

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY, MINNESOTA

CSAH 14 RECONSTRUCTION

MINN PROJ NO NHPP 0219(167)

GOVERNING SPECIFICATIONS

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

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MOST RECENT EDITION OF THE 'MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MN MUTCD) AND PART VI, 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS'.

PLAN SYMBOLS

STATE LINE	---
COUNTY LINE	---
TOWNSHIP OR RANGE LINE	---
SECTION LINE	---
QUARTER LINE	---
SIXTEENTH LINE	---
RIGHT-OF-WAY LINE	---
PRESENT RIGHT-OF-WAY LINE	---
CONTROL OF ACCESS LINE	---
PROPERTY LINE (Except Land Lines)	---
VACATED PLATTED PROPERTY	---
CORPORATE OR CITY LIMITS	---

TRUNK HIGHWAY CENTER LINE	---
CONC. RETAINING WALL	---
RAILROAD	---
RAILROAD RIGHT-OF-WAY LINE	---
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	---
MAIL BOX	---
SPRINGS	---
MARSH	---
TIMBER	---
ORCHARD	---
BRUSH	---
NURSERY	---
CATCH BASIN	---
FIRE HYDRANT	---
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 PIPE OR ROD	---
MONUMENT (STONE, CONCRETE, OR METAL)	---
WOODEN HUB	---
GRAVEL PIT	---
SAND PIT	---
BORROW PIT	---
ROCK QUARRY	---

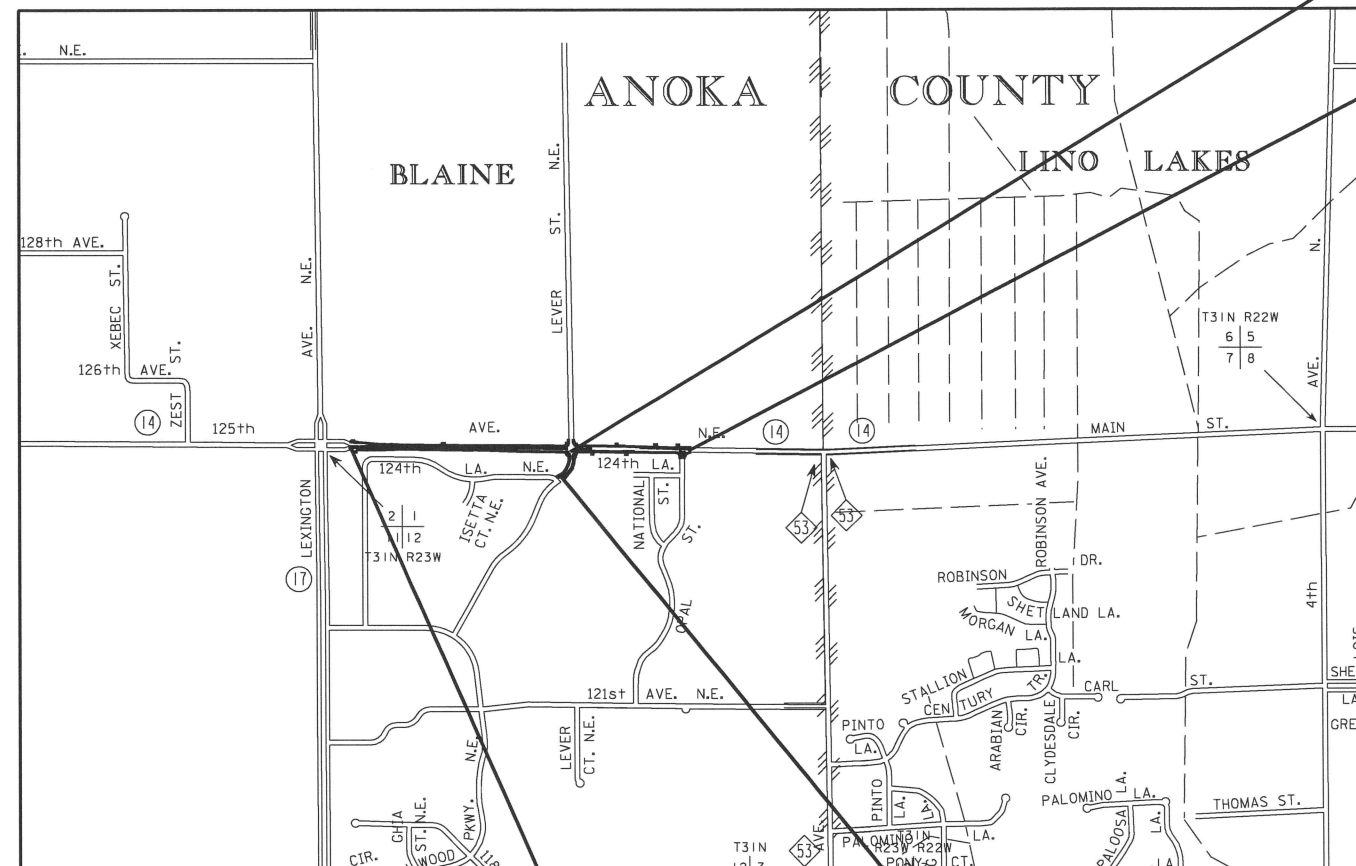
UTILITY SYMBOLS

POWER POLE LINE	---
TELEPHONE OR TELEGRAPH POLE LINE	---
JOINT TELEPHONE AND POWER ON POWER POLES	---
JOINT TELEPHONE AND POWER ON TELEPHONE POLES	---
ANCHOR	---
STEEL TOWER	---
STREET LIGHT	---
PEDESTAL TELEPHONE CABLE TERMINAL	---
GAS MAIN	---
WATER MAIN	---
CONDUIT	---
TELEPHONE CABLE IN CONDUIT	---
ELECTRIC CABLE IN CONDUIT	---
TELEPHONE MANHOLE	---
ELECTRIC MANHOLE	---
BURIED TELEPHONE CABLE	---
BURIED ELECTRIC CABLE	---
AERIAL TELEPHONE CABLE	---
SEWER (SANITARY)	---
SEWER (STORM)	---
SEWER MANHOLE	---
HANDHOLE	---

CONSTRUCTION PLAN FOR _____ GRADING, BITUMINOUS SURFACING, SIGNALS, ADA IMPROVEMENTS

LOCATED ON _____ CSAH 14 _____ FROM _____ 330' EAST OF LEXINGTON AVE NE _____ TO _____ 70' EAST OF OPAL ST NE _____

<p style="text-align: center;">STATE PROJ. NO. 002-614-045</p> <p>GROSS LENGTH 3658.43 FEET 0.693 MILES BRIDGES-LENGTH _____ FEET _____ MILES EXCEPTIONS-LENGTH _____ FEET _____ MILES NET LENGTH 3658.43 FEET 0.693 MILES LENGTH AND DESCRIPTION BASED UPON \varnothing EB CSAH 14</p>	<p style="text-align: center;">STATE PROJ. NO. 106-142-001</p> <p>GROSS LENGTH 323.80 FEET 0.061 MILES BRIDGES-LENGTH _____ FEET _____ MILES EXCEPTIONS-LENGTH _____ FEET _____ MILES NET LENGTH 323.80 FEET 0.061 MILES LENGTH AND DESCRIPTION BASED UPON \varnothing LEVER STREET</p>	<p style="text-align: center;">END SP 106-142-001</p> <p>CP 18-09 \varnothing LEVER STREET STA 503+78.82</p> <p style="text-align: center;">END SP 002-614-045</p> <p>\varnothing EB CSAH 14 STA 329+20.43</p>
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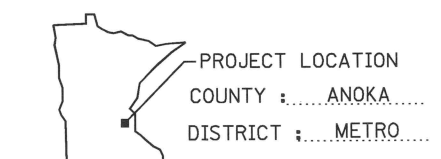


SCALE

INDEX MAP 2000'

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

DATE	SHEET NO.	APPROVED BY



<p style="text-align: center;">DESIGN DESIGNATION FOR: CSAH 14</p> <p>R-VALUE 50 ADT (Current Year) 2019 = 9,500 ADT (Future Year) 2039 = 16,100 PAVEMENT DESIGN 10 TON FUNCTIONAL CLASSIFICATION PRINCIPAL ARTERIAL NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0 SHOULDER WIDTH (RURAL) 8.0' ESALS (20) 1,695,000 (20 YRS) Design Speed 55 MPH Based on Sight Distance STOPPING Height of eye / Height of Object 3.5' / 2.0' Design Speed not achieved at: N/A</p>	<p style="text-align: center;">DESIGN DESIGNATION FOR: LEVER ST</p> <p>R-VALUE 50 ADT (Current Year) 2019 = 0 ADT (Future Year) 2039 = 2,500 PAVEMENT DESIGN 10 TON LOCAL FUNCTIONAL CLASSIFICATION LOCAL NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0 SHOULDER WIDTH (RURAL) 0.0' ESALS (20) 53,000 (20 YRS) Design Speed 30 MPH Based on Sight Distance STOPPING Height of eye / Height of Object 3.5' / 2.0' Design Speed not achieved at: N/A</p>	<p style="text-align: center;">DESIGN DESIGNATION FOR: TRAIL</p> <p>DESIGN SPEED 20 MPH Height of eye / Height of Object 4.5' / 0.0' Design Speed not achieved at: N/A</p>
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I HEREBY CERTIFY THAT THE FINAL FIELD CHANGES, IF ANY, OF THIS PLAN WERE MADE 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 _____ LIC. NO. _____ PRINT NAME _____
 DATE _____

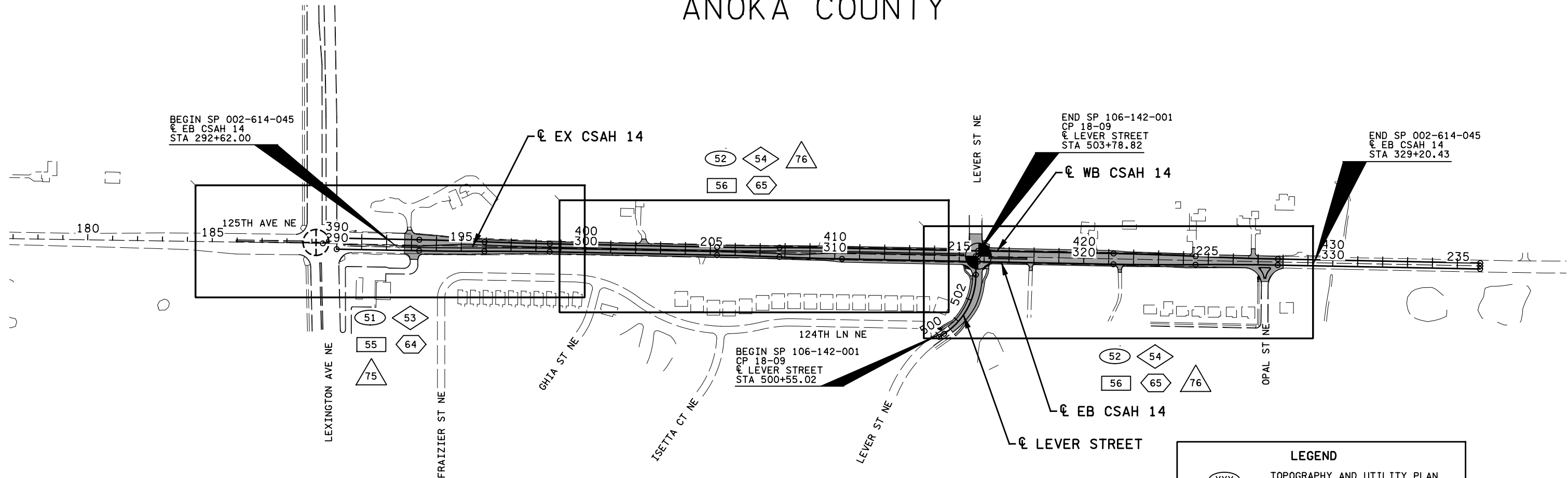
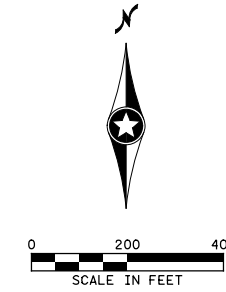
THIS PLAN CONTAINS 133 SHEETS

SRE 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 Ben Robeck
 DATE 3/28/2019 LIC. NO. 53680 PRINT NAME BENJAMIN P ROBECK

APPROVED [Signature] 3/29/2019 ANOKA COUNTY ENGINEER
 APPROVED [Signature] 4/2/2019 CITY ENGINEER CITY OF BLAINE
 APPROVED [Signature] 4/3/2019 DISTRICT STATE AID ENGINEER REVIEWED FOR COMPLIANCE WITH STATE AND/OR FEDERAL AID RULES/POLICY
 APPROVED [Signature] 4/3/2019 APPROVED FOR STATE AID AND FEDERAL AID FUNDING: STATE AID ENGINEER

CITY OF BLAINE ANOKA COUNTY



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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: BENJAMIN P ROBECK

 Date 03/28/19 License # 53680

STATE PROJECT NO.
 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO.
 18-09

DRAWN BY
 S. MARTINS
 DESIGNED BY
 M. HARDEGGER
 CHECKED BY
 B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 GENERAL LAYOUT
CSAH 14 RECONSTRUCTION

SHEET
2
OF
107

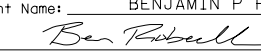
STATEMENT OF ESTIMATED QUANTITIES

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES	ANOKA COUNTY SP 002-614-045		CITY OF BLAINE SP 106-142-001		LOCAL FUNDS CP 18-09
							ROADWAY	STORM	ROADWAY	STORM	
			2021.501	MOBILIZATION	LUMP SUM	1	0.82		0.07		0.11
			2031.502	FIELD OFFICE TYPE D	EACH	1	0.82		0.07		0.11
(1)	H	12	2101.505	GRUBBING	ACRE	0.45	0.35		0.1		
(1)	I	12	2102.503	PAVEMENT MARKING REMOVAL	LIN FT	3940	3940				
	E	10	2104.502	REMOVE DRAINAGE STRUCTURE	EACH	3	3				
	Q	80	2104.502	REMOVE MARKER	EACH	1	1				
	R	80	2104.502	REMOVE SIGN TYPE C	EACH	24	24				
	S	80	2104.502	REMOVE SIGN TYPE SPECIAL	EACH	1	1				
	T	80	2104.502	SALVAGE SIGN TYPE SPECIAL	EACH	1	1				
	I	12	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	4035	4010		25		
(1)	E	10	2104.503	REMOVE PIPE CULVERTS	LIN FT	438	438				
(1)	E	10	2104.503	REMOVE SEWER PIPE (STORM)	LIN FT	240	240				
	I	12	2104.503	REMOVE CURB & GUTTER	LIN FT	230	230				
(1)	I	12	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	380	380				
(1)	I	12	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	21140	21140				
	I	12	2104.518	REMOVE CONCRETE WALK	SQ FT	140	140				
	I	12	2104.518	REMOVE CONCRETE MEDIAN	SQ FT	840	840				
(1)	A	7	2106.507	EXCAVATION - COMMON (P)	CU YD	9714	8774		940		
(1)	A	7	2106.507	GRANULAR EMBANKMENT (CV) (P)	CU YD	2197	1817		380		
(1)	A	7	2106.507	COMMON EMBANKMENT (CV) (P)	CU YD	1851	1786		65		
(1)	J	12	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	6060	5860		200		
	J	12	2357.506	BITUMINOUS MATERIAL FOR TACK COAT (P)	GALLON	2685	2620		65		
(1)	J	12	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,B)	TON	45			45		
(1)	J	12	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,B)	TON	140	40		100		
(1)	J	12	2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	130			130		
(1)	J	12	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,F)	TON	5570	5570				
(1)	J	12	2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (3,F)	TON	2810	2810				
	N	68 - 69	2501.502	15" RC PIPE APRON	EACH	9		8		1	
	N	68 - 69	2501.502	18" RC PIPE APRON	EACH	2		1		1	
	N	68 - 69	2501.502	21" RC PIPE APRON	EACH	3		2		1	
	N	68 - 69	2501.502	36" SPAN RC PIPE-ARCH APRON	EACH	6		6			
	N	68 - 69	2501.502	30" CS SAFETY APR & GRATE DES 3148	EACH	1		1			
	N	68 - 69	2501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	2		1		1	
	N	68 - 69	2501.602	TRASH GUARD FOR 18" PIPE APRON	EACH	2		1		1	
	N	68 - 69	2501.602	TRASH GUARD FOR 21" PIPE APRON	EACH	3		2		1	
	N	68 - 69	2501.602	TRASH GUARD FOR 36" SPAN PIPE APRON	EACH	6		6			
	N	68 - 69	2503.503	36" SPAN RC PIPE-ARCH SEWER CL IIA	LIN FT	128		128			
	N	68 - 69	2503.503	15" RC PIPE SEWER DES 3006 CL V	LIN FT	483		391		92	
	N	68 - 69	2503.503	18" RC PIPE SEWER DES 3006	LIN FT	200		108		92	
	N	68 - 69	2503.503	21" RC PIPE SEWER DES 3006	LIN FT	276		87		189	
	N	68 - 69	2503.503	27" RC PIPE SEWER DES 3006	LIN FT	411		411			
	N	68 - 69	2503.503	30" RC PIPE SEWER DES 3006	LIN FT	179		179			
	N	68 - 69	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	1		1			
	N	68 - 69	2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	1		1			
	G	11	2504.602	ADJUST VALVE BOX-WATER	EACH	2			2		
	N	68 - 69	2504.604	4" POLYSTYRENE INSULATION	SQ YD	7.1				7.1	
(1)	N	68 - 69	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 2	EACH	1				1	
	O	71	2506.502	CASTING ASSEMBLY	EACH	25		20		5	
	E, F	10, 11	2506.502	ADJUST FRAME & RING CASTING	EACH	3	2		1		
	N	68 - 69	2506.503	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	7.2		7.2			
	N	68 - 69	2506.503	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	23.3		23.3			
	N	68 - 69	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	37.5		30.3		7.2	
	N	68 - 69	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-60	LIN FT	13.1		13.1			
(1)	N	68 - 69	2506.503	CONST DRAINAGE STRUCTURE DESIGN SPEC 1	LIN FT	3.5				3.5	

NOTES
(P) PLAN QUANTITY
(1) SEE SPECIAL PROVISIONS

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: BENJAMIN P ROBECK

Date: 03/28/19 License #: 53680

STATE PROJECT NO.
002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS
DESIGNED BY
M. HARDEGGER
CHECKED BY
B. ROBECK
COMM. NO. 1811762



ANOKA COUNTY
STATEMENT OF ESTIMATED QUANTITIES
CSAH 14 RECONSTRUCTION

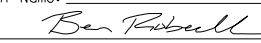

SHEET
3
OF
107

STATEMENT OF ESTIMATED QUANTITIES

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES	ANOKA COUNTY SP 002-614-045		CITY OF BLAINE SP 106-142-001		LOCAL FUNDS CP 18-09
							ROADWAY	STORM	ROADWAY	STORM	
	N	68 - 69	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	9.5				9.5	
	N	68 - 69	2506.503	CONST DRAINAGE STRUCTURE DES 54-4020	LIN FT	4.9				4.9	
	F	11	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	2.8			2.8		
	N	68 - 69	2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	312.2		288.1		24.1	
(1)	N	68 - 69	2511.507	RANDOM RIPRAP CLASS II	CU YD	62.6		57.5		5.1	
	K	13	2521.518	4" CONCRETE WALK	SQ FT	16710	14750		1960		
	K	13	2521.518	6" CONCRETE WALK	SQ FT	1285	165		1120		
	K	13	2531.503	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	4930	4930				
	K	13	2531.503	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	130			130		
	K	13	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	345	345				
	K	13	2531.503	CONCRETE CURB & GUTTER DESIGN D412	LIN FT	540			540		
	K	13	2531.503	CONCRETE CURB & GUTTER DESIGN S518	LIN FT	80	80				
	K	13	2531.618	TRUNCATED DOMES	SQ FT	155			143		
	L	13	2533.503	PORTABLE PRECAST CONC BARRIER DES 8337	LIN FT	3062.5	3062.5				
	L	13	2533.503	RELOCATE PORT PRECAST CONC BAR DES 8337	LIN FT	1065	1065				
	I	12	2540.602	MAIL BOX SUPPORT	EACH	2	2				
	I	12	2540.602	RELOCATE MAIL BOX SUPPORT	EACH	8	8				
	N	68 - 69	2554.502	GUIDE POST TYPE B	EACH	21		18		3	
	L	13	2554.615	IMPACT ATTENUATOR	ASSEMBLY	6	6				
	L	13	2554.615	RELOCATE IMPACT ATTENUATOR	ASSEMBLY	3	3				
			2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1	0.82		0.07		0.11
			2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.82		0.07		0.11
	L	13	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	420	420				
	L	13	2563.602	PORTABLE CONCRETE BARRIER DELINEATOR	EACH	123	123				
	L	13	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	261	261				
	U	80	2564.502	DELINEATOR TYPE X4-13	EACH	2	2				
	V	80	2564.502	OBJECT MARKER TYPE X4-2	EACH	5	5				
	W	81	2564.518	SIGN PANELS TYPE C	SQ FT	232.4	208.9		23.5		
	T	80	2564.602	INSTALL SIGN TYPE SPECIAL	EACH	1	1				
	X	89	2565.501	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1					1
	X	89	2565.501	TRAFFIC CONTROL INTERCONNECT	LUMP SUM	1	1				
	X	89	2565.516	TRAFFIC CONTROL SIGNAL SYSTEM	SYSTEM	1					1
	X	89	2565.616	REVISE SIGNAL SYSTEM	SYSTEM	1	1				
(1)			2573.501	EROSION CONTROL SUPERVISOR	LUMP SUM	1	1				
	M	13	2573.502	STORM DRAIN INLET PROTECTION	EACH	25	18		7		
	M	13	2573.502	CULVERT END CONTROLS	EACH	10	8		2		
	M	13	2573.503	SILT FENCE, TYPE MS	LIN FT	830	580		250		
	M	13	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	LIN FT	370	370				
	M	13	2574.508	FERTILIZER TYPE 3	POUND	1140	1080		60		
	M	13	2574.509	LIME	TON	11.6	11.1		0.5		
	N	68 - 69	2575.504	SODDING TYPE LAWN	SQ YD	131	110		21		
	M	13	2575.504	EROSION CONTROL BLANKETS CATEGORY 0	SQ YD	11850	11010		840		
	M	13	2575.504	EROSION CONTROL BLANKETS CATEGORY 3N	SQ YD	6580	6580				
	M	13	2575.505	SEEDING	ACRE	3.9	3.7		0.2		
	M	13	2575.508	SEED MIXTURE 25-121	POUND	150	140		10		
	M	13	2575.508	SEED MIXTURE 35-221	POUND	50	50				
	M	13	2575.523	RAPID STABILIZATION METHOD 3	M GALLON	7.8	7.8				
	L	13	2581.503	REMOVABLE PREFORM PAVEMENT MARKING TAPE	LIN FT	5030	5030				
(1)	L	13	2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)	LIN FT	1190	1190				
	L	13	2582.503	4" SOLID LINE PAINT	LIN FT	7100	7100				
	P	77	2582.503	4" SOLID LINE MULTI COMP	LIN FT	17131	16496		635		
	P	77	2582.503	4" BROKEN LINE MULTI COMP	LIN FT	290	290				
	P	77	2582.503	4" DBLE SOLID LINE MULTI COMP	LIN FT	2174	1925		249		
	P	77	2582.503	24" SOLID LINE PREF THERMO	LIN FT	747	747				
	P	77	2582.518	PAVT MSSG PREF THERMO	SQ FT	276.5	185.4		91.1		
	P	77	2582.518	CROSSWALK PREF THERMO	SQ FT	1296	1296				

NOTES
(1) SEE SPECIAL PROVISIONS

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>BENJAMIN P ROBECK</u>  Date: <u>03/28/19</u> License # <u>53680</u>					STATE PROJECT NO. 002-614-045 106-142-001 CITY OF BLAINE PROJECT NO. 18-09		DRAWN BY S. MARTINS DESIGNED BY M. HARDEGGER CHECKED BY B. ROBECK COMM. NO. 1811762				ANOKA COUNTY STATEMENT OF ESTIMATED QUANTITIES CSAH 14 RECONSTRUCTION		SHEET 4 OF 107
NO	DATE	BY	CKD	APPR	REVISION								
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THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

STANDARD PLATES

PLATE NO.	DESCRIPTION
3000 L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006 G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007 E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014 J	REINFORCED CONCRETE PIPE ARCH (2 SHEETS)
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3128 H	METAL SAFETY APRON & GRATE (2 SHEETS)
3133 D	RIPRAP AT RCP OUTLETS
3139 B	RIPRAP AT PRECAST CONCRETE END SECTIONS
3145 G	CONCRETE PIPE OR PRECAST BOX CULVERT TIES
3148 A	SAFETY SLOPE METAL END SECTION FOR CIRCULAR & ARCHED PIPES (2 SHEETS)
3221 C	CORRUGATED STEEL PIPE COUPLING BAND (3 SHEETS)
4006 L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010 H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)
4011 E	PRECAST CONCRETE BASE
4020 J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4022 A	MANHOLE OR CATCH BASIN COVER (3 FT. X 2 FT. OPENING)
4024 A	48" DIA. PRECAST SHALLOW DEPTH CATCH BASIN - DESIGN SD
4026 A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110 F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) * CASTING NO. 715 AND 716
4180 J	MANHOLE OR CATCH BASIN STEP
7020 K	CONCRETE CURB (DESIGN B, DESIGN V, DESIGN S, DESIGN DR AND DESIGN BR)(2 SHEETS)
7038 A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100 H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
7102 K	CONCRETE CURB AND GUTTER (DESIGN D, DESIGN S, AND DESIGN R)
7109 C	MEDIAN NOSE AND ISLAND (UNDIVIDED TO DIVIDED ROADWAY)
7111 J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113 A	CONCRETE APPROACH NOSE DETAIL
8000 J	CHANNELIZERS (3 SHEETS)
8119 C	GROUND MOUNTED CABINET FOUNDATION
8121 H	TRANSFORMER BASE AND POLE BASE PLATE (PA85, PA90 AND PA100) (2 SHEETS)
8123 G	POLE AND MAST ARM - LUMINAIRES AND TRAFFIC LIGHTS ASSEMBLY (FOR ALL POLE TYPES) (2 SHEETS)
8126 L	POLE FOUNDATION (PA90 AND PA100)
8129 A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)
8150 C	INSTALLATION OF CULVERT MARKERS
8337 C	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER (TYPE "F") (3 SHEETS)
9350 A	MAILBOX SUPPORT (SWING-AWAY TYPE)

INDEX OF TABULATIONS		
TAB	TABULATION	SHEET NO.
A	EARTHWORK SUMMARY	7
B	CSAH 14 - EARTHWORK TABULATION	7
C	LEVER STREET - EARTHWORK TABULATION	7
D	EXISTING UTILITIES	8 - 10
E	EXISTING DRAINAGE ITEMS	10
F	EXISTING SANITARY SEWER	11
G	EXISTING WATER MAIN	11
H	CLEARING AND GRUBBING	12
I	REMOVALS, SAWING AND RELOCATES	12
J	AGGREGATE AND BITUMINOUS SUMMARY	12
K	CURB & GUTTER AND WALKS	13
L	TRAFFIC CONTROL AND STAGING	13
M	EROSION CONTROL AND TURF ESTABLISHMENT	13
N	DRAINAGE TABULATION	68 - 69
O	CASTING ASSEMBLIES SUMMARY	71
P	PERMANENT PAVEMENT MARKINGS	77
Q	REMOVE MARKER	80
R	REMOVE SIGN TYPE C	80
S	REMOVE SIGN TYPE SPECIAL	80
T	SALVAGE AND INSTALL SIGN TYPE SPECIAL	80
U	DELINEATOR	80
V	OBJECT MARKER	80
W	SIGN PANELS TYPE C	81
X	SIGNAL QUANTITIES	89

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>BENJAMIN P ROBECK</u> <i>Ben Robeck</i> Date: <u>03/28/19</u> License # <u>53680</u>					STATE PROJECT NO. 002-614-045 106-142-001 CITY OF BLAINE PROJECT NO. 18-09	DRAWN BY S. MARTINS DESIGNED BY M. HARDEGGER CHECKED BY B. ROBECK COMM. NO. 1811762	ANOKA COUNTY STANDARD PLATES AND INDEX OF TABULATIONS CSAH 14 RECONSTRUCTION	SHEET 5 OF 107	
NO	DATE	BY	CKD	APPR	REVISION	...P\an\F\Ina\F\an\11762_fb01.dgn			



CONSTRUCTION AND SOILS NOTES

GRADING, BASE AND SURFACE

- 1 GRADING GRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
- 2 ALL EMBANKMENT FILL MATERIAL SHALL BE GRANULAR, MEETING THE REQUIREMENTS OF SPEC 3149.2.B.1 AND CONTAINING LESS THAN 5% ORGANIC CONTENT. FILL MATERIAL SHALL BE PLACED IN ACCORDANCE WITH SPEC 2106 UNLESS NOTED OTHERWISE.
- 3 ALL SLOPE DRESSING MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC 3877, AND BE PLACED IN ACCORDANCE WITH SPEC 2106 UNLESS NOTED OTHERWISE.
- 4 UNSUITABLE SOILS ARE DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES. THESE SOILS ARE THEREFORE NOT REUSABLE AS EMBANKMENT.
- 5 IN ANY CASE WHERE GRANULAR EMBANKMENTS OR BACKFILL JOIN NON-GRANULAR SOIL EMBANKMENTS OR BACKFILL, PROVIDE A 1V:20H TRANSITION BETWEEN THE CHANGE IN MATERIAL TO PREVENT AN ABRUPT SOILS DIFFERENTIAL. CONSTRUCT THE 1V:20H TRANSITION SUCH THAT THE GRANULAR BACKFILL MATERIAL OVERLAYS THE ADJACENT NON-GRANULAR SOIL BACKFILL.
- 6 WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING, WHICHEVER IS DEEPER. THEN 1V:20H TO THE BOTTOM OF THE RECOMMENDED EXCAVATION, UNLESS OTHERWISE NOTED.
- 7 PROVIDE A FULL-DEPTH SAWCUT WHERE PLACING NEW PAVEMENT NEXT TO IN-PLACE PAVEMENT TO ENSURE A UNIFORM JOINT.
- 8 STRIP SOD AND TOPSOIL FROM AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 4 INCHES. TOPSOIL STRIPPING SHALL BE PAID FOR AS EXCAVATION-COMMON.
- 9 EXISTING AGGREGATE BASE MATERIAL MEETING THE REQUIREMENTS OF SPEC 3138 FOR CLASS 5 AGGREGATE BASE SHALL BE REUSED AS PRACTICAL FOR PROPOSED CONSTRUCTION. AGGREGATE BASE SHALL BE COMPACTED USING THE PENETRATION INDEX METHOD.
- 10 NON-GRANULAR SUBGRADE SOILS SHALL BE COMPACTED TO AT LEAST 100 PERCENT OF STANDARD PROCTOR DENSITY. GRANULAR SUBGRADE SOILS SHALL BE COMPACTED PER THE MNDOT PENETRATION INDEX METHOD.
- 11 COMPACTION OF THE GRADING AND BASE PORTIONS OF TEMPORARY WORK SHALL BE OBTAINED IN ACCORDANCE WITH THE "QUALITY COMPACTION" METHOD REQUIREMENTS.
- 12 CLASS 5 AGGREGATE BASE SHALL BE TEST ROLLED IN ACCORDANCE WITH MNDOT SPEC 2111 (INCIDENTAL).
- 13 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.

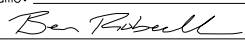
REMOVALS

- 14 ASSUMED EXISTING PAVEMENT THICKNESSES ARE LISTED BELOW. THE CONTRACTOR SHALL INVESTIGATE AND MAKE THEIR OWN DETERMINATION.
CSAH 14 - 4 TO 5 INCHES OF BITUMINOUS

TURF ESTABLISHMENT

- 15 PLACE A MINIMUM OF 4 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.
- 16 PERMANENT TURF ESTABLISHMENT REQUIREMENTS ON THIS PROJECT ARE AS FOLLOWS:
 - A. USE SEED MIXTURE 25-121, FERTILIZER TYPE 3 (SLOW RELEASE) ANALYSIS 22-5-10 AT 350 LBS / ACRE ON INSLOPES AND OTHER DESIGNATED AREAS OF PERMANENT TURF ESTABLISHMENT.
 - B. USE SEED MIXTURE 35-221, FERTILIZER TYPE 3 (SLOW RELEASE) ANALYSIS 22-5-10 AT 200 LBS / ACRE ON DITCH BOTTOMS, BACKSLOPES, AND OTHER DESIGNATED AREAS OF PERMANENT TURF ESTABLISHMENT.
 - C. ON PERMANENT SLOPES FLATTER THAN 1:3 USE EROSION CONTROL BLANKET CATEGORY 0. DO NOT DISK ANCHOR.
 - D. ON PERMANENT SLOPES 1:3 OR STEEPER USE EROSION CONTROL BLANKET CATEGORY 3N. DO NOT DISK ANCHOR.
 - E. ON ALL SEEDED AREAS USE LIME AT 3 TONS / ACRE.

SEE EROSION CONTROL AND TURF ESTABLISHMENT PLANS FOR SEED TYPE LOCATIONS.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: BENJAMIN P ROBECK

 Date 03/28/19 License # 53680

STATE PROJECT NO.
002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS
DESIGNED BY
M. HARDEGGER
CHECKED BY
B. ROBECK
COMM. NO. 1811762



ANOKA COUNTY
 CONSTRUCTION AND SOILS NOTES
 CSAH 14 RECONSTRUCTION

SHEET
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OF
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NO	DATE	BY	CKD	APPR	REVISION

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EARTHWORK SUMMARY				A
ALIGNMENT	EXCAVATION TOTALS (EV)	EMBANKMENT TOTALS (CV)		
	COMMON	GRANULAR	COMMON	
			SLOPE DRESSING	
CU YD	CU YD	CU YD		
SP 002-614-045				
EB CSAH 14	8774	1817	1786	
LEVER STREET	940	380	65	
SP 002-614-045 TOTAL	9714	2197	1851	

CSAH 14 - EARTHWORK TABULATION				B
STATION	EXCAVATION TOTALS (EV)	EMBANKMENT TOTALS (CV)		
	COMMON	GRANULAR	COMMON	
			SLOPE DRESSING	
CU YD	CU YD	CU YD		
EB CSAH 14				
292+72.50				
292+98.00	63		1	
293+50.00	158		11	
294+00.00	161		23	
294+50.00	174		25	
295+00.00	174		26	
295+50.00	168		26	
296+00.00	156		24	
296+50.00	159		24	
297+00.00	176		26	
297+50.00	187		27	
298+00.00	186		27	
298+50.00	173		27	
299+00.00	134		25	
299+50.00	98		22	
300+00.00	93	1	27	
300+50.00	97	2	30	
301+00.00	105	1	29	
301+50.00	106		27	
302+00.00	104		24	
302+33.00	79		12	
302+64.00	66		9	
303+00.00	65		12	
303+50.00	102		19	
304+00.00	120		25	
304+50.00	146		26	
305+00.00	161		22	
305+50.00	164		24	
306+00.00	159		25	
306+50.00	154	2	30	
307+00.00	144	4	34	
307+50.00	137	6	31	
308+00.00	132	14	29	
308+50.00	118	30	29	
309+00.00	109	37	28	
309+50.00	142	21	28	
310+00.00	126	28	27	

CSAH 14 - EARTHWORK TABULATION				B
STATION	EXCAVATION TOTALS (EV)	EMBANKMENT TOTALS (CV)		
	COMMON	GRANULAR	COMMON	
			SLOPE DRESSING	
CU YD	CU YD	CU YD		
EB CSAH 14				
310+50.00	70	54	26	
311+00.00	64	63	28	
311+50.00	72	71	31	
312+00.00	81	70	31	
312+50.00	84	67	30	
313+00.00	92	63	31	
313+50.00	102	57	31	
314+00.00	113	55	30	
314+50.00	112	51	29	
315+00.00	105	43	27	
315+60.00	181	54	16	
315+85.00	98	28		
316+50.00	202	71	16	
317+00.00	110	52	25	
317+50.00	98	58	26	
317+88.00	80	48	16	
318+50.00	106	107	25	
319+00.00	54	108	26	
319+50.00	56	112	27	
320+00.00	58	105	27	
320+44.00	67	50	17	
321+00.00	87	54	22	
321+45.00	80	53	18	
322+00.00	118	38	24	
322+50.00	112	25	34	
323+00.00	125	27	38	
323+50.00	127	23	40	
324+00.00	131	20	38	
324+46.00	148	20	26	
325+00.00	175	15	29	
325+50.00	125	4	31	
326+00.00	112	1	29	
326+50.00	125		27	
326+81.00	103	2	13	
327+27.00	176	2	15	
327+50.00	82		8	
328+01.00	147		18	
TOTAL	8774	1817	1786	

LEVER STREET - EARTHWORK TABULATION				C
STATION	EXCAVATION TOTALS (EV)	EMBANKMENT TOTALS (CV)		
	COMMON	GRANULAR	COMMON	
			SLOPE DRESSING	
CU YD	CU YD	CU YD		
LEVER STREET				
500+55.10				
501+00.00	59	6	8	
501+50.00	88	15	9	
502+00.00	174	61	13	
502+50.00	281	123	14	
502+87.86	223	100	11	
503+00.00	63	34	4	
503+11.80	52	41	6	
TOTAL	940	380	65	

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: BENJAMIN P ROBECK
Ben Robeck
 Date: 03/28/19 License # 53680

STATE PROJECT NO.
 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO.
 18-09

DRAWN BY
 S. MARTINS
 DESIGNED BY
 M. HARDEGGER
 CHECKED BY
 B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 EARTHWORK TABULATIONS
 CSAH 14 RECONSTRUCTION

SHEET
 7
 OF
 107

UTILITY OWNERS

THE FOLLOWING LIST SHOWS THE UTILITY COMPANIES INVOLVED ON THIS PROJECT.

ANOKA COUNTY
 CENTERPOINT ENERGY MINNESOTA GAS
 CENTURYLINK
 CITY OF BLAINE
 COMCAST CABLE COMMUNICATIONS, INCORPORATED
 CONNEXUS ENERGY
 GREAT RIVER ENERGY

GENERAL 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".

THE "LEAVE AS IS" AND "RELOCATE" NOTES ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS OTHERWISE NOTED.

ALL POWER LINES ARE DISTRIBUTION UNLESS NOTED OTHERWISE.

THE CONTRACTOR IS HEREBY REMINDED OF THEIR RESPONSIBILITY TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE PROJECT AREA.

EXISTING UTILITIES (CENTERPOINT ENERGY) D							
ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
EB CSAH 14	290+00 TO 299+44	70' LT TO 64' LT	4" GAS	X			
EB CSAH 14	290+00 TO 293+06	50' LT	UNKNOWN GAS	X			(1)
EB CSAH 14	293+06 TO 296+87	50' LT TO 65' LT	UNKNOWN GAS			X	(1)
EB CSAH 14	296+05 TO 296+07	67' LT TO 190' LT	1" GAS	X			
EB CSAH 14	299+44 TO 300+44	64' LT	4" GAS	X			
EB CSAH 14	300+44 TO 305+68	64' LT TO 44' LT	4" GAS	X			
EB CSAH 14	305+47 TO 305+48	74' LT TO 45' LT	UNKNOWN GAS	X			(2)
EB CSAH 14	305+47 TO 314+06	74' LT TO 80' LT	UNKNOWN GAS	X			(2)
EB CSAH 14	305+68 TO 314+07	44' LT TO 50' LT	4" GAS			X	
EB CSAH 14	309+72	58' LT	GAS VALVE	X			
EB CSAH 14	314+06 TO 327+31	80' LT TO 70' LT	UNKNOWN GAS	X			(2)
EB CSAH 14	314+07 TO 314+75	50' LT	4" GAS	X			
EB CSAH 14	314+75 TO 315+47	50' LT TO 46' LT	4" GAS	X			
EB CSAH 14	315+08 TO 315+90	277' RT TO 188' RT	UNKNOWN GAS			X	(2)
EB CSAH 14	315+47 TO 315+75	46' LT	4" GAS	X			
EB CSAH 14	315+75 TO 316+19	46' LT	4" GAS	X			
EB CSAH 14	315+90 TO 316+11	188' RT TO 90' RT	UNKNOWN GAS	X			(2)
EB CSAH 14	316+00 TO 316+04	175' LT TO 46' LT	UNKNOWN GAS	X			(2)
EB CSAH 14	316+07 TO 316+11	80' LT TO 90' RT	UNKNOWN GAS			X	(2)
EB CSAH 14	316+19 TO 316+91	46' LT TO 50' LT	4" GAS	X			
EB CSAH 14	316+91 TO 329+20	50' LT TO 40' LT	4" GAS			X	
EB CSAH 14	321+49 TO 321+65	264' RT TO 160' RT	1" GAS	X			
EB CSAH 14	321+65 TO 322+02	160' RT TO 120' RT	1" GAS	X			
EB CSAH 14	322+02 TO 322+03	120' RT TO 49' LT	1" GAS	X			
EB CSAH 14	327+09 TO 327+52	207' RT TO 206' RT	2" GAS	X			
EB CSAH 14	327+09 TO 327+10	207' RT TO 249' RT	2" GAS	X			
EB CSAH 14	327+31 TO 327+31	40' LT TO 70' LT	UNKNOWN GAS	X			(2)
EB CSAH 14	327+52 TO 327+54	246' RT TO 64' RT	2" GAS	X			
EB CSAH 14	327+54 TO 327+65	64' RT TO 40' LT	2" GAS			X	
EX CSAH 14	189+44 TO 190+00	48' LT	4" GAS	X			
EX CSAH 14	189+44 TO 190+00	28' LT	UNKNOWN GAS	X			(1)

NOTES:

- (1) ABANDONED
- (2) FUTURE CONSTRUCTION BY OTHERS
- (3) CONTRACTOR SHALL LOWER IN PLACE, AS REQUIRED, TO FACILITATE PROPOSED CONSTRUCTION.
- (4) ADJUST ELEVATION TO MATCH PROPOSED GRADE. WORK TO BE DONE BY OTHERS.

