9	3'-8"	⌋	NW WW TOP TIE
A567E	15	6'-10"	⌋	NW WW TOP TIE
A568E	7	7'-2"	⌋	NW WW TOP TIE
A670E	22	31'-11"	—	SW WW VERTICAL - FRONT FACE
A671E	16	32'-4"	—	SW WW VERTICAL - EACH FACE
A872E	22	30'-7"	—	SW WW VERTICAL - BACK FACE
A873E	20	15'-0"	—	SW WW VERTICAL - BACK FACE
A675E	41	8'-2"	⌋	SW WW HORIZONTAL - FRONT FACE
A676E	41	20'-8"	—	SW WW HORIZONTAL - FRONT FACE
A677E	41	7'-0"	⌋	SW WW HORIZONTAL - FRONT FACE
A678E	41	17'-4"	—	SW WW HORIZONTAL - BACK FACE
A679E	34	8'-6"	—	SW WW CONSTRUCTION TIE - BACK FACE
A680E	7	11'-8"	⌋	SW WW HORIZONTAL - BACK FACE
A681E	50	3'-0"	⌋	SW WW END TIE
A682E	26	2'-6"	⌋	SW WW END TIE
A683E	6	2'-3"	⌋	SW WW END TIE
A586E	7	3'-8"	⌋	SW WW TOP TIE
A587E	15	6'-10"	⌋	SW WW TOP TIE
A588E	6	7'-2"	⌋	SW WW TOP TIE

BAR BENDING DIAGRAMS:



- SER. 1 = 2 SER. OF 4 BARS (19'-11" TO 22'-0")
- SER. 2 = 2 SER. OF 13 BARS (3'-11" TO 18'-6")
- SER. 3 = 1 SER. OF 5 BARS (20'-9" TO 21'-10")
- SER. 4 = 1 SER. OF 4 BARS (20'-9" TO 21'-4")
- SER. 5 = 1 SER. OF 5 BARS (20'-4" TO 21'-5")
- SER. 6 = 1 SER. OF 4 BARS (20'-10" TO 21'-5")

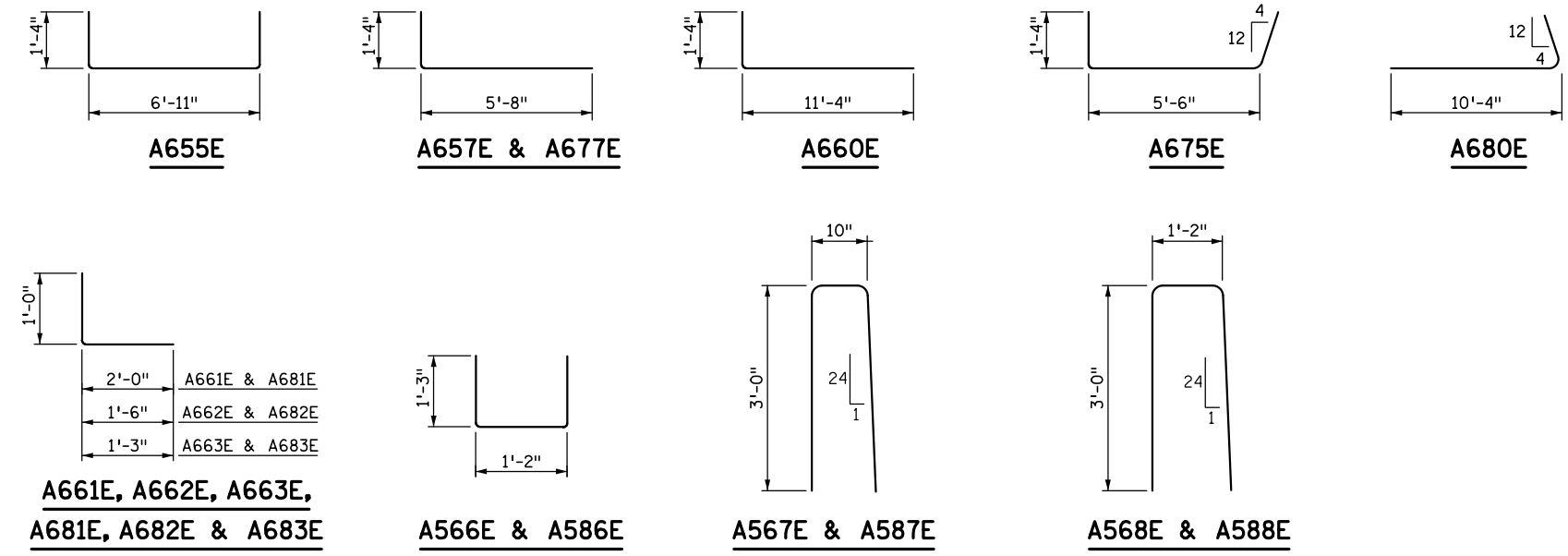
SUMMARY OF QUANTITIES FOR WEST ABUTMENT		
ITEM DESCRIPTION	UNIT	QUANTITY
STRUCTURAL CONCRETE (1G52)	CU YD	321
STRUCTURAL CONCRETE (3B52)	CU YD	592
REINFORCEMENT BARS	POUND	35,280
REINFORCEMENT BARS (EPOXY COATED)	POUND	65,300
ARCH SURFACE FINISH (SINGLE COLOR)	SQ FT	2,443
ARCH CONC TEXTURE (ASHLAR STONE)	SQ FT	2,443
C-I-P CONC TEST PILE 80 FT LONG 12"	EACH	3
C-I-P CONCRETE PILING 12"	LIN FT	5,250

① INCLUDES BRIDGE ELEMENTS WITH MASS CONCRETE REQUIREMENTS. SEE SPECIAL PROVISIONS.

BAR BENDING NOTES:

BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON THE DETAIL DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS.

* DENOTES STANDARD STIRRUP HOOK.



NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 WEST ABUTMENT BARLIST
 & QUANTITIES

DES: LJL	DR: HAP	APPROVED
CHK: ADL	CHK: LJL	
SHEET NO. 15 OF 66 SHEETS		

BRIDGE NO.
 02584

DATE: 11/19/2020 TIME: 4:08:18 PM
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EAST ABUTMENT COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD & EARTH PRESSURE	88.1
FACTORED LIVE LOAD	7.9
* FACTORED DESIGN LOAD	96.0

* BASED ON STRENGTH I LOAD COMBINATION

EAST ABUTMENT REQUIRED NOMINAL PILE BEARING RESISTANCE FOR CIP PILES R_n - TONS/PILE		
FIELD CONTROL METHOD	ϕ_{dyn}	** R_n
MnDOT PILE FORMULA 2012 (MPF12)	0.50	192.0
$R_n = 20 \sqrt{\frac{W \times H}{1000}} \times \log\left(\frac{10}{S}\right)$		
PDA	0.65	147.7

** R_n = (FACTORED DESIGN LOAD) / ϕ_{dyn}

EAST ABUTMENT COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD & EARTH PRESSURE	88.1
FACTORED DOWNDRAW	56.0
*** FACTORED DEAD LOAD + EARTH PRESSURE + DOWNDRAW	144.1

*** BASED ON STRENGTH I LOAD COMBINATION, NOT INCLUDING TRANSIENT LOADS. ONLY USED FOR COMPARISON WITH FACTORED STRUCTURAL RESISTANCE. NOT TO BE USED FOR DRIVING.

PILE NOTES:

PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.

PILES TO HAVE A NOMINAL DIAMETER OF 12" AND 1/4" WALL THICKNESS.

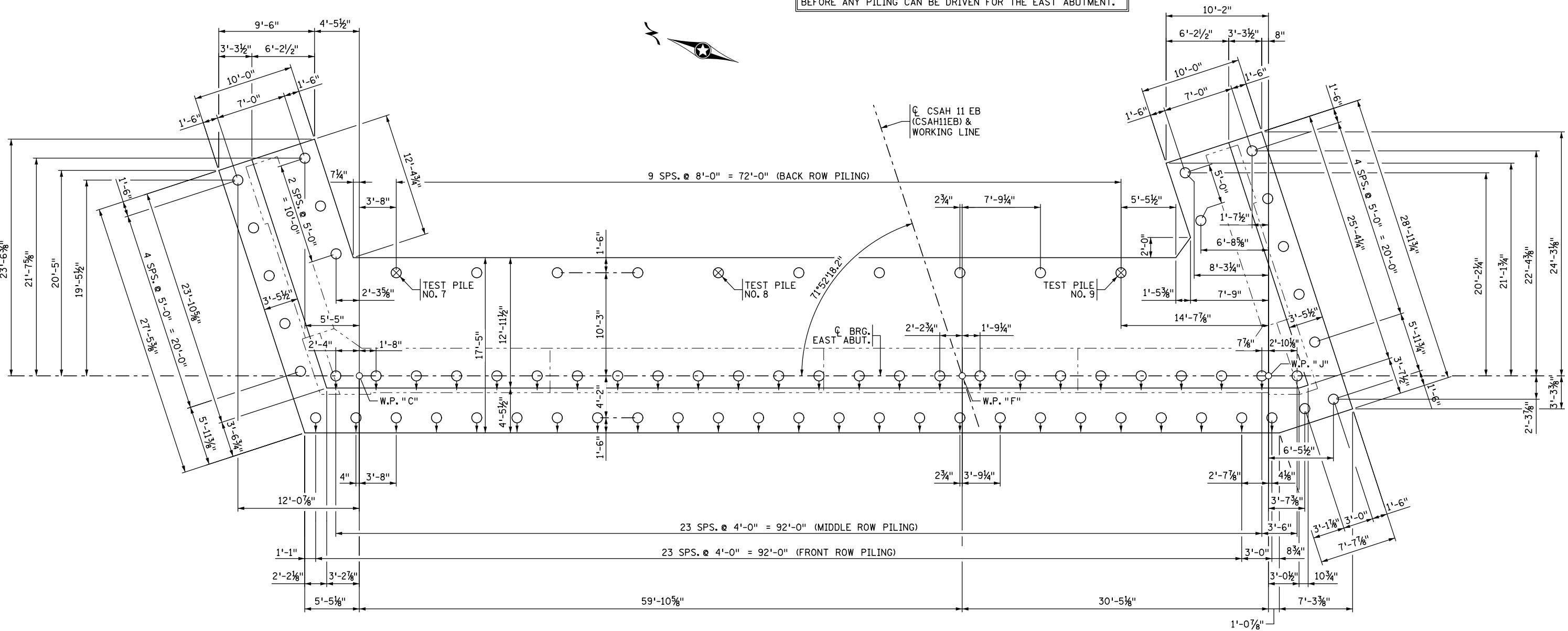
PILES MARKED $\odot \rightarrow$ ARE BATTERED 3 INCHES PER FOOT IN THE DIRECTION SHOWN.

ALL PILE SPLICES TO BE WELDED. FOR PILE SPLICE DETAILS SEE STANDARD DETAIL B201.

3 CAST-IN-PLACE CONCRETE TEST PILE 90 FT. LONG.
 74 CAST-IN-PLACE CONCRETE PILES EST. LENGTH 80 FT.
 77 CAST-IN-PLACE CONCRETE PILES REQ'D FOR EAST ABUT.

CONTRACTOR SHALL PREDRILL TO THE INVERT ELEVATION OF THE MCES UTILITY TO REDUCE VIBRATIONS. THE DIAMETER OF THE PREDRILL MUST BE SMALLER THAN THE PILE. ALL PREDRILLING IS INCIDENTAL TO PILING PAY ITEMS.

THE SELECT GRADING MATERIAL SHOWN IN THE ROADWAY PLANS ON STANDARD 5-297.233 SHALL BE PLACED BY THE CONTRACTOR BEFORE ANY PILING CAN BE DRIVEN FOR THE EAST ABUTMENT.



NORTH END

EAST ABUTMENT FOOTING PLAN & PILE LAYOUT

SOUTH END

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

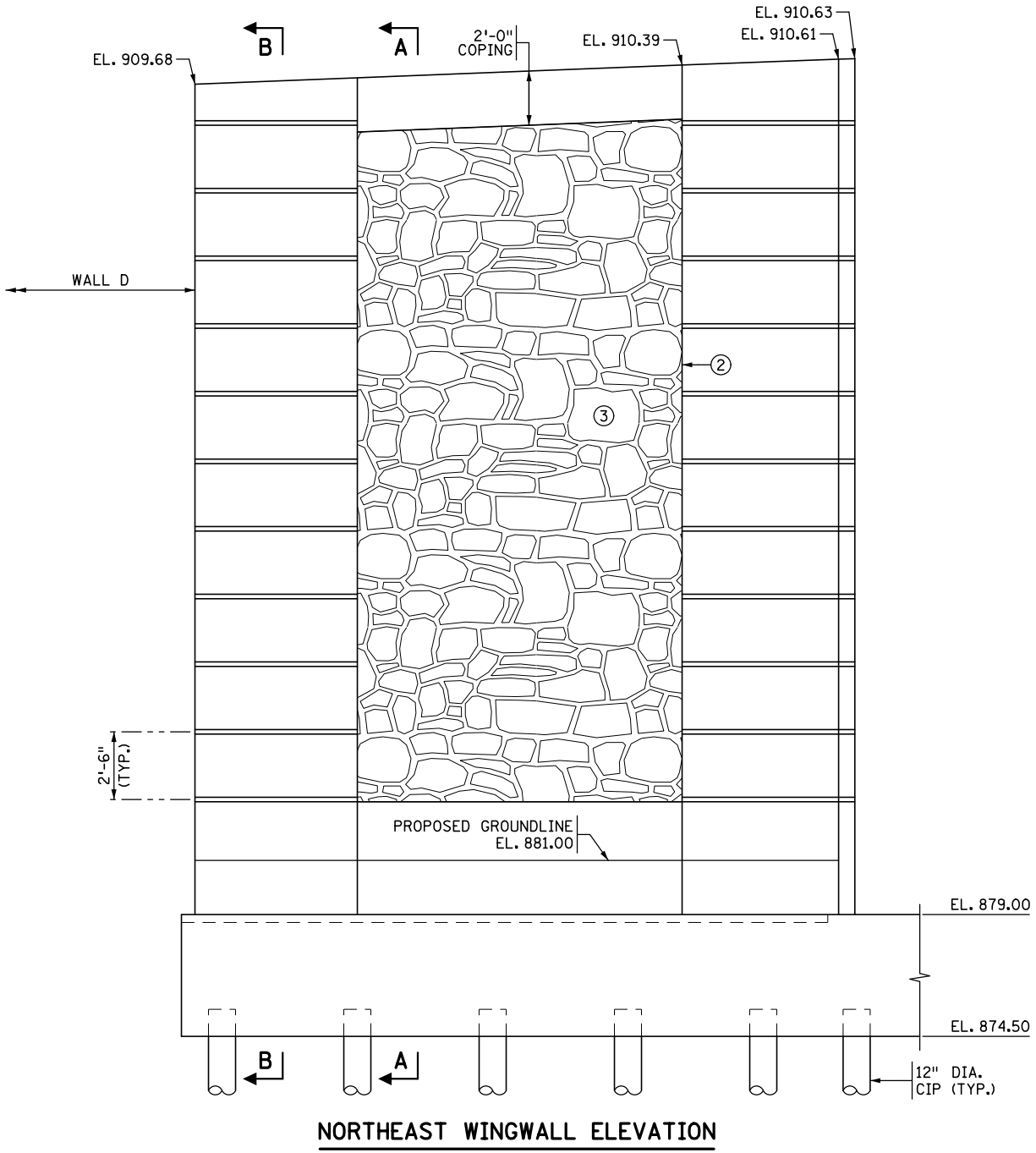
TITLE:
 EAST ABUTMENT
 FTG. PLAN & PILE LAYOUT

DES: LJL	DR: LJL	APPROVED
CHK: ADL	CHK: ADL	
SHEET NO. 16 OF 66 SHEETS		

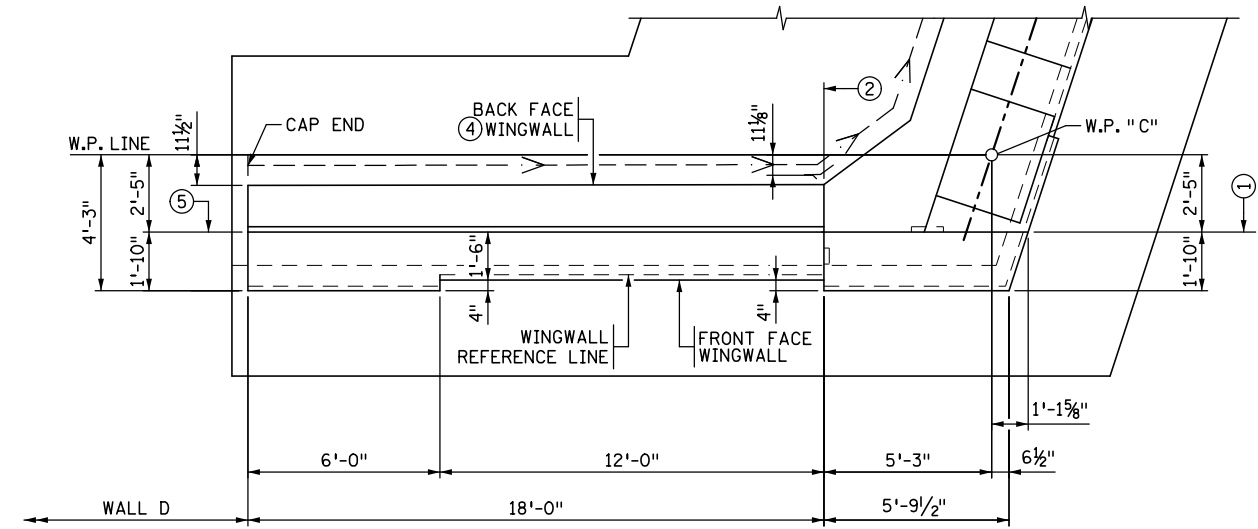
BRIDGE NO.
02584

DATE: 11/19/2020 TIME: 4:02:28 PM
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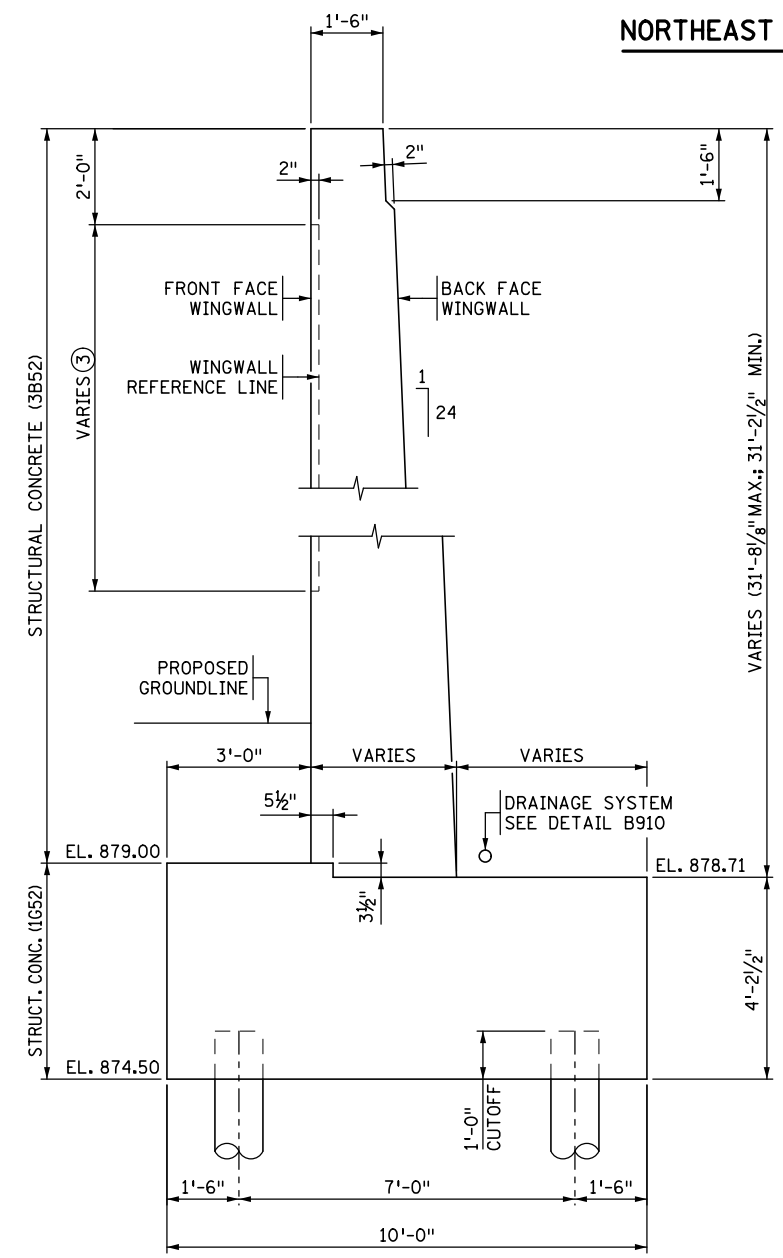
- NOTES:**
- ① CONSTRUCTION JOINT WITH 2" X 12" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B.⑥
 - ② CONSTRUCTION JOINT WITH 2" X 6" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B.⑥
 - ③ ARCHITECTURAL CONCRETE TEXTURE (ASHLAR STONE), ARCHITECTURAL SURFACE FINISH (SINGLE COLOR).
 - ④ BACK FACE OF SLOPED WINGWALL AT TOP OF FOOTING.
 - ⑤ BACK FACE OF SLOPED WINGWALL AT TOP OF WINGWALL.
 - ⑥ LOCATION OF KEYWAY IS PLACED IN THE MIDDLE THIRD OF THE MEMBER AND STARTS APPROXIMATELY 6" FROM THE TOP OF FOOTING AND ENDS 6" BELOW LOWEST MEMBER.



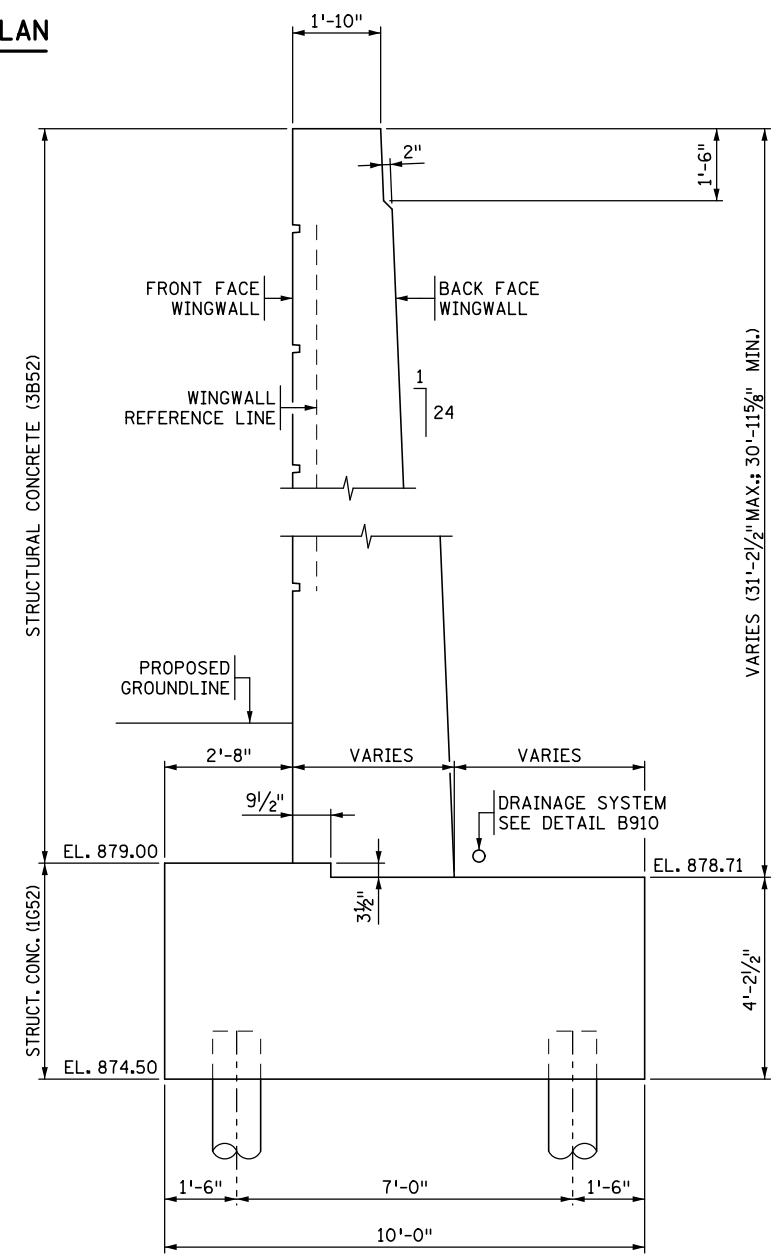
NORTHEAST WINGWALL ELEVATION



NORTHEAST WINGWALL PLAN



SECTION A-A



SECTION B-B

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

TKDA
 444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **NORTHEAST WINGWALL
 PLAN AND ELEVATION**

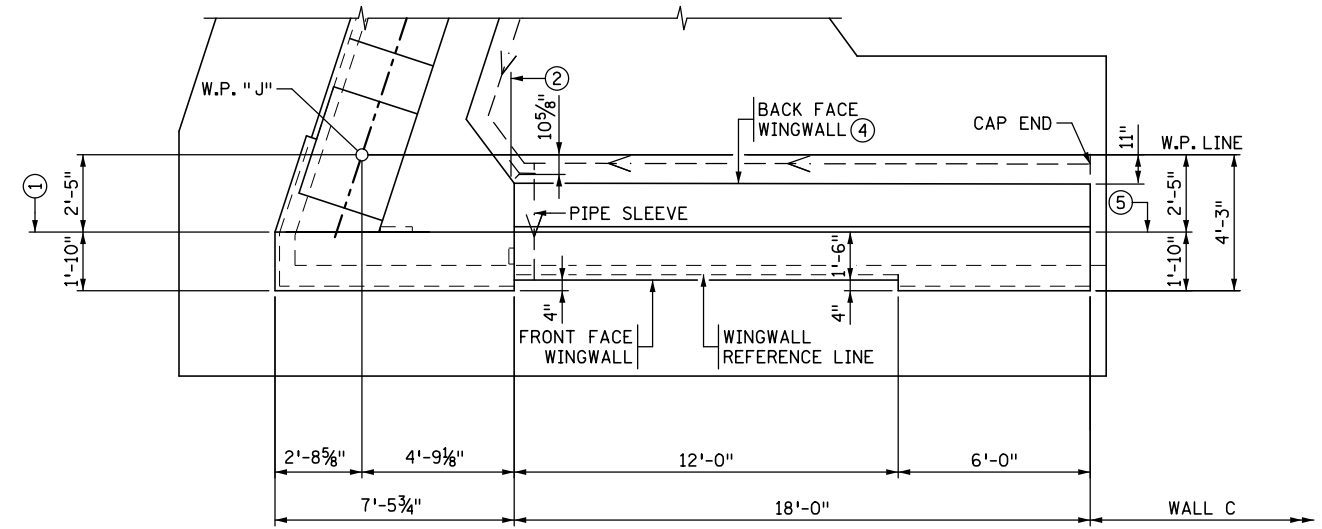
DES: L J L	DR: L J L	APPROVED
CHK: ADL	CHK: ADL	
SHEET NO. 18 OF 66 SHEETS		

BRIDGE NO.
02584

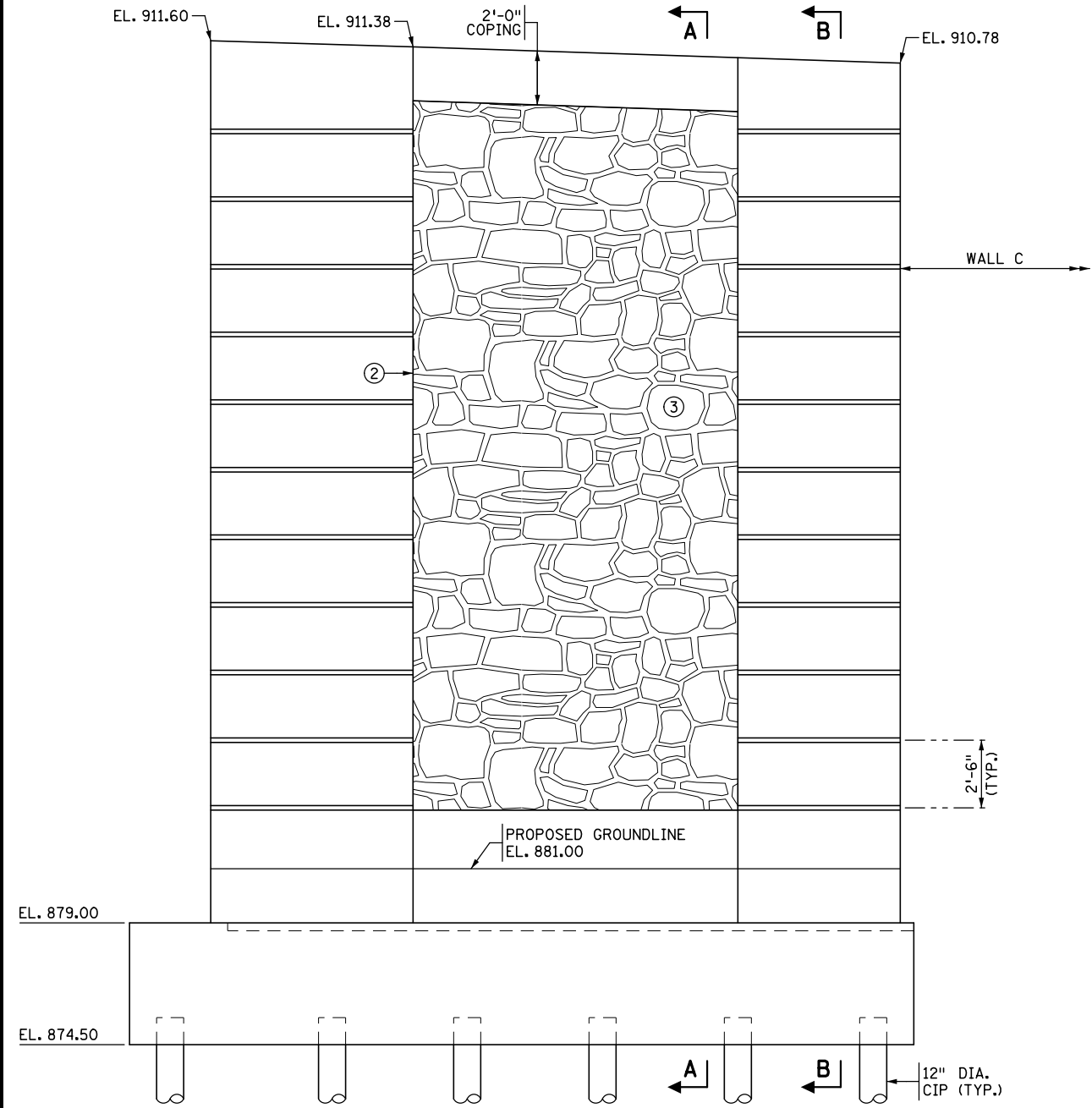
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NOTES:

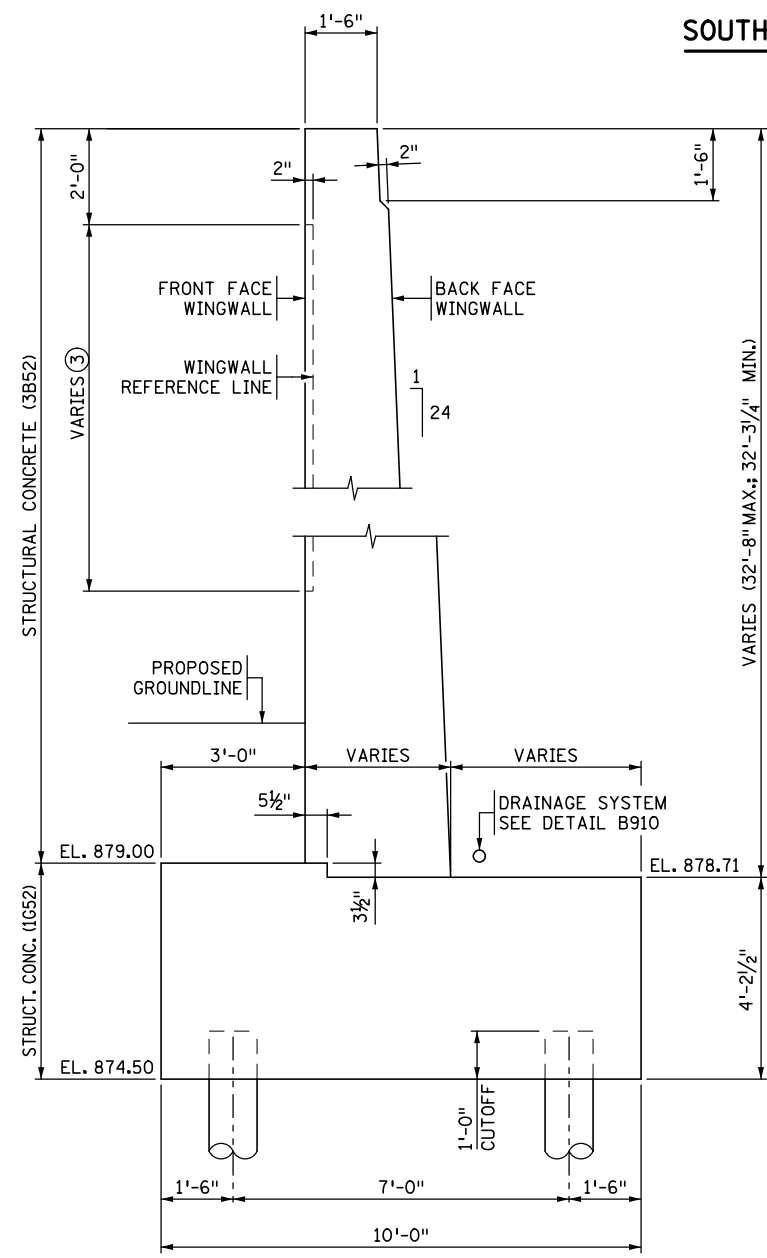
- ① CONSTRUCTION JOINT WITH 2" X 12" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B. ⑥
- ② CONSTRUCTION JOINT WITH 2" X 6" KEYWAY. INCLUDES MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B. ⑥
- ③ ARCHITECTURAL CONCRETE TEXTURE (ASHLAR STONE), ARCHITECTURAL SURFACE FINISH (SINGLE COLOR).
- ④ BACK FACE OF SLOPED WINGWALL AT TOP OF FOOTING.
- ⑤ BACK FACE OF SLOPED WINGWALL AT TOP OF WINGWALL.
- ⑥ LOCATION OF KEYWAY IS PLACED IN THE MIDDLE THIRD OF THE MEMBER AND STARTS APPROXIMATELY 6" FROM THE TOP OF FOOTING AND ENDS 6" BELOW LOWEST MEMBER.



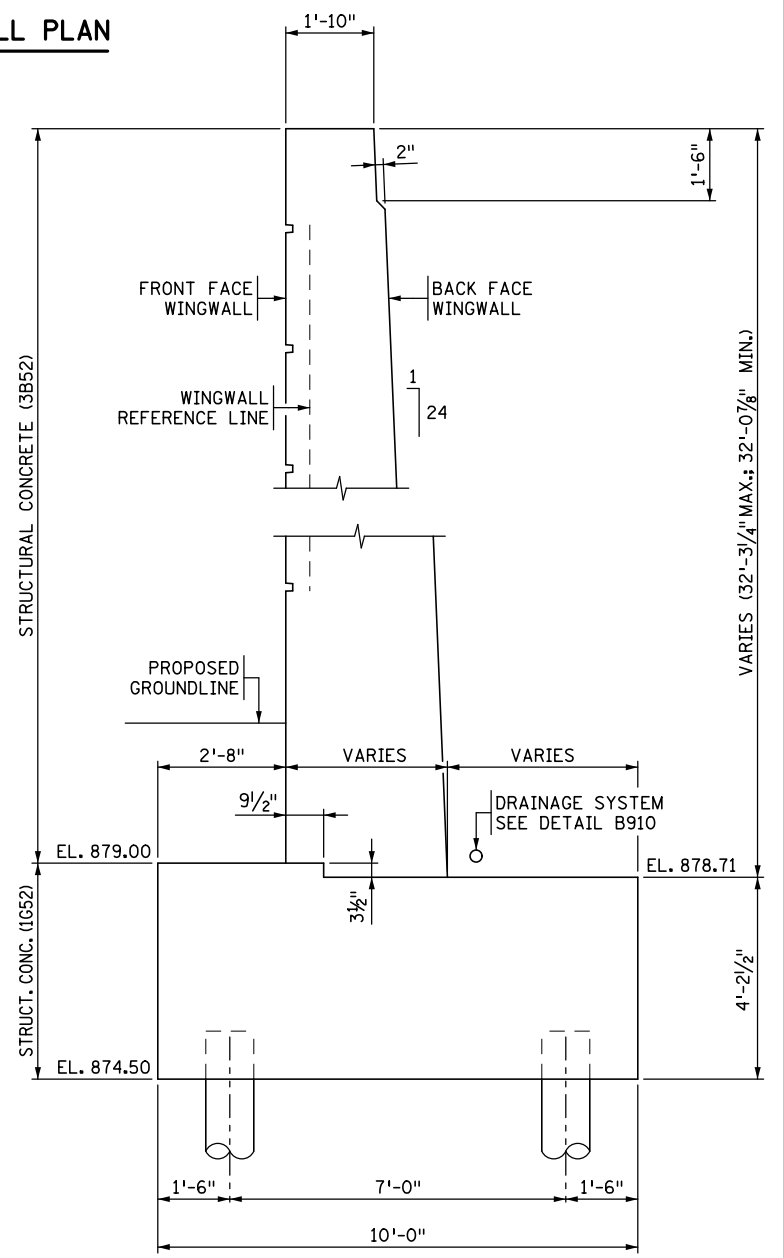
SOUTHEAST WINGWALL PLAN



SOUTHEAST WINGWALL ELEVATION



SECTION A-A



SECTION B-B

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



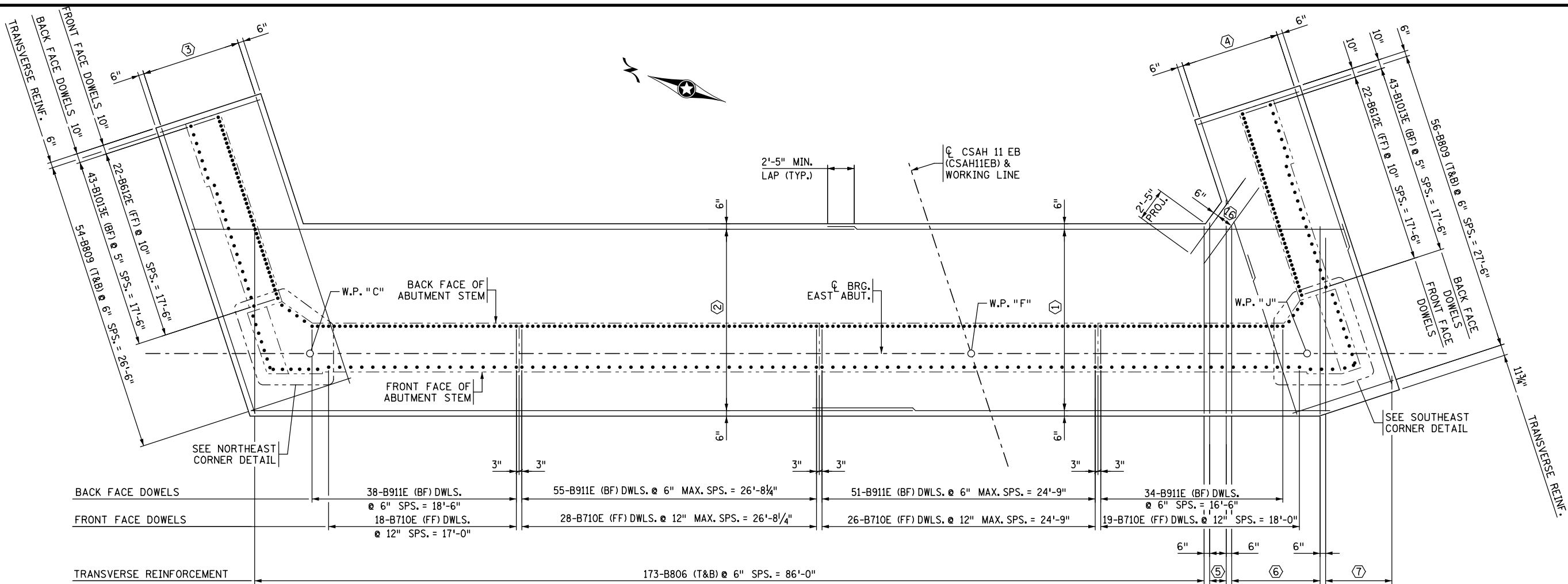
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **SOUTHEAST WINGWALL PLAN AND ELEVATION**

DES: L.J.L. DR: L.J.L. APPROVED
 CHK: A.D.L. CHK: A.D.L.
 SHEET NO. 19 OF 66 SHEETS

BRIDGE NO. **02584**

DATE: 11/19/2020 TIME: 4:03:38 PM
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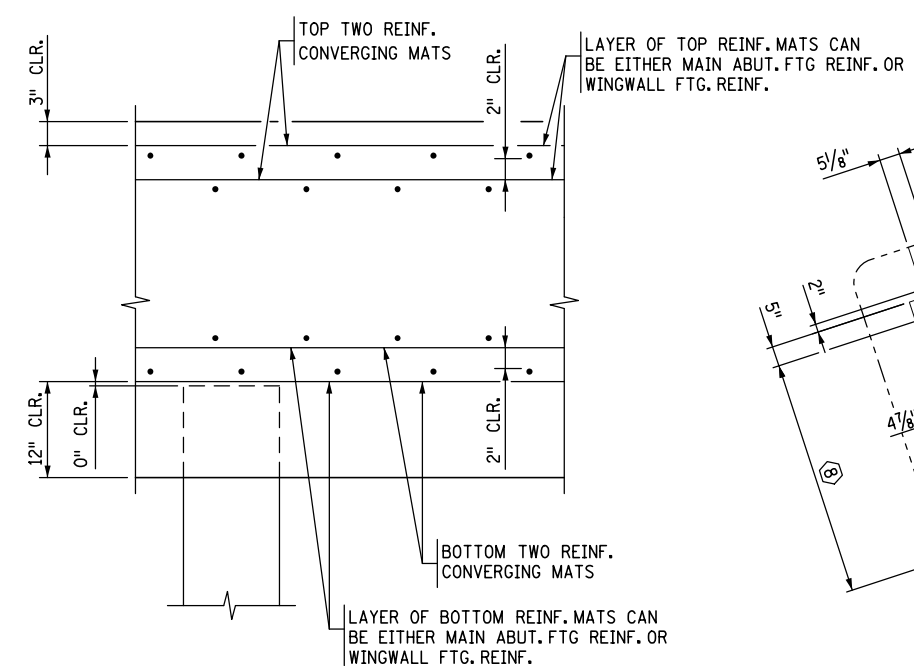
NOTES:

TOP MAT FOOTING REINFORCEMENT SHALL BE ADJUSTED TO FACILITATE ACCURATE PLACEMENT OF FOOTING DOWELS.

BAR CALL-OUTS:

- ① 18-B602 (T&B) @ 12" MAX. SPS. = 16'-5".
- ② 18-B601 (T&B) @ 12" MAX. SPS. = 16'-5".
- ③ 10-B603 (T&B) @ 12" SPS. = 9'-0".
- ④ 20-B604 (T&B) (PLACED IN PAIRS) @ 12" SPS. = 9'-0".
- ⑤ 1 SER. OF 4-B807 (T&B) @ 6" SPS. = 1'-6".
- ⑥ 17-B806 (T&B) @ 6" SPS. = 8'-0".
- ⑦ 1 SER. OF 13-B808 (T&B) @ 6" SPS. = 6'-0".
- ⑧ 7-B612E (FF) @ 10" SPS. = 5'-0".
- ⑨ 2-B612E (FF) @ 10" SPS.
- ⑩ 4-B710E (FF) @ 12" MAX. SPS. = 2'-5".
- ⑪ 4-B911E (BF) @ 10" SPS. = 2'-6".
- ⑫ 9-B612E (FF) @ 10" MAX. SPS. = 6'-6".
- ⑬ 3-B710E (FF) @ 12" SPS. = 2'-0".
- ⑭ 2-B612E @ 10" SPS.
- ⑮ 4-B911E (BF) @ 8" SPS. = 2'-0".
- ⑯ 4-B605 (T&B) @ 6" SPS. = 1'-6".

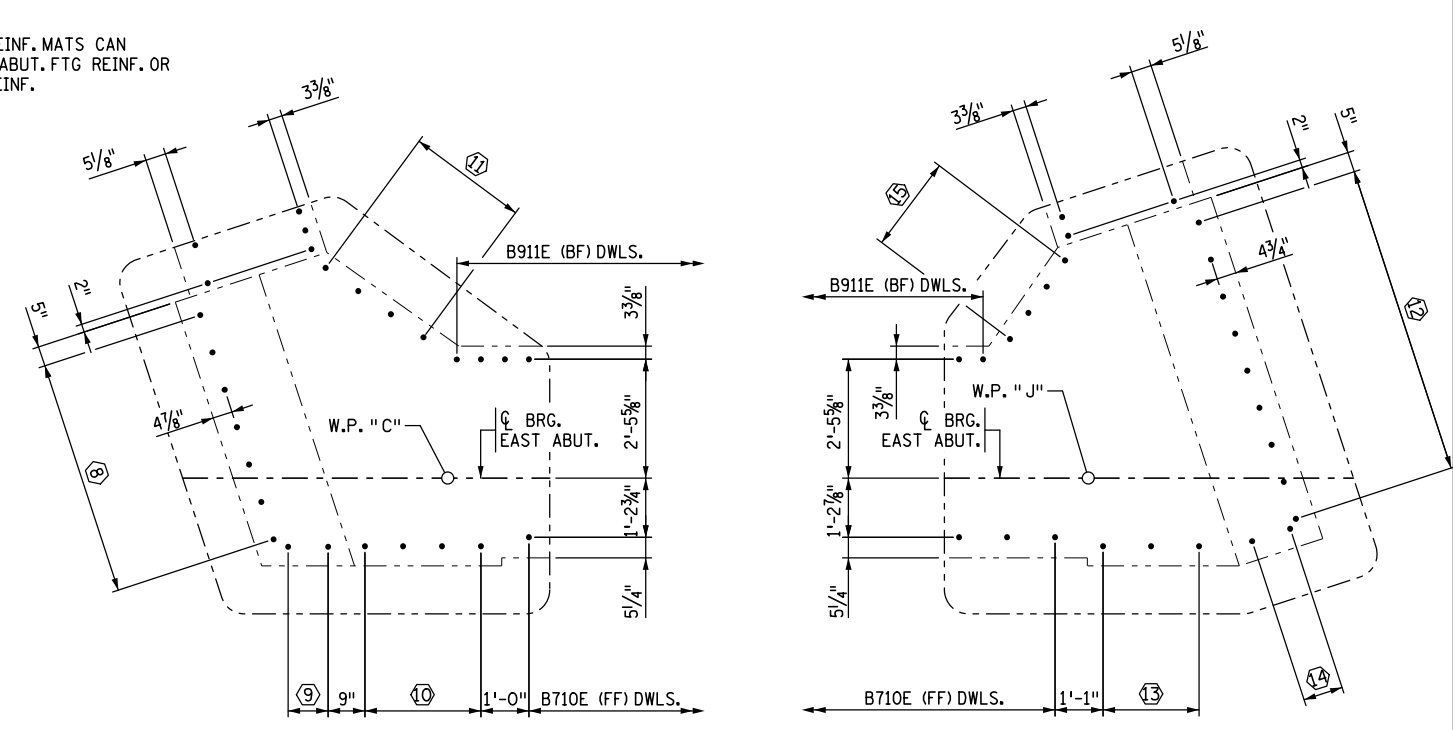
EAST ABUTMENT FOOTING REINFORCEMENT



DOUBLE MAT DETAIL

SHALL BE IMPLEMENTED WHERE REINFORCEMENT MATS CONVERGE FROM WINGWALL FOOTING AREA INTO ABUTMENT SEAT FOOTING AREA AT CORNER AS DEPICTED IN THE FOOTING REINFORCEMENT PLAN.

SOUTH END

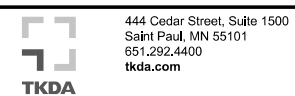


NORTHEAST CORNER DETAIL

SOUTHEAST CORNER DETAIL

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ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

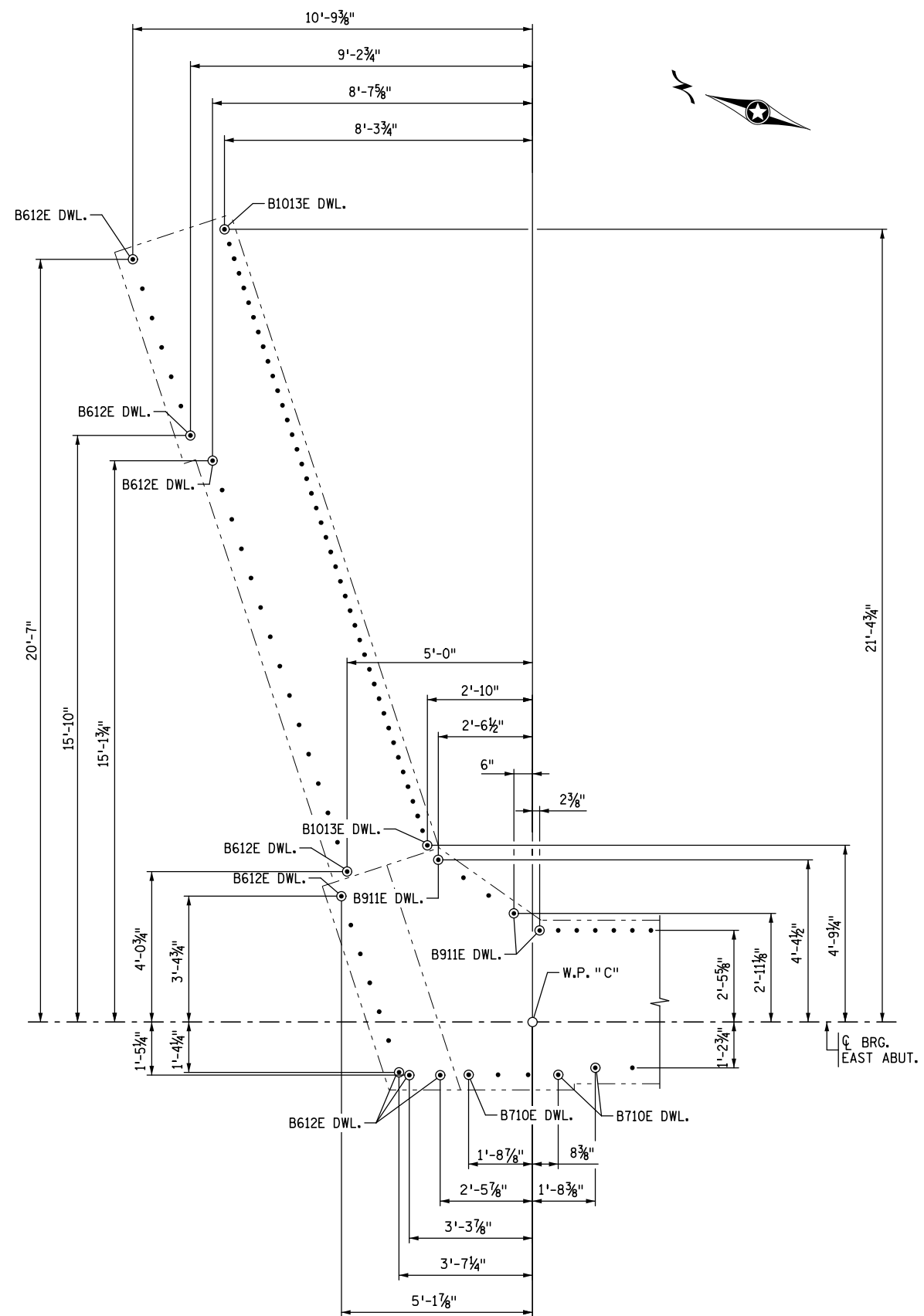
TITLE: **EAST ABUTMENT FOOTING REINFORCEMENT**

DES: L.J.L.	DR: H.A.P.	APPROVED
CHK: A.D.L.	CHK: L.J.L.	

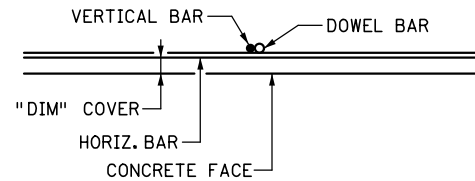
SHEET NO. 20 OF 66 SHEETS

BRIDGE NO. **02584**

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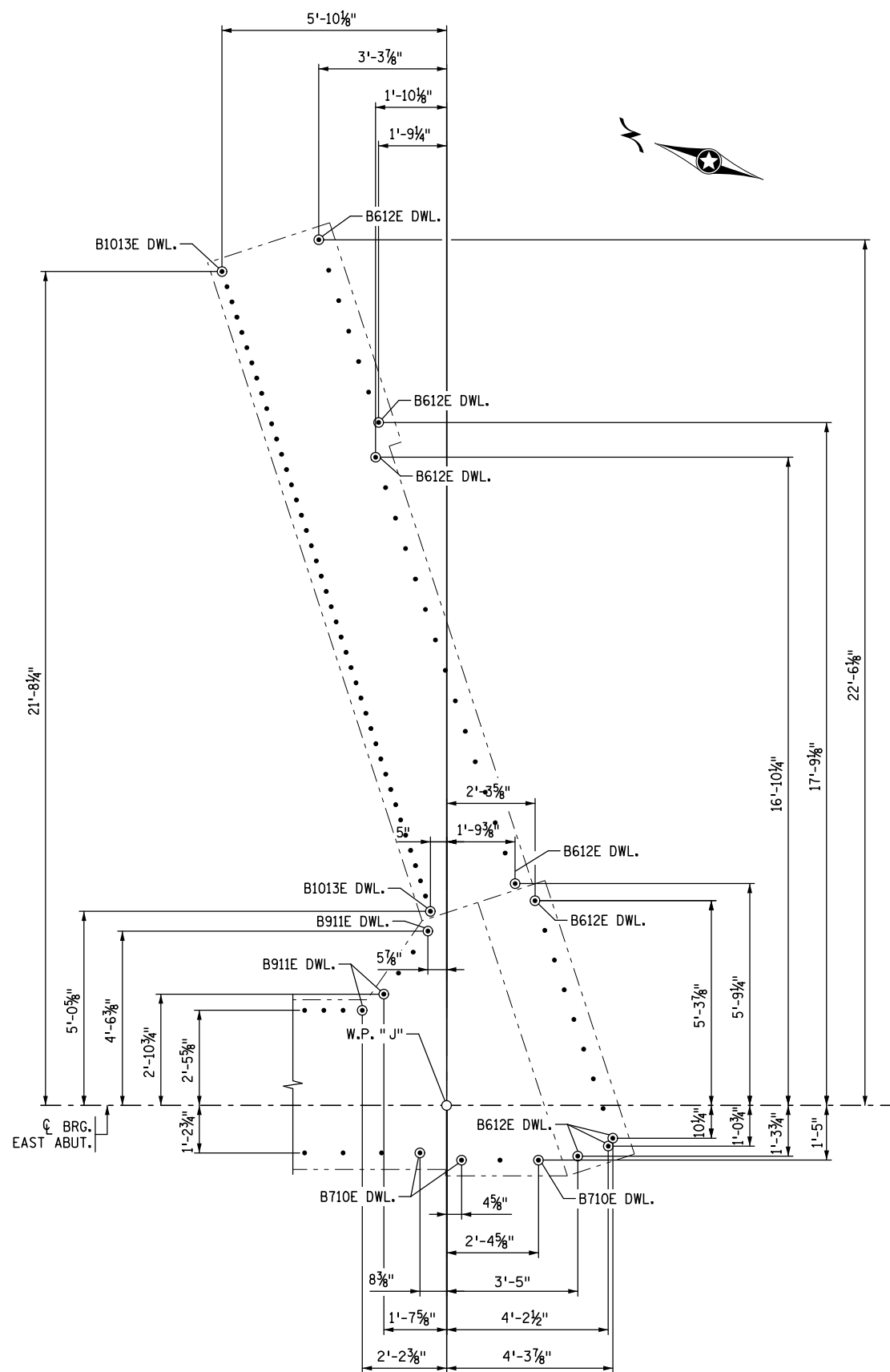


NORTHEAST CORNER AND WINGWALL



TYPICAL BAR PLACEMENT

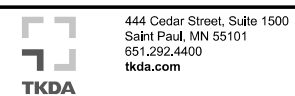
LOCATION	"DIM" COVER
ABUT. BACK FACE	2"
ABUT. FRONT FACE	4"
WINGWALL BACK FACE	2"
WINGWALL FRONT FACE	4"
PILASTER FRONT FACE	3 3/4"



SOUTHEAST CORNER AND WINGWALL

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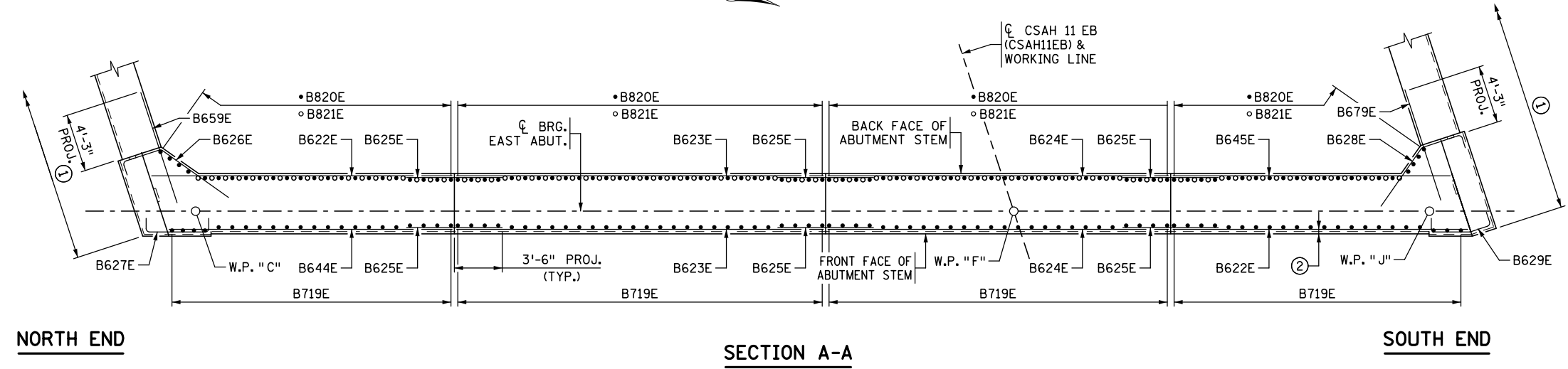
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 EAST ABUTMENT FOOTING
 REINFORCEMENT DETAILS

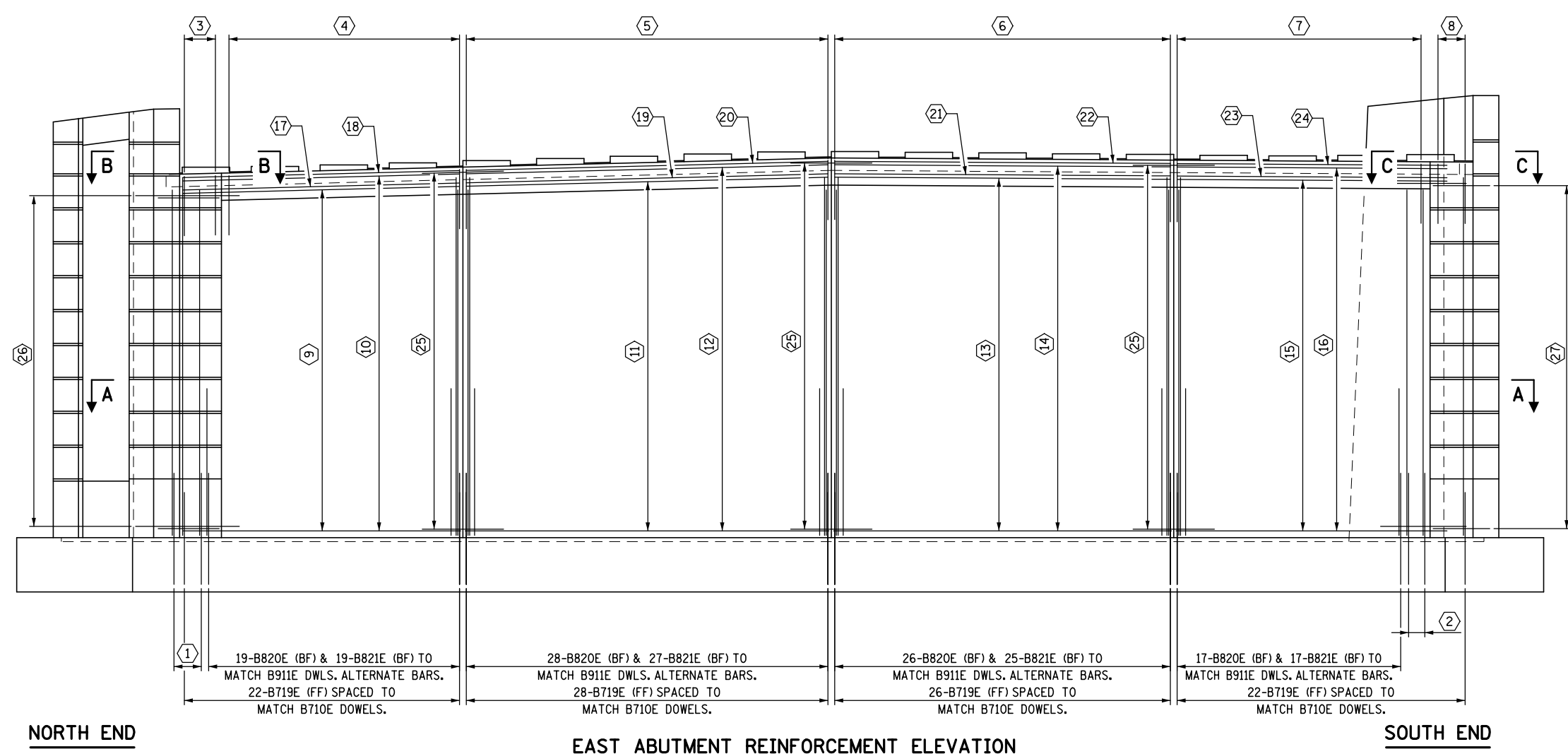
DES: L.JL DR: HAP APPROVED
 CHK: ADL CHK: L.JL
 SHEET NO. 21 OF 66 SHEETS

BRIDGE NO.
 02584

DATE: 11/19/2020 TIME: 4:10:48 PM
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- BAR CALL-OUTS:**
- ① 4-B820E (BF) SPACED TO MATCH B911E DOWELS.
 - ② 4-B820E (BF) SPACED TO MATCH B911E DOWELS.
 - ③ 3-B633E, 1-B634E, AND 1-B632E BRIDGE SEAT TIES AND 4-B631E TOP TIES. PLACE TO MATCH B719E (FF). SEE SECTION B-B FOR FURTHER PLACEMENT INFORMATION.
 - ④ 18-B632E BRIDGE SEAT TIES & 18-B630E TOP TIES SPACED TO MATCH B719E (FF).
 - ⑤ 28-B632E BRIDGE SEAT TIES & 28-B630E TOP TIES SPACED TO MATCH B719E (FF).
 - ⑥ 26-B632E BRIDGE SEAT TIES & 26-B630E TOP TIES SPACED TO MATCH B719E (FF).
 - ⑦ 19-B632E BRIDGE SEAT TIES & 19-B630E TOP TIES SPACED TO MATCH B719E (FF).
 - ⑧ 1-B635E, 1-B636E, AND 1-B637E BRIDGE SEAT TIES AND 3-B631E TOP TIES. PLACE TO MATCH B719E (FF). SEE SECTION C-C FOR FURTHER PLACEMENT INFORMATION.
 - ⑨ 33-B622E (BF) SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑩ 34-B644E (FF) SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑪ 33-B623E (BF) SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑫ 34-B623E (FF) SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑬ 33-B624E (BF) SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑭ 34-B624E (FF) SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑮ 33-B645E (BF) SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑯ 34-B622E (FF) SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑰ 1 SER. OF 5-B646E SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑱ 1 SER. OF 4-B647E SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑲ 5-B623E SPACED AS SHOWN IN TYPICAL SECTION.
 - ⑳ 4-B623E SPACED AS SHOWN IN TYPICAL SECTION.
 - ㉑ 5-B624E SPACED AS SHOWN IN TYPICAL SECTION.
 - ㉒ 4-B624E SPACED AS SHOWN IN TYPICAL SECTION.
 - ㉓ 1 SER. OF 5-B648E SPACED AS SHOWN IN TYPICAL SECTION.
 - ㉔ 1 SER. OF 4-B649E SPACED AS SHOWN IN TYPICAL SECTION.
 - ㉕ 78-B625E SPACED TO MATCH HORIZONTAL REINFORCEMENT.
 - ㉖ 33-B626E TIES SPACED TO MATCH B622E (BF) & 34-B627E TIES SPACED TO MATCH B644E (FF).
 - ㉗ 33-B628E TIES SPACED TO MATCH B645E (BF) & 34-B629E TIES SPACED TO MATCH B622E (FF).