EXISTING UTILITIES (CENTURYLINK) D							
ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
EB CSAH 14	285+46	38' RT	BURIED FIBER	X			
EB CSAH 14	285+90 TO 290+50	29' RT TO 103' LT	BURIED TEL	X			
EB CSAH 14	287+71	86' LT	BURIED TEL	X			
EB CSAH 14	287+71	86' LT	BURIED TEL	X			
EB CSAH 14	287+71	86' LT	TEL PED	X			
EB CSAH 14	288+61 TO 290+36	234' LT TO 238' LT	TEL CONDUIT	X			
EB CSAH 14	288+61	234' LT	TEL MH	X			
EB CSAH 14	290+05 TO 290+36	196' LT TO 238' LT	BURIED TEL	X			
EB CSAH 14	290+28 TO 290+50	100' LT TO 103' LT	BURIED TEL	X			
EB CSAH 14	290+29 TO 291+03	23' RT	BURIED TEL	X			
EB CSAH 14	290+36 TO 290+78	238' LT TO 111' LT	BURIED TEL	X			
EB CSAH 14	290+36 TO 290+50	238' LT TO 103' LT	BURIED TEL	X			
EB CSAH 14	290+36	238' LT	TEL MH	X			
EB CSAH 14	290+50 TO 292+18	103' LT TO 77' LT	BURIED TEL	X			
EB CSAH 14	290+50	103' LT	TEL PED	X			
EB CSAH 14	290+78	111' LT	CABINET	X			
EB CSAH 14	291+03 TO 291+05	23' RT TO 35' RT	BURIED TEL	X			
EB CSAH 14	291+05 TO 293+63	35' RT	BURIED TEL	X			
EB CSAH 14	292+18 TO 300+99	77' LT TO 70' LT	BURIED TEL	X			
EB CSAH 14	292+18	77' LT	TEL PED	X			
EB CSAH 14	293+63 TO 296+92	35' RT TO 40' RT	BURIED TEL	X			
EB CSAH 14	293+63	35' RT	TEL PED	X			
EB CSAH 14	296+92 TO 301+99	40' RT TO 41' RT	BURIED TEL	X			
EB CSAH 14	296+92	40' RT	TEL PED	X			
EB CSAH 14	300+99 TO 306+13	70' LT TO 73' LT	BURIED TEL	X			
EB CSAH 14	300+99	70' LT	TEL PED	X			
EB CSAH 14	301+99 TO 305+52	41' RT	BURIED TEL	X			
EB CSAH 14	301+99	41' RT	TEL PED	X			
EB CSAH 14	305+52 TO 312+63	41' RT TO 36' RT	BURIED TEL	X			
EB CSAH 14	305+52	41' RT	TEL PED	X			
EB CSAH 14	306+13 TO 309+94	73' LT TO 78' LT	BURIED TEL	X			
EB CSAH 14	306+13	73' LT	TEL PED	X			
EB CSAH 14	309+94 TO 313+95	78' LT TO 79' LT	BURIED TEL	X			
EB CSAH 14	309+94	78' LT	TEL PED	X			
EB CSAH 14	312+63 TO 314+13	36' RT	BURIED TEL	X			
EB CSAH 14	312+63	36' RT	TEL PED	X			
EB CSAH 14	313+95 TO 316+07	78' LT	BURIED TEL	X			
EB CSAH 14	313+95 TO 313+95	78' LT TO 79' LT	TEL PED	X			
EB CSAH 14	314+13 TO 319+08	36' RT	BURIED TEL		X		(3)
EB CSAH 14	314+13	36' RT	TEL PED	X			
EB CSAH 14	316+07 TO 322+21	78' LT	BURIED TEL			X	
EB CSAH 14	316+07	78' LT	TEL PED		X		(4)
EB CSAH 14	319+08 TO 326+42	36' RT TO 47' RT	BURIED TEL	X			
EB CSAH 14	319+08	36' RT	TEL PED	X			
EB CSAH 14	322+21 TO 333+27	78' LT TO 69' LT	BURIED TEL	X			
EB CSAH 14	322+21	78' LT	TEL PED	X			
EB CSAH 14	326+42 TO 328+06	47' RT TO 45' RT	BURIED TEL		X		(3)
EB CSAH 14	326+42	47' RT	TEL PED	X			
EB CSAH 14	326+91 TO 327+04	21' RT TO 278' RT	BURIED TEL		X		(3)
EB CSAH 14	326+91 TO 328+89	21' RT TO 20' RT	BURIED TEL	X			
EB CSAH 14	328+06 TO 328+82	45' RT TO 24' RT	BURIED TEL	X			
EB CSAH 14	328+82 TO 333+33	24' RT TO 20' RT	BURIED TEL	X			
EB CSAH 14	328+89 TO 328+90	20' RT TO 51' LT	BURIED TEL	X			
EB CSAH 14	328+90	51' LT	TEL PED	X			

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: BENJAMIN P ROBECK <i>Ben Robeck</i> Date: 03/28/19 License #: 53680		STATE PROJECT NO. 002-614-045 106-142-001 CITY OF BLAINE PROJECT NO. 18-09 DRAWN BY S. MARTINS DESIGNED BY M. HARDEGGER CHECKED BY B. ROBECK COMM. NO. 1811762	ANOKA COUNTY INPLACE UTILITY TABULATIONS CSAH 14 RECONSTRUCTION	SHEET 8 OF 107
NO DATE BY CKD APPR REVISION	...F InaIP\an\11762_tbp01.dgn			

EXISTING UTILITIES (ANOKA COUNTY)							D
ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
EB CSAH 14	290+00 TO 290+43	88' LT TO 73' LT	BUR SIG WIRE	X			
EB CSAH 14	290+00 TO 290+14	69' RT	BUR SIG WIRE	X			
EB CSAH 14	290+14 TO 290+26	69' RT TO 37' RT	BUR SIG WIRE	X			
EB CSAH 14	290+14 TO 290+24	69' RT TO 48' RT	BUR SIG WIRE	X			
EB CSAH 14	290+14 TO 290+19	69' RT TO 194' RT	BUR SIG WIRE	X			
EB CSAH 14	290+14	69' RT	HANDHOLE	X			
EB CSAH 14	290+20	93' LT	SIG MAST ARM	X			
EB CSAH 14	290+20 TO 290+43	93' LT TO 73' LT	BUR SIG WIRE	X			
EB CSAH 14	290+24 TO 290+41	48' RT TO 30' RT	BUR SIG WIRE	X			
EB CSAH 14	290+26	37' RT	SIG MAST ARM	X			
EB CSAH 14	290+41 TO 290+46	30' RT	BUR SIG WIRE	X			
EB CSAH 14	290+43	73' LT	HANDHOLE	X			
EB CSAH 14	290+43 TO 290+46	73' LT TO 16' LT	BUR SIG WIRE	X			
EB CSAH 14	290+43 TO 291+53	73' LT	BUR SIG WIRE	X			
EB CSAH 14	290+46 TO 290+47	16' LT TO 21' RT	BUR SIG WIRE	X			
EB CSAH 14	290+46	16' LT	HANDHOLE	X			
EB CSAH 14	290+46	30' RT	SIGNAL CABINET	X			
EB CSAH 14	290+46 TO 290+47	30' RT TO 21' RT	BUR SIG WIRE	X			
EB CSAH 14	290+47	21' RT	HANDHOLE	X			
EB CSAH 14	291+53 TO 292+73	73' LT	BUR SIG WIRE	X			
EB CSAH 14	291+53	73' LT	HANDHOLE	X			
EB CSAH 14	292+73 TO 294+13	73' LT TO 64' LT	BUR SIG WIRE			X	(5)
EB CSAH 14	292+73	73' LT	HANDHOLE	X			
EB CSAH 14	294+13	64' LT	HANDHOLE			X	(5)
EX CSAH 14	184+67	42' RT	HANDHOLE	X			
EX CSAH 14	184+67 TO 186+07	42' RT TO 54' RT	BUR SIG WIRE	X			
EX CSAH 14	186+07	54' RT	HANDHOLE	X			
EX CSAH 14	186+07 TO 187+27	54' RT	BUR SIG WIRE	X			
EX CSAH 14	187+27	54' RT	HANDHOLE	X			
EX CSAH 14	187+27 TO 188+47	54' RT TO 53' RT	BUR SIG WIRE	X			
EX CSAH 14	188+46	5' LT	HANDHOLE	X			
EX CSAH 14	188+46 TO 188+47	5' LT TO 53' RT	BUR SIG WIRE	X			
EX CSAH 14	188+47	53' RT	HANDHOLE	X			
EX CSAH 14	188+47 TO 188+72	53' RT TO 66' RT	BUR SIG WIRE	X			
EX CSAH 14	188+47 TO 189+36	53' RT TO 92' RT	BUR SIG WIRE	X			
EX CSAH 14	188+63	63' LT	SIG MAST ARM	X			
EX CSAH 14	188+63 TO 188+74	63' LT TO 82' LT	BUR SIG WIRE	X			
EX CSAH 14	188+72	66' RT	SIG MAST ARM	X			
EX CSAH 14	188+74	82' LT	HANDHOLE	X			
EX CSAH 14	188+74 TO 189+48	82' LT TO 83' LT	BUR SIG WIRE	X			
EX CSAH 14	189+36	92' RT	HANDHOLE	X			
EX CSAH 14	189+36 TO 190+00	92' RT TO 91' RT	BUR SIG WIRE	X			
EX CSAH 14	189+48	87' LT	SIG MAST ARM	X			
EX CSAH 14	189+48	83' LT	HANDHOLE	X			
EX CSAH 14	189+48 TO 190+00	83' LT TO 66' LT	BUR SIG WIRE	X			

NOTES:
 (5) SEE TRAFFIC SIGNAL PLANS AND DETAILS FOR DESCRIPTION OF WORK AND PAY ITEM.

EXISTING UTILITIES (CONNEXUS ENERGY)							D
ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
EB CSAH 14	290+10 TO 290+11	256' LT TO 242' LT	OH POWER	X			
EB CSAH 14	290+11 TO 290+27	242' LT TO 193' RT	BURIED POWER	X			
EB CSAH 14	290+23 TO 290+39	44' RT TO 34' RT	BURIED POWER	X			
EB CSAH 14	290+23 TO 290+29	44' RT TO 193' RT	BURIED POWER	X			
EB CSAH 14	290+39 TO 291+33	34' RT TO 33' RT	BURIED POWER	X			
EB CSAH 14	291+33 TO 299+46	33' RT TO 38' RT	OH POWER	X			
EB CSAH 14	293+96 TO 293+96	32' RT TO 157' LT	BURIED POWER	X			
EB CSAH 14	293+96 TO 294+57	157' LT TO 183' LT	BURIED POWER	X			
EB CSAH 14	294+79	57' LT	ELEC MH	X			
EB CSAH 14	299+46 TO 302+45	38' RT	OH POWER	X			
EB CSAH 14	301+83 TO 302+68	68' LT TO 73' LT	BURIED POWER	X			
EB CSAH 14	301+93 TO 302+68	166' LT TO 73' LT	BURIED POWER	X			
EB CSAH 14	302+45 TO 302+68	38' RT TO 73' LT	OH POWER	X			
EB CSAH 14	302+68 TO 314+06	73' LT TO 79' LT	OH POWER	X			
EB CSAH 14	305+95	78' LT	ELEC PED	X			
EB CSAH 14	309+66	80' LT	ELEC PED	X			
EB CSAH 14	313+32	82' LT	ELEC PED			X	
EB CSAH 14	314+06 TO 329+19	79' LT TO 70' LT	OH POWER			X	
EB CSAH 14	315+72 TO 315+74	175' LT TO 101' LT	BURIED POWER	X			
EB CSAH 14	315+74 TO 316+04	101' LT TO 82' LT	BURIED POWER			X	
EB CSAH 14	316+04	82' LT	ELEC PED			X	
EB CSAH 14	319+24 TO 319+90	79' LT TO 138' LT	BURIED POWER	X			
EB CSAH 14	321+61	42' RT	ELEC PED	X			
EB CSAH 14	322+04 TO 322+29	143' LT TO 83' LT	BURIED POWER	X			
EB CSAH 14	322+29	83' LT	ELEC PED			X	
EB CSAH 14	322+53 TO 324+11	49' RT TO 52' RT	BURIED POWER	X			
EB CSAH 14	324+11 TO 326+99	52' RT TO 59' RT	BURIED POWER	X			
EB CSAH 14	324+11	52' RT	LIGHT SERV CAB			X	
EB CSAH 14	324+52 TO 325+38	176' LT TO 71' LT	BURIED POWER	X			
EB CSAH 14	324+62 TO 325+24	54' RT TO 78' LT	BURIED POWER	X			
EB CSAH 14	325+04	44' RT	ELEC PED			X	
EB CSAH 14	325+10 TO 325+35	46' RT TO 72' LT	OH POWER	X			
EB CSAH 14	325+22 TO 327+01	18' RT TO 23' RT	BURIED POWER	X			
EB CSAH 14	325+22 TO 325+24	18' RT TO 78' LT	BURIED POWER	X			
EB CSAH 14	325+24	78' LT	ELEC PED	X			
EB CSAH 14	326+64 TO 327+63	180' LT TO 69' LT	BURIED POWER	X			
EB CSAH 14	326+99 TO 327+01	59' RT TO 241' RT	BURIED POWER	X			
EB CSAH 14	327+01 TO 327+04	23' RT TO 249' RT	BURIED POWER			X	
EB CSAH 14	327+49 TO 327+84	62' RT TO 55' RT	BURIED POWER	X			
EB CSAH 14	327+49 TO 327+56	62' RT TO 244' RT	BURIED POWER	X			
EB CSAH 14	327+83 TO 327+84	70' LT TO 55' RT	BURIED POWER	X			

EXISTING UTILITIES (GREAT RIVER ENERGY)							D
ALIGNMENT	LOCATION		INPLACE ITEM	REMARKS			NOTES
	STATION	OFFSET		LEAVE AS IS	ADJUST	RELOCATE	
EB CSAH 14	294+08	33' RT	POWER POLE	X			
EB CSAH 14	295+11	34' RT	POWER POLE	X			
EB CSAH 14	296+17	36' RT	POWER POLE	X			
EB CSAH 14	298+20	38' RT	POWER POLE	X			
EB CSAH 14	300+30	38' RT	POWER POLE	X			
EB CSAH 14	302+45	38' RT	POWER POLE	X			
EB CSAH 14	302+68	73' LT	POWER POLE	X			
EB CSAH 14	305+37	74' LT	POWER POLE	X			
EB CSAH 14	308+06	76' LT	POWER POLE	X			
EB CSAH 14	310+77	78' LT	POWER POLE	X			
EB CSAH 14	313+48	79' LT	POWER POLE	X			
EB CSAH 14	316+17	78' LT	POWER POLE			X	
EB CSAH 14	319+24	79' LT	POWER POLE	X			
EB CSAH 14	322+28	79' LT	POWER POLE	X			
EB CSAH 14	325+10	46' RT	POWER POLE	X			
EB CSAH 14	325+35	72' LT	POWER POLE	X			
EB CSAH 14	327+48	68' RT	LIGHT POLE	X			
EB CSAH 14	327+83	70' LT	POWER POLE	X			

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: BENJAMIN P ROBECK
Ben Robeck
 Date: 03/28/19 License #: 53680

STATE PROJECT NO.
002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS
DESIGNED BY
M. HARDEGGER
CHECKED BY
B. ROBECK
COMM. NO. 1811762



ANOKA COUNTY
 INPLACE UTILITY TABULATIONS
 CSAH 14 RECONSTRUCTION

SHEET
9
OF
107

EXISTING SANITARY SEWER										F
ALIGNMENT	LOCATION		EXISTING ITEM	LEAVE AS IS	(F-2)	(F-2)	ELEVATION		NOTES	
	STATION	OFFSET			RECONSTRUCT MANHOLE	ADJUST FRAME RING AND CASTING	EXISTING RIM	PROPOSED RIM		
SP 106-142-001					LIN FT	EACH				
EB CSAH 14	314+27 TO 315+27	295' RT TO 222' RT	12" PVC SAN	X						
EB CSAH 14	315+27 TO 315+44	222' RT TO 234' RT	12" PVC SAN	X						
EB CSAH 14	315+27 TO 315+76	222' RT TO 43' RT	12" PVC SAN	X						
EB CSAH 14	315+27	222' RT	SAN MH			1	905.22	904.84		
EB CSAH 14	315+44	234' RT	PLUG	X						
EB CSAH 14	315+74 TO 315+76	83' LT TO 32' RT	SAN SEWER CASING	X						
EB CSAH 14	315+73 TO 315+76	142' LT TO 43' RT	12" PVC SAN	X						
EB CSAH 14	315+76	43' RT	SAN MH		2.8		904.20	902.50	(F-1)	
EB CSAH 14	327+29	173' RT	SAN MH	X						
EB CSAH 14	327+29 TO 327+30	173' RT TO 249' RT	8" PVC SAN	X						
SUBTOTAL SP 106-142-001					2.8	1				
TOTAL					2.8	1				

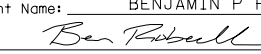
NOTES:
(F-1) PAID FOR AS RECONSTRUCT DRAINAGE STRUCTURE
(F-2) WORK TO BE COMPLETED BY THE CONTRACTOR

EXISTING WATER MAIN							G
ALIGNMENT	LOCATION		EXISTING ITEM	LEAVE AS IS	(G-1)	NOTES	
	STATION	OFFSET			ADJUST VALVE BOX - WATER		
SP 106-142-001					EACH		
EB CSAH 14	314+38 TO 315+19	278' RT TO 216' RT	20" DIP WM	X			
EB CSAH 14	314+79	235' RT	HYDRANT	X			
EB CSAH 14	315+19 TO 315+66	216' RT TO 41' RT	20" DIP WM	X			
EB CSAH 14	315+21 TO 315+49	206' RT TO 226' RT	8" PVC WM	X			
EB CSAH 14	315+34	214' RT	WM VALVE		1		
EB CSAH 14	315+49	226' RT	PLUG	X			
EB CSAH 14	315+63 TO 315+66	142' LT TO 41' RT	20" DIP WM	X			
EB CSAH 14	315+64 TO 315+66	71' LT TO 29' RT	WATER MAIN CASING	X			
EB CSAH 14	315+64	99' LT	WM VALVE		1		
EB CSAH 14	327+20 TO 327+42	152' RT TO 101' RT	8" PVC WM	X			
EB CSAH 14	327+20 TO 327+21	152' RT TO 249' RT	8" PVC WM	X			
EB CSAH 14	327+40 TO 327+42	45' LT TO 101' RT	8" PVC WM	X			
EB CSAH 14	327+40 TO 327+40	45' LT TO 39' LT	WM CASING	X			
EB CSAH 14	327+40 TO 327+41	39' LT TO 28' RT	WM CASING	X			
EB CSAH 14	327+42	68' RT	WM VALVE	X			
SP 106-142-001 SUBTOTAL					2		
TOTAL					2		

NOTES:
(G-1) WORK TO BE COMPLETED BY THE CONTRACTOR

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: BENJAMIN P ROBECK

Date 03/28/19 License # 53680

STATE PROJECT NO.
002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS
DESIGNED BY
M. HARDEGGER
CHECKED BY
B. ROBECK
COMM. NO. 1811762



ANOKA COUNTY
INPLACE UTILITY TABULATIONS
CSAH 14 RECONSTRUCTION

SHEET
11
OF
107

CLEARING AND GRUBBING		H
ALIGNMENT	STATION TO STATION	(H-1) GRUBBING ACRE
SP 002-614-045		
EB CSAH 14	292+62 - 329+20	0.35
SP 002-614-045 SUB-TOTAL		0.35
SP 106-142-001		
LEVER STREET	500+55 - 503+79	0.1
SP 106-142-001 SUB-TOTAL		0.1
TOTAL		0.45

NOTES:
(H-1) CLEARING COMPLETED BY OTHERS BEFORE PROJECT START.

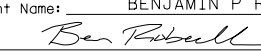

REMOVALS, SAWING AND RELOCATES											I
ALIGNMENT	STATION TO STATION	(I-1)	(I-2)	REMOVE CURB & GUTTER LIN FT	REMOVE BITUMINOUS DRIVEWAY PAVEMENT SQ YD	REMOVE BITUMINOUS PAVEMENT SQ YD	REMOVE CONCRETE WALK SQ FT	REMOVE CONCRETE MEDIAN SQ FT	MAIL BOX SUPPORT EACH	RELOCATE MAIL BOX SUPPORT EACH	
		PAVEMENT MARKING REMOVAL LIN FT	SAWING BIT PAVEMENT (FULL DEPTH) LIN FT								
SP 002-614-045											
EB CSAH 14	292+62 - 329+20	3940	4010	230	380	21140	140	840	2	8	
SP 002-614-045 SUB-TOTAL		3940	4010	230	380	21140	140	840	2	8	
SP 106-142-001											
LEVER STREET	500+55 - 503+79		25								
SP 106-142-001 SUB-TOTAL			25								
TOTAL		3940	4035	230	380	21140	140	840	2	8	

NOTES:
(I-1) ASSUMES ALL EB CSAH 14 FOG, TURN LANE, AND BYPASS STRIPING REMOVED FOR THE LIMITS OF RECONSTRUCTION AND CENTERLINE SKIP REMOVAL FOR 400 FEET PAST EAST PROJECT LIMIT.
(I-2) INCLUDES QUANTITY FOR STAGE 1 CONSTRUCTION.

AGGREGATE AND BITUMINOUS SUMMARY										J
ALIGNMENT	STATION TO STATION	AGGREGATE BASE (CV) CLASS 5 CU YD	(N-1)	(N-2)(N-3)	(N-2)(N-4)	(N-2)(N-5)	(N-2)(N-6)	(N-2)(N-7)		
			BITUMINOUS MATERIAL FOR TACK COAT GAL	TYPE SP 9.5 WEARING COURSE MIX (2,B) TON	TYPE SP 12.5 WEARING COURSE MIX (3,B) TON	TYPE SP 12.5 NON WEAR COURSE MIX (3,B) TON	TYPE SP 12.5 WEARING COURSE MIX (3,F) TON	TYPE SP 12.5 NON WEAR COURSE MIX (3,F) TON		
SP 002-614-045										
EB CSAH 14	292+72 - 329+20	5860	2620		40		5570	2810		
SP 002-614-045 SUB-TOTAL		5860	2620		40		5570	2810		
SP 106-142-001										
LEVER STREET	500+55 - 503+79	200	65	45	100	130				
SP 106-142-001 SUB-TOTAL		200	65	45	100	130				
TOTAL		6060	2685	45	140	130	5570	2810		

NOTES:
(N-1) QUANTITY BASED ON 0.07 GAL/SQ YD.
(N-2) QUANTITY BASED ON 113 POUND/SY-INCH BITUMINOUS MIX UNIT WEIGHT
(N-3) MIX TYPE SPWEA230B
(N-4) MIX TYPE SPWEA330B
(N-5) MIX TYPE SPNWB330B
(N-6) MIX TYPE SPWEB340F
(N-7) MIX TYPE SPNWB330F

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>BENJAMIN P ROBECK</u>  Date: <u>03/28/19</u> License # <u>53680</u>					STATE PROJECT NO. 002-614-045 106-142-001 CITY OF BLAINE PROJECT NO. 18-09	DRAWN BY S. MARTINS DESIGNED BY M. HARDEGGER CHECKED BY B. ROBECK COMM. NO. 1811762		ANOKA COUNTY TABULATIONS CSAH 14 RECONSTRUCTION	SHEET 12 OF 107	
NO DATE BY CKD APPR REVISION ... \P\an\F\an\F\an\11762_fb02.dgn										

CURB & GUTTER AND WALKS										K
ALIGNMENT	STATION TO STATION	4" CONCRETE WALK SQ FT	6" CONCRETE WALK SQ FT	CONCRETE CURB & GUTTER DESIGN B418 LIN FT	CONCRETE CURB & GUTTER DESIGN B612 LIN FT	CONCRETE CURB & GUTTER DESIGN B618 LIN FT	CONCRETE CURB & GUTTER DESIGN D412 LIN FT	CONCRETE CURB & GUTTER DESIGN S518 LIN FT	TRUNCATED DOMES SQ FT	
SP 002-614-045										
EB CSAH 14	292+72 - 329+20	14750	165	4930		345		80	12	
SP 002-614-045 SUB-TOTAL		14750	165	4930		345		80	12	
SP 106-142-001										
LEVER STREET	500+55 - 503+79	1960	1120		130		540		143	
SP 106-142-001 SUB-TOTAL		1960	1120		130		540		143	
TOTAL		16710	1285	4930	130	345	540	80	155	

TRAFFIC CONTROL AND STAGING												L
ALIGNMENT	STATION TO STATION	PORTABLE PRECAST CONC BARRIER DES 8337 LIN FT	RELOCATE PORT PRECAST CONC BAR DES 8337 LIN FT	(L-1) IMPACT ATTENUATOR ASSEMBLY	(L-1) RELOCATE IMPACT ATTENUATOR ASSEMBLY	RAISED PAVEMENT MARKER TEMPORARY EACH	PORTABLE CONCRETE BARRIER DELINEATOR EACH	(L-2) PORTABLE CHANGEABLE MESSAGE SIGN UNIT DAY	(L-3) REMOVABLE PREFORM PAVEMENT MARKING TAPE LIN FT	REMOVABLE PREFORM PLASTIC MASK (BLACK) LIN FT	(L-4) 4" SOLID LINE PAINT LIN FT	
SP 002-614-045												
EB CSAH 14	292+62 - 329+20	3062.5	1065	6	3	420	123	261	5030	1190	7100	
SP 002-614-045 SUB-TOTAL		3062.5	1065	6	3	420	123	261	5030	1190	7100	
SP 106-142-001												
LEVER STREET	500+55 - 503+79											
SP 106-142-001 SUB-TOTAL												
TOTAL		3062.5	1065	6	3	420	123	261	5030	1190	7100	

NOTES:
(L-1) TEMPORARY IMPACT ATTENUATOR, TEST LEVEL 3
(L-2) ASSUMES 2 SIGNS IN STAGE 1 AND 3 SIGNS IN STAGE 2 FOR 10 DAY DURATIONS
(L-3) ASSUMES 2970 LF OF 4" YELLOW AND 2060 LF OF 4" WHITE
(L-4) ASSUMES 3640 LF OF 4" YELLOW AND 3460 LF OF 4" WHITE

EROSION CONTROL AND TURF ESTABLISHMENT														M
ALIGNMENT	STATION TO STATION	STORM DRAIN INLET PROTECTION EACH	CULVERT END CONTROLS EACH	SILT FENCE, TYPE MS LIN FT	SEDIMENT CONTROL LOG TYPE WOOD FIBER LIN FT	(T-1) FERTILIZER TYPE 3 POUND	LIME TON	EROSION CONTROL BLANKETS CATEGORY 0 SQ YD	EROSION CONTROL BLANKETS CATEGORY 3N SQ YD	SEEDING ACRE	SEED MIXTURE 25-121 POUND	SEED MIXTURE 35-221 POUND	(T-2) RAPID STABILIZATION METHOD 3 M GALLON	
SP 002-614-045														
EB CSAH 14	292+62 - 329+20	18	8	580	370	1080	11.1	10910	6680	3.7	140	50	7.8	
SP 002-614-045 SUB-TOTAL		18	8	580	370	1080	11.1	10910	6680	3.7	140	50	7.8	
SP 106-142-001														
LEVER STREET	500+55 - 503+79	7	2	250		60	0.5	840		0.2	10			
SP 106-142-001 SUB-TOTAL		7	2	250		60	0.5	840		0.2	10			
TOTAL		25	10	830	370	1140	11.6	11750	6680	3.9	150	50	7.8	

NOTES:
(T-1) SEE CONSTRUCTION AND SOILS NOTES FOR FERTILIZER ANALYSIS.
(T-2) TO BE USED AS DIRECTED BY THE ENGINEER FOR LOCATIONS OF TEMPORARY STABILIZATION.

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NO	DATE	BY	CKD	APPR	REVISION

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Print Name: BENJAMIN P ROBECK
Ben Robeck
Date 03/28/19 License # 53680

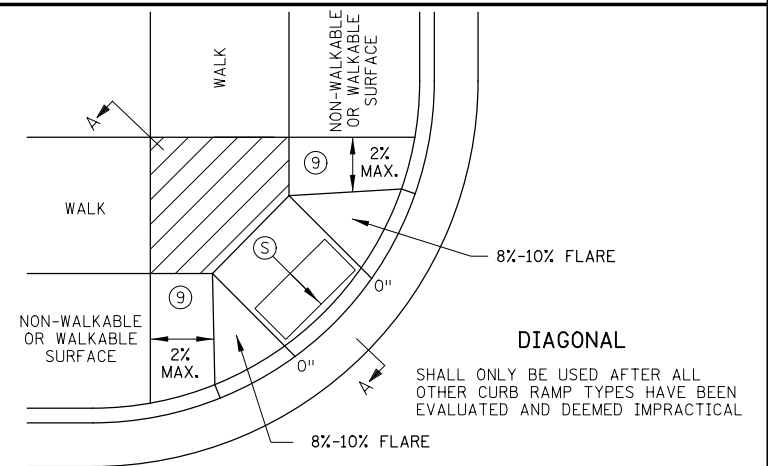
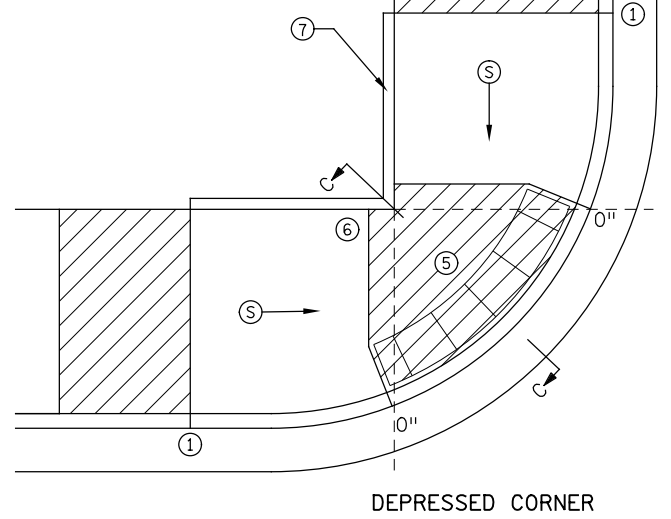
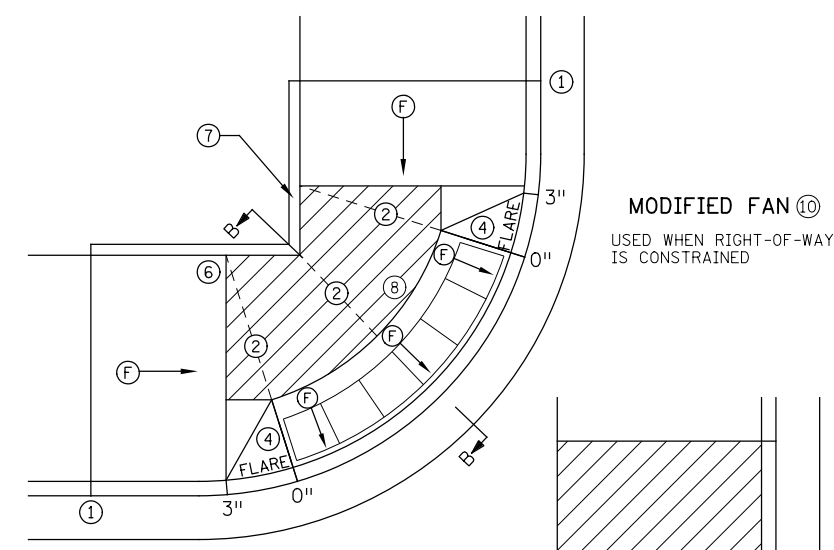
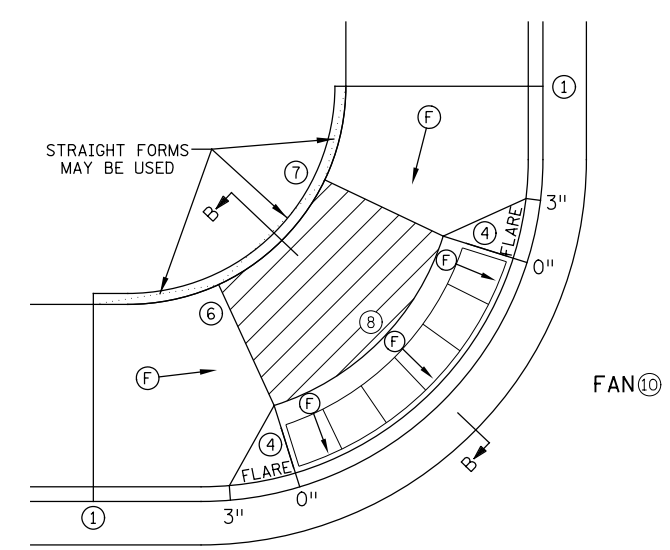
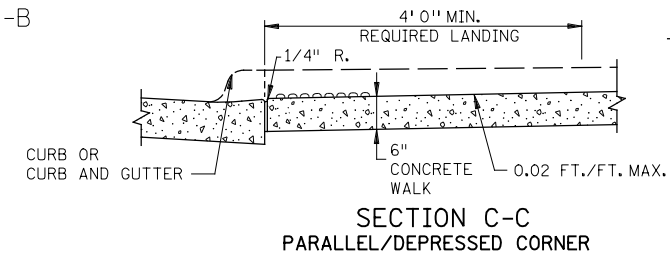
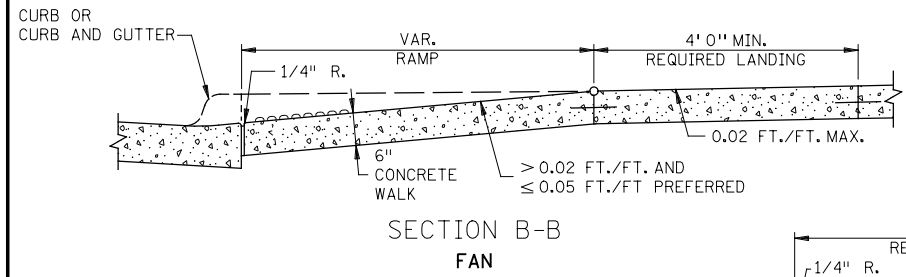
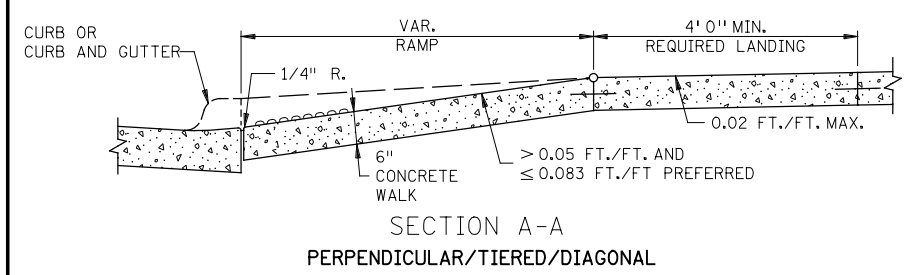
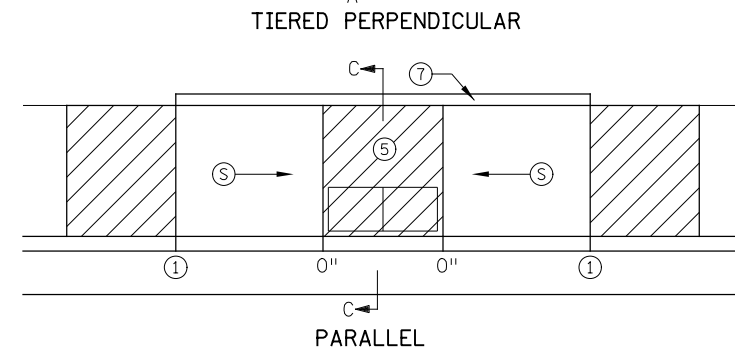
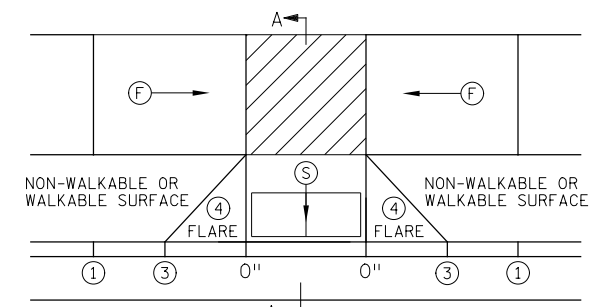
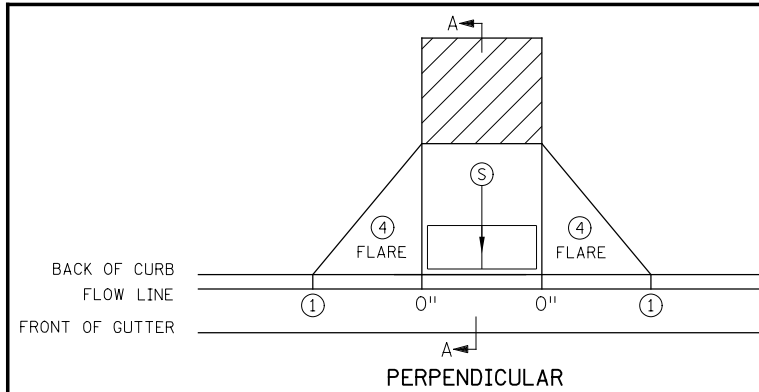
STATE PROJECT NO.
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CITY OF BLAINE
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ANOKA COUNTY
TABULATIONS
CSAH 14 RECONSTRUCTION

SHEET
13
OF
107



- 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.
- MATCH FULL HEIGHT CURB.
 - 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
 - 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
 - SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
 - 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.
 - 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)
 - 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.
 - A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
 - PAVE FULL WALK WIDTH.
 - "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

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

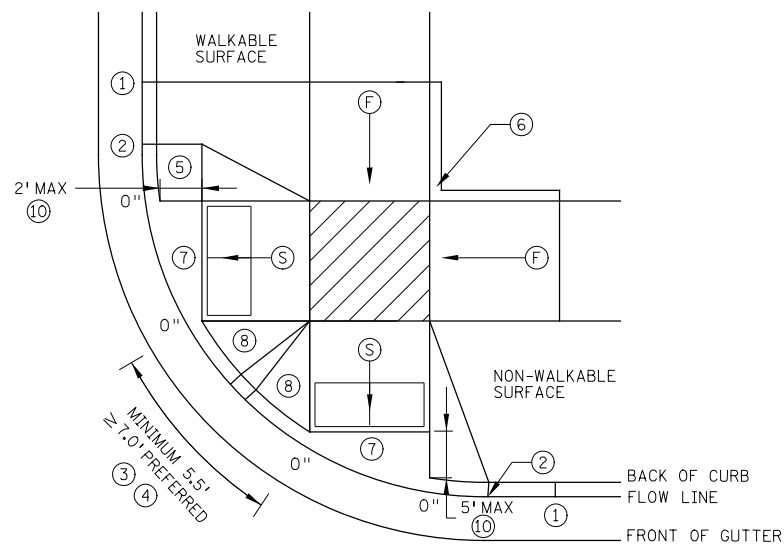
REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

MINNESOTA STANDARD PLAN 5-297.250 1 OF 6
DEPARTMENT OF TRANSPORTATION
APPROVED: 1-23-2017
REVISOR: [Signature]

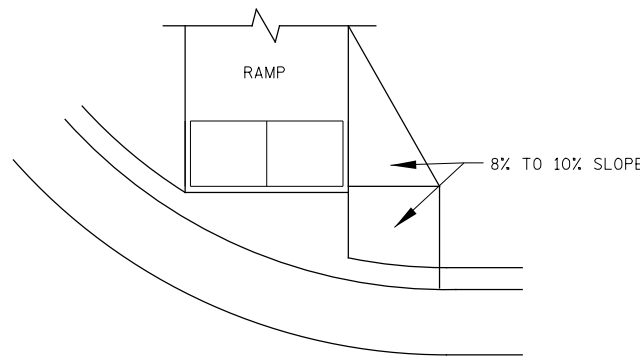
PEDESTRIAN CURB RAMP DETAILS

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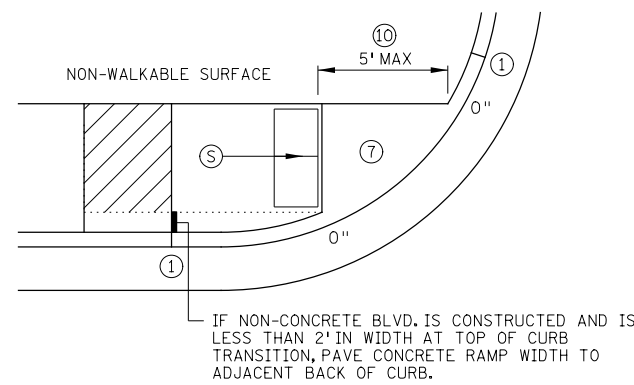
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COMBINED DIRECTIONAL ⑨

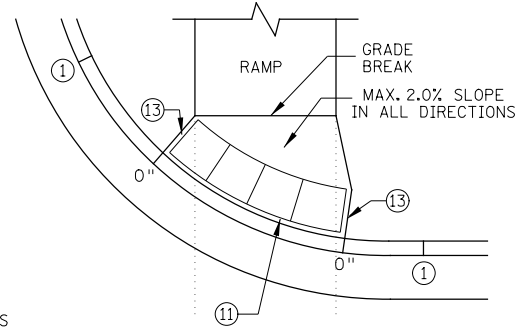


DIRECTIONAL RAMP WALKABLE FLARE

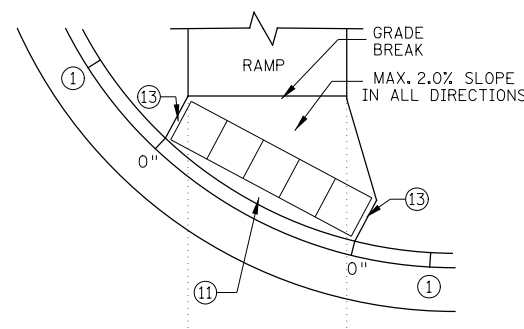


STANDARD ONE-WAY DIRECTIONAL ⑨

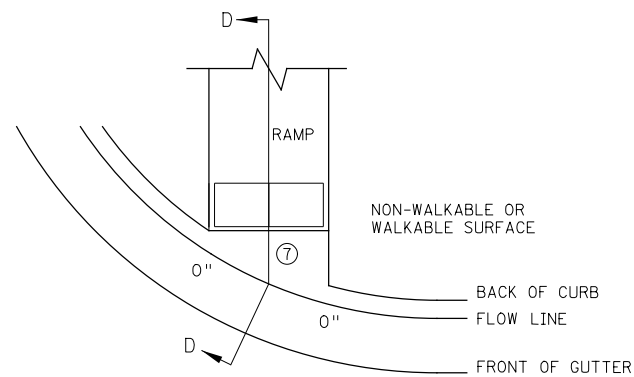
IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.



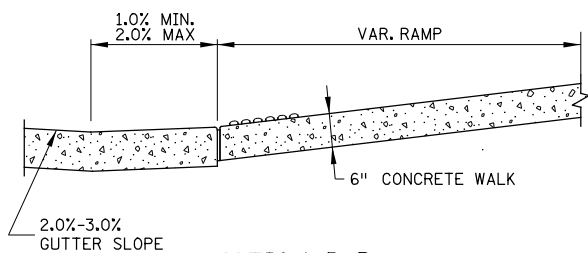
DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫



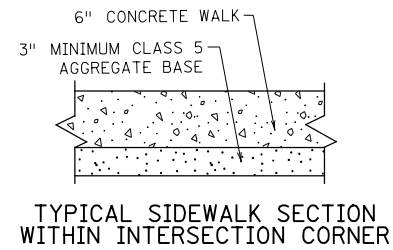
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

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.

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%.
Ⓣ	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%.
▨	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
<i>[Signature]</i> OPERATIONS ENGINEER

	STANDARD PLAN 5-297.250	2 OF 6
	APPROVED: 1-23-2017 REVISIONS:	
DRAWN BY <i>[Signature]</i> STATE DESIGN ENGINEER		

PEDESTRIAN CURB RAMP DETAILS

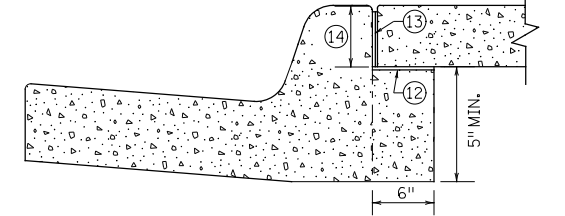
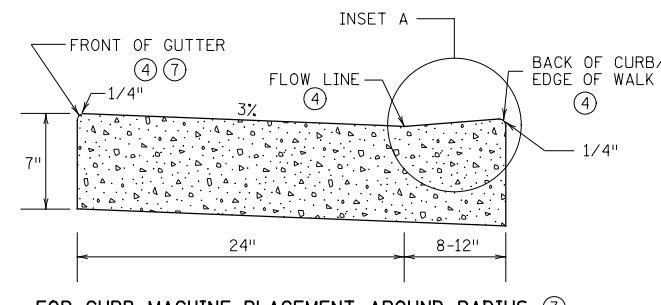
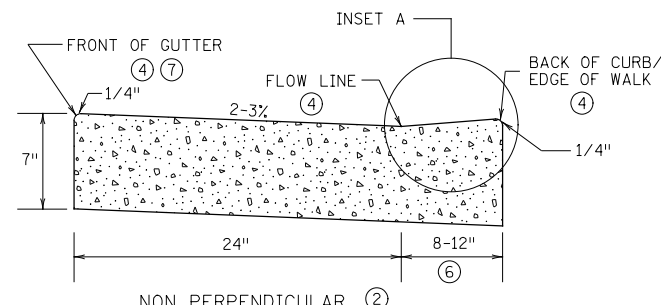
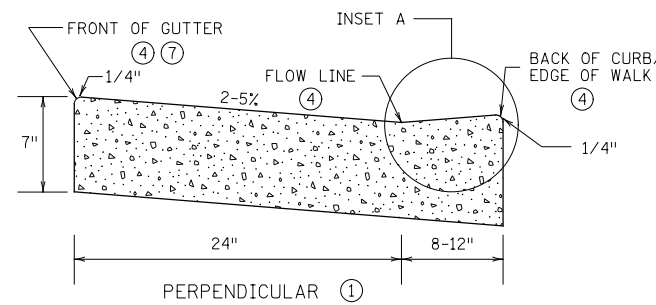
STATE PROJECT NO. 002-614-045 106-142-001	DRAWN BY
CITY OF BLAINE PROJECT NO. 18-09	DESIGNED BY
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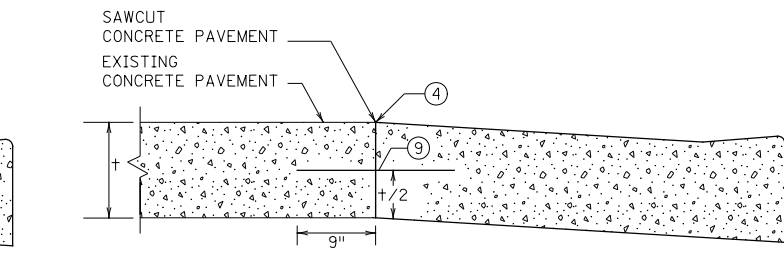
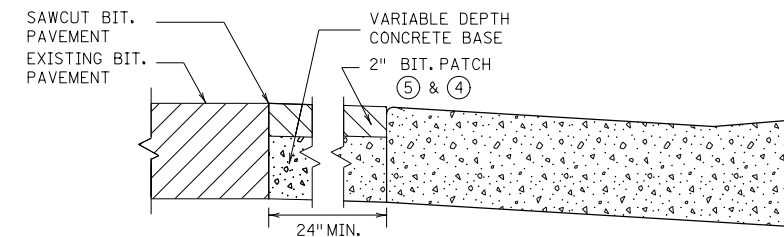
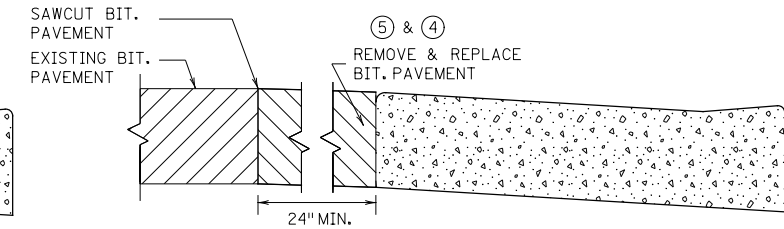
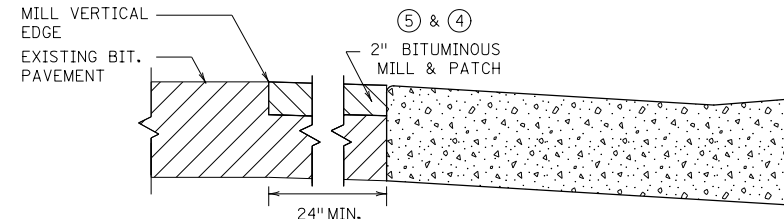
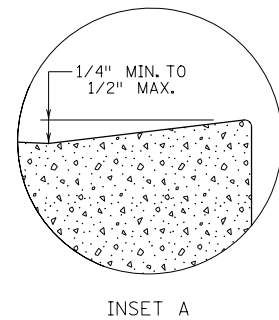
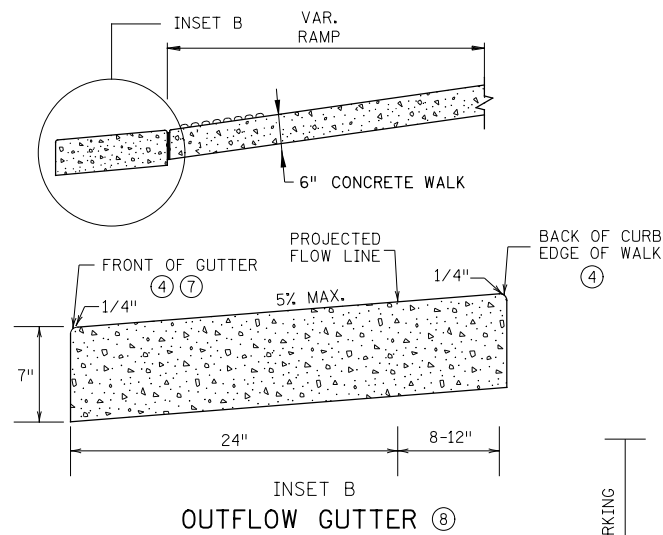
ANOKA COUNTY
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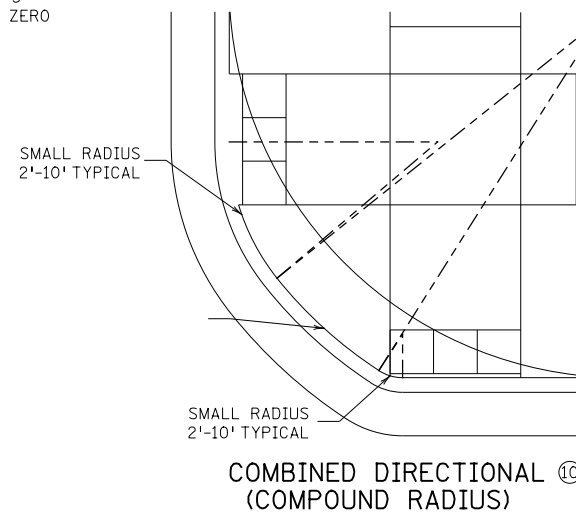
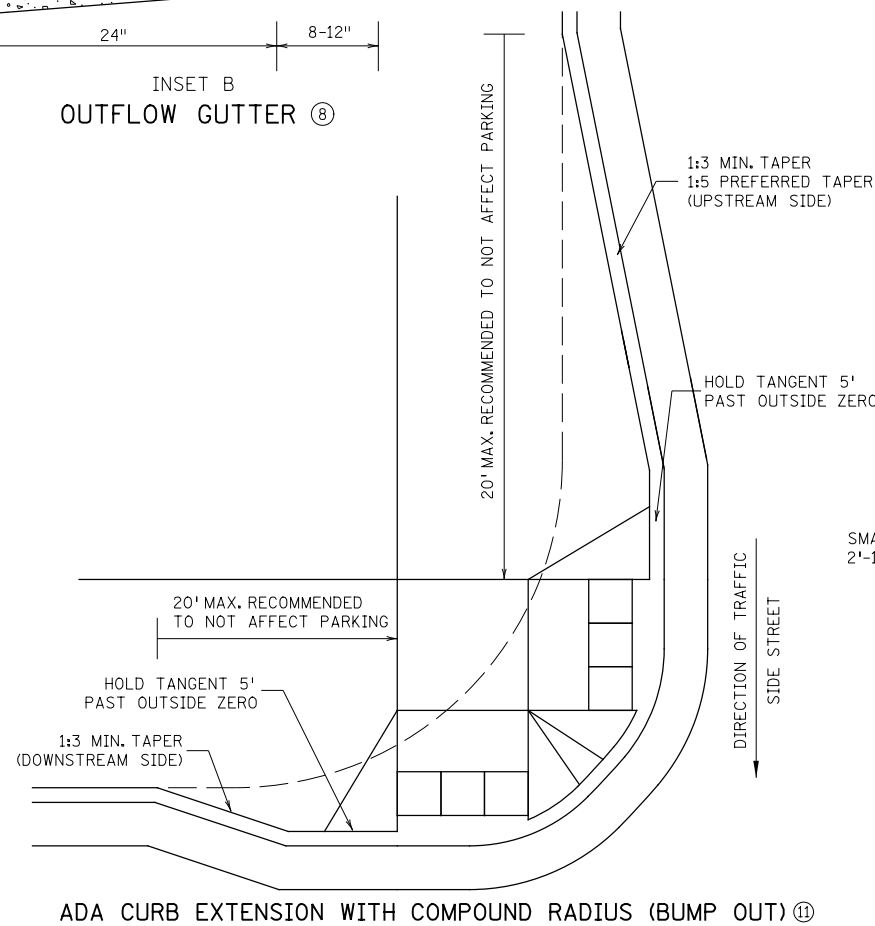


PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



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 RAMP.
- ② FOR USE AT CURB RAMP 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 RAMP.
- 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.

REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

	STANDARD PLAN 5-297.250	3 OF 6
	APPROVED: 1-23-2017 REVISED:	
DEPARTMENT OF TRANSPORTATION	STATE DESIGN ENGINEER	

PEDESTRIAN CURB RAMP DETAILS

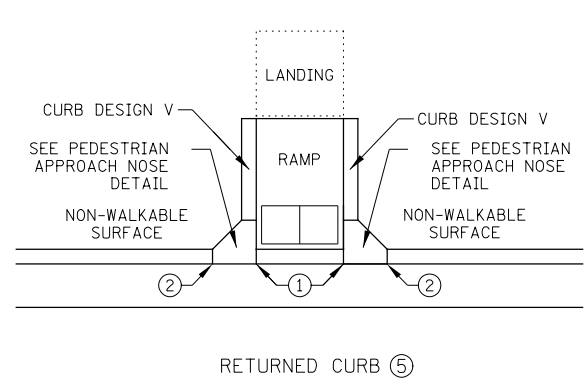
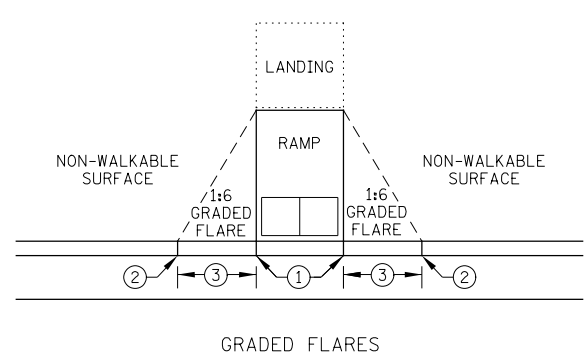
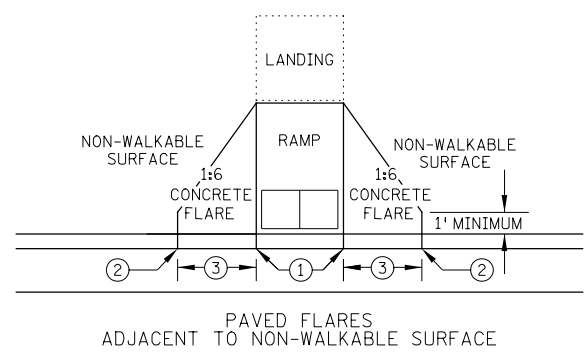
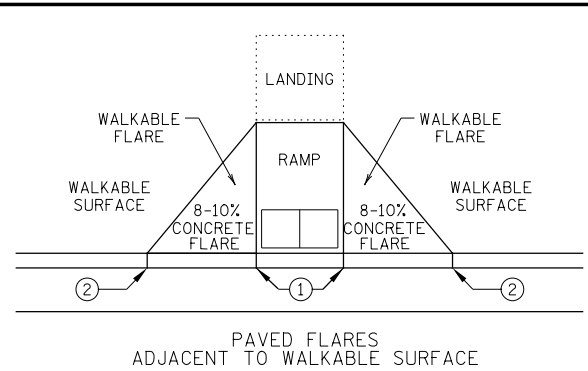
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STATE PROJECT NO. 002-614-045 106-142-001 CITY OF BLAINE PROJECT NO. 18-09	DRAWN BY	
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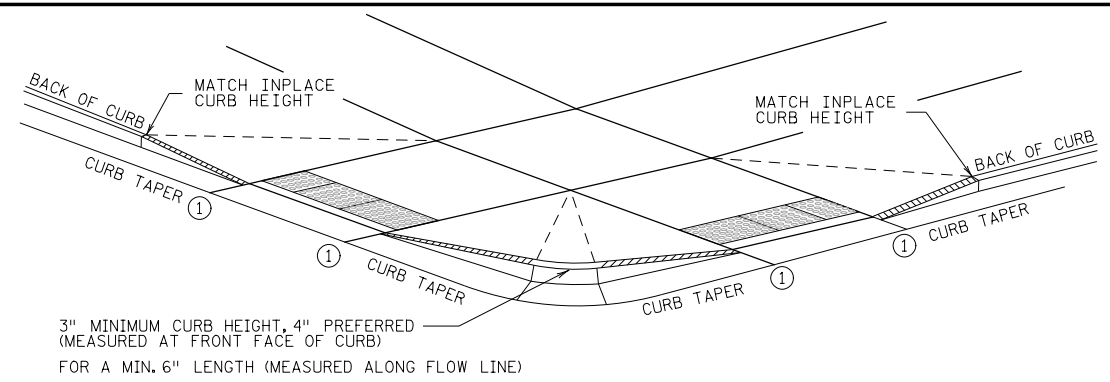
ANOKA COUNTY
STANDARD PLAN SHEETS
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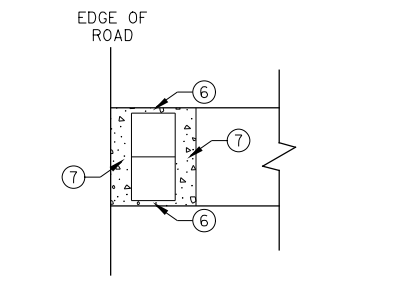
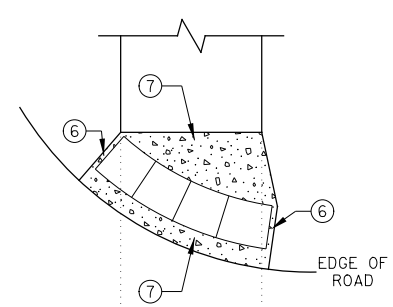


TYPICAL SIDE TREATMENT OPTIONS ④ ⑪

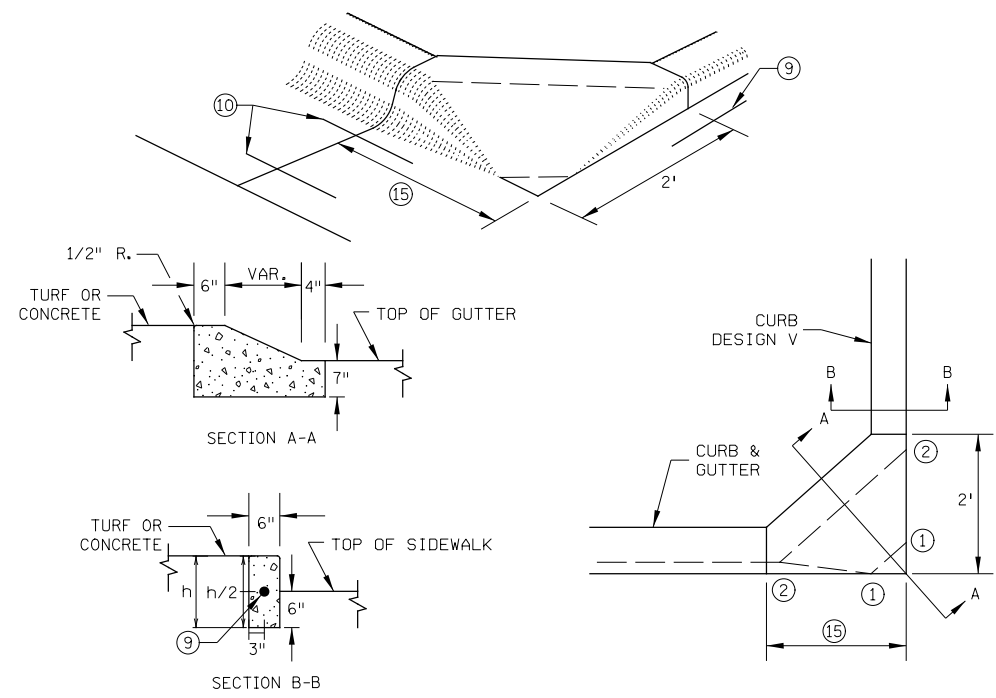
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APPROVED: JANUARY 23, 2017
<i>[Signature]</i> OPERATIONS ENGINEER



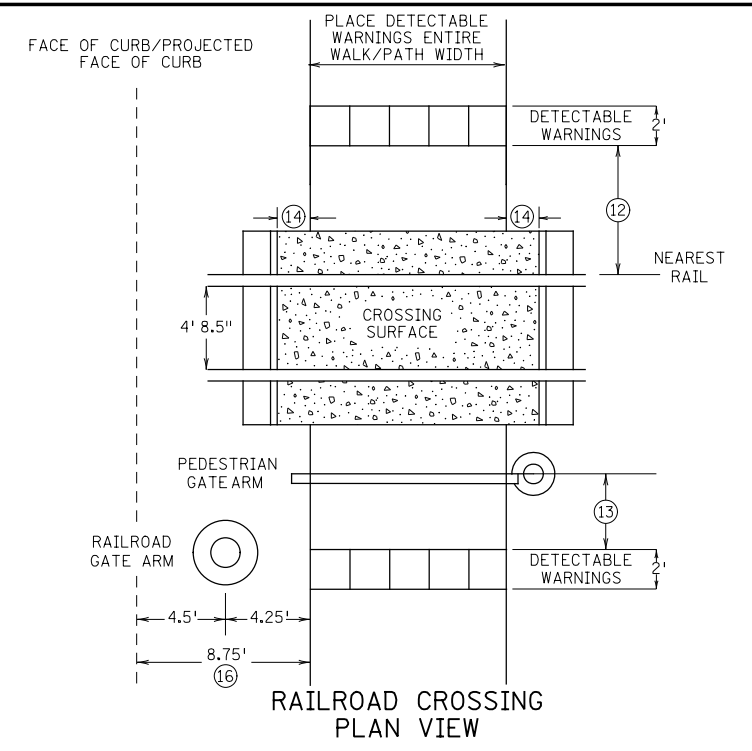
DETECTABLE EDGE WITH ⑧
CURB AND GUTTER



DETECTABLE EDGE WITHOUT CURB AND GUTTER



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



- 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 RAMPS 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.

	STANDARD PLAN 5-297.250	4 OF 6
	APPROVED: 1-23-2017 REVISED:	
DEPARTMENT OF TRANSPORTATION STATE DESIGN ENGINEER		

PEDESTRIAN CURB RAMP DETAILS

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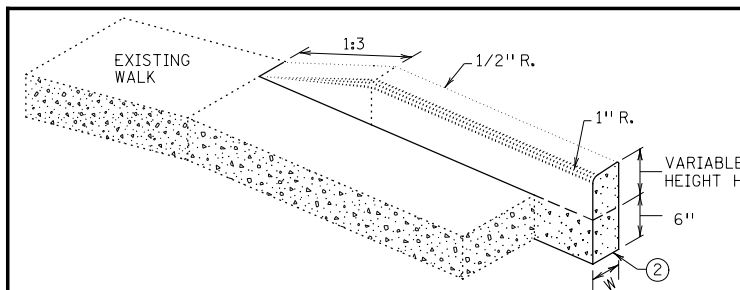
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STATE PROJECT NO. 002-614-045 106-142-001	DRAWN BY
CITY OF BLAINE PROJECT NO. 18-09	DESIGNED BY
	CHECKED BY
	COMM. NO. 1811762

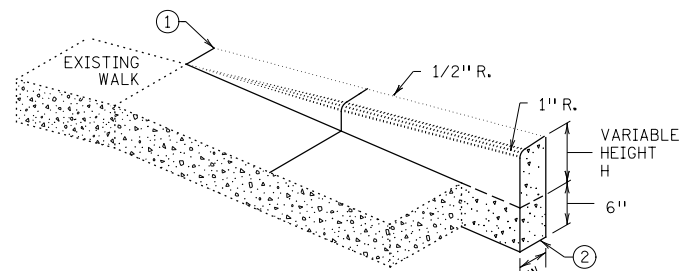


ANOKA COUNTY
STANDARD PLAN SHEETS
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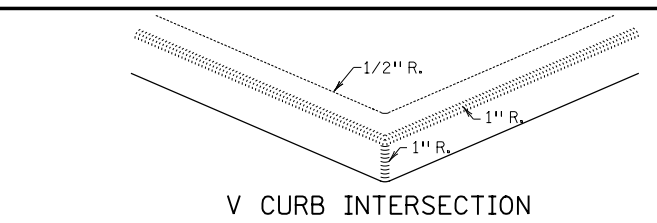
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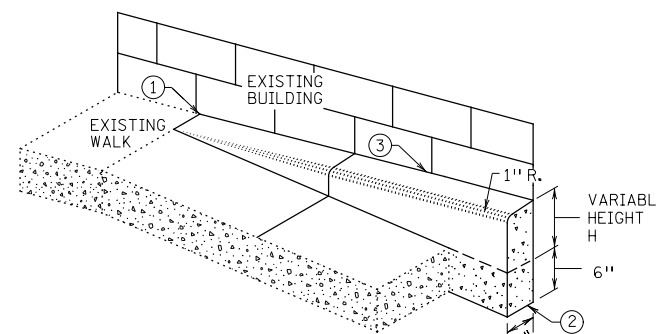
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

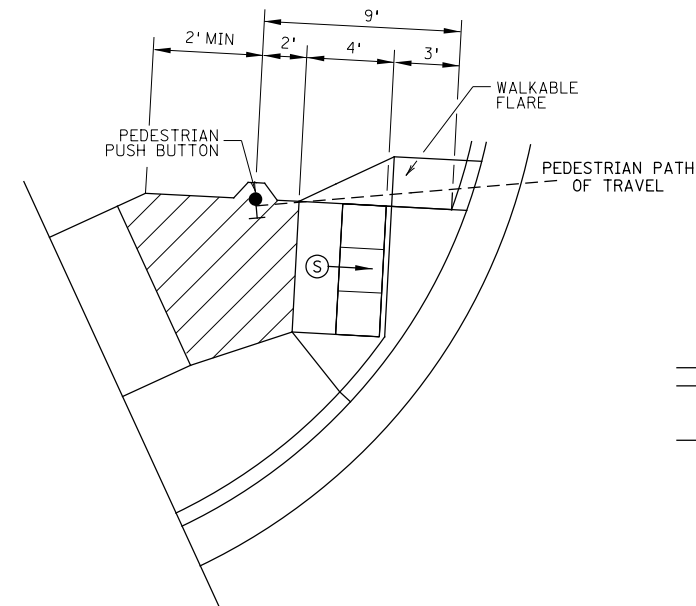


V CURB INTERSECTION



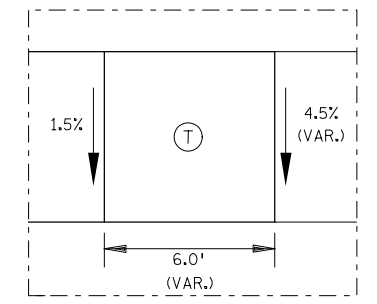
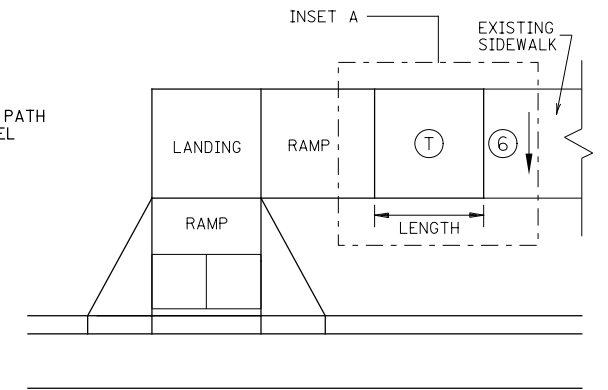
V CURB ADJACENT TO BUILDING
OR BARRIER

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

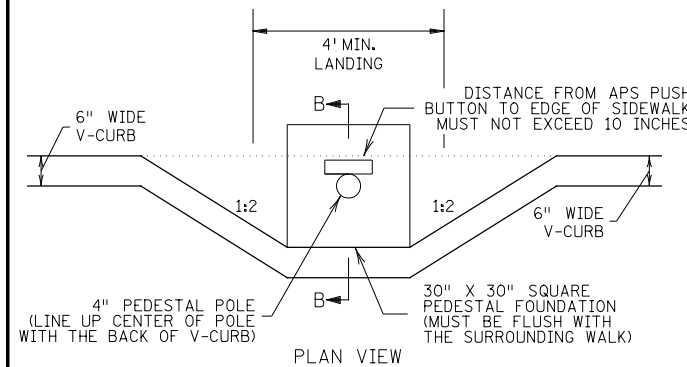


SEMI-DIRECTIONAL RAMP (3,4,9)

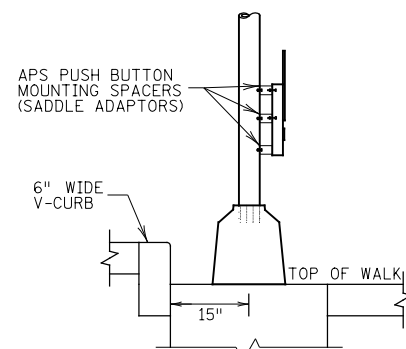
3' DOME SETBACK, 4' LONG RAMP AND
PUSH BUTTON 9' FROM THE BACK OF CURB
PRIMARILY USED FOR APS APPLICATIONS
WHERE THE PAR DOES NOT CONTINUE PAST
THE PUSH BUTTON (DEAD-END SIDEWALK)



TRANSITION PANEL (4,5)

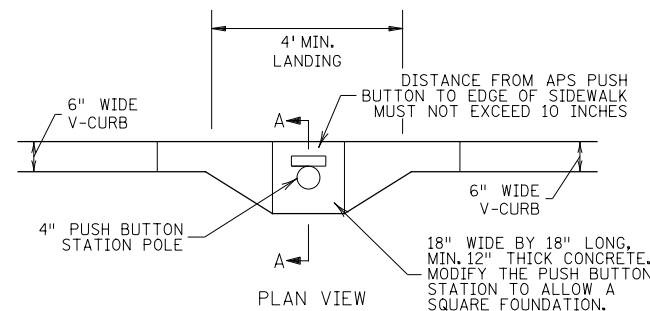


PLAN VIEW

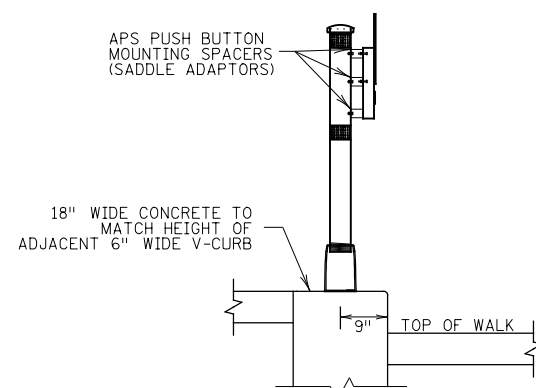


SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



PLAN VIEW



SECTION A-A

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.

REVISION:
APPROVED: JANUARY 23, 2017
<i>[Signature]</i> OPERATIONS ENGINEER

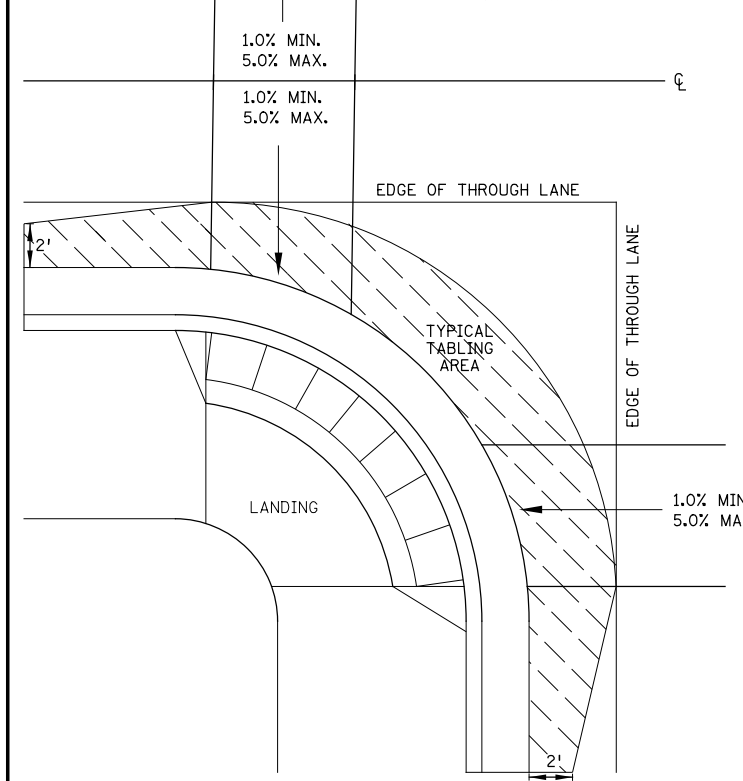
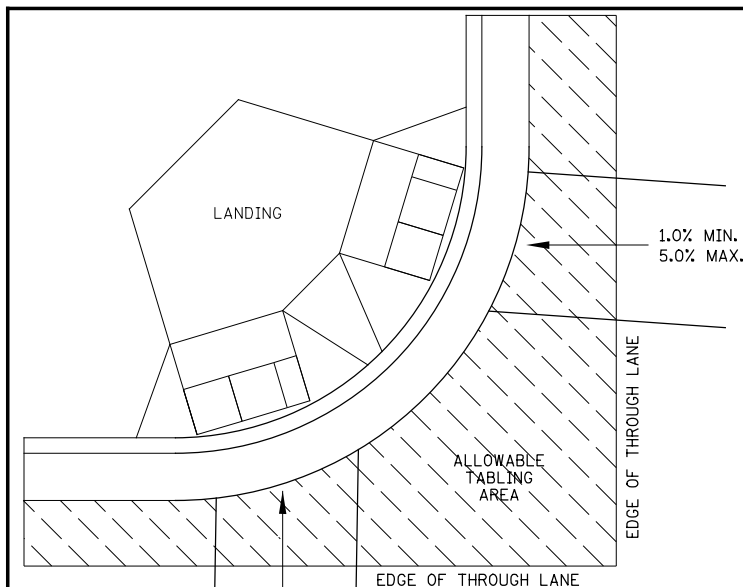
	STANDARD PLAN 5-297.250	5 OF 6
	APPROVED: 1-23-2017 REVISED:	
DEPARTMENT OF TRANSPORTATION STATE DESIGN ENGINEER		

PEDESTRIAN CURB RAMP DETAILS

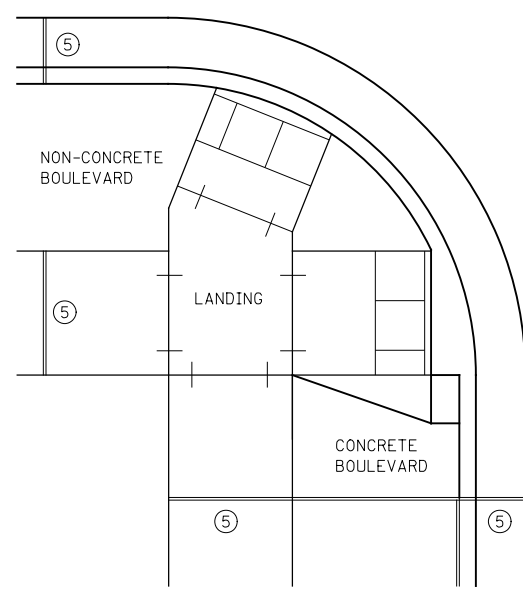
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CITY OF BLAINE PROJECT NO. 18-09	DESIGNED BY	
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	COMM. NO. 1811762	

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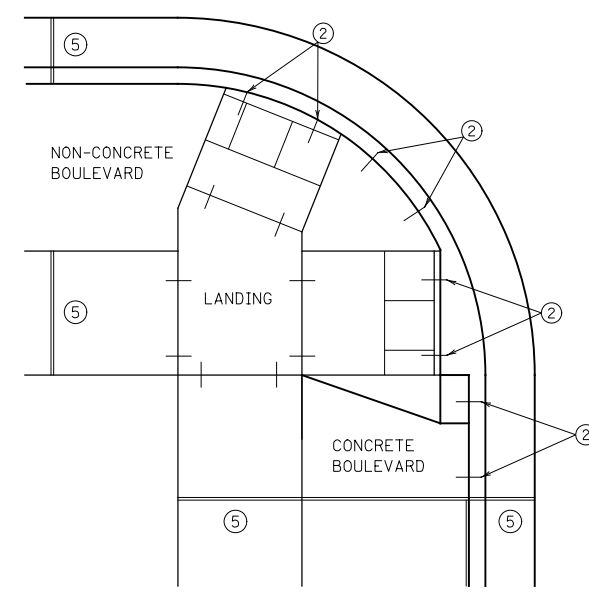
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107



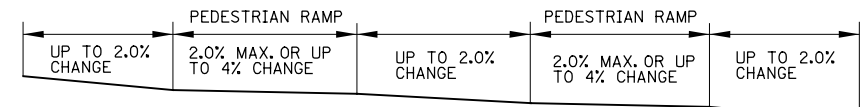
CURB LINE AND ROAD CROSSING ADJUSTMENTS



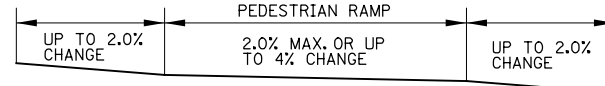
EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS



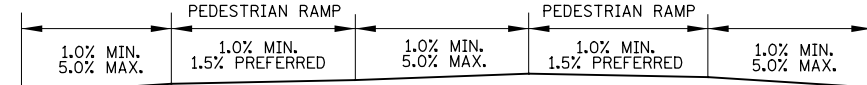
OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS



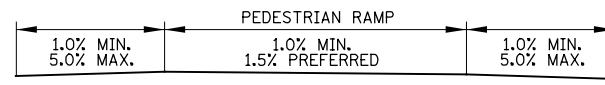
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



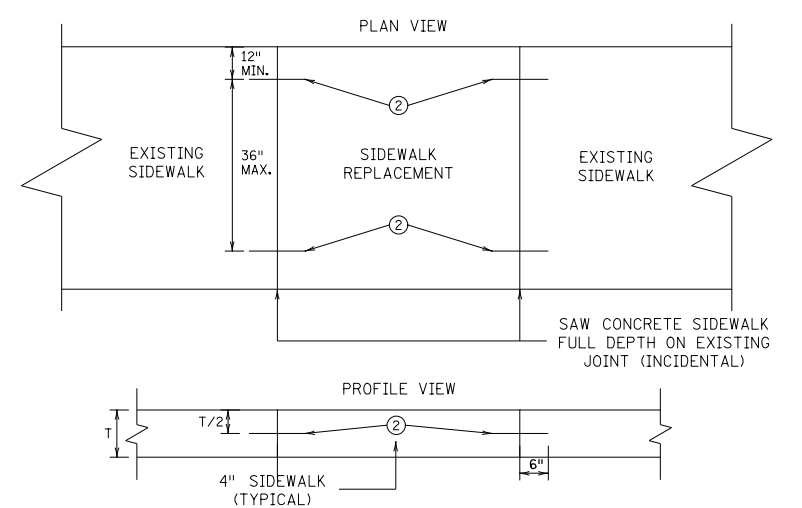
FLOW LINE PROFILE "TABLE" - FAN



FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

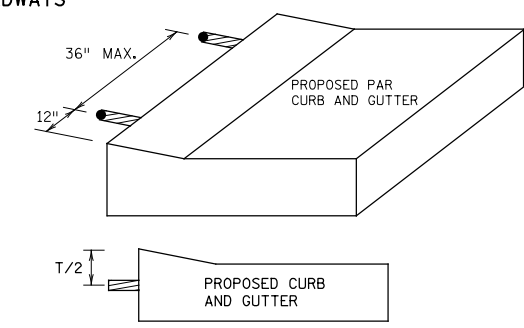


FLOW LINE PROFILE RAISE - FAN

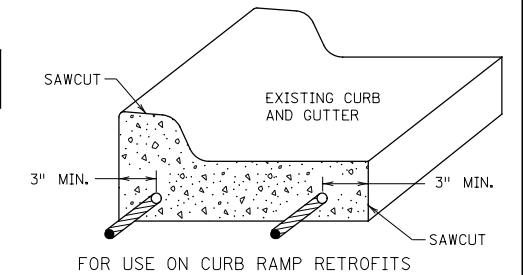


OPTIONAL SIDEWALK REINFORCEMENT

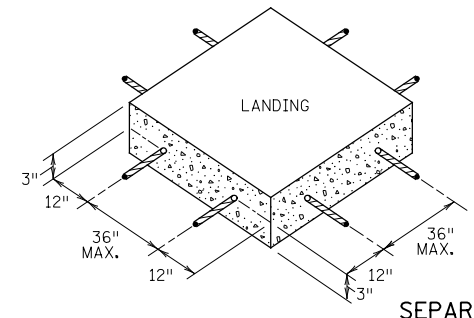
SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



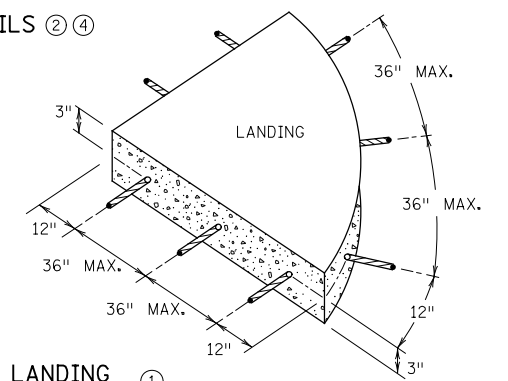
OPTIONAL CURB LINE REINFORCEMENT DETAILS



CURB AND GUTTER REINFORCEMENT



SEPARATE LANDING POUR REINFORCEMENT



"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 RAMPS 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 RAMPS 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.

REVISION:
APPROVED: JANUARY 23, 2017
<i>[Signature]</i> OPERATIONS ENGINEER

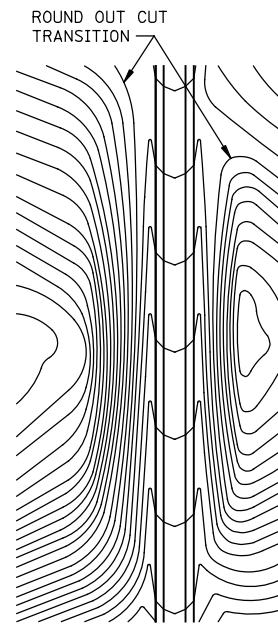
	STANDARD PLAN 5-297.250	6 OF 6
	APPROVED: 1-23-2017 REVISED:	
DRAWN BY <i>[Signature]</i> STATE DESIGN ENGINEER		

PEDESTRIAN CURB RAMP DETAILS

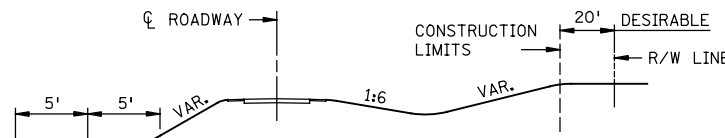
ANOKA COUNTY
STANDARD PLAN SHEETS
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SHEET
19
OF
107

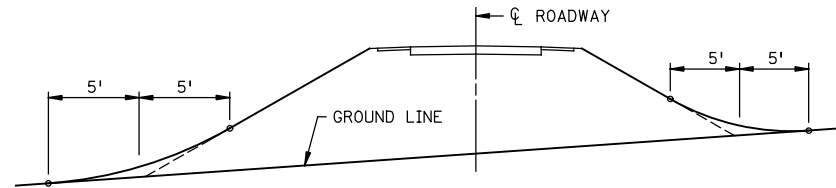
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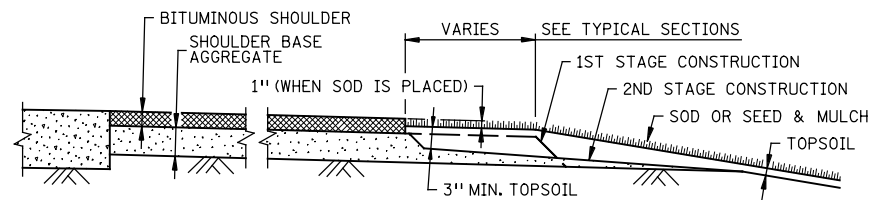
CONTOURING ROAD CUTS



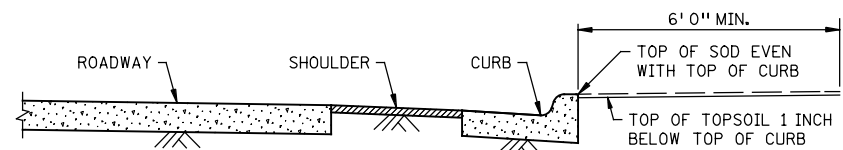
ROUNDING SHOULDERS AND BACKSLOPES



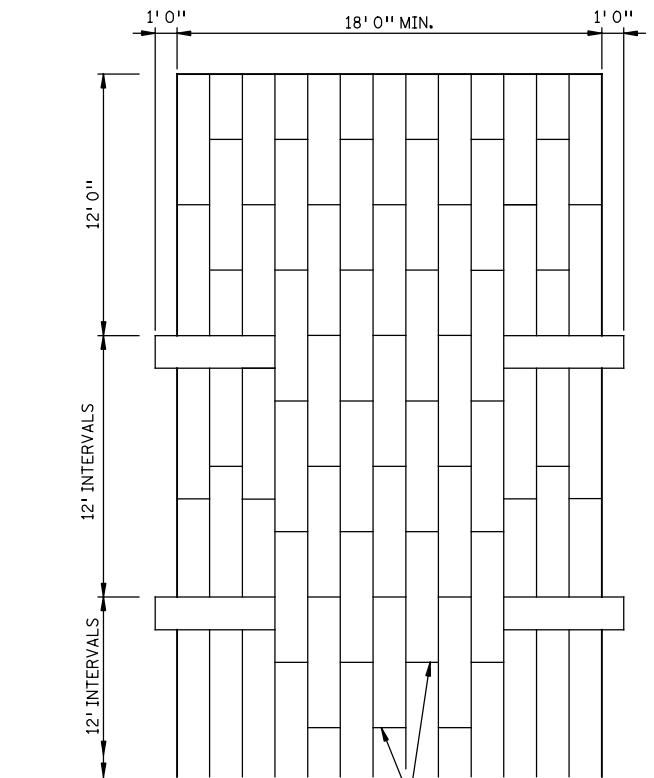
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



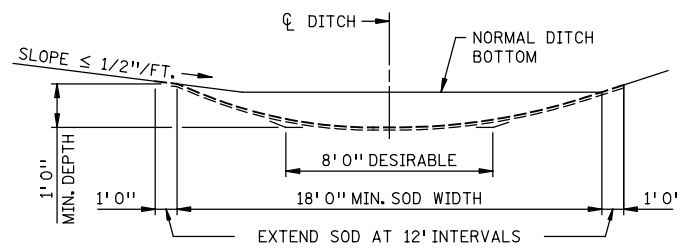
SHAPING AND TOPSOILING INSLOPES



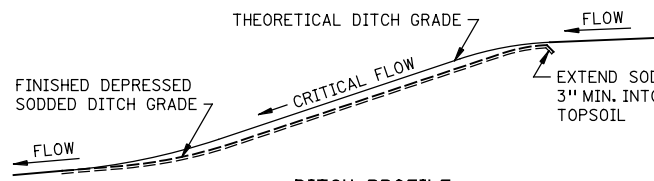
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



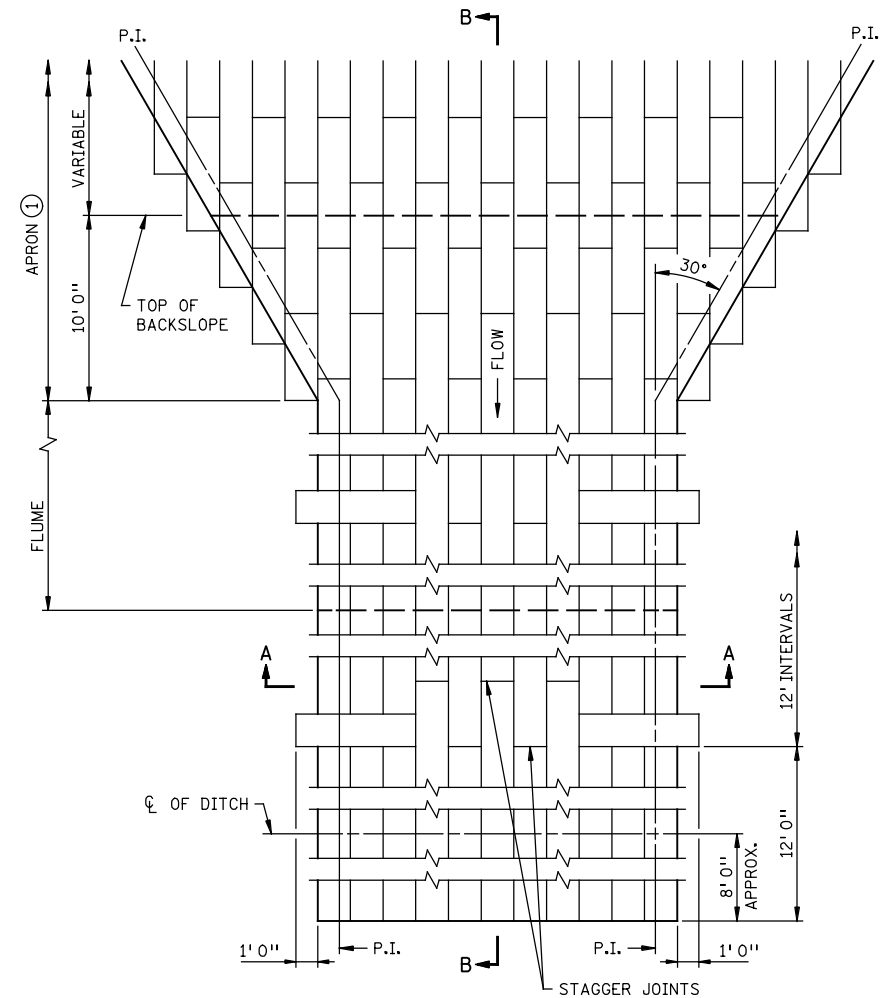
PLAN VIEW



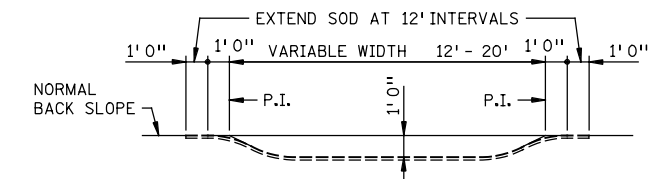
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



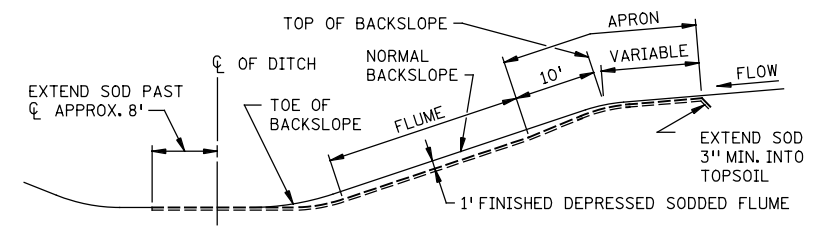
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SODDED FLUME DETAILS

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

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

MINNESOTA STANDARD PLAN 5-297.404 1 OF 3
DEPARTMENT OF TRANSPORTATION
[Signature] APPROVED: 2-28-2017
STATE DESIGN ENGINEER REVISED:

**PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES**

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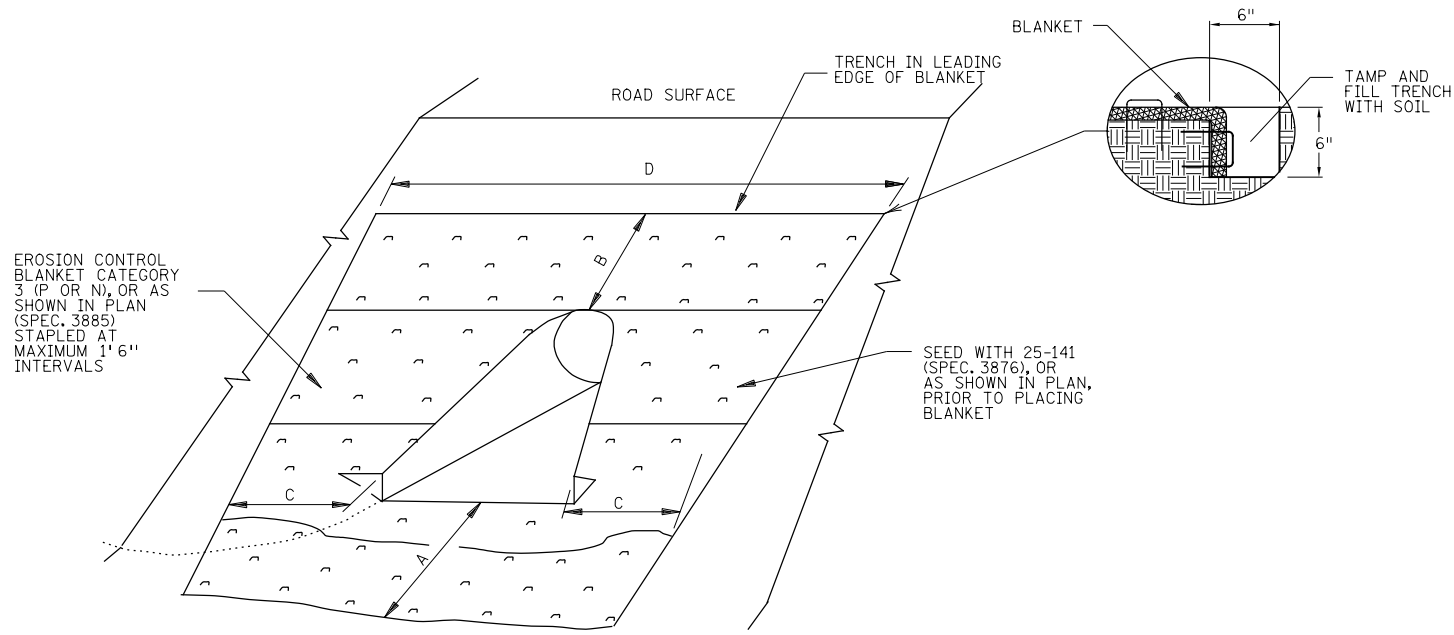
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CITY OF BLAINE PROJECT NO. 18-09
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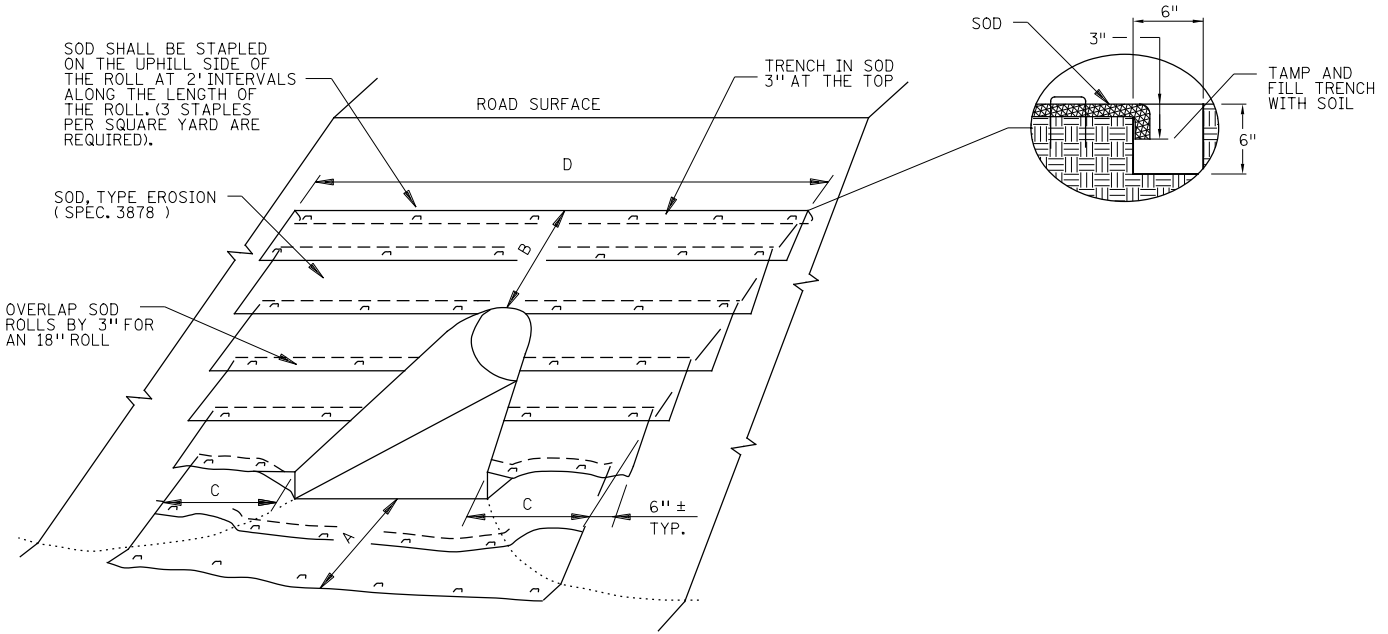
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107**



EROSION CONTROL BLANKET CATEGORY 3 (P OR N), OR AS SHOWN IN PLAN (SPEC. 3885) STAPLED AT MAXIMUM 1'6" INTERVALS

SEED WITH 25-141 (SPEC. 3876), OR AS SHOWN IN PLAN, PRIOR TO PLACING BLANKET

EROSION CONTROL BLANKET & SEED DETAIL



SOD SHALL BE STAPLED ON THE UPHILL SIDE OF THE ROLL AT 2' INTERVALS ALONG THE LENGTH OF THE ROLL. (3 STAPLES PER SQUARE YARD ARE REQUIRED).