- NOTES:**
- FOR TYPICAL SECTION, SECTION B-B, AND SECTION C-C, SEE "EAST ABUTMENT REINFORCEMENT DETAILS" SHEET.
- ① FOR REINFORCEMENT IN WINGWALLS, SEE "NORTHEAST WINGWALL REINFORCEMENT" SHEET OR "SOUTHEAST WINGWALL REINFORCEMENT" SHEET.
 - ② 2" CLR FROM ABUTMENT REFERENCE LINE.
4" CLR. FROM FRONT FACE OF ABUTMENT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

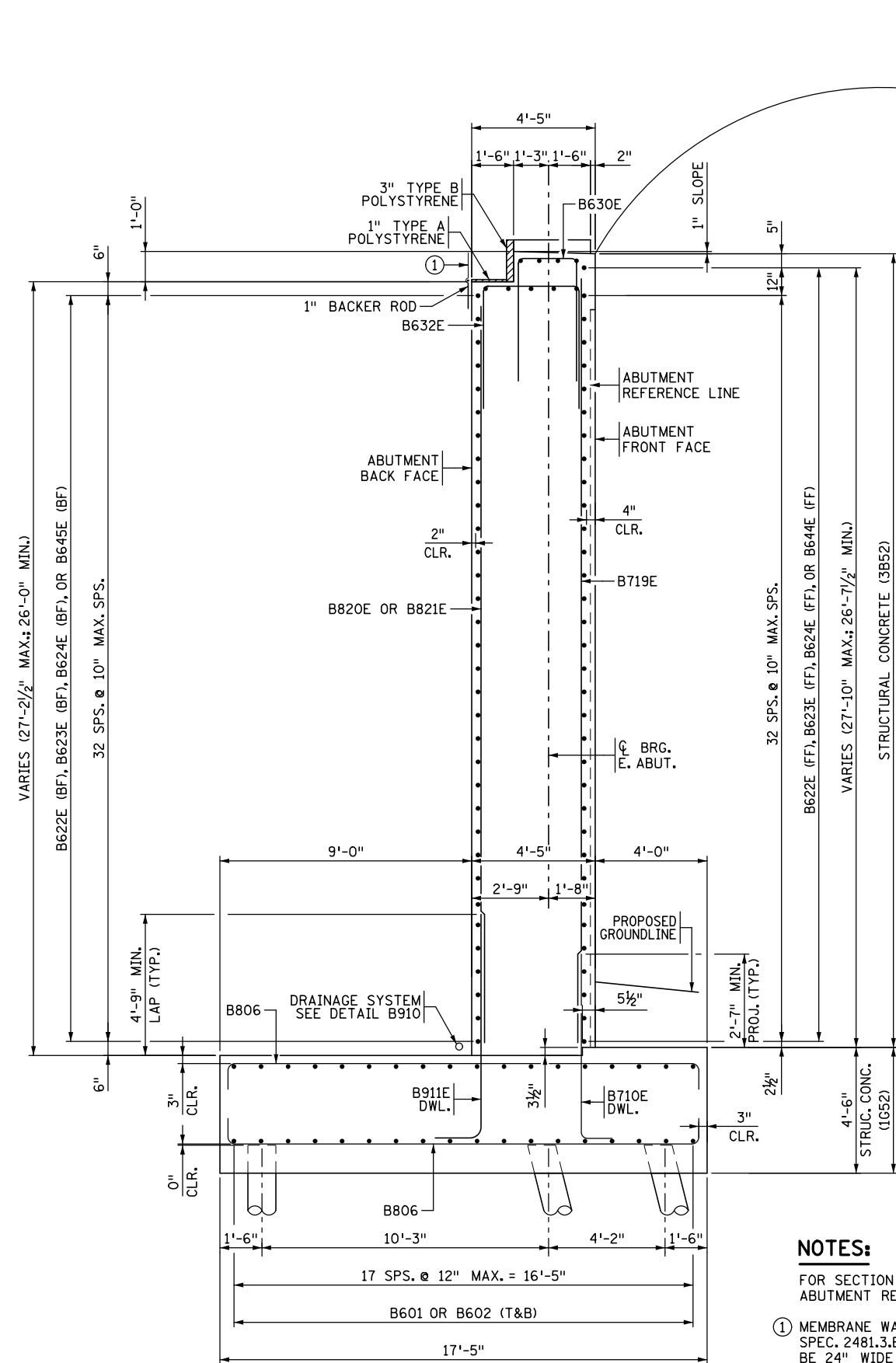


ANOKA COUNTY
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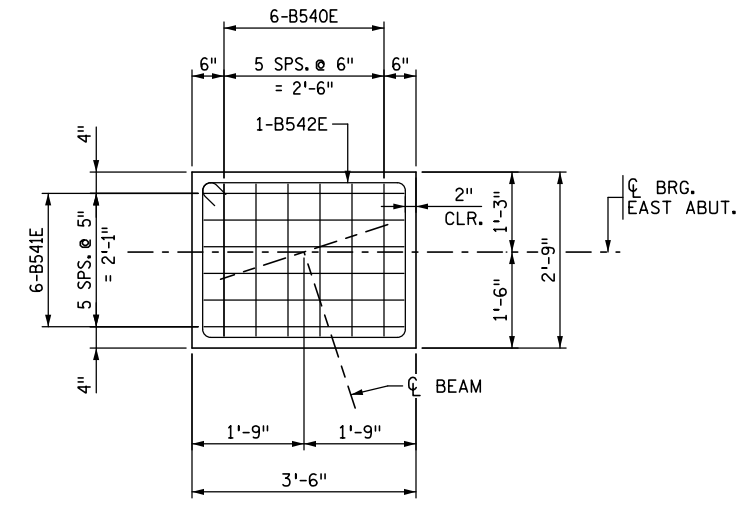
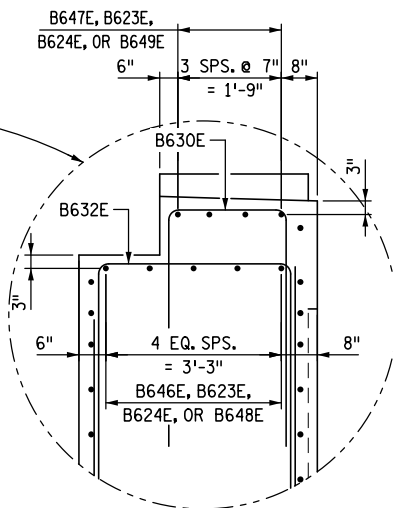
TITLE: EAST ABUTMENT REINFORCEMENT

DES: LJL	DR: HAP	APPROVED
CHK: ADL	CHK: LJL	
SHEET NO. 22 OF 66 SHEETS		

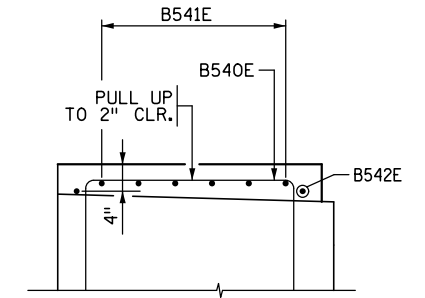
BRIDGE NO.
 02584



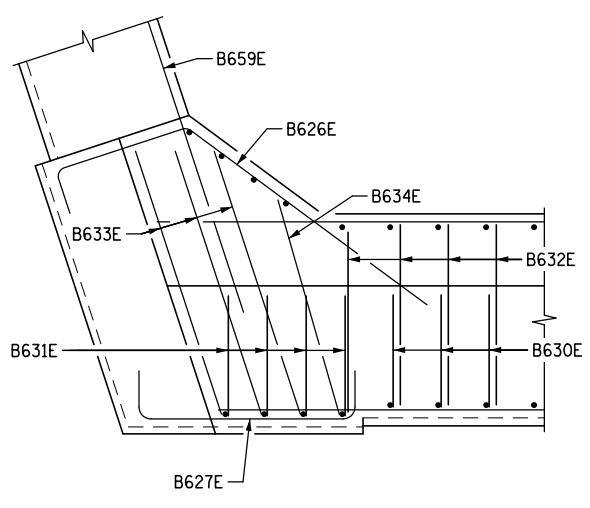
TYPICAL SECTION



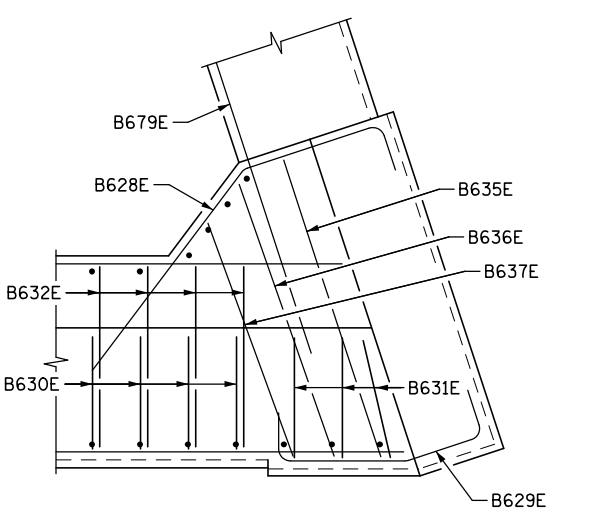
TYPICAL PEDESTAL
(18 THUS)



TYPICAL PEDESTAL SECTION



SECTION B-B

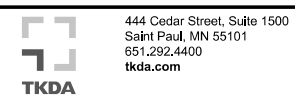


SECTION C-C

NOTES:
 FOR SECTION B-B AND C-C, SEE "EAST ABUTMENT REINFORCEMENT" SHEET.
 ① MEMBRANE WATERPROOFING SYSTEM PER SPEC. 2481.3.B EXCEPT THE STRIP SHALL BE 24" WIDE TO ALLOW MOVEMENT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: EAST ABUTMENT REINFORCEMENT DETAILS

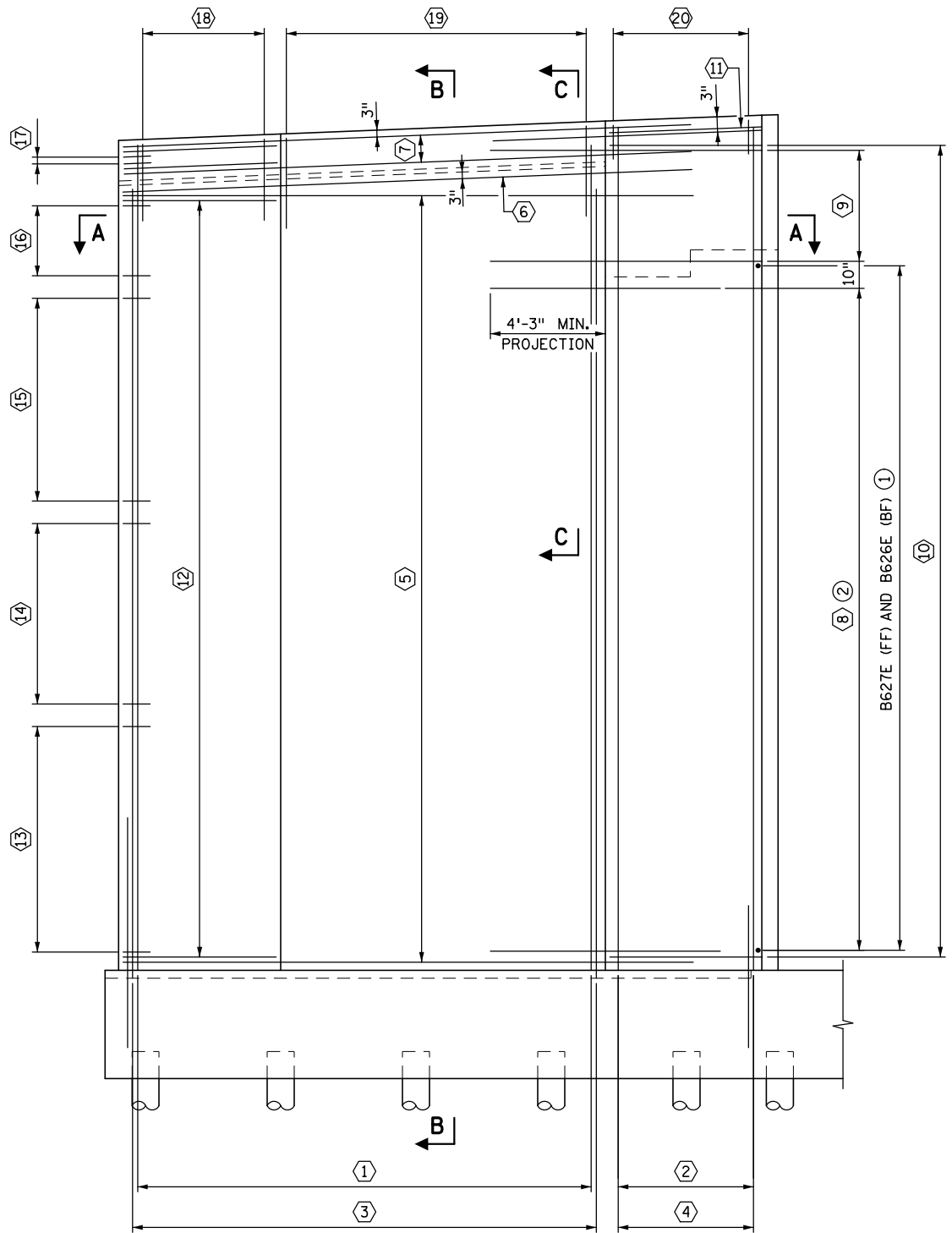
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CHK: ADL	CHK: LJJ	
SHEET NO. 23 OF 66 SHEETS		

BRIDGE NO.
 02584

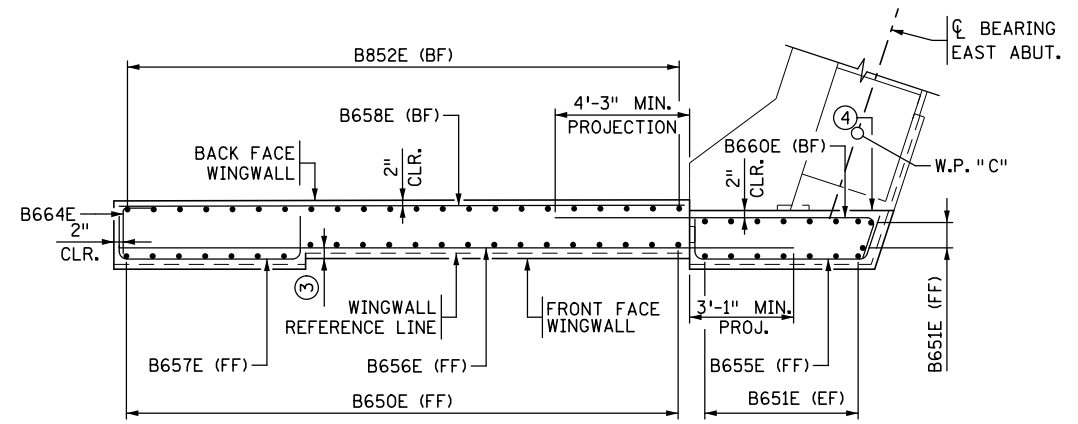
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BAR CALL-OUTS:

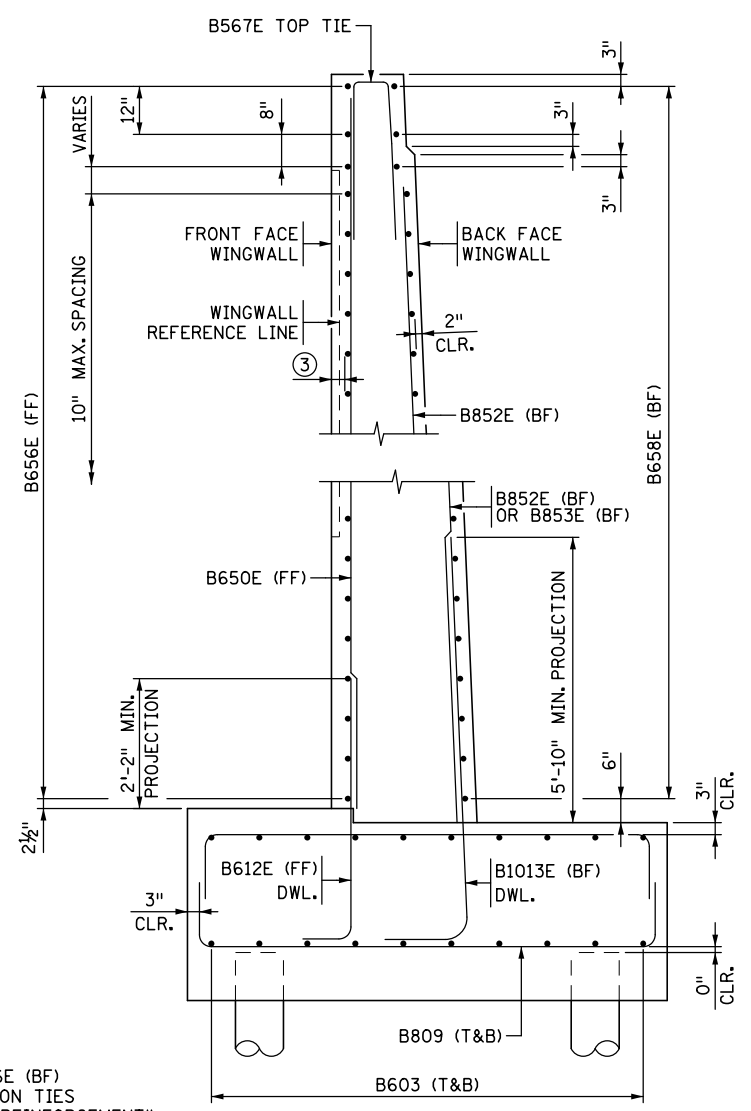
- ① 22-B650E (FF) SPACED TO MATCH B612E (FF) DWLS.
- ② 9-B651E (FF) SPACED TO MATCH B612E (FF) DWLS.
- ③ 22-B852E (BF) & 21-B853E (BF) ALTERNATE BARS, SPACED TO MATCH B1013E (BF) DWLS.
- ④ 7-B651E (BF) SPACED TO MATCH B651E (FF).
- ⑤ 37-B656E (FF) & 37-B658E (BF) @ 10" MAX. SPS. = 28'-4".
- ⑥ 1-B656E (FF), 1-B657E (FF) & 1-B658E (BF).
- ⑦ 2-B656E (FF), 2-B657E (FF) & 2-B658E (BF) @ 12" SPS.
- ⑧ 33-B659E (BF) TO MATCH B626E (BF)
- ⑨ 6-B660E (BF) @ 10" SPS. = 4'-2".
- ⑩ 39-B655E (FF) TO MATCH B627E (FF) AND 10" MAX. SPS.
- ⑪ 1-B655E (FF) & 1-B660E (BF).
- ⑫ 37-B657E (FF) SPACED TO MATCH B656E (FF).
- ⑬ 11-B661E END TIES SPACED TO MATCH B657E (FF).
- ⑭ 11-B662E END TIES SPACED TO MATCH B657E (FF).
- ⑮ 11-B663E END TIES SPACED TO MATCH B657E (FF).
- ⑯ 5-B664E END TIES SPACED TO MATCH B657E (FF).
- ⑰ 2-B665E END TIES SPACED TO MATCH B657E (FF).
- ⑱ 7-B658E TOP TIES SPACED TO MATCH B650E (FF).
- ⑲ 15-B67E TOP TIES SPACED TO MATCH B650E (FF).
- ⑳ 7-B656E TOP TIES SPACED TO MATCH B651E (FF).



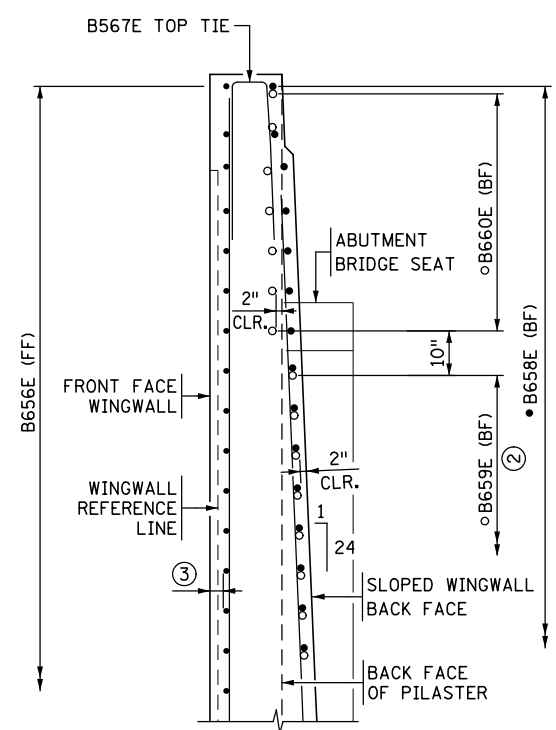
NORTHEAST WINGWALL REINFORCEMENT



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

- ① FOR B627E (FF) & B626E (BF) ABUTMENT CONSTRUCTION TIES SEE "EAST ABUTMENT REINFORCEMENT" FOR CALL-OUTS.
- ② B659E (BF) TO BE CAST WITH EAST ABUTMENT STEM CONSTRUCTION.
- ③ 2" CLR. FROM WINGWALL REFERENCE LINE.
4" CLR. FROM FRONT FACE OF WINGWALL.
- ④ BACK FACE OF PILASTER.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **NORTHEAST WINGWALL REINFORCEMENT**

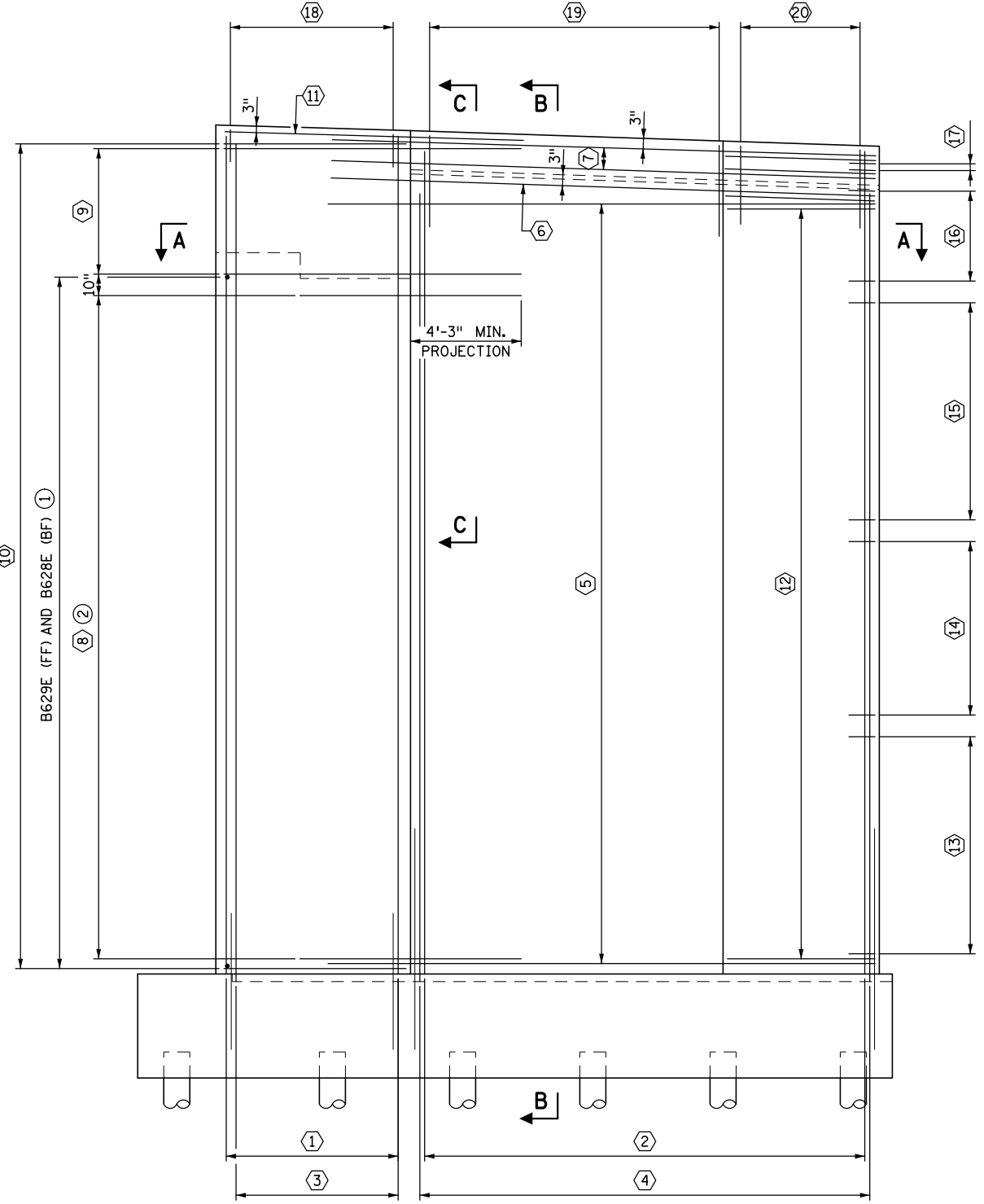
DES: L.J.L.	DR: ADL	APPROVED
CHK: ADL	CHK: L.J.L.	
SHEET NO. 24 OF 66 SHEETS		

BRIDGE NO.
02584

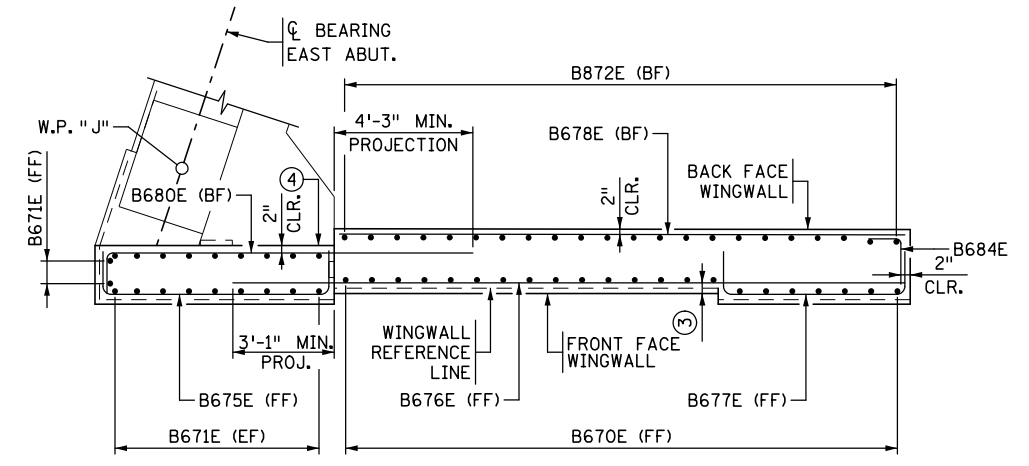
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BAR CALL-OUTS:

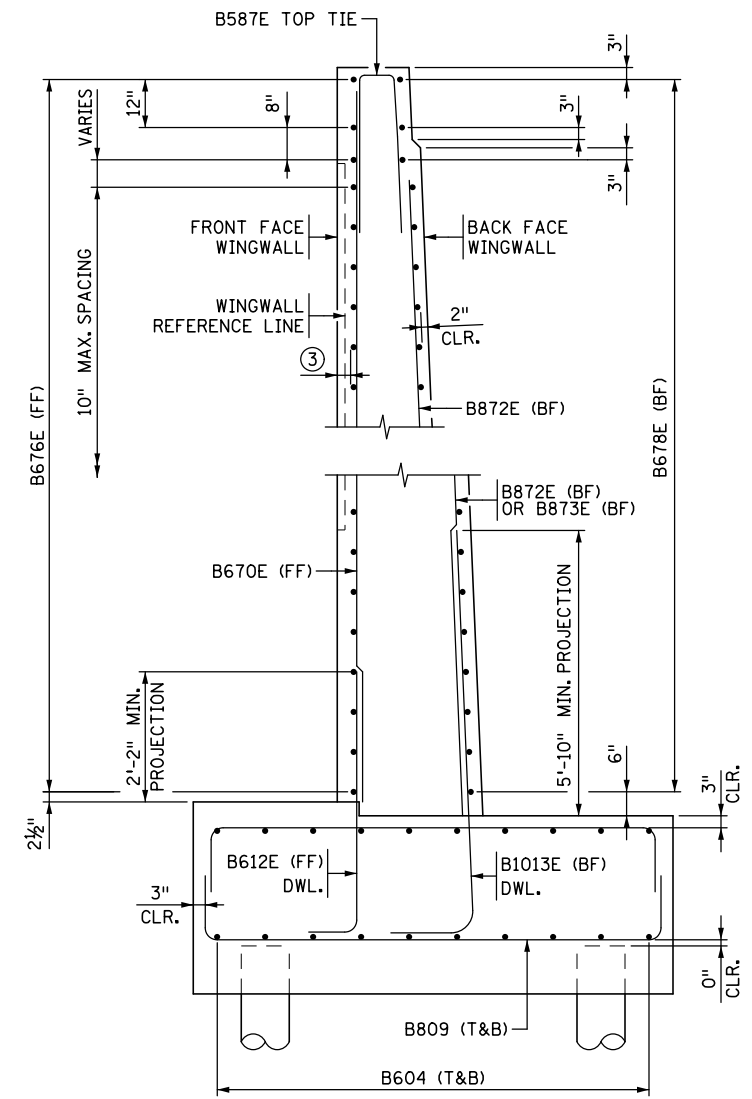
- ① 11-B671E (FF) SPACED TO MATCH B612E (FF) DWLS.
- ② 22-B670E (FF) SPACED TO MATCH B612E (FF) DWLS.
- ③ 9-B671E (BF) SPACED TO MATCH B671E (FF).
- ④ 22-B872E (BF) & 21-B873E (BF) ALTERNATE BARS, SPACED TO MATCH B1013E (BF) DWLS.
- ⑤ 37-B676E (FF) & 37-B678E (BF) @ 10" MAX. SPS. = 29'-2".
- ⑥ 1-B676E (FF), 1-B677E (FF) & 1-B678E (BF).
- ⑦ 2-B676E (FF), 2-B677E (FF) & 2-B678E (BF) @ 12" SPS.
- ⑧ 33-B679E (BF) TO MATCH B628E (BF).
- ⑨ 6-B680E (BF) @ 10" SPS. = 4'-2".
- ⑩ 39-B675E (FF) TO MATCH B629E (FF) AND @ 10" MAX. SPS.
- ⑪ 1-B675E (FF) & 1-B680E (BF).
- ⑫ 37-B677E (FF) SPACED TO MATCH B676E (FF).
- ⑬ 11-B681E END TIES SPACED TO MATCH B677E (FF).
- ⑭ 11-B682E END TIES SPACED TO MATCH B677E (FF).
- ⑮ 11-B683E END TIES SPACED TO MATCH B677E (FF).
- ⑯ 5-B684E END TIES SPACED TO MATCH B677E (FF).
- ⑰ 2-B685E END TIES SPACED TO MATCH B677E (FF).
- ⑱ 9-B586E TOP TIES SPACED TO MATCH B671E (FF).
- ⑲ 15-B587E TOP TIES SPACED TO MATCH B670E (FF).
- ⑳ 7-B588E TOP TIES SPACED TO MATCH B670E (FF).



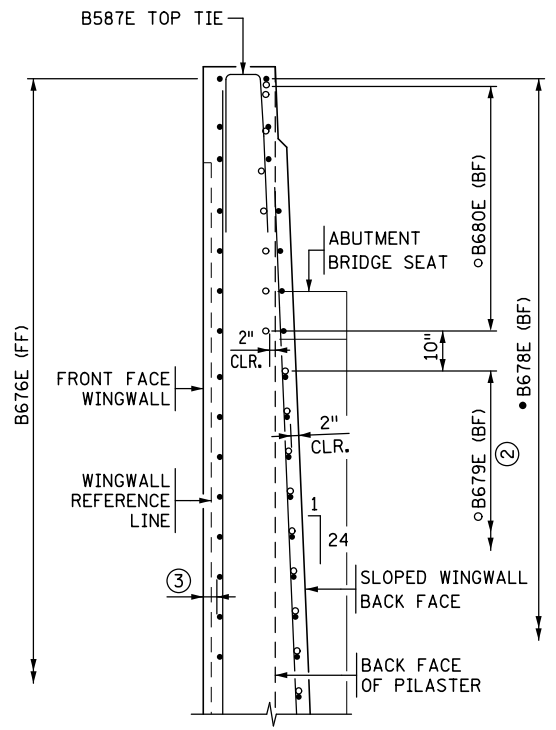
SOUTHEAST WINGWALL REINFORCEMENT



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

- ① FOR B629E (FF) & B628E (BF) ABUTMENT CONSTRUCTION TIES SEE "EAST ABUTMENT REINFORCEMENT" FOR CALL-OUTS.
- ② B679E (BF) TO BE CAST WITH EAST ABUTMENT STEM CONSTRUCTION.
- ③ 2" CLR. FROM WINGWALL REFERENCE LINE.
4" CLR. FROM FRONT FACE OF WINGWALL.
- ④ BACK FACE OF PILASTER.



NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **SOUTHEAST WINGWALL REINFORCEMENT**

DES: L.JL	DR: ADL	APPROVED
CHK: ADL	CHK: L.JL	
SHEET NO. 25 OF 66 SHEETS		

BRIDGE NO.
02584

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BILL OF REINFORCEMENT - EAST ABUTMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
B601	36	60'-0"	—	FOOTING LONGITUDINAL TOP & BOTTOM
B602	36	47'-0"	—	FOOTING LONGITUDINAL TOP & BOTTOM
B603	20	27'-1"	—	FOOTING LONGITUDINAL TOP & BOTTOM
B604	40	15'-6"	—	FOOTING LONGITUDINAL TOP & BOTTOM
B605	8	8'-6"	—	FOOTING FILLET TOP & BOTTOM
B806	380	19'-7"	□	FOOTING TRANSVERSE TOP & BOTTOM
B807	8	SER. 1	□	FOOTING TRANSVERSE TOP & BOTTOM
B808	26	SER. 2	□	FOOTING TRANSVERSE TOP & BOTTOM
B809	220	12'-2"	□	FOOTING TRANSVERSE TOP & BOTTOM
B710E	98	7'-2"	□	FOOTING DOWEL FRONT FACE
B911E	186	9'-9"	□	FOOTING DOWEL BACK FACE
B612E	64	6'-9"	□	FOOTING DOWEL W.W. FRONT FACE
B1013E	86	11'-0"	□	FOOTING DOWEL W.W. BACK FACE
B719E	98	26'-3"	—	STEM VERTICAL FRONT FACE
B820E	98	25'-8"	—	STEM VERTICAL BACK FACE
B821E	88	11'-0"	—	STEM VERTICAL BACK FACE
B622E	67	21'-7"	—	STEM HORIZONTAL
B623E	76	26'-10"	—	STEM HORIZONTAL
B624E	76	24'-11"	—	STEM HORIZONTAL
B625E	228	7'-0"	—	STEM CONST. JOINT TIE
B626E	33	10'-5"	□	STEM TIE
B627E	34	6'-6"	□	STEM TIE
B628E	33	9'-6"	□	STEM TIE
B629E	34	6'-4"	□	STEM TIE
B630E	91	10'-4"	□	STEM TOP TIE
B631E	7	10'-6"	□	STEM TOP TIE
B632E	92	11'-9"	□	STEM BRIDGE SEAT TIE
B633E	3	9'-9"	□	STEM BRIDGE SEAT TIE
B634E	1	8'-8"	□	STEM BRIDGE SEAT TIE
B635E	1	10'-6"	□	STEM BRIDGE SEAT TIE
B636E	1	10'-0"	□	STEM BRIDGE SEAT TIE
B637E	1	9'-2"	□	STEM BRIDGE SEAT TIE
B540E	108	7'-3"	□	PEDESTAL TRANSVERSE
B541E	108	8'-0"	□	PEDESTAL LONGITUDINAL
B542E	18	12'-1"	□	PEDESTAL TIE
B644E	34	20'-8"	—	STEM HORIZONTAL FRONT FACE
B645E	33	20'-0"	—	STEM HORIZONTAL BACK FACE
B646E	5	SER. 3	—	STEM HORIZONTAL
B647E	4	SER. 4	—	STEM HORIZONTAL
B648E	5	SER. 5	—	STEM HORIZONTAL
B649E	4	SER. 6	—	STEM HORIZONTAL

SER. 1 = 2 SER. OF 4 BARS (19'-11" TO 22'-0")
 SER. 2 = 2 SER. OF 13 BARS (3'-11" TO 18'-6")
 SER. 3 = 1 SER. OF 5 BARS (20'-9" TO 21'-10")
 SER. 4 = 1 SER. OF 4 BARS (20'-9" TO 21'-4")
 SER. 5 = 1 SER. OF 5 BARS (20'-4" TO 21'-5")
 SER. 6 = 1 SER. OF 4 BARS (20'-10" TO 21'-5")

SUMMARY OF QUANTITIES FOR EAST ABUTMENT		
ITEM DESCRIPTION	UNIT	QUANTITY
STRUCTURAL CONCRETE (1G52)	CU YD	326
STRUCTURAL CONCRETE (3B52)	CU YD	575
REINFORCEMENT BARS	POUND	35,800
REINFORCEMENT BARS (EPOXY COATED)	POUND	64,330
ARCH SURFACE FINISH (SINGLE COLOR)	SQ FT	2,520
ARCH CONC TEXTURE (ASHLAR STONE)	SQ FT	2,520
C-I-P CONC TEST PILE 90 FT LONG 12"	EACH	3
C-I-P CONCRETE PILING 12"	LIN FT	5,920

① INCLUDES BRIDGE ELEMENTS WITH MASS CONCRETE REQUIREMENTS. SEE SPECIAL PROVISIONS.

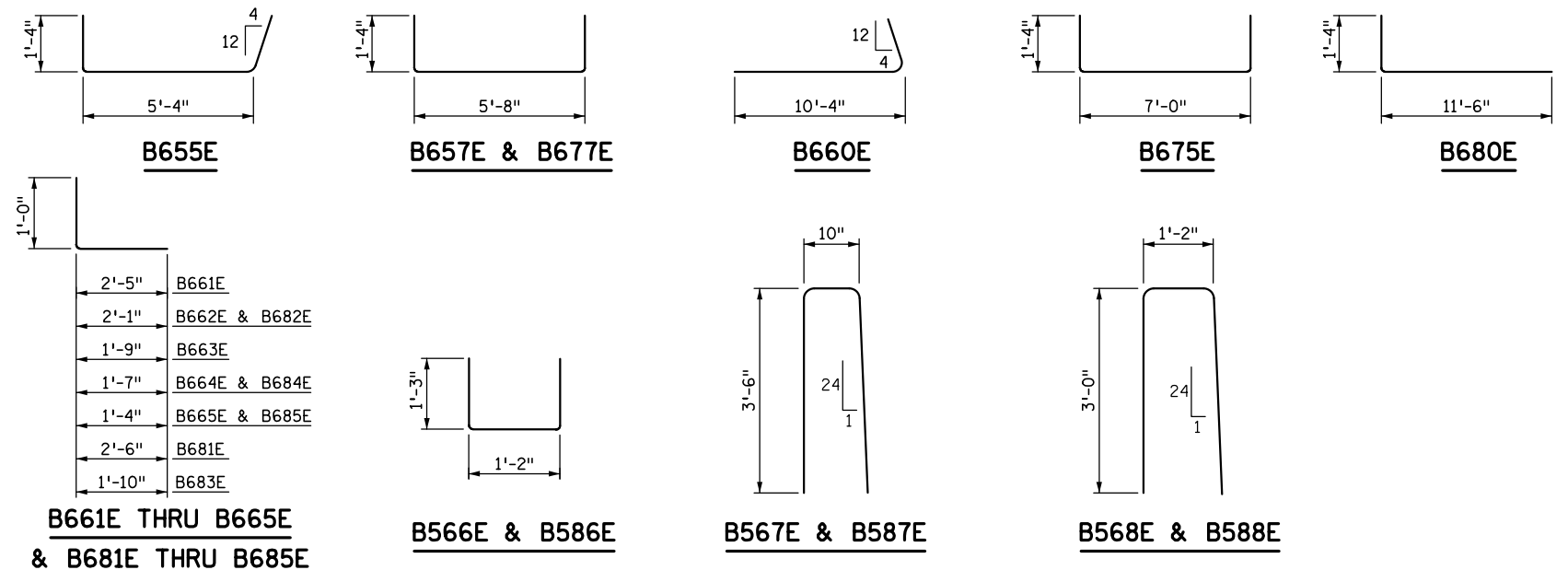
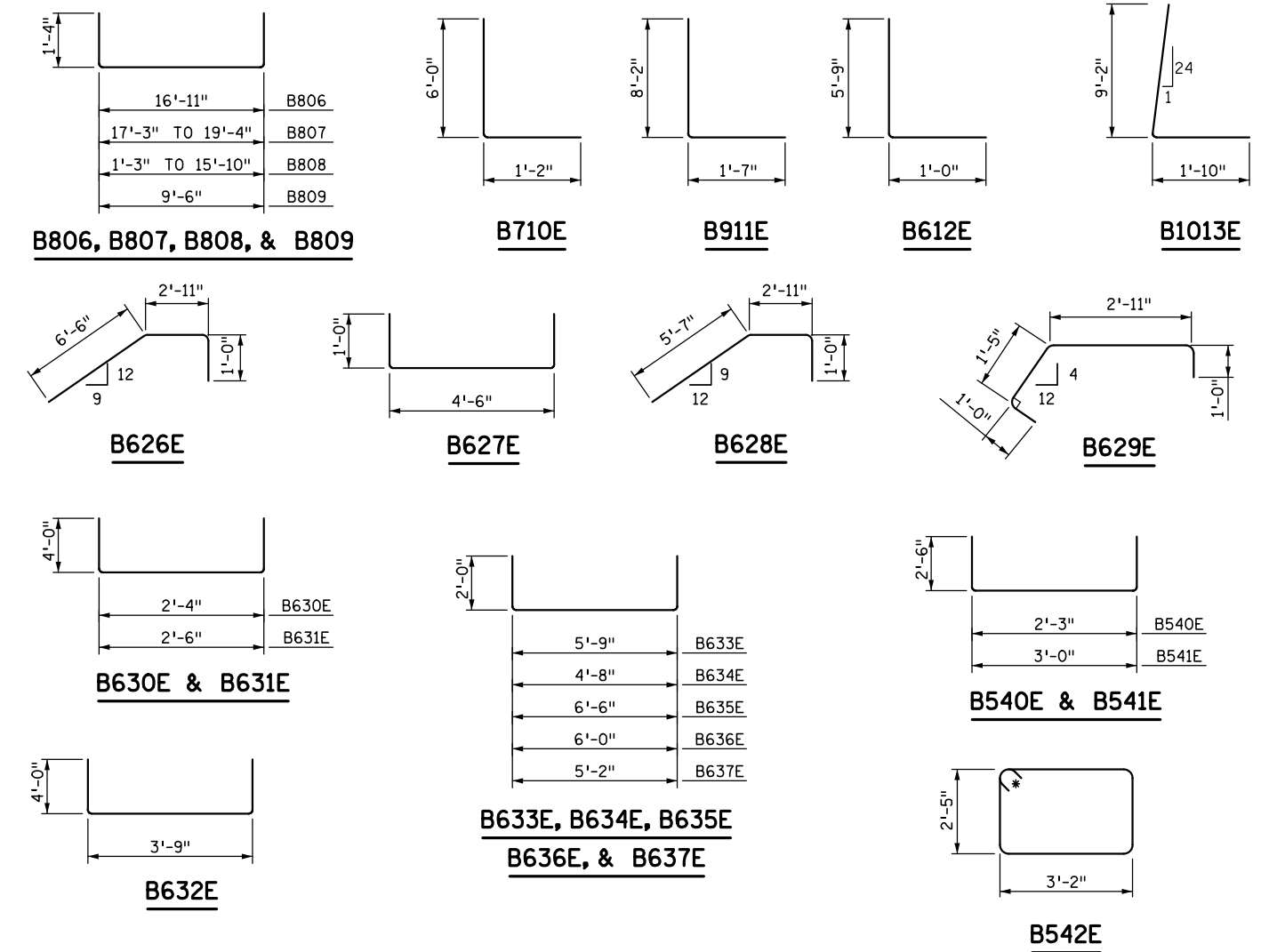
BILL OF REINFORCEMENT - EAST ABUTMENT WINGWALLS				
BAR	NO.	LENGTH	SHAPE	LOCATION
B650E	22	30'-6"	—	NE WW VERTICAL - FRONT FACE
B651E	16	31'-2"	—	NE WW VERTICAL - EACH FACE
B852E	22	29'-2"	—	NE WW VERTICAL - BACK FACE
B853E	21	15'-0"	—	NE WW VERTICAL - BACK FACE
B655E	40	8'-0"	□	NE WW HORIZONTAL - FRONT FACE
B656E	40	21'-0"	—	NE WW HORIZONTAL - FRONT FACE
B657E	40	8'-4"	□	NE WW HORIZONTAL - FRONT FACE
B658E	40	17'-8"	—	NE WW HORIZONTAL - BACK FACE
B659E	33	8'-6"	—	NE WW CONSTRUCTION TIE - BACK FACE
B660E	7	11'-8"	□	NE WW HORIZONTAL - BACK FACE
B661E	11	3'-5"	□	NE WW END TIE
B662E	11	3'-1"	□	NE WW END TIE
B663E	11	2'-9"	□	NE WW END TIE
B664E	5	2'-7"	□	NE WW END TIE
B665E	2	2'-4"	□	NE WW END TIE
B566E	7	3'-8"	□	NE WW TOP TIE
B567E	15	7'-10"	□	NE WW TOP TIE
B568E	7	7'-2"	□	NE WW TOP TIE
B670E	22	31'-7"	—	SE WW VERTICAL - FRONT FACE
B671E	20	32'-2"	—	SE WW VERTICAL - EACH FACE
B872E	22	30'-3"	—	SE WW VERTICAL - BACK FACE
B873E	21	15'-0"	—	SE WW VERTICAL - BACK FACE
B675E	40	9'-8"	□	SE WW HORIZONTAL - FRONT FACE
B676E	40	21'-0"	—	SE WW HORIZONTAL - FRONT FACE
B677E	40	8'-4"	□	SE WW HORIZONTAL - FRONT FACE
B678E	40	17'-8"	—	SE WW HORIZONTAL - BACK FACE
B679E	33	8'-6"	—	SE WW CONSTRUCTION TIE - BACK FACE
B680E	7	12'-10"	□	SE WW HORIZONTAL - BACK FACE
B681E	11	3'-6"	□	SE WW END TIE
B682E	11	3'-1"	□	SE WW END TIE
B683E	11	2'-10"	□	SE WW END TIE
B684E	5	2'-7"	□	SE WW END TIE
B685E	2	2'-4"	□	SE WW END TIE
B586E	9	3'-8"	□	SE WW TOP TIE
B587E	15	7'-10"	□	SE WW TOP TIE
B588E	7	7'-2"	□	SE WW TOP TIE

BAR BENDING NOTES:

BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON THE DETAIL DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS.

* DENOTES STANDARD STIRRUP HOOK.