SOD, TYPE EROSION (SPEC. 3878)

OVERLAP SOD ROLLS BY 3" FOR AN 18" ROLL

SODDING DETAIL

CULVERT DIAMETER ②	SOD OR EROSION CONTROL BLANKET (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				
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 EROSION CONTROL BLANKET (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				
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:

- 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.
- 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.)

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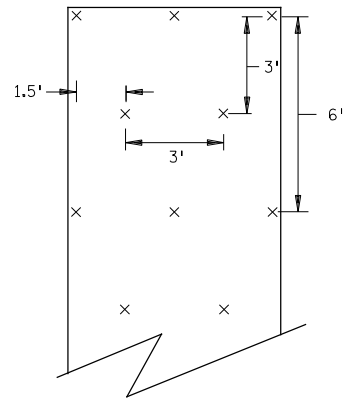
m MINNESOTA STANDARD PLAN 5-297.404 2 OF 3
DEPARTMENT OF TRANSPORTATION
APPROVED: 2-28-2017
REVISOR:
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STATE DESIGN ENGINEER

PERMANENT EROSION CONTROL
TURF ESTABLISHMENT DETAIL AT CULVERT ENDS

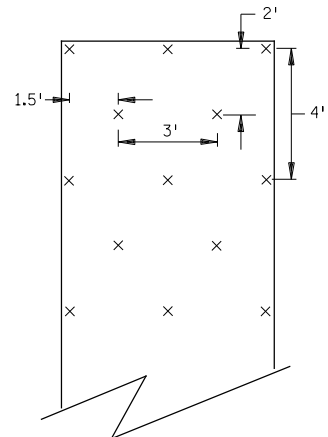
STATE PROJECT NO. 002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO. 18-09
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ANOKA COUNTY
STANDARD PLAN SHEETS
CSAH 14 RECONSTRUCTION
SHEET 21 OF 107

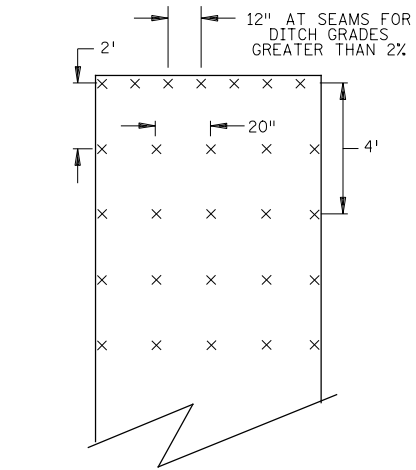
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SLOPES FLATTER THAN 1:2
(120 STAPLES PER 100 SQ YD)

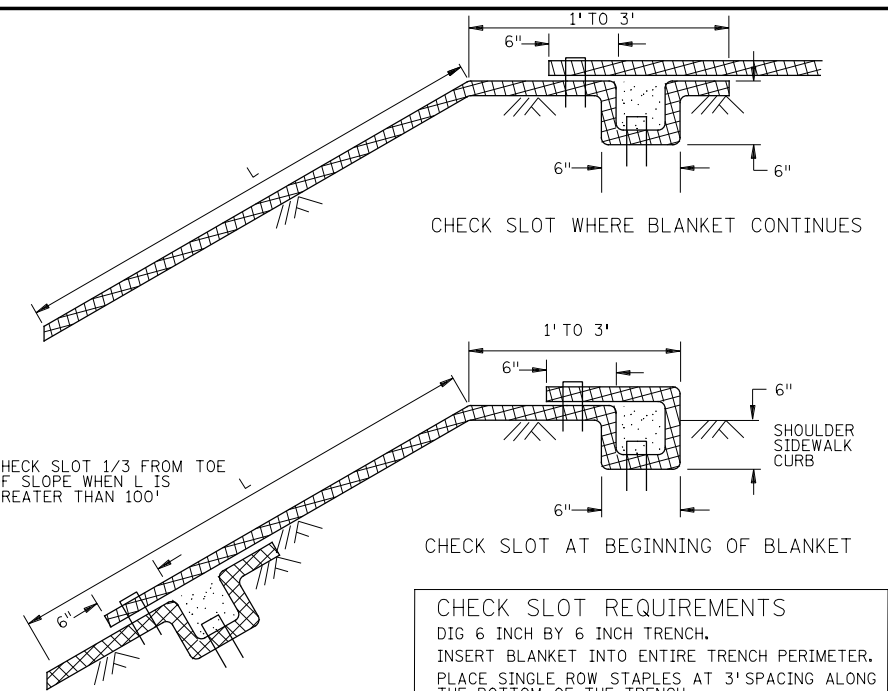


SLOPES 1:2 TO 1:1
(170 STAPLES PER 100 SQ YD)

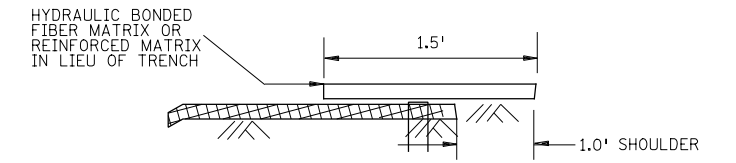


CHANNEL AND DITCH APPLICATIONS
(350 STAPLES PER 100 SQ YD)

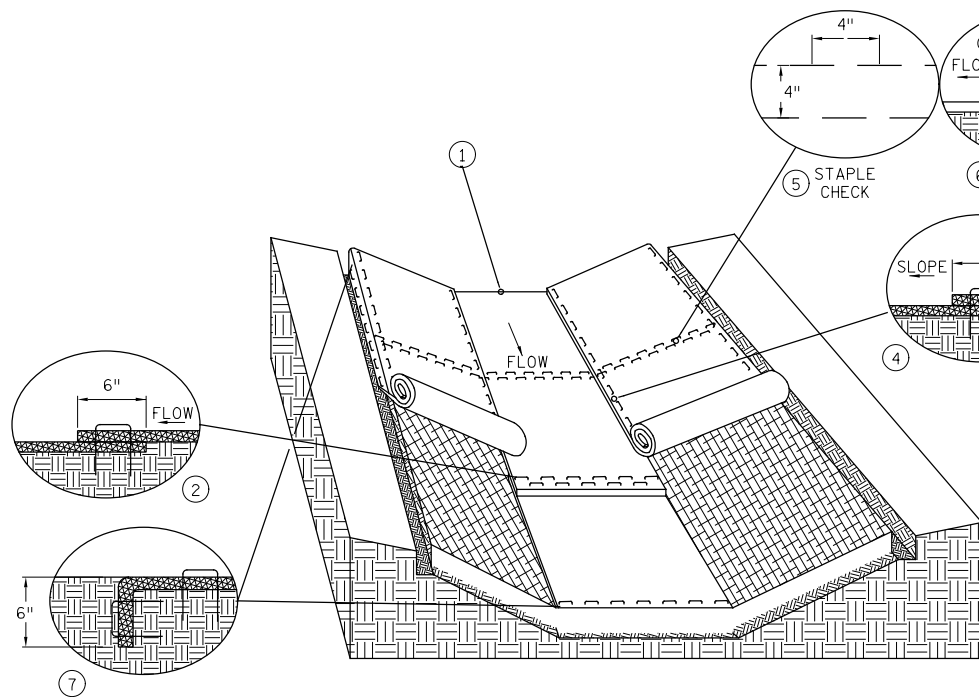
BLANKET STAPLE PATTERN



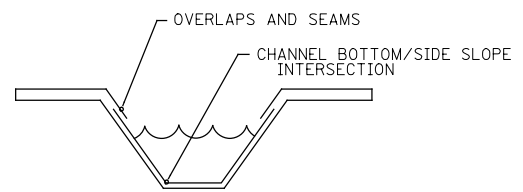
CHECK SLOT REQUIREMENTS
DIG 6 INCH BY 6 INCH TRENCH.
INSERT BLANKET INTO ENTIRE TRENCH PERIMETER.
PLACE SINGLE ROW STAPLES AT 3' SPACING ALONG THE BOTTOM OF THE TRENCH.
BACKFILL TRENCH WITH SOIL AND TAMP.
PLACE SINGLE ROW STAPLES AT 3' SPACING ON OVERLAP.



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



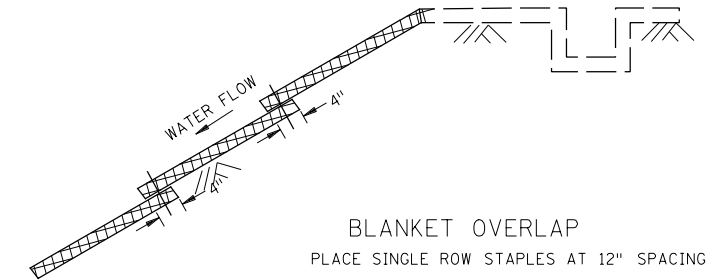
DITCH BLANKET STAPLE DETAIL



DITCH BLANKET CRITICAL POINTS ⑦

DITCH BLANKET STAPLE DETAIL 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 FOOT 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 FT INTERVALS
3%-5% 50 FT INTERVALS
5%-7% 25 FT INTERVALS
- ⑦ CRITICAL POINTS SHALL BE SECURED WITH PROPER STAPLE PATTERNS.



BLANKET OVERLAP
PLACE SINGLE ROW STAPLES AT 12" SPACING

GENERAL BLANKET INSTALLATION REQUIREMENTS
PREPARE SOIL AS PER SPECIFICATION 2574.
LAY PARALLEL OR PERPENDICULAR TO THE DIRECTION OF WATER FLOW.
OVERLAP ADJACENT STRIP EDGES A MINIMUM OF 4 INCHES.
OVERLAP BLANKET 6" (MIN.) 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.

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	STANDARD PLAN 5-297.404	3 OF 3
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**PERMANENT EROSION CONTROL
BLANKET STAPLE PATTERN FOR SLOPES**

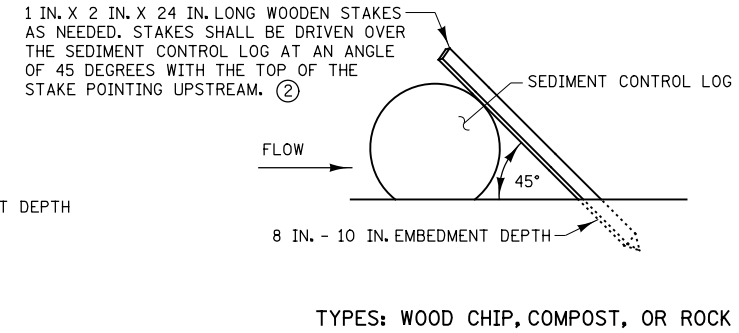
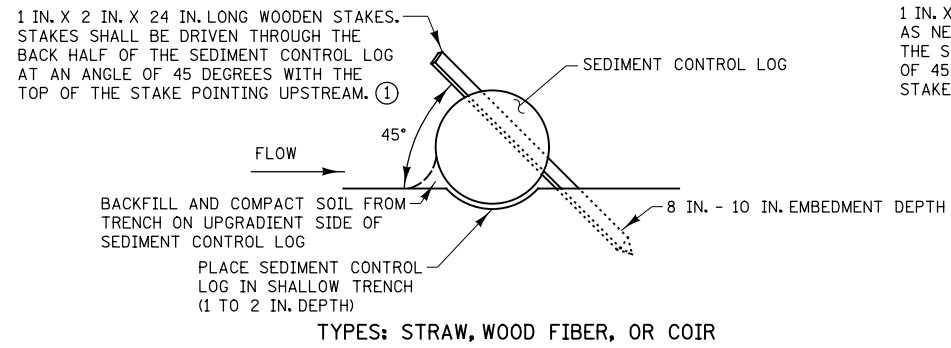
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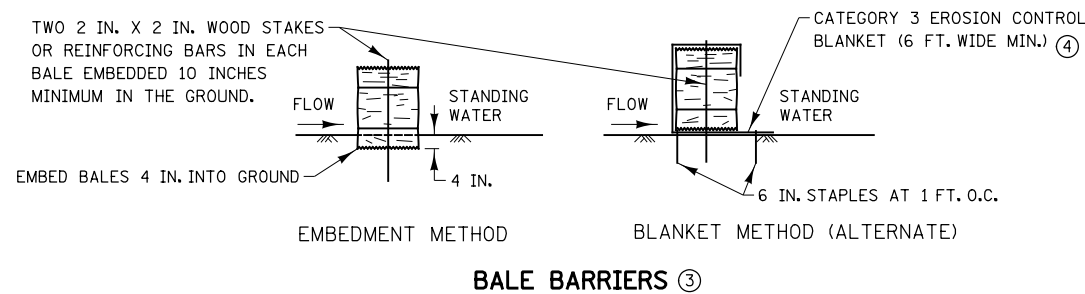
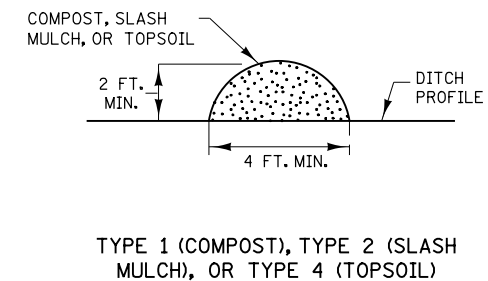
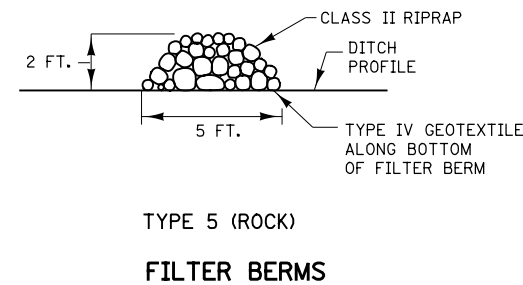
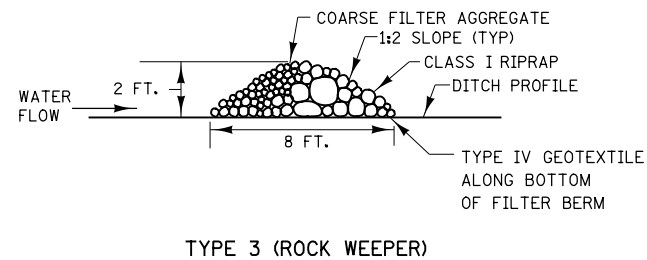
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SEDIMENT CONTROL LOGS



NOTES:

- SEE SPECS. 2573, 3149, 3874, 3882, 3886, & 3897.
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1 FOOT FOR DITCH CHECKS OR 2 FEET 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 INCH MAX. DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14 IN. X 18 IN. X 36 IN. LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
 - ④ INSTEAD OF TRENCHING, PLACE BALE ON THE BLANKET AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

REVISION:

APPROVED: 2-28-2017

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STANDARD PLAN 5-297.405 2 OF 8

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APPROVED: 2-28-2017
REVISED:

TEMPORARY SEDIMENT CONTROL
FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS

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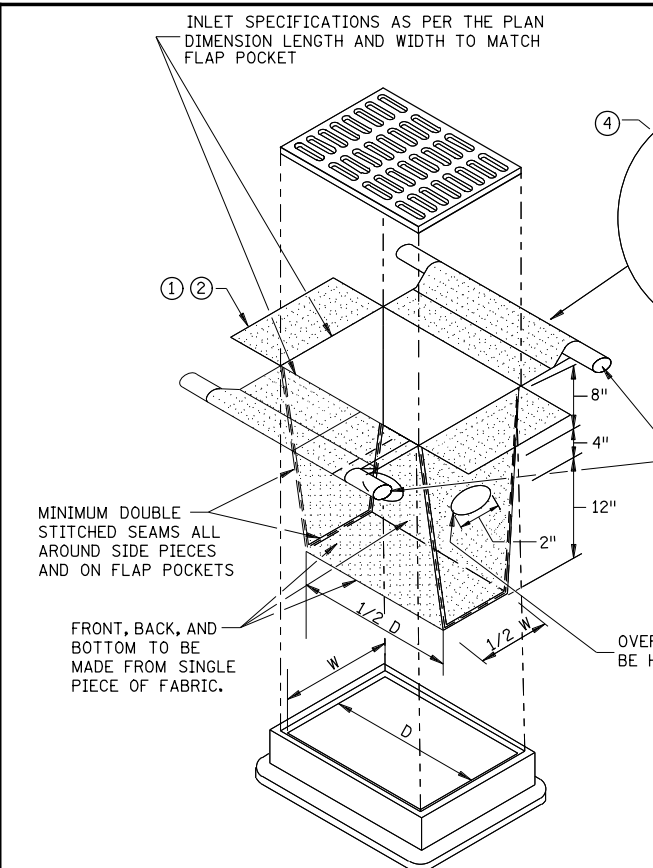
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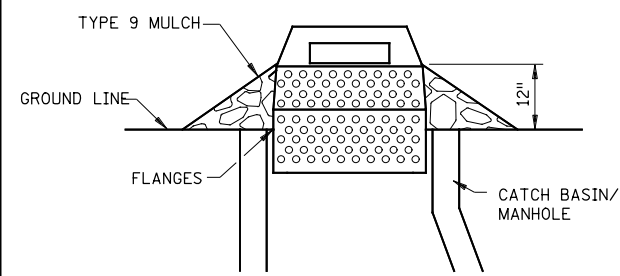


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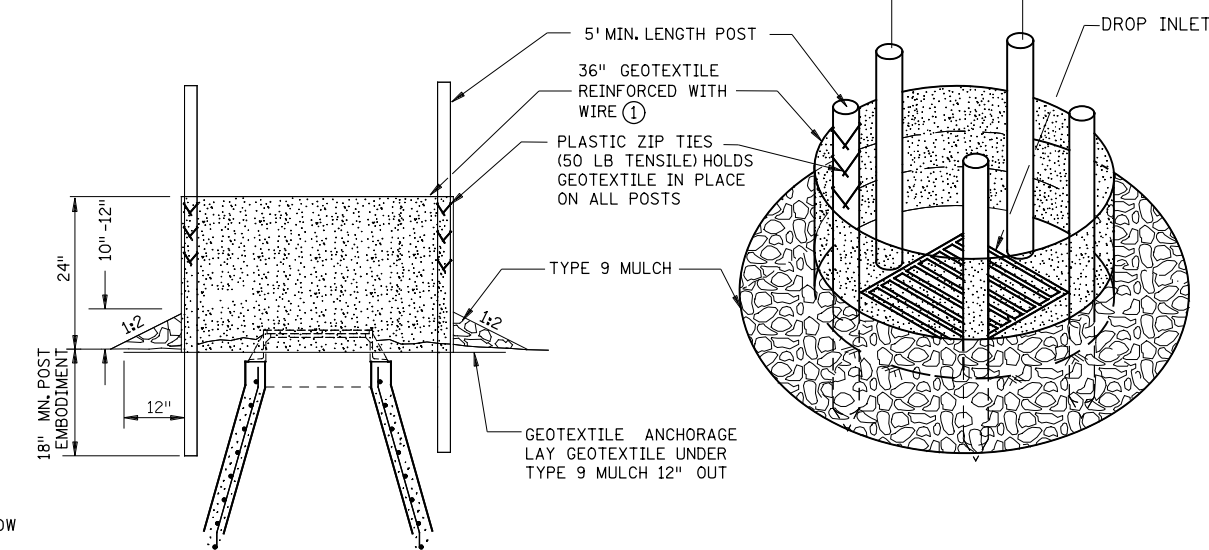


FILTER BAG INSERT ③
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)

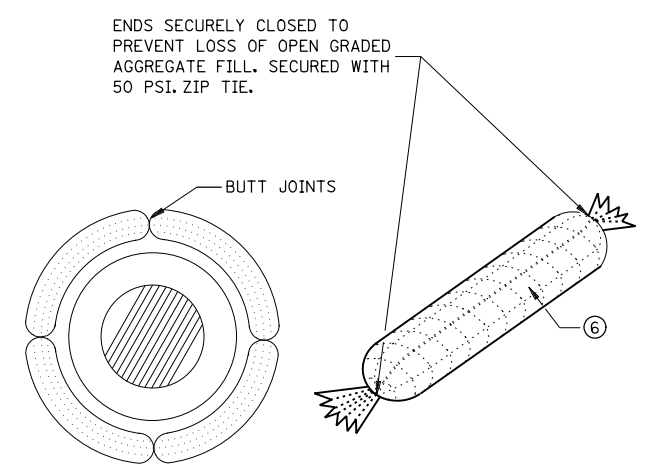


SEDIMENT CONTROL INLET HAT

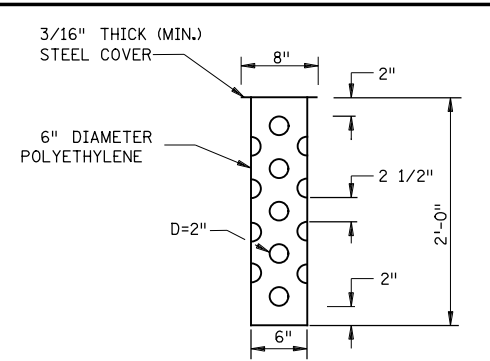
NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



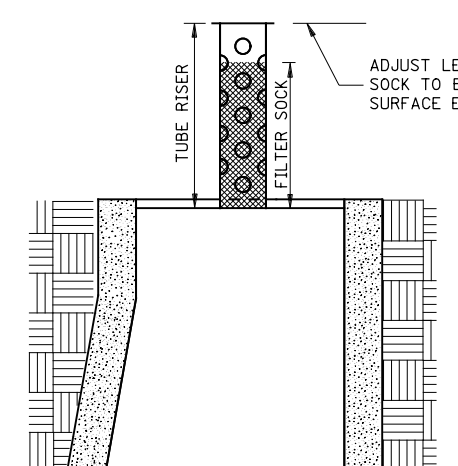
SILT FENCE RING AND ROCK FILTER BERM
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS



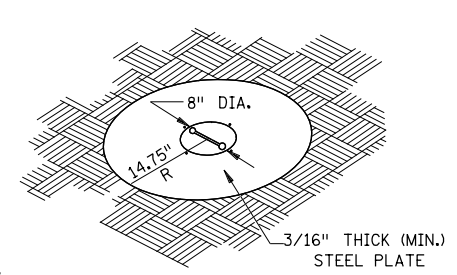
ROCK LOG/COMPOST LOG



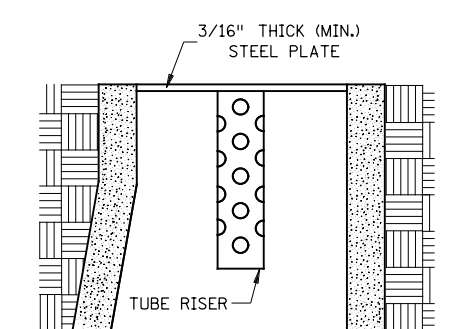
TUBE RISER



SECTION (UP POSITION)

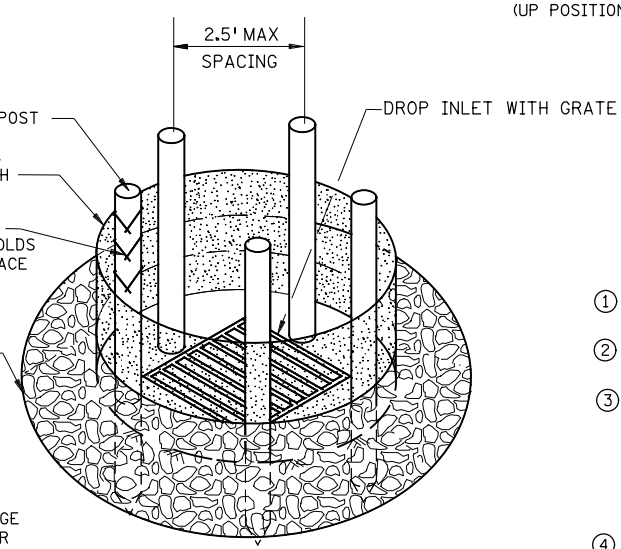


PERSPECTIVE VIEW



SECTION (DOWN POSITION)

POP-UP HEAD



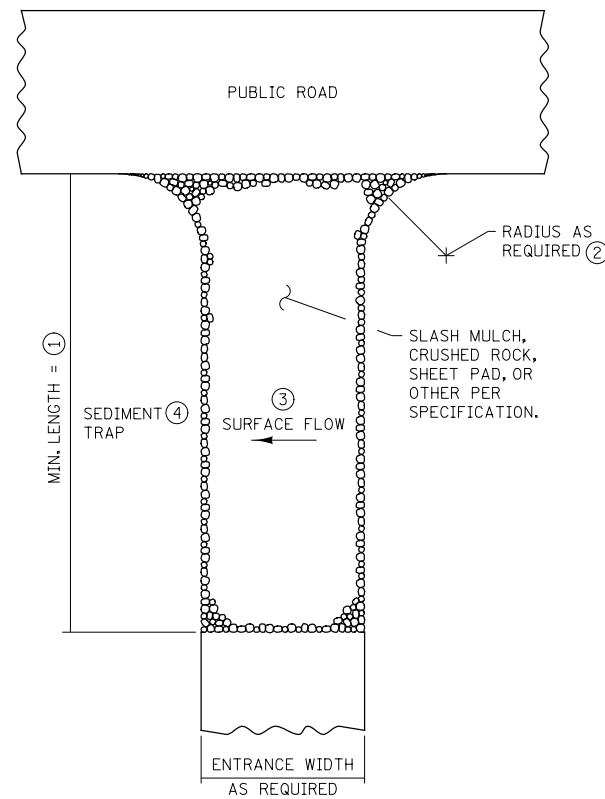
NOTES:

- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ 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.
- ④ 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.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ 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.

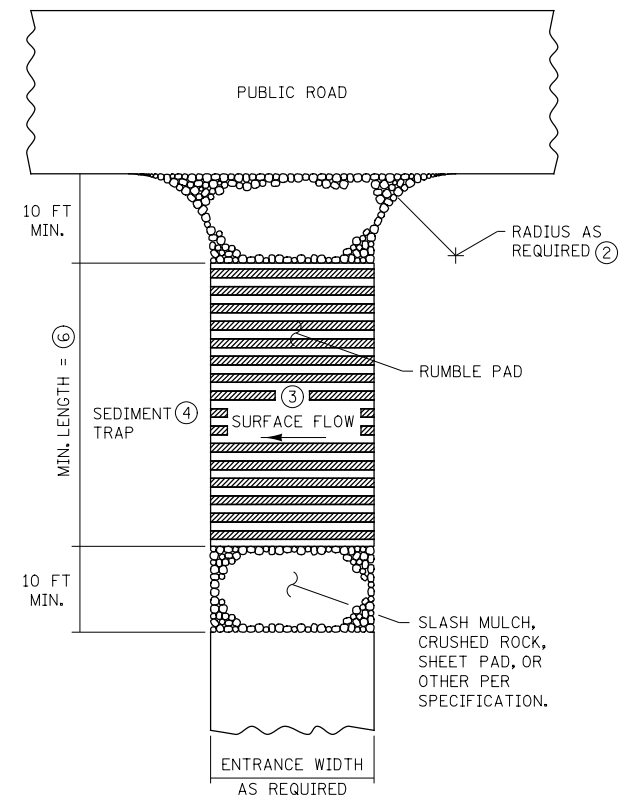
REVISION:
APPROVED: 2-28-2017
<i>[Signature]</i> CHIEF ENVIRONMENTAL OFFICER

m MINNESOTA DEPARTMENT OF TRANSPORTATION	STANDARD PLAN 5-297.405	4 OF 8
	APPROVED: 2-28-2017 REVISID:	
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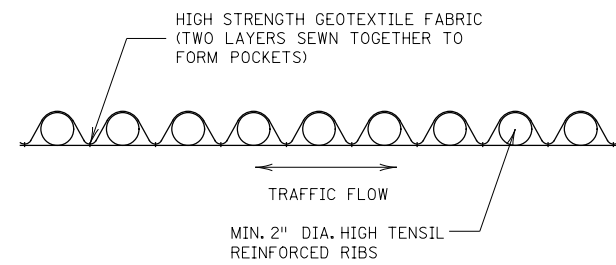
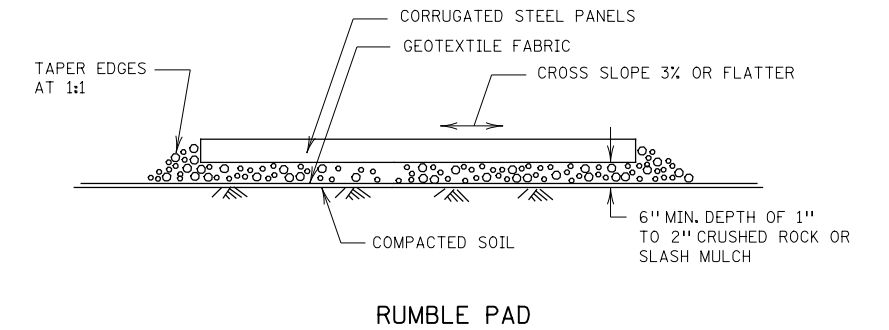
TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION



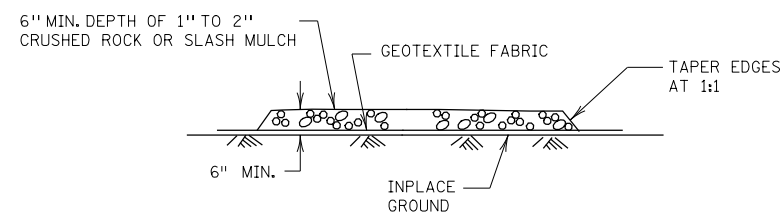
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT 5 7



RUMBLE PAD CONSTRUCTION EXIT 5 7



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.

REVISION:
 APPROVED: 2-28-2017

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 DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.405 5 OF 8
 APPROVED: 2-28-2017
 REVISED:

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**TEMPORARY SEDIMENT CONTROL
 STABILIZED CONSTRUCTION EXIT**

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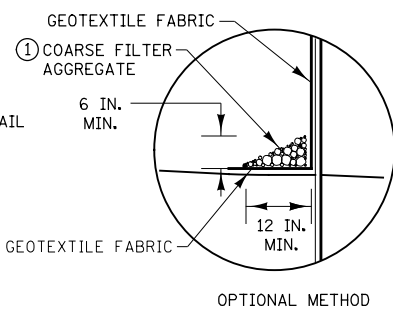
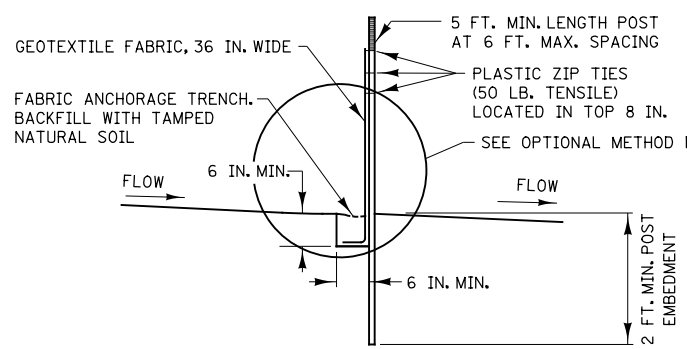
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 CITY OF BLAINE PROJECT NO. 18-09
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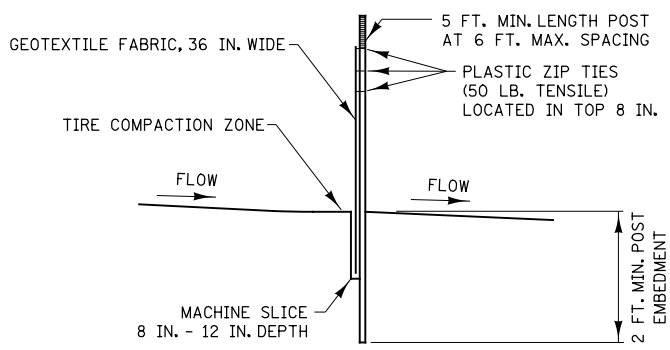


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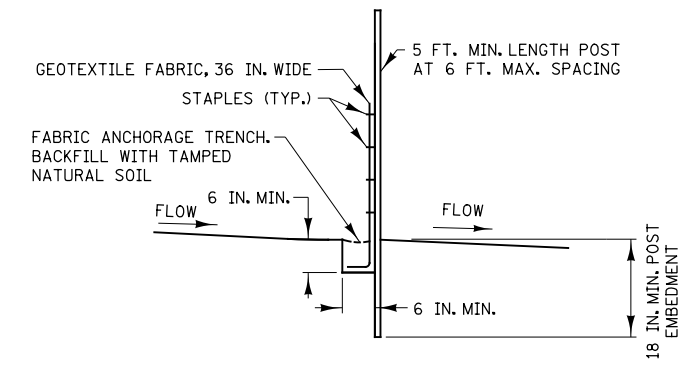
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 107**



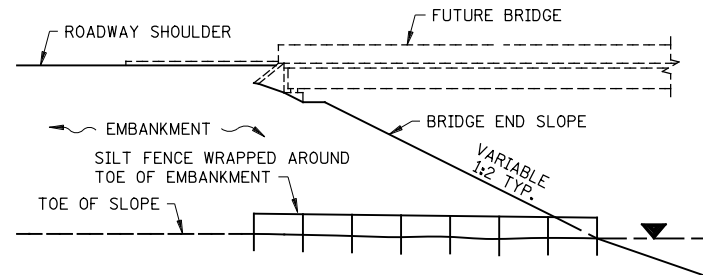
**SILT FENCE TYPE HI ②
(HAND INSTALLED)**



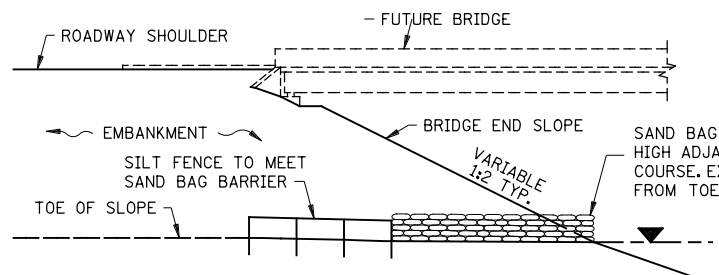
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(MACHINE SLICED)**



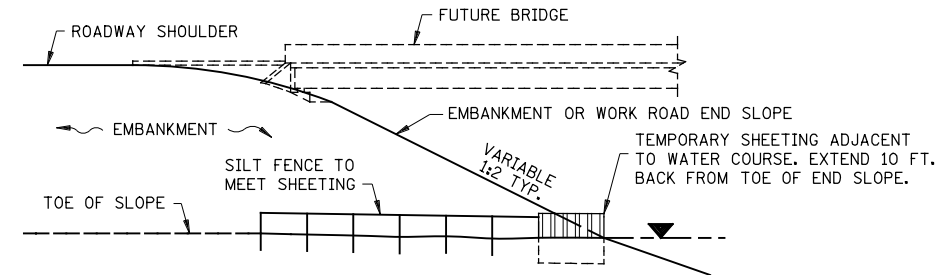
**SILT FENCE TYPE PA ③
(PREASSEMBLED)**



SILT FENCE ONLY ④

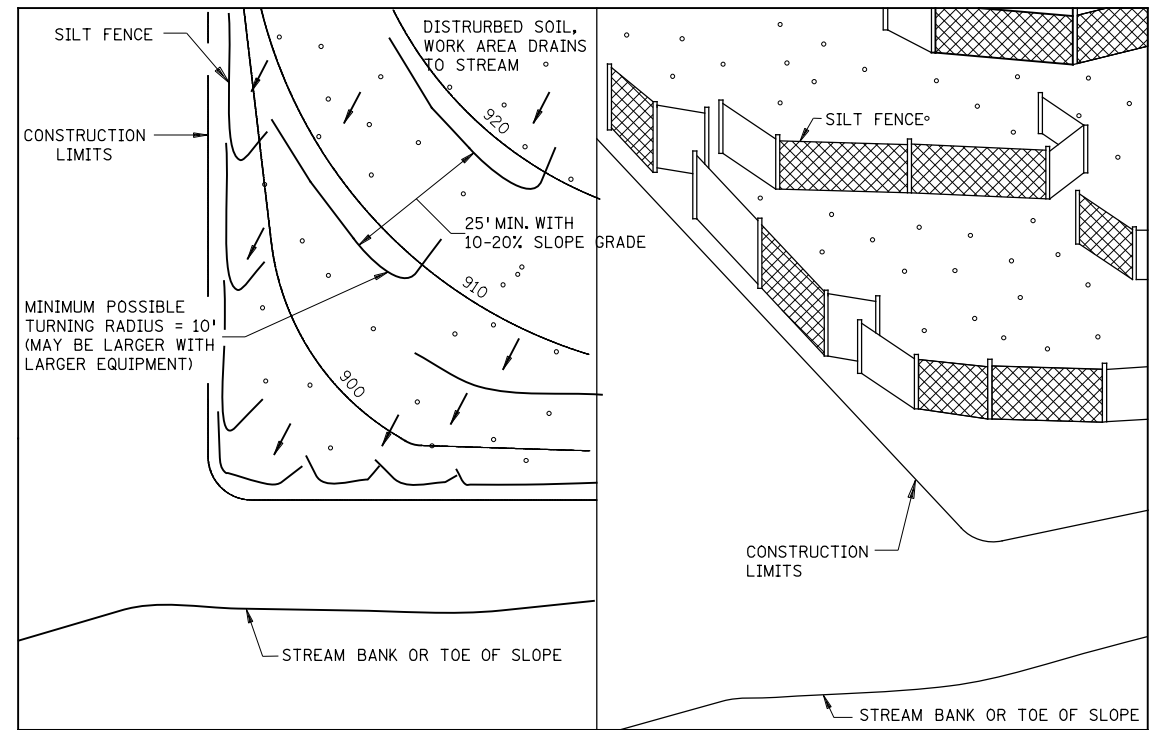


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

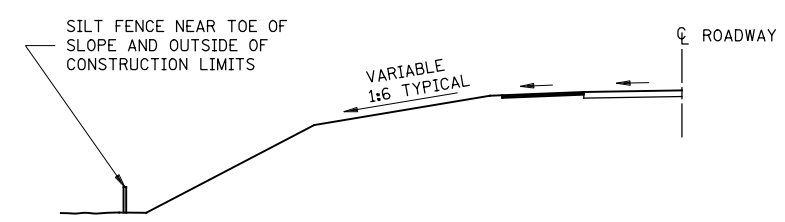
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



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.

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

MINNESOTA
DEPARTMENT OF TRANSPORTATION
STATE DESIGN ENGINEER
STANDARD PLAN 5-297.405 6 OF 8
APPROVED: 2-28-2017
REVISED:

**TEMPORARY SEDIMENT CONTROL
SILT FENCE**

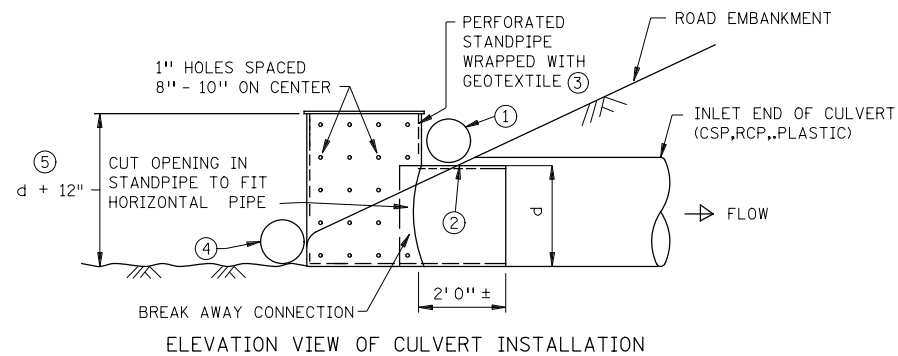
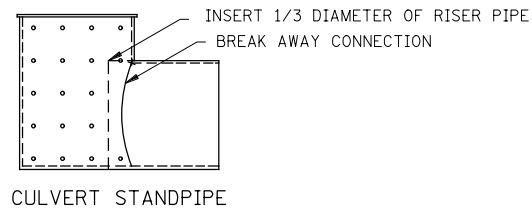
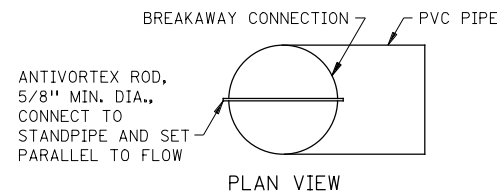
STATE PROJECT NO. 002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO. 18-09
DRAWN BY
DESIGNED BY
CHECKED BY
COMM. NO. 1811762



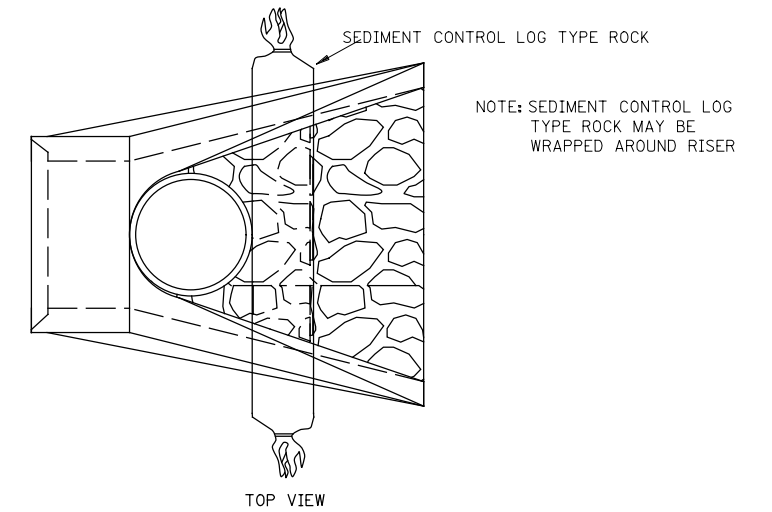
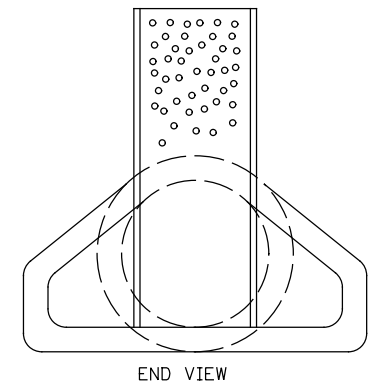
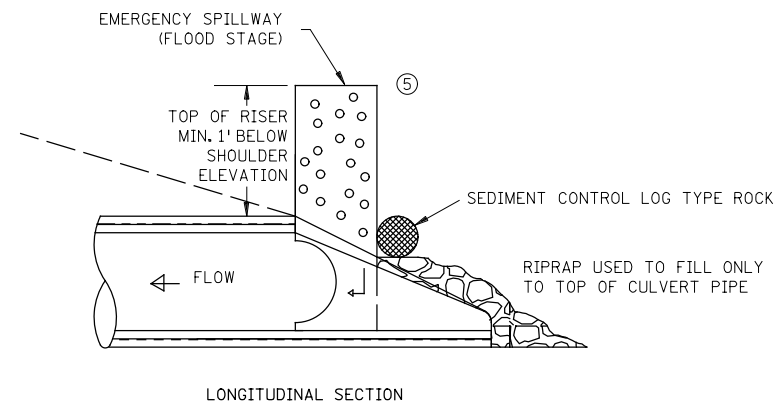
ANOKA COUNTY
STANDARD PLAN SHEETS
CSAH 14 RECONSTRUCTION

SHEET 26 OF 107

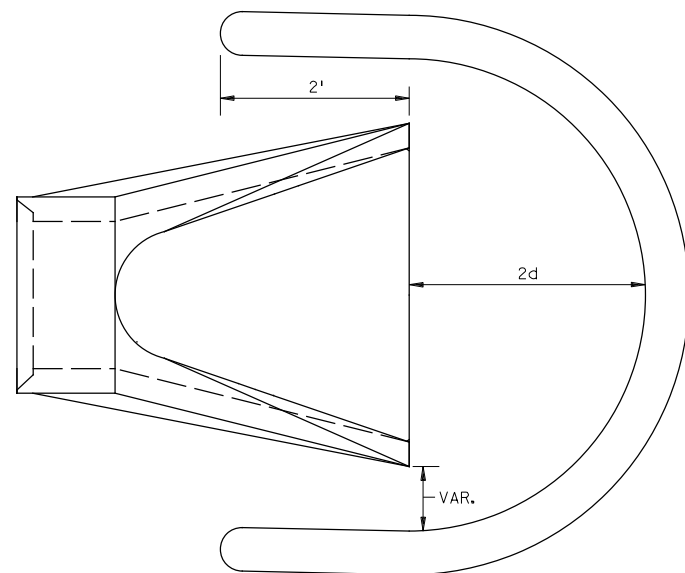
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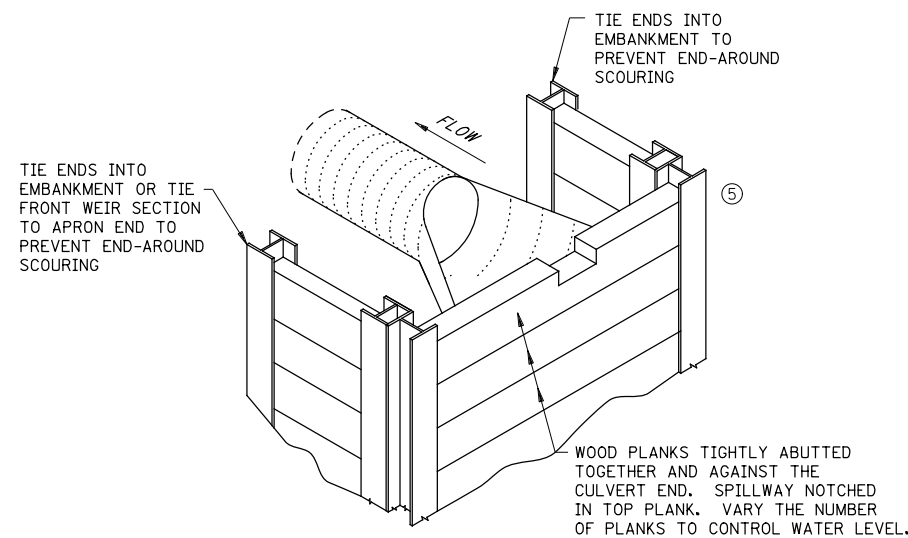
CULVERT STANDPIPE INSERT (D-RISER)
d = CULVERT SIZE: 12" - 36"



CULVERT STANDPIPE INSERT (D-RISER)



SEDIMENT CONTROL LOG WEIR
(COMPOST, WOOD CHIP, OR ROCK)
d = CULVERT SIZE: 12" - 36"



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.

REVISION:
APPROVED: 2-28-2017
<i>[Signature]</i> CHIEF ENVIRONMENTAL OFFICER

m MINNESOTA DEPARTMENT OF TRANSPORTATION	STANDARD PLAN 5-297.405	8 OF 8
	APPROVED: 2-28-2017 REVISED:	
STATE DESIGN ENGINEER		

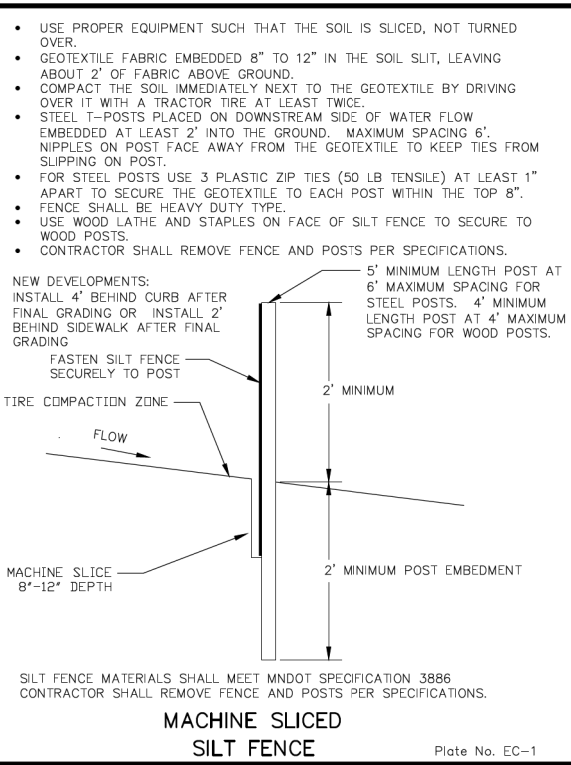
TEMPORARY SEDIMENT CONTROL
CULVERT END CONTROLS

STATE PROJECT NO. 002-614-045 106-142-001	DRAWN BY
CITY OF BLAINE PROJECT NO. 18-09	DESIGNED BY
	CHECKED BY
	COMM. NO. 1811762

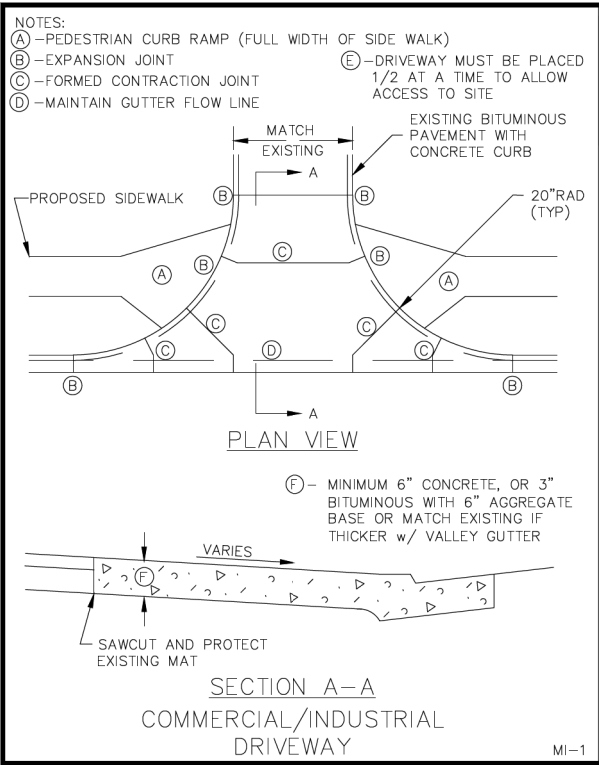


ANOKA COUNTY
STANDARD PLAN SHEETS
CSAH 14 RECONSTRUCTION

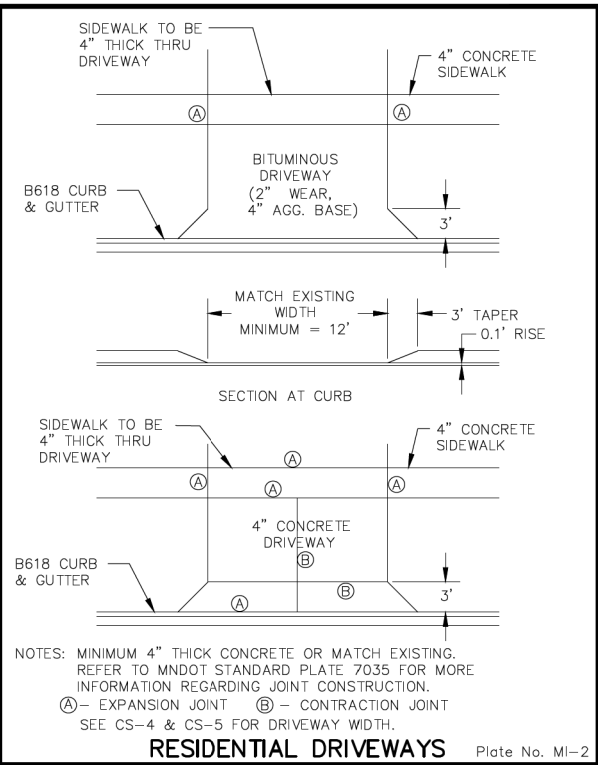
SHEET
27
OF
107



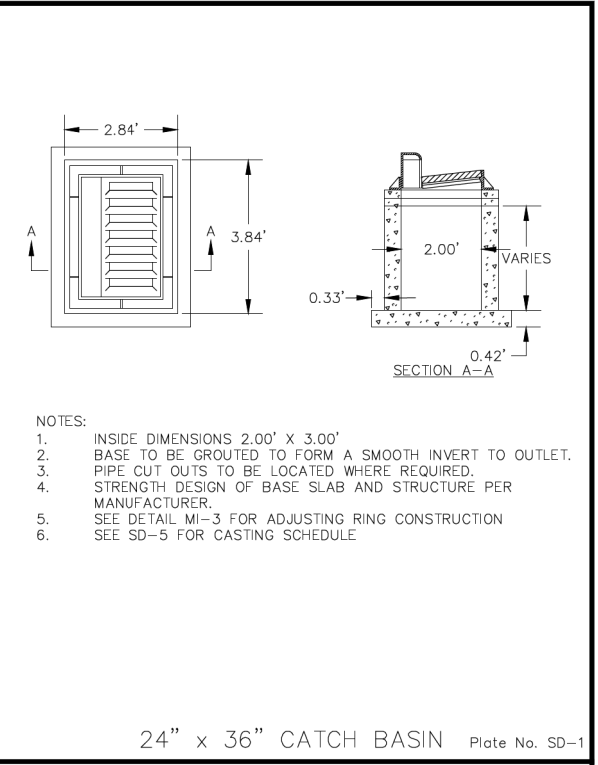
2018 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 (763)785-6172 Fax(763)785-6139



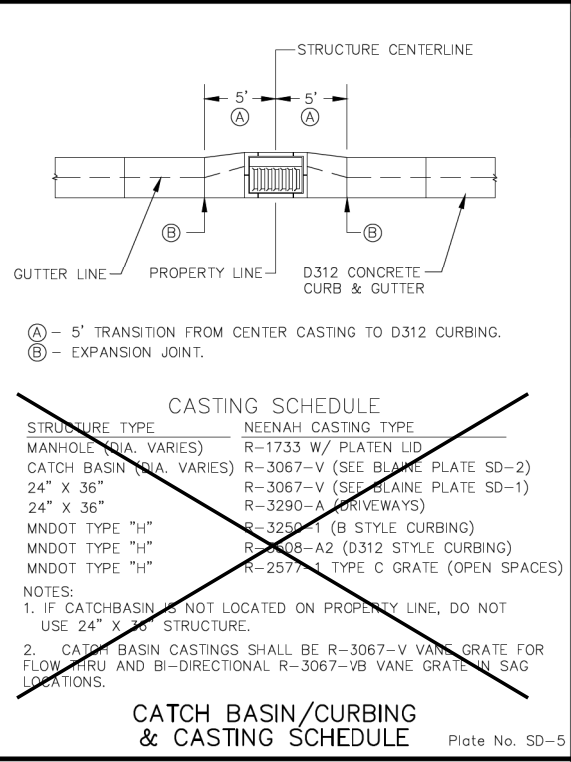
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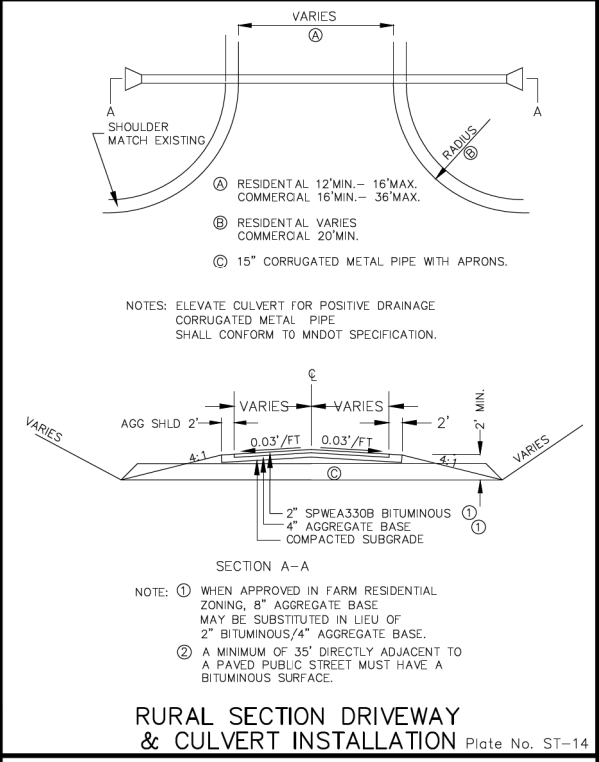
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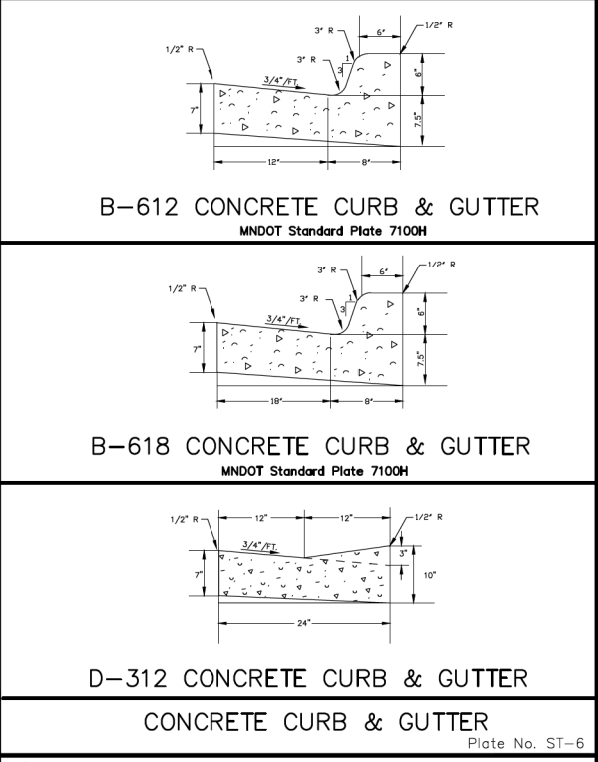
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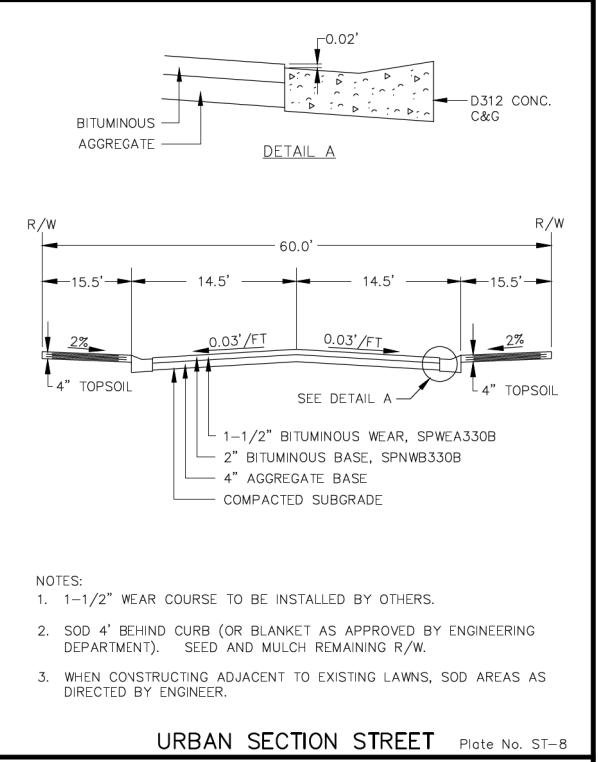
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City of Blaine - Engineering Department
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: BENJAMIN P ROBECK
Ben Robeck
 Date: 03/28/19 License #: 53680

STATE PROJECT NO. 002-614-045
 106-142-001
 CITY OF BLAINE PROJECT NO. 18-09

DRAWN BY S. MARTINS
 DESIGNED BY M. HARDEGGER
 CHECKED BY B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 MISCELLANEOUS DETAILS
 CSAH 14 RECONSTRUCTION

SHEET 28 OF 107

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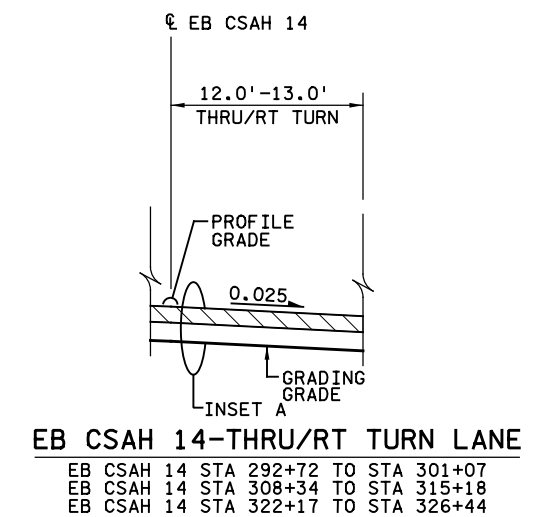
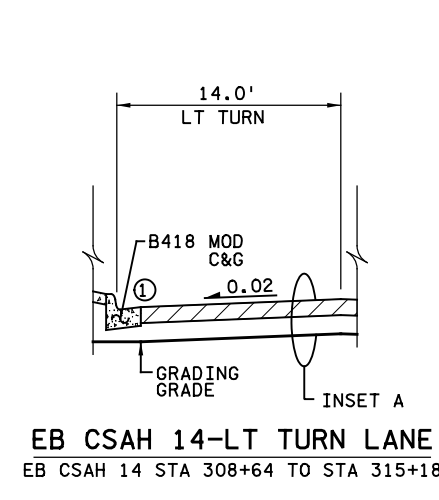
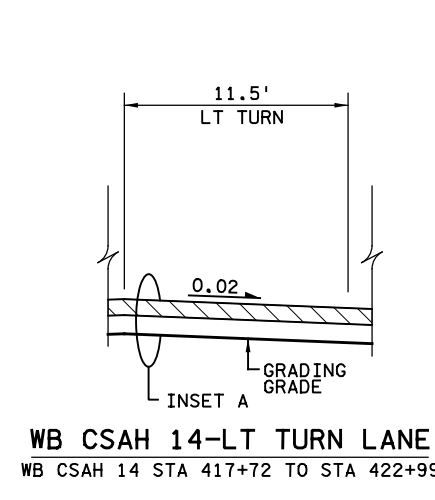
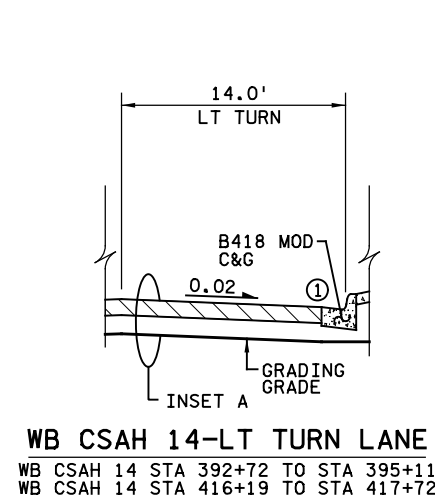
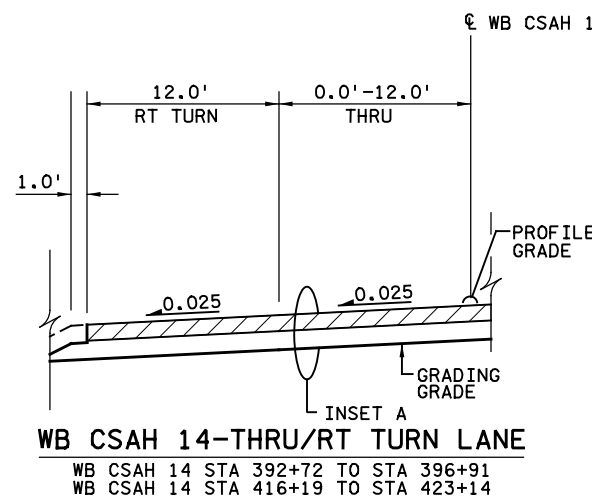
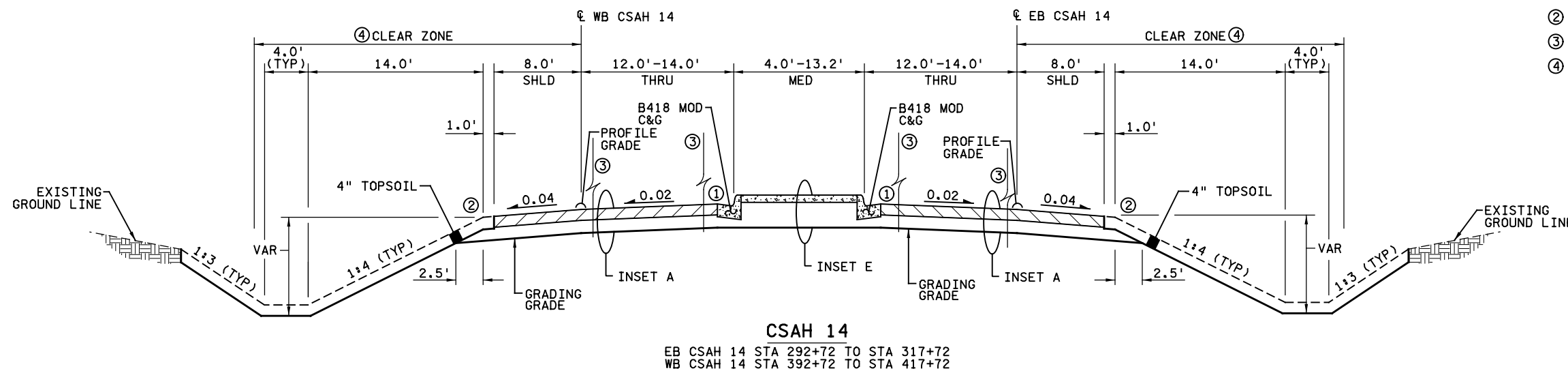
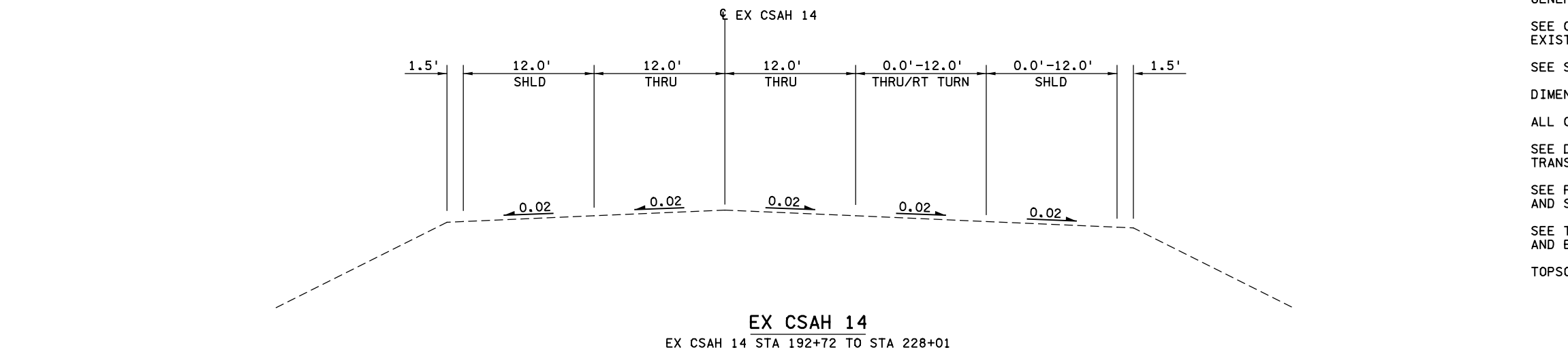
NO	DATE	BY	CKD	APPR	REVISION

GENERAL NOTES:

- SEE CONSTRUCTION AND SOILS NOTES FOR ASSUMED EXISTING PAVEMENT DEPTHS
- SEE SHEET 32 FOR PROPOSED PAVEMENT INSETS
- DIMENSIONS TO FACE OF CURB UNLESS OTHERWISE NOTED
- ALL CROSS SLOPES ARE FT PER FT
- SEE DRAINAGE AND SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS
- SEE PROFILES AND CROSS SECTIONS FOR SPECIFIC GRADING AND SPECIAL DITCH GRADES
- SEE TOPOGRAPHY AND UTILITY PLANS FOR SPECIFIC RIGHT-OF-WAY AND EASEMENT INFORMATION
- TOPSOIL PAID FOR AS COMMON EMBANKMENT

NOTES:

- ① SEE CONSTRUCTION PLANS FOR LOCATION OF S518 MOD C&G. SEE SHEET 30 FOR B418 AND S518 MODIFIED DETAILS.
- ② SEE BITUMINOUS SAFETY EDGE DETAIL ON SHEET 30
- ③ SEE TURN LANE DETAILS (THIS SHEET)
- ④ 30' CLEAR ZONE FROM EDGE OF THRU LANE SHALL BE MAINTAINED



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NO	DATE	BY	CKD	APPR	REVISION

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 Print Name: BENJAMIN P ROBECK
Ben Robeck
 Date: 03/28/19 License # 53680

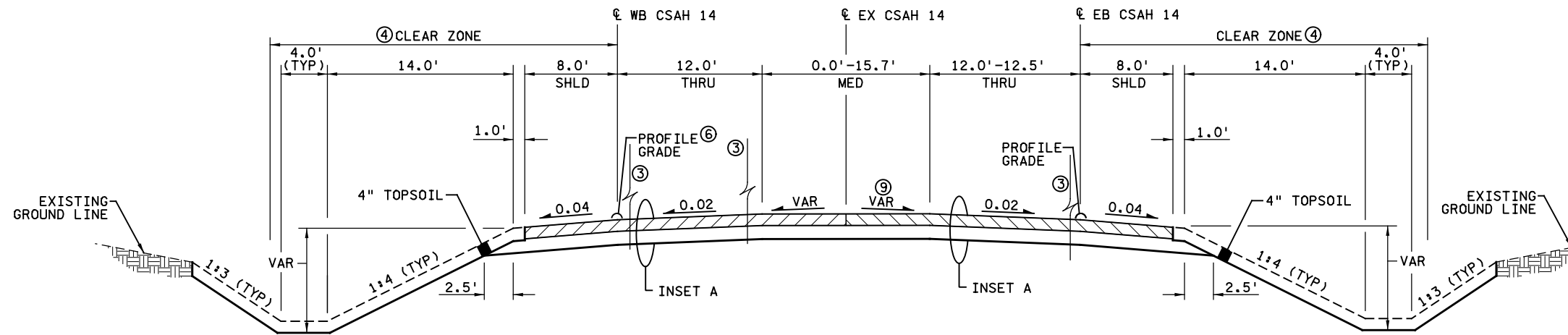
STATE PROJECT NO.
002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS
DESIGNED BY
M. HARDEGGER
CHECKED BY
B. ROBECK
COMM. NO. 1811762



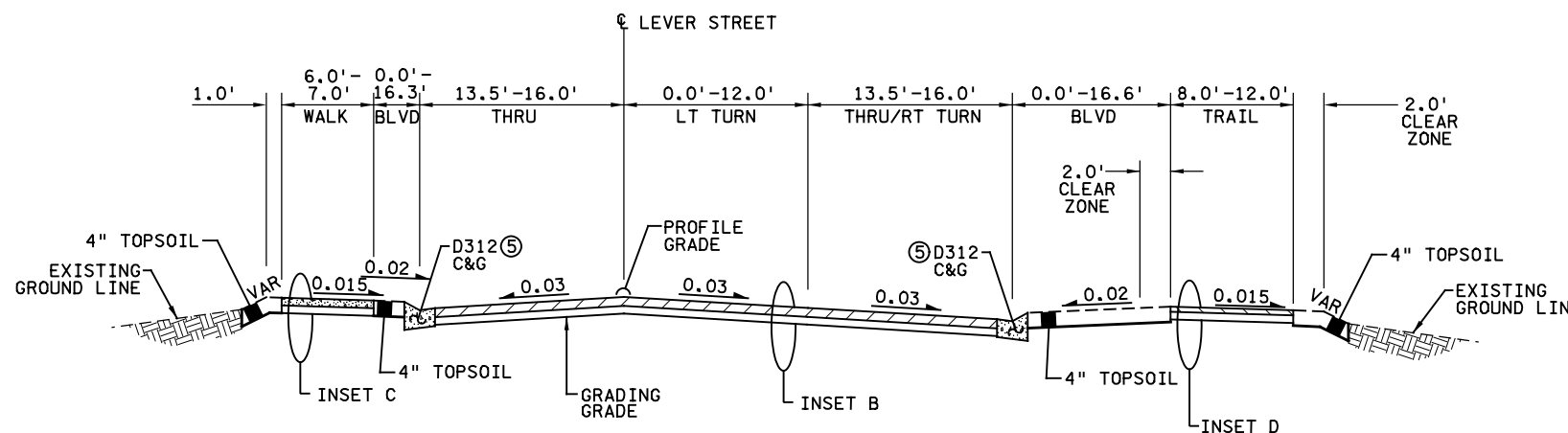
ANOKA COUNTY
TYPICAL SECTIONS
CSAH 14 RECONSTRUCTION

SHEET
29
OF
107



CSAH 14

EB CSAH 14 STA 317+72 TO STA 328+01
WB CSAH 14 STA 417+72 TO STA 428+01



LEVER STREET

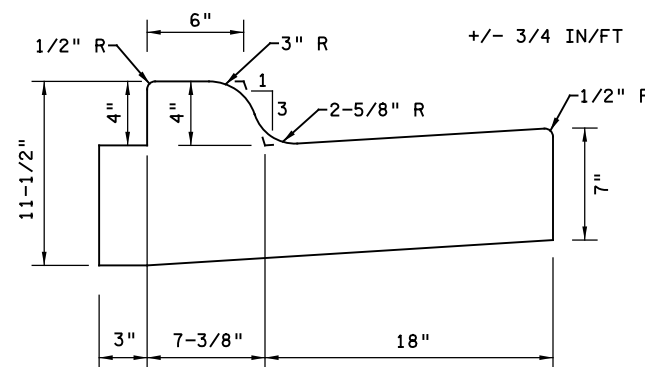
LEVER STREET STA 500+55 TO STA 503+55

GENERAL NOTES:

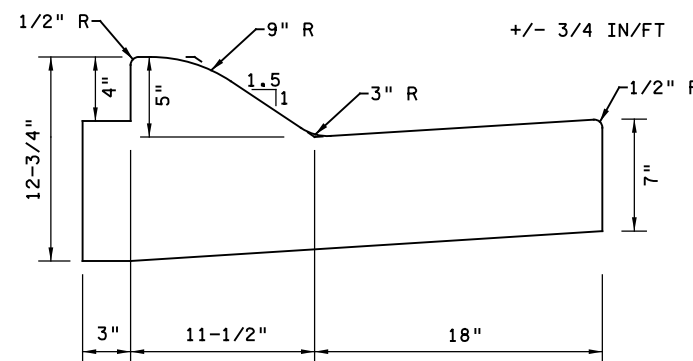
- SEE CONSTRUCTION AND SOILS NOTES FOR ASSUMED EXISTING PAVEMENT DEPTHS
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NOTES:

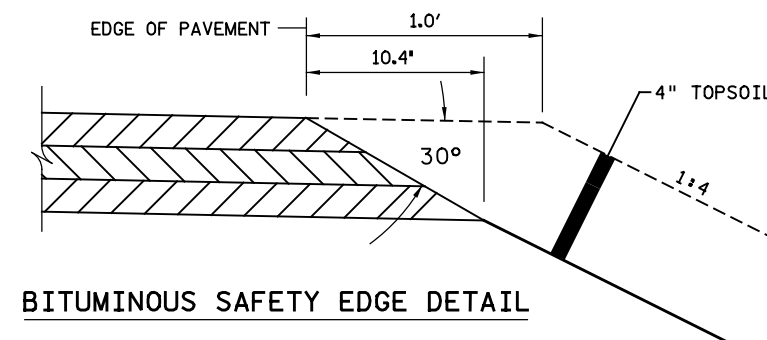
- ① SEE MEDIAN B418 MODIFIED DETAIL ON SHEET 30
- ② SEE BITUMINOUS SAFETY EDGE DETAIL ON SHEET 30
- ③ SEE TURN LANE INSETS ON SHEET 29
- ④ 30' CLEAR ZONE FROM EDGE OF THRU LANE SHALL BE MAINTAINED
- ⑤ D312 C&G PAID FOR AS D412 (FROM STA 502+98 TO STA 503+55, USE B612 C&G)
- ⑥ PROFILE GRADE CONTROLLED BY EB CSAH 14 FROM WB CSAH 14 STA 424+49 TO STA 428+01
- ⑨ CONTRACTOR TO MAINTAIN POSITIVE CROSS SLOPE FROM ROADWAY CROWN



MEDIAN B418 MODIFIED DETAIL
B4 MODIFIED CURB & GUTTER
(NO VARIANCES ALLOWED)
PAID FOR AS CONCRETE CURB & GUTTER DESIGN B418



MEDIAN S518 MODIFIED DETAIL
S5 MODIFIED CURB & GUTTER
(NO VARIANCES ALLOWED)
PAID FOR AS CONCRETE CURB & GUTTER DESIGN S518



BITUMINOUS SAFETY EDGE DETAIL

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: BENJAMIN P ROBECK
Ben Robeck
Date: 03/28/19 License #: 53680

STATE PROJECT NO. 002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY S. MARTINS
DESIGNED BY M. HARDEGGER
CHECKED BY B. ROBECK
COMM. NO. 1811762



ANOKA COUNTY
TYPICAL SECTIONS
CSAH 14 RECONSTRUCTION

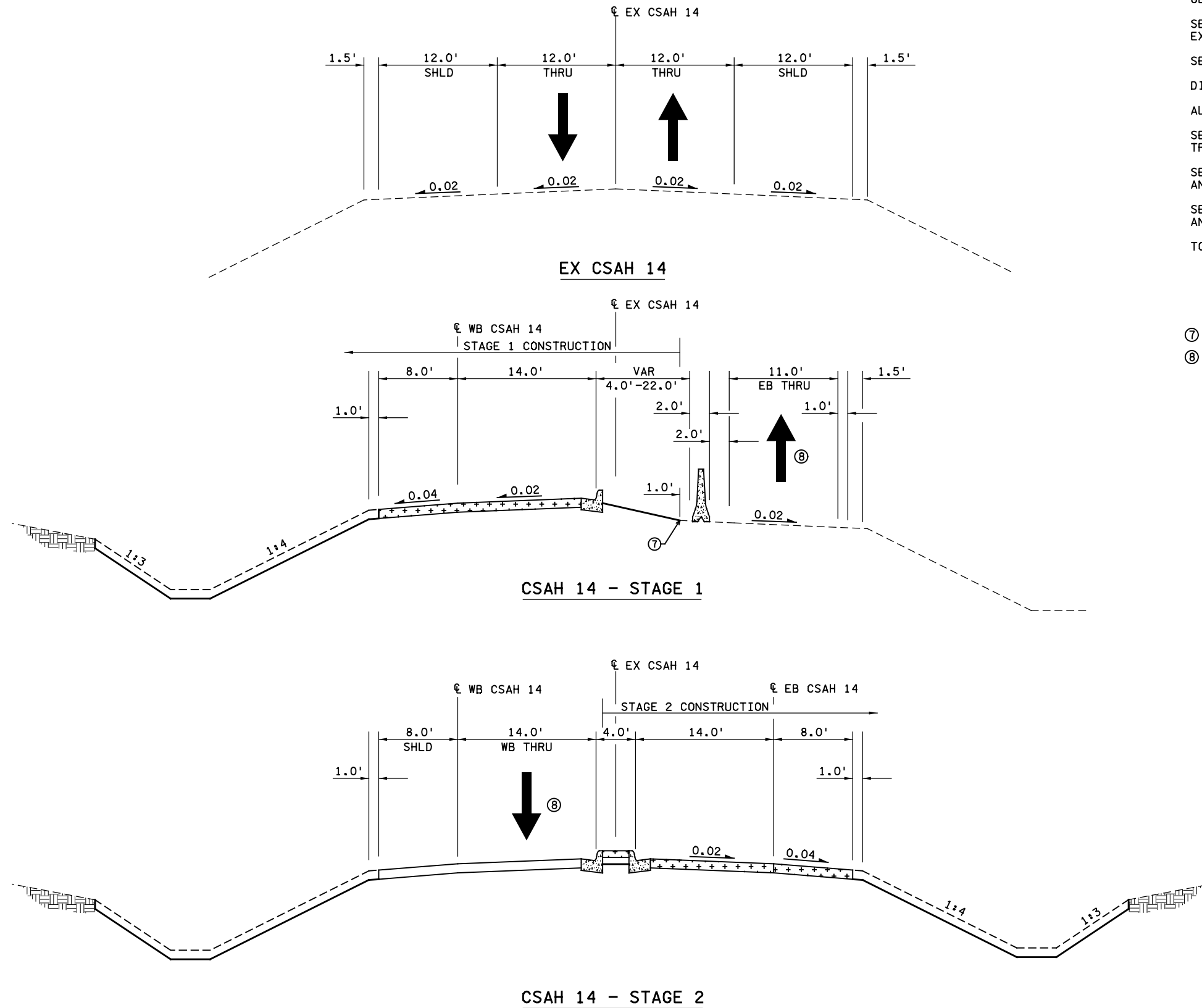
SHEET 30 OF 107

GENERAL NOTES:

- SEE CONSTRUCTION AND SOILS NOTES FOR ASSUMED EXISTING PAVEMENT DEPTHS
- SEE SHEET 32 FOR PROPOSED PAVEMENT INSETS
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NOTES:

- ⑦ SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- ⑧ ONE WAY TRAFFIC



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Ben Robeck

Date: 03/28/19 License #: 53680

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002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

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S. MARTINS

DESIGNED BY
M. HARDEGGER

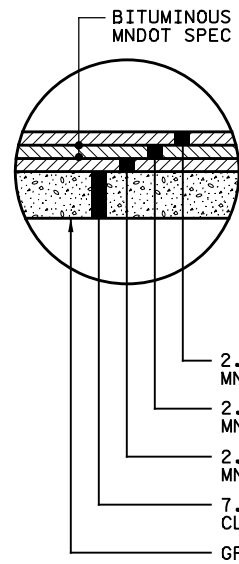
CHECKED BY
B. ROBECK

COMM. NO. 1811762



ANOKA COUNTY
TYPICAL SECTIONS
CSAH 14 RECONSTRUCTION
STAGING TYPICAL SECTIONS

SHEET
31
OF
107



BITUMINOUS MATERIAL FOR TACK COAT
MNDOT SPEC 2357

2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,F)
MNDOT SPEC 2360, (SPWEB340F)

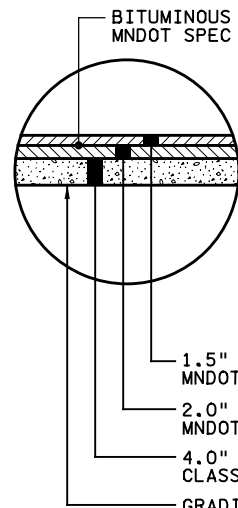
2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,F)
MNDOT SPEC 2360, (SPWEB340F)

2.0" TYPE SP 12.5 NON WEAR COURSE MIXTURE (3,F)
MNDOT SPEC 2360, (SPNWB330F)

7.0" AGGREGATE BASE (CV)
CLASS 5, MNDOT SPEC 2211

GRADING GRADE

INSET A
CSAH 14



BITUMINOUS MATERIAL FOR TACK COAT
MNDOT SPEC 2357

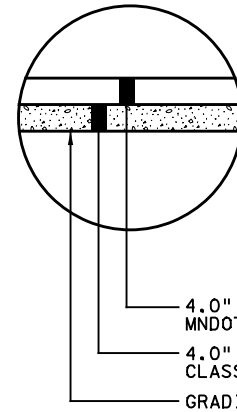
1.5" TYPE SP 12.5 WEARING COURSE MIXTURE (3,B)
MNDOT SPEC 2360, (SPWEA330B)

2.0" TYPE SP 12.5 NON WEAR COURSE MIXTURE (3,B)
MNDOT SPEC 2360, (SPNWB330B)

4.0" AGGREGATE BASE (CV)
CLASS 5, MNDOT SPEC 2211

GRADING GRADE

INSET B
LEVER STREET

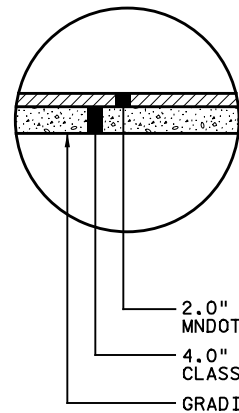


4.0" CONCRETE WALK,
MNDOT SPEC 2521

4.0" AGGREGATE BASE (CV)
CLASS 5, MNDOT SPEC 2211

GRADING GRADE

INSET C
WALK

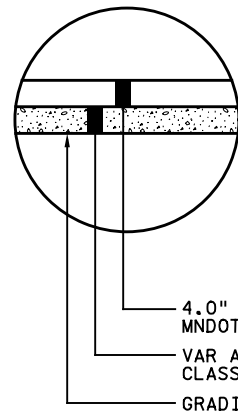


2.0" TYPE SP 9.5 WEARING COURSE MIXTURE (2,B)
MNDOT SPEC 2360, (SPWEA230B)

4.0" AGGREGATE BASE (CV)
CLASS 5, MNDOT SPEC 2211

GRADING GRADE

INSET D
TRAIL

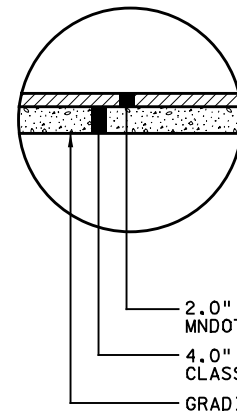


4.0" CONCRETE WALK,
MNDOT SPEC 2521

VAR AGGREGATE BASE (CV)
CLASS 5, MNDOT SPEC 2211

GRADING GRADE

INSET E
CONCRETE MEDIAN



2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,B)
MNDOT SPEC 2360, (SPWEA330B)

4.0" AGGREGATE BASE (CV)
CLASS 5, MNDOT SPEC 2211

GRADING GRADE

INSET F
RESIDENTIAL DRIVEWAYS

GENERAL NOTES:

- SEE CONSTRUCTION AND SOILS NOTES FOR ASSUMED EXISTING PAVEMENT DEPTHS
- SEE THIS SHEET FOR PROPOSED PAVEMENT INSETS
- DIMENSIONS TO FACE OF CURB UNLESS OTHERWISE NOTED
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- TOPSOIL PAID FOR AS COMMON EMBANKMENT

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NO	DATE	BY	CKD	APPR	REVISION

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: BENJAMIN P ROBECK

Ben Robeck

Date: 03/28/19 License # 53680

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS

DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

COMM. NO. 1811762



ANOKA COUNTY

TYPICAL SECTIONS

CSAH 14 RECONSTRUCTION

STAGING AND TRAFFIC CONTROL NOTES

GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH, PLACE, AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
3. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
4. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN WHAT IS SHOWN IN THE STAGING AND TRAFFIC CONTROL PLANS, THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.
5. ALL DISTANCES ARE APPROXIMATE.
6. ALL TEMPORARY TRAFFIC THRU LANES SHALL BE A MINIMUM OF 11 FEET IN WIDTH UNLESS NOTED OTHERWISE.
7. THE CONTRACTOR SHALL MAINTAIN A 1 FOOT MINIMUM CLEAR DISTANCE BETWEEN THE EDGE OF THE TRAVEL LANE AND THE NEAREST EDGE OF ANY ADJACENT TRAFFIC CONTROL DEVICES INCLUDING DRUMS, BARRICADES, AND BARRIERS UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AND BUILDING ENTRANCES THAT ARE TO REMAIN OPEN AT ALL TIMES TO THE SATISFACTION OF THE ENGINEER (INCIDENTAL).
9. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MN MUTCD.
10. THE CONTRACTOR SHALL PROVIDE QUALIFIED FLAGGERS WITH TWO-WAY RADIOS AT ALL TIMES WHEN CONTRACTOR OPERATIONS REQUIRE ONE-LANE/TWO-WAY OPERATION OR WHEN, IN THE OPINION OF THE ENGINEER, ONE-LANE/TWO-WAY OPERATIONS ARE APPROPRIATE DUE TO SAFETY CONCERNS. FLAGGERS AND FLAGGING OPERATIONS SHALL BE INCIDENTAL.
11. IN ALL WORK AREAS NOTED "CONSTRUCTION UNDER TRAFFIC" THE CONTRACTOR SHALL UTILIZE ADDITIONAL TRAFFIC CONTROL DEVICES AS NECESSARY AND IN ACCORDANCE WITH THE MN MUTCD TO MAINTAIN A SAFE AND UNDERSTANDABLE FLOW OF TRAFFIC TO THE SATISFACTION OF THE ENGINEER. (INCIDENTAL)
12. THE ACTUAL NUMBER OF BARRICADES AT EACH LOCATION REQUIRED MAY VARY DEPENDING UPON THE SIZE OF BARRICADES USED, THE WIDTH OF THE ROAD CLOSURE AND THE MOVEMENT OF LOCAL CONSTRUCTION TRAFFIC.
13. THE CONTRACTOR SHALL MAKE DAILY INSPECTIONS OF THE TRAFFIC CONTROL DEVICES, AS STATED IN THE SPECIAL PROVISIONS.
14. SEE STAGING TYPICALS ON SHEET 31 FOR ADDITIONAL DETAILS ON LANE WIDTHS AND LOCATION OF TRAFFIC CONTROL DEVICES.
15. FINAL WEAR COURSE SHALL BE PLACED AT THE END OF EACH STAGE FOR PERMANENT PAVEMENT CONSTRUCTED IN THAT STAGE, WHERE PRACTICAL. FINAL WEAR COURSE ADJACENT TO OMITTED WB CURB PORTIONS SHOULD REMAIN UNPAVED UNTIL AFTER FINAL CURBING HAS BEEN PLACED.