BAR BENDING DIAGRAMS:



NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

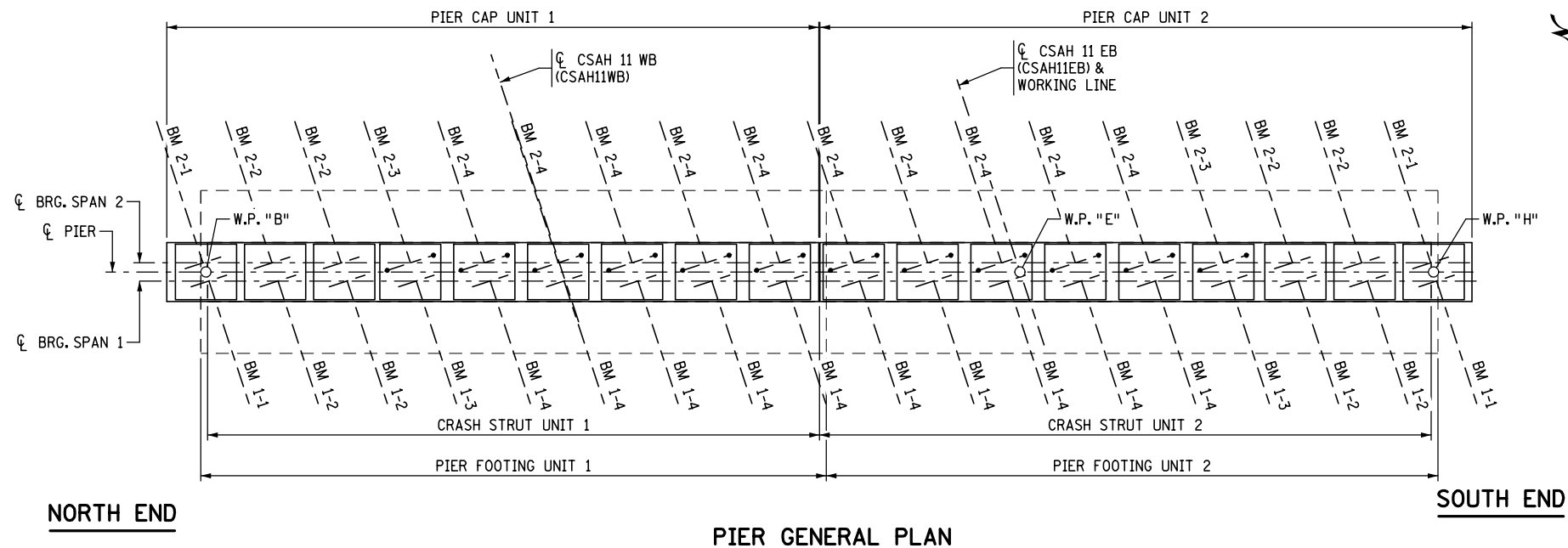
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 EAST ABUTMENT BARLIST
 & QUANTITIES

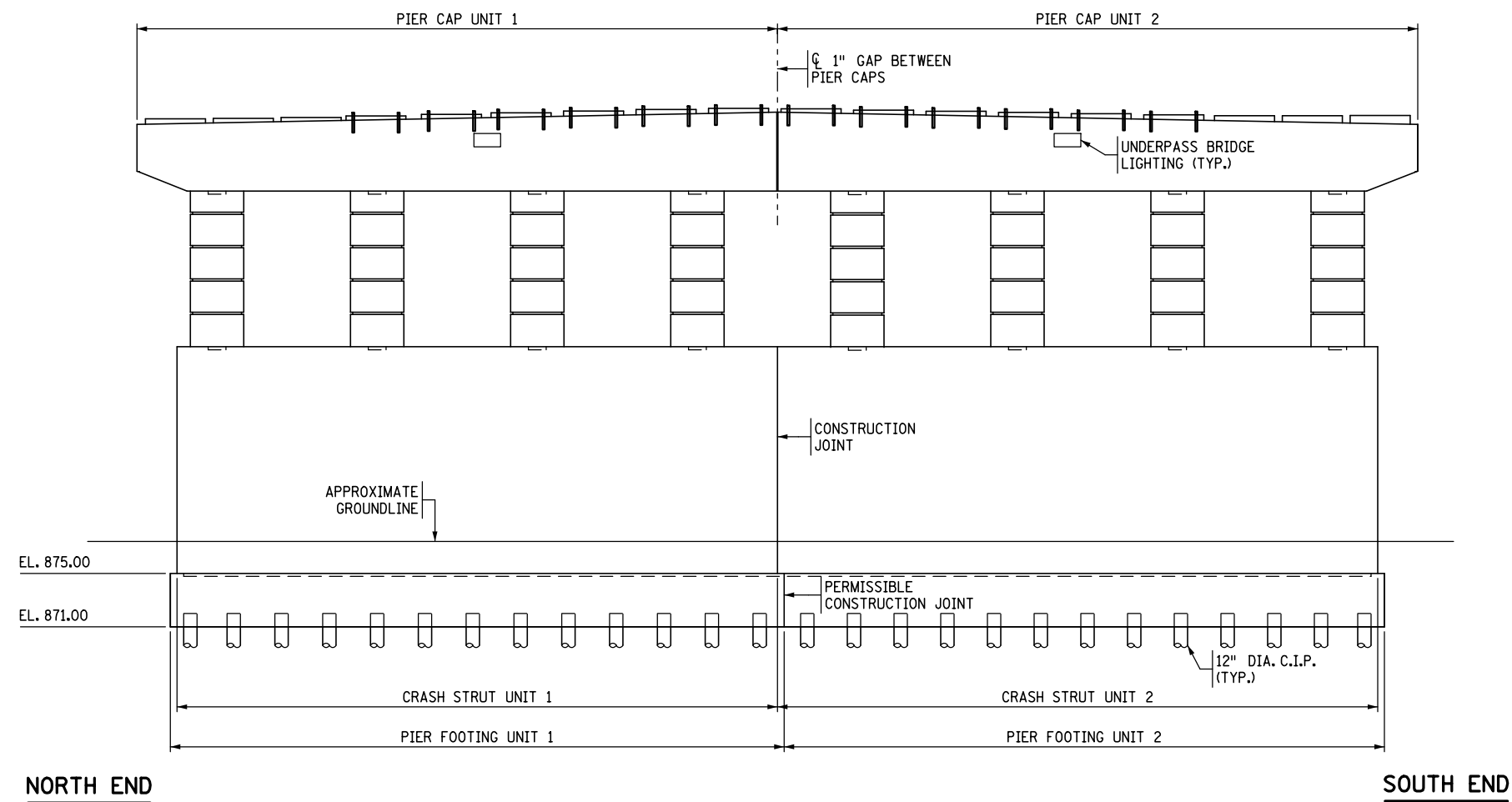
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CHK: ADL	CHK: L.J.L.	
SHEET NO. 26 OF 66 SHEETS		

BRIDGE NO.
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PIER GENERAL PLAN



PIER GENERAL ELEVATION



NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



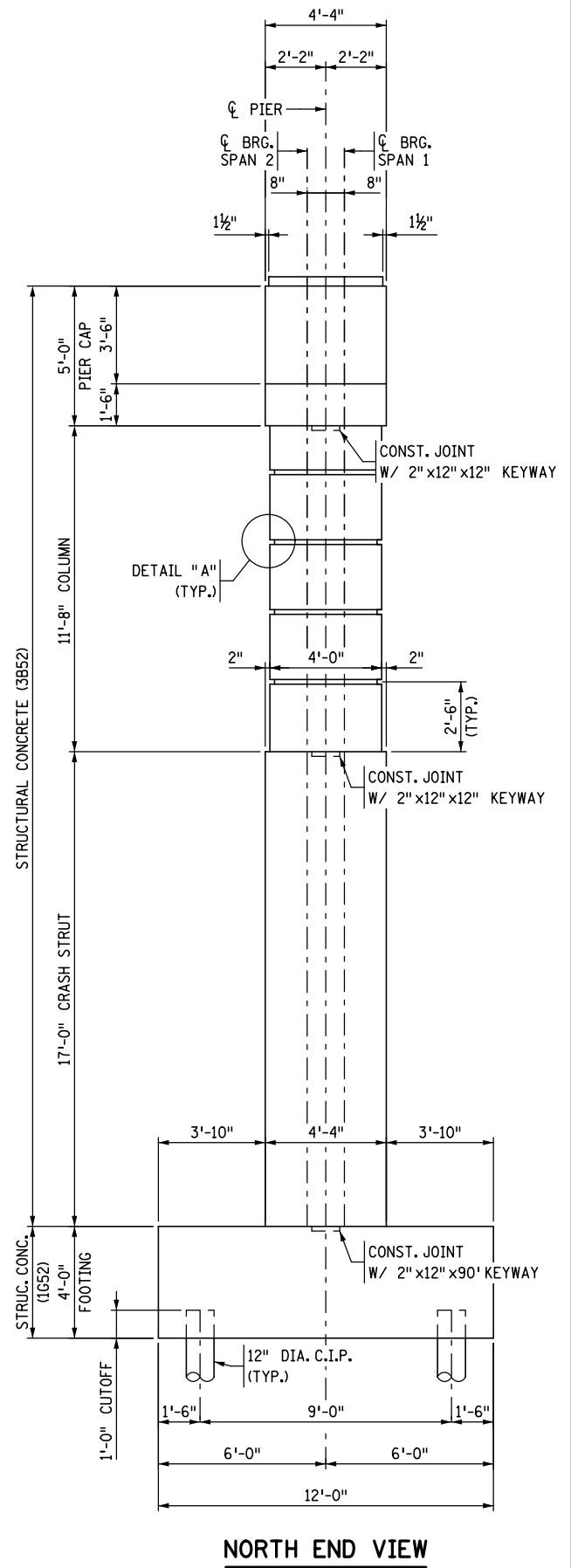
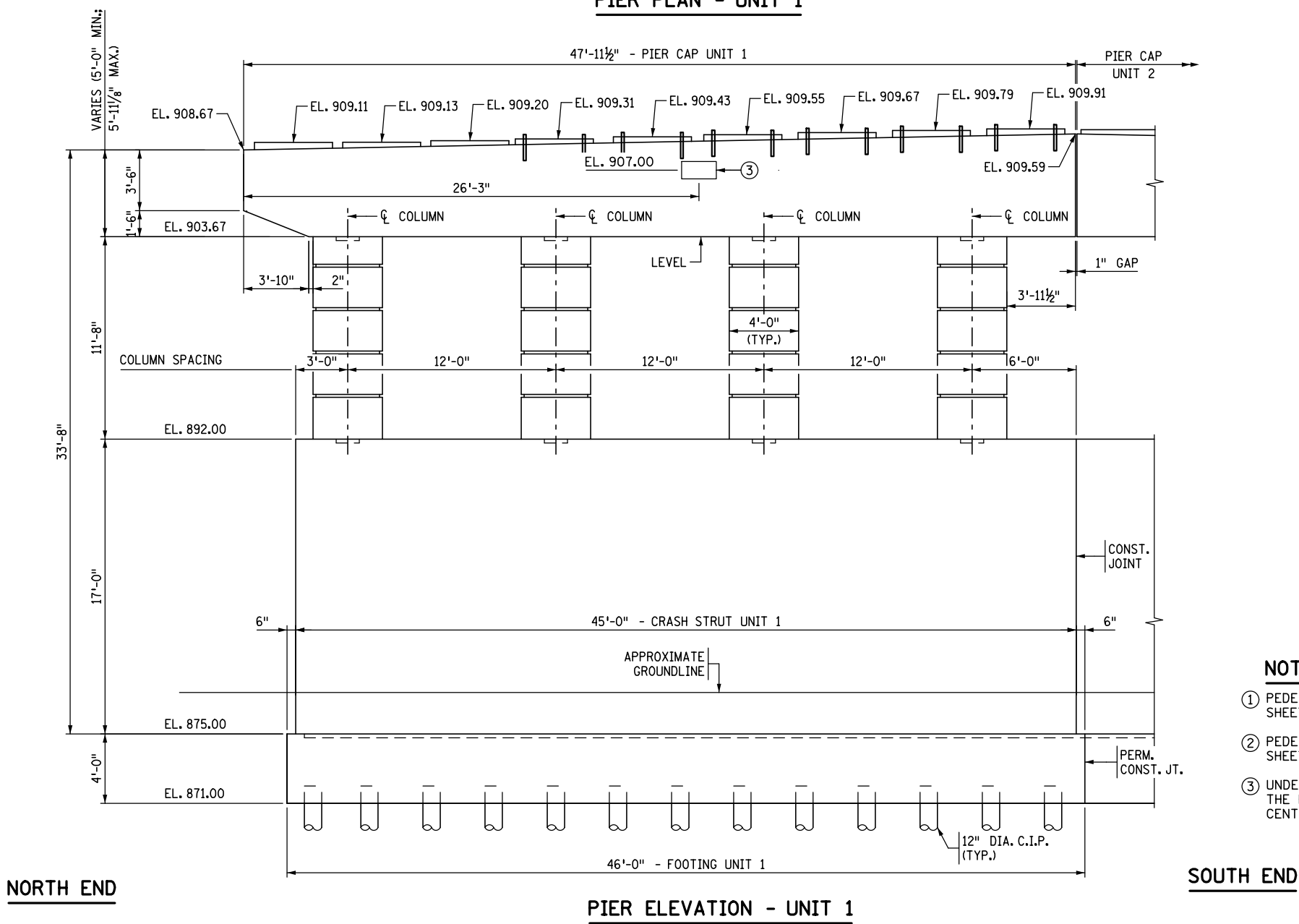
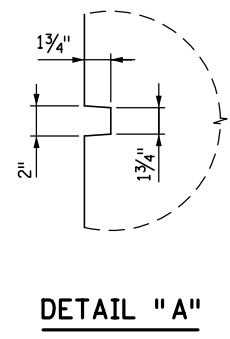
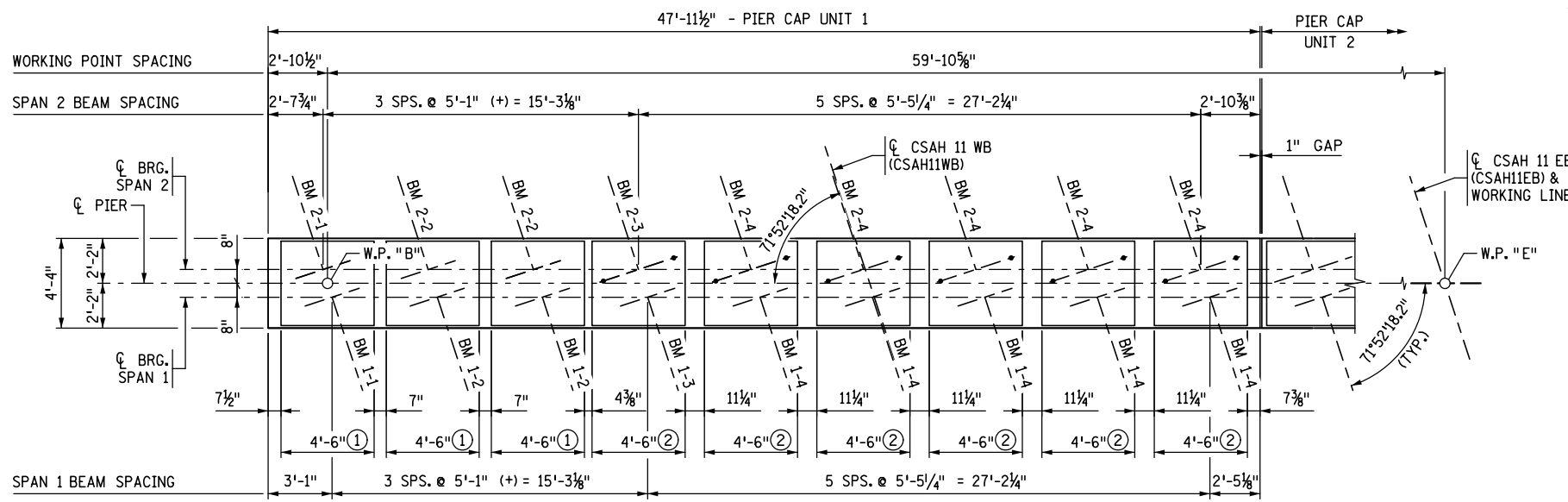
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
PIER PLAN AND ELEVATION

DES: HAP	DR: HAP	APPROVED
CHK: MAV	CHK: LJL	
SHEET NO. 27 OF 66 SHEETS		

BRIDGE NO.
02584

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- NOTES:**
- ① PEDESTAL TYPE "A". SEE "PIER PEDESTAL DETAILS" SHEET FOR ADDITIONAL DETAILS.
 - ② PEDESTAL TYPE "B". SEE "PIER PEDESTAL DETAILS" SHEET FOR ADDITIONAL DETAILS.
 - ③ UNDERPASS BRIDGE LIGHTING. SEE LIGHTING PLAN IN THE ROADWAY PLANS FOR DETAILS. DIMENSIONS TO CENTER OF LIGHT STANDARD SHOWN.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE

DATE: 11/19/2020 LIC. NO.: 48298



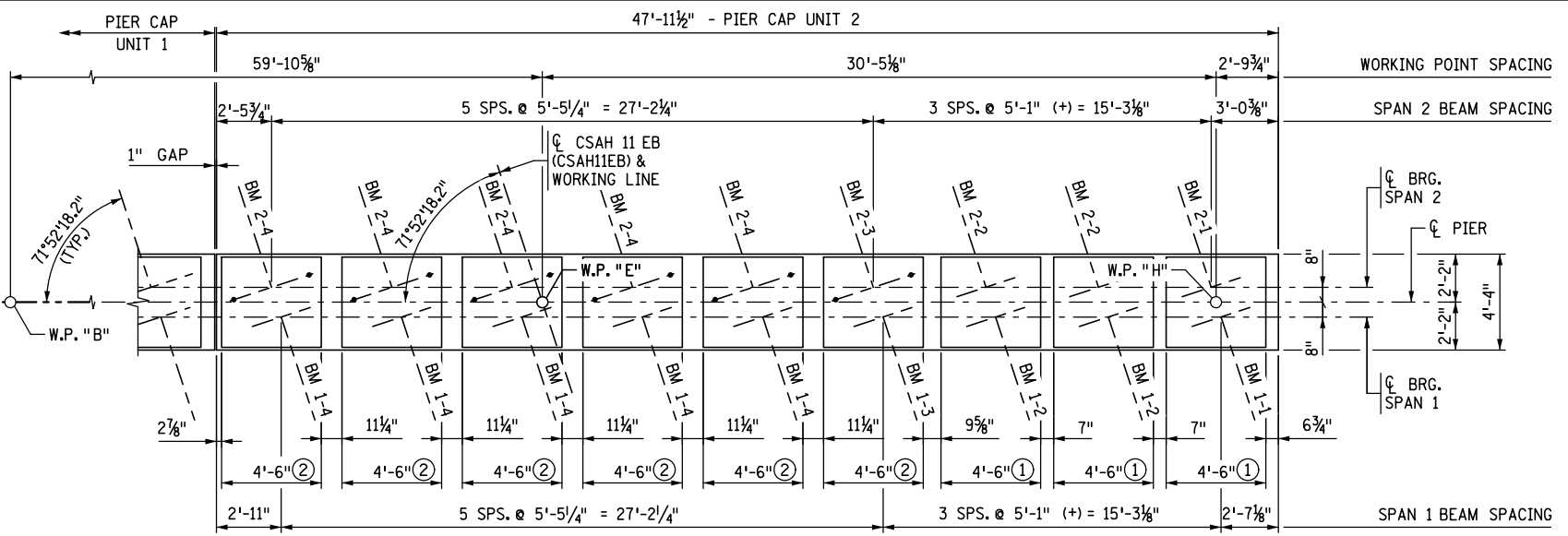
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: PIER PLAN AND ELEVATION - UNIT 1

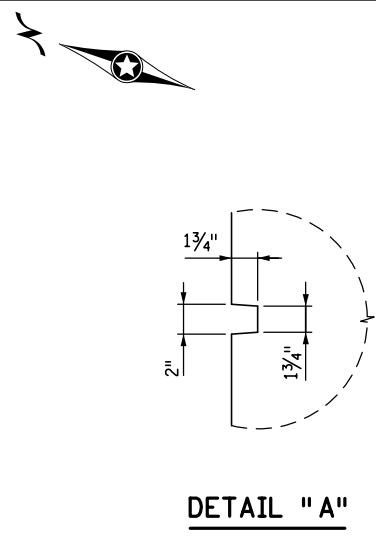
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CHK: MAV	CHK: L.J.L.	
SHEET NO. 28 OF 66 SHEETS		

BRIDGE NO. 02584

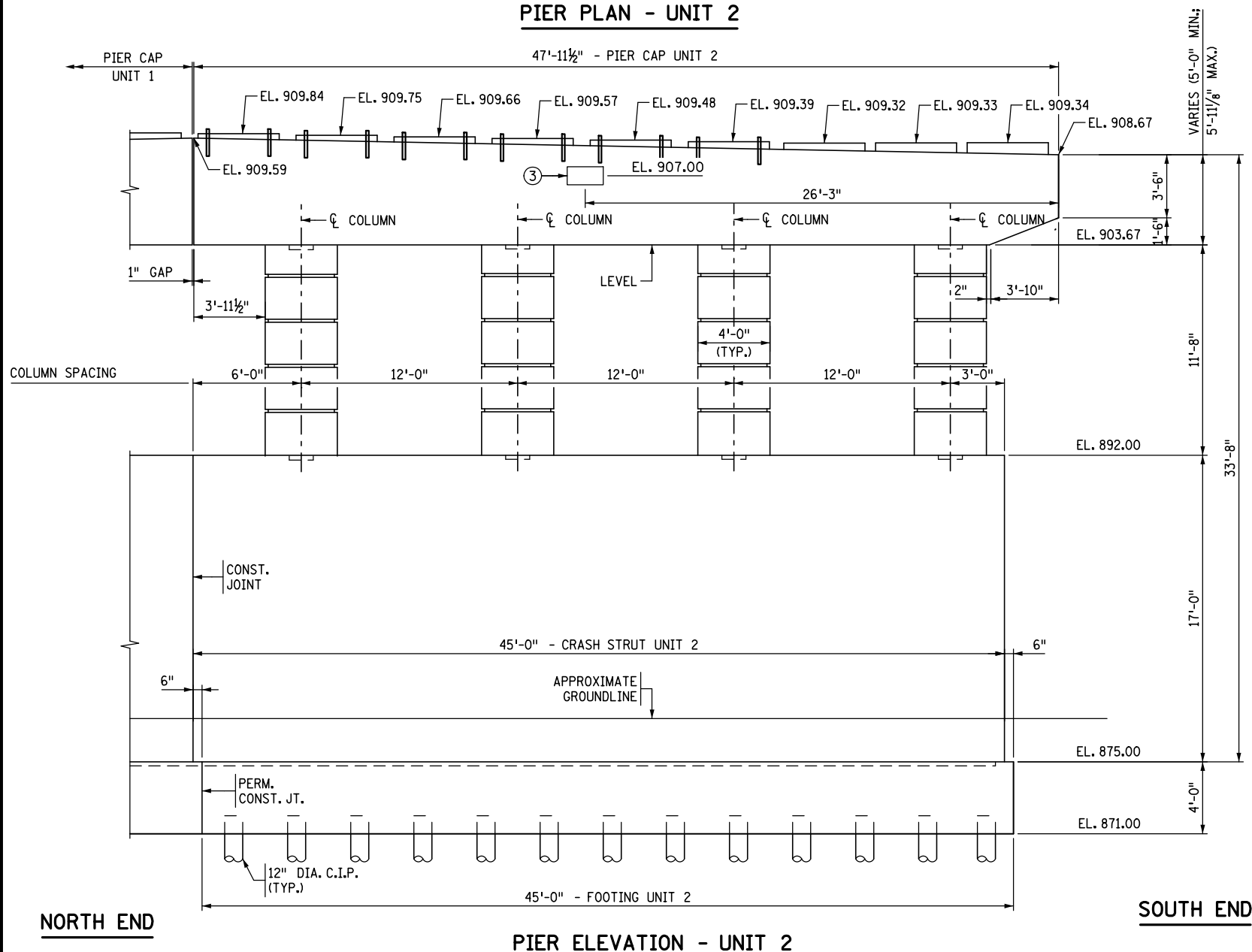
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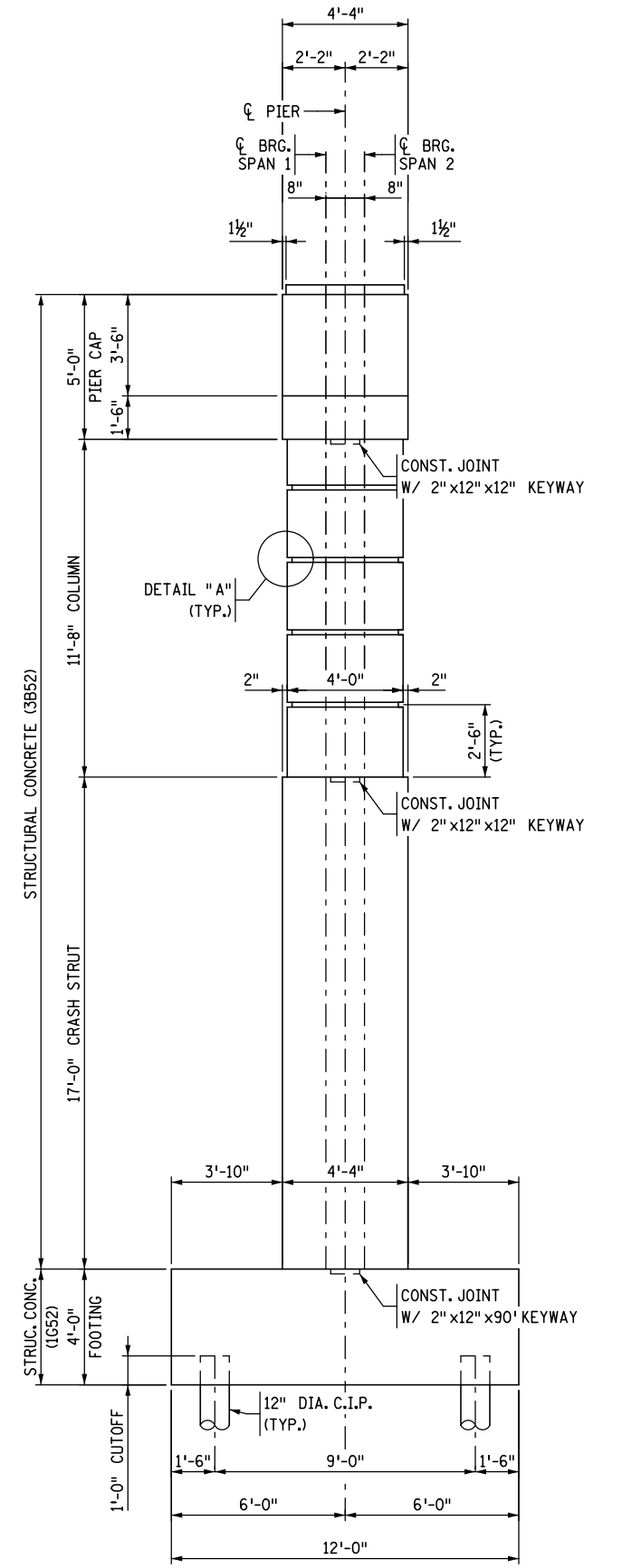
PIER PLAN - UNIT 2



DETAIL "A"



PIER ELEVATION - UNIT 2



SOUTH END VIEW

- NOTES:**
- ① PEDESTAL TYPE "A". SEE "PIER PEDESTAL DETAILS" SHEET FOR ADDITIONAL DETAILS.
 - ② PEDESTAL TYPE "B". SEE "PIER PEDESTAL DETAILS" SHEET FOR ADDITIONAL DETAILS.
 - ③ UNDERPASS BRIDGE LIGHTING. SEE LIGHTING PLAN IN THE ROADWAY PLANS FOR DETAILS. DIMENSIONS TO CENTER OF LIGHT STANDARD SHOWN.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 DATE: 11/19/2020 LIC. NO.: 48298



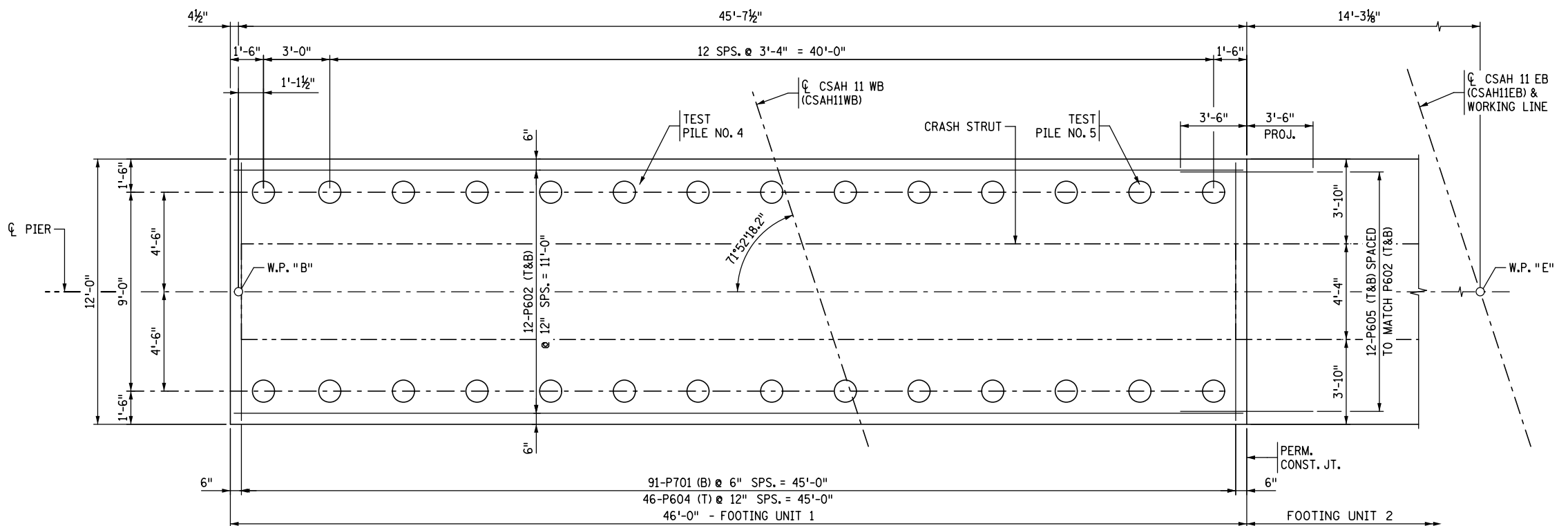
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **PIER PLAN AND ELEVATION - UNIT 2**

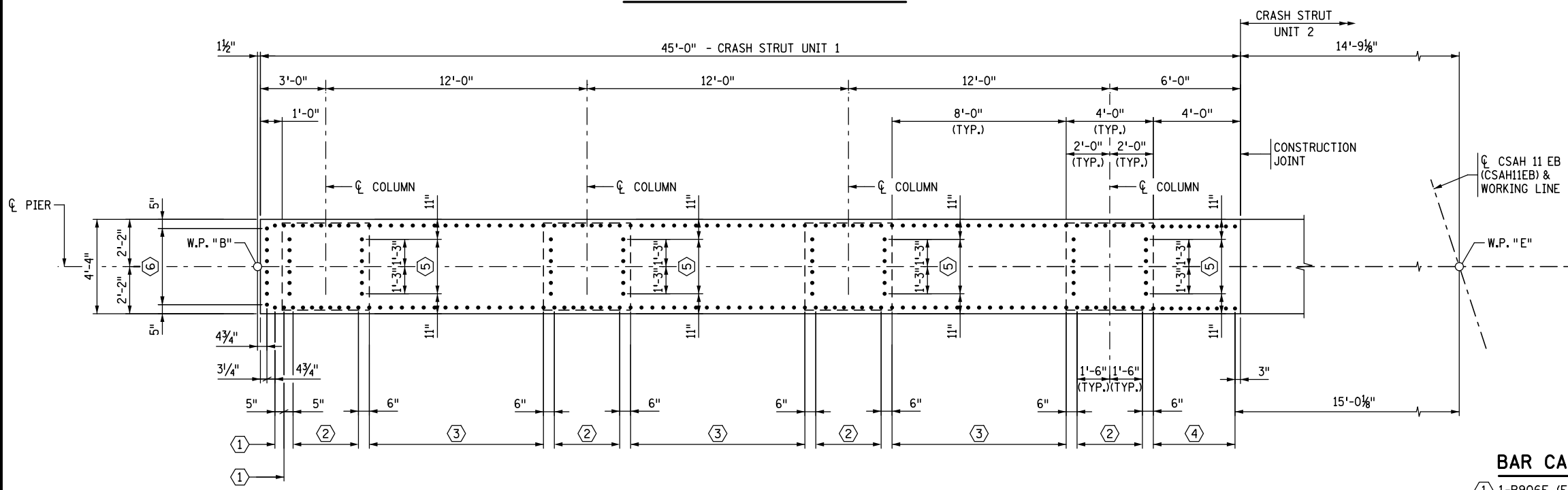
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CHK: MAV	CHK: L.JL	
SHEET NO. 29 OF 66 SHEETS		

BRIDGE NO. **02584**

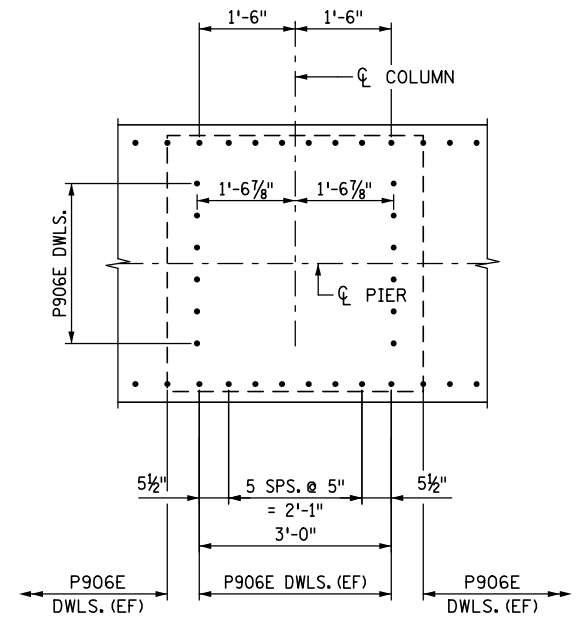
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PIER FOOTING PLAN - UNIT 1



PIER DOWEL LAYOUT - UNIT 1



COLUMN DETAIL

- BAR CALL-OUTS:**
- ① 1-P906E (EF) DOWEL SPACED AS SHOWN.
 - ② 8-P906E (EF) DOWELS SPACED AS SHOWN IN "COLUMN DETAIL".
 - ③ 17-P906E (EF) DOWELS @ 6" SPS. = 8'-0".
 - ④ 10-P906E (EF) DOWELS @ 5" SPS. = 3'-9".
 - ⑤ 6-P906E (EF) DOWELS @ 6" SPS. = 2'-6".
 - ⑥ 8-P906E DOWELS @ 6" SPS. = 3'-6".

PIER	
COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD	66.6
FACTORED LIVE LOAD	18.4
FACTORED OVERTURNING	7.5
* FACTORED DESIGN LOAD	92.5

* BASED ON STRENGTH I LOAD COMBINATION.

PIER		
REQUIRED NOMINAL PILE BEARING RESISTANCE FOR CIP PILES R _n - TONS/PILE		
FIELD CONTROL METHOD	φ _{dyn}	**R _n
MnDOT PILE FORMULA 2012 (MPF12) R _n = 20 √(W x H / 1000) x log(10/S)	0.50	185.0
PDA	0.65	142.3

**R_n = (FACTORED DESIGN LOAD) / φ_{dyn}

PILE NOTES:

- PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
- PILES TO HAVE A NOMINAL DIAMETER OF 12" AND 1/4" WALL THICKNESS.
- ALL PILES TO BE WELDED. FOR PILE SPLICE DETAILS, SEE STANDARD DETAIL B201.
- 2 CAST-IN-PLACE CONCRETE TEST PILE 75 FT. LONG.
- 26 CAST-IN-PLACE CONCRETE PILES EST. LENGTH 65 FT.
- 28 CAST-IN-PLACE CONCRETE PILES REQ'D FOR PIER UNIT 1.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

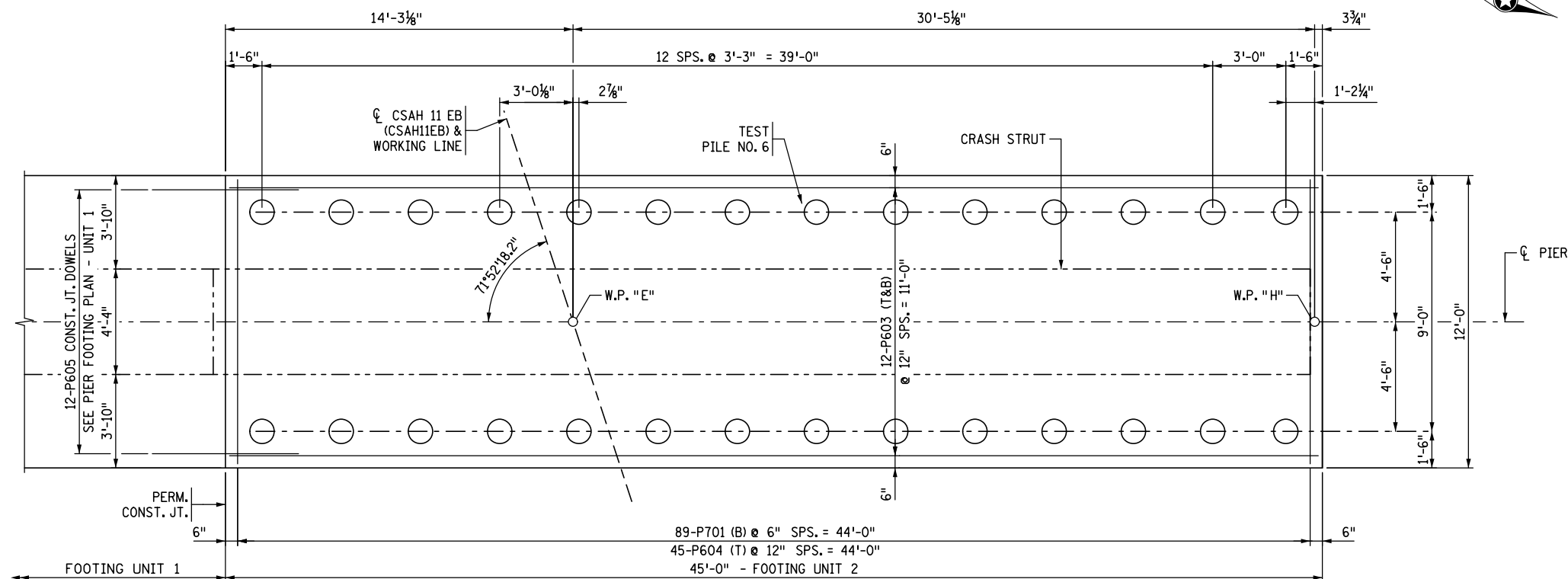
TITLE:
 PIER FOOTING PLAN AND REINFORCEMENT - UNIT 1

DES: HAP	DR: HAP	APPROVED
CHK: MAV	CHK: L.JL	

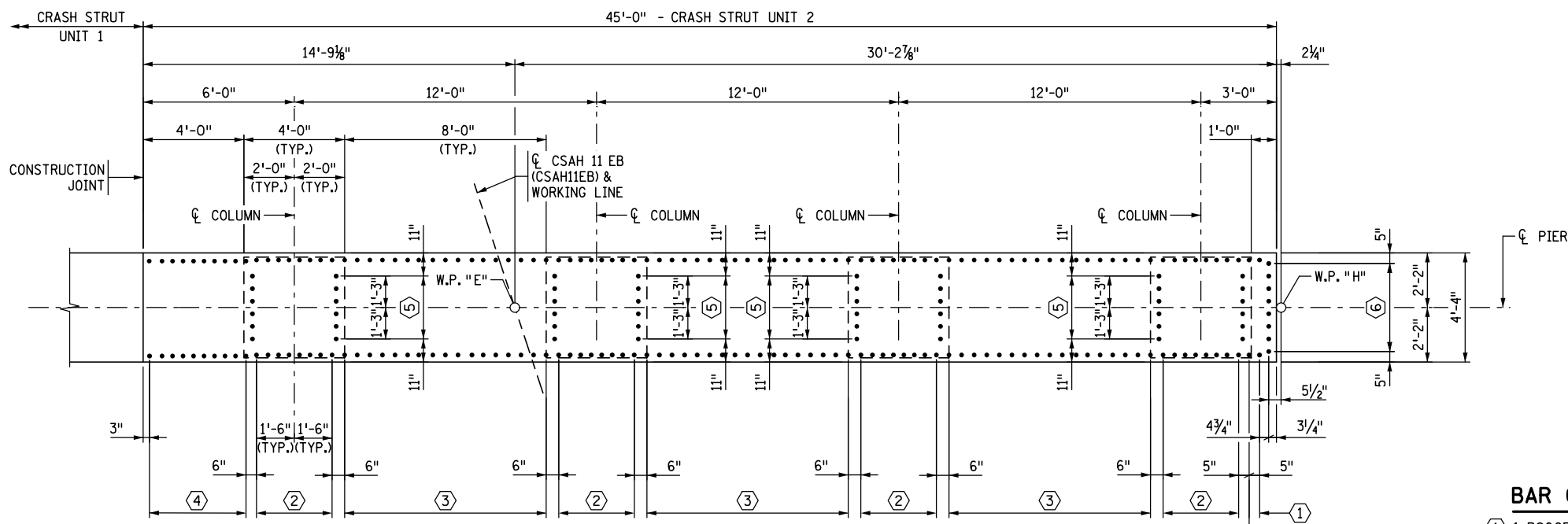
SHEET NO. 30 OF 66 SHEETS

BRIDGE NO.
02584

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PIER FOOTING PLAN - UNIT 2



PIER DOWEL LAYOUT - UNIT 2

BAR CALL-OUTS:

- ① 1-P906E (EF) DOWEL SPACED AS SHOWN.
- ② 8-P906E (EF) DOWELS SPACED AS SHOWN IN "COLUMN DETAIL".
- ③ 17-P906E (EF) DOWELS @ 6" SPS. = 8'-0".
- ④ 10-P906E (EF) DOWELS @ 5" SPS. = 3'-9".
- ⑤ 6-P906E (EF) DOWELS @ 6" SPS. = 2'-6".
- ⑥ 8-P906E DOWELS @ 6" SPS. = 3'-6".

PIER	
COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD	66.6
FACTORED LIVE LOAD	18.4
FACTORED OVERTURNING	7.5
* FACTORED DESIGN LOAD	92.5

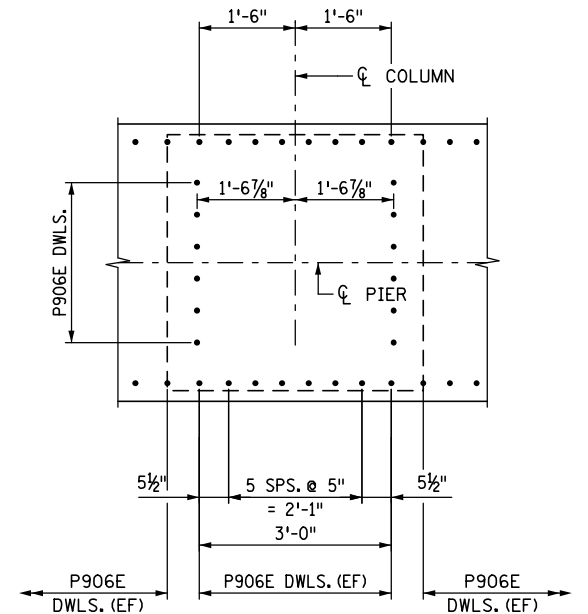
* BASED ON STRENGTH I LOAD COMBINATION.

PIER		
REQUIRED NOMINAL PILE BEARING RESISTANCE FOR CIP PILES R _n - TONS/PILE		
FIELD CONTROL METHOD	φ _{sym}	**R _n
MnDOT PILE FORMULA 2012 (MPF12) R _n = 20 √(W x H / 1000) x log(10/S)	0.50	185.0
PDA	0.65	142.3

**R_n = (FACTORED DESIGN LOAD) / φ_{sym}

PILE NOTES:

- PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
- PILES TO HAVE A NOMINAL DIAMETER OF 12" AND 1/4" WALL THICKNESS.
- ALL PILES TO BE WELDED. FOR PILE SPLICE DETAILS, SEE STANDARD DETAIL B201.
- 1 CAST-IN-PLACE CONCRETE TEST PILE 75 FT. LONG.
- 28 CAST-IN-PLACE CONCRETE PILES EST. LENGTH 65 FT.
- 28 CAST-IN-PLACE CONCRETE PILES REQ'D FOR PIER UNIT 2.



COLUMN DETAIL

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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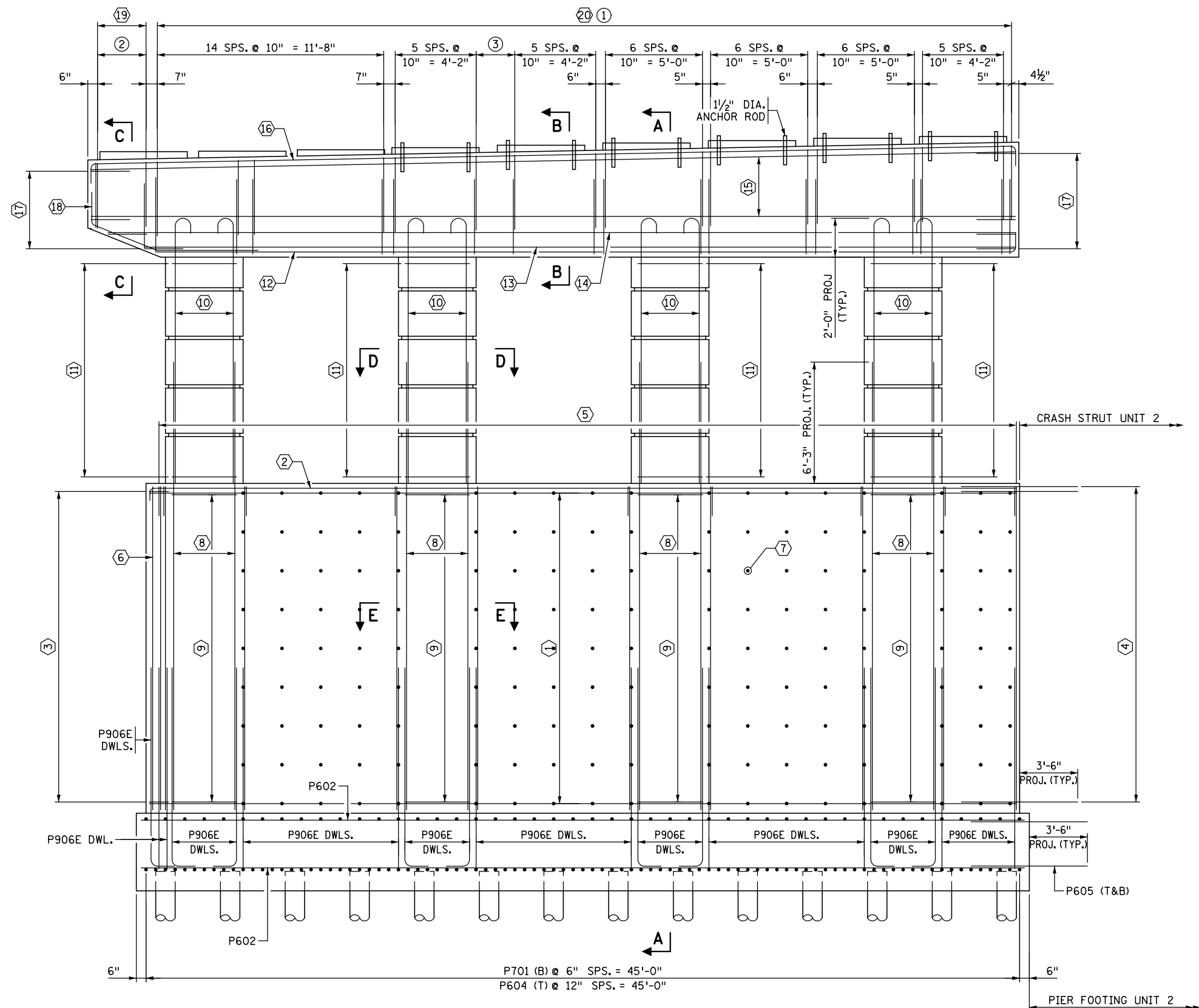
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
PIER FOOTING PLAN AND REINFORCEMENT - UNIT 2

DES: HAP	DR: HAP	APPROVED
CHK: MAV	CHK: LJL	
SHEET NO. 31 OF 66 SHEETS		

BRIDGE NO.
02584

DATE: 11/19/2020 TIME: 4:11:39 PM
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NORTH END

PIER REINFORCEMENT - UNIT 1

SOUTH END

NOTES:

- FOR SECTIONS A-A THROUGH E-E, SEE "PIER REINFORCEMENT DETAILS".
- ① CAREFUL PLACEMENT OF REINFORCEMENT REQUIRED TO AVOID INTERFERENCE WITH ANCHOR RODS.
 - ② 3 SPS. @ 10" = 2'-6".
 - ③ 3 SPS. @ 8" = 2'-0".
- BAR CALL-OUTS:**
- ① 25-P611E (EF) @ 8" SPS. = 16'-0". SEE SECTION A-A FOR ADDITIONAL DETAILS.
 - ② 5-P612E. SEE SECTION A-A FOR SPACING.
 - ③ 25-P514E END TIES TO BE SPACED WITH P611E.
 - ④ 55-P615E CONSTRUCTION JOINT TIES TO BE SPACED WITH P611E & P612E.
 - ⑤ 95-P810E (EF) SPACED TO MATCH P906E DWLS. 95-P513E TOP TIES SPACED TO MATCH P810E.
 - ⑥ 8-P810E SPACED TO MATCH P906E DWLS.
 - ⑦ 162-P416E SPACED AT 24" HORIZONTALLY AND 24" VERTICALLY BETWEEN COLUMNS.
 - ⑧ 28-P919E SPACED AS SHOWN IN SECTION D-D.
 - ⑨ 9-P421E TIES @ 2'-0" SPS. = 16'-0". SEE SECTION E-E FOR ADDITIONAL DETAILS.
 - ⑩ 28-P920E SPACED AS SHOWN IN SECTION D-D.
 - ⑪ 12-P421E COLUMN TIES @ 12" SPS. = 11'-0" W/ 24-P422E (PLACED IN PAIRS). ALTERNATE PLACEMENT OF P422E TIES AS SHOWN IN SECTION D-D.
 - ⑫ 6-P732E SPACED AS SHOWN IN SECTION B-B.
 - ⑬ 4-P635E (1 LAYER) SPACED AS SHOWN IN SECTION B-B.
 - ⑭ 4-P636E (1 LAYER) SPACED AS SHOWN IN SECTION B-B.
 - ⑮ 20-P637E (5 LAYERS) SPACED AS SHOWN IN SECTION B-B.
 - ⑯ 6-P734E SPACED AS SHOWN IN SECTION B-B.
 - ⑰ 7-P538E END TIES SPACED TO MATCH P635E, P636E, AND P637E.
 - ⑱ 6-P733E SPACED TO MATCH P732E. SEE SECTION C-C FOR ADDITIONAL DETAILS.
 - ⑳ 228-P631E STIRRUPS (PLACES IN GROUPS OF 4) SPACED AS SHOWN. SEE SECTION B-B FOR ADDITIONAL DETAILS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

TKDA

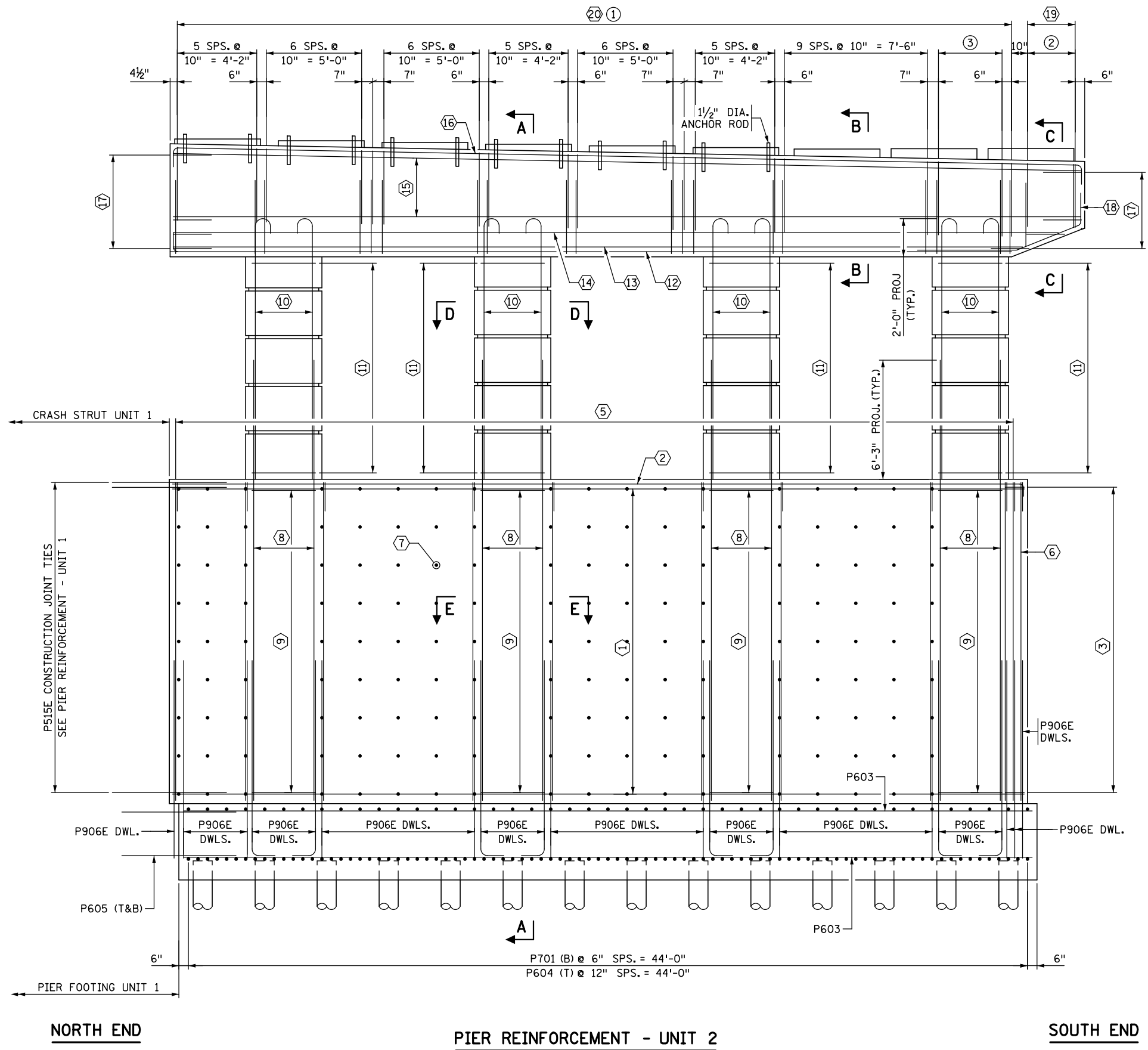
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
PIER REINFORCEMENT - UNIT 1

DES: HAP	DR: HAP	APPROVED
CHK: MAV	CHK: LJL	
SHEET NO. 32 OF 66 SHEETS		

BRIDGE NO.
02584

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NOTES:

FOR SECTIONS A-A THROUGH E-E, SEE "PIER REINFORCEMENT DETAILS".

- ① CAREFUL PLACEMENT OF REINFORCEMENT REQUIRED TO AVOID INTERFERENCE WITH ANCHOR RODS.
- ② 3 SPS. @ 10" = 2'-6".
- ③ 4 SPS. @ 10" = 3'-4".

BAR CALL-OUTS:

- ① 25-P611E (EF) @ 8" SPS. = 16'-0". SEE SECTION A-A FOR ADDITIONAL DETAILS.
- ② 5-P612E. SEE SECTION A-A FOR SPACING.
- ③ 25-P514E END TIES TO BE SPACED WITH P611E.
- ④ NOT USED.
- ⑤ 95-P810E (EF) SPACED TO MATCH P906E DWLS. 95-P513E TOP TIES SPACED TO MATCH P810E.
- ⑥ 8-P810E SPACED TO MATCH P906E DWLS.
- ⑦ 162-P416E SPACED AT 24" HORIZONTALLY AND 24" VERTICALLY BETWEEN COLUMNS.
- ⑧ 28-P919E SPACED AS SHOWN IN SECTION D-D.
- ⑨ 9-P421E TIES @ 2'-0" SPS. = 16'-0". SEE SECTION E-E FOR ADDITIONAL DETAILS.
- ⑩ 28-P920E SPACED AS SHOWN IN SECTION D-D.
- ⑪ 12-P421E COLUMN TIES @ 12" SPS. = 11'-0" W/ 24-P422E (PLACED IN PAIRS). ALTERNATE PLACEMENT OF P422E TIES AS SHOWN IN SECTION D-D.
- ⑫ 6-P732E SPACED AS SHOWN IN SECTION B-B.
- ⑬ 4-P635E (1 LAYER) SPACED AS SHOWN IN SECTION B-B.
- ⑭ 4-P636E (1 LAYER) SPACED AS SHOWN IN SECTION B-B.
- ⑮ 20-P637E (5 LAYERS) SPACED AS SHOWN IN SECTION B-B.
- ⑯ 6-P734E SPACED AS SHOWN IN SECTION B-B.
- ⑰ 7-P538E END TIES SPACED TO MATCH P635E, P636E, AND P637E.
- ⑱ 6-P733E SPACED TO MATCH P732E. SEE SECTION C-C FOR ADDITIONAL DETAILS.
- ⑳ 228-P631E STIRRUPS (PLACES IN GROUPS OF 4) SPACED AS SHOWN. SEE SECTION B-B FOR ADDITIONAL DETAILS.