SIGNING

1. AS APPROPRIATE, THE CONTRACTOR SHALL REMOVE, SALVAGE, OR COVER ALL EXISTING SIGNING THAT CONFLICTS WITH THIS TRAFFIC CONTROL PLAN TO THE SATISFACTION OF THE ENGINEER. EXISTING WB CSAH 14 SIGNING SHALL BE MASKED OR REMOVED AT THE TIME OF THE STAGE 1 TRAFFIC SWITCH. PROPOSED EB CSAH 14 SIGNING PLACED DURING STAGE 2 SHALL BE MASKED UNTIL FINAL TRAFFIC SWITCH. THE CONTRACTOR SHALL RESTORE ALL APPROPRIATE ORIGINAL SIGNING AFTER APPROVAL BY THE ENGINEER. REMOVAL AND SALVAGE OF SIGNS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM. COVERING AND UNCOVERING OF SIGNS SHALL BE INCIDENTAL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER (INCIDENTAL).
3. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF THE PERMANENT SIGNS TO ASSURE THAT THE PERMANENT SIGNS ARE PLACED AS NEEDED, OR SHALL PROVIDE TEMPORARY SIGNING UNTIL THE PERMANENT SIGNING IS PLACED (INCIDENTAL).
4. STREET IDENTIFICATION SIGNAGE SHALL BE MAINTAINED AT ALL TIMES. SIGNS LOCATED AT THE INTERSECTIONS SHALL BE MAINTAINED IN PLACE OR BY TEMPORARY PLACEMENT (INCIDENTAL).
5. WHEN SIGNS ARE PLACED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MN MUTCD. IF THIS IS NOT POSSIBLE, THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED, THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
6. ALL ORANGE SIGNS SHALL BE MADE OF "HIGH PERFORMANCE FLUORESCENT SIGN SHEETING."
7. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL, UNLESS OTHERWISE SPECIFIED IN THESE PLANS (INCIDENTAL).
8. IN PLACE SIGNING SHALL BE UTILIZED AS PRACTICAL TO MEET THE REQUIREMENTS OF THE STAGING PLANS.
9. G20 ADVANCED WORK ZONE SIGNING SHALL BE PLACED A MINIMUM OF 14 CALENDAR DAYS PRIOR TO STAGE 1 CLOSURE, AS SHOWN IN THE STAGING AND TRAFFIC CONTROL PLANS. CLOSURE AND START DATE PLATES SHALL BE CHANGED AT TRAFFIC CONTROL SWITCHES AS NOTED IN THE PLANS AND DIRECTED BY THE ENGINEER. G20 SIGNS SHALL BE PAID FOR UNDER THE TRAFFIC CONTROL LUMP SUM.

TEMPORARY PAVEMENT MARKING

1. THE CONTRACTOR SHALL REMOVE ALL EXISTING OR TEMPORARY PAVEMENT MARKINGS WHICH CONFLICT WITH THE MARKINGS SHOWN IN A PARTICULAR STAGE, TO THE SATISFACTION OF THE ENGINEER. REMOVAL OF TEMPORARY PAVEMENT MARKINGS, REMOVABLE PREFORMED PAVEMENT MARKINGS, AND CONFLICTING EXISTING PAVEMENT MARKINGS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM.
2. THE CONTRACTOR SHALL NOT PLACE PAINTED TEMPORARY PAVEMENT MARKINGS ON PERMANENT FINAL SURFACING (OR ON OTHER SURFACING WHICH WILL NOT ULTIMATELY BE REPLACED OR COVERED BY PLANNED CONSTRUCTION) UNLESS THE TEMPORARY MARKINGS ARE IN THE SAME LOCATION AS THE PERMANENT MARKINGS.
3. THE CONTRACTOR SHALL MATCH ALL TEMPORARY PAVEMENT MARKINGS TO EXISTING STRIPING.
4. THE CONTRACTOR SHALL UTILIZE EXISTING PAVEMENT MARKINGS, AS PRACTICAL, AND AS NOTED TO MEET THE REQUIREMENTS OF THE STAGING PLANS.


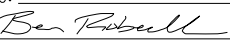
BARRIER DELINEATION

1. PORTABLE PRECAST CONCRETE BARRIER SHALL HAVE TOP MOUNTED DELINEATORS WITH A MINIMUM OF 24 SQ IN OF REFLECTIVE SURFACE AREA AND SHALL BE PLACED WITH A 25' SPACING. BARRIER DELINEATORS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM.

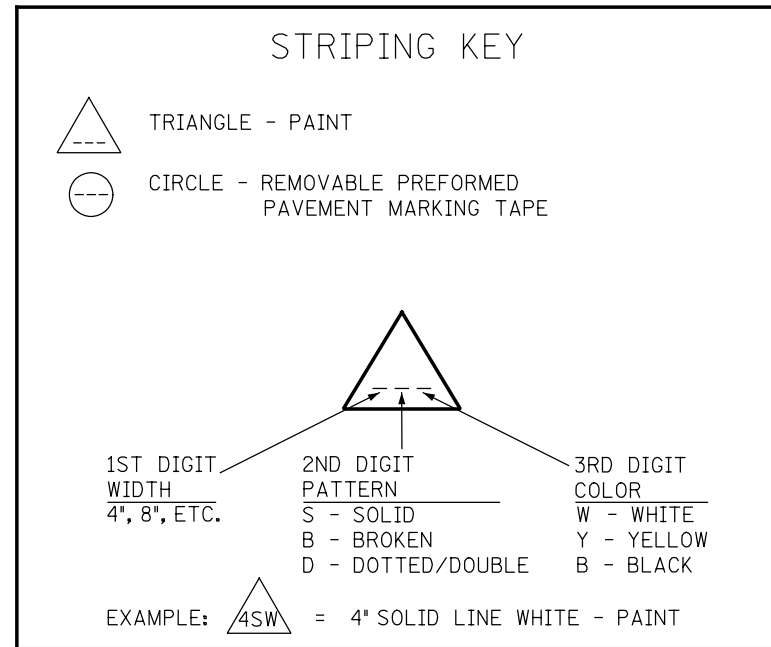
TEMPORARY EROSION CONTROL AND TEMPORARY DRAINAGE

1. ESTABLISH PERMANENT EROSION CONTROL AND TURF ESTABLISHMENT MEASURES AS SOON AS FEASIBLE.
2. ESTABLISH TEMPORARY EROSION CONTROL AND TURF ESTABLISHMENT AS NECESSARY ACCORDING TO THE STORM WATER POLLUTION PREVENTION PLAN AND AS SHOWN IN THE STAGING PLANS.
3. PARTIAL REMOVAL OF EXISTING DRAINAGE STRUCTURES OR PARTIAL CONSTRUCTION OF PROPOSED DRAINAGE STRUCTURES MAY BE NEEDED TO MAINTAIN DRAINAGE THROUGHOUT THE PROJECT. ANY STRUCTURE THAT WILL BE TEMPORARILY BURIED SHALL HAVE ALL OPENINGS COVERED SOIL TIGHT WITH A STEEL PLATE. NO ADDITIONAL COMPENSATION WILL BE MADE FOR PARTIAL REMOVAL, PARTIAL CONSTRUCTION OR TEMPORARY COVERS.

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					I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.		STATE PROJECT NO. 002-614-045 106-142-001		DRAWN BY S. MARTINS				ANOKA COUNTY STAGING AND TRAFFIC CONTROL PLANS CSAH 14 RECONSTRUCTION STAGING AND TRAFFIC CONTROL NOTES		SHEET 33 OF 107								
					Print Name: BENJAMIN P ROBECK		CITY OF BLAINE PROJECT NO. 18-09		DESIGNED BY M. HARDEGGER														
					 Date: 03/28/19 License #: 53680				CHECKED BY B. ROBECK														
<table border="1"> <thead> <tr> <th>NO</th> <th>DATE</th> <th>BY</th> <th>CKD</th> <th>APPR</th> <th>REVISION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>					NO	DATE	BY	CKD	APPR	REVISION									COMM. NO. 1811762				
NO	DATE	BY	CKD	APPR	REVISION																		

THIS LEGEND APPLIES TO ALL TRAFFIC CONTROL & STAGING PLAN SHEETS



STAGING NARRATIVE

STAGE 1

CONSTRUCTION

- CONTACTOR TO COORDINATE WITH PRIVATE UTILITY OWNERS AND PERFORM ROUGH GRADING AT CSAH 14 AND LEVER STREET INTERSECTION, AS NEEDED, TO ACCOMMODATE PRIVATE UTILITY RELOCATION.
- CONSTRUCT WB CSAH 14 FROM STA 392+72 TO STA 428+01.

TRAFFIC

- CLOSE CSAH 14 TO WESTBOUND TRAFFIC AND IMPLEMENT STAGE 1 DETOUR ROUTE. SEE DETOUR PLAN FOR DETAILS.
- CONSTRUCT WB CSAH 14 INTERSECTION WITH LEVER STREET UNDER TRAFFIC. FLAGGING OPERATIONS SHALL BE UTILIZED AS NECESSARY (INCIDENTAL).

STAGE 2

CONSTRUCTION

- CONSTRUCT EB CSAH 14 FROM STA 292+72 TO STA 328+01.


















TRAFFIC


















- CLOSE CSAH 14 TO EASTBOUND TRAFFIC AND REOPEN TO WESTBOUND TRAFFIC, IMPLEMENTING STAGE 2 DETOUR ROUTE. SEE DETOUR PLAN FOR DETAILS.
- CONSTRUCT EB CSAH 14 AT GAS STATION ENTRANCE UNDER TRAFFIC. FLAGGING OPERATIONS SHALL BE UTILIZED AS NECESSARY (INCIDENTAL).







STAGE 3

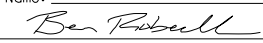
TRAFFIC

- SHIFT TRAFFIC TO FINAL, PERMANENT CONFIGURATION.
- UTILIZE TEMPORARY LANE SHIFTS AND FLAGGING OPERATIONS AS NECESSARY FOR FINAL STRIPING AND OTHER MISCELLANEOUS WORK (INCIDENTAL).
- ACTIVATE TRAFFIC SIGNAL. SEE TRAFFIC SIGNAL ACTIVATION DETAIL SHEET FOR LOCATIONS OF PORTABLE CHANGEABLE MESSAGE SIGNS AND DURATION.

TRAFFIC CONTROL SIGN TABULATION				U
SIGN LEGEND	SIGN DESIGNATION	SIZE (IN)	SIGN COLOR	
	TYPE 'A'	FLASHER	AMBER	
	TYPE III	VAR.	ORANGE ON WHITE	
	R1-1	36 X 36	WHITE ON RED	
	R11-4	60 X 30	BLACK ON WHITE	
	R9-9	30 X 18	BLACK ON WHITE	
	R11-2	48 X 30	BLACK ON WHITE	
	G20-2A	48 X 24	BLACK ON ORANGE	
	W1-6L	48 X 24	BLACK ON ORANGE	
	W1-6R	48 X 24	BLACK ON ORANGE	
	R3-2	36 X 36	BLACK ON WHITE	
	W20-1	36 X 36	BLACK ON ORANGE	
	W20-3	36 X 36	BLACK ON ORANGE	
	W21-X5R	36 X 36	BLACK ON ORANGE	
	M1-6	24 X 24	WHITE AND YELLOW ON BLUE	
	M3 - 4	24 X 12	BLACK ON ORANGE	
	M3 - 2	24 X 12	BLACK ON ORANGE	
	M4-8	24 X 12	BLACK ON ORANGE	

TRAFFIC CONTROL SIGN TABULATION				U
SIGN LEGEND	SIGN DESIGNATION	SIZE (IN)	SIGN COLOR	
	M5-1L	21 X 15	BLACK ON ORANGE	
	M5-1R	21 X 15	BLACK ON ORANGE	
	M6-1L	21 X 15	BLACK ON ORANGE	
	M6-1R	21 X 15	BLACK ON ORANGE	
	M6-3	21 X 15	BLACK ON ORANGE	
	W1-4R	36 X 36	BLACK ON ORANGE	
	W20-2	36 X 36	BLACK ON ORANGE	
	M6-2R	21 X 15	BLACK ON WHITE	
	M5-3	21 X 15	BLACK ON WHITE	
	M4-8A	24 X 18	BLACK ON ORANGE	
	R5-1	36 X 36	RED ON WHITE	
	R6-1L	54 X 18	BLACK ON WHITE	
	R1-3P	18 X 6	WHITE ON RED	
	W3-X5	36 X 36	BLACK ON YELLOW	
	W20-X3R	36 X 36	BLACK ON ORANGE	
	G20-X9	30 X 36	BLACK ON ORANGE	
	R9-9A	24 X 18	BLACK ON WHITE	

TRAFFIC CONTROL SIGN TABULATION				U
SIGN LEGEND	SIGN DESIGNATION	SIZE (IN)	SIGN COLOR	
	R3-7AR	30 X 30	BLACK ON WHITE	
	W20-X3L	36 X 36	BLACK ON ORANGE	
	R3-7AL	30 X 30	BLACK ON WHITE	
	M4-10L	48 X 18	BLACK ON ORANGE	
	X3-4	12 X 8	BLACK ON WHITE	
	R11-2MOD	48 X 30	BLACK ON WHITE	

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: BENJAMIN P ROBECK

 Date 03/28/19 License # 53680

STATE PROJECT NO.
002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS
DESIGNED BY
M. HARDEGGER
CHECKED BY
B. ROBECK
COMM. NO. 1811762

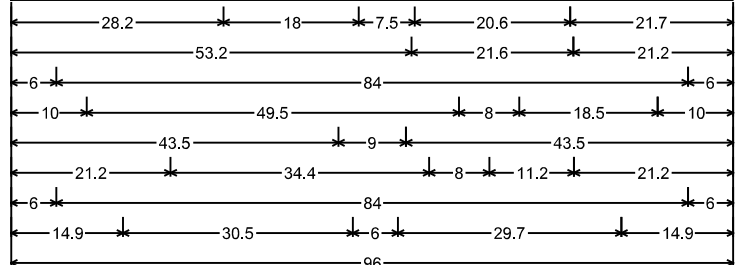
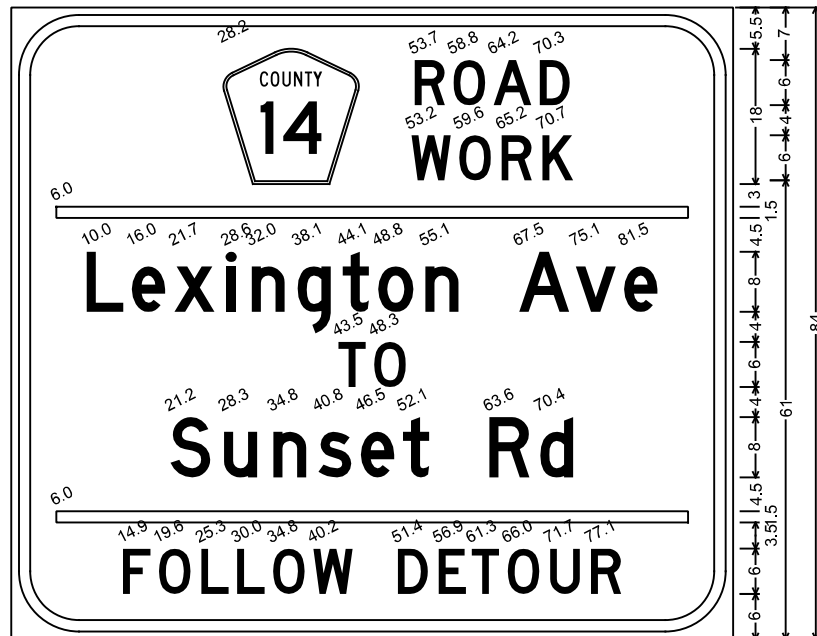


ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
CSAH 14 RECONSTRUCTION
 STRIPING KEY AND TRAFFIC CONTROL SIGN TABULATION

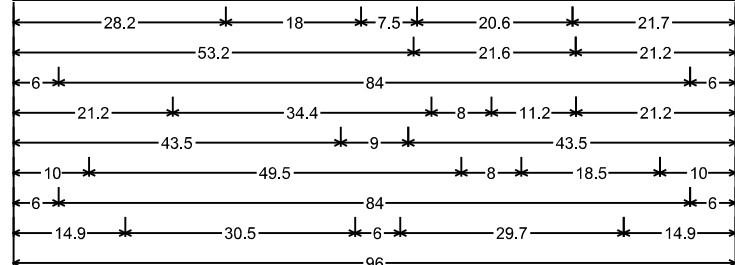
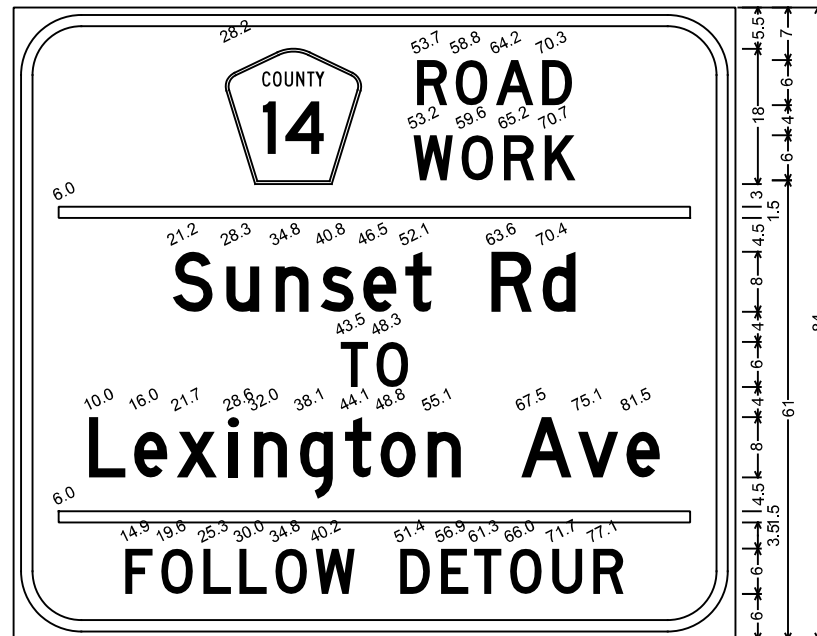
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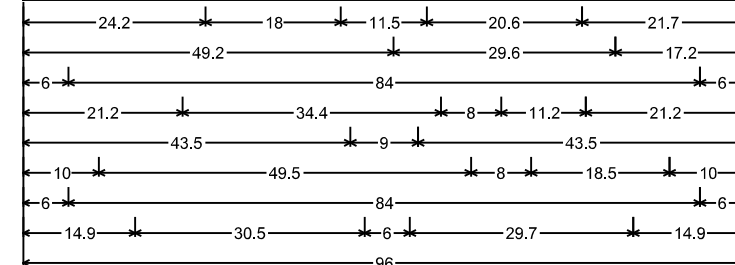
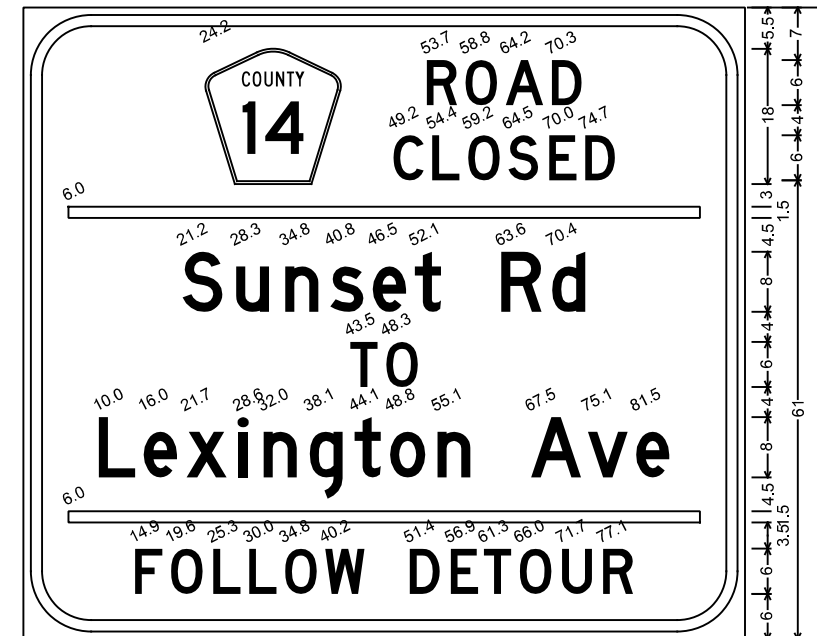
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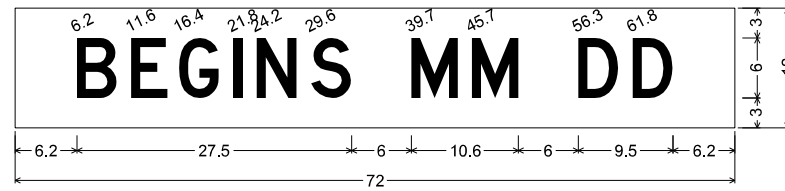
WZ-1; 9.0" Radius, 1.5" Border, 1.0" Indent, Black on Orange;
 [ROAD] D; [WORK] D; [Lexington Ave] D; [TO] D; [Sunset Rd] D;
 [FOLLOW DETOUR] D;



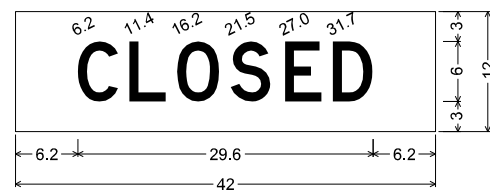
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 [ROAD] D; [WORK] D; [Sunset Rd] D; [TO] D; [Lexington Ave] D;
 [FOLLOW DETOUR] D;



WZ-5; 9.0" Radius, 1.5" Border, 1.0" Indent, Black on Orange;
 [ROAD] D; [CLOSED] D; [Sunset Rd] D; [TO] D; [Lexington Ave] D;
 [FOLLOW DETOUR] D;



WZ-3; No border, White on Orange;
 [BEGINS MM DD] Black D;



WZ-4; No border, White on Orange;
 [CLOSED] Black D;

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 Print Name: BENJAMIN P ROBECK
Ben Robeck
 Date: 03/28/19 License #: 53680

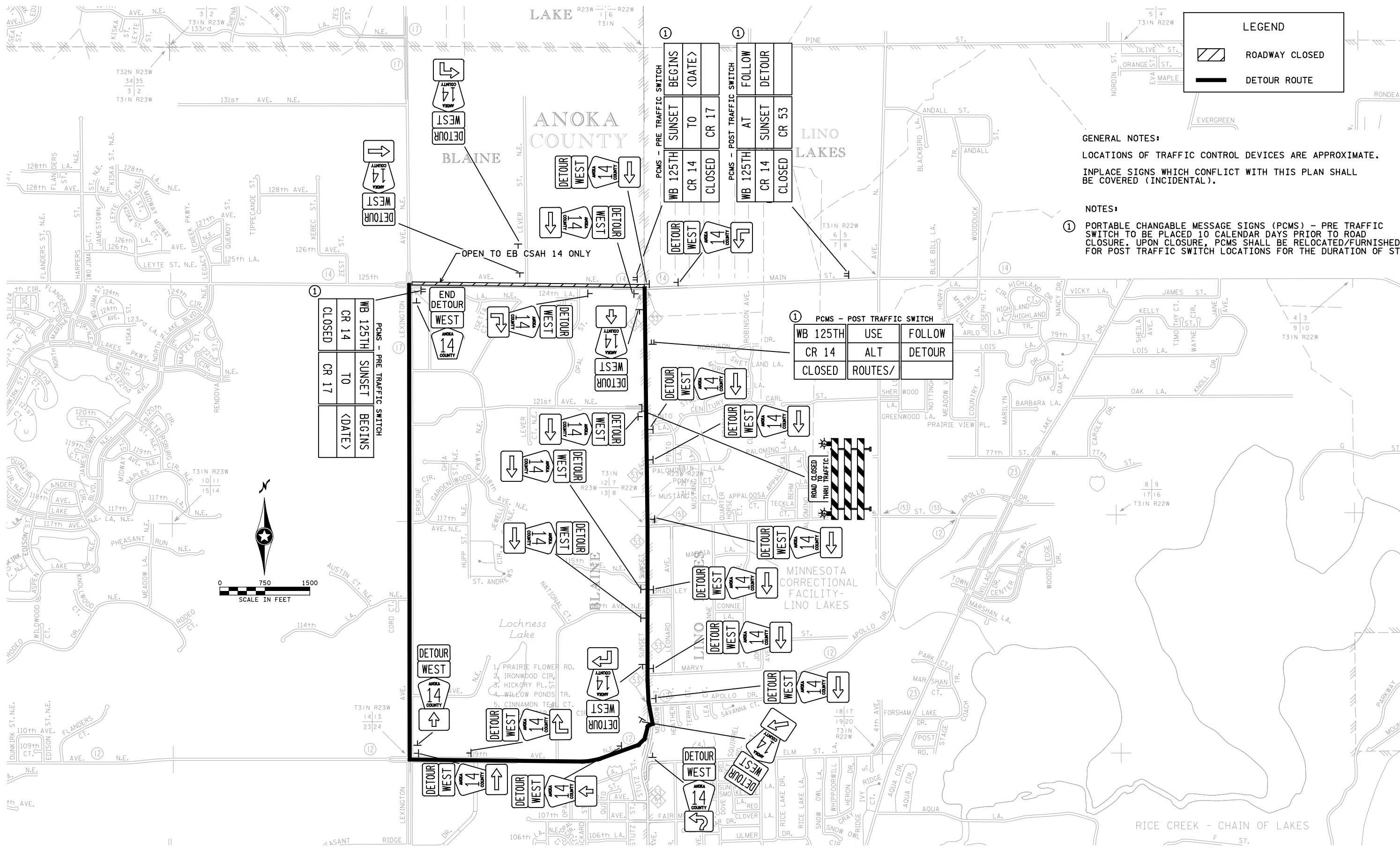
STATE PROJECT NO.
 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO.
 18-09

DRAWN BY
 S. MARTINS
 DESIGNED BY
 M. HARDEGGER
 CHECKED BY
 B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 CSAH 14 RECONSTRUCTION
 STAGING SIGN DETAILS

SHEET
 35
 OF
 107



LEGEND

- ROADWAY CLOSED
- DETOUR ROUTE

GENERAL NOTES:
 LOCATIONS OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE.
 INPLACE SIGNS WHICH CONFLICT WITH THIS PLAN SHALL BE COVERED (INCIDENTAL).

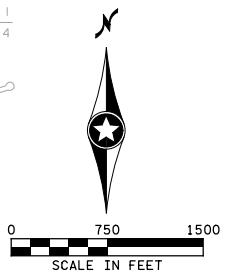
NOTES:
 ① PORTABLE CHANGABLE MESSAGE SIGNS (PCMS) - PRE TRAFFIC SWITCH TO BE PLACED 10 CALENDAR DAYS PRIOR TO ROAD CLOSURE. UPON CLOSURE, PCMS SHALL BE RELOCATED/FURNISHED FOR POST TRAFFIC SWITCH LOCATIONS FOR THE DURATION OF STAGE.

PCMS - PRE TRAFFIC SWITCH

WB 125TH	SUNSET	BEGINS
CR 14	TO	<DATE>
CLOSED	CR 17	

PCMS - POST TRAFFIC SWITCH

WB 125TH	USE	FOLLOW
CR 14	ALT	DETOUR
CLOSED	ROUTES/	



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Ben Robeck

Date: 03/28/19 License #: 53680

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COMM. NO. 1811762



ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
CSAH 14 RECONSTRUCTION
 STAGE 1 DETOUR PLAN




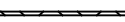













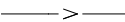
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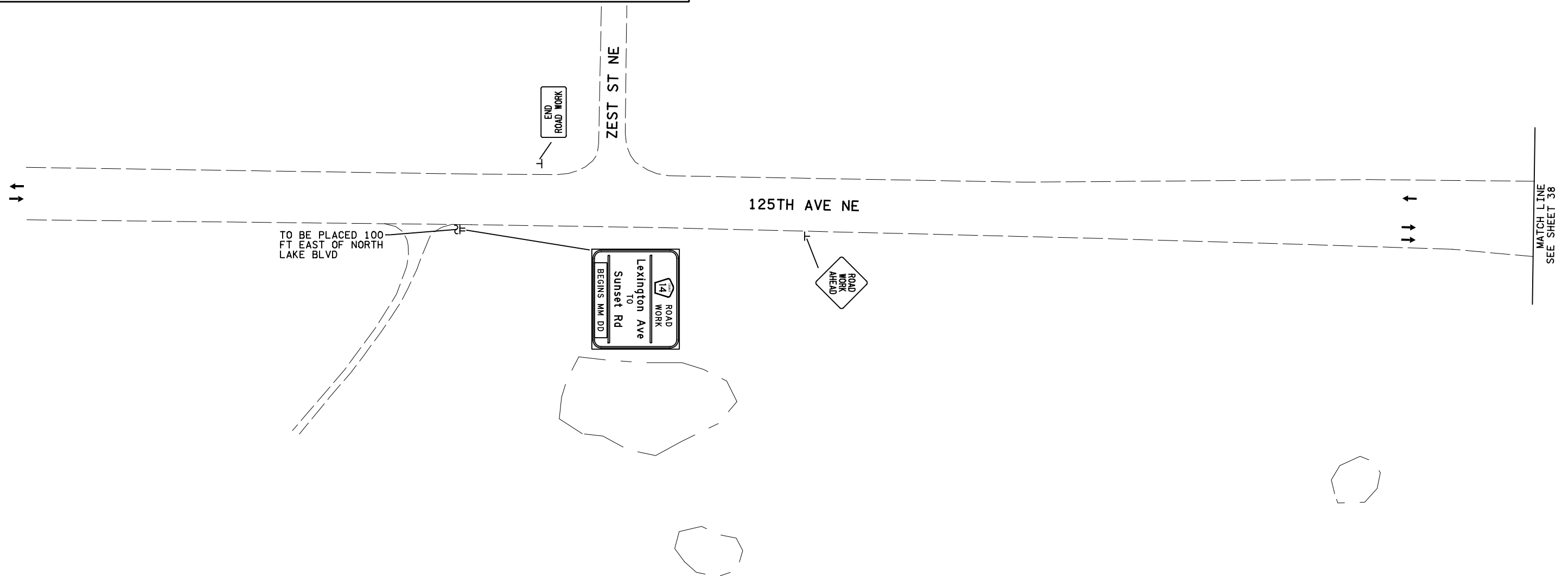
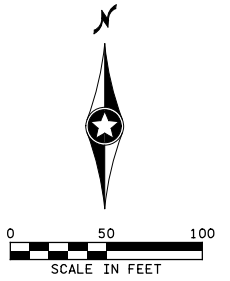
THIS LEGEND APPLIES TO ALL STAGING AND TRAFFIC CONTROL PLAN SHEETS

LEGEND

-  PERMANENT CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC
-  TRAFFIC LOCATION AND DIRECTION
-  PORTABLE PRECAST CONCRETE BARRIER (PPCB) STD PLATE 8337
-  IMPACT ATTENUATOR (55 MPH)
-  REFLECTORIZED PLASTIC DRUM
-  TYPE A LOW INTENSITY WARNING FLASHER
-  TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
-  TYPE "C" SIGN
-  MS SILT FENCE, TYPE MS
-  STORM DRAIN INLET PROTECTION
-  STORM DRAIN INLET PROTECTION PREVIOUSLY INSTALLED
-  CULVERT END CONTROLS
-  CULVERT END CONTROLS PREVIOUSLY INSTALLED
-  PROPOSED STORM SEWER CONSTRUCTED THIS STAGE
-  PROPOSED STORM SEWER CONSTRUCTED IN PREVIOUS STAGES
-  EXISTING STORM SEWER
-  RAISED PAVEMENT MARKER TEMPORARY (10' SPACING)

SEE SHEETS 33 - 34 FOR STAGING AND TRAFFIC CONTROL NOTES, STAGING NARRATIVE, STRIPING KEY, AND TRAFFIC CONTROL SIGN TABULATION.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".



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Print Name: BENJAMIN P ROBECK

Ben Robeck

Date: 03/28/19 License # 53680

STATE PROJECT NO.
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CITY OF BLAINE
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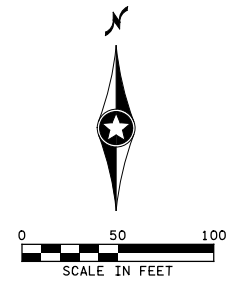
COMM. NO. 1811762



ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
CSAH 14 RECONSTRUCTION
STAGE 1

SHEET
37
OF
107



TO BE PLACED 1500 FT NORTH OF CSAH 14

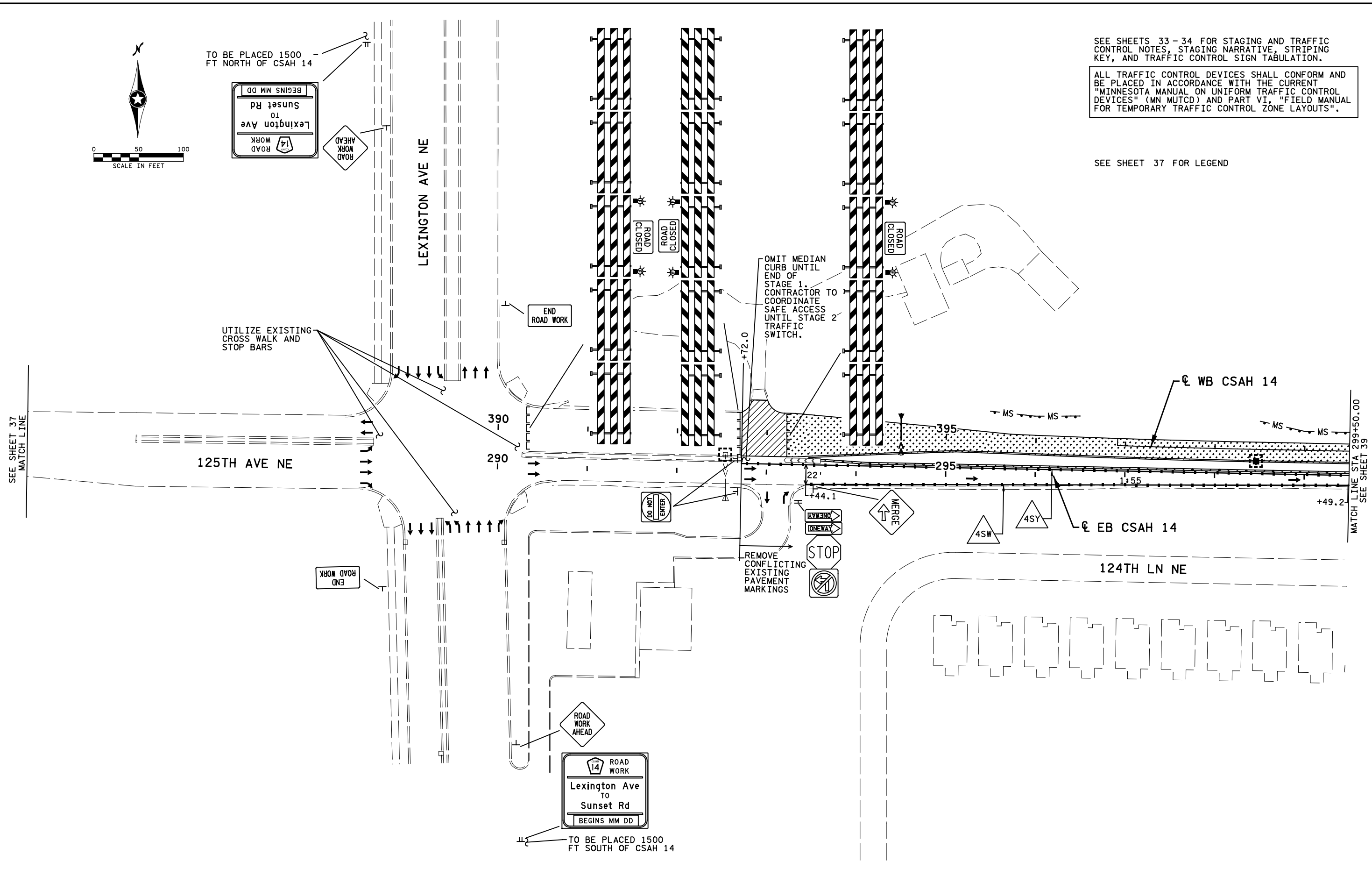


LEXINGTON AVE NE

SEE SHEETS 33 - 34 FOR STAGING AND TRAFFIC CONTROL NOTES, STAGING NARRATIVE, STRIPING KEY, AND TRAFFIC CONTROL SIGN TABULATION.

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SEE SHEET 37 FOR LEGEND



SEE SHEET 37 MATCH LINE

MATCH LINE STA 299+50.00 SEE SHEET 39

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NO	DATE	BY	CKD	APPR	REVISION

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Print Name: BENJAMIN P ROBECK

Ben Robeck

Date: 03/28/19 License #: 53680

STATE PROJECT NO. 002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY S. MARTINS
DESIGNED BY M. HARDEGGER
CHECKED BY B. ROBECK
COMM. NO. 1811762



ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

CSAH 14 RECONSTRUCTION

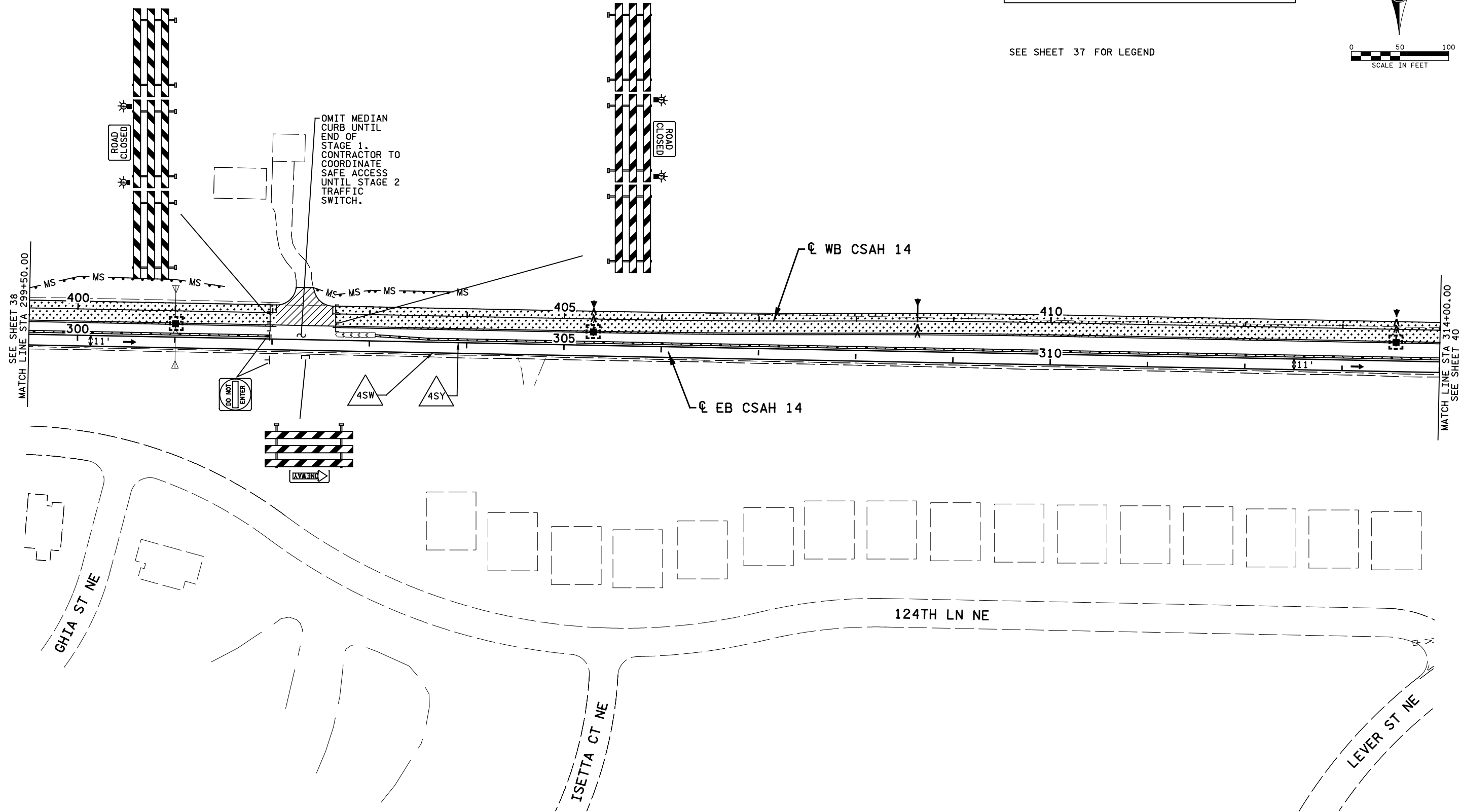
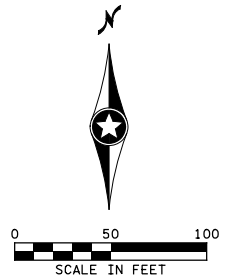
STAGE 1

SHEET 38 OF 107

SEE SHEETS 33 - 34 FOR STAGING AND TRAFFIC CONTROL NOTES, STAGING NARRATIVE, STRIPING KEY, AND TRAFFIC CONTROL SIGN TABULATION.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

SEE SHEET 37 FOR LEGEND



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Ben Robeck
 Date: 03/28/19 License #: 53680

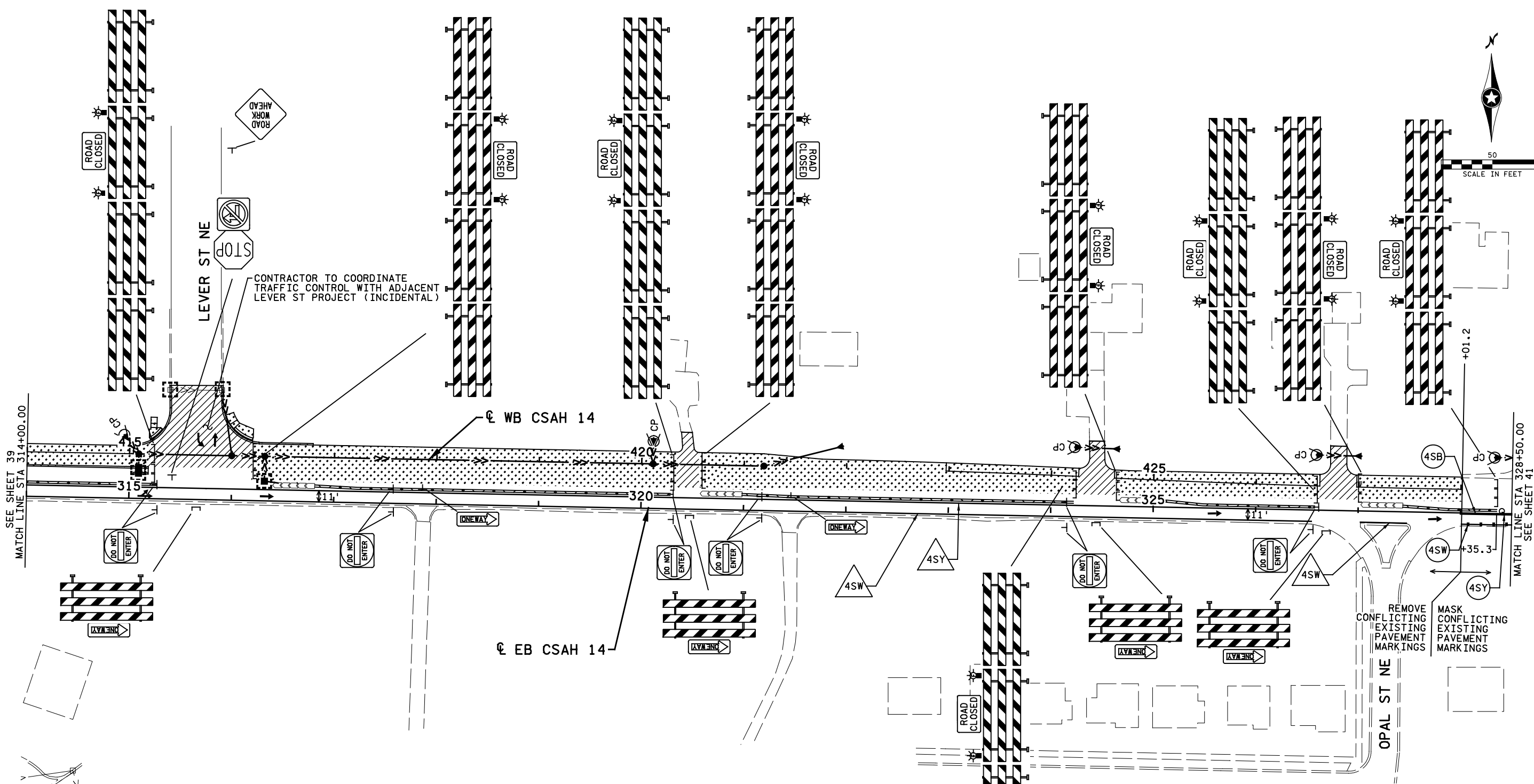
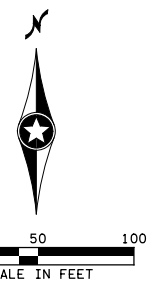
STATE PROJECT NO.
 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO.
 18-09

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 S. MARTINS
 DESIGNED BY
 M. HARDEGGER
 CHECKED BY
 B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 CSAH 14 RECONSTRUCTION
 STAGE 1

SHEET
 39
 OF
 107



SEE SHEETS 33 - 34 FOR STAGING AND TRAFFIC CONTROL NOTES, STAGING NARRATIVE, STRIPING KEY, AND TRAFFIC CONTROL SIGN TABULATION.