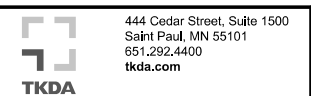
NORTH END

PIER REINFORCEMENT - UNIT 2

SOUTH END

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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ANOKA COUNTY
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 S.P. 002-611-036

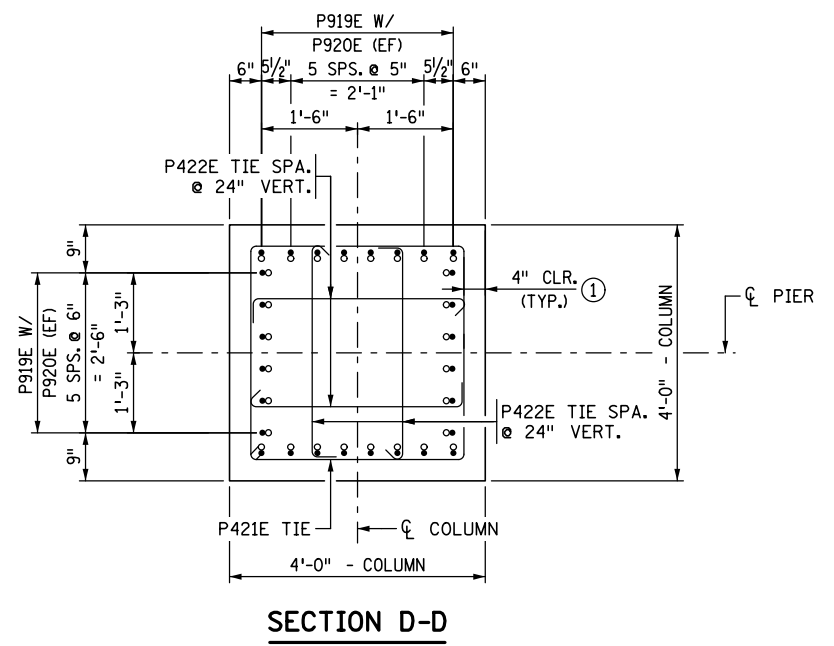
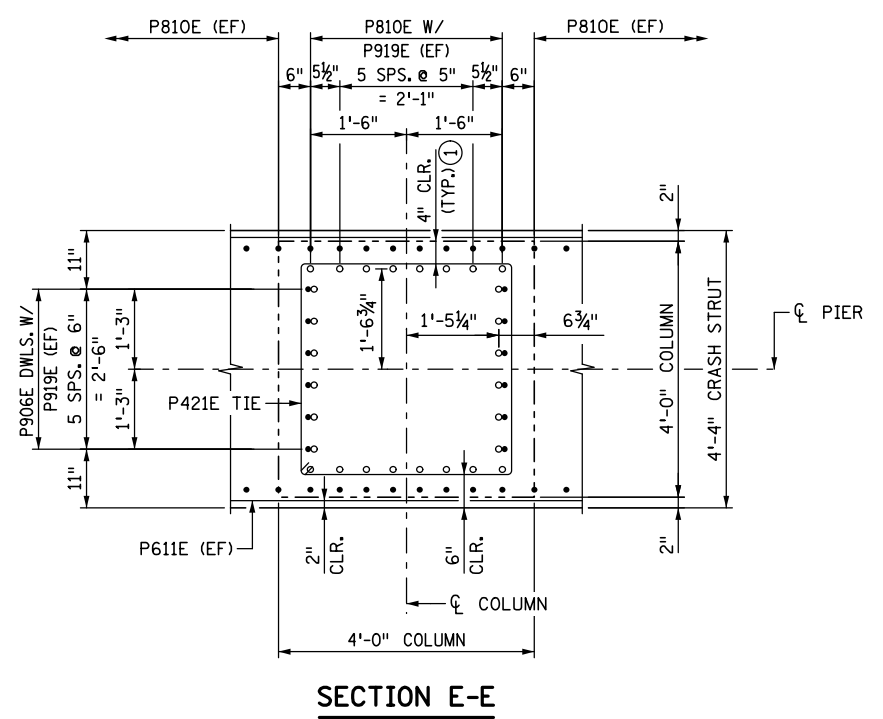
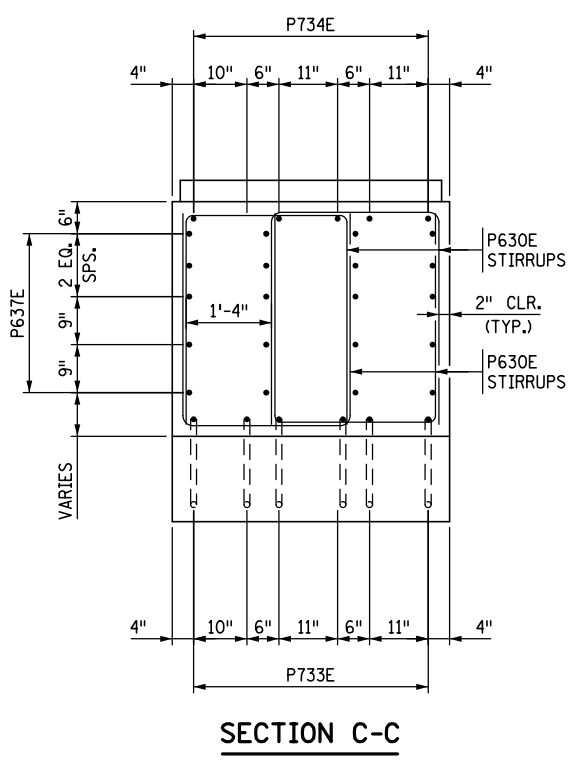
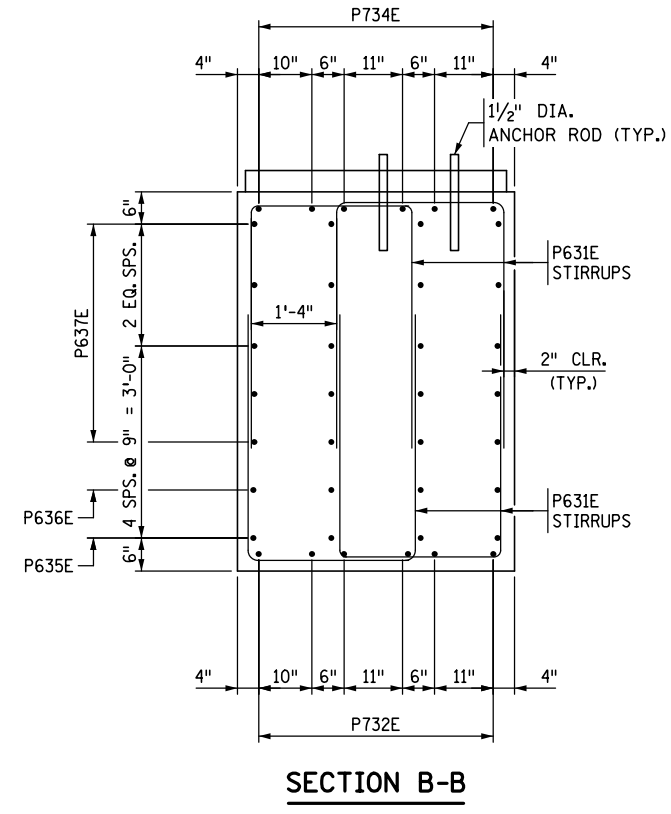
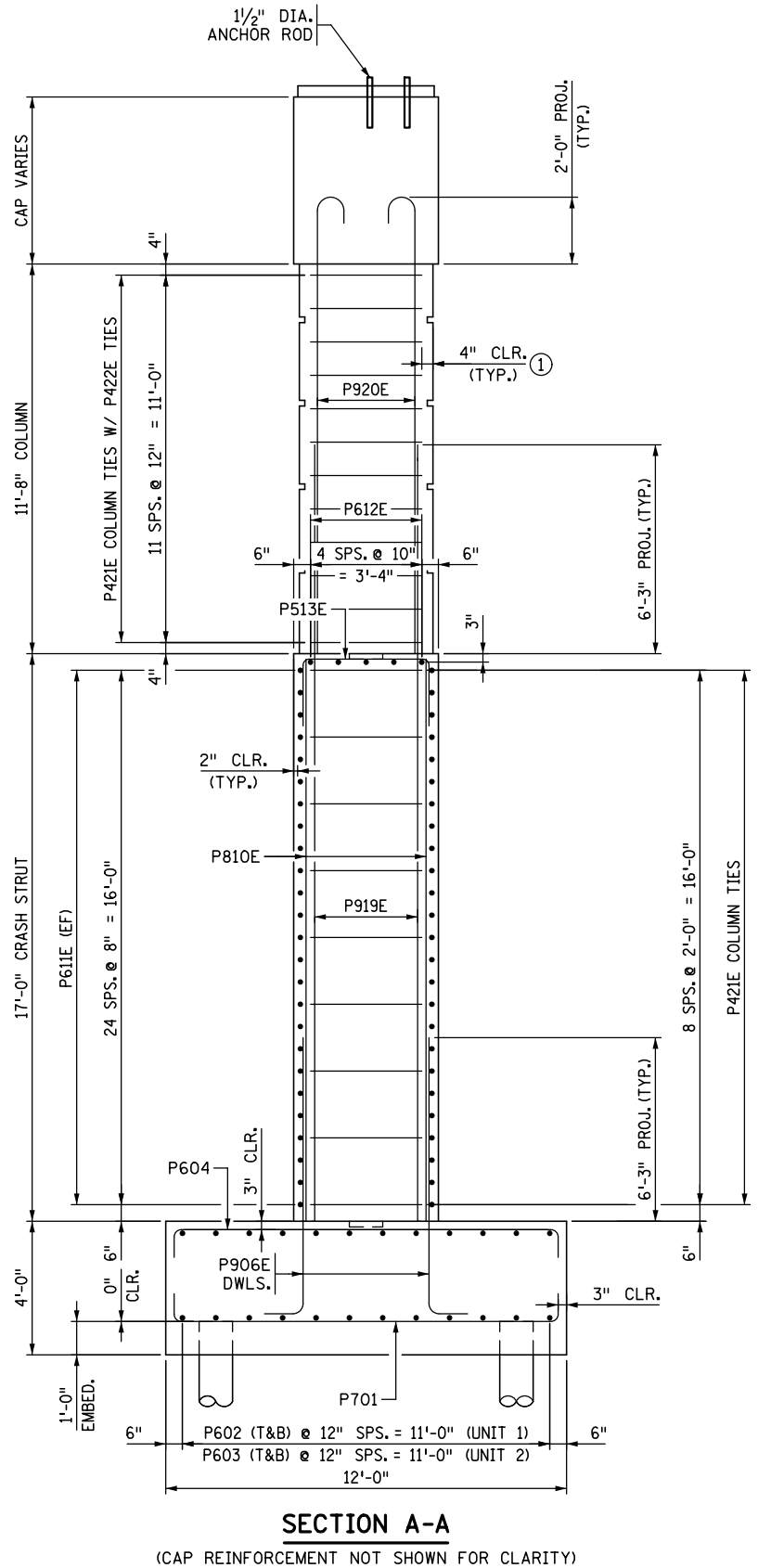
TITLE:
 PIER REINFORCEMENT - UNIT 2

DES: HAP	DR: HAP	APPROVED
CHK: MAV	CHK: LJL	

SHEET NO. 33 OF 66 SHEETS

BRIDGE NO.
 02584

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NOTES:
 FOR LOCATION OF SECTION CUTS, SEE
 "PIER REINFORCEMENT - UNIT 1" AND
 "PIER REINFORCEMENT - UNIT 2" SHEETS.
 ① 2/4" CLEAR AT RUSTICATION.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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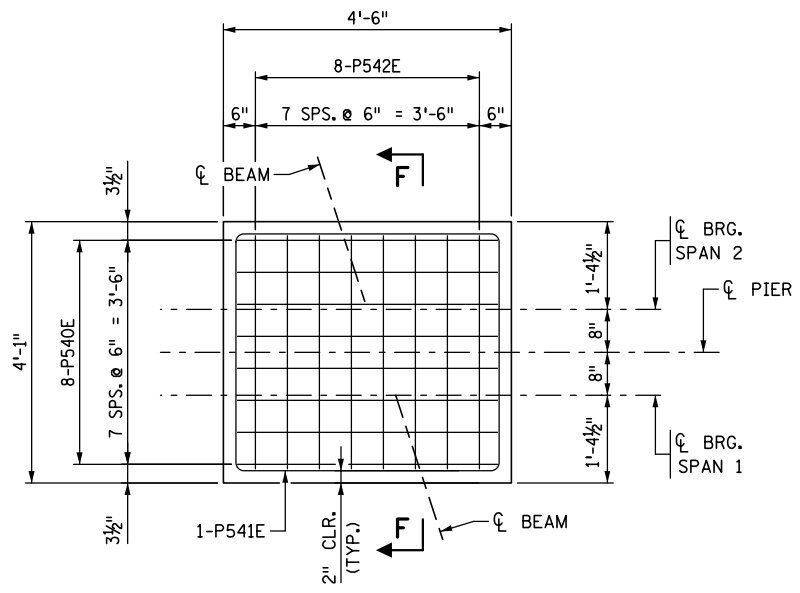
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 PIER REINFORCEMENT DETAILS

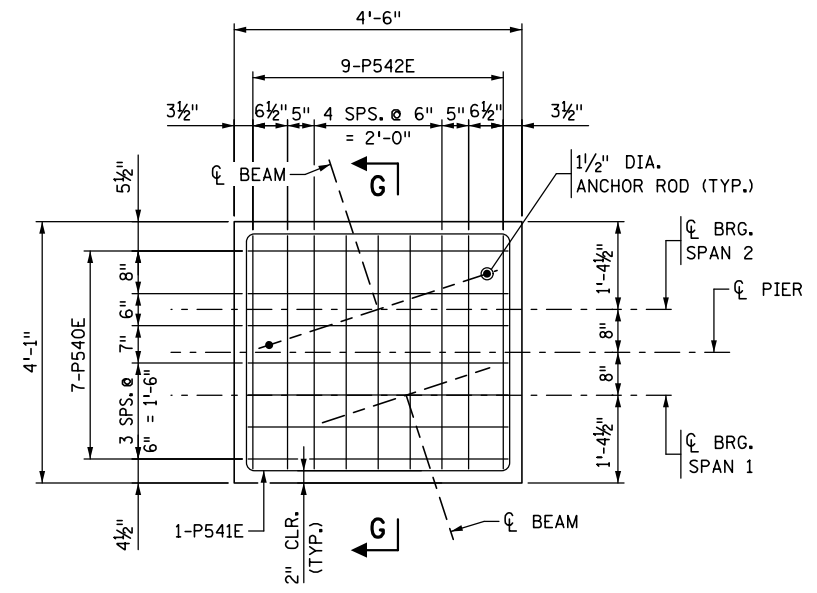
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CHK: MAV	CHK: LJL	
SHEET NO. 34 OF 66 SHEETS		

BRIDGE NO.
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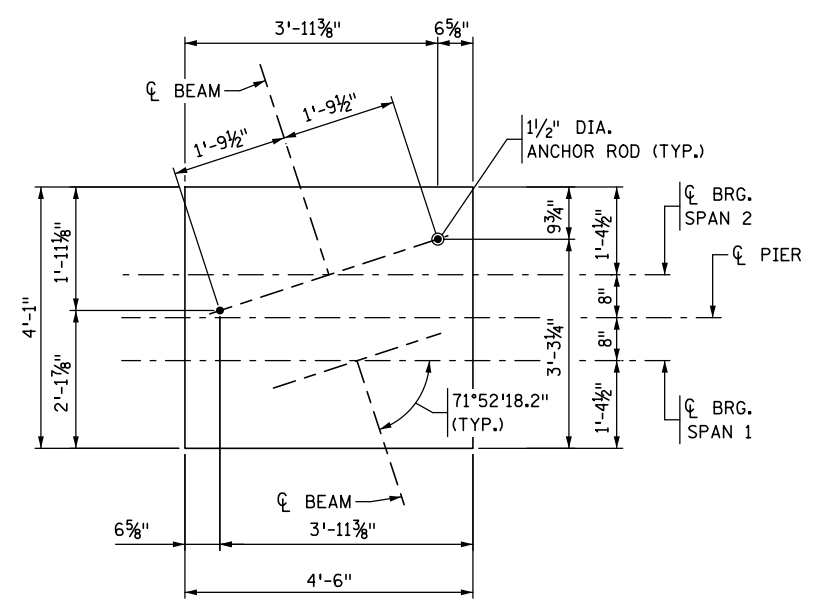
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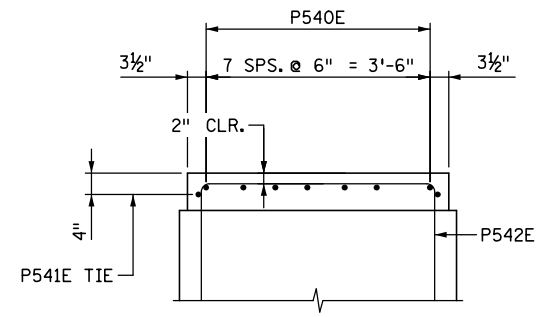
PEDESTAL TYPE "A"
(6 THUS)



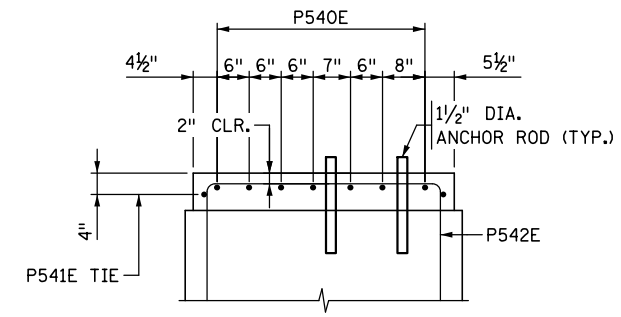
PEDESTAL TYPE "B"
(12 THUS)



ANCHOR ROD LAYOUT



SECTION F-F



SECTION G-G

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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ANOKA COUNTY
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 S.P. 002-611-036

TITLE:
PIER PEDESTAL DETAILS

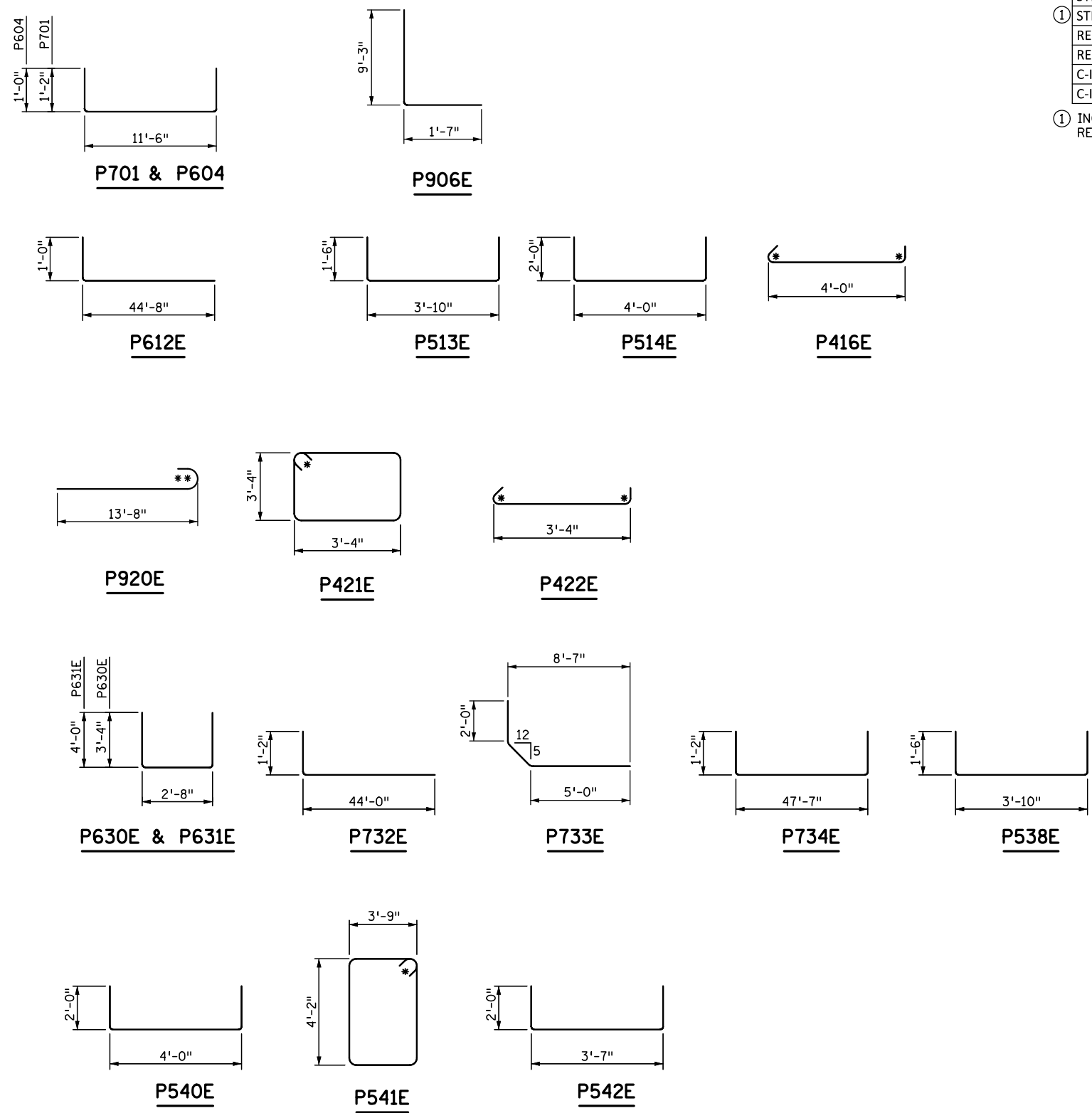
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CHK: MAV	CHK: LJL	
SHEET NO. 35 OF 66 SHEETS		

BRIDGE NO.
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BILL OF REINFORCEMENT - PIER				
BAR	NO.	LENGTH	SHAPE	LOCATION
P701	180	13'-10"	U	FOOTING BOTTOM TRANSVERSE
P602	24	45'-6"	—	FOOTING TOP & BOTTOM LONG. - UNIT 1
P603	24	44'-6"	—	FOOTING TOP & BOTTOM LONG. - UNIT 2
P604	91	13'-6"	U	FOOTING TOP TRANSVERSE
P605	24	7'-0"	—	FOOTING TOP & BOTTOM CONST. JT.
P906E	492	10'-10"	L	CRASH STRUT DOWEL BAR
P810E	396	16'-8"	—	CRASH STRUT VERTICAL BAR
P611E	100	44'-8"	—	CRASH STRUT HORIZONTAL BAR
P612E	10	45'-8"	L	CRASH STRUT TOP HORIZONTAL
P513E	190	6'-10"	U	CRASH STRUT TOP TIE
P514E	50	8'-0"	U	CRASH STRUT END TIE
P615E	55	7'-0"	—	CRASH STRUT CONST. JT.
P416E	324	4'-9"	U	CRASHSTRUT CROSS TIE
P919E	224	23'-3"	—	COLUMN VERTICAL
P920E	224	14'-11"	—	COLUMN VERTICAL
P421E	168	14'-1"	□	COLUMN TIE
P422E	192	4'-1"	U	COLUMN CROSS TIE
P630E	32	9'-4"	U	CAP CANTILEVER STIRRUPS
P631E	456	10'-8"	U	CAP STIRRUPS
P732E	12	45'-2"	U	CAP BOTTOM LONGITUDINAL
P733E	12	10'-11"	U	CAP BOTTOM CANTILEVER LONG.
P734E	12	49'-11"	U	CAP TOP LONGITUDINAL
P635E	8	44'-7"	—	CAP HORIZONTAL
P636E	8	46'-5"	—	CAP HORIZONTAL
P637E	40	47'-7"	—	CAP HORIZONTAL
P538E	28	6'-10"	U	CAP END TIE
P540E	132	8'-0"	U	PEDESTAL TIE
P541E	18	16'-9"	□	PEDESTAL HORIZONTAL TIE
P542E	156	7'-7"	U	PEDESTAL TIE

BAR BENDING DIAGRAMS:



BAR BENDING NOTES:

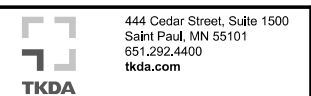
BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON THE DETAIL DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS.
 * DENOTES STANDARD STIRRUP HOOK.
 ** DENOTES STANDARD HOOK.

SUMMARY OF QUANTITIES FOR PIER		
ITEM DESCRIPTION	UNIT	QUANTITY
STRUCTURAL CONCRETE (1G52)	CU YD	162
STRUCTURAL CONCRETE (3B52)	CU YD	389
REINFORCEMENT BARS	POUND	10,440
REINFORCEMENT BARS (EPOXY COATED)	POUND	94,850
C-I-P CONC TEST PILE 75 FT LONG 12"	EACH	3
C-I-P CONCRETE PILING 12"	LIN FT	3,445

① INCLUDES BRIDGE ELEMENTS WITH MASS CONCRETE REQUIREMENTS. SEE SPECIAL PROVISIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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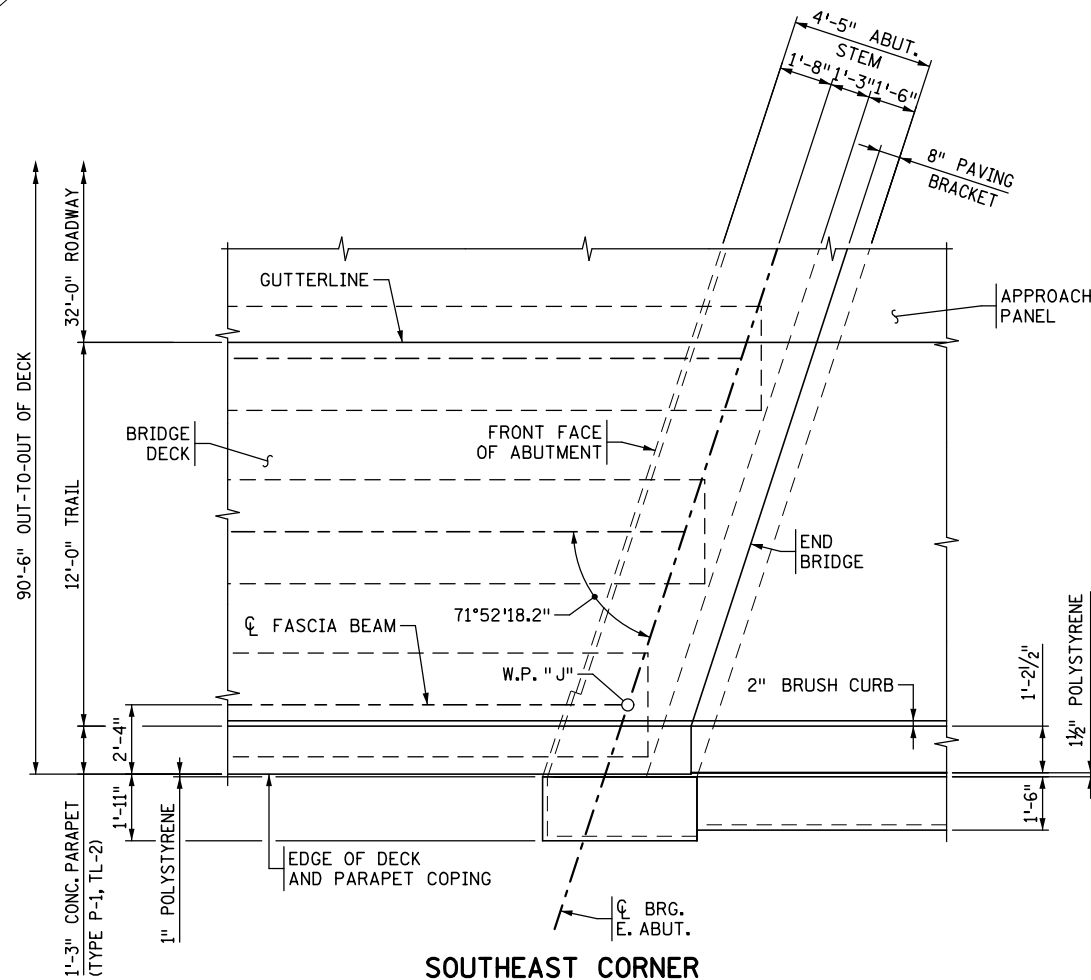
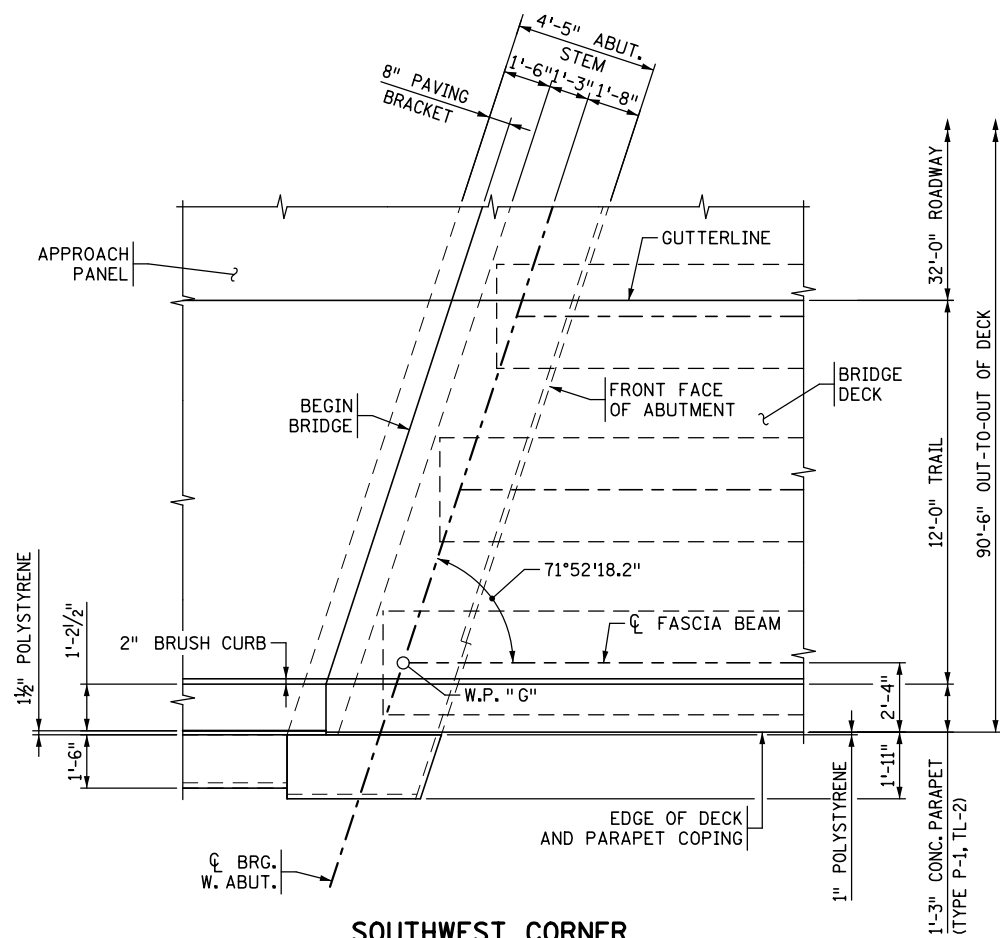
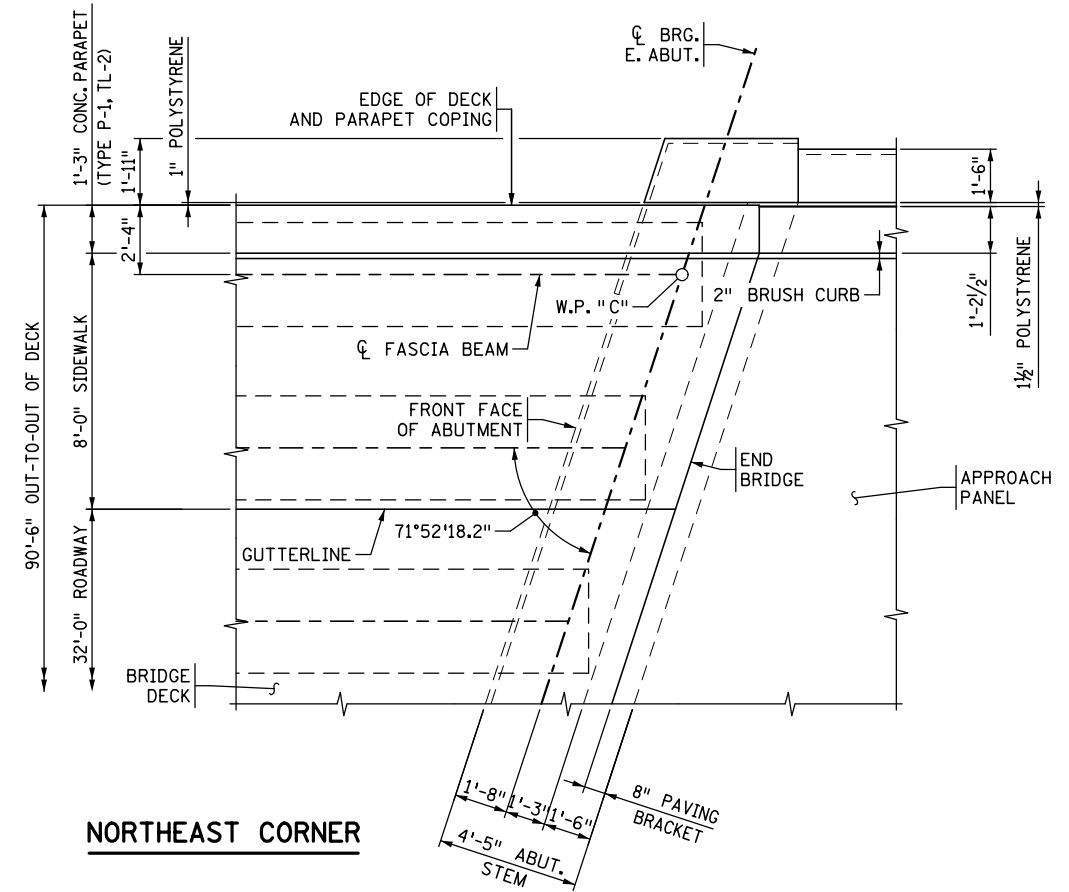
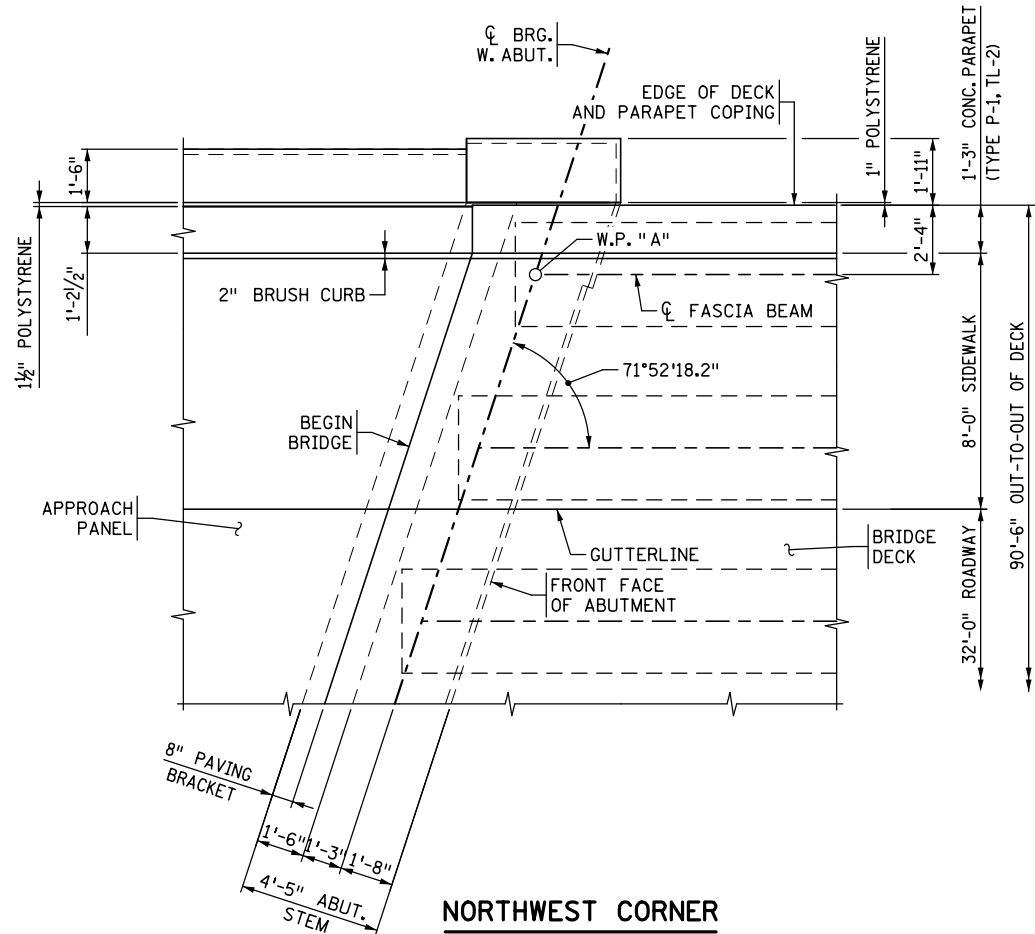
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: PIER BARLIST & QUANTITIES

DES: HAP	DR: HAP	APPROVED
CHK: MAV	CHK: LJL	
SHEET NO. 36 OF 66 SHEETS		

BRIDGE NO. 02584

DATE: 11/19/2020 TIME: 4:22:50 PM
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NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

TKDA

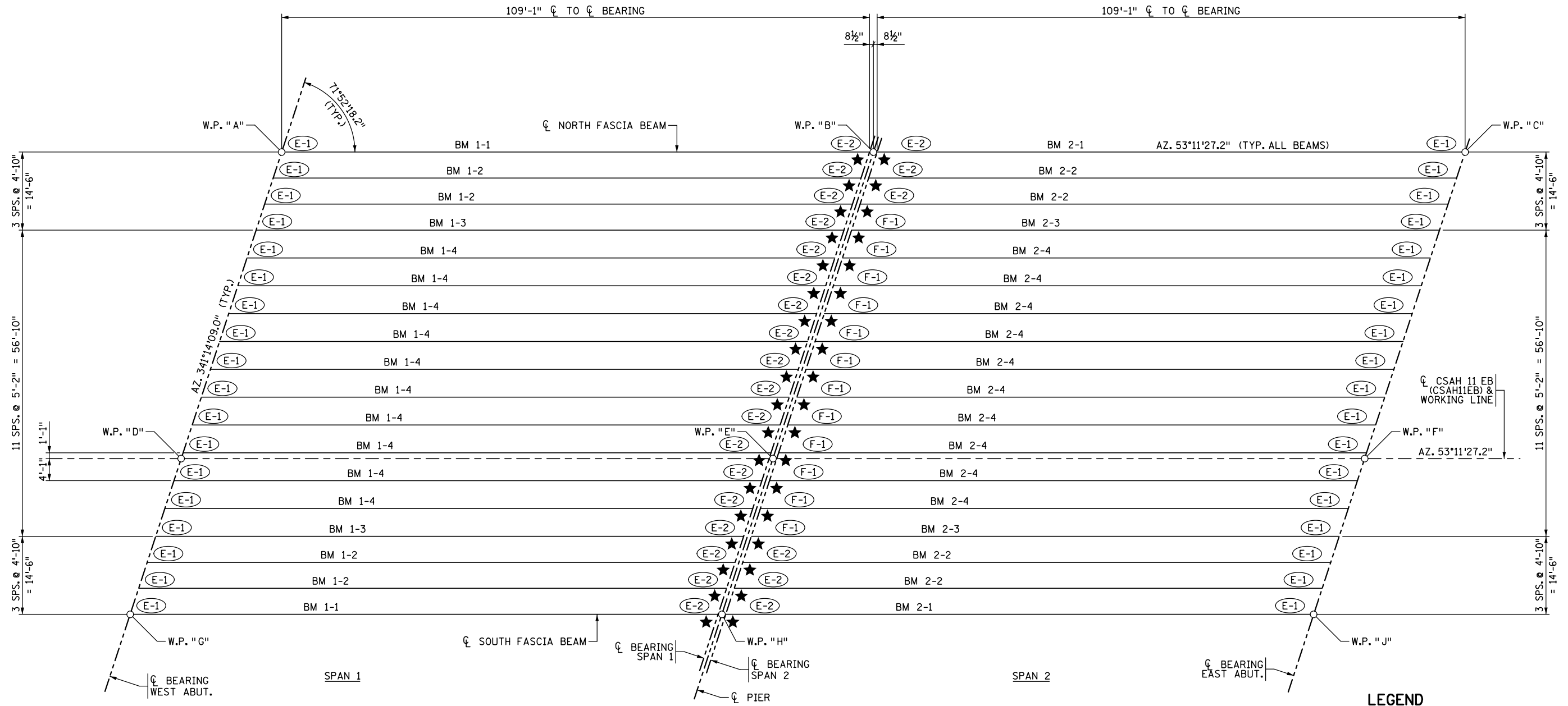
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
CORNER DETAILS

DES: HAP	DR: HAP	APPROVED
CHK: LJL	CHK: LJL	
SHEET NO. 37 OF 66 SHEETS		

BRIDGE NO.
02584

DATE: 11/19/2020 TIME: 4:12:09 PM
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FRAMING PLAN

LEGEND

- BM 1-1
↑ DENOTES SEQUENTIAL BEAM NUMBER IN SPAN
- 1-1
← DENOTES SPAN NUMBER
- (E-1) DENOTES EXPANSION CURVED PLATE BEARING ASSEMBLY, TYPE 1.
- (E-2) DENOTES EXPANSION CURVED PLATE BEARING ASSEMBLY, TYPE 2.
- (F-1) DENOTES FIXED CURVED PLATE BEARING ASSEMBLY, TYPE 1.
- ★ DENOTES END OF BEAM TO BE MARKED "X".

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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TKDA
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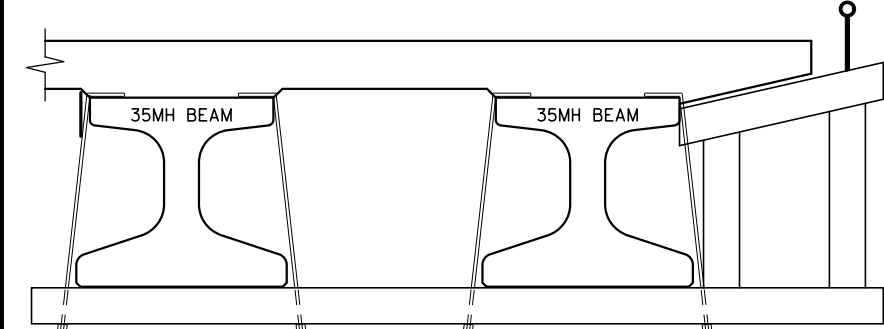
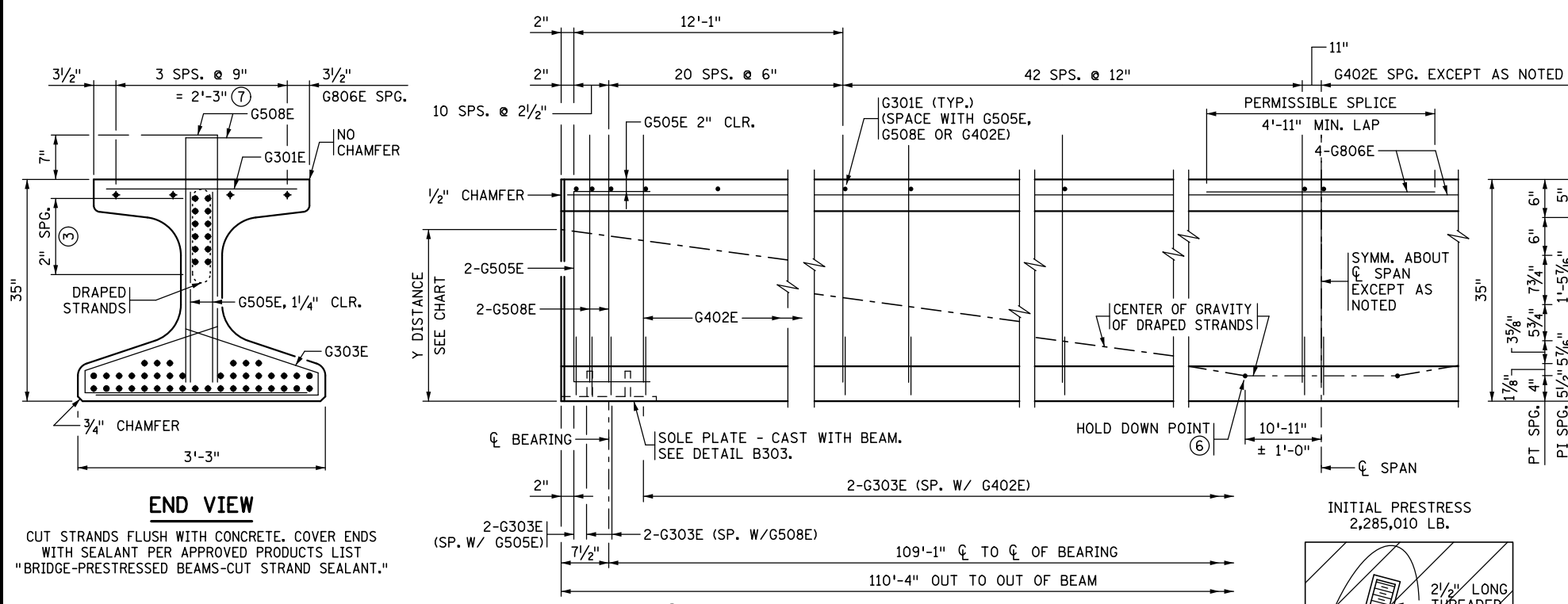
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **FRAMING PLAN**

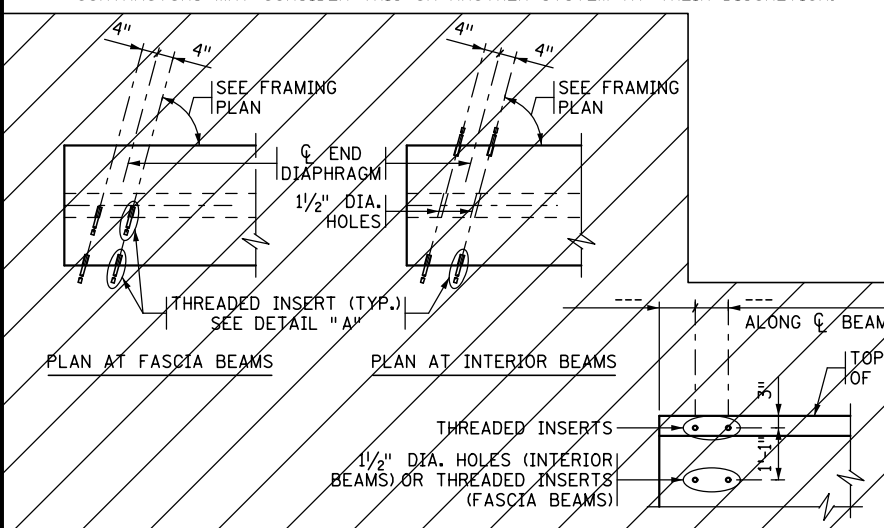
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CHK: HAP	CHK: LJL	
SHEET NO. 38 OF 66 SHEETS		

BRIDGE NO.
02584

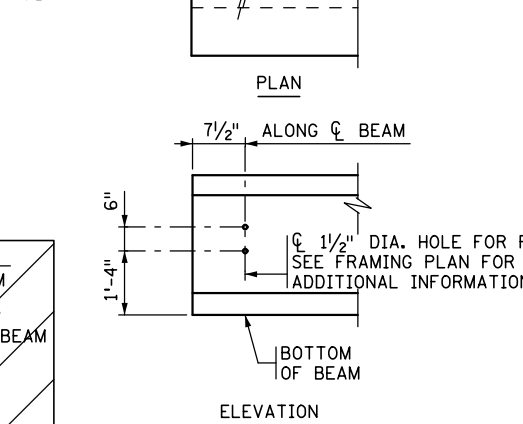
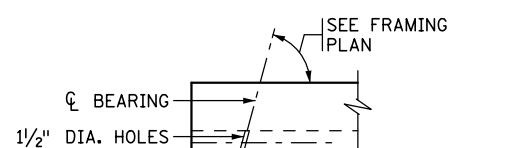
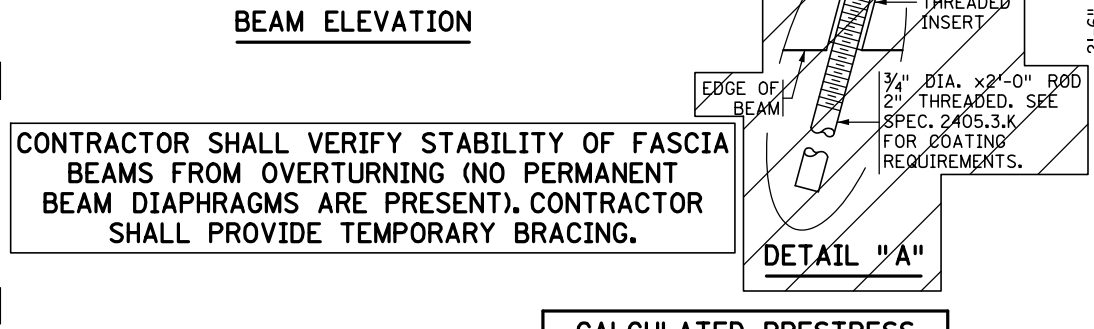
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SEE THE "CONSTRUCTION NOTES" ON FRONT PORTION OF THE BRIDGE PLANS. THIS CONCEPT HAS BEEN USED SUCCESSFULLY ON PREVIOUS PROJECTS. CONTRACTORS MAY CONSIDER THIS OR ANOTHER SYSTEM AT THEIR DISCRETION.



REVISOR: OCTOBER 22, 2019
 APPROVED: DECEMBER 20, 2018
 Kevin Westrom
 STATE BRIDGE ENGINEER

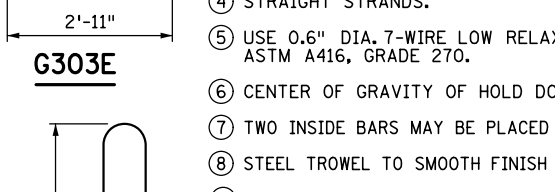
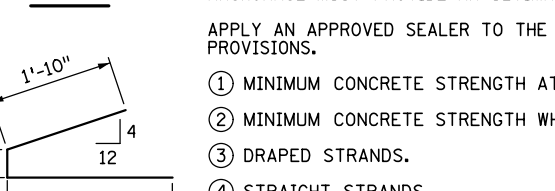
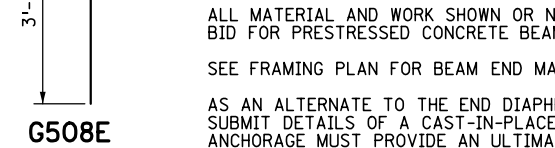
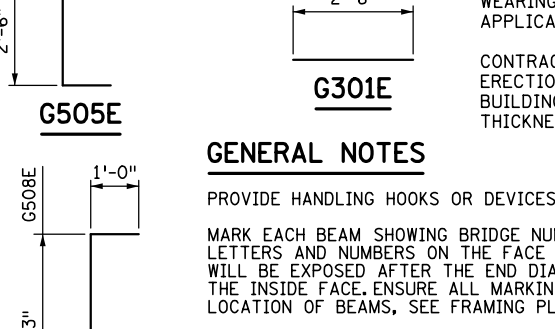
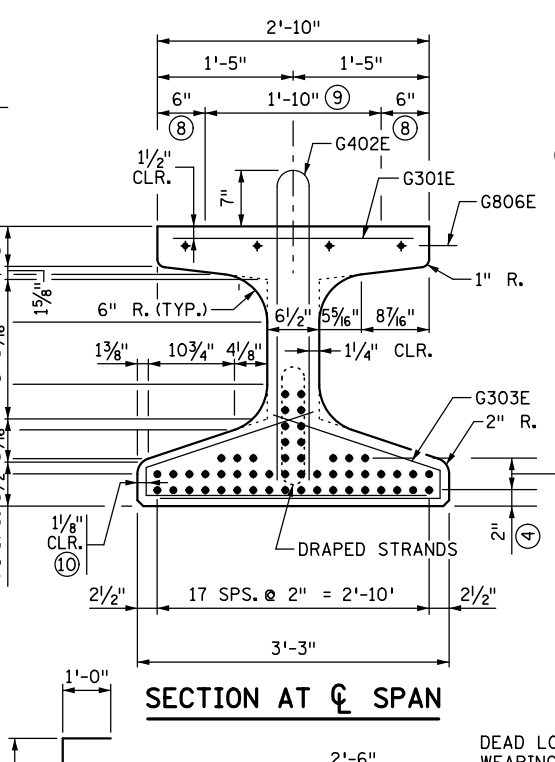


CONCRETE END DIAPHRAGM
 INTEGRAL & SEMI-INTEGRAL ABUTMENT. SEE SUPERSTRUCTURE DETAILS AND REINFORCEMENT FOR DIAPHRAGM DETAILS.

CALCULATED PRESTRESS LOSSES	
ELASTIC SHORTENING LOSS	25.0 KSI
LONG TERM LOSSES	28.0 KSI
TOTAL LOSSES	53.0 KSI

MINIMUM CONCRETE STRENGTH - KSI	
① f'cI	② f'c
7.7 KSI	9.0 KSI

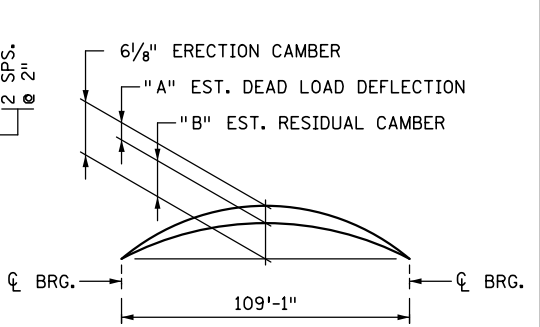
DEFLECTION/CAMBER TABLE		
BEAM ID.	"A"	"B"
BM 1-1 & BM 2-1	5"	1 1/8"
BM 1-2 & BM 2-2	4 3/4"	1 3/8"
BM 1-3 & BM 2-3	5"	1 1/8"
BM 1-4 & BM 2-4	5 1/8"	1"



ALL BEAMS

Y DISTANCES (INCHES)			
	NO.	CL SPAN	END
STRAIGHT STRANDS	40	3.40	
DRAPED STRANDS	12	9.00	27.00
TOTAL STRANDS	52	4.69	

Y = DISTANCE TO CENTER OF GRAVITY OF STRANDS FROM BOTTOM OF BEAM. ALL STRANDS SPACED 2" CENTER TO CENTER, HORIZONTALLY AND VERTICALLY, EXCEPT AS NOTED.
 □ A TOLERANCE OF ± 1" WILL BE PERMITTED IN THIS DIMENSION.



DEAD LOAD DEFLECTION SHOWN IS FOR WEIGHT OF SLAB, WEARING COURSE, BARRIER, SIDEWALK AND MEDIAN WHERE APPLICABLE.
 CONTRACTOR WILL TAKE ELEVATIONS AT TOP OF BEAMS AFTER ERECTION AND WILL ALLOW FOR DEFLECTION SHOWN TO ENABLE BUILDING FORMS TO CORRECT GRADE AND SPECIFIED SLAB THICKNESS. PROVIDE COPY OF ELEVATIONS TO THE ENGINEER.

GENERAL NOTES

- PROVIDE HANDLING HOOKS OR DEVICES AS REQUIRED BY CONTRACTOR.
- MARK EACH BEAM SHOWING BRIDGE NUMBER, CASTING DATE, AND INDIVIDUAL IDENTIFICATION LETTERS AND NUMBERS ON THE FACE OF THE BEAM, NEAR THE END, SO LOCATED THAT THEY WILL BE EXPOSED AFTER THE END DIAPHRAGMS HAVE BEEN CAST. MARK FASCIA BEAMS ON THE INSIDE FACE. ENSURE ALL MARKINGS ARE STENCILLED AND CLEARLY LEGIBLE. FOR LOCATION OF BEAMS, SEE FRAMING PLAN.
- ALL MATERIAL AND WORK SHOWN OR NOTED ON THIS SHEET IS INCLUDED IN UNIT PRICE BID FOR PRESTRESSED CONCRETE BEAMS. SEE SPEC. 2405.
- SEE FRAMING PLAN FOR BEAM END MARKED "X".
- AS AN ALTERNATE TO THE END DIAPHRAGM ANCHORAGES SHOWN, THE CONTRACTOR MAY SUBMIT DETAILS OF A CAST-IN-PLACE ANCHORAGE TO THE ENGINEER FOR APPROVAL. ANCHORAGE MUST PROVIDE AN ULTIMATE PULL OUT STRENGTH OF 15 KIPS PER ANCHORAGE.
- APPLY AN APPROVED SEALER TO THE SIDES OF THE BEAM NEAR EACH END PER THE SPECIAL PROVISIONS.
- ① MINIMUM CONCRETE STRENGTH AT TIME OF PRESTRESS TRANSFER.
- ② MINIMUM CONCRETE STRENGTH WHEN BEAM CAN BE TRANSPORTED AND INSTALLED.
- ③ DRAPED STRANDS.
- ④ STRAIGHT STRANDS.
- ⑤ USE 0.6" DIA. 7-WIRE LOW RELAXATION PRESTRESSING STRAND, CONFORMING TO ASTM A416, GRADE 270.
- ⑥ CENTER OF GRAVITY OF HOLD DOWNS WHEN MULTIPLE HOLD DOWNS ARE USED.
- ⑦ TWO INSIDE BARS MAY BE PLACED ADJACENT TO VERTICAL STIRRUP FOR TYING CONVENIENCE.
- ⑧ STEEL TROWEL TO SMOOTH FINISH AND APPLY BOND BREAKER PER APPROVED PRODUCTS LIST.
- ⑨ ROUGH FLOAT AND BROOM TRANSVERSELY FOR BOND PER SPEC. 2405.3.D.
- ⑩ TYP. CLR. DISTANCE FOR ENTIRE BOTTOM FLANGE.

FIG. 5-397.502 MOD.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 35MH PCB (PRETENSIONED)
 35MH-111

DES:	DR:	APPROVED
ADL	ADL	
CHK:	CHK:	
HAP	LJL	

SHEET NO. 39 OF 66 SHEETS

BRIDGE NO.
02584

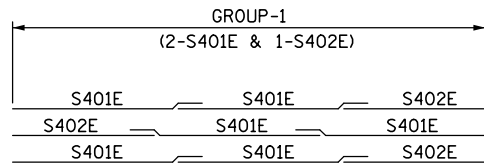
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BAR CALL-OUTS:

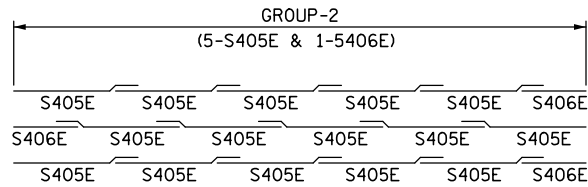
- ① 150 OF GROUP-1 BARS @ 8 1/2" SPS. = 105'-6 1/2".
FOR GROUP LAYOUT SEE SCHEMATIC "A".
ALTERNATE SPLICES AS SHOWN IN SCHEMATIC "A".
- ② 121 OF GROUP-2 BARS @ 9" MAX. SPS. = 89'-4".
FOR GROUP LAYOUT SEE SCHEMATIC "B".
ALTERNATE SPLICES AS SHOWN IN SCHEMATIC "B".
- ③ 35-S416E PER BEAM TO MATCH G402E, PLACE IN MIDDLE THIRD OF BEAM. SEE "HAT BAR FOR BEAMS WITH LARGE STOOL HEIGHTS" DETAIL FOR PLACEMENT.

NOTES:

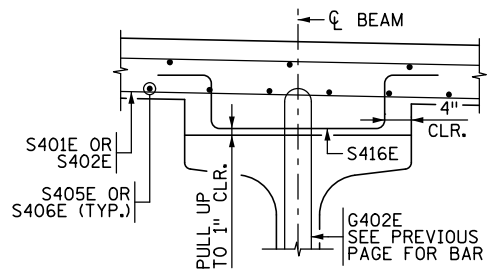
- ① SCHEMATIC "B" SHOWN IS FOR OUT-TO-OUT OF DECK.



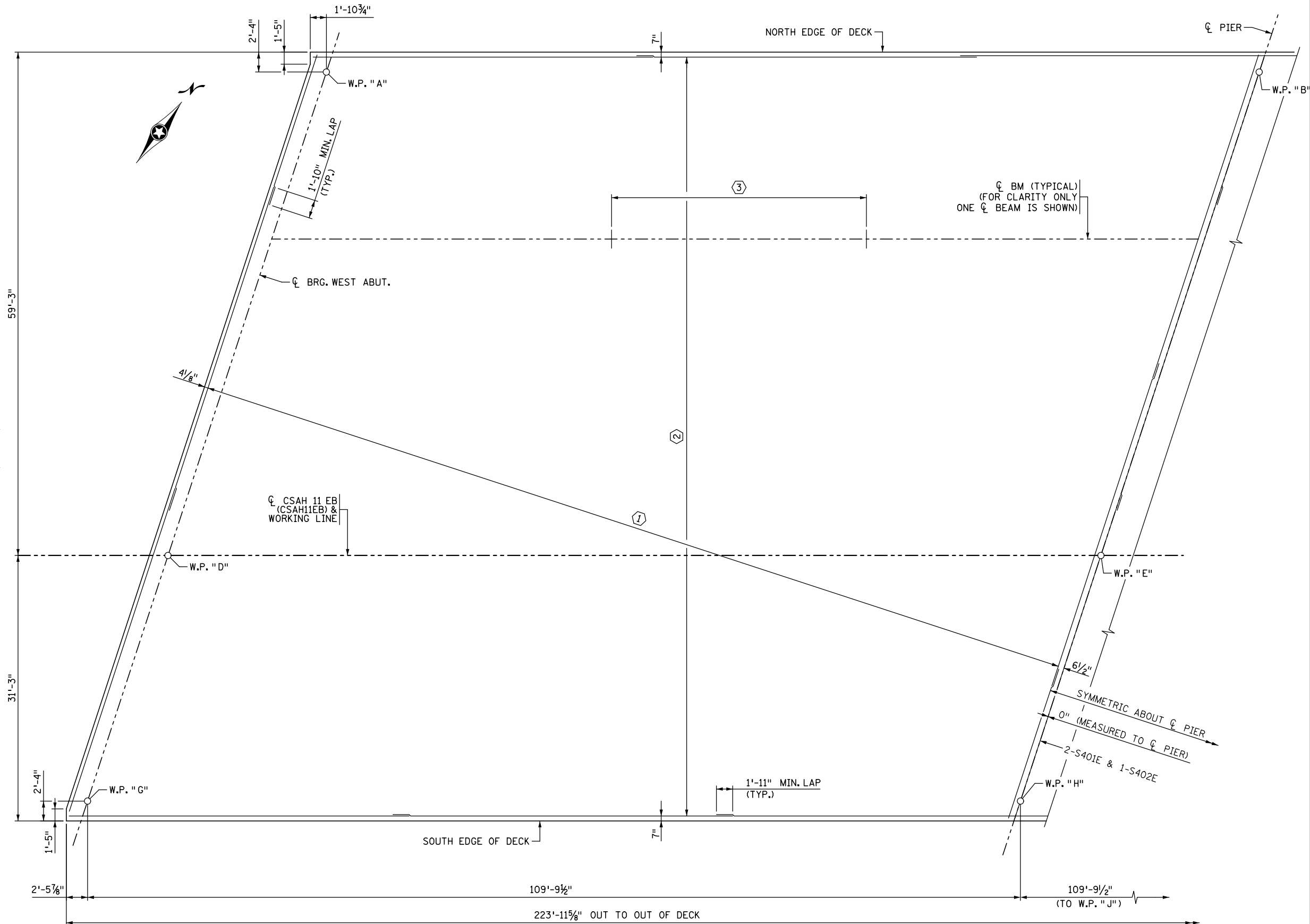
SCHEMATIC "A"



SCHEMATIC "B" ①



HAT BAR FOR BEAMS WITH LARGE STOOL HEIGHTS
(FOR STOOL HEIGHTS OVER 5")



DECK REINFORCEMENT - BOTTOM

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298


 444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **BOTTOM LAYER DECK REINFORCEMENT**

DES: ADL	DR: ADL	APPROVED
CHK: LJL	CHK: LJL	
SHEET NO. 40 OF 66 SHEETS		

BRIDGE NO. **02584**

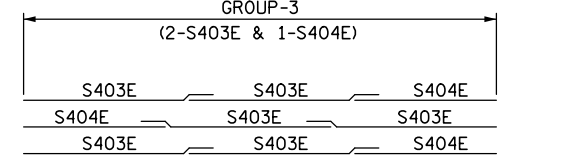
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BAR CALL-OUTS:

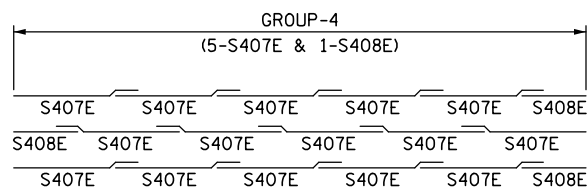
- ① 142 OF GROUP-3 BARS @ 9" SPS. = 105'-9".
FOR GROUP LAYOUT SEE SCHEMATIC "A".
ALTERNATE SPLICES AS SHOWN IN SCHEMATIC "A".
- ② 61 OF GROUP-4 BARS @ 1'-6" MAX. SPS. = 89'-11".
FOR GROUP LAYOUT SEE SCHEMATIC "B".
ALTERNATE SPLICES AS SHOWN IN SCHEMATIC "B".
- ③ 120-S609E PLACED AS SHOWN IN "BAR STAGGER DIAGRAM OVER PIER".
- ④ 71-S411E W/ 142-S413E TIES (PLACED IN PAIRS) @ 1'-6" MAX. SPS. = 105'-9".
- ⑤ 8 OF GROUP-5 BARS @ 12" MAX. SPS. = 6'-6".
FOR GROUP LAYOUT SEE SCHEMATIC "C".
ALTERNATE SPLICES AS SHOWN IN SCHEMATIC "C".
- ⑥ 71-S412E W/ 142-S413E TIES (PLACED IN PAIRS) @ 1'-6" MAX. SPS. = 105'-9".
- ⑦ 12 OF GROUP-5 BARS @ 12" MAX. SPS. = 10'-6".
FOR GROUP LAYOUT SEE SCHEMATIC "C".
ALTERNATE SPLICES AS SHOWN IN SCHEMATIC "C".