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SEE SHEET 37 FOR LEGEND

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Date: 03/28/19 License #: 53680

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106-142-001

CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY S. MARTINS
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CHECKED BY B. ROBECK
COMM. NO. 1811762



ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

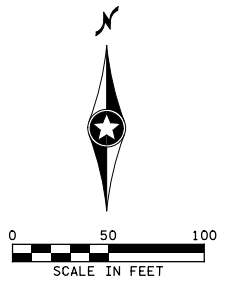
CSAH 14 RECONSTRUCTION

STAGE 1

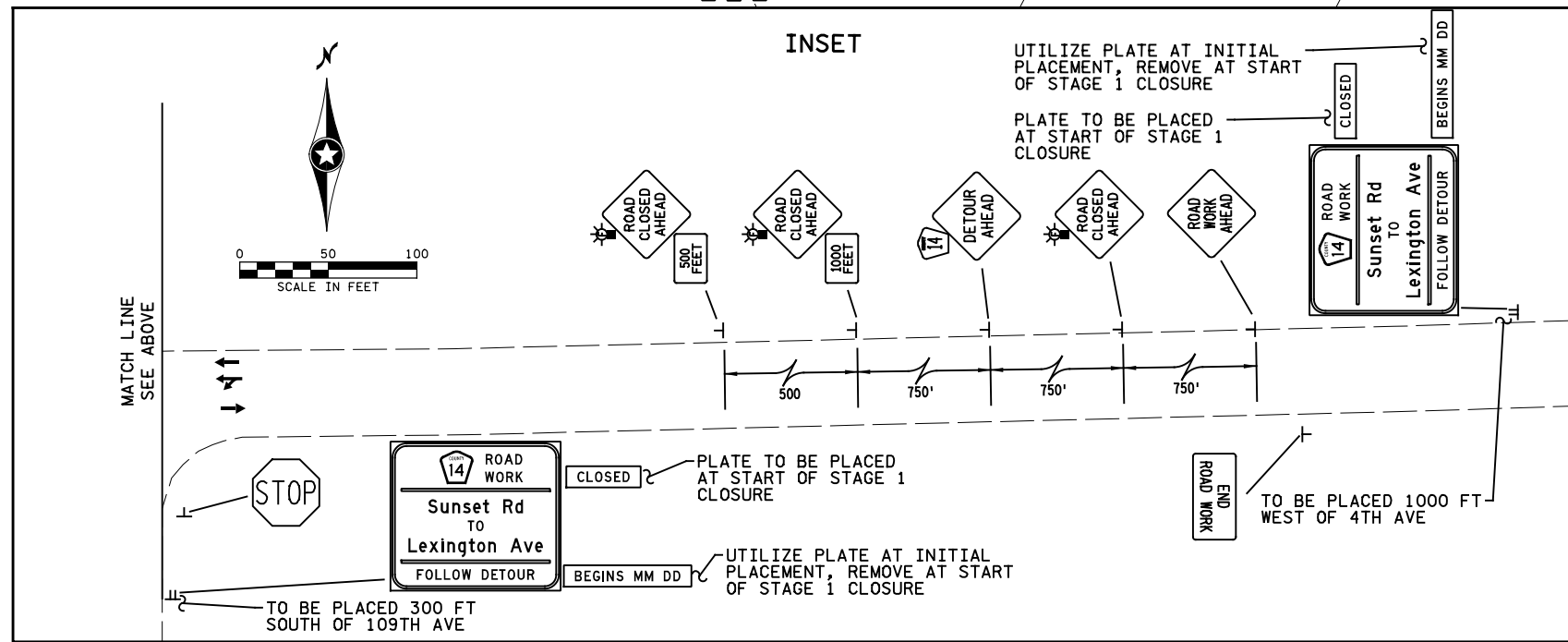
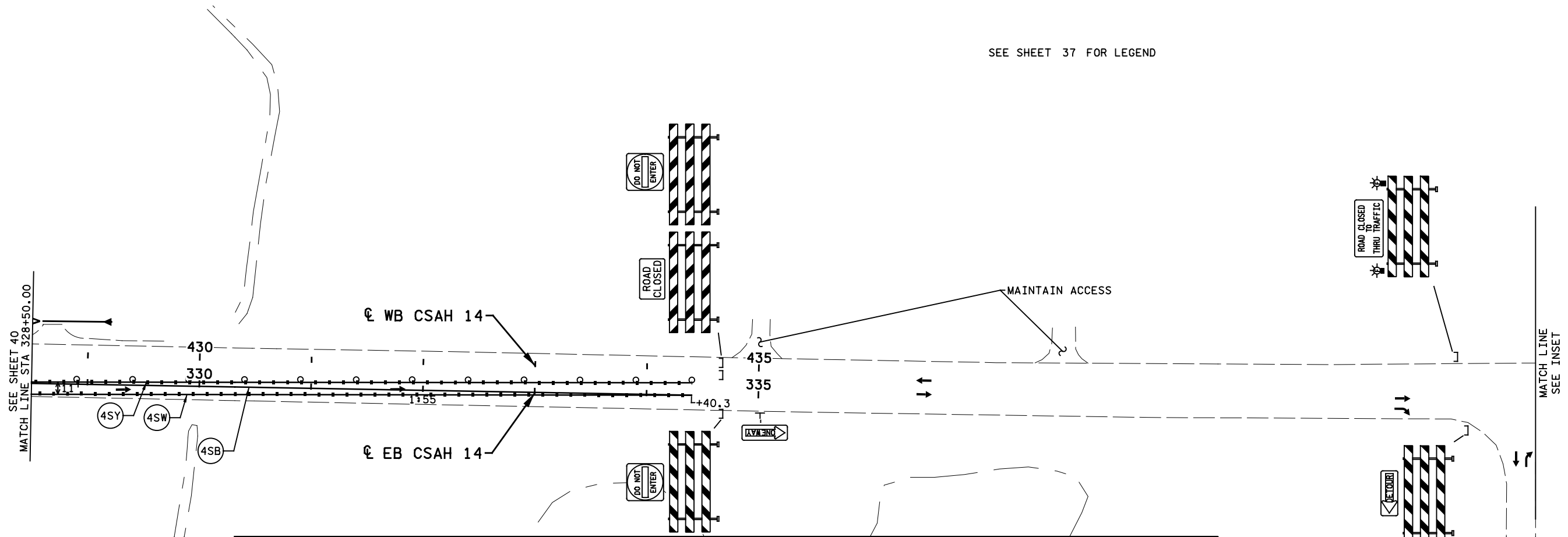
SHEET 40 OF 107

SEE SHEETS 33-34 FOR STAGING AND TRAFFIC CONTROL NOTES, STAGING NARRATIVE, STRIPING KEY, AND TRAFFIC CONTROL SIGN TABULATION.

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SEE SHEET 37 FOR LEGEND



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Ben Robeck
 Date: 03/28/19 License #: 53680

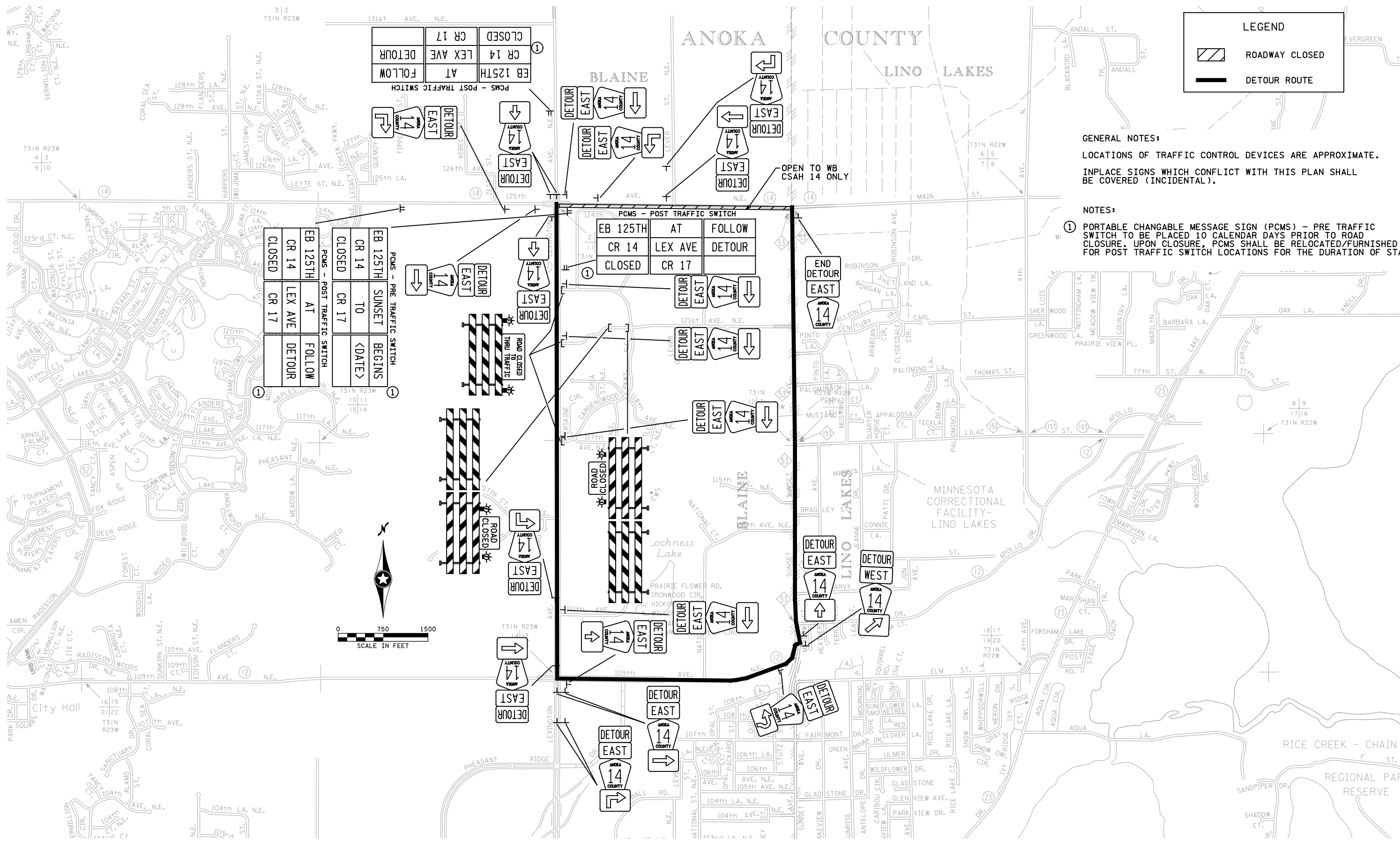
STATE PROJECT NO. 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO. 18-09

DRAWN BY S. MARTINS
 DESIGNED BY M. HARDEGGER
 CHECKED BY B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 CSAH 14 RECONSTRUCTION
 STAGE 1

SHEET 41 OF 107



LEGEND

ROADWAY CLOSED

DETOUR ROUTE

GENERAL NOTES:

LOCATIONS OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE.

INPLACE SIGNS WHICH CONFLICT WITH THIS PLAN SHALL BE COVERED (INCIDENTAL).

NOTES:

① PORTABLE CHANGABLE MESSAGE SIGN (PCMS) - PRE TRAFFIC SWITCH TO BE PLACED 10 CALENDAR DAYS PRIOR TO ROAD CLOSURE. UPON CLOSURE, PCMS SHALL BE RELOCATED/FURNISHED FOR POST TRAFFIC SWITCH LOCATIONS FOR THE DURATION OF STAGE.

PCMS - PRE TRAFFIC SWITCH

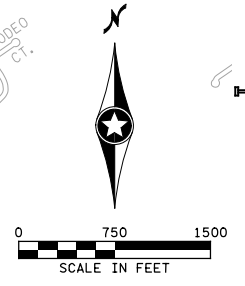
EB 125TH	SUNSET	BEGINS
CR 14	TO	<DATE>
CLOSED	CR 17	
EB 125TH	AT	FOLLOW
CR 14	LEX AVE	DETOUR
CLOSED	CR 17	

PCMS - POST TRAFFIC SWITCH

EB 125TH	AT	FOLLOW
CR 14	LEX AVE	DETOUR
CLOSED	CR 17	

PCMS - POST TRAFFIC SWITCH

EB 125TH	AT	FOLLOW
CR 14	LEX AVE	DETOUR
CLOSED	CR 17	



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Print Name: BENJAMIN P ROBECK

Ben Robeck

Date: 03/28/19 License #: 53680

STATE PROJECT NO. 002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY S. MARTINS
DESIGNED BY M. HARDEGGER
CHECKED BY B. ROBECK

COMM. NO. 1811762



ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

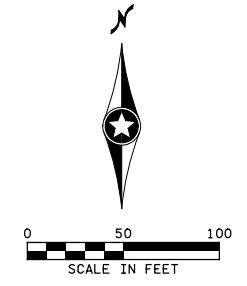
CSAH 14 RECONSTRUCTION

STAGE 2 DETOUR PLAN

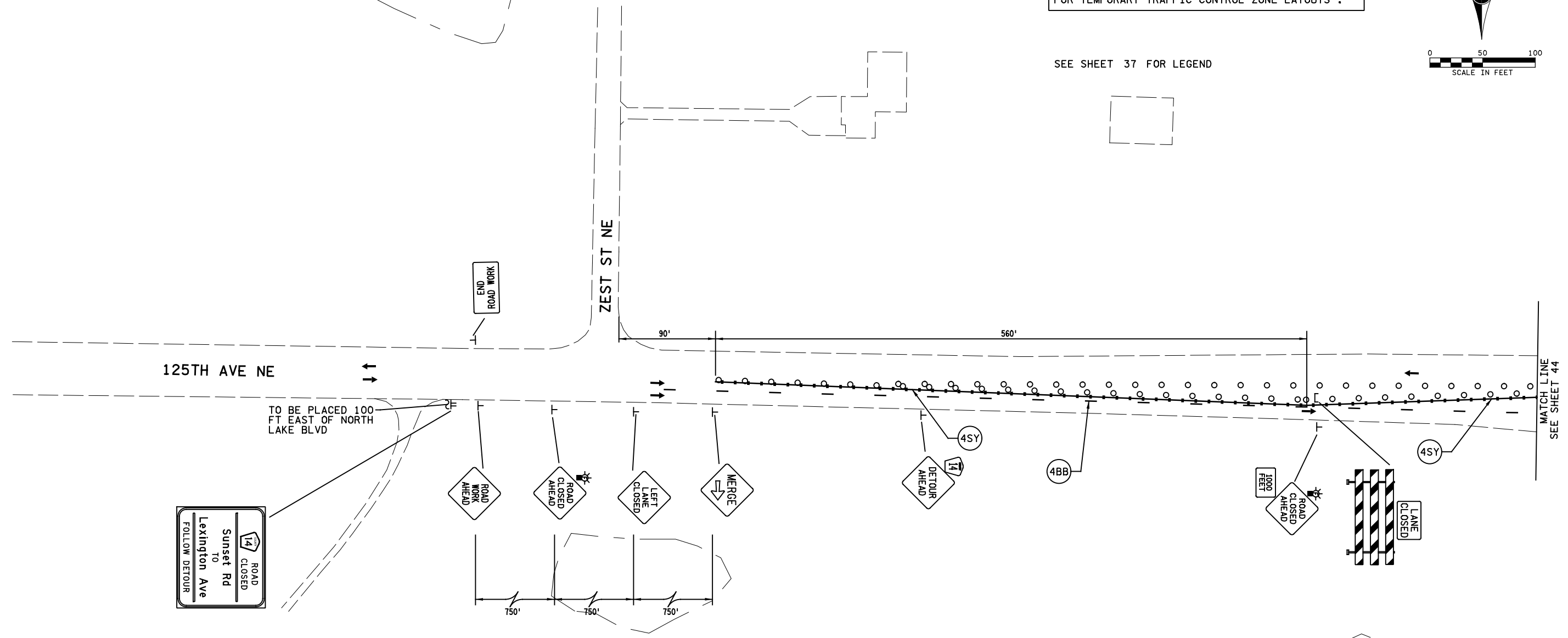
SHEET 42 OF 107

SEE SHEETS 33 - 34 FOR STAGING AND TRAFFIC CONTROL NOTES, STAGING NARRATIVE, STRIPING KEY, AND TRAFFIC CONTROL SIGN TABULATION.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE WITH THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".



SEE SHEET 37 FOR LEGEND



ROAD CLOSED
Sunset Rd
TO
Lexington Ave
FOLLOW DETOUR

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Ben Robeck

Date 03/28/19 License # 53680

STATE PROJECT NO.
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106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS

DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

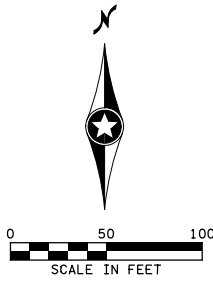
COMM. NO. 1811762



ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
CSAH 14 RECONSTRUCTION
STAGE 2

SHEET
43
OF
107



TO BE PLACED 1500 FT NORTH OF CSAH 14

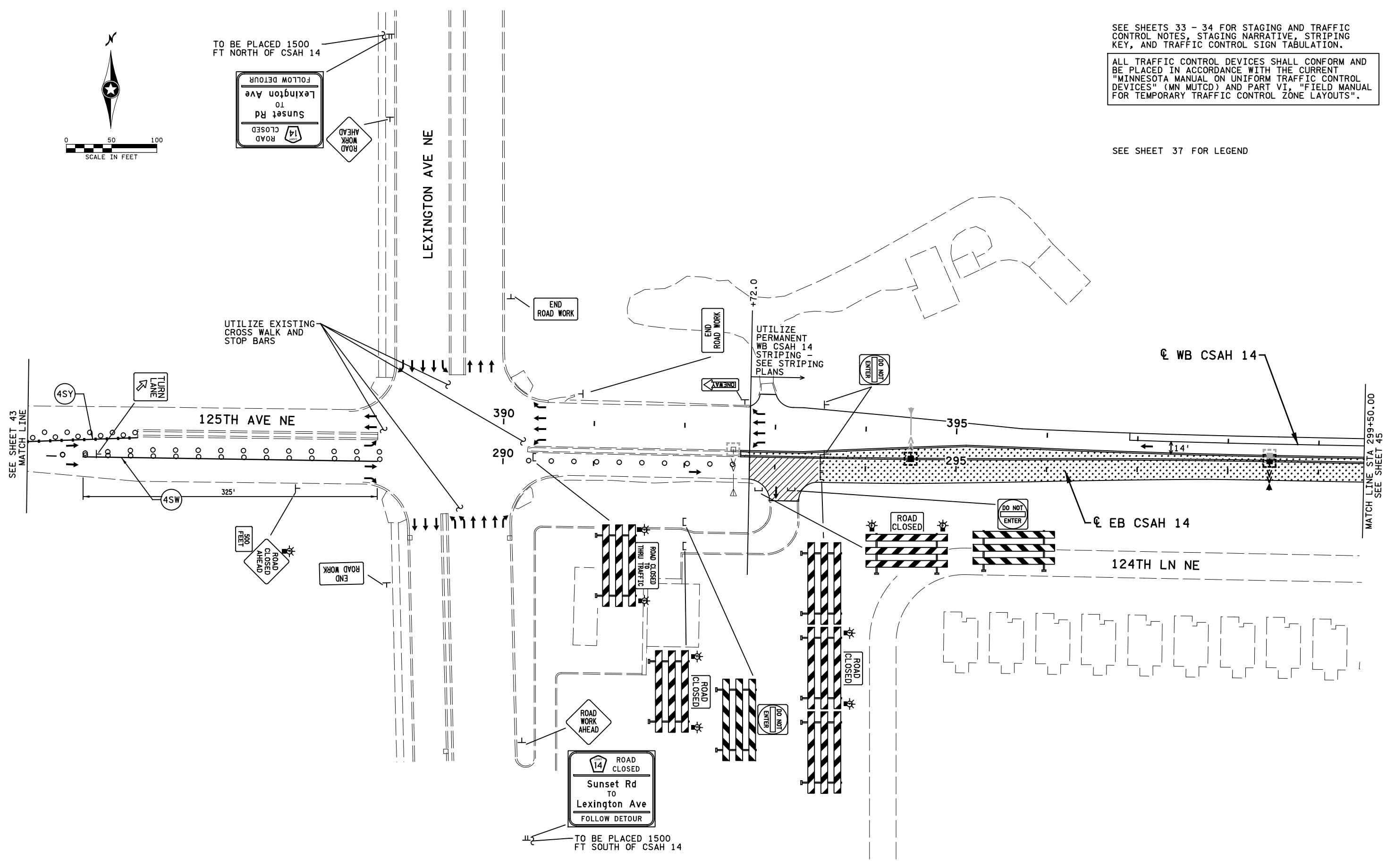


LEXINGTON AVE NE

SEE SHEETS 33 - 34 FOR STAGING AND TRAFFIC CONTROL NOTES, STAGING NARRATIVE, STRIPING KEY, AND TRAFFIC CONTROL SIGN TABULATION.

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SEE SHEET 37 FOR LEGEND



TO BE PLACED 1500 FT SOUTH OF CSAH 14



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Ben Robeck
 Date 03/28/19 License # 53680

STATE PROJECT NO. 002-614-045
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 CITY OF BLAINE
 PROJECT NO. 18-09

DRAWN BY S. MARTINS
 DESIGNED BY M. HARDEGGER
 CHECKED BY B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 CSAH 14 RECONSTRUCTION
 STAGE 2

SHEET 44 OF 107

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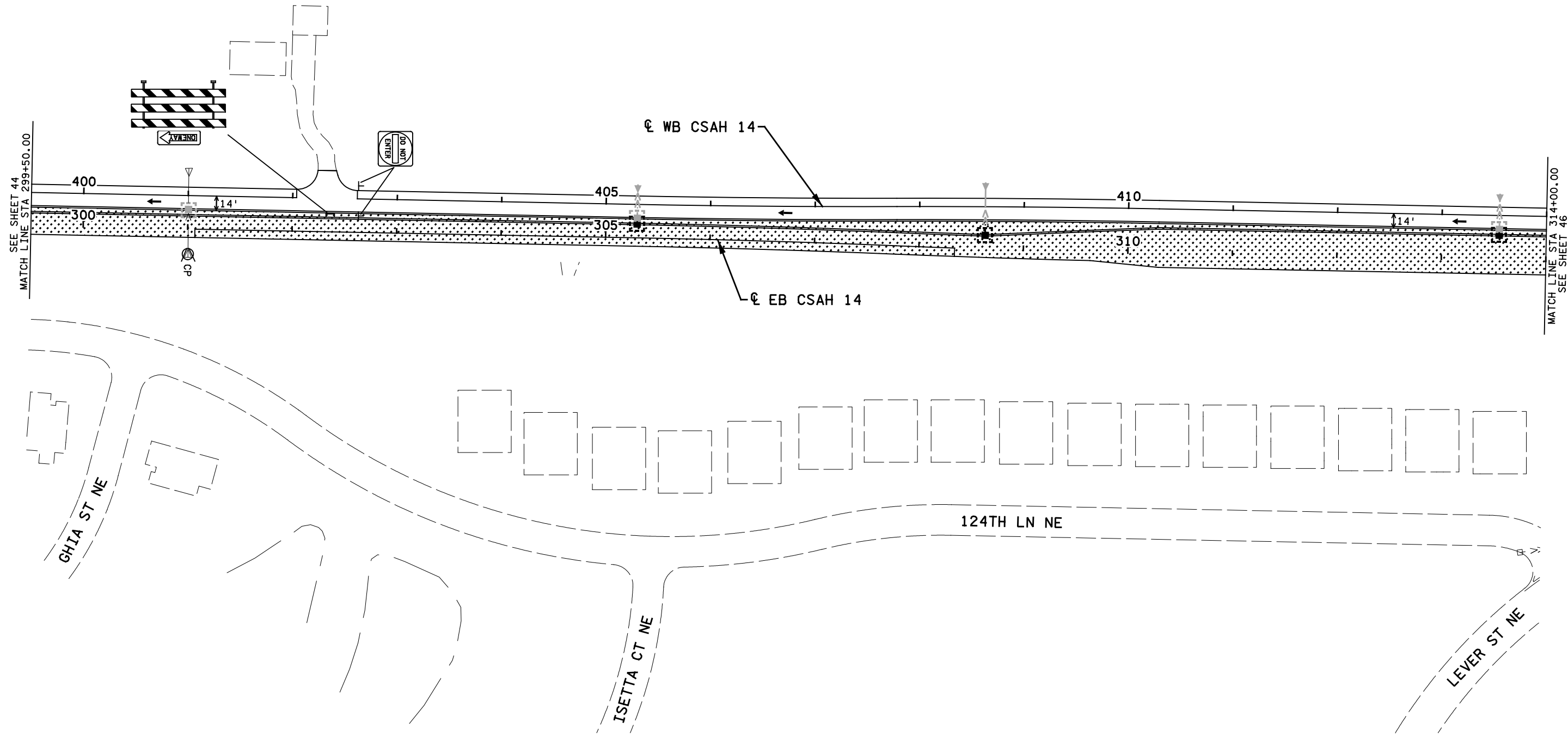
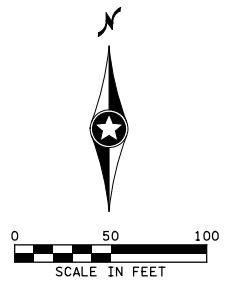
NO	DATE	BY	CKD	APPR	REVISION

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SEE SHEETS 33 - 34 FOR STAGING AND TRAFFIC CONTROL NOTES, STAGING NARRATIVE, STRIPING KEY, AND TRAFFIC CONTROL SIGN TABULATION.

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SEE SHEET 37 FOR LEGEND



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Ben Robeck

Date: 03/28/19 License #: 53680

STATE PROJECT NO.
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CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS

DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

COMM. NO. 1811762

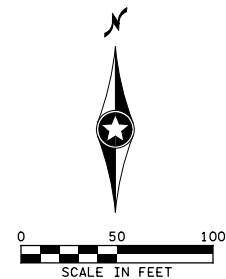


ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
CSAH 14 RECONSTRUCTION
STAGE 2

SHEET
45
OF
107

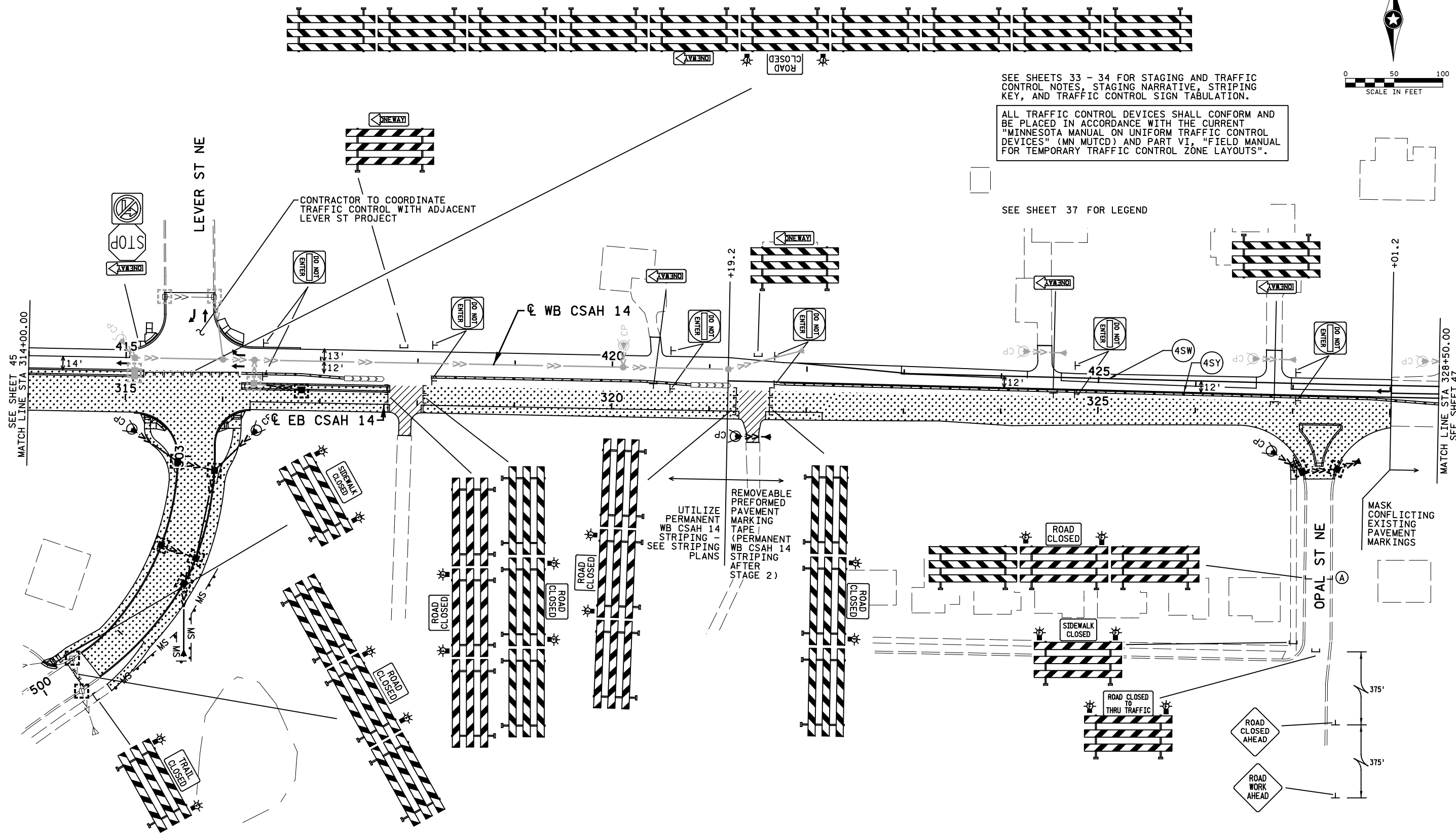
NOTES:
 (A) PLACE AFTER NORTHERNMOST DRIVEWAY ALONG OPAL ST.



SEE SHEETS 33 - 34 FOR STAGING AND TRAFFIC CONTROL NOTES, STAGING NARRATIVE, STRIPING KEY, AND TRAFFIC CONTROL SIGN TABULATION.

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SEE SHEET 37 FOR LEGEND



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Ben Robeck
 Date 03/28/19 License # 53680

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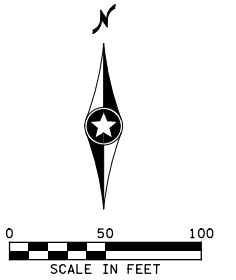


ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 CSAH 14 RECONSTRUCTION
 STAGE 2

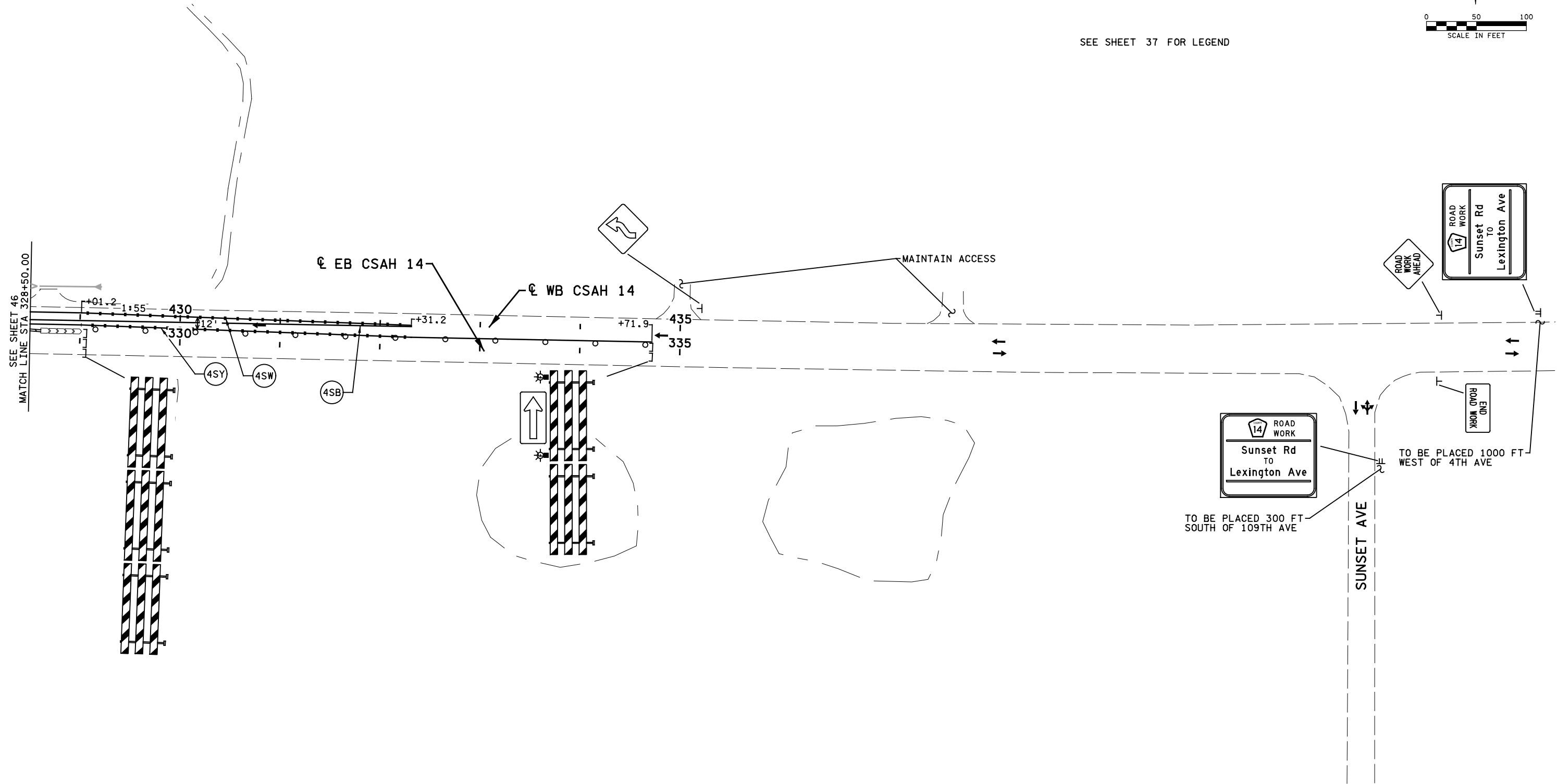
SHEET
 46
 OF
 107

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SEE SHEET 37 FOR LEGEND



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106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

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S. MARTINS

DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

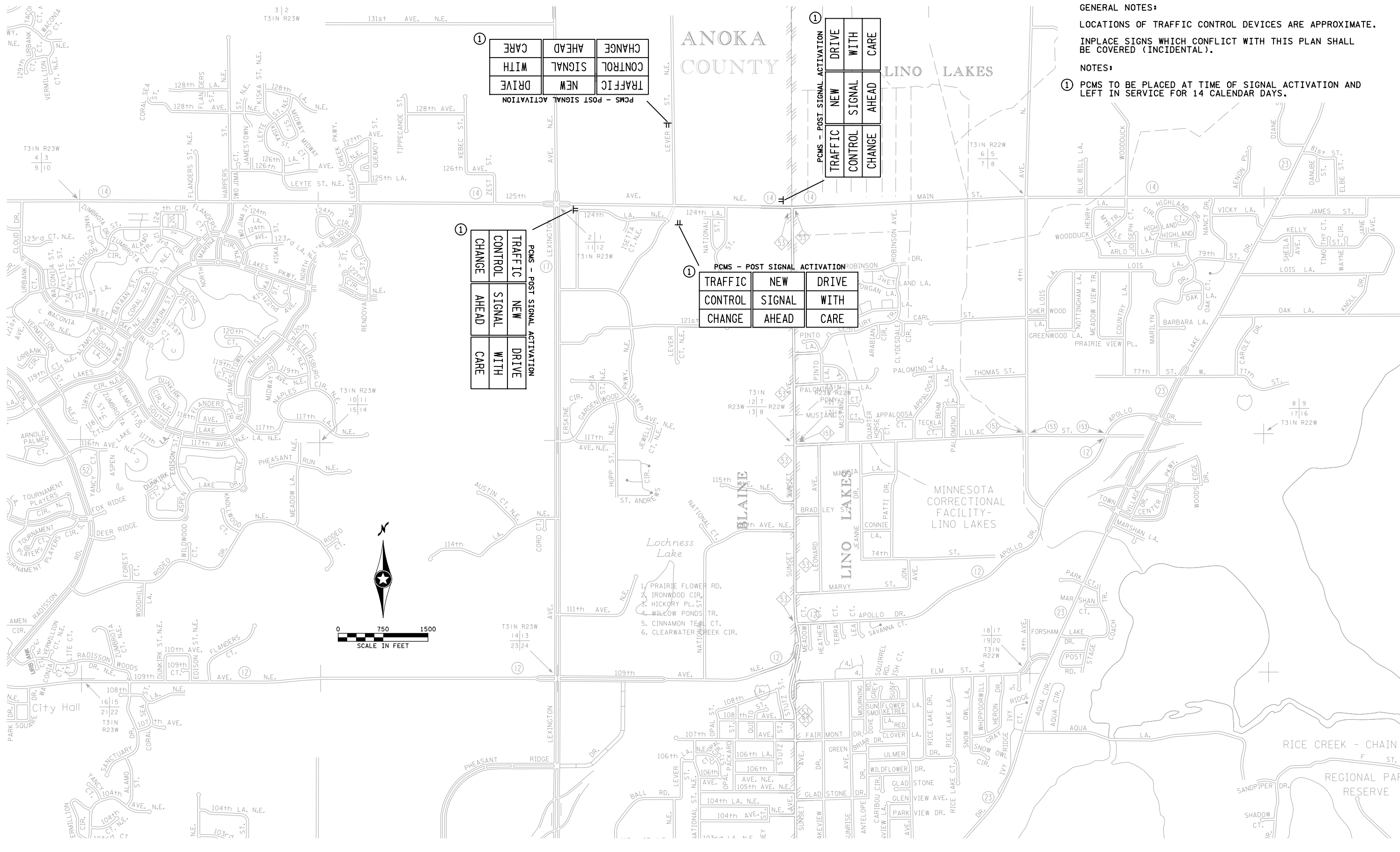
COMM. NO. 1811762



ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
CSAH 14 RECONSTRUCTION
STAGE 2

SHEET
47
OF
107



GENERAL NOTES:
 LOCATIONS OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE.
 INPLACE SIGNS WHICH CONFLICT WITH THIS PLAN SHALL BE COVERED (INCIDENTAL).

NOTES:
 ① PCMS TO BE PLACED AT TIME OF SIGNAL ACTIVATION AND LEFT IN SERVICE FOR 14 CALENDAR DAYS.

①

TRAFFIC	NEW	DRIVE
CONTROL	SIGNAL	WITH
CHANGE	AHEAD	CARE

PCMS - POST SIGNAL ACTIVATION

①

TRAFFIC	NEW	DRIVE
CONTROL	SIGNAL	WITH
CHANGE	AHEAD	CARE

PCMS - POST SIGNAL ACTIVATION

①

TRAFFIC	NEW	DRIVE
CONTROL	SIGNAL	WITH
CHANGE	AHEAD	CARE

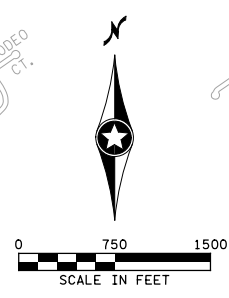
PCMS - POST SIGNAL ACTIVATION

①

TRAFFIC	NEW	DRIVE
CONTROL	SIGNAL	WITH
CHANGE	AHEAD	CARE

PCMS - POST SIGNAL ACTIVATION

1. PRAIRIE FLOWER RD.
2. IRONWOOD CIR.
3. HICKORY PL. ST.
4. WILLOW PONDS TR.
5. CINNAMON TEAL CT.
6. CLEARWATER CREEK CIR.