NOTES:

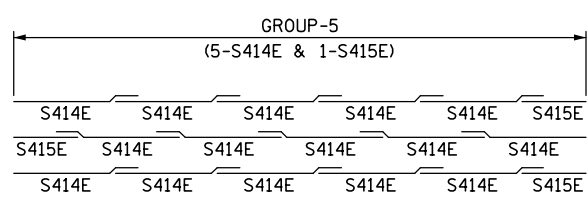
- ① TYPICAL FOR TRANSVERSE BARS (INCLUDES S411E, S412E & S413E TIES).
- ② NORTH SIDEWALK SIMILAR.
- ③ SCHEMATIC IS SHOWN FOR OUT-TO-OUT OF DECK.



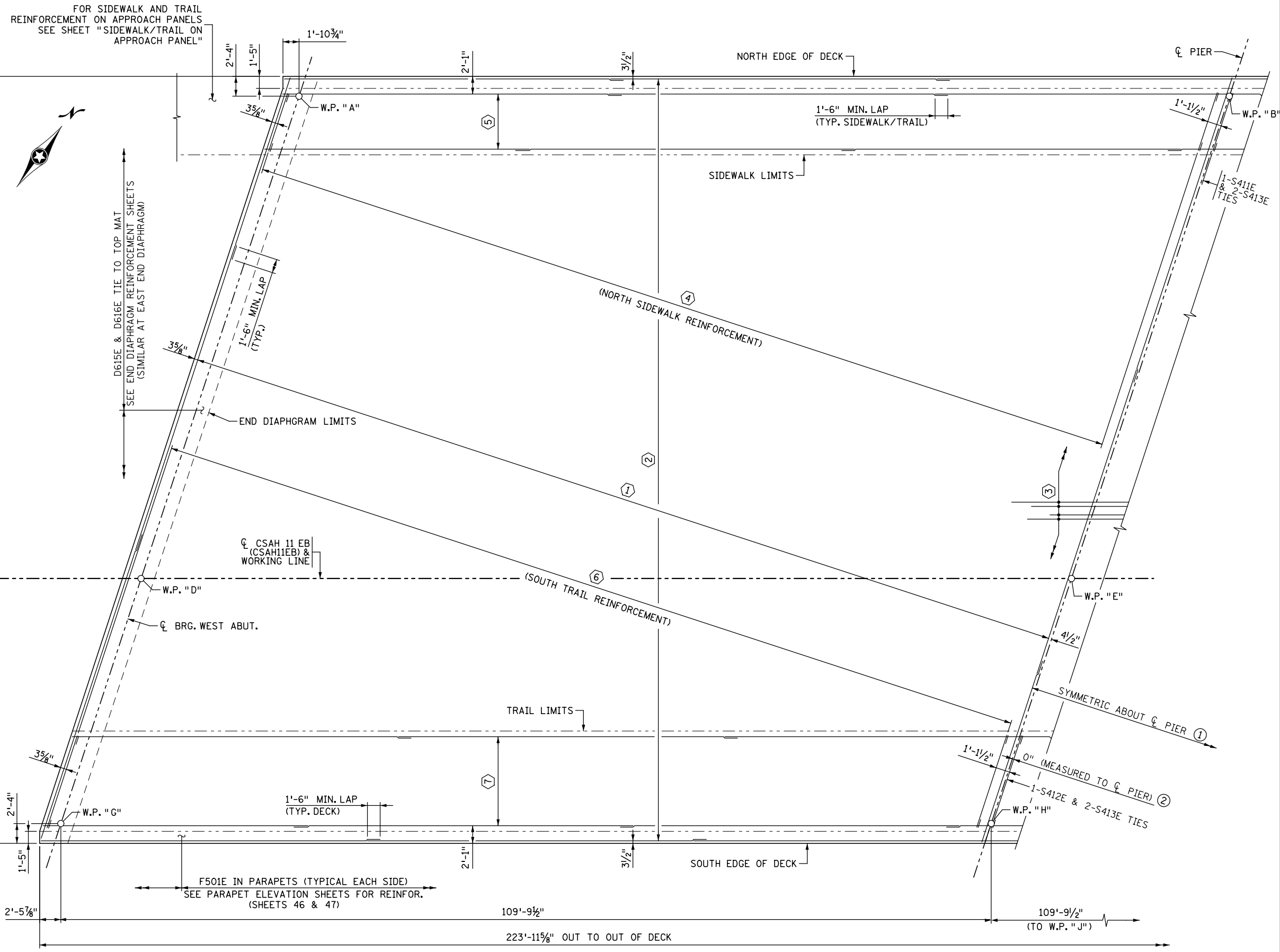
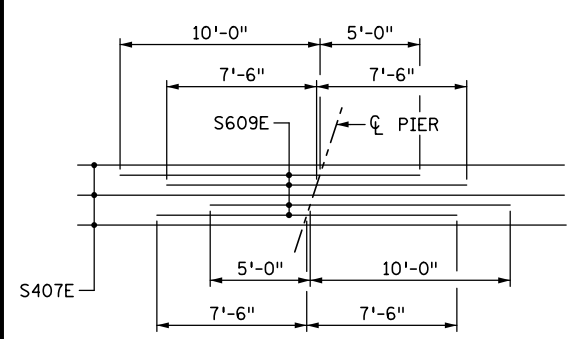
SCHEMATIC "A"



SCHEMATIC "B" ③



SCHEMATIC "C" ③



DECK REINFORCEMENT - TOP

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

TKDA
 444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

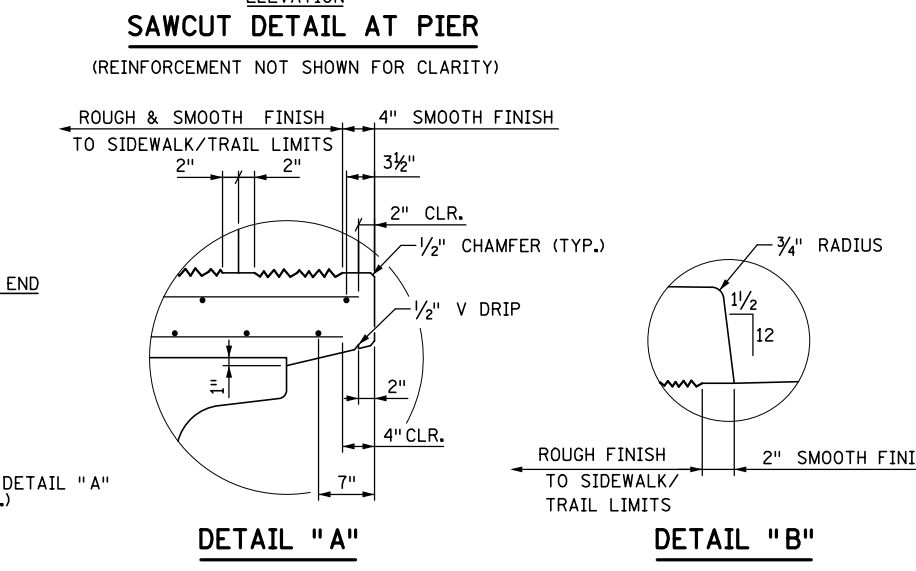
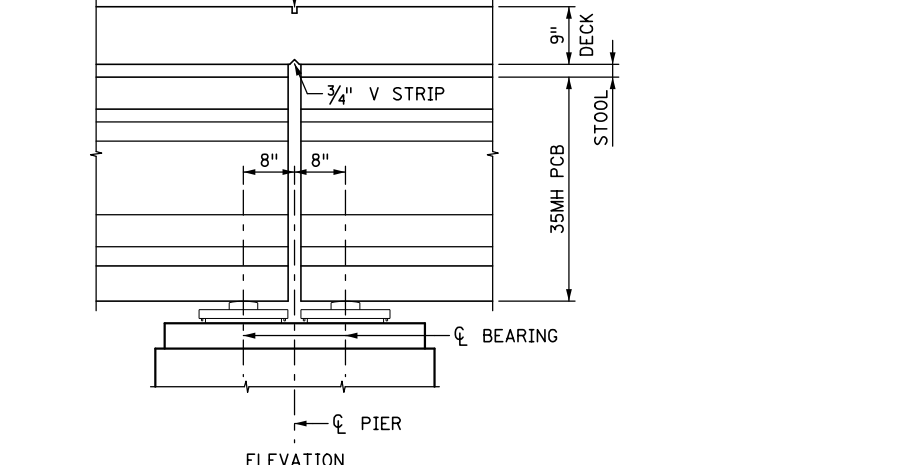
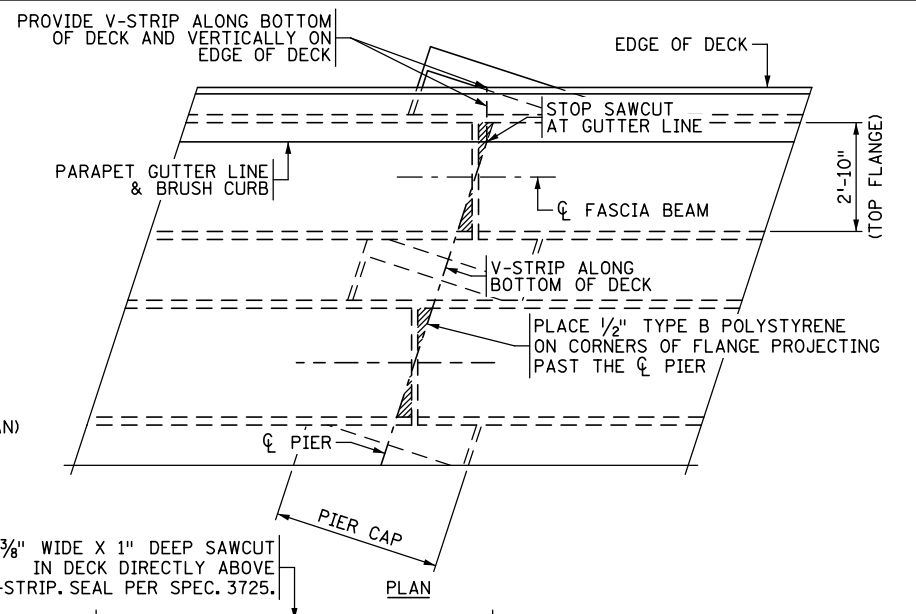
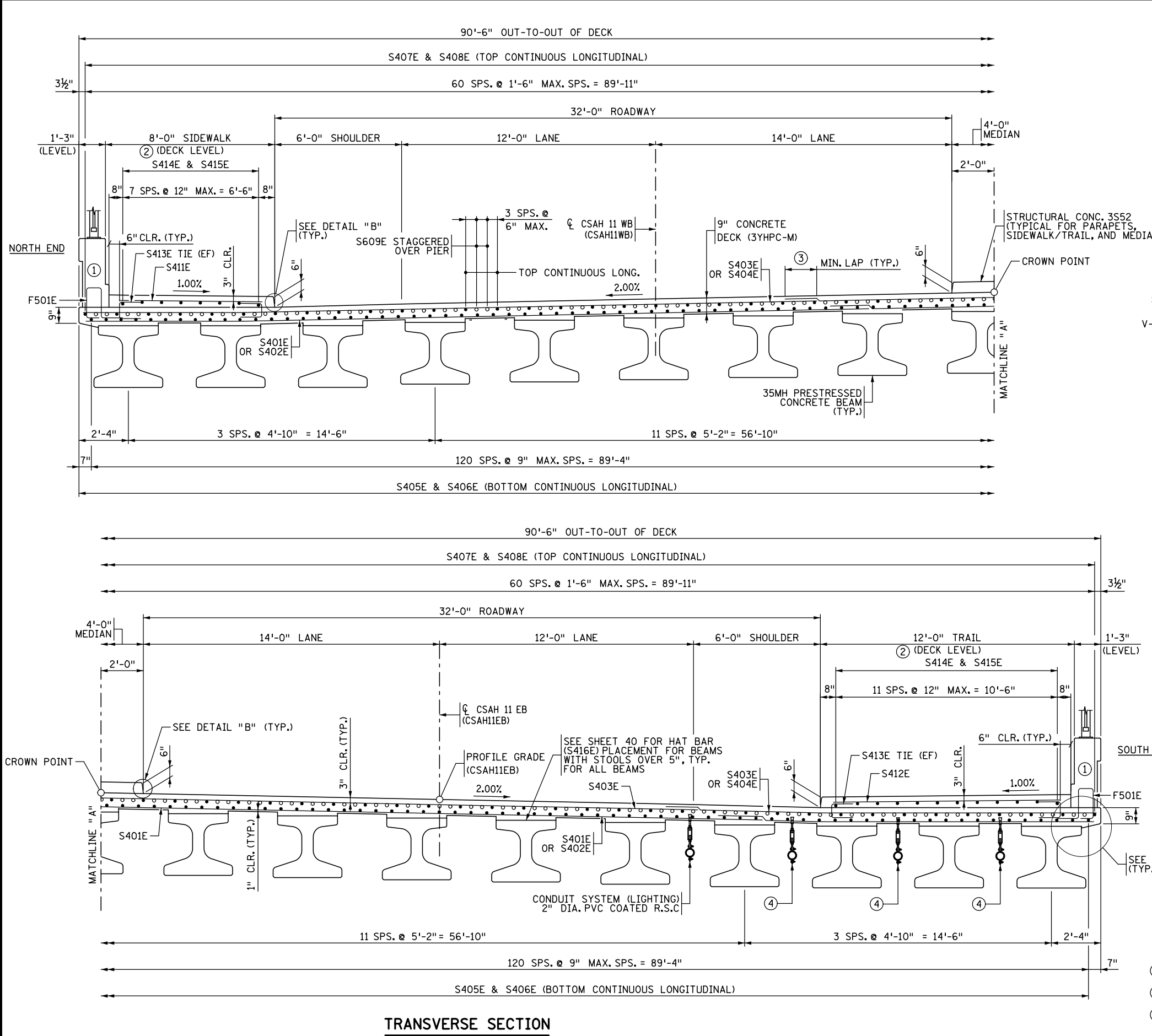
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **TOP LAYER DECK REINFORCEMENT**

DES: ADL	DR: ADL	APPROVED
CHK: LJJ	CHK: LJJ	
SHEET NO. 41 OF 66 SHEETS		

BRIDGE NO. **02584**

DATE: 11/19/2020 TIME: 4:12:27 PM
 FILENAME: pm:\tkda-pw\benfley.com\tkda-pw-ONDocuments\Projects\A-F\AnokaCounty\703000004-Production\OL_CAD\Bridges\Super\CBR02584_sup08.dgn



- NOTES:**
- REMOVE ALL NON-GALVANIZED AND NON-EPOXY COATED FERROUS METAL, EXCLUDING SHEAR STUDS, TO WITHIN 1/2" OF THE TOP FLANGE PRIOR TO CASTING DECK.
 - ① CONCRETE PARAPET (TYPE P-1, TL-2) W/ ORNAMENTAL METAL RAILING TYPE 1 SPECIAL.
 - ② LEVEL SURFACE TO BE ROUGH. SEE DETAIL "A" AND "B" FOR START AND END OF SMOOTH FINISH.
 - ③ TOP TRANSVERSE BARS MIN. LAP = 1'-6". BOTTOM TRANSVERSE BARS MIN. LAP = 1'-10".
 - ④ CONDUIT SYSTEM (FUTURE) 3" DIA. PVC COATED.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE

DATE: 11/19/2020 LIC. NO.: 48298

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
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ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

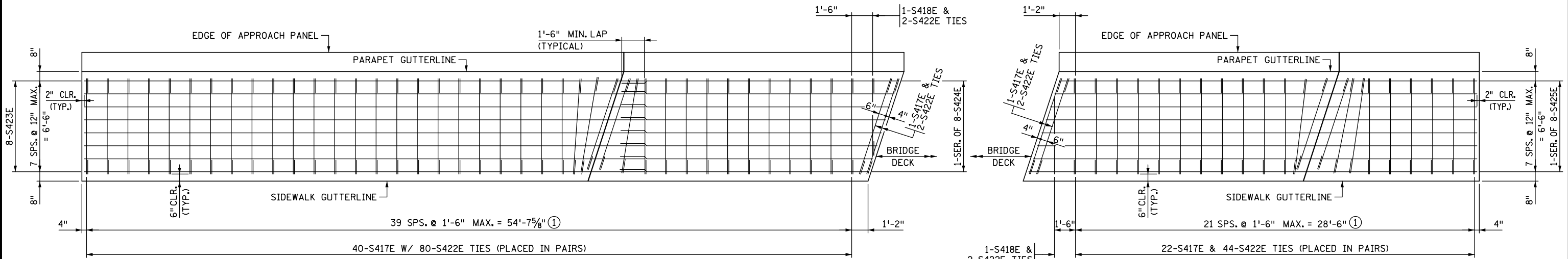
TITLE:
SUPERSTRUCTURE DETAILS

DES: ADL	DR: ADL	APPROVED
CHK: LJJ	CHK: LJJ	

SHEET NO. 42 OF 66 SHEETS

BRIDGE NO.
02584

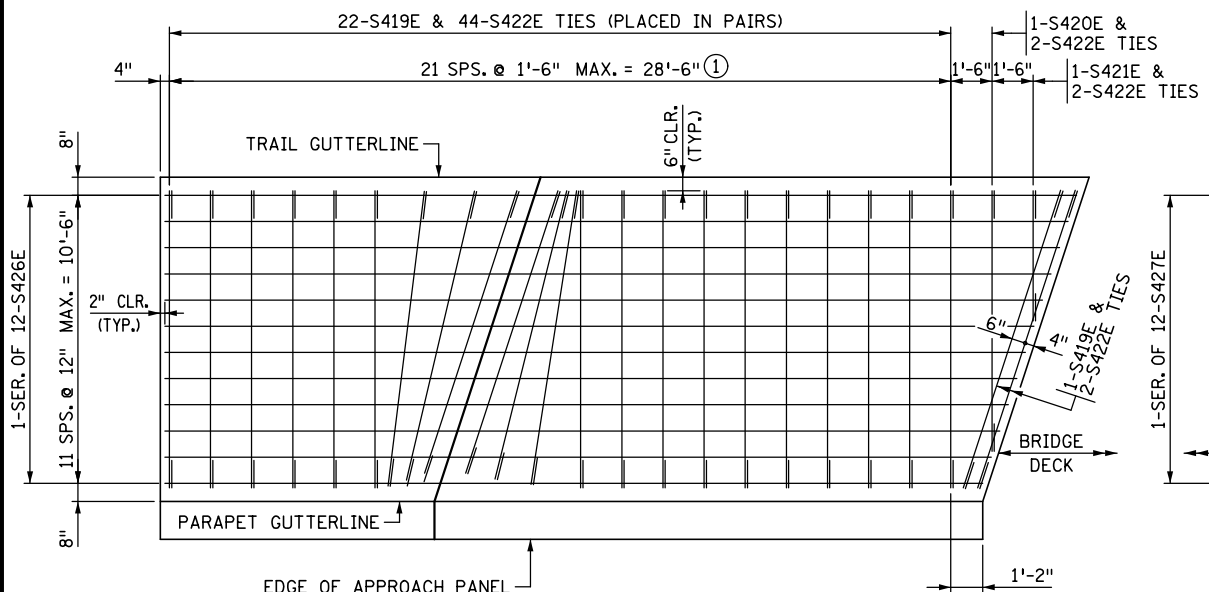
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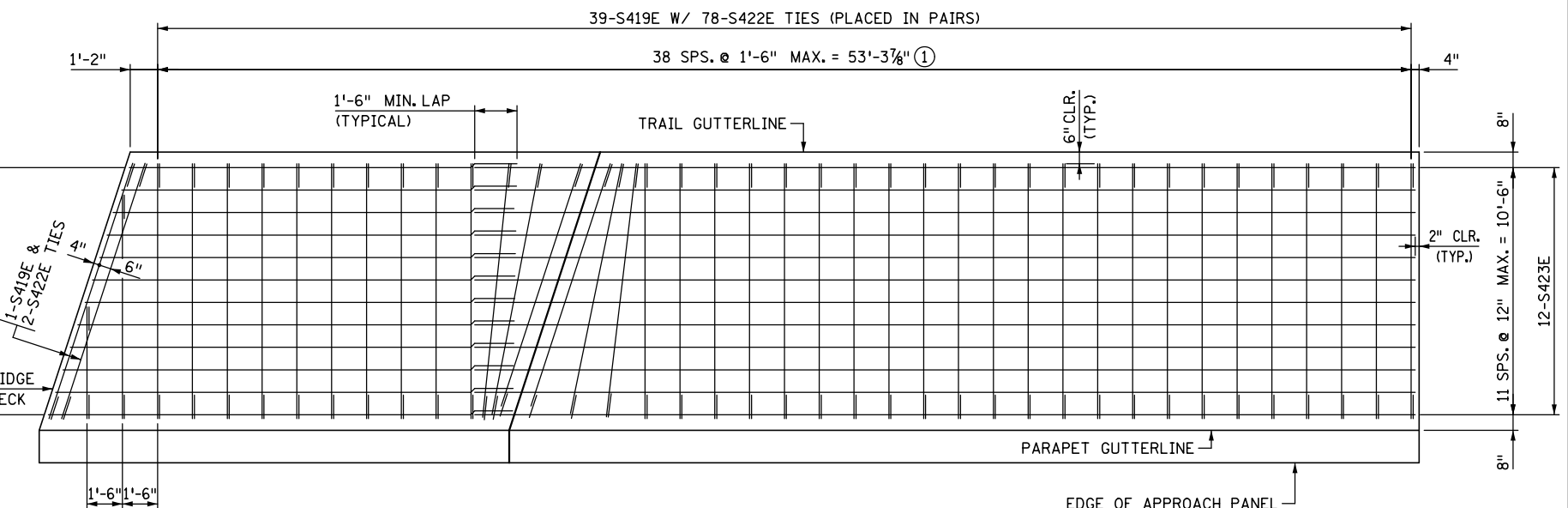
NOTES:
 (1) FLARE BARS AS NECESSARY TO AVOID SAW CUT JOINT.

NORTHWEST SIDEWALK

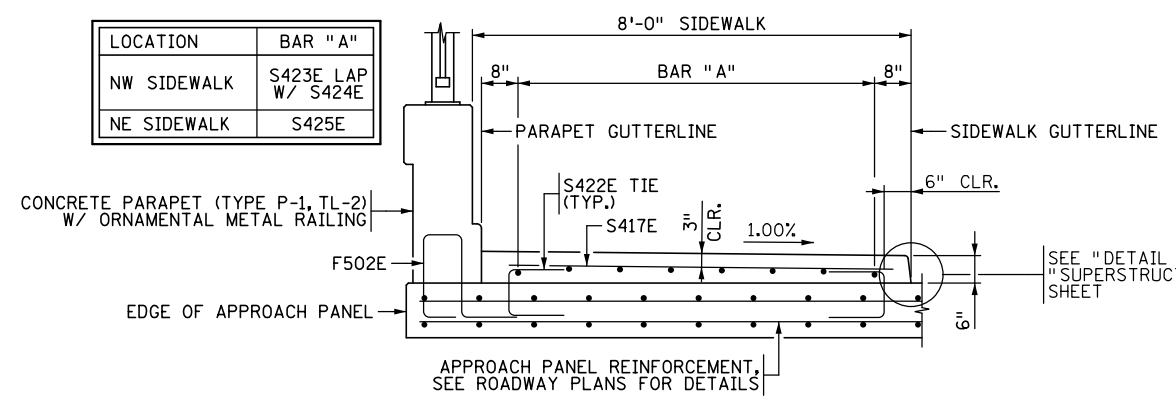
NORTHEAST SIDEWALK



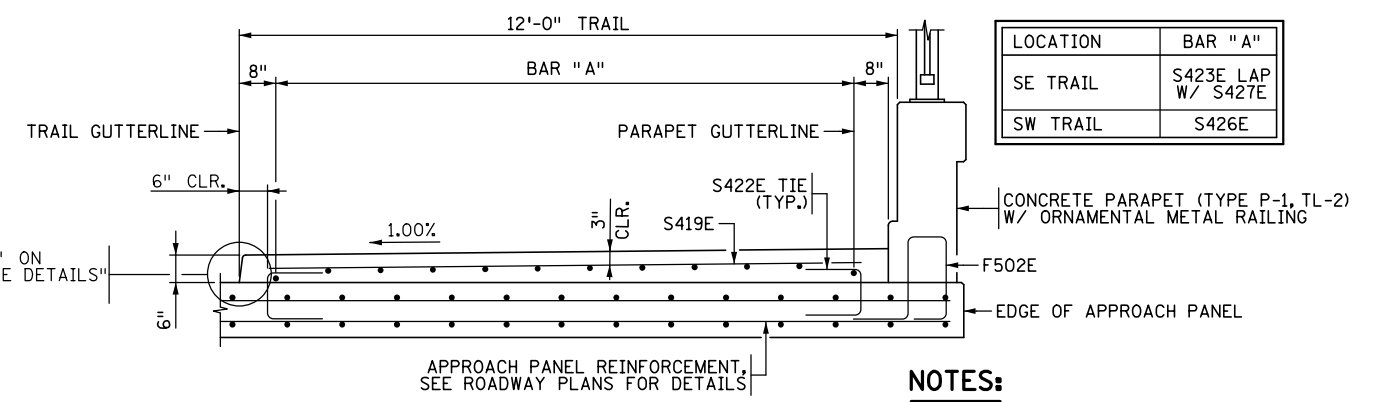
SOUTHWEST TRAIL



SOUTHEAST TRAIL



SIDEWALK TYPICAL SECTION
(LOOKING EAST)



TRAIL TYPICAL SECTION
(LOOKING EAST)

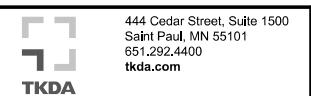
NOTES:
 THE BILL OF REINFORCEMENT FOR THE SIDEWALK AND TRAIL HAS BEEN INCLUDED AND DETAILED IN THE BRIDGE PLAN, BUT SHALL BE INCLUDED FOR PAYMENT WITH 2406.504 BRIDGE APPROACH PANELS IN THE ROADWAY PLANS

LOCATION	BAR "A"
NW SIDEWALK	S423E LAP W/ S424E
NE SIDEWALK	S425E

LOCATION	BAR "A"
SE TRAIL	S423E LAP W/ S427E
SW TRAIL	S426E

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 SIDEWALK/TRAIL ON
 APPROACH PANEL

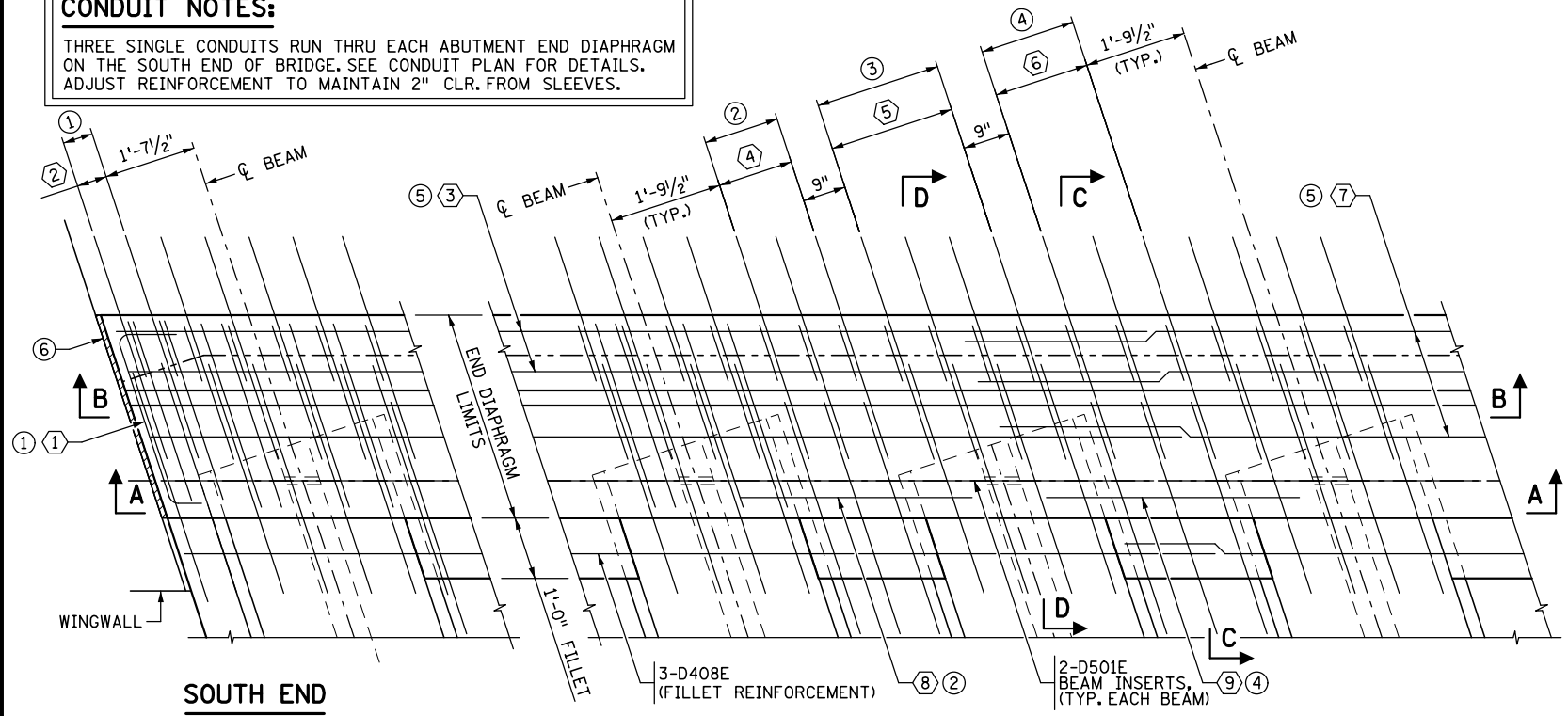
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CHK: LJJ	CHK: LJJ	

SHEET NO. 43 OF 66 SHEETS

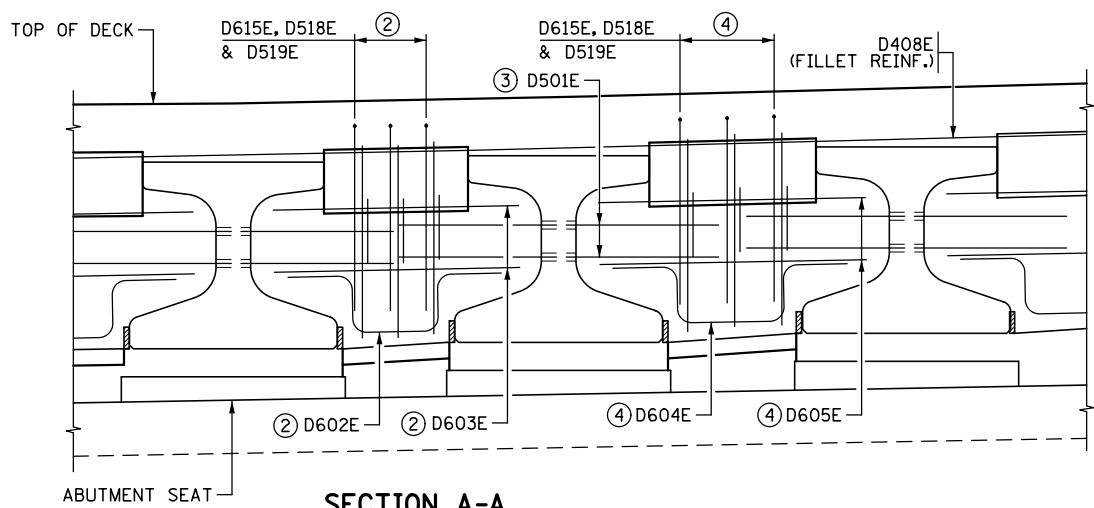
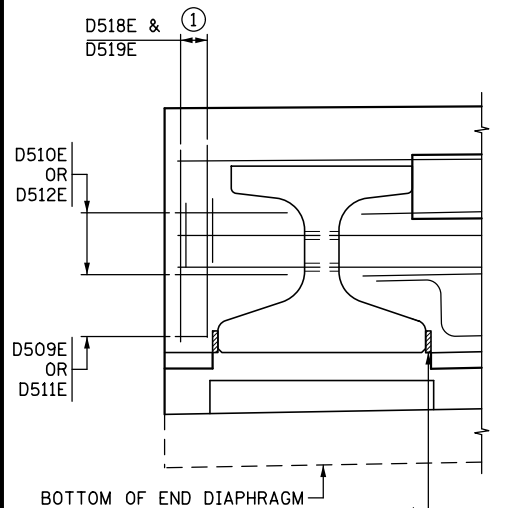
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CONDUIT NOTES:
 THREE SINGLE CONDUITS RUN THRU EACH ABUTMENT END DIAPHRAGM ON THE SOUTH END OF BRIDGE. SEE CONDUIT PLAN FOR DETAILS. ADJUST REINFORCEMENT TO MAINTAIN 2" CLR. FROM SLEEVES.

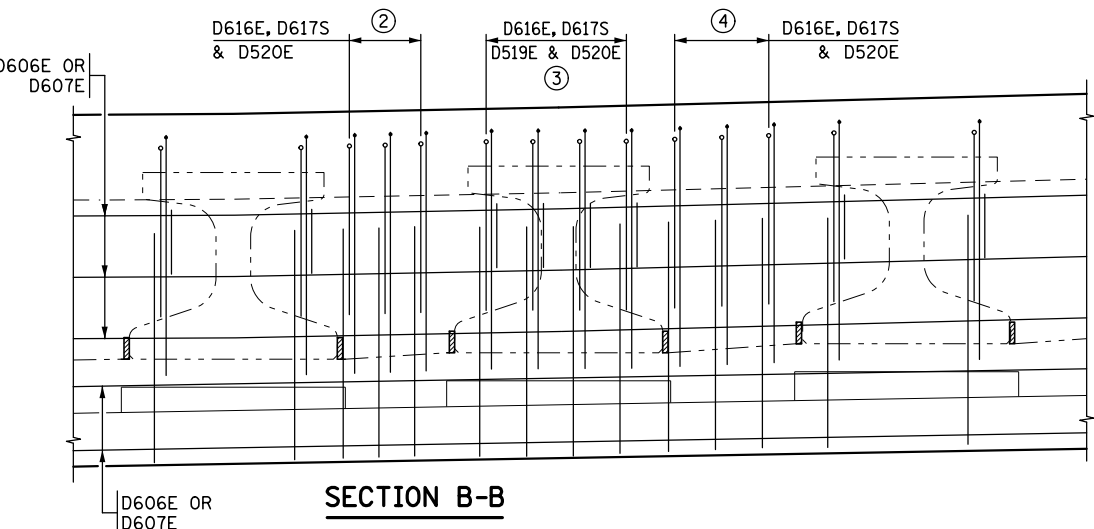
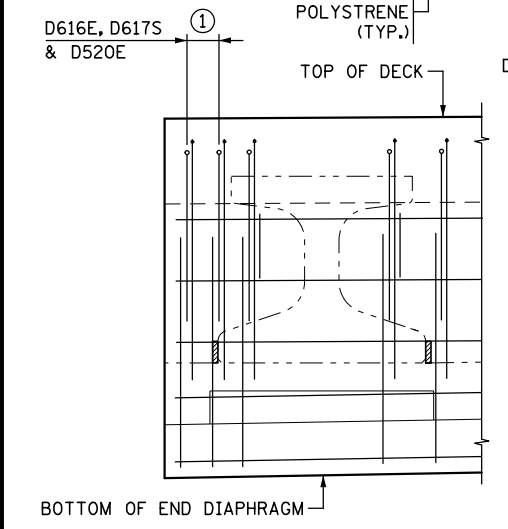


PARTIAL END DIAPHRAGM PLAN
 (WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR)



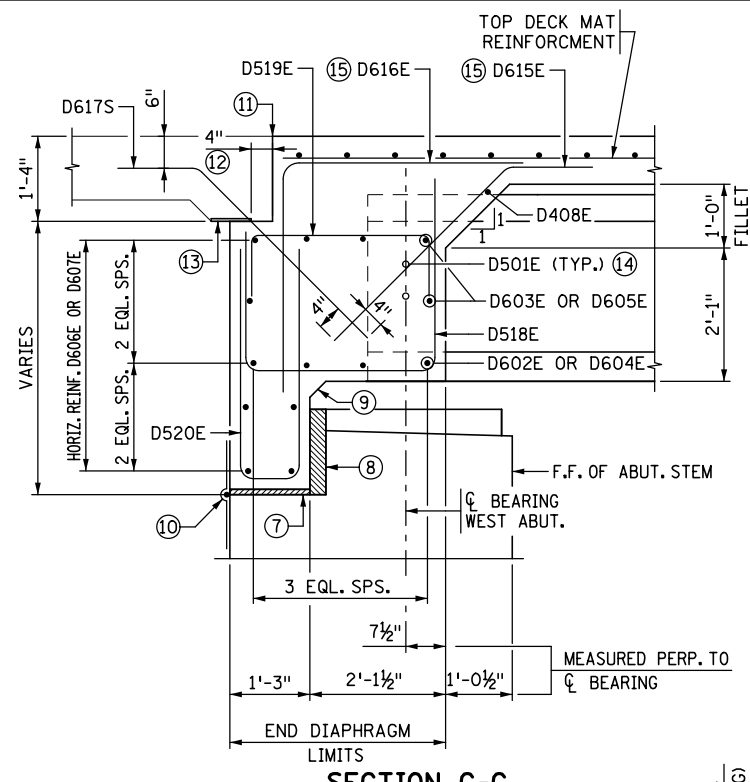
SECTION A-A

SECTION B-B

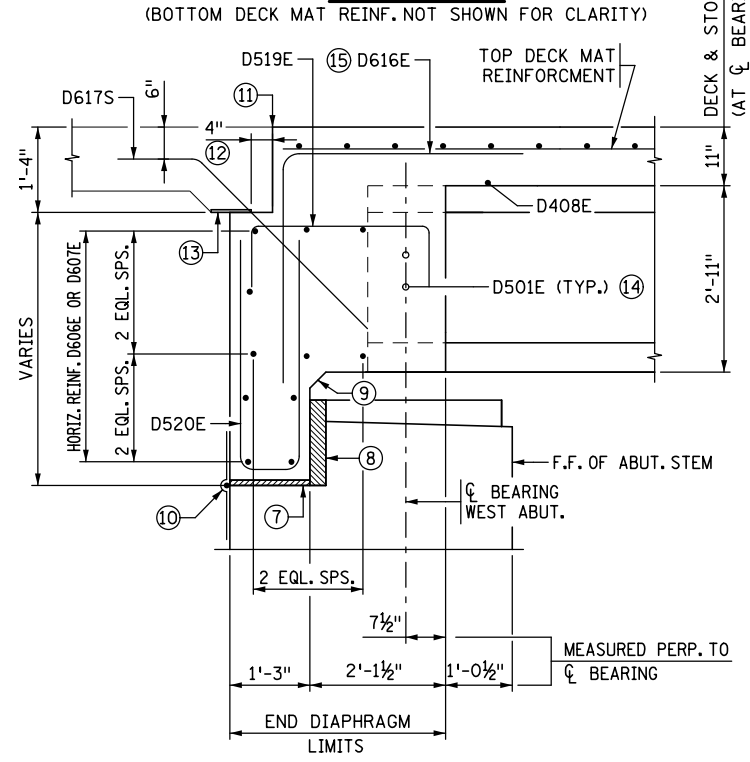


SECTION C-C

SECTION D-D



SECTION C-C



SECTION D-D

SECTION C-C AND D-D NOTES:

- ⑦ 1" TYPE A POLYSTYRENE.
- ⑧ 3" TYPE B POLYSTYRENE.
- ⑨ 3" x 3" FILLET.
- ⑩ 1" BACKER ROD WITH MEMBRANE WATERPROOFING SYSTEM PER MNDOT SPEC. 2481.3.B EXCEPT THE STRIP SHALL BE 24" WIDE TO ALLOW MOVEMENT.
- ⑪ SAWCUT AND SEAL AT END OF BRIDGE.
- ⑫ DISTANCE TO D617S BAR.
- ⑬ 7" x 1/2" BIT. FELT.
- ⑭ SEE SHEET 35MH PRESTRESSED CONCRETE BEAM (PRETENSIONED) 35MH-111 FOR BEAM INSERT LOCATIONS.
- ⑮ TIE TO TOP DECK MAT REINFORCEMENT.

MINIMUM LAPS:

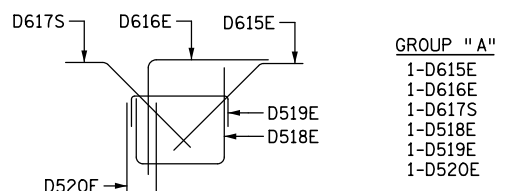
- #4 BARS = 1'-6"
- #6 BARS = 2'-10"

NOTES:

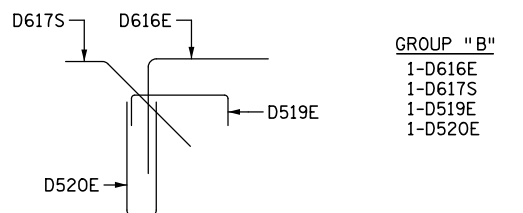
- ① TYPICAL AT FASCIA BAY ENDS, 2 THUS.
- ② TYPICAL AT 4'-10" BAYS, 6 THUS.
- ③ TYPICAL AT BEAMS, 18 THUS.
- ④ TYPICAL AT 5'-2" BAYS, 11 THUS.
- ⑤ ALTERNATE PLACEMENT OF BARS TO STAGGER SPLICES.
- ⑥ 1" TYPE B POLYSTYRENE BETWEEN BRIDGE DECK AND ABUTMENT. SEAL TOP WITH SELF-LEVELING SILICONE PER SPEC. 3722.

BAR CALL-OUTS:

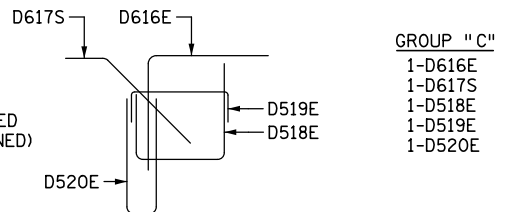
- ① 1-D509E & 2-D510E (SOUTH END), 1-D511E & D512E (NORTH END) TO MATCH D606E & D607E SPACING.
- ② 2 BAR GROUPS "C" @ 6" SPACING, SEE SECTION C-C FOR SIMILAR PLACEMENT.
- ③ 8-D606E AND 4-D607E PLACED AS SHOWN IN SECTION C-C OR D-D.
- ④ 3 BAR GROUPS "A" @ 2 EQL. SPS. = 1'-3".
- ⑤ 4 BAR GROUPS "B" @ 3 EQL. SPS. = 2'-1".
- ⑥ 3 BAR GROUPS "A" @ 2 EQL. SPS. = 1'-7".
- ⑦ 14-D606E AND 7-D607E PLACED AS SHOWN IN SECTION C-C.
- ⑧ 1-D602E AND 2-D603E PLACED AS SHOWN IN SECTION C-C.
- ⑨ 1-D604E AND 2-D605E PLACED AS SHOWN IN SECTION C-C.



- GROUP "A"**
- 1-D615E
 - 1-D616E
 - 1-D617S
 - 1-D518E
 - 1-D519E
 - 1-D520E



- GROUP "B"**
- 1-D616E
 - 1-D617S
 - 1-D519E
 - 1-D520E



- GROUP "C"**
- 1-D616E
 - 1-D617S
 - 1-D518E
 - 1-D519E
 - 1-D520E

GROUP "C"

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **END DIAPHRAGM REINFORCEMENT**

DES: ADL	DR: ADL	APPROVED
CHK: LJJ	CHK: LJJ	
SHEET NO. 44 OF 66 SHEETS		

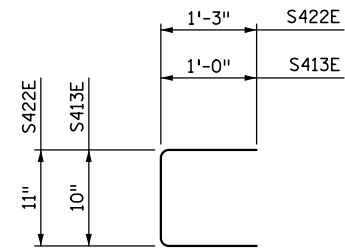
BRIDGE NO. **02584**

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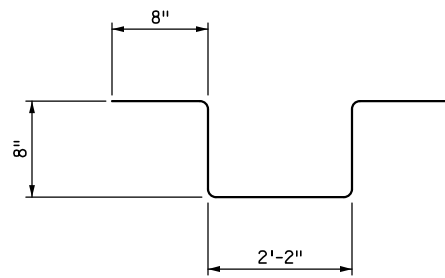
BILL OF REINFORCEMENT - SUPERSTRUCTURE

BAR	NO.	LENGTH	SHAPE	LOCATION
S401E	602	40'-0"	—	TRANSVERSE - BOTTOM MAT
S402E	301	18'-6"	—	TRANSVERSE - BOTTOM MAT
S403E	568	37'-9"	—	TRANSVERSE - TOP MAT
S404E	284	22'-6"	—	TRANSVERSE - TOP MAT
S405E	605	40'-0"	—	LONGITUDINAL - BOTTOM MAT
S406E	121	33'-6"	—	LONGITUDINAL - BOTTOM MAT
S407E	305	40'-0"	—	LONGITUDINAL - TOP MAT
S408E	61	31'-3"	—	LONGITUDINAL - TOP MAT
S609E	120	15'-0"	—	LONGITUDINAL - OVER PIER
S411E	143	7'-2"	—	TRANSVERSE - DECK SIDEWALK
S412E	143	11'-5"	—	TRANSVERSE - DECK TRAIL
S413E	572	2'-10"	—	END TIES - DECK SIDEWALK/TRAIL
S414E	100	40'-0"	—	LONGITUDINAL - DECK SIDEWALK/TRAIL
S415E	20	31'-3"	—	LONGITUDINAL - DECK SIDEWALK/TRAIL
S416E	1260	4'-4"	—	HAT BAR - BEAMS
S417E	66	6'-10"	—	TRANSVERSE - APP. PANEL SIDEWALK
S418E	2	4'-8"	—	TRANSVERSE - APP. PANEL SIDEWALK
S419E	65	10'-10"	—	TRANSVERSE - APP. PANEL TRAIL
S420E	2	8'-8"	—	TRANSVERSE - APP. PANEL TRAIL
S421E	2	4'-1"	—	TRANSVERSE - APP. PANEL TRAIL
S422E	274	3'-5"	—	END TIES - APP. PANEL SIDEWALK/TRAIL
S423E	20	40'-0"	—	LONGITUDINAL - APP. PANEL SIDEWALK/TRAIL
S424E	8	SER. 1	—	LONGITUDINAL - APP. PANEL SIDEWALK
S425E	8	SER. 2	—	LONGITUDINAL - APP. PANEL SIDEWALK
S426E	12	SER. 3	—	LONGITUDINAL - APP. PANEL TRAIL
S427E	12	SER. 4	—	LONGITUDINAL - APP. PANEL TRAIL

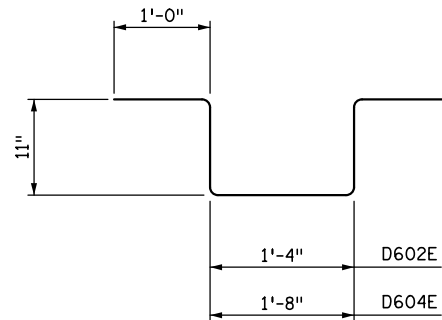
SER. 1 = 1 SERIES OF 8 BARS (17'-7" TO 19'-9")
 SER. 2 = 1 SERIES OF 8 BARS (29'-10" TO 32'-0")
 SER. 3 = 1 SERIES OF 12 BARS (29'-10" TO 33'-3")
 SER. 4 = 1 SERIES OF 12 BARS (16'-3" TO 19'-9")



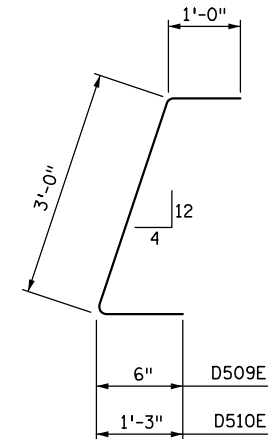
S413E & S422E



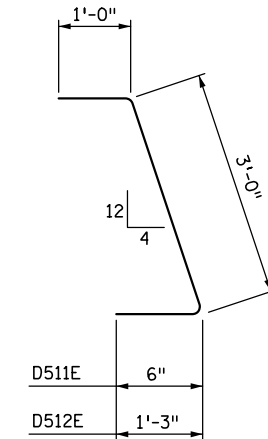
S416E



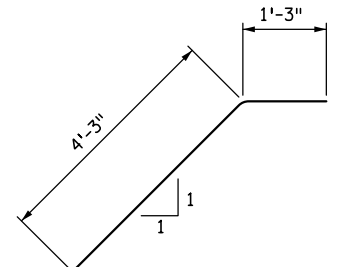
D602E & D604E



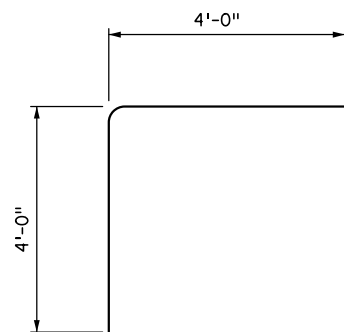
D509E & D510E



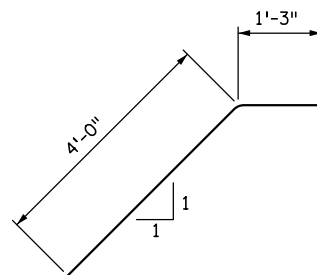
D511E & D512E



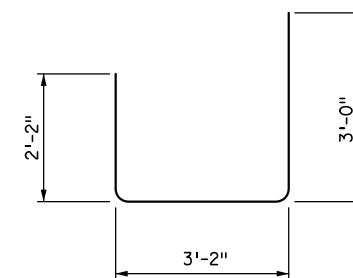
D615E



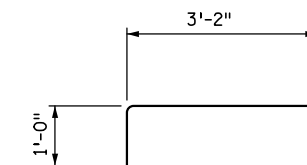
D616E



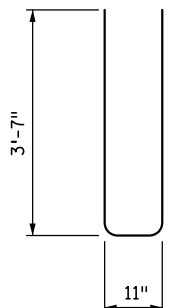
D617S



D518E



D519E



D520E

BILL OF REINFORCEMENT - END DIAPHRAGM (A)

BAR	NO.	LENGTH	SHAPE	LOCATION
D501E	72	5'-0"	—	LONGITUDINAL - THRU BEAMS
D602E	12	5'-2"	—	LONGITUDINAL - 4'-10" BAY
D603E	24	3'-10"	—	LONGITUDINAL - 4'-10" BAY
D604E	22	5'-6"	—	LONGITUDINAL - 5'-2" BAY
D605E	44	4'-2"	—	LONGITUDINAL - 5'-2" BAY
D606E	44	40'-0"	—	LONGITUDINAL - CONTINUOUS
D607E	22	20'-9"	—	LONGITUDINAL - CONTINUOUS
D408E	6	32'-9"	—	LONGITUDINAL - FILLET
D509E	2	4'-6"	—	END TIES
D510E	4	5'-3"	—	END TIES
D511E	2	4'-6"	—	END TIES
D512E	4	5'-3"	—	END TIES
D615E	102	5'-6"	—	TIE - FILLET
D616E	254	8'-0"	—	TIE - TOP DECK
D617S	254	5'-3"	—	TIE - APPROACH PANEL
D518E	110	8'-4"	—	TIE - VERTICAL
D519E	254	5'-2"	—	TIE - VERTICAL
D520E	254	8'-1"	—	TIE - DIAPHRAGM LUG

(A) BARLIST INCLUDES WEST AND EAST END DIAPHRAGMS

NOTES:

- PAYMENT FOR NAMEPLATE INCLUDED IN "TYPE P-1 BARRIER CONCRETE (3S52)"
- INCLUDES SLAB, END DIAPHRAGM, SIDEWALK/TRAIL, AND RAILING REINFORCEMENT
- PAYMENT FOR BEARINGS INCLUDED IN ITEM "BEARING ASSEMBLY" PER EACH.
- INCLUDED IN ITEM 2406.504 BRIDGE APPROACH PANELS IN ROADWAY PLAN.
- DOES NOT INCLUDE SIDEWALK CONCRETE (3S52) ON APPROACH PANELS.

SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE

ITEM DESCRIPTION	UNIT	QUANTITY
① TYPE P-1 BARRIER CONCRETE (3S52)	LIN FT	626
② REINFORCEMENT BARS (EPOXY COATED)	POUND	108,180
⑤ REINFORCEMENT BARS (STAINLESS-75 KSI)	POUND	2,010
⑤ SIDEWALK CONCRETE (3S52)	SQ FT	6,150
RAISED MEDIAN CONCRETE (3S52)	SQ FT	1,251
BRIDGE SLAB CONCRETE (3YHPC-M)	SQ FT	20,269
BRIDGE DECK PLANING	SQ FT	17,927
ORNAMENTAL METAL RAILING TYPE SPECIAL 1	LIN FT	448
ORNAMENTAL METAL RAILING TYPE SPECIAL 2	LIN FT	174
③ EXPANSION CURVED PLATE BEARING ASSEMBLY, TYPE 2	EACH	36
③ EXPANSION CURVED PLATE BEARING ASSEMBLY, TYPE 2	EACH	24
③ FIXED CURVED PLATE BEARING ASSEMBLY, TYPE 1	EACH	12
PRESTRESSED CONCRETE BEAMS 35MH	LIN FT	3972
CONDUIT SYSTEM (LIGHTING)	LUMP SUM	1
CONDUIT SYSTEM (FUTURE)	LUMP SUM	1

NOTE:

BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON THE DETAIL DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

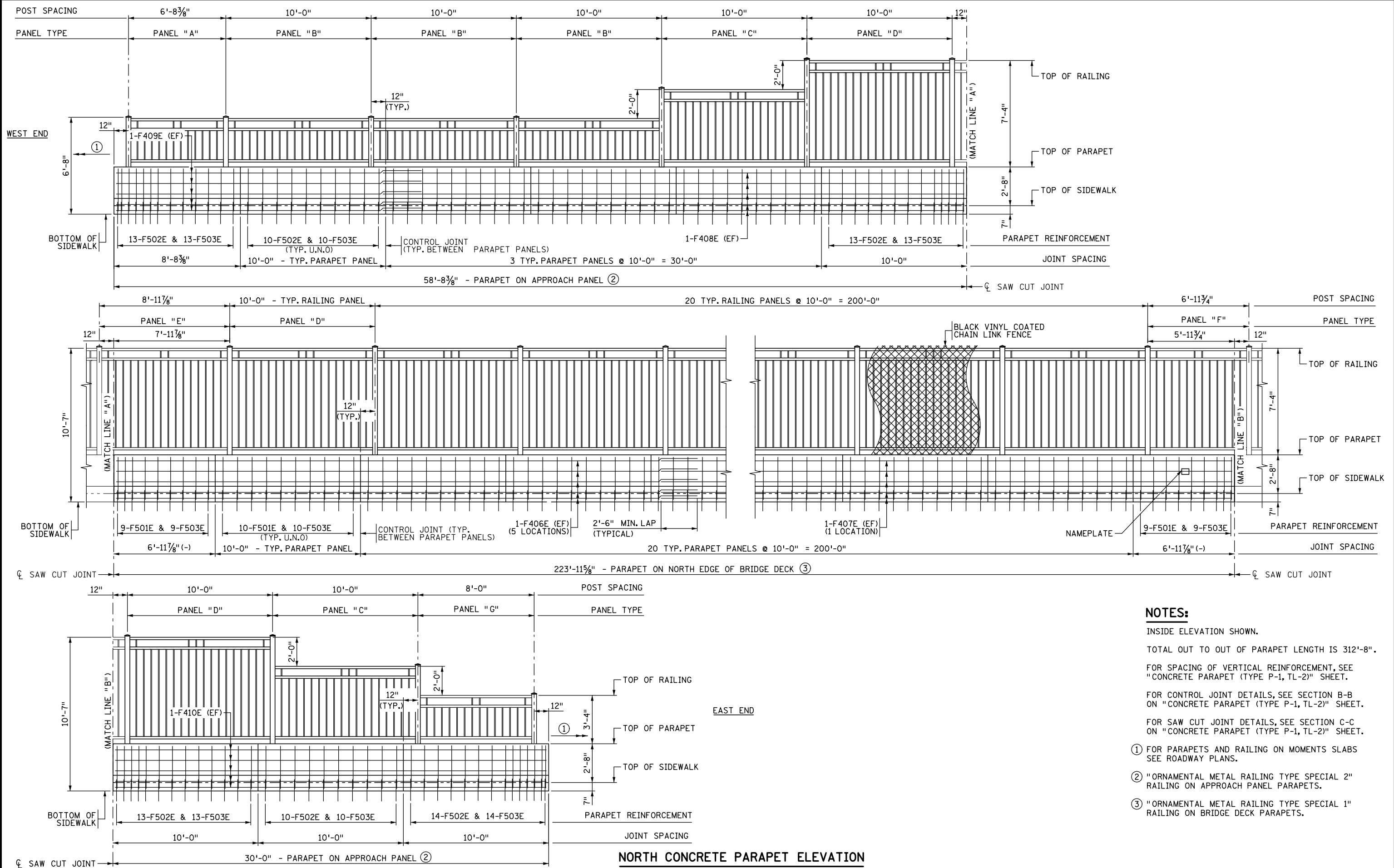
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
SUPERSTRUCTURE BARLIST & QUANTITIES

DES: ADL	DR: ADL	APPROVED
CHK: LJJ	CHK: LJJ	
SHEET NO. 45 OF 66 SHEETS		

BRIDGE NO.
02584

DATE: 11/19/2020 TIME: 4:12:44 PM
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- NOTES:**
- INSIDE ELEVATION SHOWN.
 - TOTAL OUT TO OUT OF PARAPET LENGTH IS 312'-8".
 - FOR SPACING OF VERTICAL REINFORCEMENT, SEE "CONCRETE PARAPET (TYPE P-1, TL-2)" SHEET.
 - FOR CONTROL JOINT DETAILS, SEE SECTION B-B ON "CONCRETE PARAPET (TYPE P-1, TL-2)" SHEET.
 - FOR SAW CUT JOINT DETAILS, SEE SECTION C-C ON "CONCRETE PARAPET (TYPE P-1, TL-2)" SHEET.
 - ① FOR PARAPETS AND RAILING ON MOMENTS SLABS SEE ROADWAY PLANS.
 - ② "ORNAMENTAL METAL RAILING TYPE SPECIAL 2" RAILING ON APPROACH PANEL PARAPETS.
 - ③ "ORNAMENTAL METAL RAILING TYPE SPECIAL 1" RAILING ON BRIDGE DECK PARAPETS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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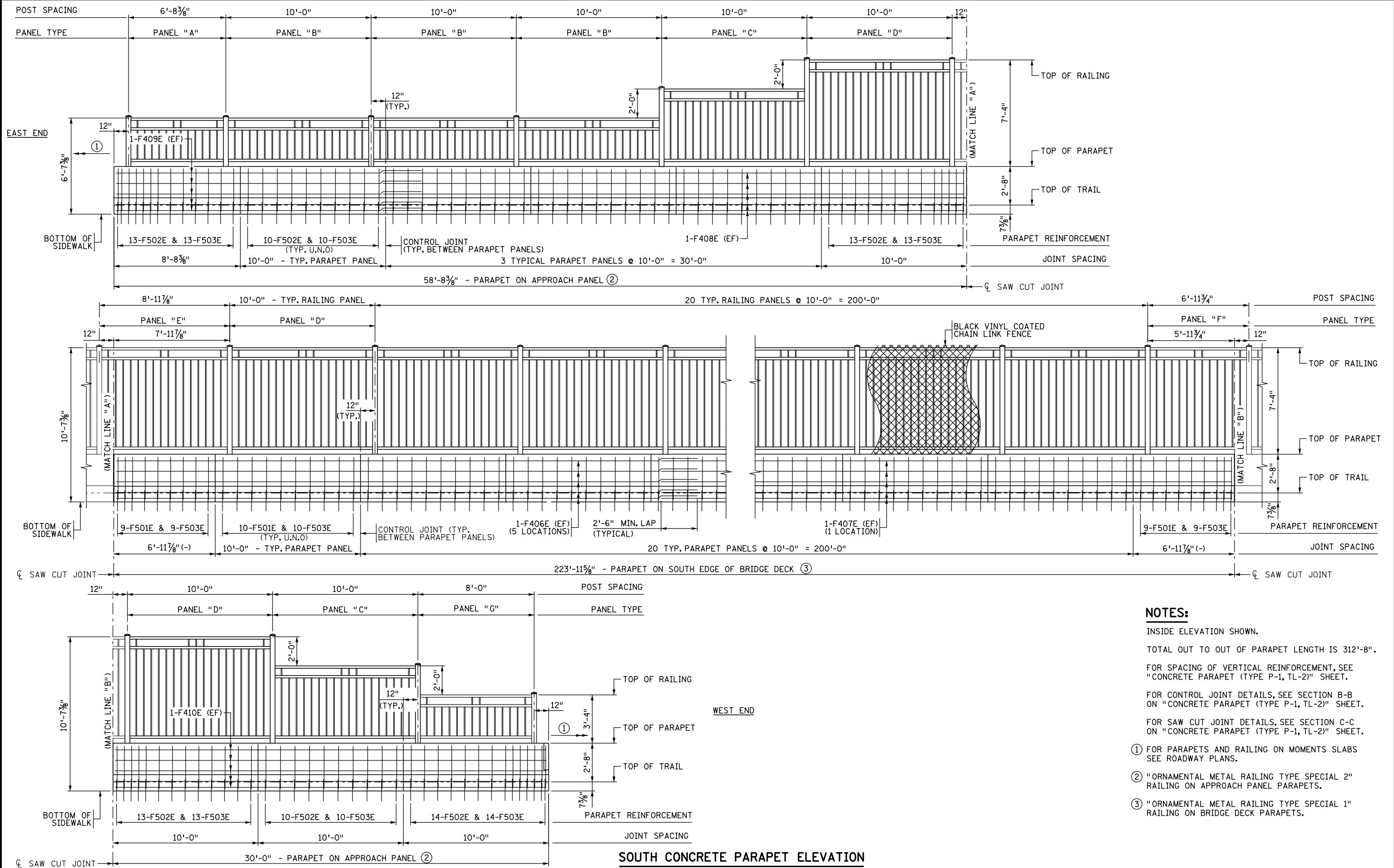
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
NORTH PAPAPET ELEVATION

DES: ADL	DR: ADL	APPROVED
CHK: LJJ	CHK: LJJ	
SHEET NO. 46 OF 66 SHEETS		

BRIDGE NO.
02584

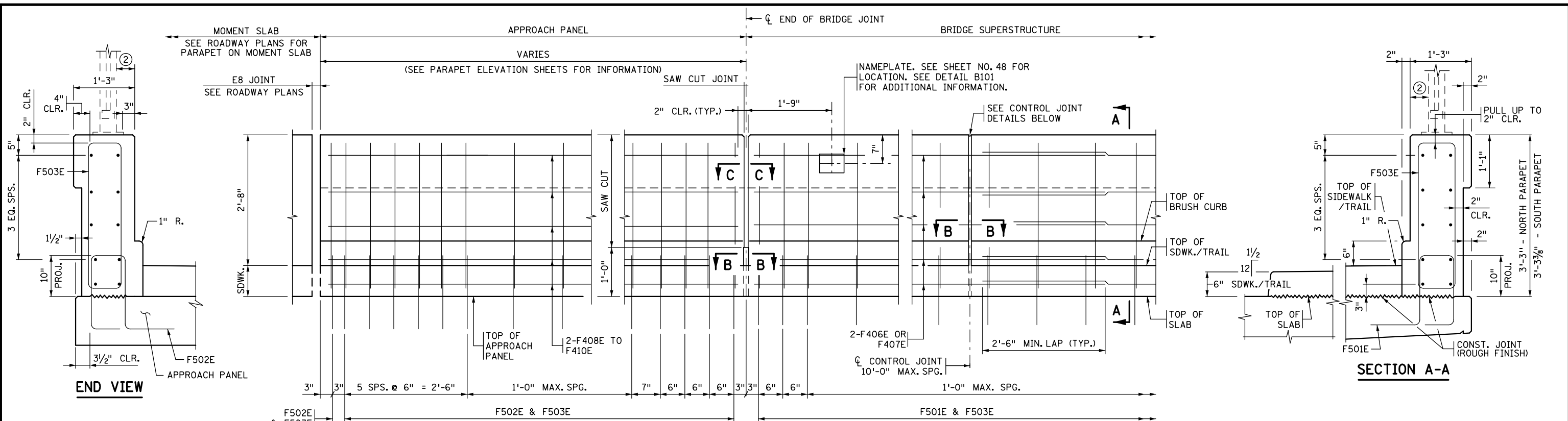
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- NOTES:**
 INSIDE ELEVATION SHOWN.
 TOTAL OUT TO OUT OF PARAPET LENGTH IS 312'-8".
 FOR SPACING OF VERTICAL REINFORCEMENT, SEE "CONCRETE PARAPET (TYPE P-1, TL-2)" SHEET.
 FOR CONTROL JOINT DETAILS, SEE SECTION B-B ON "CONCRETE PARAPET (TYPE P-1, TL-2)" SHEET.
 FOR SAW CUT JOINT DETAILS, SEE SECTION C-C ON "CONCRETE PARAPET (TYPE P-1, TL-2)" SHEET.
- ① FOR PARAPETS AND RAILING ON MOMENTS SLABS SEE ROADWAY PLANS.
 - ② "ORNAMENTAL METAL RAILING TYPE SPECIAL 2" RAILING ON APPROACH PANEL PARAPETS.
 - ③ "ORNAMENTAL METAL RAILING TYPE SPECIAL 1" RAILING ON BRIDGE DECK PARAPETS.

NO. DATE BY DESCRIPTION OF REVISIONS	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA SIGNED <i>Lindsey J. Lawrence</i> LINDSEY J. LAWRENCE DATE: 11/19/2020 LIC. NO.: 48298		444 Cedar Street, Suite 1500 Saint Paul, MN 55101 651.292.4400 tkda.com	ANOKA COUNTY FOLEY BLVD. OVER BNSF RR. S.P. 002-611-036	TITLE: SOUTH PARAPET ELEVATION	DES: ADL CHK: LJJ	DR: ADL CHK: LJJ	APPROVED	BRIDGE NO. 02584
SHEET NO. 47 OF 66 SHEETS									

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END VIEW

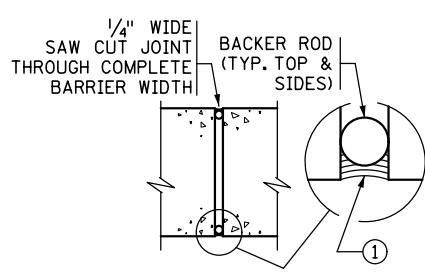
SECTION A-A

MODIFIED:
 - REMOVED CURB TRANSITION FROM ELEVATION VIEW AND END VIEW AT END OF APPROACH PANEL.
 REMOVED BAR F504E
 - ADDED E8 JOINT AT END OF APPROACH PANEL/MOMENT SLAB

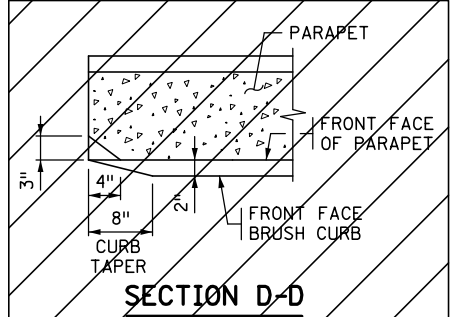
**JOINT AT ABUTMENT
 INSIDE ELEVATION OF PARAPET**

**PARAPET MEETS MASH
 TL-2 REQUIREMENTS**

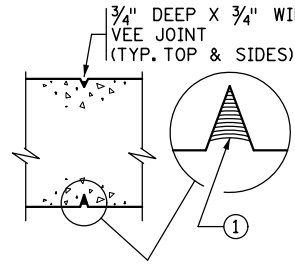
BILL OF REINFORCEMENT - PARAPET					
BAR	NO.	LENGTH	SHAPE	LOCATION	
F501E	456	5'-1"	□	PARAPET DOWEL - DECK	
F502E	206	5'-3"	□	PARAPET DOWEL - APPROACH PANEL	
F503E	662	8'-3"	□	PARAPET VERTICAL	
F406E	100	40'-0"	—	PARAPET LONGITUDINAL - DECK	
F407E	20	36'-6"	—	PARAPET LONGITUDINAL - DECK	
F408E	20	40'-0"	—	PARAPET LONGITUDINAL - APPROACH PANEL	
F409E	20	21'-0"	—	PARAPET LONGITUDINAL - APPROACH PANEL	
F410E	20	29'-8"	—	PARAPET LONGITUDINAL - APPROACH PANEL	



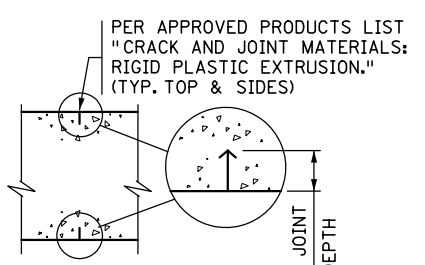
SECTION C-C



SECTION D-D



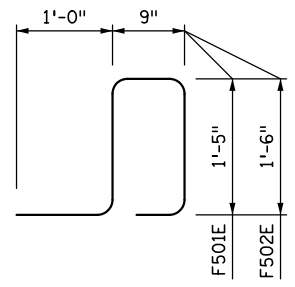
SECTION B-B
 CAST-IN-PLACE CONSTRUCTION



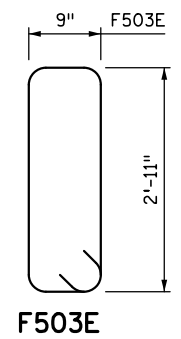
SECTION B-B
 SLIPFORM CONSTRUCTION

CONTROL JOINT DETAILS

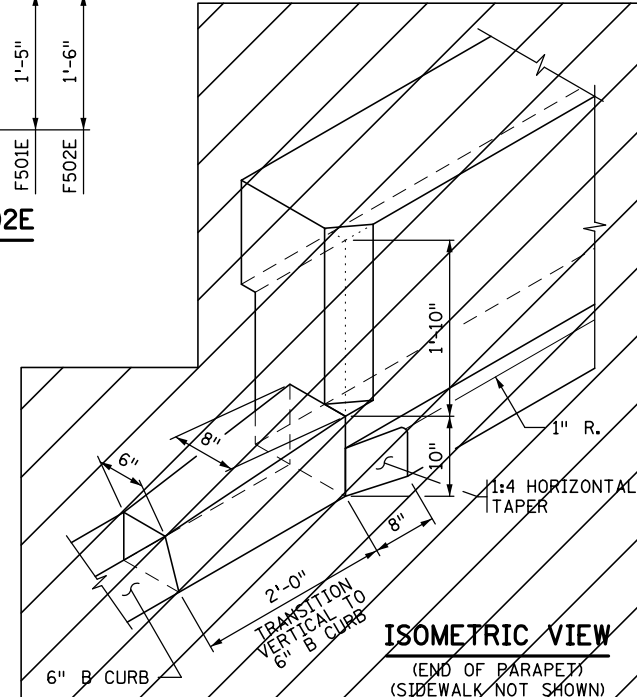
FOR SLIPFORM CONSTRUCTION: IMMEDIATELY AFTER CONCRETE IS PLACED AND WHILE IT IS STILL WET, CREATE A ONE INCH STRAIGHT GROOVE USING A TROWEL. INSERT RIGID PLASTIC EXTRUSION INTO GROOVE TO A DEPTH 1/8" BELOW THE SURFACE; FINISH OVER GROOVE COMPLETELY HIDING THE EXTRUSION.



F501E, F502E



F503E



ISOMETRIC VIEW
 (END OF PARAPET)
 (SIDEWALK NOT SHOWN)

GENERAL NOTES

- CONTINUOUSLY GROUND ALL METAL RAILINGS; SEE THE SPECIAL PROVISIONS. REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.
- FOR SLIPFORM CONSTRUCTION, TIE 100% OF THE REINFORCEMENT BAR INTERSECTIONS IN THE PARAPET.
- MEASURE PAYMENT LENGTH BETWEEN THE OUTSIDE ENDS OF THE PARAPET.
- NORTH CONCRETE PARAPET W/ADJACENT SIDEWALK (BASED ON A 7" SIDEWALK HEIGHT) = 580.7 LBS./FT. (0.143 CU. YDS./FT.)
- SOUTH CONCRETE PARAPET W/ADJACENT SIDEWALK (BASED ON A 7 3/8" SIDEWALK HEIGHT) = 588.2 LBS./FT. (0.145 CU. YDS./FT.)
- FINISH ALL EDGES OF PARAPET WITH 1/2" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.
- SPACE CONTROL JOINTS AT 10 FT. MAXIMUM. REFER TO SUPERSTRUCTURE SHEET FOR SPECIFIC SPACING INFORMATION.
- NAMEPLATE TO BE CONSIDERED INCIDENTAL.
- PARAPET QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
- ① JOINT SEALANT PER MNDOT APPROVED/QUALIFIED PRODUCTS LIST - CRACK AND JOINT MATERIALS - SILICONE JOINT SEALERS.
- ② 4 1/2" MIN. FROM FRONT FACE OF PARAPET TO VERTICAL METAL RAILING POST IF NOT PROTECTED BY A TRAFFIC BARRIER.

REVISION:
 APPROVED: APRIL 09, 2020
Kevin Westrom
 STATE BRIDGE ENGINEER

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

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ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

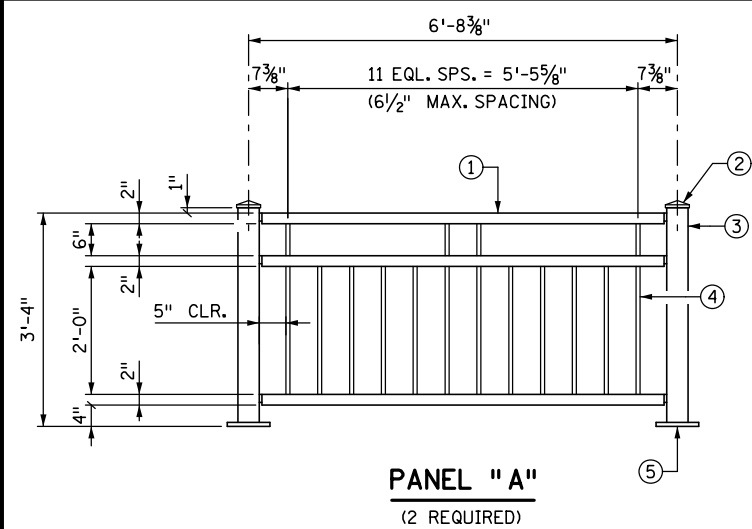
TITLE:
 CONCRETE PARAPET
 (TYPE P-1, TL-2)

DES: ADL DR: ADL APPROVED
 CHK: LJJ CHK: LJJ
 SHEET NO. 48 OF 66 SHEETS

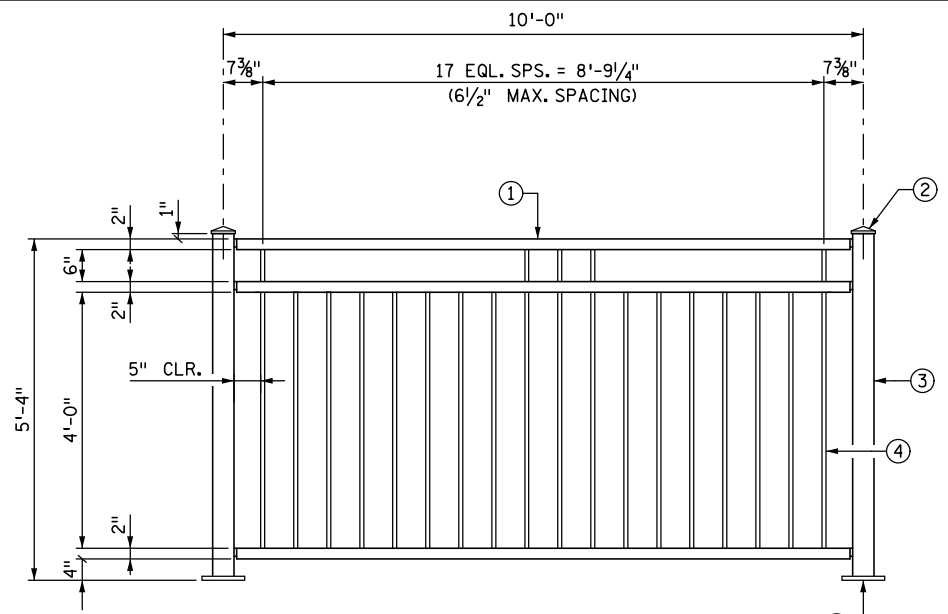
BRIDGE NO.
 02584

FIG. 5-397.166(A) MOD.

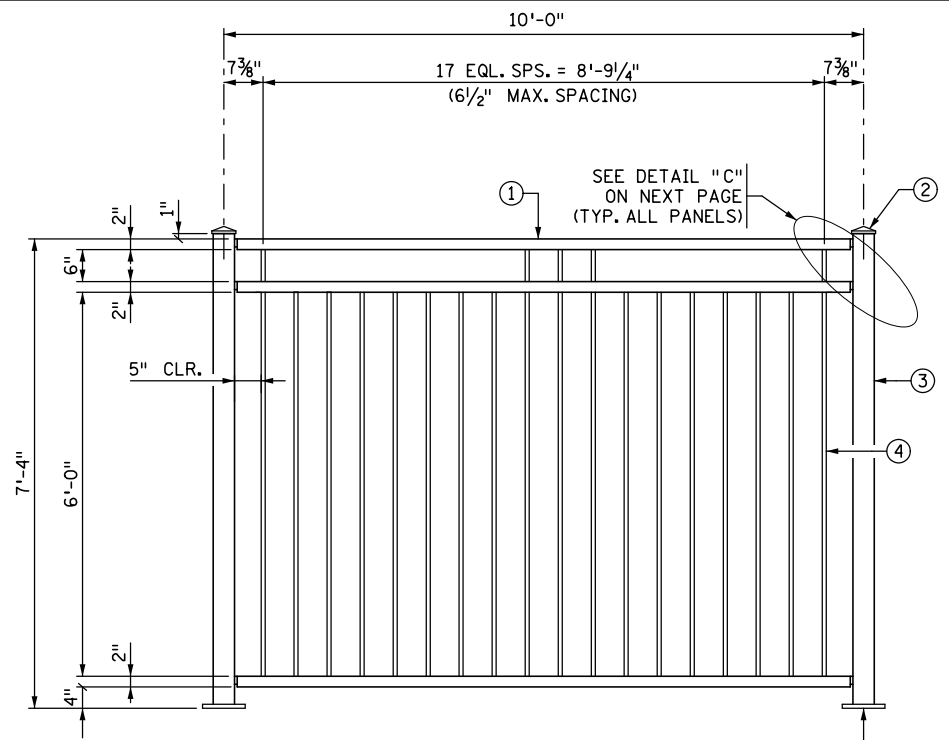
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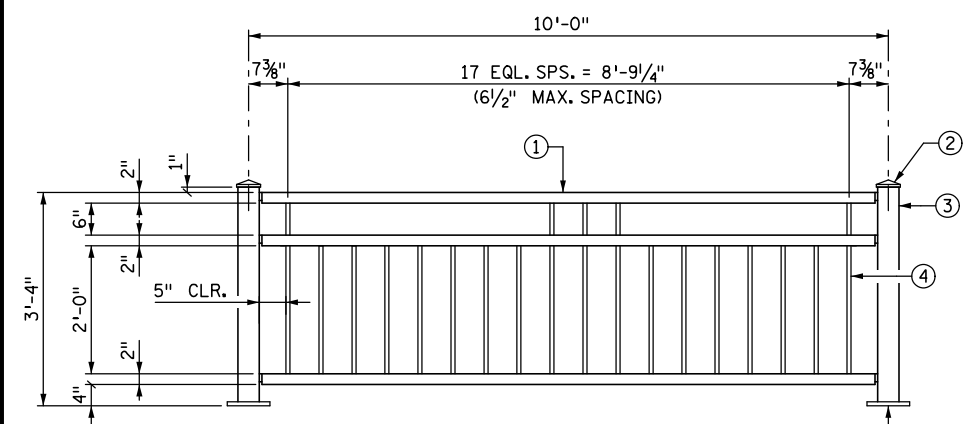
PANEL "A"
(2 REQUIRED)



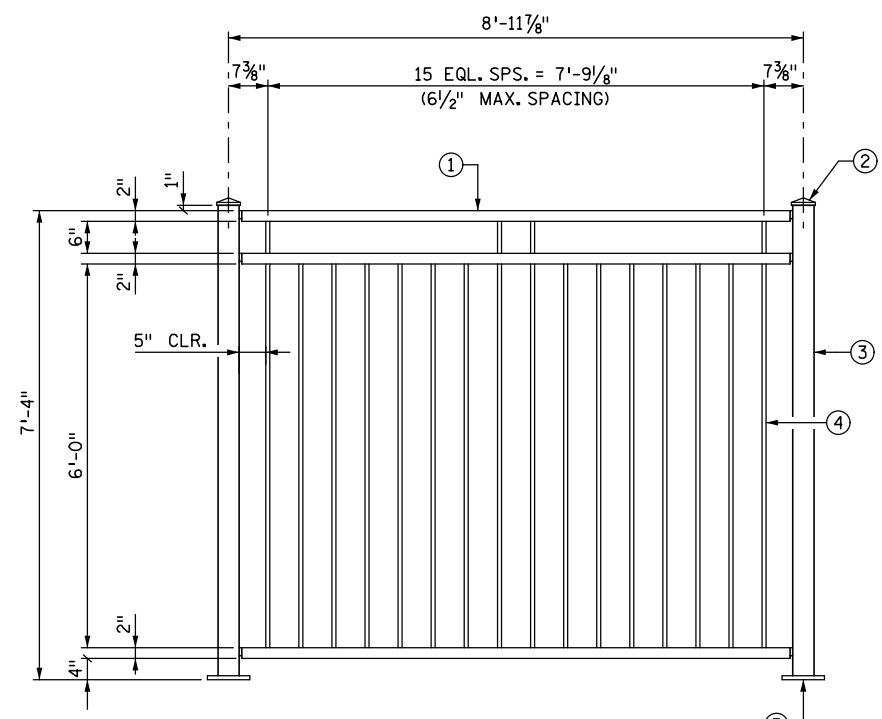
PANEL "C"
(4 REQUIRED)



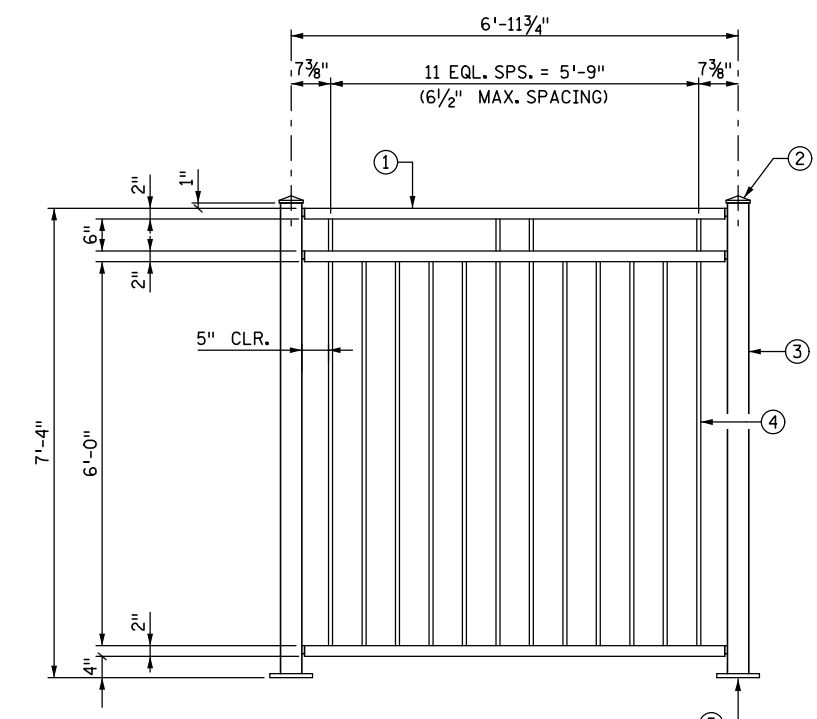
PANEL "D"
(46 REQUIRED)



PANEL "B"
(6 REQUIRED)



PANEL "E"
(2 REQUIRED)



PANEL "F"
(2 REQUIRED)

NOTES:

SEE "ORNAMENTAL METAL RAILING (DESIGN T-4 PARAPET MOUNT)" FOR ORNAMENTAL RAILING DETAILS AND CONNECTION DETAILS.

RAILING MATERIAL NOTES:

- ① HSS3 X 2 X 3/16 RAIL (TYP.)
- ② 4 1/2" X 4 1/2" STEEL CAP (TYP.)
- ③ HSS4 X 4 X 1/4 RAIL POST (TYP.)
- ④ 3/4" X 3/4" SOLID BAR RAIL SPINDLE (TYP.)
- ⑤ 3/4" X 8" X 10" BASE PLATE (TYP.)

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 651.292.4400
 tkda.com

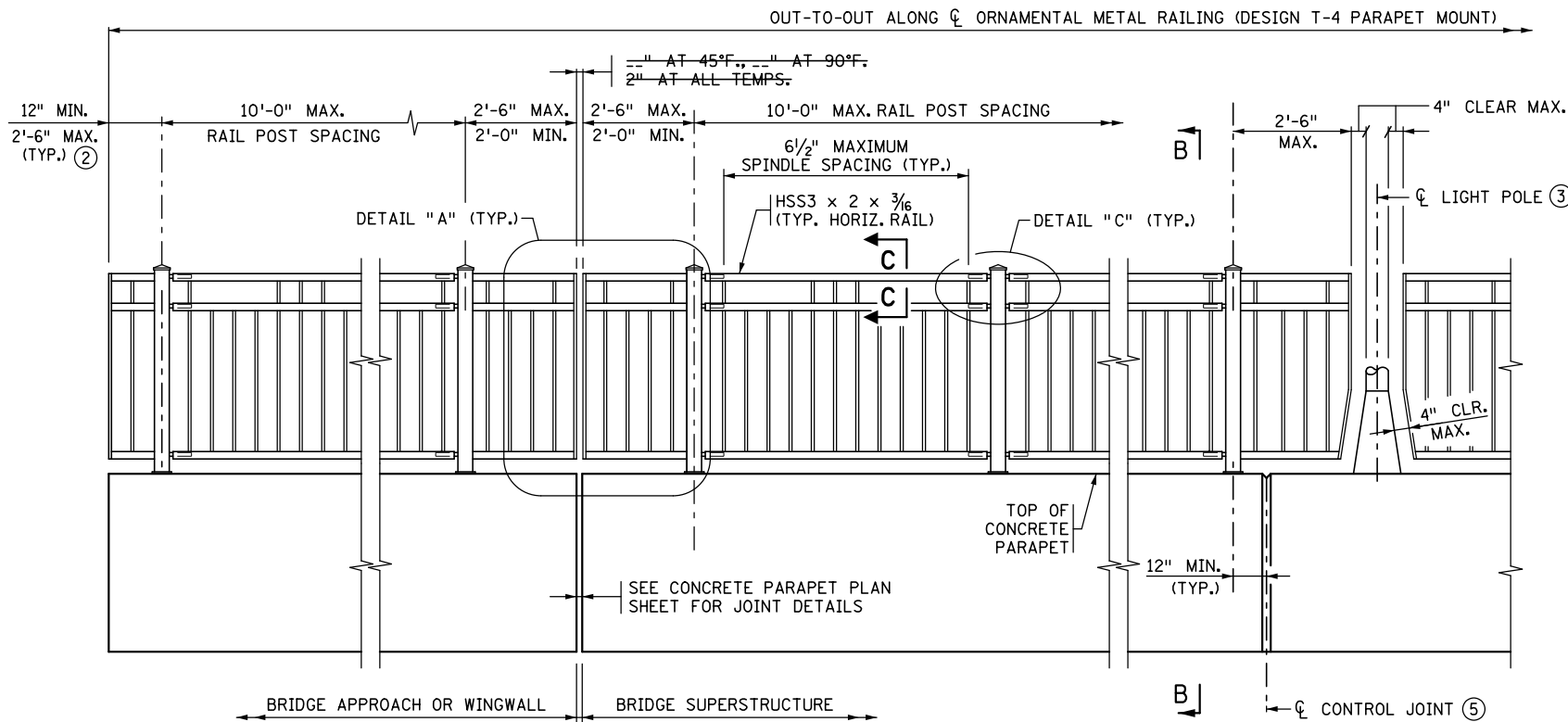
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
ORNAMENTAL METAL RAILING
DETAILS

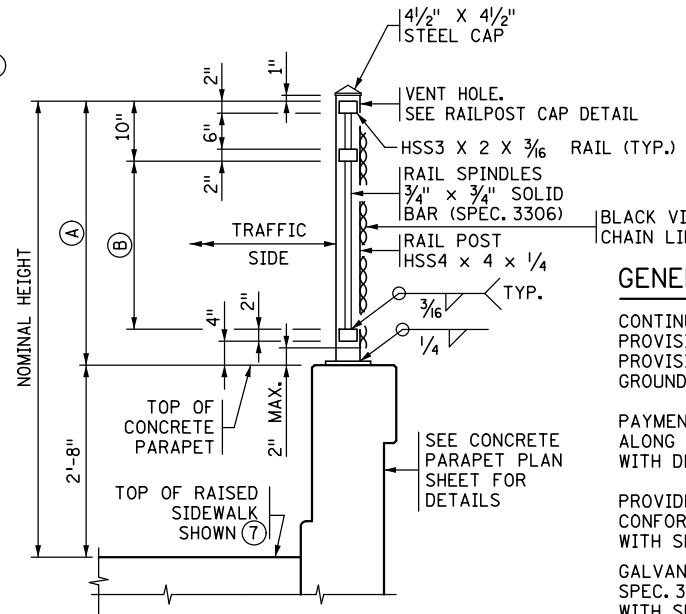
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CHK: L JL	CHK: L JL	
SHEET NO. 49 OF 66 SHEETS		

BRIDGE NO.
02584

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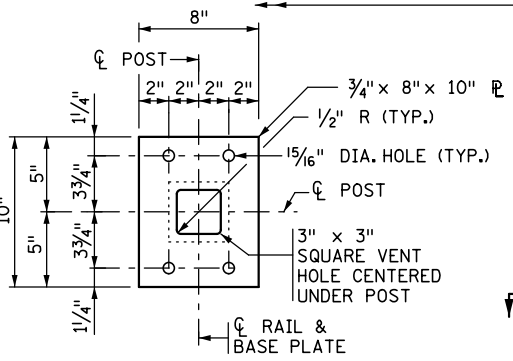


RAILING HEIGHT TABLE		
NOMINAL HEIGHT	(A)	(B)
6'-0"	3'-4"	2'-0"
8'-0"	5'-4"	4'-0"
10'-0"	7'-4"	6'-0"

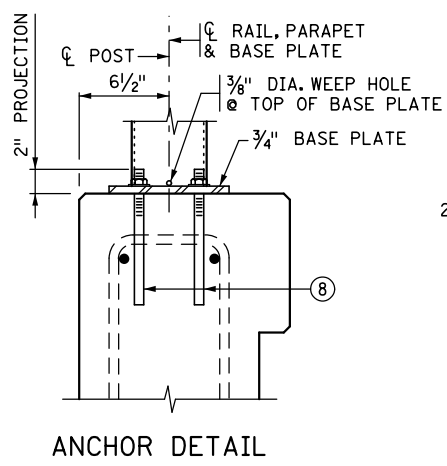
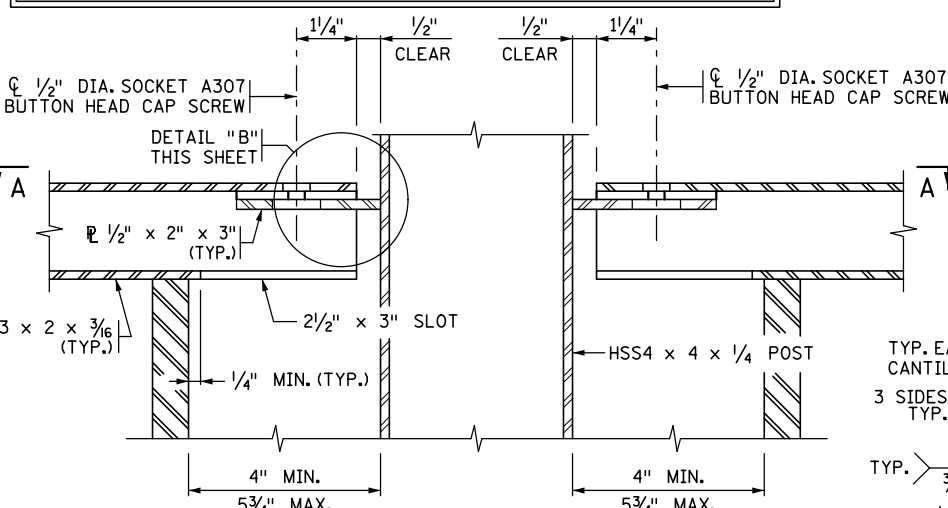


GENERAL NOTES

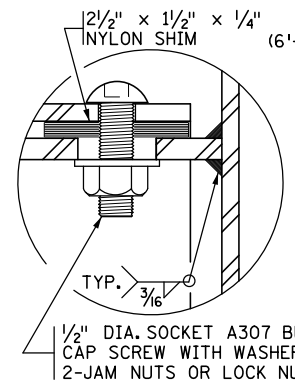
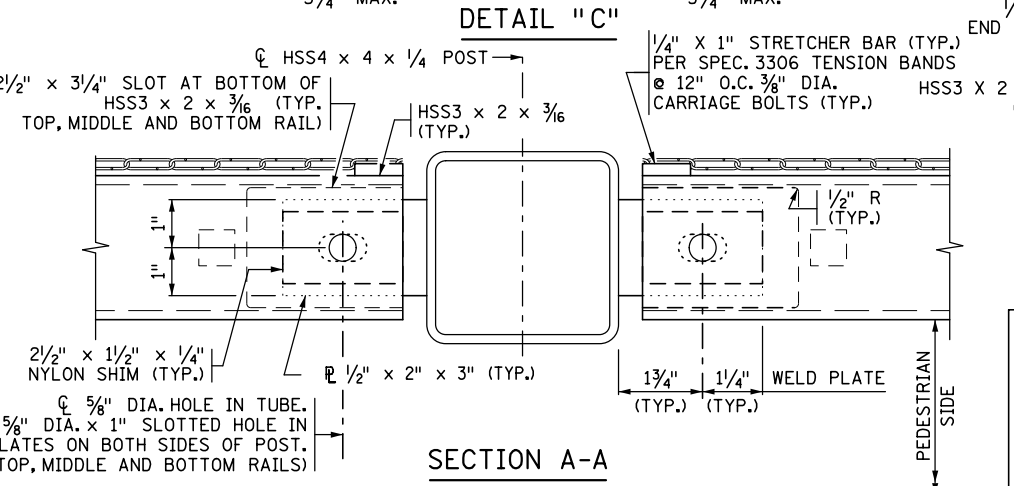
- CONTINUOUSLY GROUND ALL METAL RAILINGS; SEE THE SPECIAL PROVISIONS. REFER TO THE ELECTRICAL PLANS AND ELECTRICAL SPECIAL PROVISIONS FOR DETAILS REGARDING BONDING MULTIPLE ELECTRICAL GROUNDING SYSTEMS.
- PAYMENT LENGTH SHALL BE MEASURED AS THE OUT TO OUT LENGTH ALONG THE CENTERLINE OF THE RAILING BETWEEN THE OUTSIDE ENDS, WITH DEDUCTIONS FOR THE LENGTH OF CONCRETE POSTS, IF PRESENT.
- PROVIDE A500, GRADE B STRUCTURAL STEEL TUBING (HSS) IN THE RAIL CONFORMING TO SPEC. 3361. PROVIDE ALL OTHER STEEL IN ACCORDANCE WITH SPEC. 3306.
- GALVANIZE BOLTS, NUTS, WASHERS AND ANCHORS IN ACCORDANCE WITH SPEC. 3392. GALVANIZE ALL OTHER STRUCTURAL STEEL IN ACCORDANCE WITH SPEC. 3394, AFTER FABRICATION.
- SEE SPECIAL PROVISIONS FOR COATING TO BE APPLIED TO METAL RAILING.
- INSTALL RAIL POSTS AND SPINDLES PLUMB.
- CURVE HORIZONTAL RAILS WHERE APPLICABLE AND PLACE RAILS PARALLEL TO THE EDGE OF SIDEWALK PROFILE.
- SEE SPECIAL PROVISIONS FOR REQUIREMENTS NOT INCLUDED ON THIS SHEET.
- DRILL 1/2" DIA. MAX. VENT HOLES ON THE UNDERSIDE OF RAIL TUBES AS NECESSARY TO FACILITATE GALVANIZING.



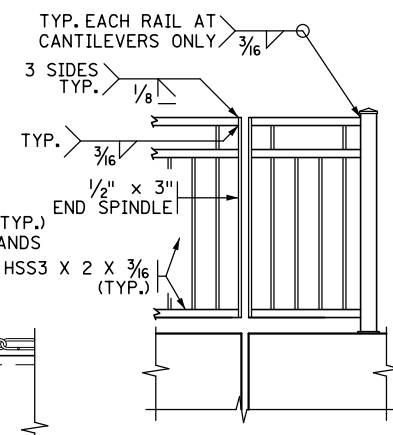
INSIDE ELEVATION OF RAILING
(GENERIC ELEVATION SHOWN ABOVE. SEE PARAPET ELEVATION SHEETS (SHEET 46 & 47) FOR SPECIFIC ELEVATIONS OF RAILING)



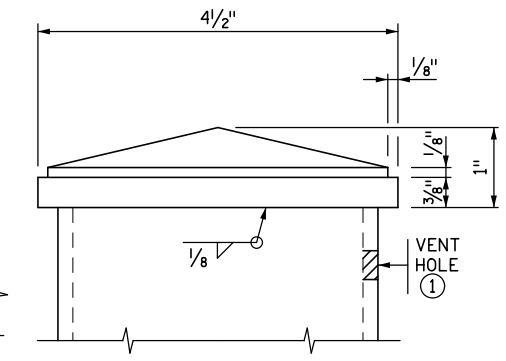
REVISION: OCTOBER 22, 2019
APPROVED: NOVEMBER 6, 2013
Nancy Swenberger
STATE BRIDGE ENGINEER



DETAIL "B"



DETAIL "A"



RAILPOST CAP DETAIL ⑥

MODIFICATIONS

- CHAIN LINK FENCE ADDED.
- FENCE AND STRETCHER BAR ADDED TO SECTION A-A.
- SECTION C-C ADDED.
- BOXED NOTE ADDED BELOW ELEVATION OF RAILING.
- BOX NOTED ADDED TO GENERAL NOTES.

- REFER TO SPEC. 2557 FOR CHAIN LINK FABRIC AND TIE REQUIREMENTS.
- CHAIN LINK FENCE FABRIC AT PANEL ENDS SHALL BE TENSIONED WITH A STRETCHER BAR. PROVIDE MOUNTING TABS ON FABRICATED PANEL AT PANEL ENDS FOR TENSIONING OR OTHER MEANS AS APPROVED BY THE ENGINEER. STRETCHER BAR COLOR TO MATCH CHAIN LINK FENCE FABRIC.
- ① DRILL VENT HOLE IN THE RAIL POST WITHIN 2" OF THE UNDERSIDE OF THE CAP, ON THE NON-TRAFFIC SIDE OF THE POST AS NECESSARY TO FACILITATE GALVANIZING. MAXIMUM HOLE SIZE IS 1/2" DIA.
- ② PLACE CL OF END POST 12" FROM END OF CONCRETE PARAPET IF GUARDRAIL CONNECTION PLATE IS PRESENT.
- ③ IF LIGHT POLE IS MOUNTED ON BLISTER, RAILING MAY BE CONTINUOUS IN FRONT OF LIGHT POLE (SEE PARAPET & LIGHT POLE DETAILS).
- ④ CONTRACTOR TO COORDINATE LIGHT POLE DETAILS WITH THE RAILING FABRICATOR TO ENSURE PROPER CLEARANCES AND RAILING CONFIGURATION ADJACENT TO THE POLE.
- ⑤ SEE SUPERSTRUCTURE AND CONCRETE PARAPET PLAN SHEETS FOR CONTROL JOINT SPACING AND DETAILS.
- ⑥ PROVIDE A PYRAMID TOP STYLE STEEL CAP WELDED TO TOP OF POST WITH A SURFACE FINISH OF 1000 MICRO-INCH, OR SMOOTHER, PRIOR TO GALVANIZING.
- ⑦ FOR NON-RAISED SIDEWALK, SEE CONCRETE PARAPET PLAN SHEET.
- ⑧ ADHESIVE ANCHORAGE WITH 5/8" DIA. ANCHOR ROD IN ACCORDANCE WITH SPEC. 3385, TYPE A WITH HEX NUT AND WASHER. PROVIDE AN ADHESIVE WITH A MINIMUM CHARACTERISTIC BOND STRENGTH IN UNCRACKED CONCRETE OF 1.5 KSI. EMBED THE ANCHORAGE NO LESS THAN 5" REGARDLESS OF CHARACTERISTIC BOND STRENGTH. DRILL THROUGH REINFORCEMENT (IF ENCOUNTERED) TO ACHIEVE MINIMUM EMBEDMENT. ENSURE HEX NUT IS IN CONTACT WITH THE ADJACENT SURFACE AND TORQUE TO 60 FT-LBS UNLESS A HIGHER TORQUE IS RECOMMENDED BY THE MANUFACTURER. PROOF LOAD TO 6.9 KIPS. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
DATE: 11/19/2020 LIC. NO.: 48298



ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
S.P. 002-611-036

TITLE:
ORNAMENTAL METAL RAILING
(DESIGN T-4 PARAPET MOUNT)

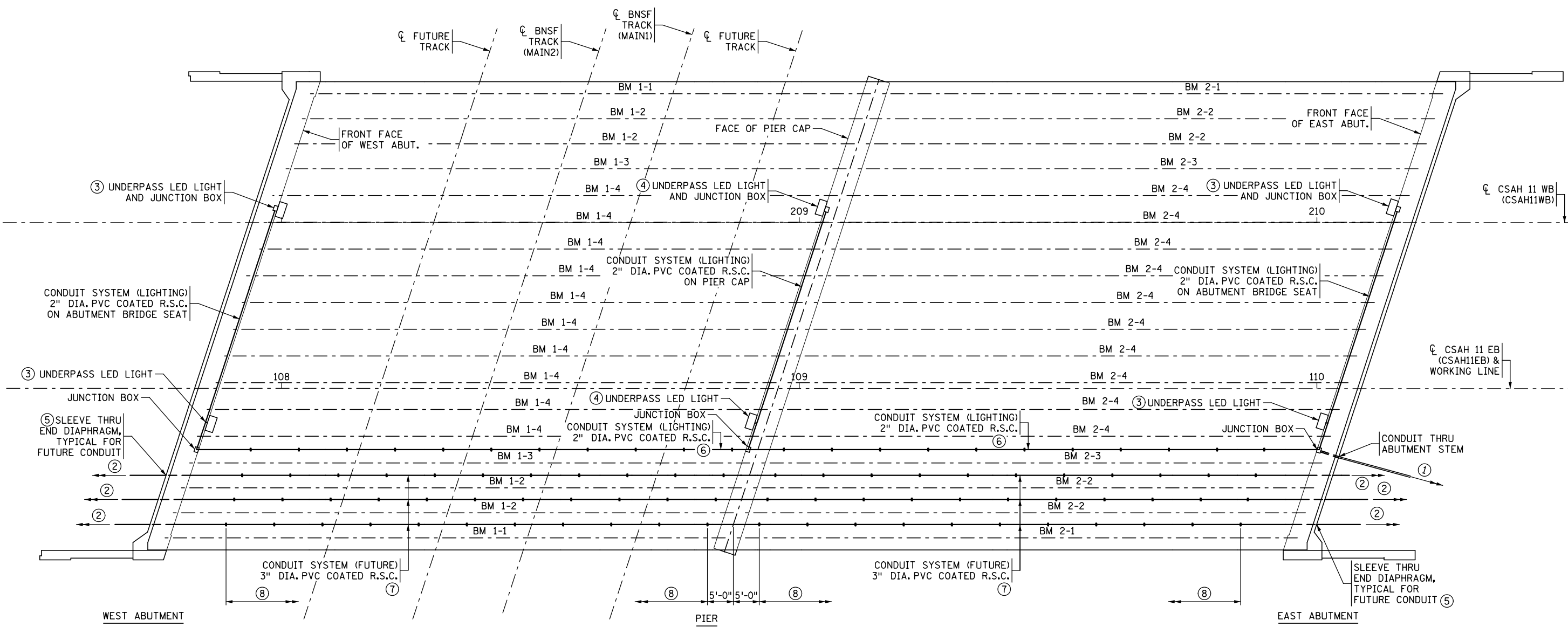
DES: ADL	DR: ADL	APPROVED
CHK: LJJ	CHK: LJJ	

BRIDGE NO.
02584

FIG. 5-397.162 MOD.

SHEET NO. 50 OF 66 SHEETS

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CONDUIT LAYOUT PLAN

NOTES:

- ① CONNECT TO HANDHOLE FOR LIGHTING. SEE FOLEY ROADWAY PLANS FOR FURTHER INFORMATION.
- ② CONNECT TO HANDHOLE. SEE FOLEY ROADWAY PLANS FOR FURTHER INFORMATION.
- ③ SEE ABUTMENT PLAN AND ELEVATION FOR LOCATION INFORMATION.
- ④ SEE PIER PLAN AND ELEVATION FOR LOCATION INFORMATION.
- ⑤ SEE SHEET "FUTURE CONDUIT DETAILS" FOR FURTHER INFORMATION.
- ⑥ SEE HANGER ASSEMBLY DETAIL FOR LIGHTING CONDUIT SYSTEM HANGER ON SHEET "LIGHTING CONDUIT DETAILS".
- ⑦ SEE TRANSVERSE SECTION DETAIL FOR FUTURE CONDUIT SYSTEM HANGER ASSEMBLY ON SHEET "FUTURE CONDUIT DETAILS".
- ⑧ HANGER ASSEMBLY SPACING AT 10'-0" MAXIMUM CENTERS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



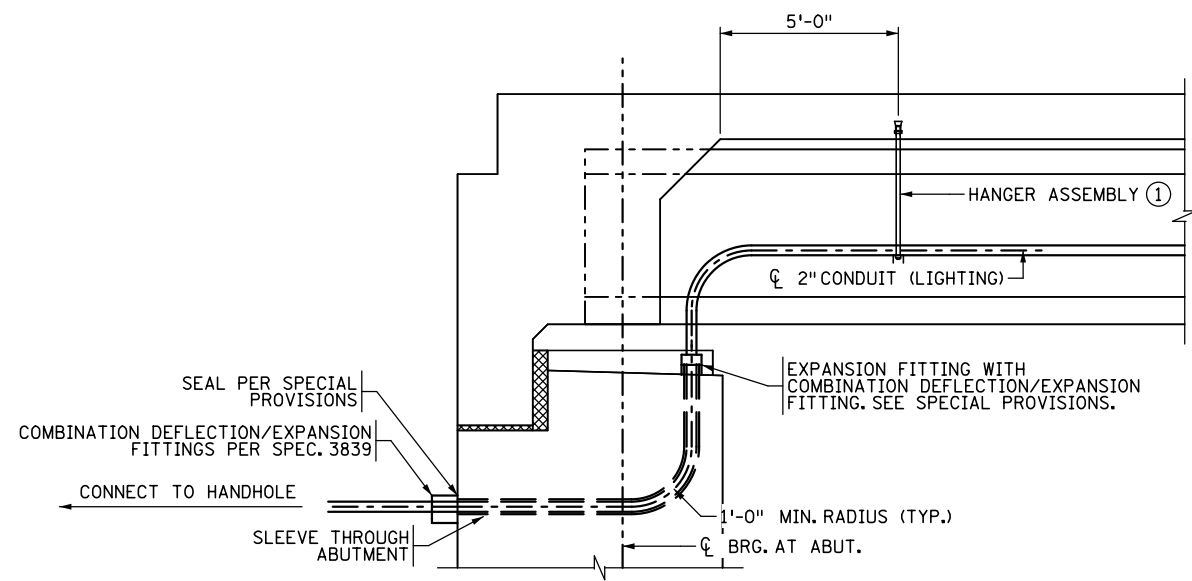
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 LIGHTING AND FUTURE
 CONDUIT PLAN

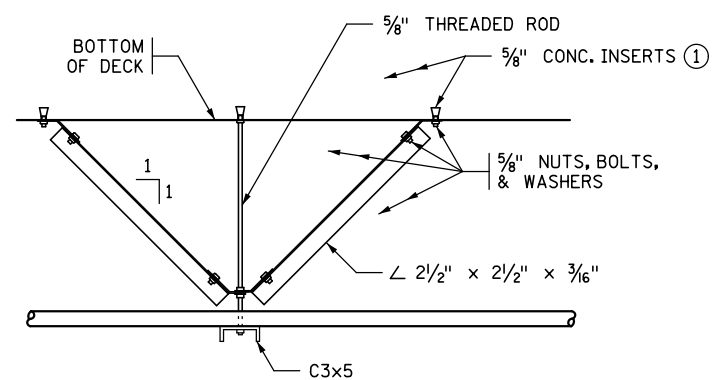
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CHK: LJJ	CHK: LJJ	
SHEET NO. 51 OF 66 SHEETS		

BRIDGE NO.
 02584

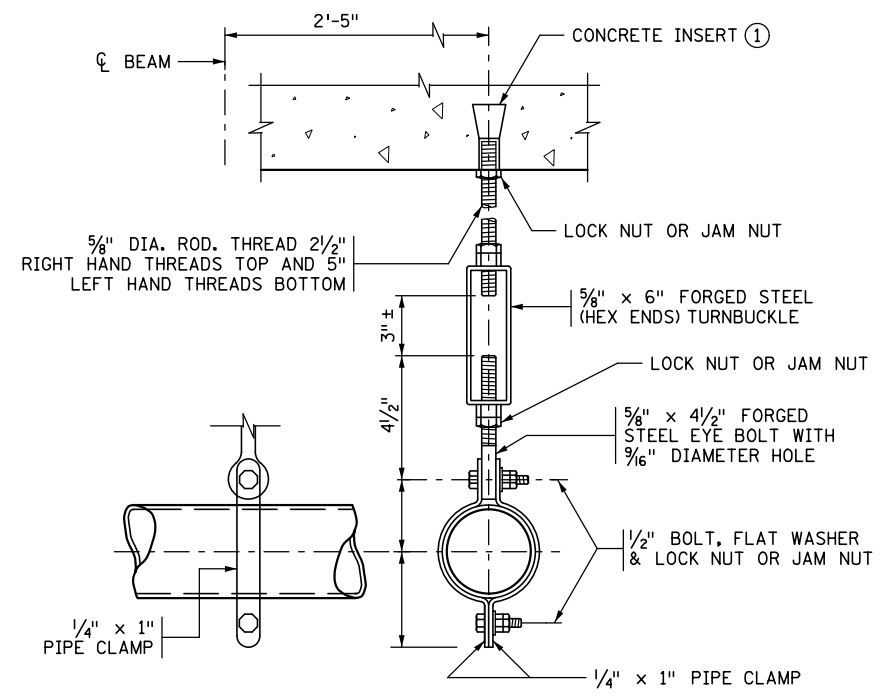
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LONGITUDINAL SECTION AT ABUT.
(FOR CONDUIT SYSTEM (LIGHTING))

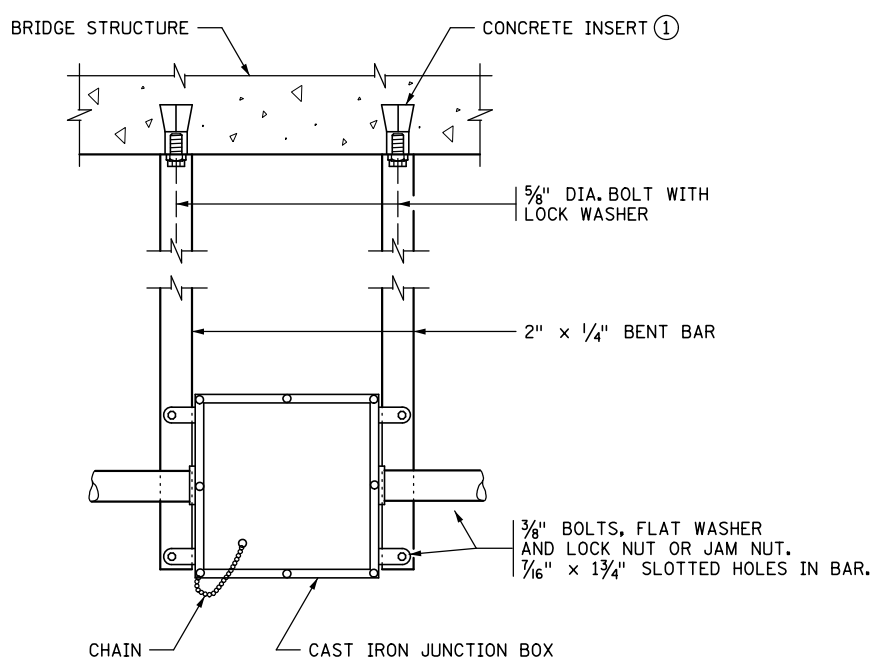


CENTERING DEVICE DETAIL - SIDE VIEW
(LOCATED ONLY ON A HANGER ADJACENT TO PIER)



HANGER ASSEMBLY

EACH HANGER ASSEMBLY SHALL CONSIST OF CONCRETE INSERT, 5/8" DIA. ROD, PIPE CLAMPS, NUTS, BOLTS, WASHERS, TURNBUCKLE AND EYE BOLT



JUNCTION BOX DETAILS

GENERAL NOTES

- RODS, EYE BOLTS AND PIPE CLAMPS SHALL COMPLY WITH SPEC. 3313, TYPE I.
- TURNBUCKLES AND EYE BOLTS SHALL COMPLY WITH A.S.T.M. A235 CLASS A MINIMUM REQUIREMENTS.
- FLAT BARS AND ANCHORAGES SHALL COMPLY WITH SPEC. 3306.
- CONCRETE INSERTS SHALL BE APPROVED TYPE MALLEABLE IRON. MATERIAL AS PER SPEC. 3324, GRADE 35018. TAP AFTER GALVANIZING.
- GALVANIZE BOLTS, NUTS, WASHERS, TURNBUCKLES, RODS, EYE BOLTS, AND INSERTS AS PER SPEC. 3392. GALVANIZE OTHER MATERIAL AS PER SPEC. 3394 AFTER FABRICATION.
- PIPE SLEEVES SHALL COMPLY WITH SPEC. 3362.
- (1) SPACE INSERTS AT 10'-0" MAXIMUM CENTERS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

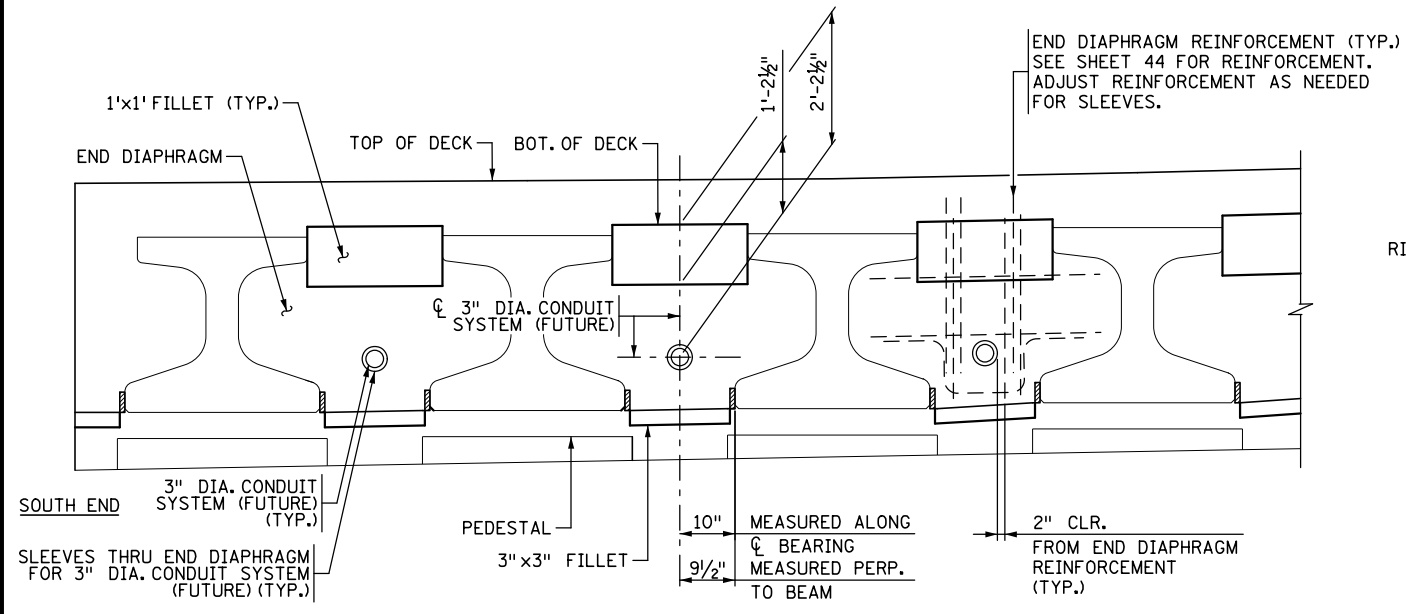
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 LIGHTING CONDUIT DETAILS

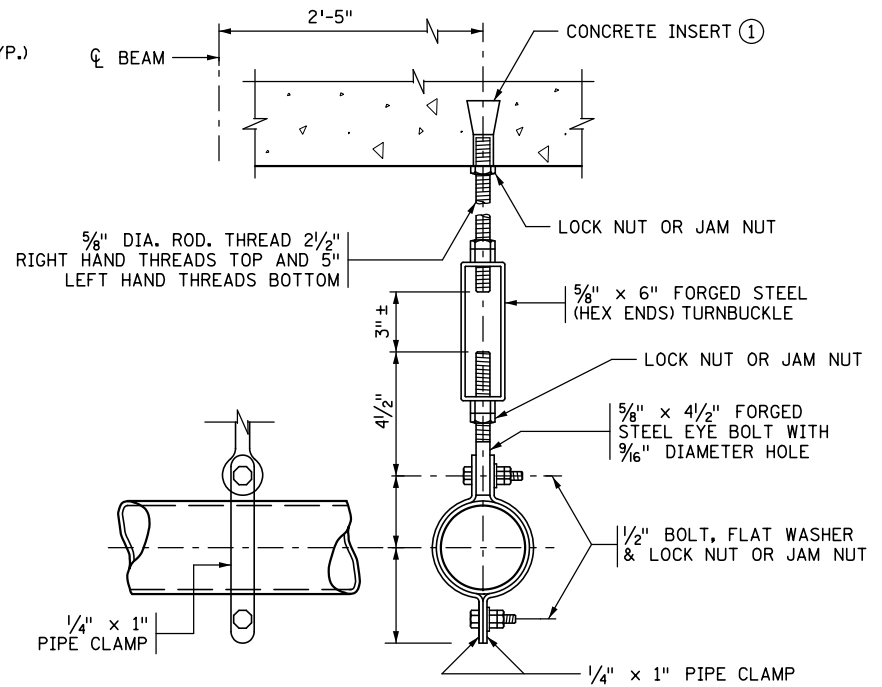
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CHK: LJL	CHK: LJL	
SHEET NO. 52 OF 66 SHEETS		

BRIDGE NO.
 02584

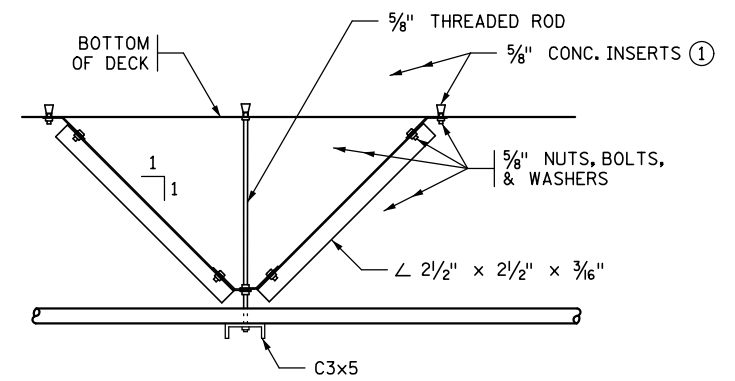
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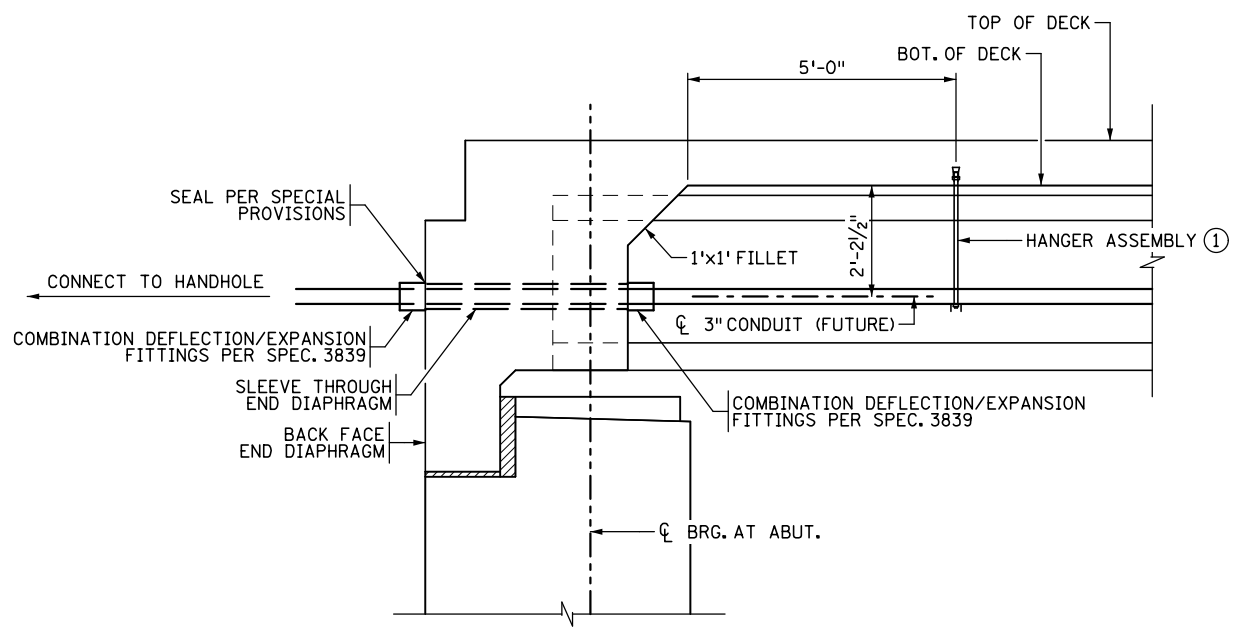
TRANSVERSE SECTION AT ABUT.
 (FOR CONDUIT SYSTEM (FUTURE))
 (WEST ABUTMENT SHOWN, EAST SIMILAR)



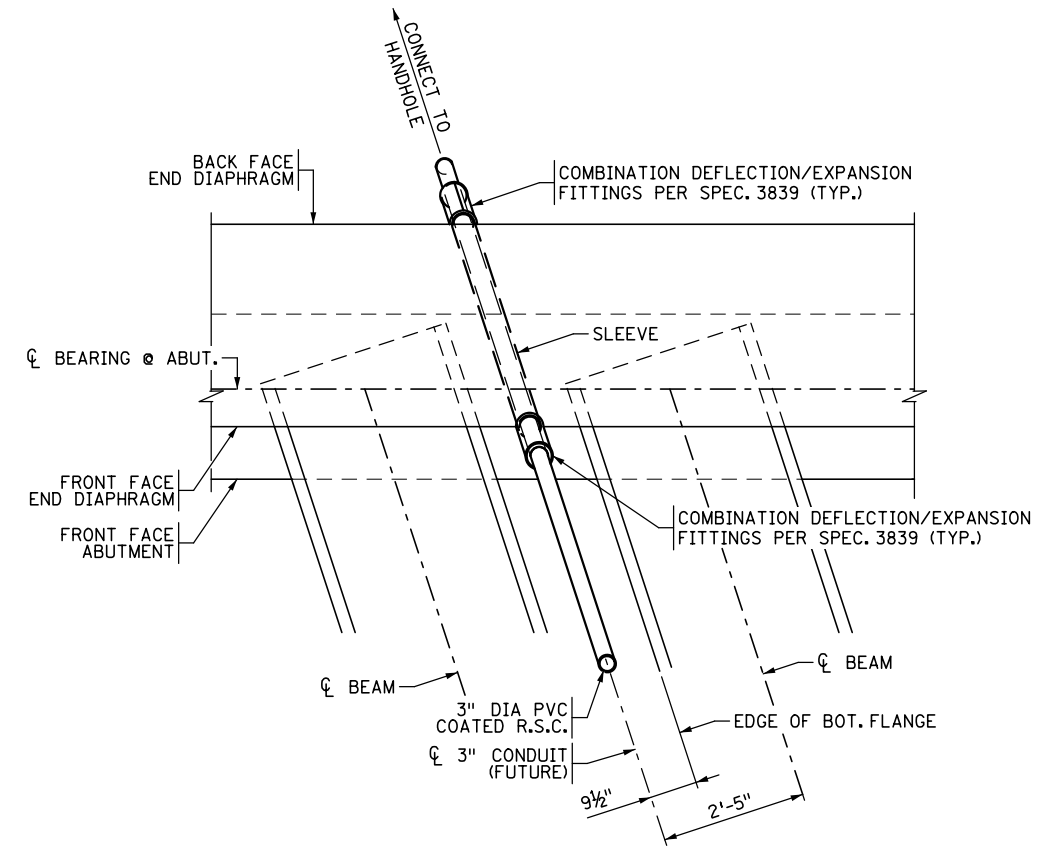
HANGER ASSEMBLY
 EACH HANGER ASSEMBLY SHALL CONSIST OF CONCRETE INSERT, 5/8" DIA. ROD, PIPE CLAMPS, NUTS, BOLTS, WASHERS, TURNBUCKLE AND EYE BOLT



CENTERING DEVICE DETAIL - SIDE VIEW
 (LOCATED ONLY ON A HANGER ADJACENT TO PIER)



LONGITUDINAL SECTION AT ABUT.
 (FOR CONDUIT SYSTEM (FUTURE))



PLAN SECTION AT ABUT.
 (FOR CONDUIT SYSTEM (FUTURE))

GENERAL NOTES
 RODS, EYE BOLTS AND PIPE CLAMPS SHALL COMPLY WITH SPEC. 3313, TYPE I.
 TURNBUCKLES AND EYE BOLTS SHALL COMPLY WITH A.S.T.M. A235 CLASS A MINIMUM REQUIREMENTS.
 FLAT BARS AND ANCHORAGES SHALL COMPLY WITH SPEC. 3306.
 CONCRETE INSERTS SHALL BE APPROVED TYPE MALLEABLE IRON. MATERIAL AS PER SPEC. 3324, GRADE 35018. TAP AFTER GALVANIZING.
 GALVANIZE BOLTS, NUTS, WASHERS, TURNBUCKLES, RODS, EYE BOLTS, AND INSERTS AS PER SPEC. 3392. GALVANIZE OTHER MATERIAL AS PER SPEC. 3394 AFTER FABRICATION.
 PIPE SLEEVES SHALL COMPLY WITH SPEC. 3362.
 (1) SPACE INSERTS AT 10'-0" MAXIMUM CENTERS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

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 Saint Paul, MN 55101
 651.292.4400
 tkda.com

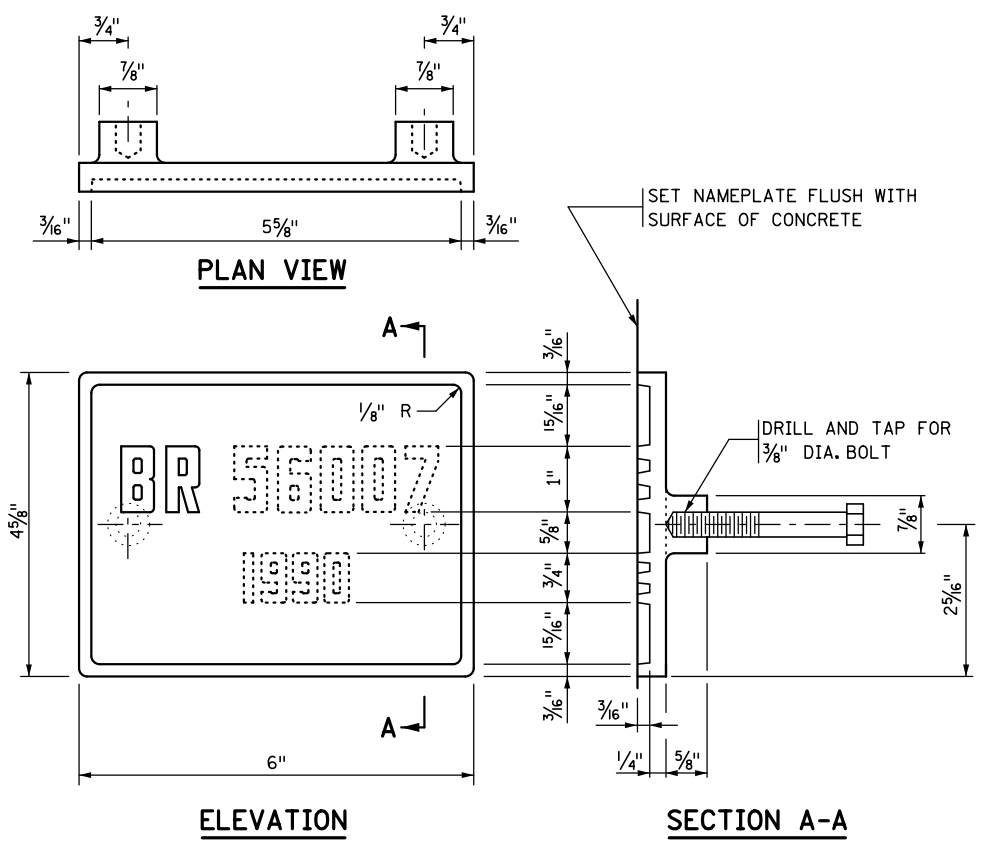
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 FUTURE CONDUIT DETAILS

DES: DRH	DR: DRH	APPROVED
CHK: LJL	CHK: LJL	
SHEET NO. 53 OF 66 SHEETS		

BRIDGE NO.
 02584

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THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION. DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

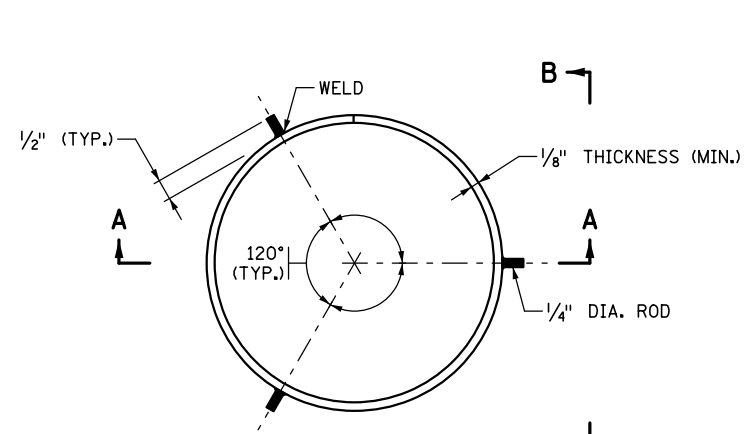
BRIDGE 02584
 YEAR 2021



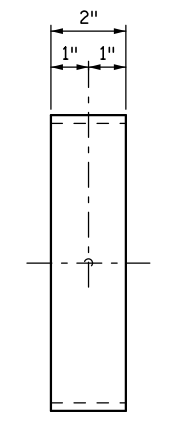
NUMBERS FOR NAMEPLATE

NOTES:

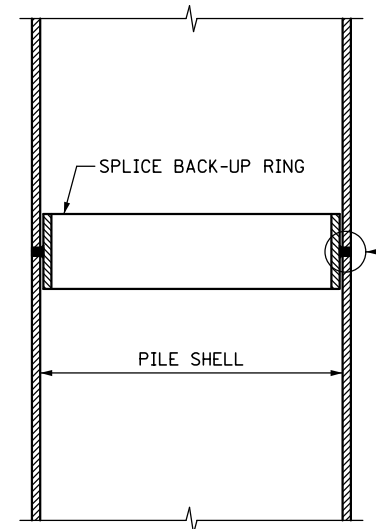
- MATERIAL SHALL COMPLY WITH SPEC. 3327.
- LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.
- DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".
- HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
- TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.
- FURNISH 2 STEEL BOLTS 3/8" DIA. x 3" LONG WITH EACH PLATE.
- ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.



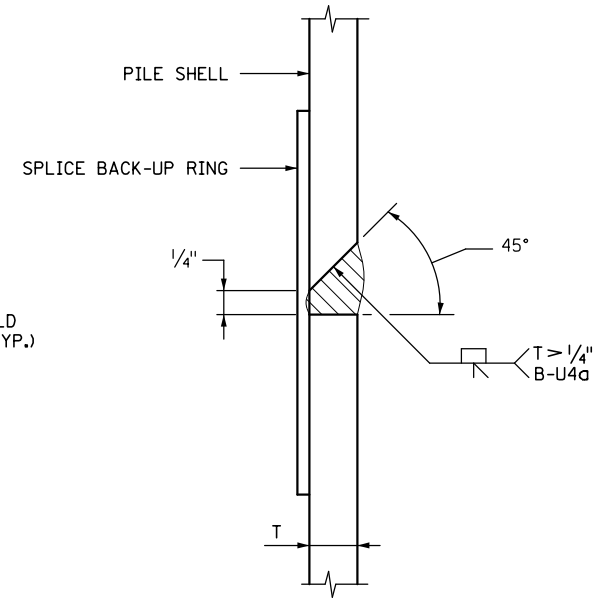
PLAN VIEW - SPLICE BACK-UP RING



SECTION B-B
PILE NOT SHOWN



SECTION A-A



DETAIL "A" ①

NOTES:

- APPROVED COMMERCIAL PILE SPLICE BACK-UP RING MAY BE USED IN LIEU OF THE TYPE DETAILED, PROVIDED THAT 1/4" ROOT IS MAINTAINED. BACK-UP RING SHALL HAVE A TIGHT FIT.
- WELDING ELECTRODES SHALL BE CELLULOSIC TYPE ELECTRODES E-6010 OR E-6011.
- ELECTRODES WHICH HAVE BECOME WET, SOILED OR DAMAGED SHALL NOT BE USED.
- WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN 0° F. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 32° F., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 70° F. AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.
- ① FOR PILE SHELL THICKNESSES GREATER THAN 1/4", USE A B-U4g WELD CONFIGURATION. SEE DETAIL "A".

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION 09-11-2014	DETAIL NO.
<i>Daniel J. Wojcjan</i> STATE BRIDGE ENGINEER	BRIDGE NAMEPLATE (FOR NEW BRIDGES)		B101

APPROVED: NOVEMBER 22, 2002	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION: 11-06-2013	DETAIL NO.
<i>Daniel J. Wojcjan</i> STATE BRIDGE ENGINEER	PILE SPLICE (CAST-IN-PLACE CONCRETE PILES)		B201

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

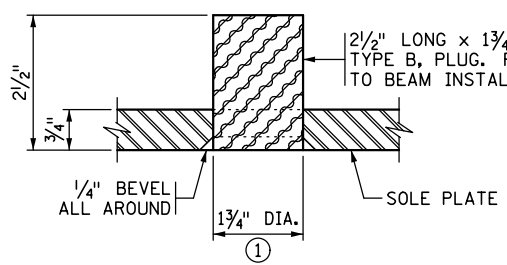
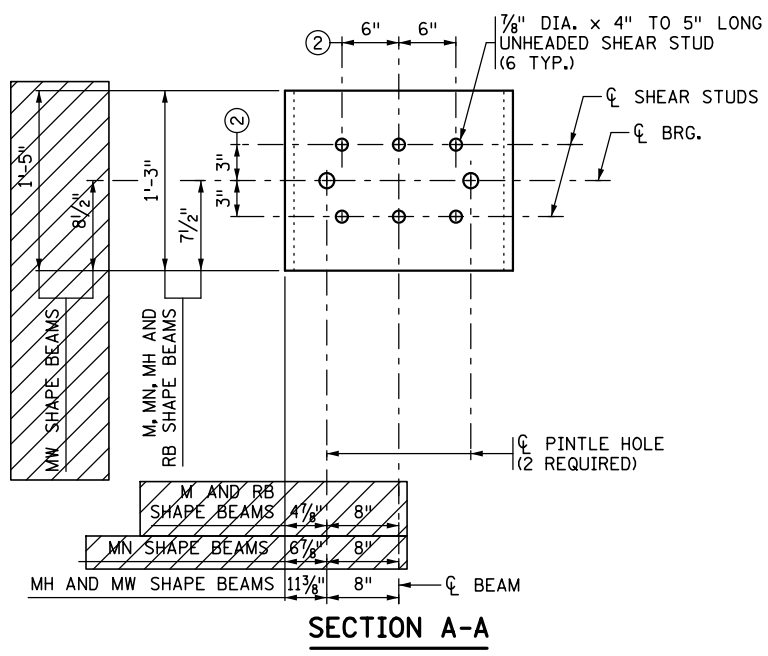
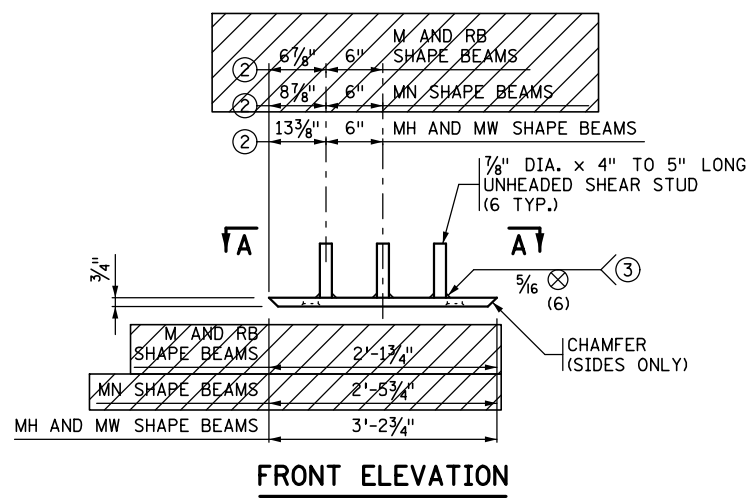
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
STANDARD DETAILS
 B101 & B201

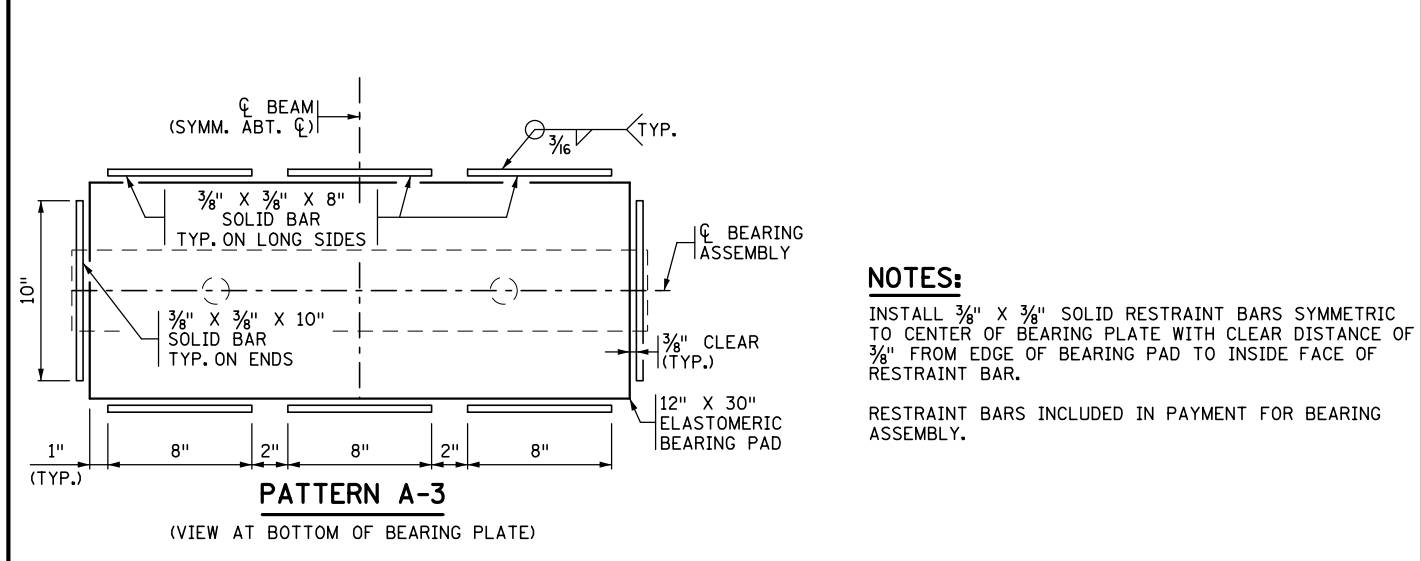
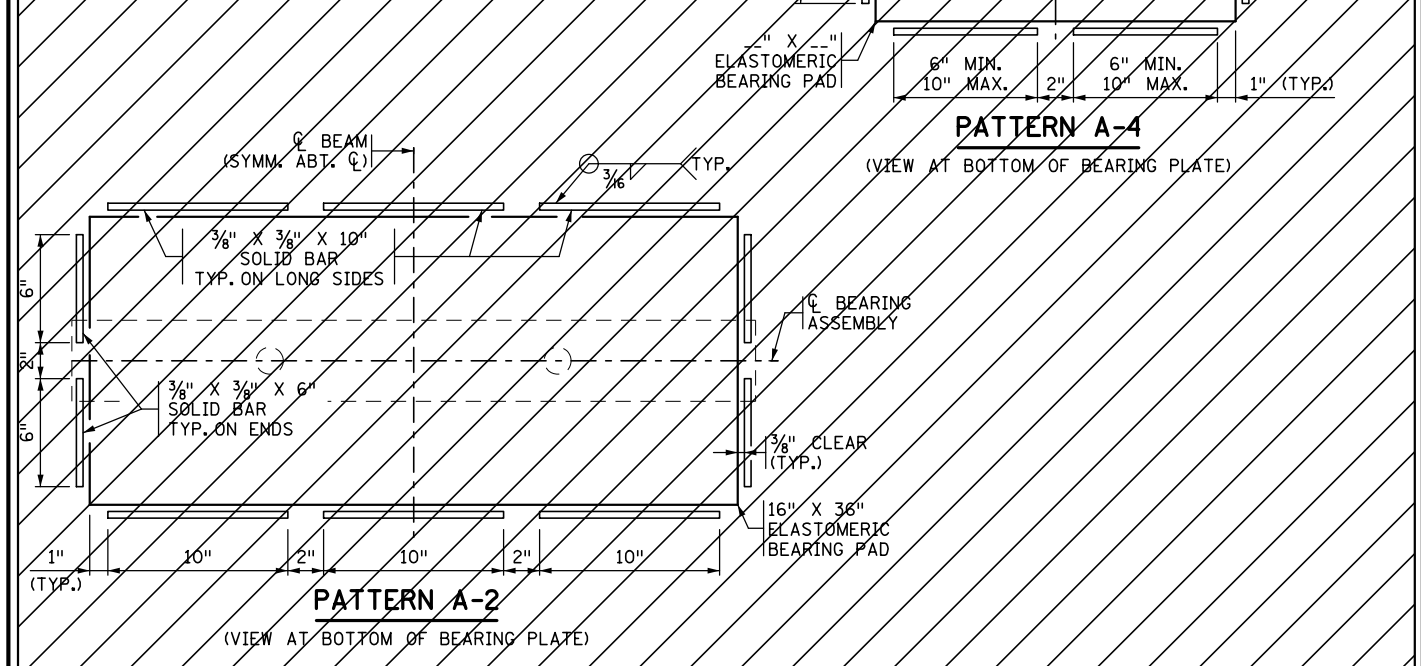
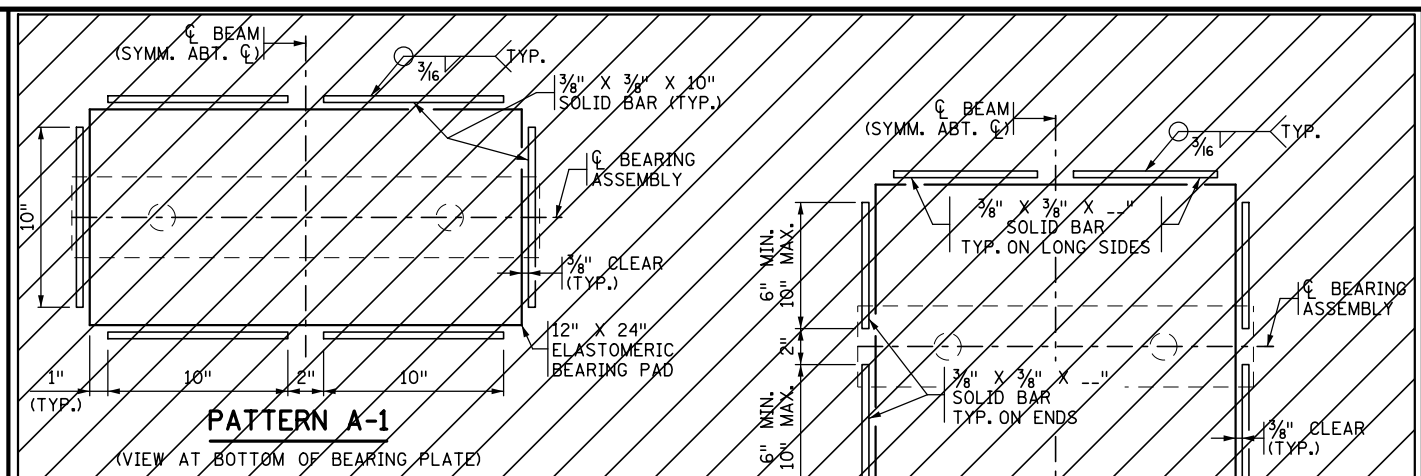
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 SHEET NO. 54 OF 66 SHEETS

BRIDGE NO.
02584

DATE: 11/19/2020 TIME: 4:13:18 PM
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- NOTES:**
- PROVIDE STRUCTURAL STEEL PER SPEC. 3306.
 - PROVIDE WELDED STUDS OF WELDABLE CARBON STEEL PER SPEC. 3391.2D.
 - GALVANIZE SOLE PLATE FOR BEARING ASSEMBLY PER SPEC. 3394 AFTER FABRICATION.
 - ENSURE PINTLE HOLES ARE FREE OF ZINC BUILD UP FROM GALVANIZING.
 - SOLE PLATES ARE INCIDENTAL TO PRESTRESSED CONCRETE BEAMS.
 - ① FOR 1 1/2" DIA. PINTLES.
 - ② THESE DIMENSIONS MAY BE MODIFIED TO CLEAR PRESTRESSED STRANDS. HOWEVER, CHANGES MUST BE APPROVED BY THE ENGINEER.
 - ③ STUD WELDING PER AWS D1.1.

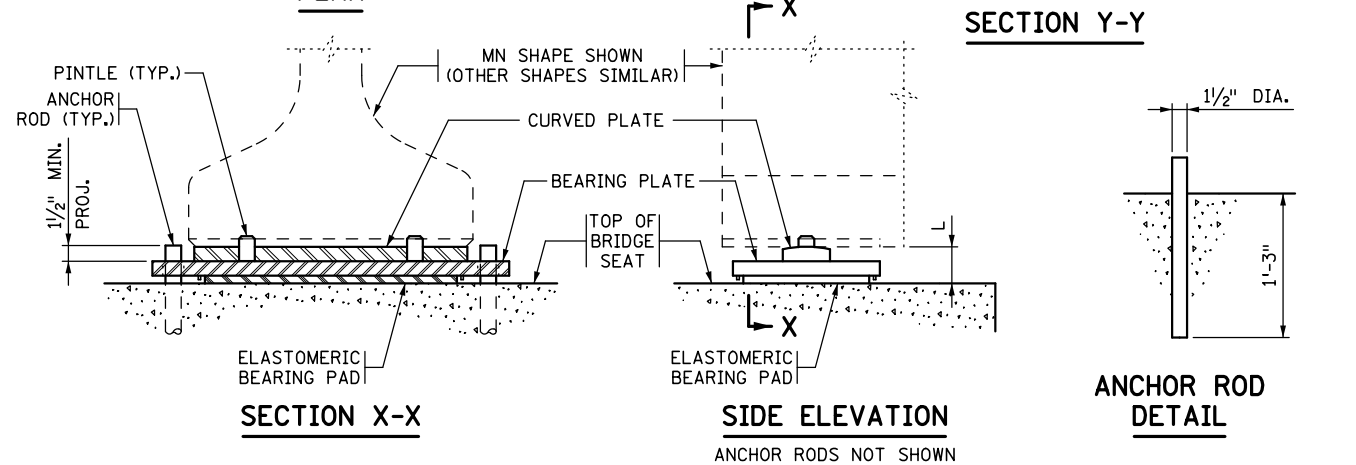
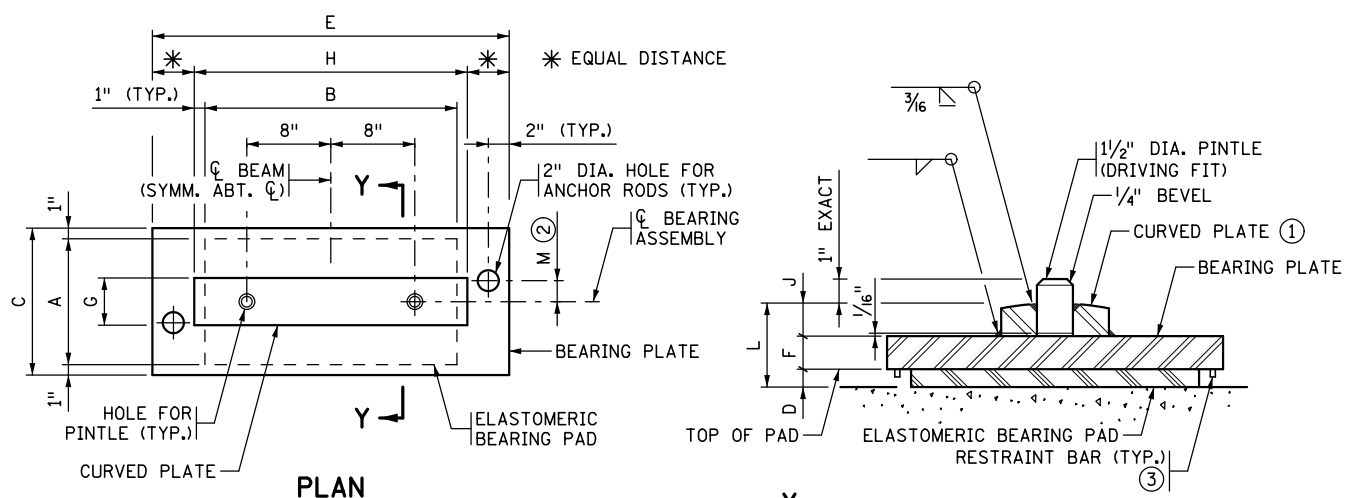


- NOTES:**
- INSTALL 3/8" X 3/8" SOLID RESTRAINT BARS SYMMETRIC TO CENTER OF BEARING PLATE WITH CLEAR DISTANCE OF 3/8" FROM EDGE OF BEARING PAD TO INSIDE FACE OF RESTRAINT BAR.
 - RESTRAINT BARS INCLUDED IN PAYMENT FOR BEARING ASSEMBLY.

APPROVED: SEPTEMBER 22, 2011	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION 01-05-2017 12-20-2018	DETAIL NO. B303
<i>Nancy Dubenberger</i> STATE BRIDGE ENGINEER	SOLE PLATE (PRESTRESSED CONCRETE BEAMS) (FOR BEARINGS WITH PINTLES)		

APPROVED: NOVEMBER 02, 2017	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION 11-08-2018 12-20-2018	DETAIL NO. B307
<i>Kevin Weston</i> STATE BRIDGE ENGINEER	BEARING PAD RESTRAINT		

DATE: 11/19/2020 TIME: 4:13:21 PM
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ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			SHAPE FACTOR	BEARING PLATE SIZE			CURVED PLATE SIZE				ANCHOR ROD OFFSET	ASSY. HEIGHT	RESTRAINT PATTERN (3)	
			A	B	D		C	E	F	G	H	J	R (1)				
F-1	PIER	35MH	12"	30"	1/2"	8.6	14"	47"	1 1/2"	4 1/2"	32"	1 1/4"	16"	+/- (2)	0"	3 1/4"	A-3

NOTES:

PROVIDE ELASTOMERIC MATERIALS AND PAD CONSTRUCTION IN ACCORDANCE WITH SPEC. 3741.

PROVIDE STEEL PLATES IN ACCORDANCE WITH SPEC. 3306.

PROVIDE ANCHOR RODS IN ACCORDANCE WITH SPEC. 3306. GALVANIZE IN ACCORDANCE WITH SPEC. 3394.

PROVIDE PINTLES IN ACCORDANCE WITH SPEC. 3309.

GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION IN ACCORDANCE WITH SPEC. 3394, EXCEPT AS NOTED.

PAYMENT FOR BEARING ASSEMBLY INCLUDES ALL MATERIAL ON THIS DETAIL.

(1) THE MIN. RADIUS IS 16" UNLESS OTHERWISE SPECIFIED IN THE TABLE. THE MAX. RADIUS IS 24". FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.

(2) "+" DENOTES OFFSET AS SHOWN. "-" DENOTES OFFSET OPPOSITE OF SHOWN.

(3) REFER TO BEARING PAD RESTRAINT B-DETAIL FOR ADDITIONAL INFORMATION AND DETAILS.

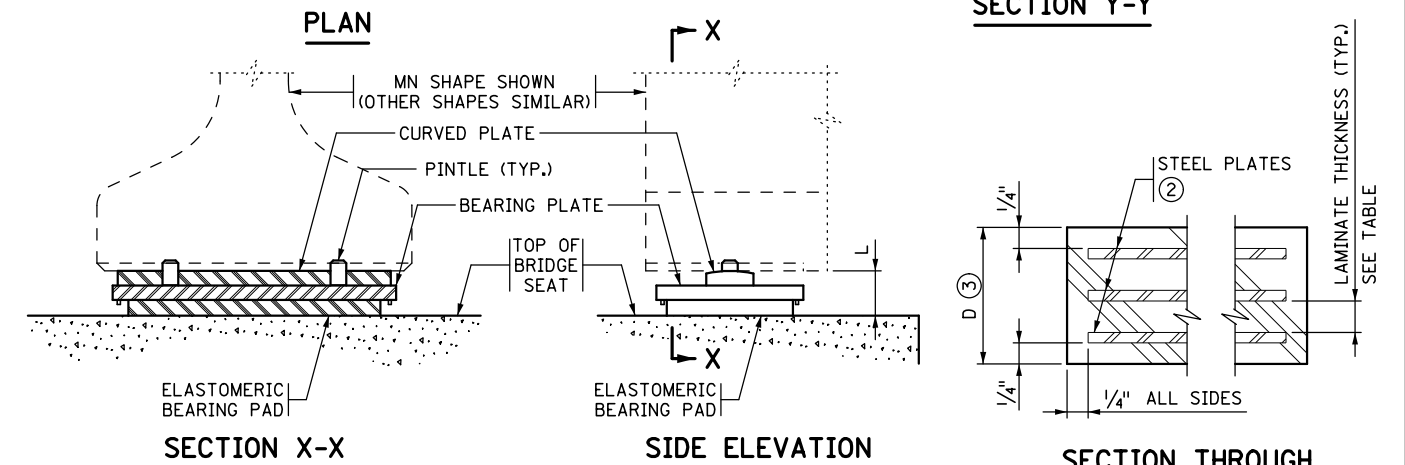
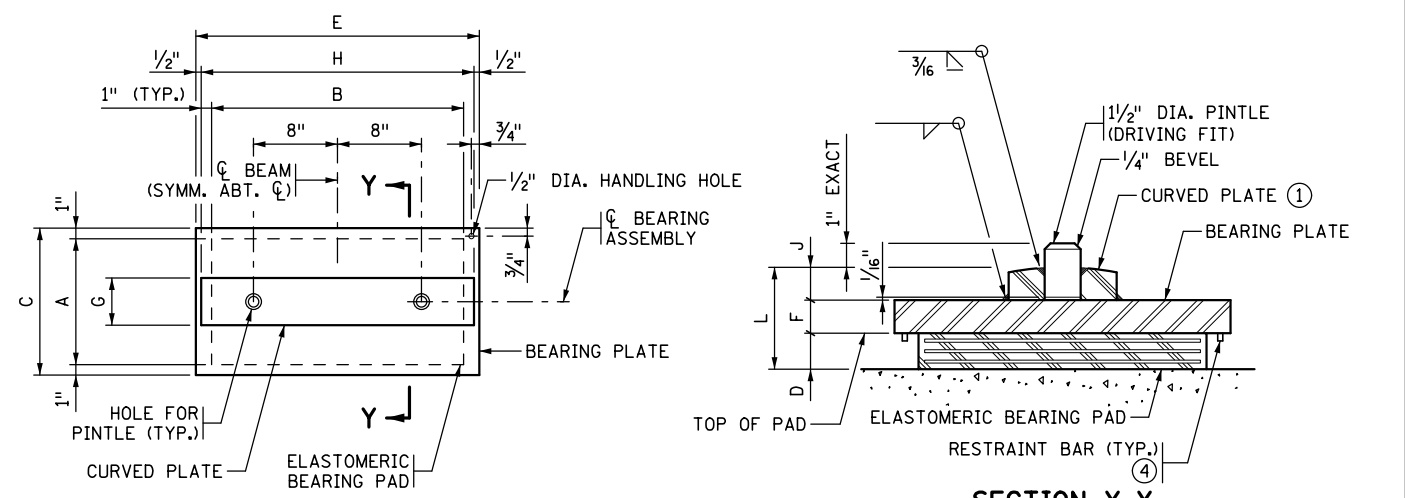
DESIGN DATA:
 MAX. FACTORED SHEAR RESISTANCE:
 - 50.3 KIPS PER 1 1/2" DIA. PINTLE
 - 36.2 KIPS PER 1 1/2" DIA. ANCHOR ROD

APPROVED: DECEMBER 20, 2018	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISED 10-22-2019	DETAIL NO. B310
<i>Kevin Weston</i> STATE BRIDGE ENGINEER	CURVED PLATE BEARING ASSEMBLY (PRESTRESSED CONCRETE BEAMS) (FIXED)		

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com



ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			STEEL PLATES		LAMINATES		SHAPE FACTOR	BEARING PLATE SIZE			CURVED PLATE SIZE				ASSY. HEIGHT	RESTRAINT PATTERN (4)
			A	B	D	NO.	THICK.	NO.	THICK.		C	E	F	G	H	J	R (1)		
E-1	ABUT.	35MH	12"	30"	4 3/8"	7	1/8"	6	1/2"	8.6	14"	33"	1 1/2"	4 1/2"	32"	1 1/4"	16"	7 1/8"	A-3
E-2	PIER	35MH	12"	30"	1/2"	0	1/8"	1	1/2"	8.6	14"	33"	1 1/2"	4 1/2"	32"	1 1/4"	16"	3 1/4"	A-3

NOTES:

PROVIDE ELASTOMERIC MATERIALS AND PAD CONSTRUCTION IN ACCORDANCE WITH SPEC. 3741.

PROVIDE STEEL PLATES IN ACCORDANCE WITH SPEC. 3306.

PROVIDE PINTLES IN ACCORDANCE WITH SPEC. 3309.

GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION IN ACCORDANCE WITH SPEC. 3394, EXCEPT AS NOTED.

PAYMENT FOR BEARING ASSEMBLY INCLUDES ALL MATERIAL ON THIS DETAIL.

(1) THE MIN. RADIUS IS 16" UNLESS OTHERWISE SPECIFIED IN THE TABLE. THE MAX. RADIUS IS 24". FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.

(2) DO NOT GALVANIZE THESE PLATES.

(3) THE TOTAL THICKNESS SHOWN INCLUDES THE STEEL PLATES.

(4) REFER TO BEARING PAD RESTRAINT B-DETAIL FOR ADDITIONAL INFORMATION AND DETAILS.

DESIGN DATA:
 MAX. FACTORED SHEAR RESISTANCE:
 - 50.3 KIPS PER 1 1/2" DIA. PINTLE

APPROVED: DECEMBER 20, 2018	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISED 10-22-2019	DETAIL NO. B311
<i>Kevin Weston</i> STATE BRIDGE ENGINEER	CURVED PLATE BEARING ASSEMBLY (PRESTRESSED CONCRETE BEAMS) (EXPANSION)		

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

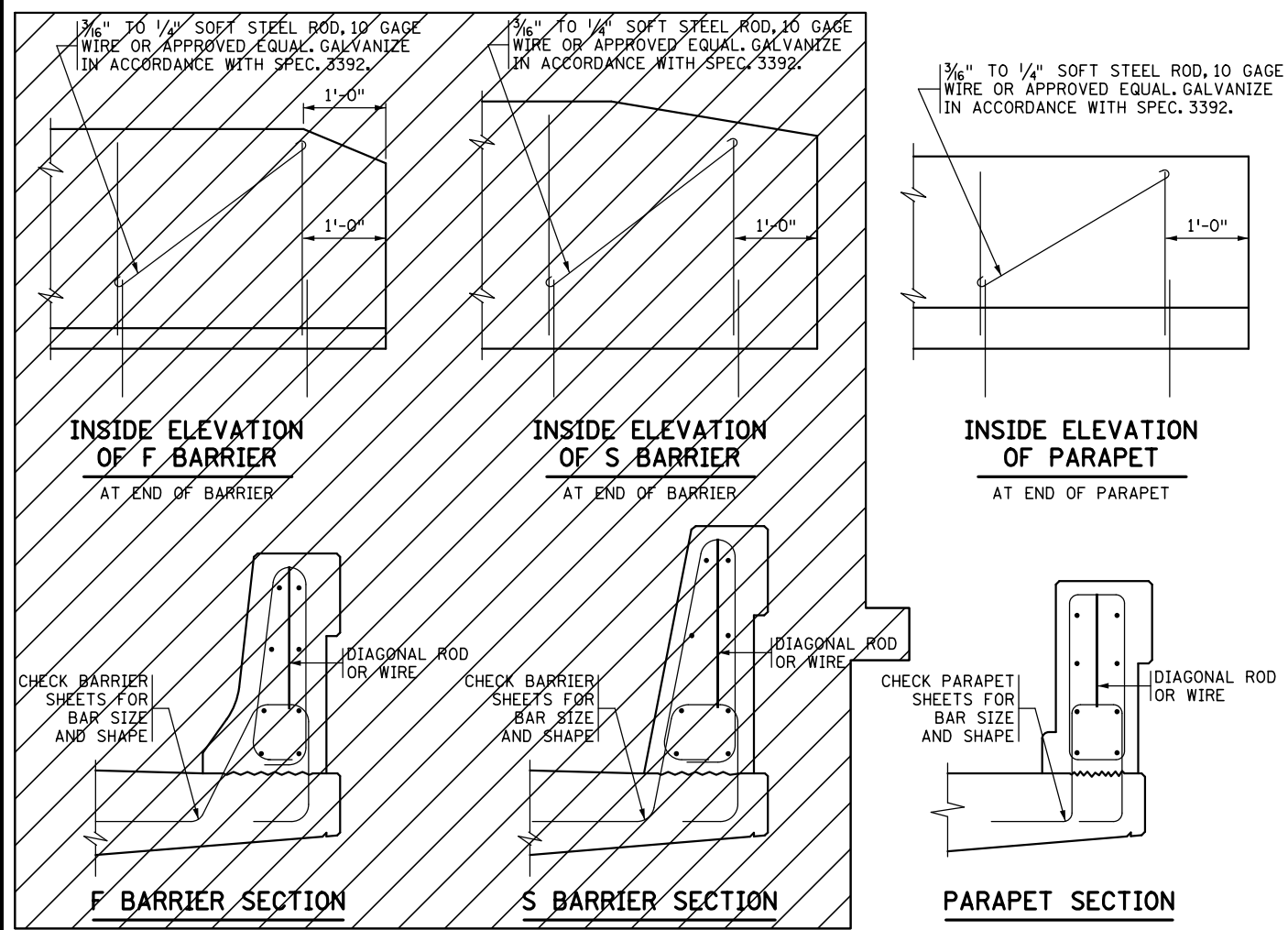
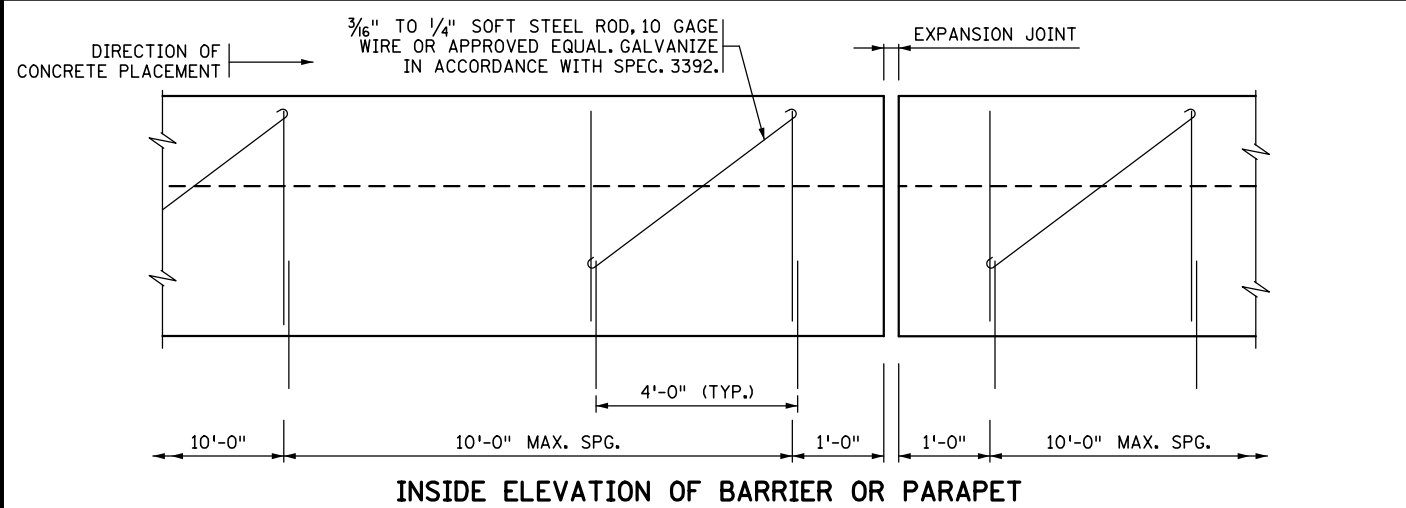
TITLE: STANDARD DETAILS
 B310 & B311

DES: ADL DR: ADL APPROVED
 CHK: LJJ CHK: LJJ

SHEET NO. 56 OF 66 SHEETS

BRIDGE NO.
02584

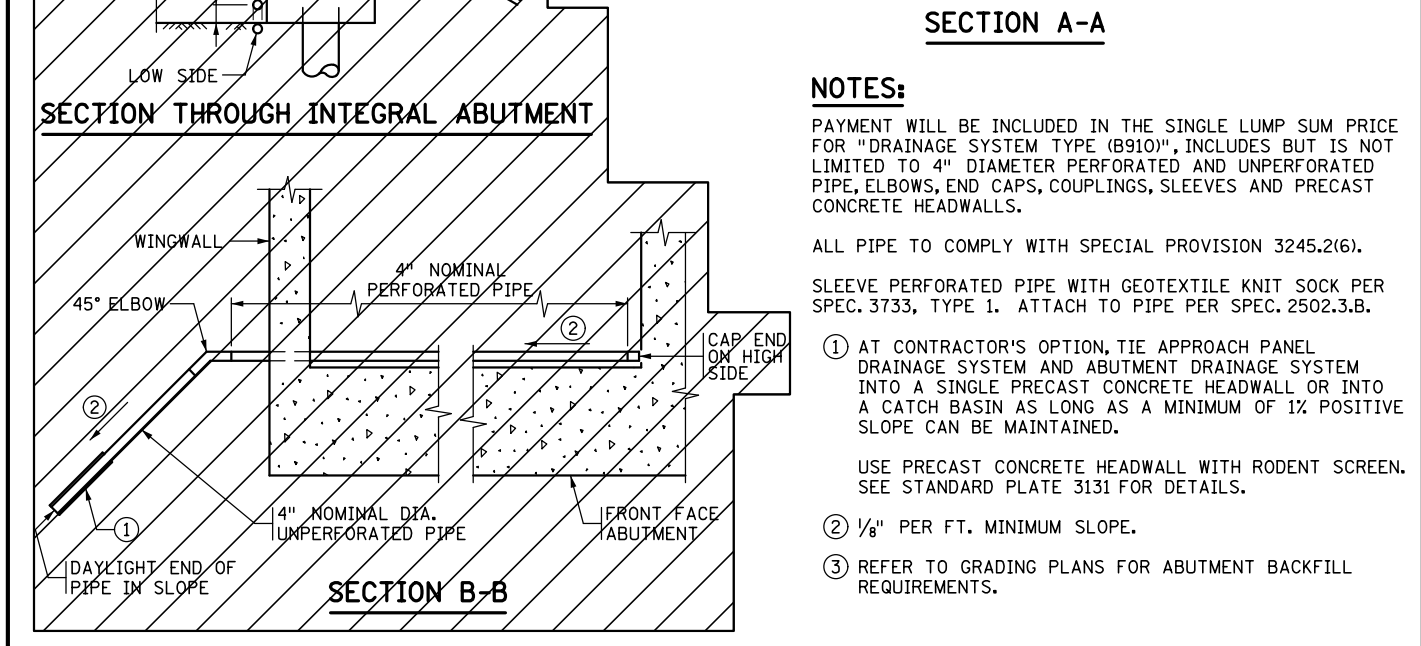
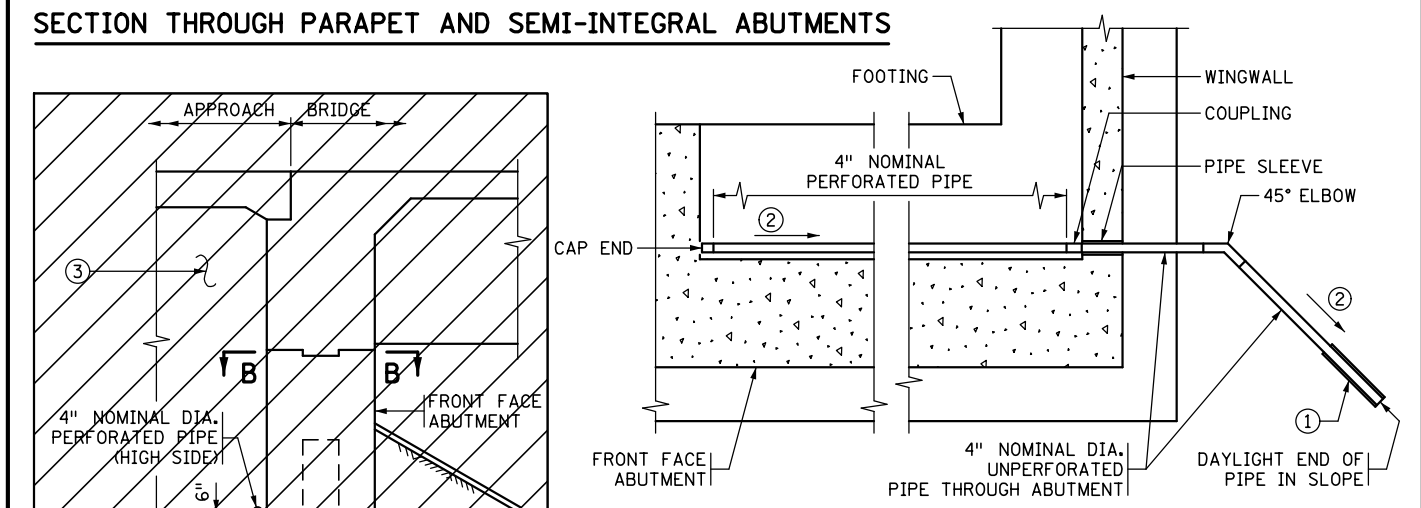
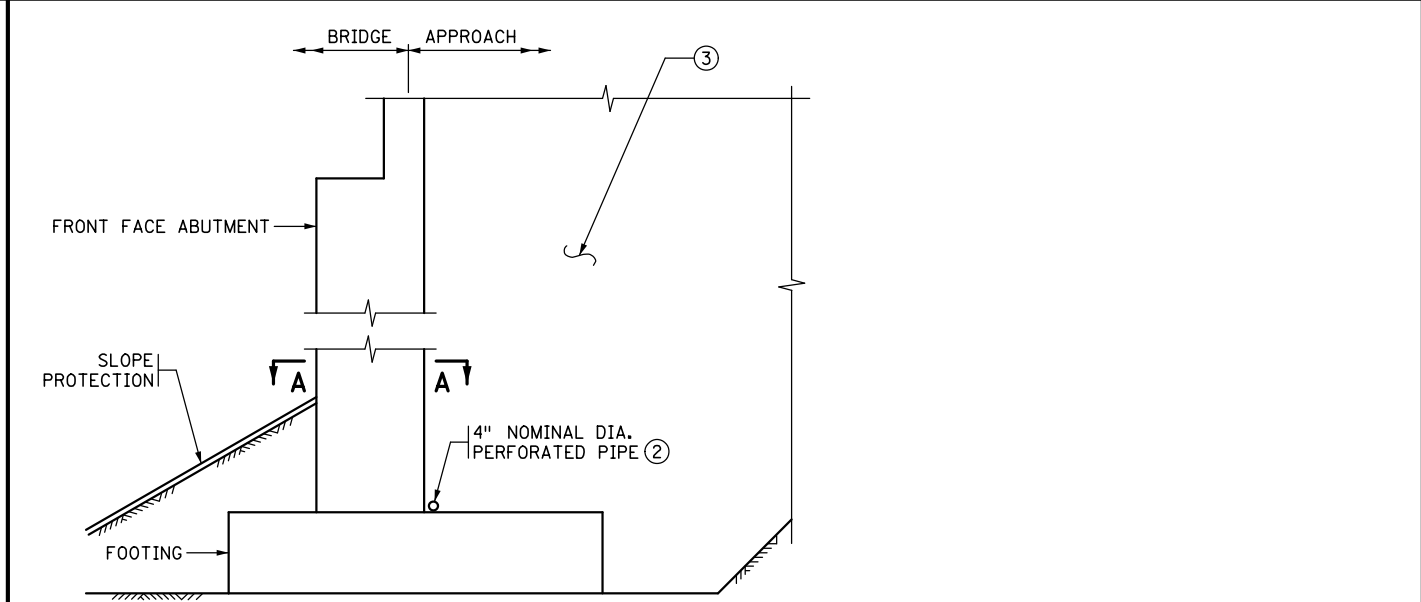
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NOTES:
 FOR ADDITIONAL DIMENSIONS, DETAILS, REINFORCEMENT, NOTES, AND CONTROL JOINT SPACING SEE BARRIER OR PARAPET SHEET.
 PAY QUANTITIES WILL NOT BE ADJUSTED AS A RESULT OF SELECTING SLIPFORM ALTERNATE.
 USE A SIMILAR METHOD FOR TALLER BARRIERS OR MODIFIED VERSIONS OF THIS BARRIER.

APPROVED: AUGUST 24, 2016 <i>Kevin Weston</i> STATE BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION CONCRETE BARRIER OR PARAPET (SLIPFORM ALTERNATE)	REVISION 04-09-2020	DETAIL NO. B830
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA		444 Cedar Street, Suite 1500 Saint Paul, MN 55101 651.292.4400 tkda.com
SIGNED: <i>Lindsey J. Lawrence</i> LINDSEY J. LAWRENCE DATE: 11/19/2020 LIC. NO.: 48298	ANOKA COUNTY FOLEY BLVD. OVER BNSF RR. S.P. 002-611-036	



NOTES:
 PAYMENT WILL BE INCLUDED IN THE SINGLE LUMP SUM PRICE FOR "DRAINAGE SYSTEM TYPE (B910)", INCLUDES BUT IS NOT LIMITED TO 4" DIAMETER PERFORATED AND UNPERFORATED PIPE, ELBOWS, END CAPS, COUPLINGS, SLEEVES AND PRECAST CONCRETE HEADWALLS.
 ALL PIPE TO COMPLY WITH SPECIAL PROVISION 3245.2(6).
 SLEEVE PERFORATED PIPE WITH GEOTEXTILE KNOT SOCK PER SPEC. 3733, TYPE 1. ATTACH TO PIPE PER SPEC. 2502.3.B.
 ① AT CONTRACTOR'S OPTION, TIE APPROACH PANEL DRAINAGE SYSTEM AND ABUTMENT DRAINAGE SYSTEM INTO A SINGLE PRECAST CONCRETE HEADWALL OR INTO A CATCH BASIN AS LONG AS A MINIMUM OF 1% POSITIVE SLOPE CAN BE MAINTAINED.
 USE PRECAST CONCRETE HEADWALL WITH RODENT SCREEN. SEE STANDARD PLATE 3131 FOR DETAILS.
 ② 1/8" PER FT. MINIMUM SLOPE.
 ③ REFER TO GRADING PLANS FOR ABUTMENT BACKFILL REQUIREMENTS.

APPROVED: JANUARY 13, 2015 <i>Nancy Dubenberger</i> STATE BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION DRAINAGE SYSTEM	REVISED 12-02-2015 02-22-2018 11-08-2018	DETAIL NO. B910
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DES: ADL CHK: LJJ	DR: ADL CHK: LJJ	APPROVED	BRIDGE NO. 02584
SHEET NO. 57 OF 66 SHEETS			

DATE: 11/19/2020 TIME: 4:13:33 PM
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ALIGNMENT TABULATION

POINT NUMBER OR CURVE NAME	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
ANGLE (θs)	DEGREE	ST	LT	LS						
CSAH 11 EB (CSAH11EB)										
1000	POT	99+70.170						493,594.1125	138,208.3653	59° 59' 19.44"
	PC	101+97.442						493,790.9134	138,322.0400	
CURVE CSAH11EB1	PI	103+04.348	6° 47' 52.25" LT	3° 10' 59.16"	1,800.000'	106.906'	213.561'	493,883.4860	138,375.5110	PI
	CC							492,890.6069	139,880.7087	
	PT	104+11.003						493,969.0786	138,439.5637	53° 11' 27.19"
CURVE CSAH11EB2	PC	110+82.399						494,506.6225	138,841.8313	
	PI	111+46.828	3° 51' 51.53" RT	3° 00' 00.00"	1,909.859'	64.430'	128.810'	494,558.2072	138,880.4344	PI
	CC							495,650.9165	137,312.7290	
CURVE CSAH11EB3	PT	112+11.209						494,612.2763	138,915.4732	57° 03' 18.72"
	PC	126+38.540						495,810.0852	139,691.6998	
	PI	128+22.080	6° 18' 41.00" LT	1° 43' 15.92"	3,329.045'	183.540'	366.709'	495,964.1113	139,791.5146	PI
CURVE CSAH11EB3	CC							493,999.6483	142,485.4170	
	PT	130+05.249						496,106.2310	139,907.6569	50° 44' 37.72"
	POT	138+97.203						496,796.8921	140,472.0751	
CSAH 11 WB (CSAH11WB)										
1050	POT	199+77.653						493,574.8655	138,246.9057	59° 59' 19.44"
CURVE CSAH11WB1	PC	201+14.516						493,693.3790	138,315.3606	
	PI	203+99.598	6° 47' 52.25" LT	1° 11' 37.18"	4,800.000'	285.082'	569.495'	493,940.2392	138,457.9502	PI
	CC							491,292.5616	142,471.8105	
CURVE CSAH11WB2	PT	206+84.011						494,168.4862	138,628.7573	53° 11' 27.19"
	PC	212+46.698						494,618.9935	138,965.8916	
	PI	213+11.128	3° 51' 51.53" RT	3° 00' 00.00"	1,909.859'	64.430'	128.810'	494,670.5782	139,004.4947	PI
CURVE CSAH11WB3	CC							495,763.2875	137,436.7893	
	PT	213+75.508						494,724.6472	139,039.5335	57° 03' 18.72"
	PC	220+45.081						495,286.5493	139,403.6678	
CURVE CSAH11WB3	PI	221+13.660	2° 23' 59.63" LT	1° 45' 00.00"	3,274.045'	68.579'	137.137'	495,344.1000	139,440.9629	PI
	CC							493,506.0231	142,151.2294	
	PT	221+82.218						495,400.0386	139,480.6352	54° 39' 19.09"
CURVE CSAH11WB4	PC	223+31.636						495,521.9167	139,567.0726	
	PI	224+00.215	2° 23' 59.63" RT	1° 45' 00.00"	3,274.045'	68.579'	137.137'	495,577.8553	139,606.7448	PI
	CC							497,415.9323	136,896.4784	
CURVE CSAH11WB5	PT	224+68.773						495,635.4061	139,644.0399	57° 03' 18.72"
	PC	226+41.282						495,780.1745	139,737.8555	
	PI	228+21.790	6° 18' 41.00" LT	1° 45' 00.00"	3,274.045'	180.508'	360.651'	495,931.6559	139,836.0213	PI
CURVE CSAH11WB6	CC							493,999.6483	142,485.4170	
	PT	230+01.933						496,071.4276	139,950.2447	50° 44' 37.72"
	PC	233+75.585						496,360.7555	140,186.6876	
CURVE CSAH11WB7	PI	234+58.822	2° 54' 45.68" RT	1° 45' 00.00"	3,274.045'	83.238'	166.439'	496,425.2084	140,239.3595	PI
	CC							498,432.5347	137,651.5153	
	PT	235+42.024						496,492.2545	140,288.6882	53° 39' 23.41"
CURVE CSAH11WB7	PC	235+92.024						496,532.5284	140,318.3194	
	PI	236+75.262	2° 54' 45.68" LT	1° 45' 00.00"	3,274.045'	83.238'	166.439'	496,599.5745	140,367.6481	PI
	CC							494,592.2482	142,955.4923	
CURVE CSAH11WB7	PT	237+58.463						496,664.0275	140,420.3199	50° 44' 37.72"
	POT	238+94.094						496,769.0494	140,506.1454	

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



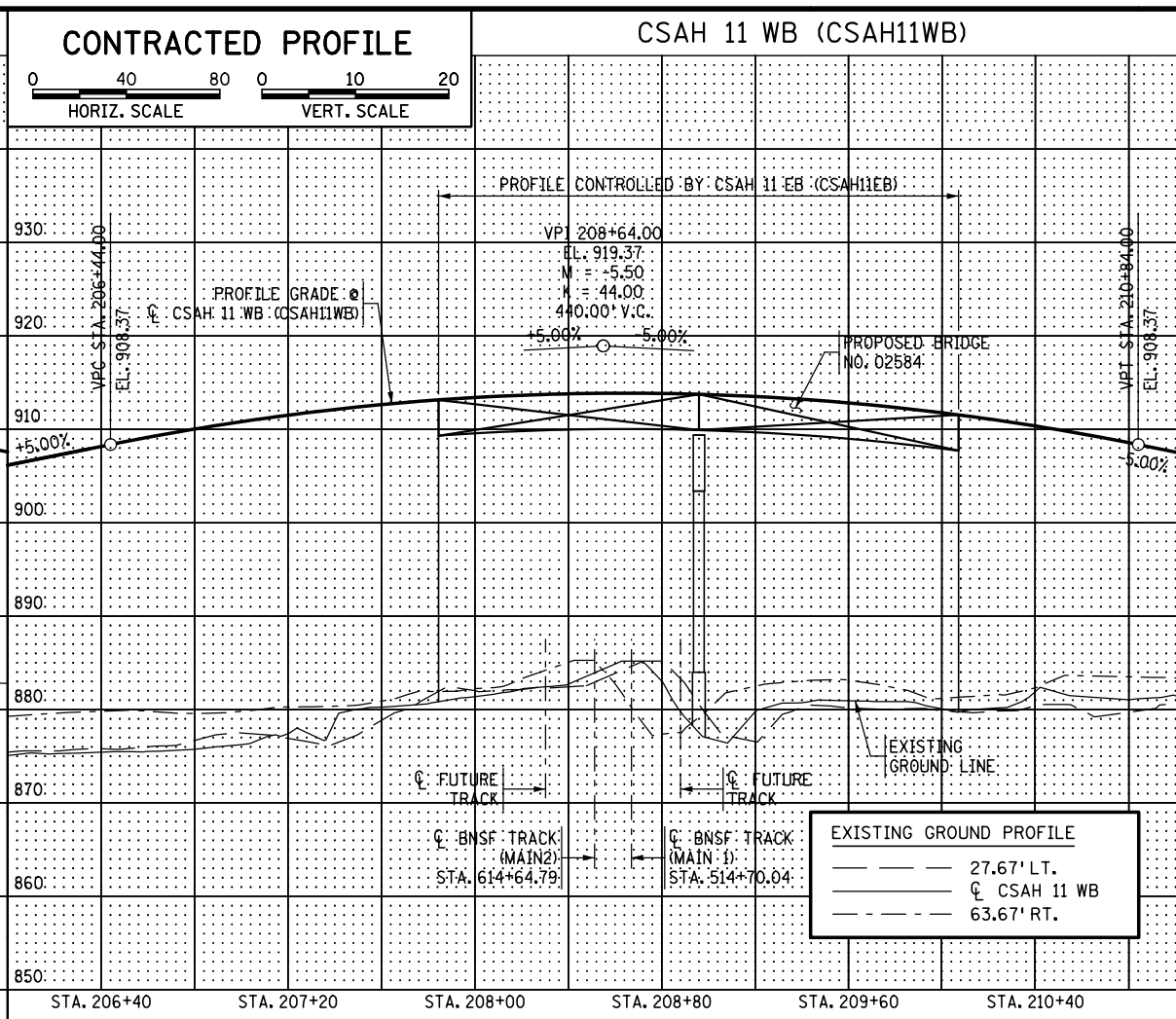
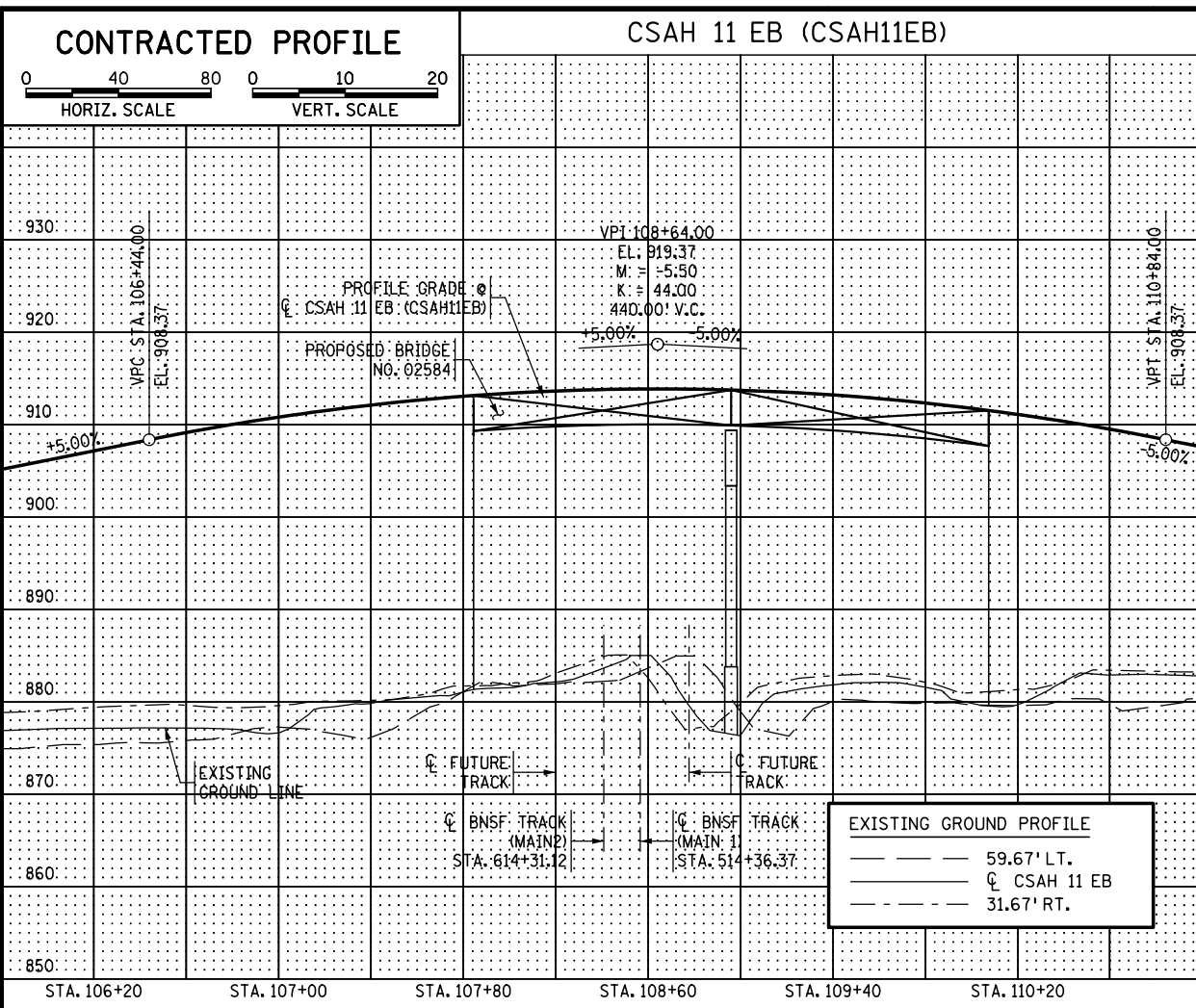
ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
 ALIGNMENT
 TABULATIONS

DES: HAP	DR: HAP	APPROVED
CHK: LJL	CHK: LJL	
SHEET NO. 59 OF 66 SHEETS		

BRIDGE NO.
 02584

DATE: 11/19/2020 TIME: 4:33:37 PM
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LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- SPECIAL FEATURES: WATERFALLS, DAMS, FLOODS, ICE, DEBRIS, SLIDING BANKS, RECREATIONAL BOATING.
- OTHER BRIDGES OR CULVERTS OVER THE SAME STREAM (PARTICULARLY STRUCTURES WHICH CARRY HIGH WATER WITHOUT OVERFLOW OF ROADWAY): GIVEN LOCATION, TYPE, LENGTH, HEIGHT ABOVE HIGH WATER, CROSS-SECTIONAL AREA ETC.
- APPARENT HIGHWATER ELEVATION OBTAINED FROM:
- OTHER DATA: APPROX. VELOCITY OF WATER AT TIME OF SURVEY.

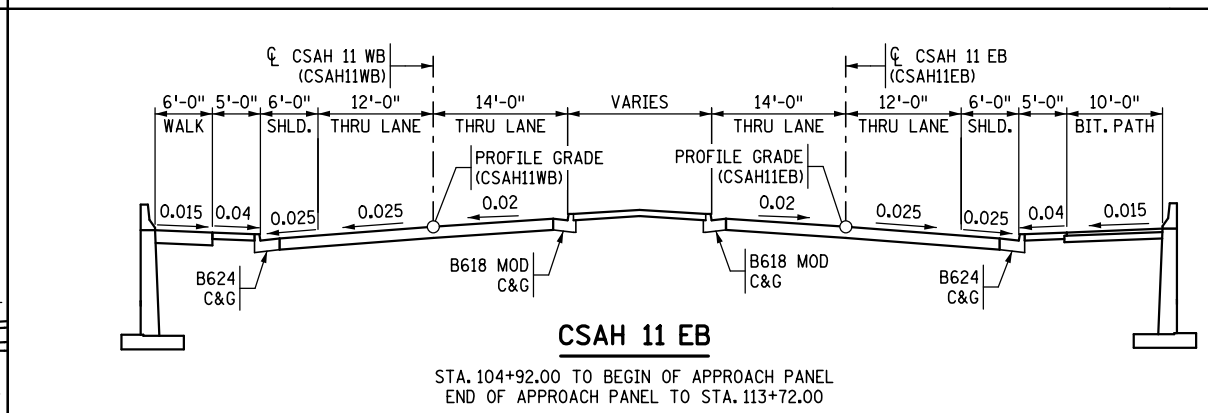
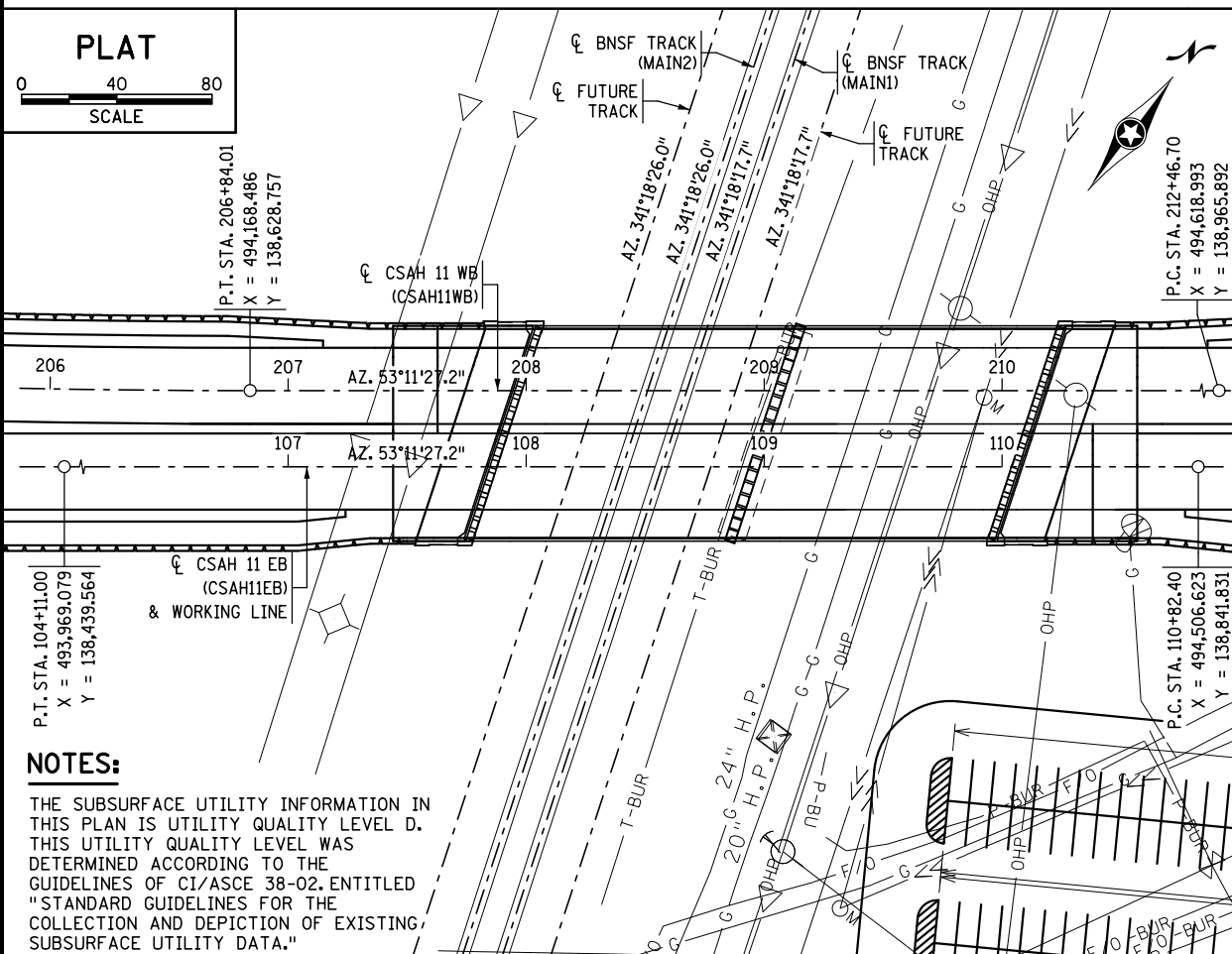
HYDRAULIC ENGINEERS RECOMMENDATION
 DATE: XX-XX-XX

STREAM OR DITCH DESIGNATION: XXX
 DRAINAGE AREA: XXX SQ. MI.
 MAX. FLOOD ON RECORD: XXX C.F.S. (XX-XX-XX)
 MAXIMUM OBSERVED HIGHWATER ELEVATION: XXX.X FT.
 DESIGN FLOOD (XX YR. FREQ.): XXX C.F.S.
 HEADWATER ELEVATION: XXX.X FT.
 DESIGN MEAN VELOCITY THROUGH STRUCTURE: X.X F.P.S.
 TOTAL STAGE INCREASE: XX.X FT.
 LOW MEMBER AT OR ABOVE ELEVATION: XXX.X FT.
 WATERWAY AREA REQUIRED BELOW ELEV. XXX.X = XXX SQ. FT. AT RIGHT ANGLES TO CHANNEL
 BASIC FLOOD (100 YR. FREQ.): XXXX C.F.S.
 HEADWATER ELEVATION: XXX.X FT.
 TOTAL STAGE INCREASE: X.X FT.
 MEAN VELOCITY THROUGH STRUCTURE: X.X F.P.S.
 FLOWLINE ELEVATION: XXX.X FT. SKEW ANGLE: XX
 ESTIMATED PRELIMINARY TOTAL SCOUR AT PIER EL. XXX.X (500 OR 0T YR. FREQ.)

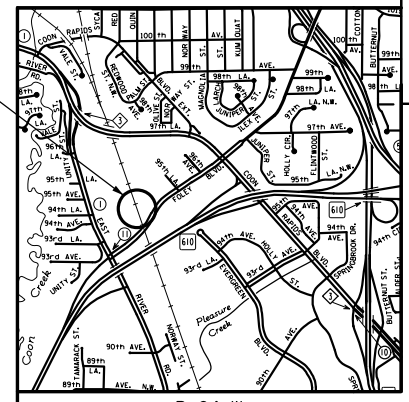
FOUNDATION ENGINEER'S RECOMMENDATION
 DATE: JULY 31, 2020
 REPORT NO. B1812672

BENCH MARK: 0217D
 BENCH MARK ELEVATION: 870.779 (N.A.V.D. 88 ADJ.)

LOCATION:
 IN COON RAPIDS, 0.5 MILE NORTHEAST ALONG TRUNK HIGHWAY 610 FROM THE JUNCTION OF TRUNK HIGHWAY 610 AND TRUNK HIGHWAY 252 IN BROOKLYN PARK, EXIT ON RIVER ROAD EXIT, THEN EAST ALONG ACCESS ROAD AND THROUGH A GATE, 330.0 FEET SOUTHEAST OF EASTBOUND TRUNK HIGHWAY 610 AT STATION 734, 40.0 FEET NORTH OF ACCESS ROAD, 70.0 FEET NORTH OF A POWER POLE NUMBER 162, IN CONCRETE BASE OF SOUTHWEST CORNER OF A POWER LINE TOWER NUMBER 4.



NOTES:
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."



MINNESOTA
 DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY (1 OF 2)

CSAH 11 OVER BNSF RAILROAD
 1.0 MILE SW OF JCT TH 10

SEC. 26 T 31 N R 24 W
 COUNTY: ANOKA
 CITY: COON RAPIDS

BRIDGE NO. 02584

DES: HAP DR: HAP APPROVED
 CHK: L.J.L. CHK: L.J.L.

SHEET NO. 60 OF 66 SHEETS

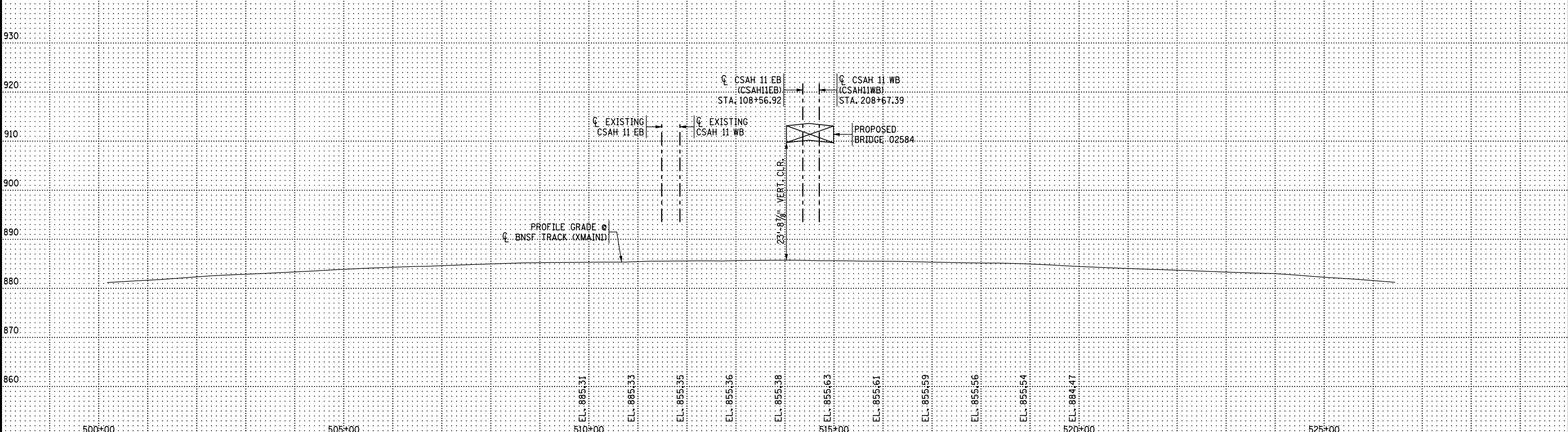
S.P. 002-611-036

TKDA
 444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

DATE: 11/19/2020 TIME: 4:13:42 PM
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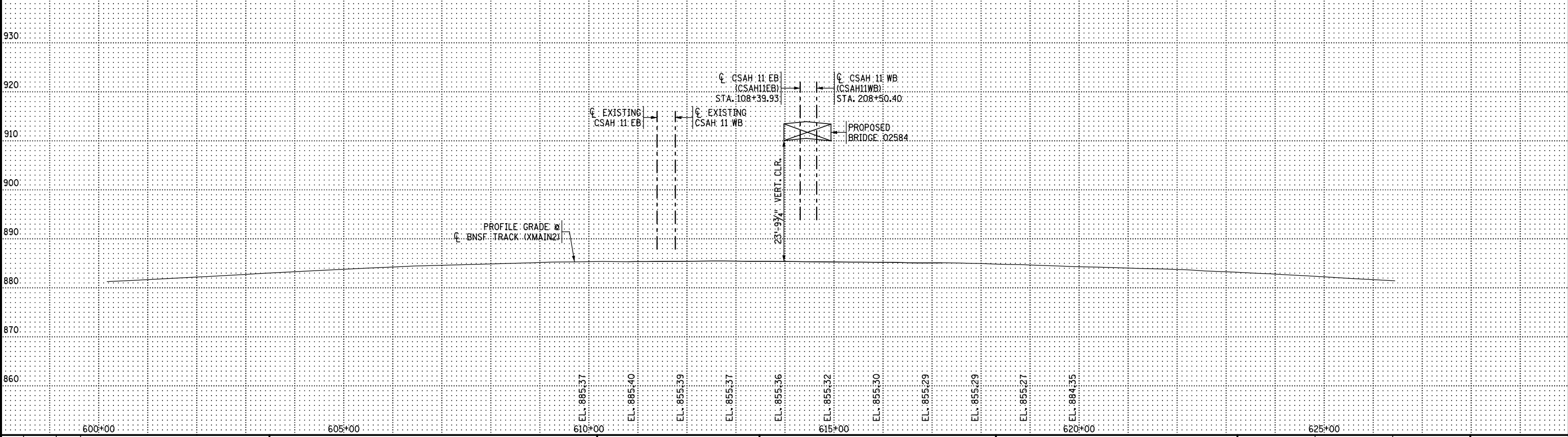
CONTRACTED PROFILE
 SCALE : 0 50' 100' 0 5' 10'
 HORIZONTAL VERTICAL

PROFILE GRADE BNSF TRACK (XMAIN1)



CONTRACTED PROFILE
 SCALE : 0 50' 100' 0 5' 10'
 HORIZONTAL VERTICAL

PROFILE GRADE BNSF TRACK (XMAIN2)



NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



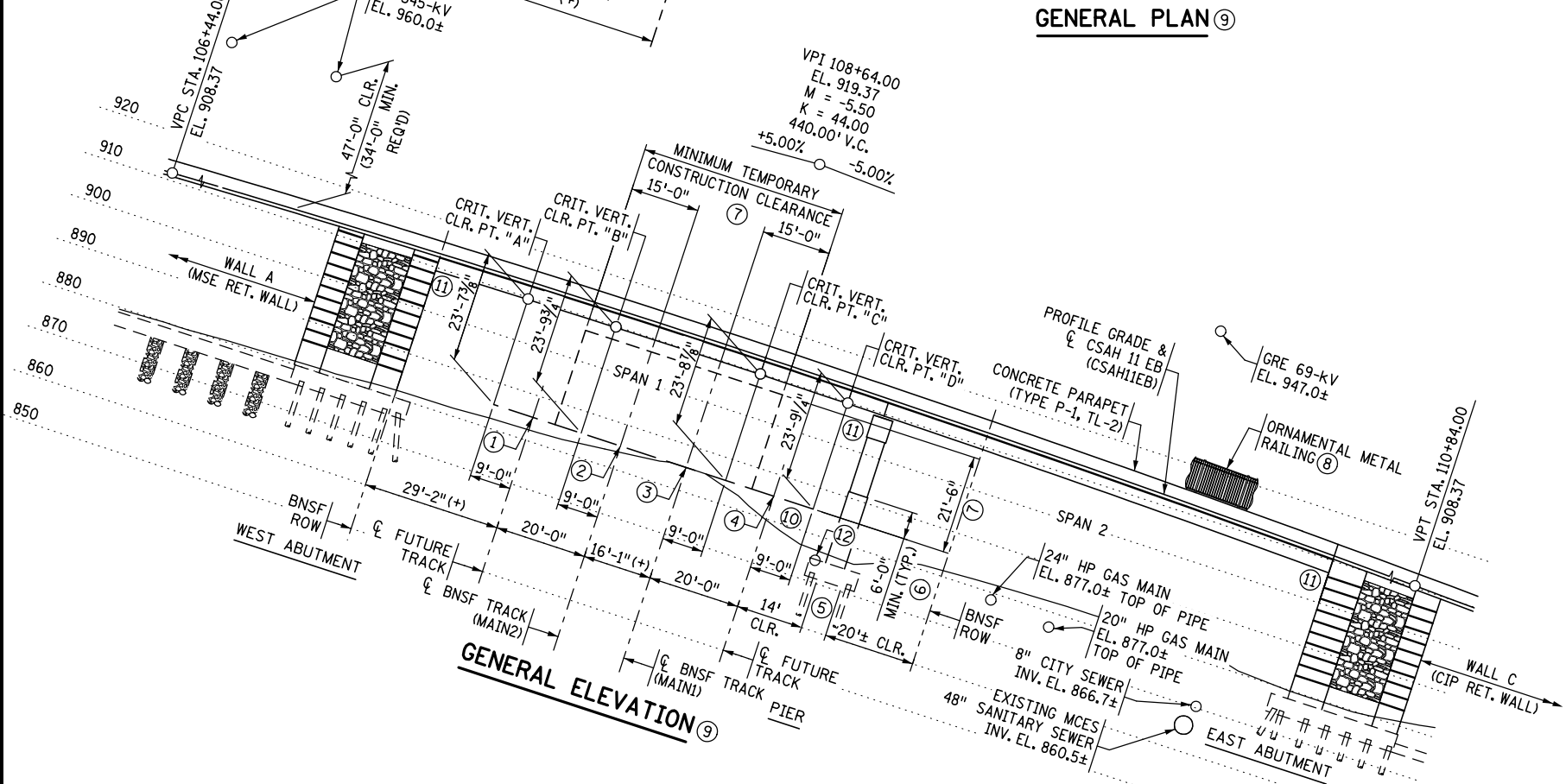
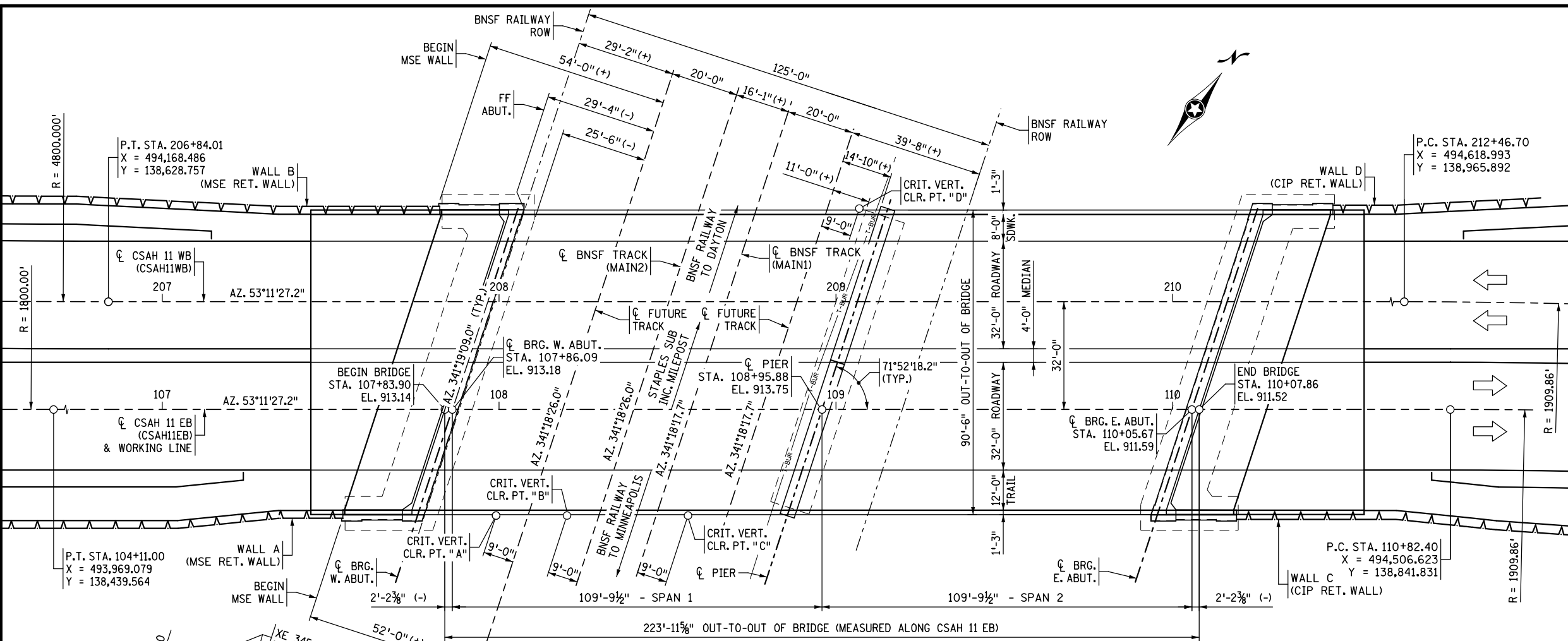
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: **BRIDGE SURVEY**
 (2 OF 2)

DES: HAP	DR: HAP	APPROVED
CHK: LJL	CHK: LJL	
SHEET NO. 61 OF 66 SHEETS		

BRIDGE NO.
02584

DATE: 11/19/2020 TIME: 4:13:47 PM
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RAILROAD CONSTRUCTION NOTES:

ANY SHORING SYSTEM THAT IMPACT THE RAILROAD OPERATIONS AND/OR SUPPORTS RAILROAD EMBANKMENT SHALL BE DESIGNED AND CONSTRUCTED PER THE RAILROAD TEMPORARY SHORING REQUIREMENTS.

ALL DEMOLITION WITHIN THE RAILROAD RIGHT-OF-WAY AND/OR DEMOLITION THAT MAY IMPACT THE RAILROAD TRACK OR OPERATIONS SHALL COMPLY WITH THE RAILROAD DEMOLITION REQUIREMENTS.

ERECTION OVER THE RAILROAD RIGHT-OF-WAY SHALL BE DESIGNED TO CAUSE NO INTERRUPTION TO ALL RAILROAD OPERATIONS.

THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE SHALL BE VERIFIED BEFORE BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RAILROAD PRIOR TO CONSTRUCTION.

THE CONTRACTOR MUST SUBMIT A PROPOSED METHOD OF EROSION AND SEDIMENT CONTROL AND HAVE THE METHOD APPROVED BY THE RAILROAD PRIOR TO BEGINNING ANY GRADING ON THE PROJECT SITE.

FOR RAILROAD COORDINATION PLEASE REFER TO THE RAILROAD'S COORDINATION REQUIREMENTS AS PART OF THE SPECIAL PROVISIONS OF THE PROJECT.

ALL PERMANENT CLEARANCES SHALL BE VERIFIED BEFORE PROJECT CLOSEOUT.

- NOTES:**
- ① FUTURE RAILROAD TRACK TOP OF RAIL EL. 885.41
 - ② RAILROAD TRACK (MAIN2) TOP OF RAIL EL. 885.41
 - ③ RAILROAD TRACK (MAIN1) TOP OF RAIL EL. 885.74
 - ④ FUTURE RAILROAD TRACK TOP OF RAIL EL. 885.62
 - ⑤ PIER SUPPORTED ON PILE FOUNDATION. PIER FOOTINGS WITHIN 25.0' OF INPLACE OR FUTURE TRACK TO BE 6.0' MIN. BELOW THE BASE OF RAIL. SEE BNSF/UPRR "GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS".
 - ⑥ PIER CRASH STRUTS (HEAVY CONSTRUCTION) WITHIN 12.0' TO 25.0' OF INPLACE OR FUTURE TRACK TO BE 6.0' MIN. ABOVE THE BASE OF RAIL. SEE BNSF/UPRR "GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS".
 - ⑦ TEMPORARY CONSTRUCTION CLEARANCE. NO CONSTRUCTION ACTIVITIES OR OTHER OBSTRUCTIONS TO BE PLACED WITHIN THESE LIMITS. SEE BNSF/UPRR "GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS".
 - ⑧ 10.0' MINIMUM COMBINED HEIGHT OF CONCRETE BARRIER AND METAL RAILING. WILL EXTEND LIMITS OF RAILROAD RIGHT OF WAY.
 - ⑨ DRAINAGE ON THE BRIDGE AND ROADWAY WILL BE CONVEYED AWAY FROM THE RAILROAD RIGHT OF WAY. DECK DRAINS WILL NOT BE USED.
 - ⑩ A HYDRAULIC STUDY WILL BE COMPLETED OF THE LONGITUDINAL DRAINAGE DITCH. THE STRUCTURE WILL NOT CHANGE THE QUANTITY AND CHARACTERISTIC OF THE FLOW IN THE RAILROAD DITCH.
 - ⑪ UNDERPASS BRIDGE LIGHTING.
 - ⑫ BNSF COMM. LINE EL. 874.9±. SEE "BNSF COMMUNICATION LINE" SHEET FOR PROTECTION DETAILS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

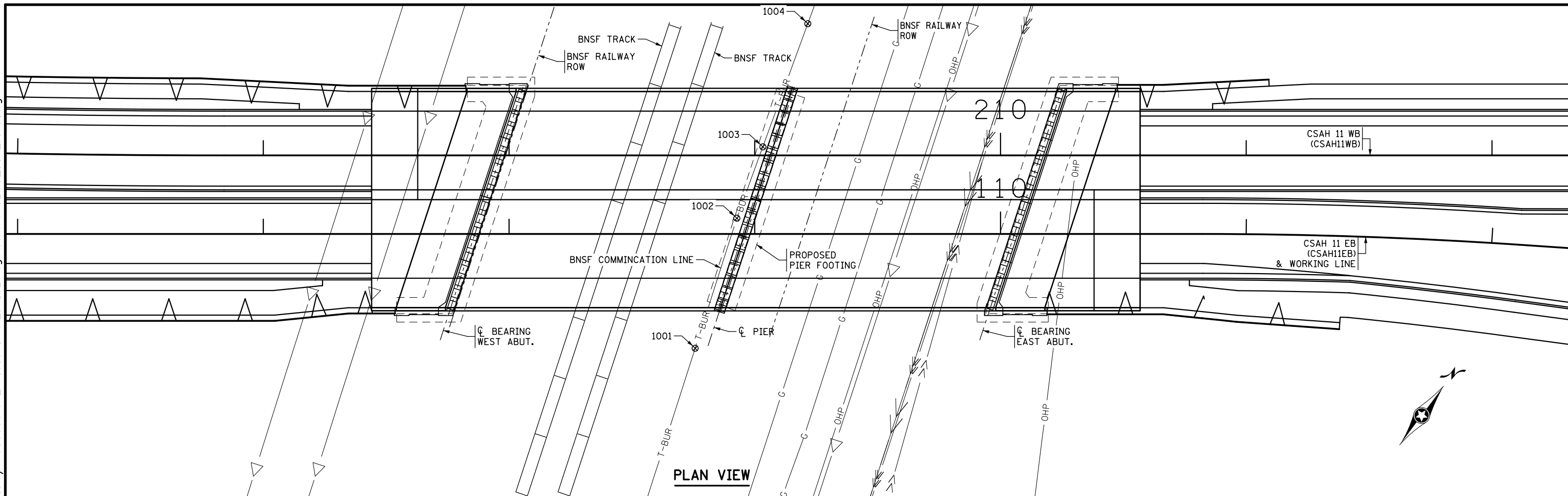
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 Saint Paul, MN 55101
 651.292.4400
 tkda.com

ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: RAILROAD CLEARANCE ENVELOPE

DES: HAP	DR: HAP	APPROVED	BRIDGE NO. 02584
CHK: LJJ	CHK: LJJ		
SHEET NO. 62 OF 66 SHEETS			

DATE: 11/19/2020 TIME: 4:13:53 PM
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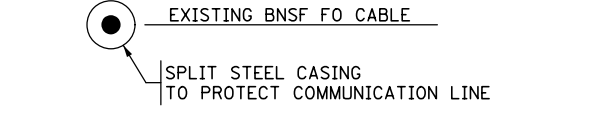
PLAN VIEW

PROTECTION OF BNSF COMMUNICATION LINE:

SURVEY SHOT	X	Y	EL.
1001	494,369.017	138,680.803	875.05
1002	494,350.894	138,733.313	874.91
1003	494,341.967	138,762.895	874.84
1004	494,326.609	138,813.957	874.85

- ELEVATION IS TO TOP OF FIBER
 THE TABLE INFORMATION IS BASED ON THE SUE COMPLETED ON 9/15/2020.

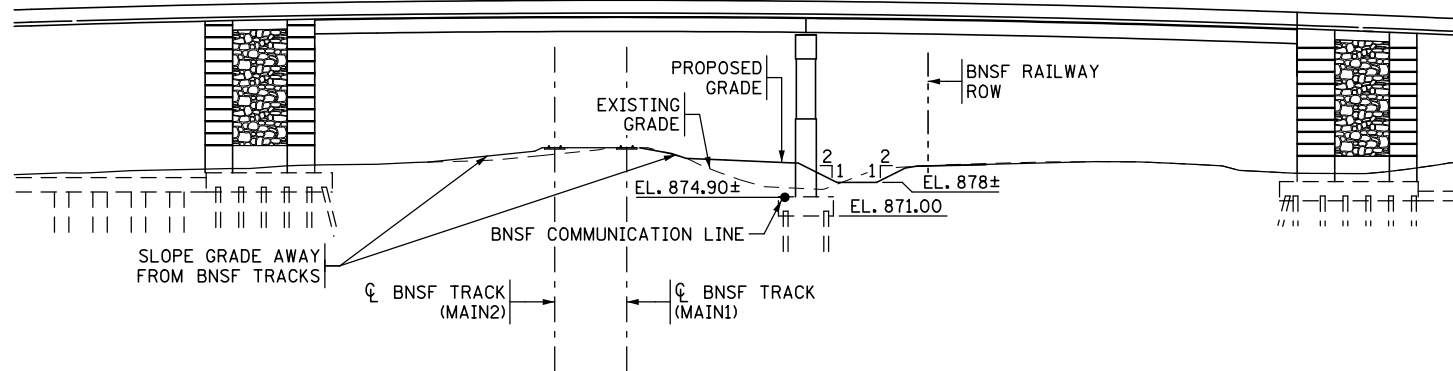
THE CONTRACTOR IS REQUIRED TO EXCAVATE, EXPOSE AND PROTECT THE CABLE.
 ALL EXPOSED CABLE SHALL BE PROTECTED.
 THE CABLE WILL BE PROTECTED BY PLACING THE CABLE IN SPLIT STEEL CASING, 6" STANDARD STEEL PIPE SCHEDULE 40 MEETING ASTM A106 REQUIREMENTS, DURING ALL CONSTRUCTION ACTIVITIES WHEN THE CABLE IS NOT DIRECTLY BURIED.



PRIOR TO BACKFILL, THE STEEL CASING WILL BE REMOVED AND THE CABLE WILL BE DIRECT BURIED ABOVE THE TOP OF FOOTING.

ALL WORK REQUIRED TO PROTECT THE BNSF COMMUNICATION LINE IS INCIDENTAL.

LEGEND:
 ⊗ FIBER POTHOLE

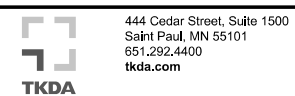


ELEVATION VIEW

(SEE CONTOUR PLAN IN ROADWAY PLANS FOR GRADING)

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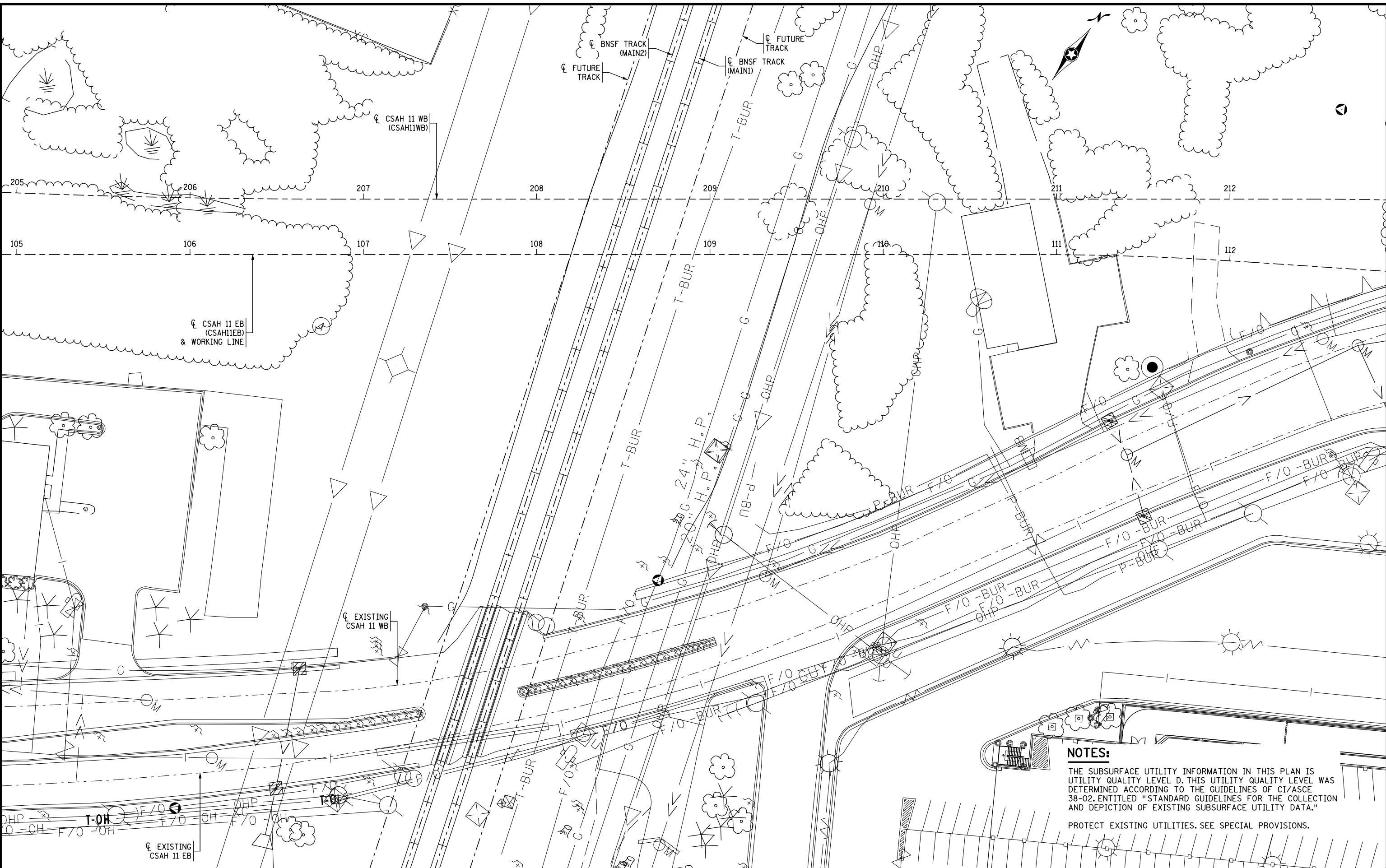
ANOKA COUNTY
FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE:
BNSF COMMUNICATION LINE

DES: HAP	DR: HAP	APPROVED
CHK: LJL	CHK: LJL	
SHEET NO. 63 OF 66 SHEETS		

BRIDGE NO.
02584

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NOTES:
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."
 PROTECT EXISTING UTILITIES. SEE SPECIAL PROVISIONS.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

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 Saint Paul, MN 55101
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 tkda.com

ANOKA COUNTY
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TITLE: **INPLACE TOPOGRAPHY AND UTILITIES**

DES: HAP	DR: HAP	APPROVED
CHK: LJL	CHK: LJL	

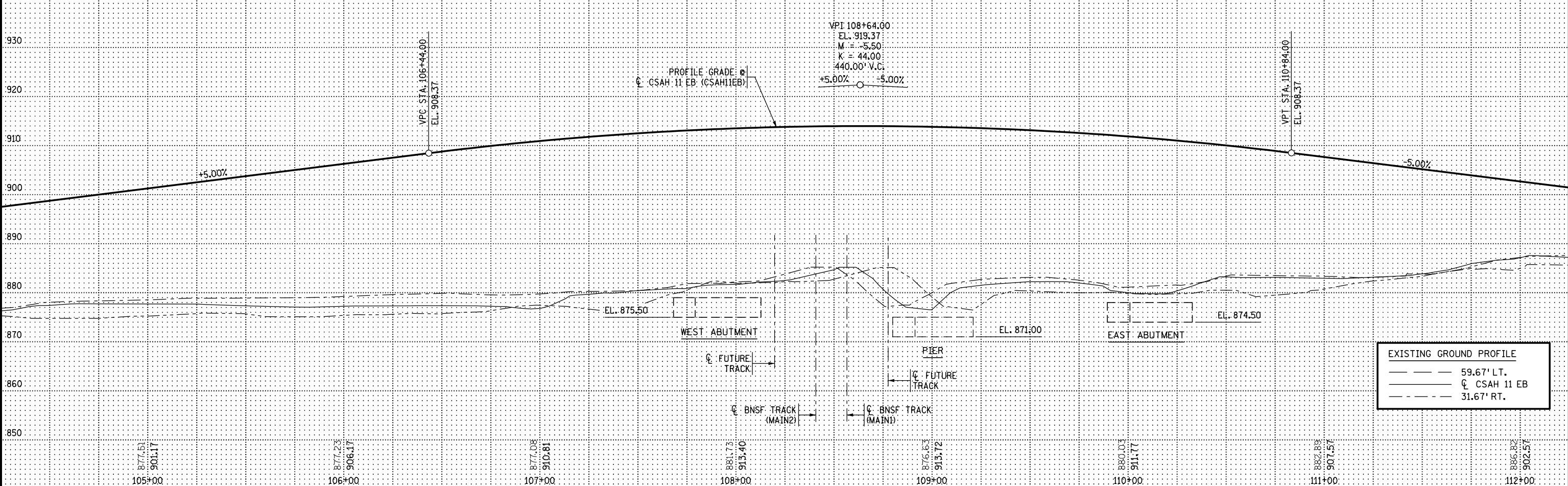
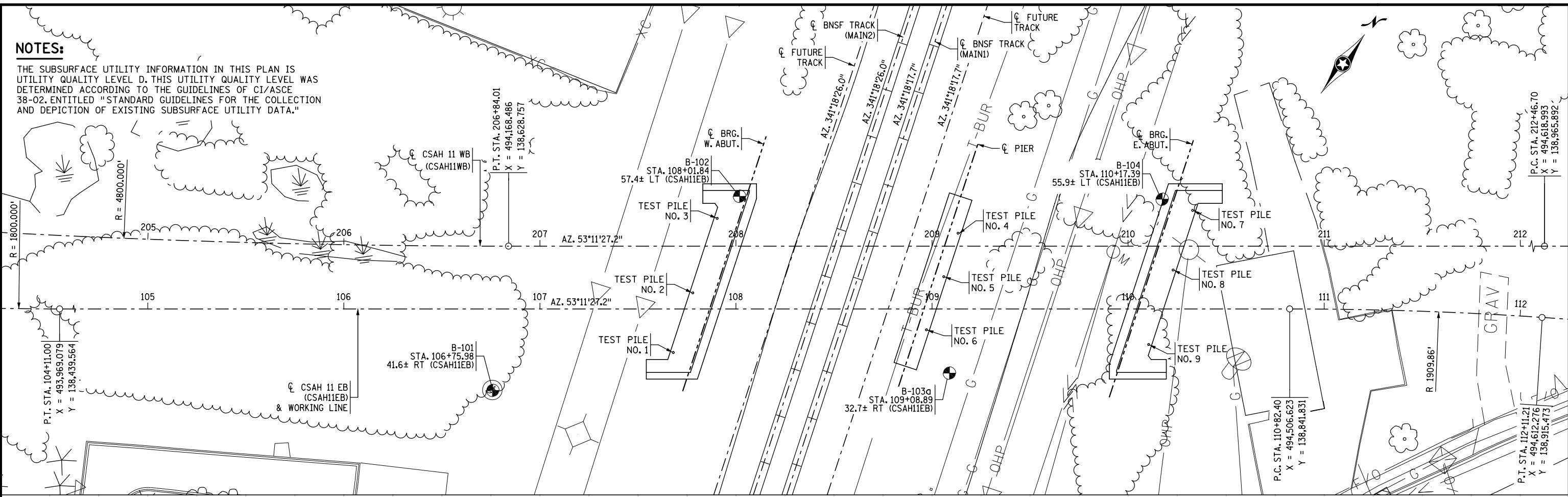
SHEET NO. 64 OF 66 SHEETS

BRIDGE NO. **02584**

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NOTES:

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."



EXISTING GROUND PROFILE	
---	59.67' LT.
---	CSAH 11 EB
---	31.67' RT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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 SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298



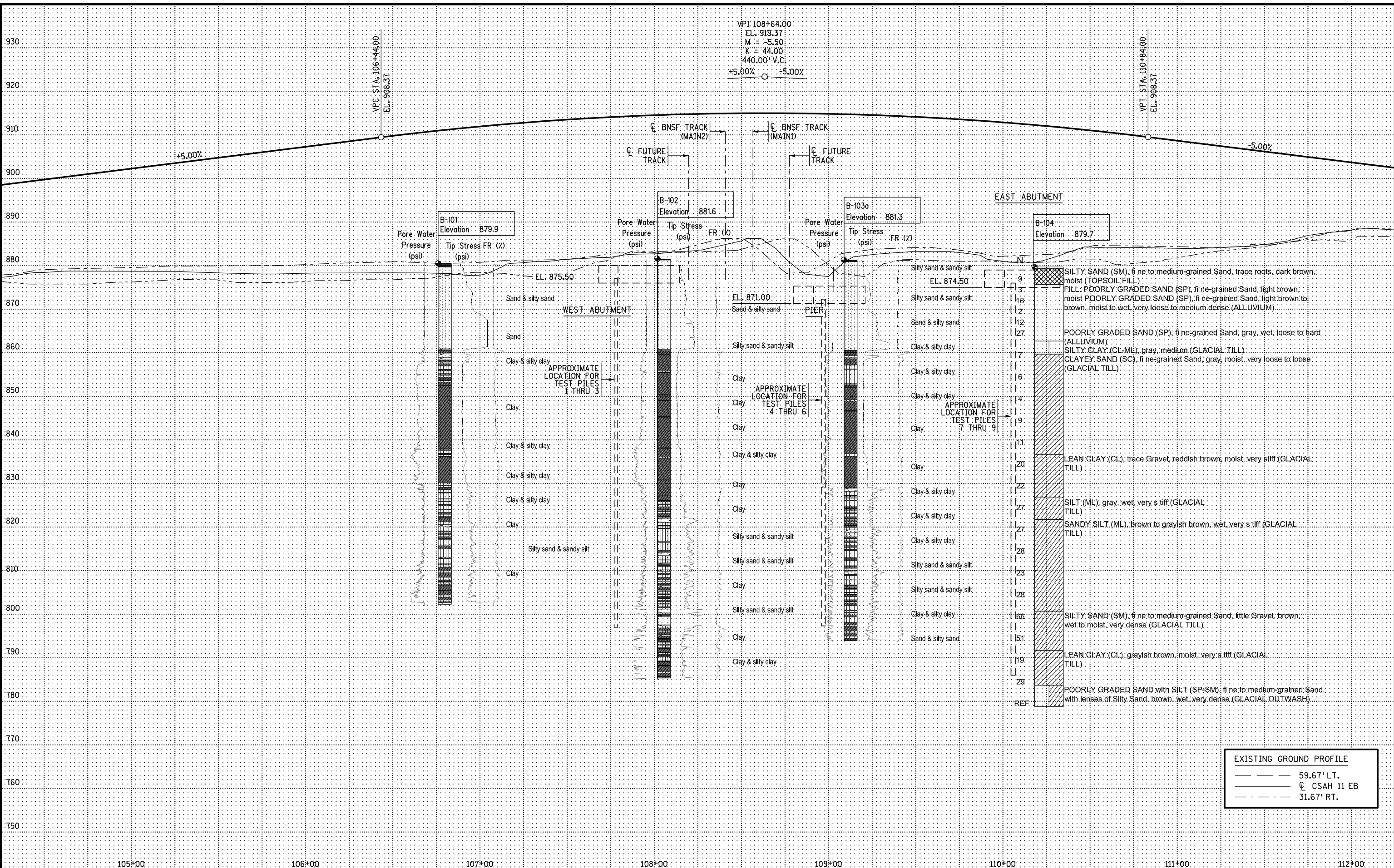
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 tkda.com

ANOKA COUNTY
 FOLEY BLVD. OVER BNSF RR.
 S.P. 002-611-036

TITLE: BRIDGE SURVEY
 PLAN AND PROFILE
 DES: HAP DR: HAP APPROVED
 CHK: LJJ CHK: LJJ
 SHEET NO. 65 OF 66 SHEETS

BRIDGE NO.
 02584

DATE: 11/19/2020 TIME: 4:14:17 PM
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EXISTING GROUND PROFILE	
— — — —	59.67' LT.
— — — —	CSAH 11 EB
— — — —	31.67' RT.

NO.	DATE	BY	DESCRIPTION OF REVISIONS

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SIGNED *Lindsey J. Lawrence* LINDSEY J. LAWRENCE
 DATE: 11/19/2020 LIC. NO.: 48298

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ANOKA COUNTY
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TITLE: **BORINGS**

DES: HAP	DR: HAP	APPROVED
CHK: LJJ	CHK: LJJ	
SHEET NO. 66 OF 66 SHEETS		

BRIDGE NO. **02584**