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STATE PROJECT NO. 002-614-045
 106-142-001

CITY OF BLAINE
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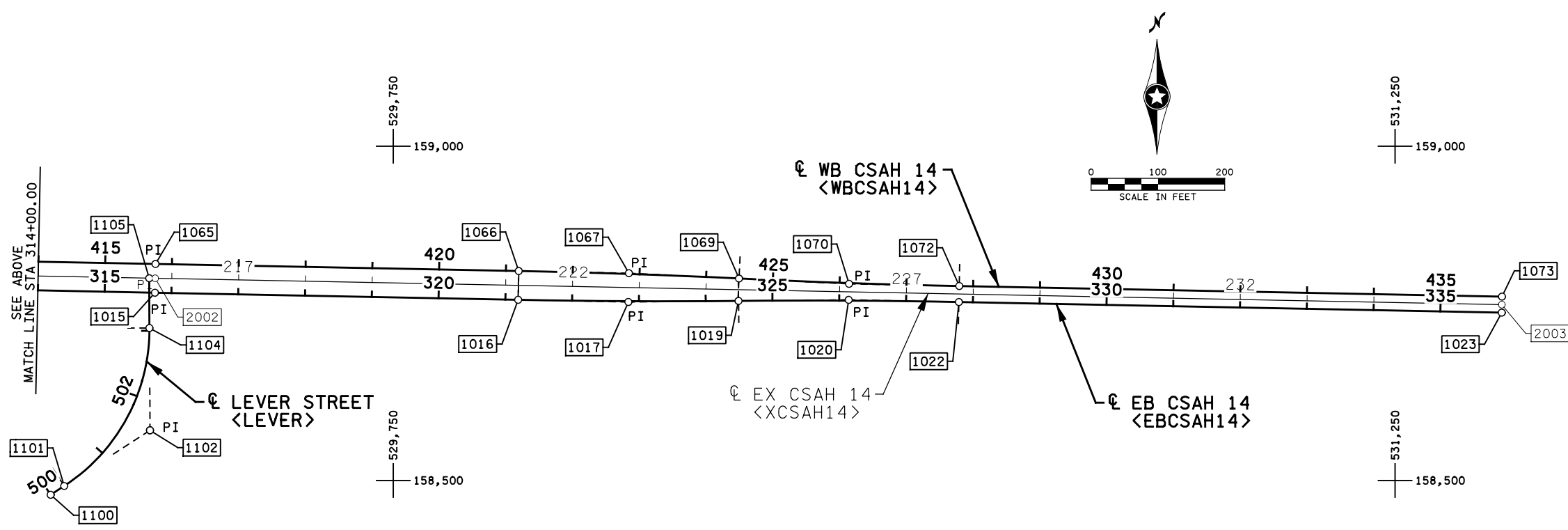
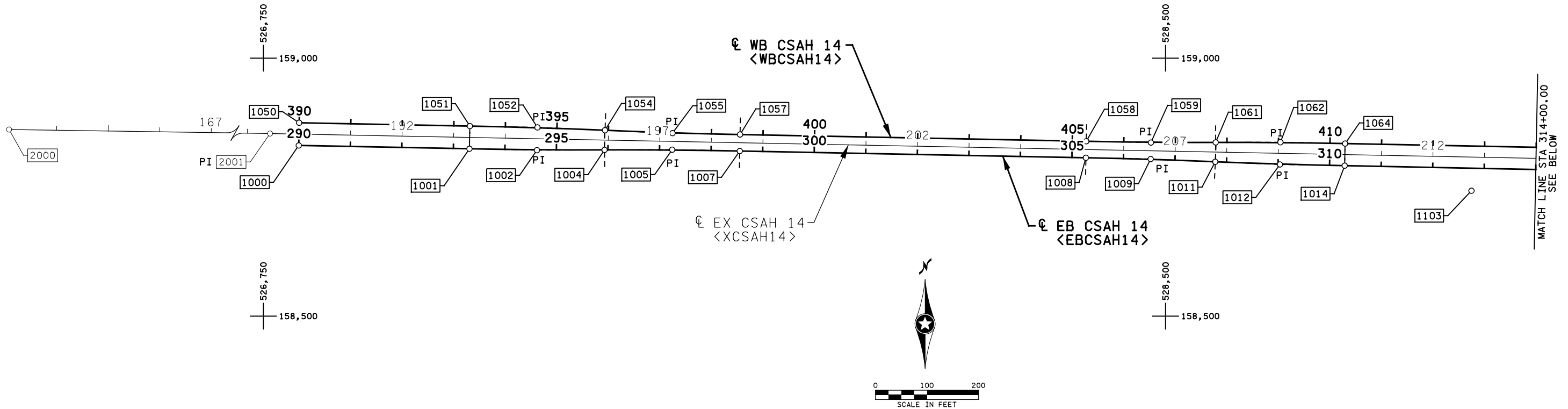
DRAWN BY S. MARTINS
 DESIGNED BY M. HARDEGGER
 CHECKED BY B. ROBECK

COMM. NO. 1811762



ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
CSAH 14 RECONSTRUCTION
 TRAFFIC SIGNAL ACTIVATION

SHEET
48
OF
107



NOTES:

XXXX DENOTES ALIGNMENT POINT NUMBERS
(SEE ALIGNMENT TABULATION)

<XXXX> INDICATES GEOPAK ALIGNMENT NAME

HORIZONTAL CONTROL
HORIZONTAL CONTROL IS BASED ON
ANOKA COUNTY COORDINATE SYSTEM,
NAD 83 (1996 ADJUSTMENT)

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Ben Robeck

Date: 03/28/19 License #: 53680

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CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS

DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

COMM. NO. 1811762



ANOKA COUNTY
ALIGNMENT PLANS
CSAH 14 RECONSTRUCTION

SHEET
49
OF
107

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, CIRCULAR CURVE DATA (DELTA, DEGREE, RADIUS, TANGENT, LENGTH), SPIRAL CURVE DATA (ANGLE, DEGREE, ST, LT, LS), COORDINATES (X, Y), AZIMUTH. Section: EB CSAH 14 <EBCSAH14>

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, CIRCULAR CURVE DATA (DELTA, DEGREE, RADIUS, TANGENT, LENGTH), SPIRAL CURVE DATA (ANGLE, DEGREE, ST, LT, LS), COORDINATES (X, Y), AZIMUTH. Section: WB CSAH 14 <WBCSAH14>

LEVER STREET <LEVER>

Table with columns: POINT NUMBER, POINT, STATION, CIRCULAR CURVE DATA (DELTA, DEGREE, RADIUS, TANGENT, LENGTH), SPIRAL CURVE DATA (ANGLE, DEGREE, ST, LT, LS), COORDINATES (X, Y), AZIMUTH. Section: LEVER STREET <LEVER>

EX CSAH 14 <XCSAH14>

Table with columns: POINT NUMBER, POINT, STATION, CIRCULAR CURVE DATA (DELTA, DEGREE, RADIUS, TANGENT, LENGTH), SPIRAL CURVE DATA (ANGLE, DEGREE, ST, LT, LS), COORDINATES (X, Y), AZIMUTH. Section: EX CSAH 14 <XCSAH14>

NOTES:
1 ALIGNMENT POINT IS NOT SHOWN ON ALIGNMENT PLAN VIEW.
<XXXX> INDICATES GEOPAK ALIGNMENT NAME.

4:19:42 PM 5/21/2019 ... \Plan\Ina\Plan\11762_atb01.dgn

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Print Name: BENJAMIN P ROBECK
Date: 03/28/19 License #: 53680

STATE PROJECT NO. 002-614-045 106-142-001
CITY OF BLAINE PROJECT NO. 18-09




DRAWN BY S. MARTINS
DESIGNED BY M. HARDEGGER
CHECKED BY B. ROBECK
COMM. NO. 1811762



ANOKA COUNTY
ALIGNMENT TABULATIONS
CSAH 14 RECONSTRUCTION

SHEET 50 OF 107

LEGEND

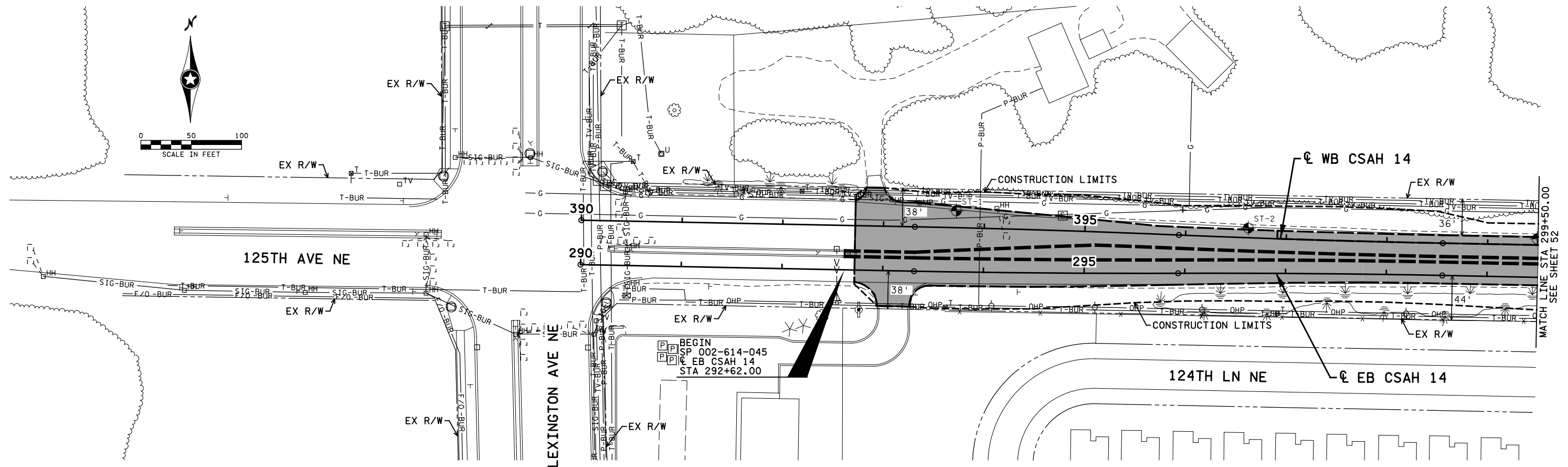
-  PROPOSED PERMANENT CONSTRUCTION
-  SB* SOIL BORING LOCATION
-  DELINEATED WETLAND

GENERAL 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".

SOME UTILITIES MAY BE RELOCATED PRIOR TO CONSTRUCTION.

THE RIGHT-OF-WAY SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT-OF-WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT-OF-WAY MAP.



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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: BENJAMIN P ROBECK

Ben Robeck

Date 03/28/19 License # 53680

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS

DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

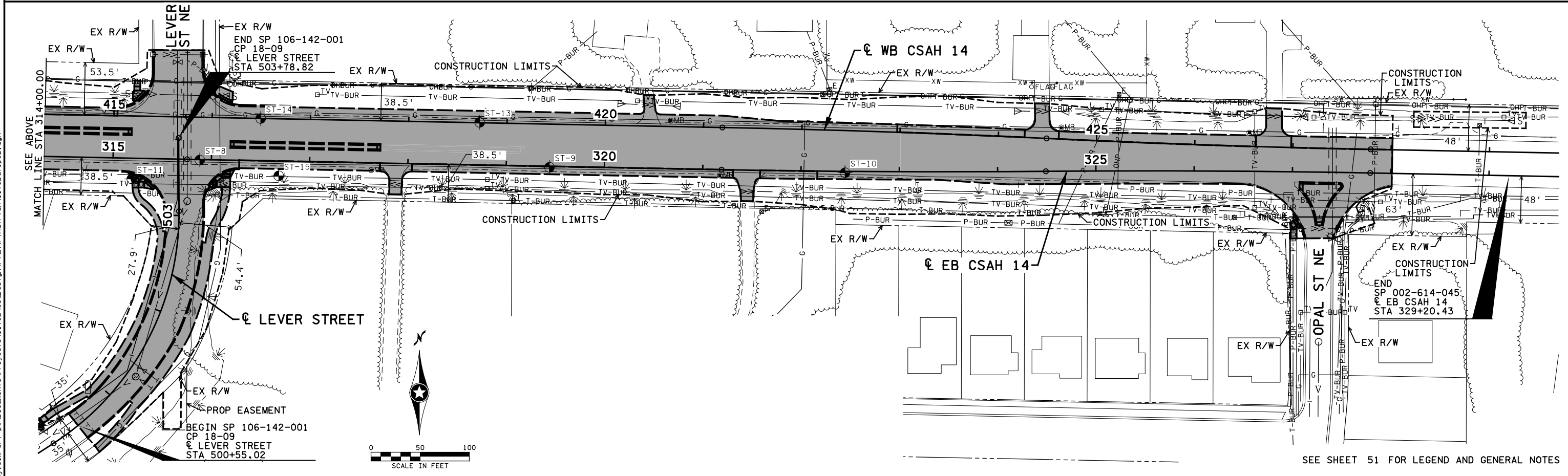
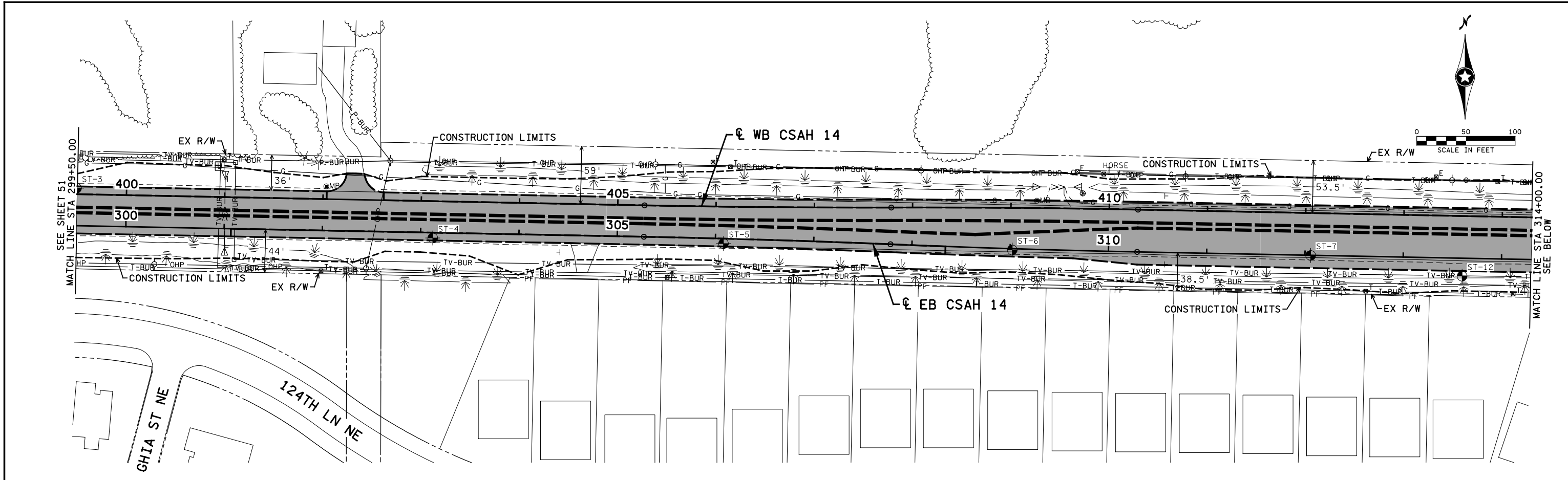
COMM. NO. 1811762



ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLANS
CSAH 14 RECONSTRUCTION

SHEET
51
OF
107



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ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLANS

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52
OF
107

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SEE SHEET 51 FOR LEGEND AND GENERAL NOTES

GENERAL NOTES:

EXISTING PAVEMENT THICKNESS VARIES. SEE CONSTRUCTION AND SOILS NOTES FOR APPROXIMATE DEPTHS. REMOVAL OF PAVEMENT SHALL CONSIST OF REMOVING ALL LAYERS OF PAVEMENT BASED ON THE AREA OF THE TOP SURFACE, REGARDLESS OF MATERIAL TYPE, THICKNESS OR REMOVAL METHOD.

ALL TREES TO BE CLEARED AND GRUBBED WILL BE MARKED BY THE FIELD ENGINEER.

PROTECT ALL TREES THAT ARE NOT MARKED FOR REMOVAL (INCIDENTAL).

SHRUB REMOVAL SHALL BE INCIDENTAL.

SEE SIGNING REMOVAL PLANS AND TABS FOR SIGN REMOVALS.

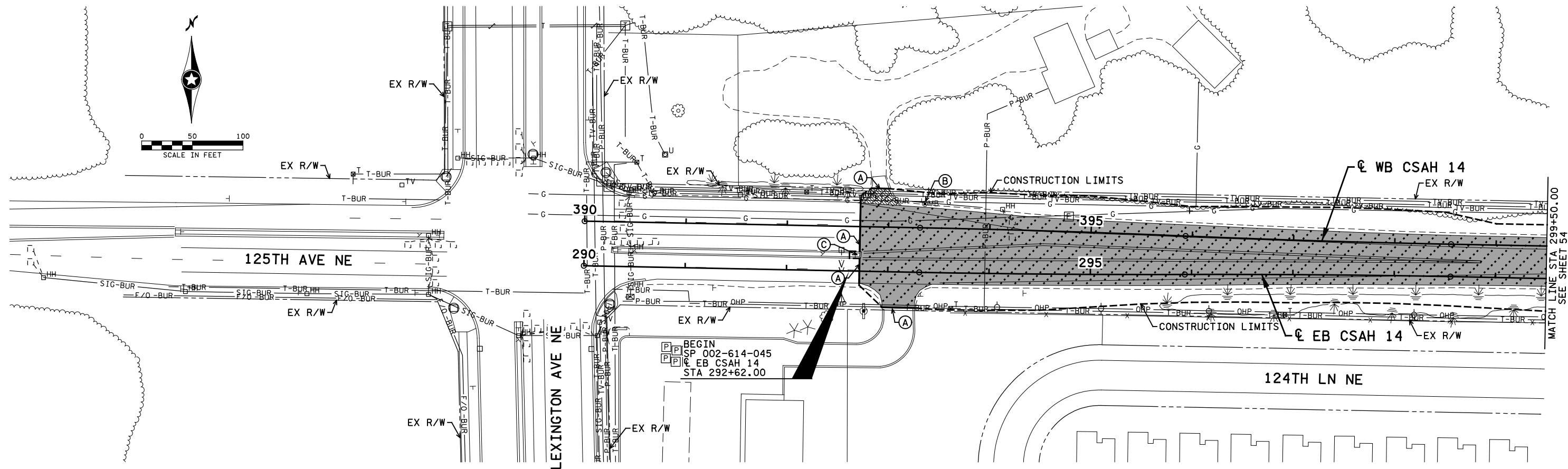
SEE UTILITY TABULATIONS FOR PRIVATE UTILITY ITEMS.

IT IS THE CONTRACTORS RESPONSIBILITY TO IDENTIFY AND PROTECT EXISTING IRRIGATION SYSTEMS. ANY DISRUPTION OR MODIFICATION TO THESE SYSTEMS IS CONSIDERED INCIDENTAL. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING IRRIGATION SYSTEMS TO WORKING CONDITION DEEMED ACCEPTABLE TO THE ENGINEER AND PROPERTY OWNER.

NOTES:

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) RELOCATE MAIL BOX SUPPORT
- (C) REMOVE CONCRETE MEDIAN

LEGEND	
	GRUBBING (ACRE)
	REMOVE BITUMINOUS PAVEMENT
	REMOVE BITUMINOUS DRIVEWAY PAVEMENT
	REMOVE CURB & GUTTER
	REMOVE PIPE CULVERTS/SEWER PIPE (STORM)
	DELINEATED WETLAND



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Ben Robeck
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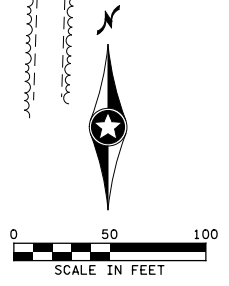
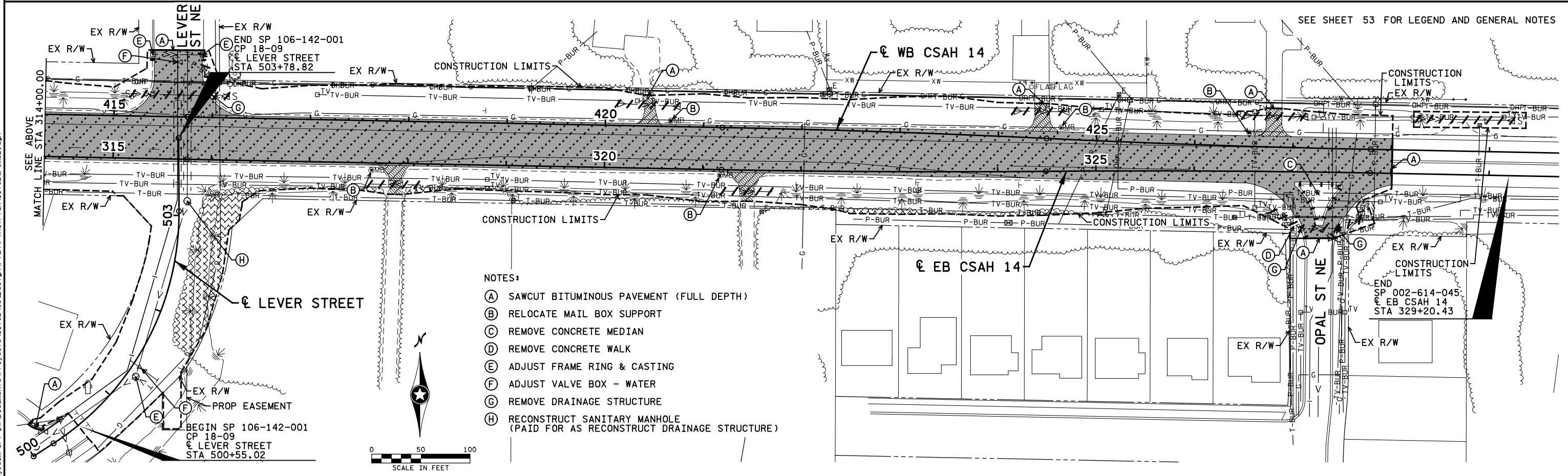
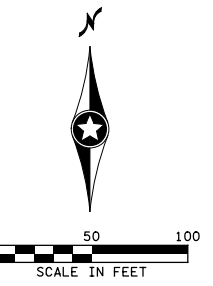
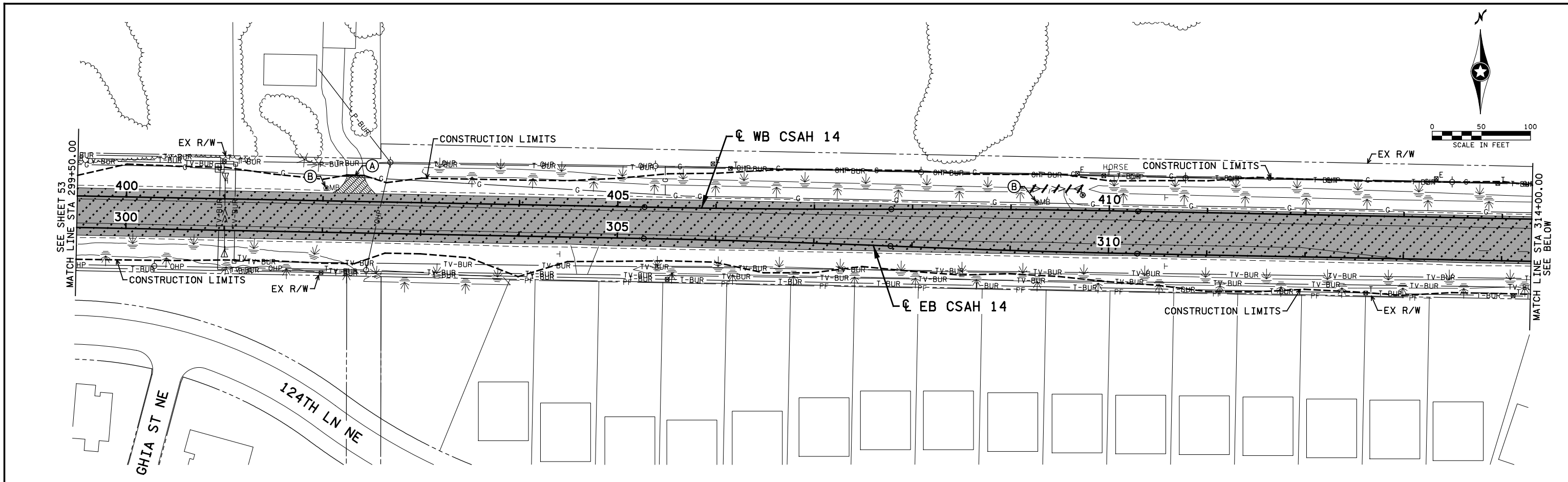
STATE PROJECT NO. 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO. 18-09

DRAWN BY S. MARTINS
 DESIGNED BY M. HARDEGGER
 CHECKED BY B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 REMOVAL PLANS
 CSAH 14 RECONSTRUCTION

SHEET 53 OF 107



NO	DATE	BY	CKD	APPR	REVISION

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CITY OF BLAINE
PROJECT NO.
18-09

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DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

COMM. NO. 1811762



ANOKA COUNTY
REMOVAL PLANS
CSAH 14 RECONSTRUCTION

SHEET
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OF
107

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LEGEND	
	INPLACE PAVEMENT
	PROPOSED CONSTRUCTION
	DELINEATED WETLANDS
	BITUMINOUS TRAIL
	CONCRETE WALK

GENERAL NOTES:

THE RIGHT-OF-WAY SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT-OF-WAY AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLATS AND ARE IDENTIFIED ON THE RIGHT-OF-WAY MAP.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

ALL DIMENSIONS TO CURB & GUTTER ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.

SEE INTERSECTION AND PEDESTRIAN RAMP DETAILS FOR ADDITIONAL INFORMATION NOT SHOWN ON THE CONSTRUCTION PLANS.

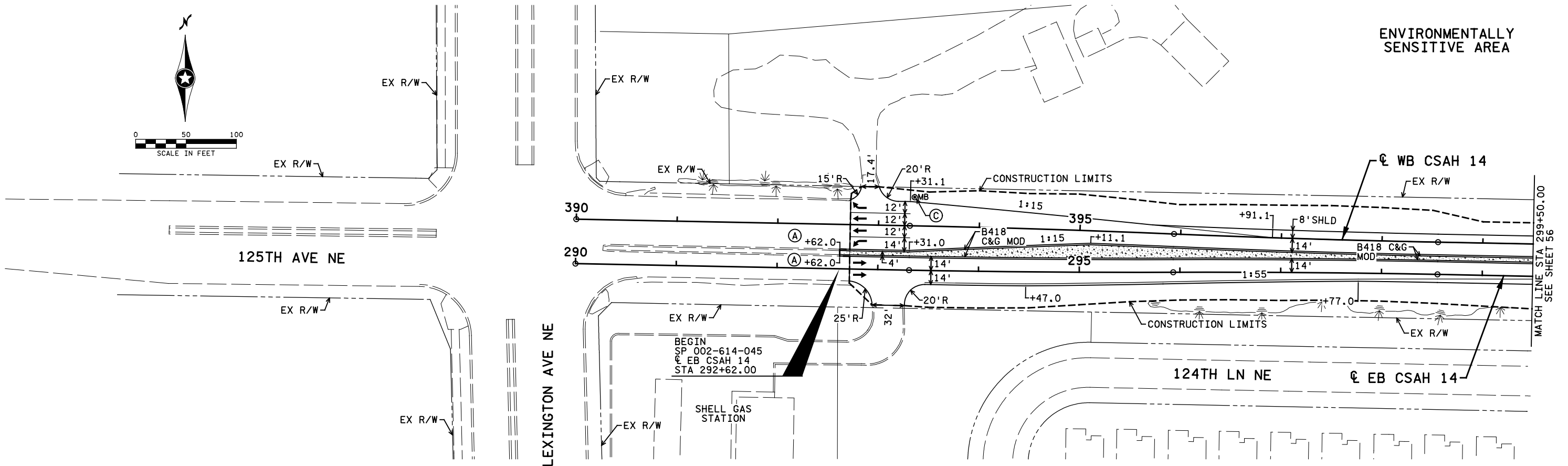
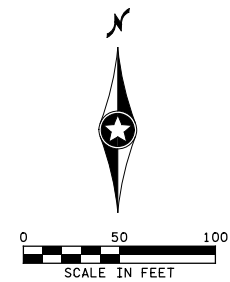
SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.

SEE SIGNING AND STRIPING PLANS FOR LANE CONFIGURATIONS AND MARKINGS.

RESIDENTIAL DRIVEWAYS MARKED FOR RECONSTRUCTION SHALL BE BITUMINOUS. SEE PAVEMENT INSET F AND CITY OF BLAINE STANDARD DETAIL PLATE ST-14. COMMERCIAL DRIVEWAY SHALL UTILIZE MAINLINE CSAH 14 PAVEMENT SECTION. SEE PAVEMENT INSET A.

NOTES:

- (A) 10' CURB TRANSITION
- (C) MAIL BOX SUPPORT



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Ben Robeck

Date: 03/28/19 License #: 53680

STATE PROJECT NO. 002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO. 18-09

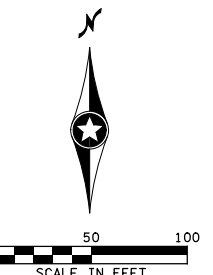
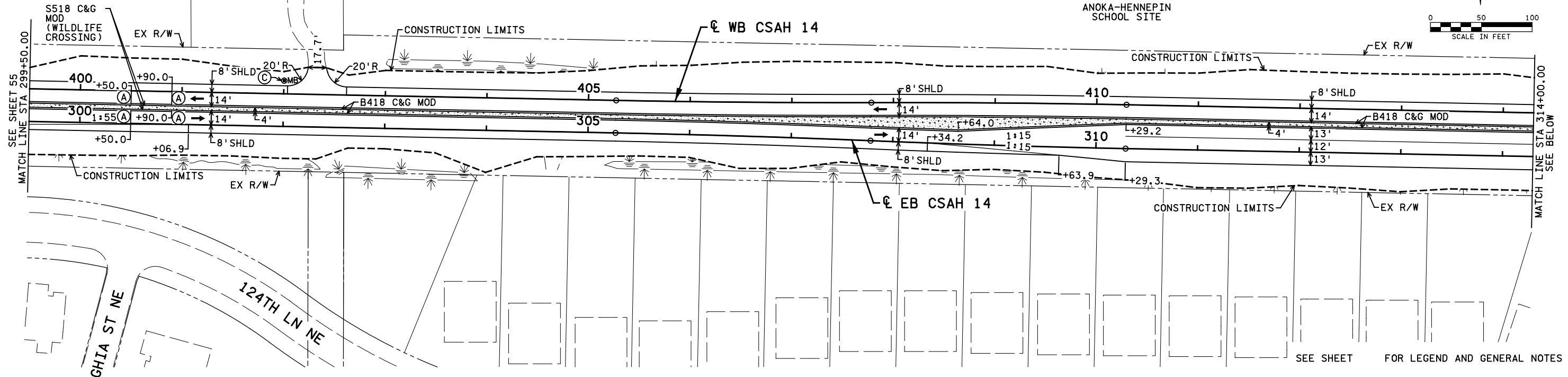
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DESIGNED BY M. HARDEGGER
CHECKED BY B. ROBECK
COMM. NO. 1811762



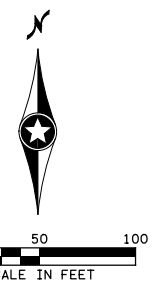
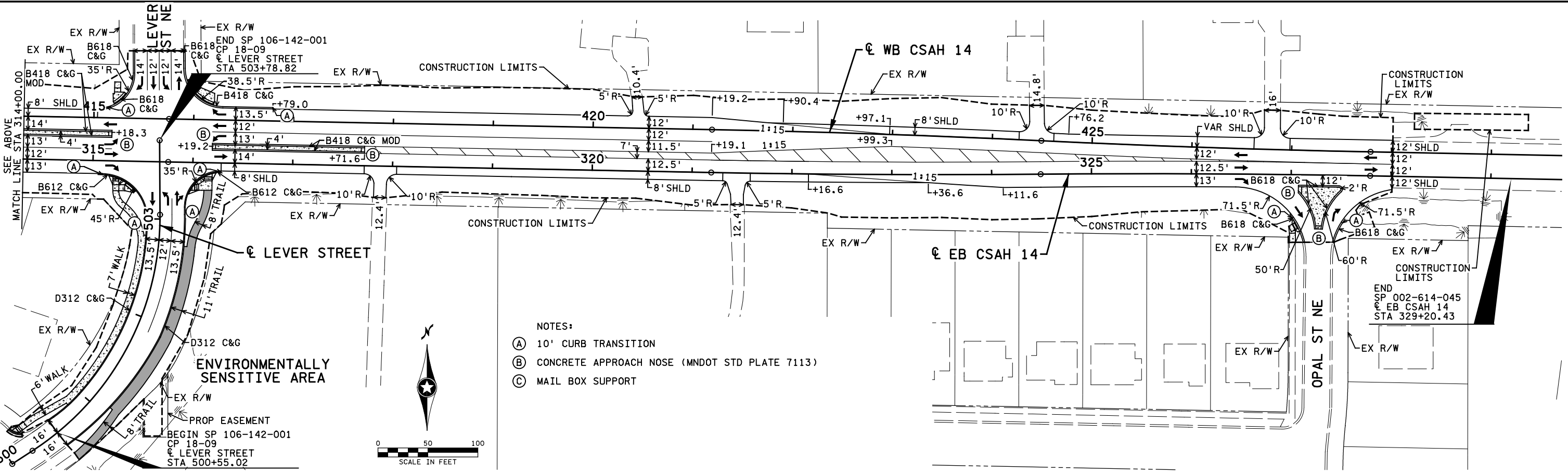
ANOKA COUNTY
CONSTRUCTION PLANS
CSAH 14 RECONSTRUCTION

SHEET 55 OF 107

ENVIRONMENTALLY SENSITIVE AREA



SEE SHEET FOR LEGEND AND GENERAL NOTES



- NOTES:
- (A) 10' CURB TRANSITION
 - (B) CONCRETE APPROACH NOSE (MNDOT STD PLATE 7113)
 - (C) MAIL BOX SUPPORT

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CHECKED BY
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ANOKA COUNTY
CONSTRUCTION PLANS
CSAH 14 RECONSTRUCTION

SHEET
56
OF
107

LEGEND

<ul style="list-style-type: none"> GUTTER OUT EXISTING STORM SEWER EXISTING CATCH BASIN EXISTING MANHOLE EXISTING APRON PROPOSED STORM SEWER PROPOSED CATCH BASIN PROPOSED APRON PROPOSED MANHOLE DRAINAGE FLOW ARROW INTERSECTION POINT NUMBER PROPOSED SIGNAL POLE PEDESTRIAN PUSH BUTTON STATION 	<ul style="list-style-type: none"> PEDESTRIAN PUSH BUTTON PROPOSED SIGNAL CABINET TRUNCATED DOMES (SEE STANDARD PLATE 7038) CURB HEIGHT 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%
---	---

GENERAL NOTES:

OFFSETS, ELEVATIONS AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT ACCOUNT FOR DRAINAGE STRUCTURE SUMPS.

SEE CONSTRUCTION PLAN SHEETS FOR CURB & GUTTER TYPES, LANE AND WALK DIMENSIONS.

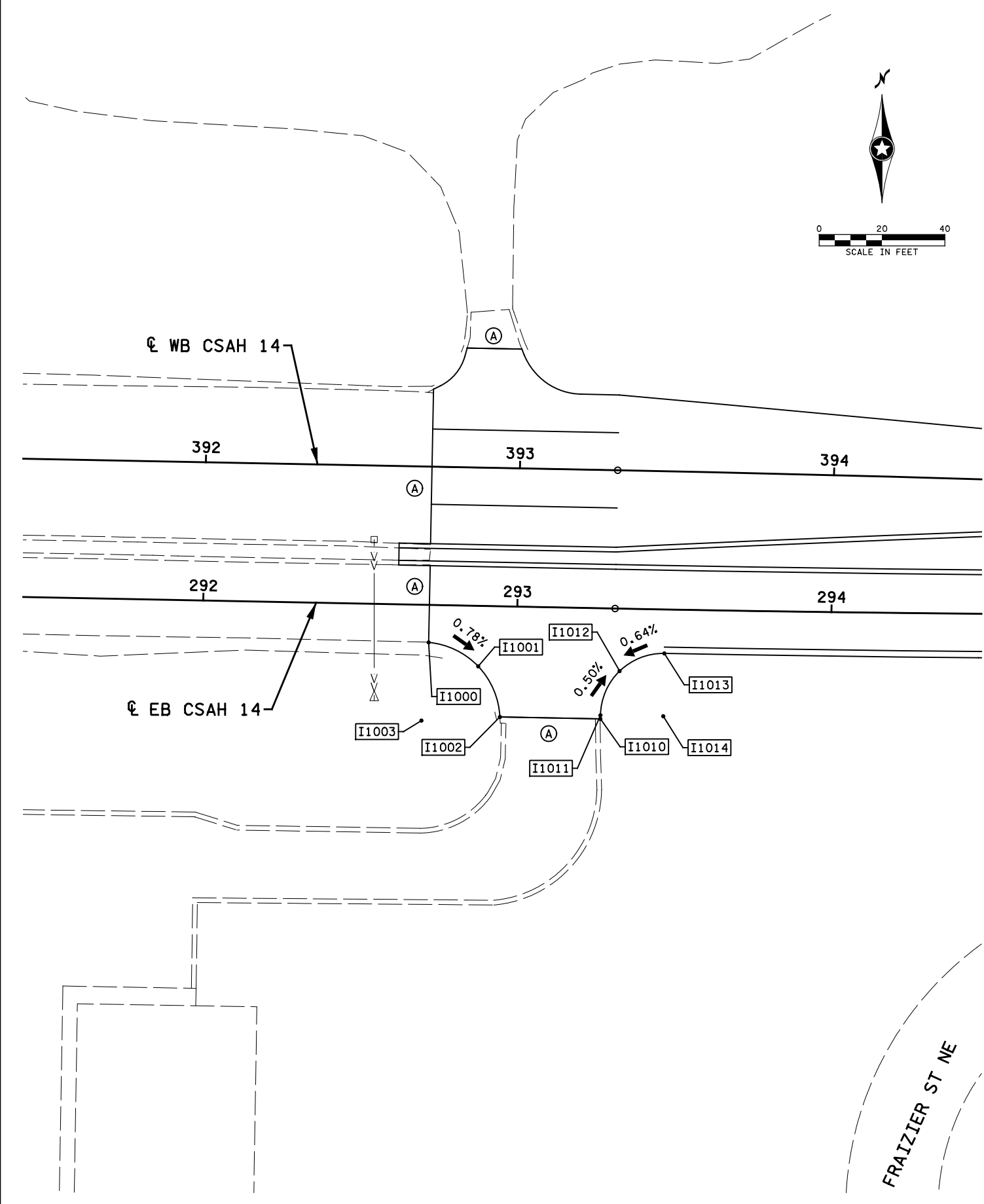
SEE DRAINAGE AND SUPERELEVATION PLANS FOR ADDITIONAL INFORMATION.

SEE STANDARD PLAN SHEETS 14 TO 19 FOR ADDITIONAL PEDESTRIAN CURB RAMP INFORMATION.

LANDING AREAS SHALL BE 6" CONCRETE WALK.

NOTES:

(A) MATCH EXISTING



POINT NO.	ELEV. OR RADIUS	ALIGNMENT	STATION	OFFSET
I1000	EL. 907.98	EB CSAH 14	292+72.00	11.95' RT.
I1001	EL. 907.84	EB CSAH 14	292+87.93	19.26' RT.
I1002	EL. 907.70	EB CSAH 14	292+95.14	35.23' RT.
I1003	25.0' R.	EB CSAH 14	292+70.20	36.88' RT.
I1010	EL. 907.68	EB CSAH 14	293+27.13	35.23' RT.
I1011	EL. 907.67	EB CSAH 14	293+27.12	34.07' RT.
I1012	EL. 907.59	EB CSAH 14	293+32.94	19.89' RT.
I1013	EL. 907.69	EB CSAH 14	293+47.07	14.00' RT.
I1014	20.0' R.	EB CSAH 14	293+47.07	34.00' RT.

FRAZIER ST NE

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Print Name: BENJAMIN P ROBECK

Ben Robeck

Date 03/28/19 License # 53680

STATE PROJECT NO. 002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY S. MARTINS
DESIGNED BY M. HARDEGGER
CHECKED BY B. ROBECK
COMM. NO. 1811762

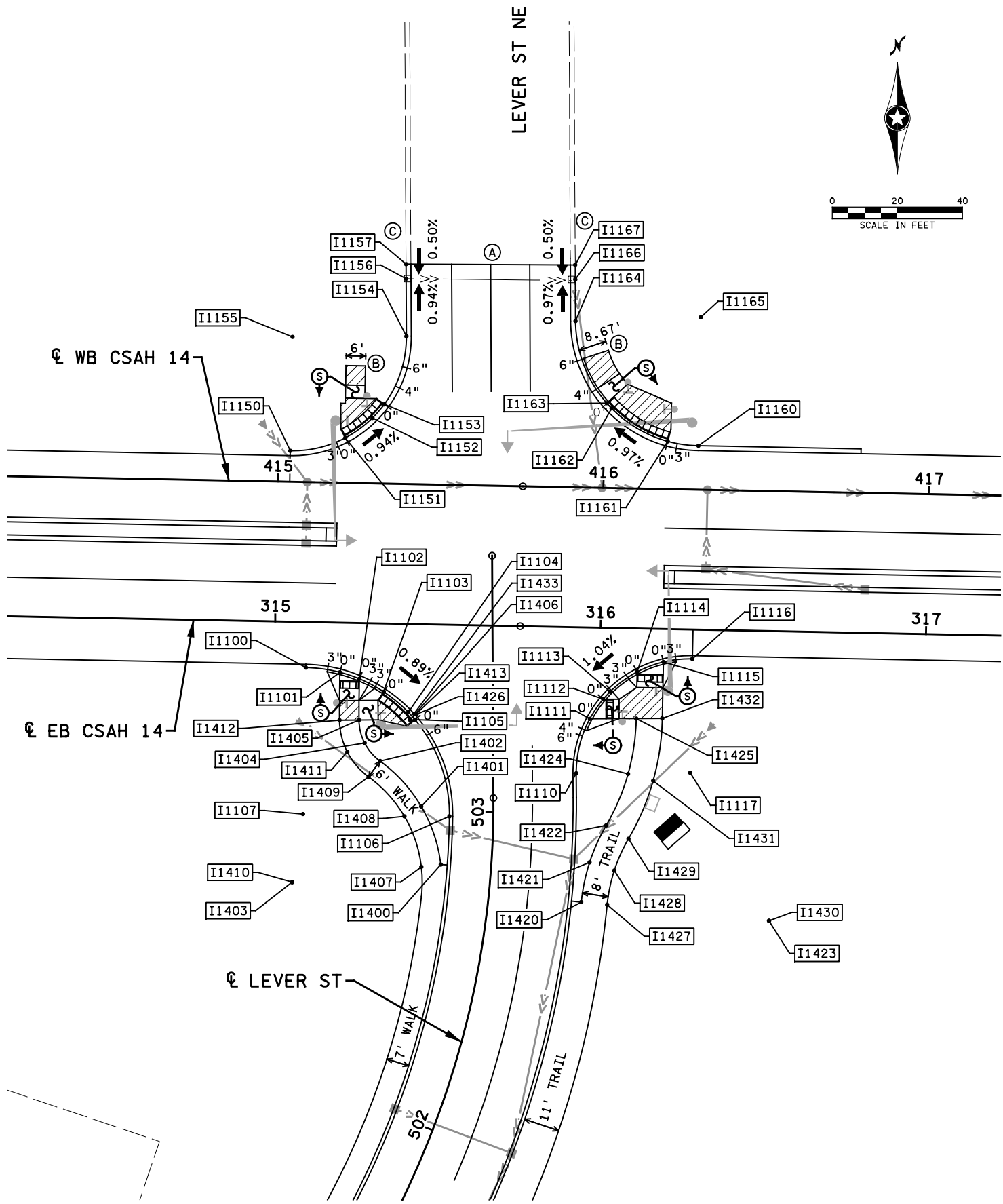


ANOKA COUNTY
INTERSECTION AND PEDESTRIAN RAMP DETAILS
CSAH 14 RECONSTRUCTION

SHEET
57
OF
107

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NO	DATE	BY	CKD	APPR	REVISION



LEGEND

<ul style="list-style-type: none"> GUTTER OUT EXISTING STORM SEWER EXISTING CATCH BASIN EXISTING MANHOLE EXISTING APRON PROPOSED STORM SEWER PROPOSED CATCH BASIN PROPOSED APRON PROPOSED MANHOLE DRAINAGE FLOW ARROW INTERSECTION POINT NUMBER PROPOSED SIGNAL POLE PEDESTRIAN PUSH BUTTON STATION 	<ul style="list-style-type: none"> PEDESTRIAN PUSH BUTTON PROPOSED SIGNAL CABINET TRUNCATED DOMES (SEE STANDARD PLATE 7038) CURB HEIGHT 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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GENERAL NOTES:

OFFSETS, ELEVATIONS AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT ACCOUNT FOR DRAINAGE STRUCTURE SUMPS.

SEE CONSTRUCTION PLAN SHEETS FOR CURB & GUTTER TYPES, LANE AND WALK DIMENSIONS.

SEE DRAINAGE AND SUPERELEVATION PLANS FOR ADDITIONAL INFORMATION.

SEE STANDARD PLAN SHEETS 14 TO 19 FOR ADDITIONAL PEDESTRIAN CURB RAMP INFORMATION.

LANDING AREAS SHALL BE 6" CONCRETE WALK.

NOTES:

- (A) MATCH EXISTING
- (B) CONNECTIONS TO PROPOSED TRAIL AND WALK TO THE NORTH TO BE MADE BY OTHERS.
- (C) CONTRACTOR SHALL COORDINATE LOCATION AND ELEVATIONS OF CURB TIES WITH ADJACENT PROJECT. FIELD ADJUSTMENTS MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER.

POINT NO.	ELEV. OR RADIUS	ALIGNMENT	STATION	OFFSET
I1100	EL. 903.01	EB CSAH 14	315+09.68	14.00' RT.
I1101	EL. 902.91	EB CSAH 14	315+20.20	15.25' RT.
I1102	EL. 902.86	EB CSAH 14	315+26.20	17.14' RT.
I1103	EL. 902.78	EB CSAH 14	315+33.75	20.98' RT.
I1104	EL. 902.69	EB CSAH 14	315+41.44	27.12' RT.
I1105	EL. 902.67	EB CSAH 14	315+43.55	29.37' RT.
I1106	EL. 902.38	EB CSAH 14	315+54.68	58.82' RT.
I1107	45.0' R.	EB CSAH 14	315+09.68	59.00' RT.
I1110	EL. 902.26	EB CSAH 14	315+93.40	44.86' RT.
I1111	EL. 902.43	EB CSAH 14	315+97.24	28.04' RT.
I1112	EL. 902.50	EB CSAH 14	316+01.22	21.94' RT.
I1113	EL. 902.53	EB CSAH 14	316+03.34	19.56' RT.
I1114	EL. 902.63	EB CSAH 14	316+11.51	13.34' RT.
I1115	EL. 902.71	EB CSAH 14	316+19.51	10.15' RT.
I1116	EL. 902.80	EB CSAH 14	316+28.39	9.00' RT.
I1117	35.0' R.	EB CSAH 14	316+28.39	44.00' RT.
I1150	EL. 902.99	EB CSAH 14	315+03.59	52.50' LT.
I1151	EL. 902.83	EB CSAH 14	315+20.42	56.81' LT.
I1152	EL. 902.73	EB CSAH 14	315+28.65	63.06' LT.
I1153	EL. 902.68	EB CSAH 14	315+32.21	67.34' LT.
I1154	EL. 902.47	EB CSAH 14	315+38.58	88.37' LT.
I1155	35.0' R.	EB CSAH 14	315+03.59	87.50' LT.
I1156	EL. 902.30	EB CSAH 14	315+38.15	106.04' LT.
I1157	EL. 902.32	EB CSAH 14	315+38.03	110.54' LT.
I1160	EL. 902.79	EB CSAH 14	316+28.96	56.50' LT.
I1161	EL. 902.69	EB CSAH 14	316+19.51	57.68' LT.
I1162	EL. 902.50	EB CSAH 14	316+02.07	67.44' LT.
I1163	EL. 902.47	EB CSAH 14	316+00.55	69.02' LT.
I1164	EL. 902.21	EB CSAH 14	315+90.47	94.05' LT.
I1165	38.5' R.	EB CSAH 14	316+28.96	95.00' LT.
I1166	EL. 902.08	EB CSAH 14	315+90.16	106.83' LT.
I1167	EL. 902.10	EB CSAH 14	315+90.04	111.32' LT.

POINT NO.	ELEV. OR RADIUS	ALIGNMENT	STATION	OFFSET
I1400	EL. 902.66	LEVER STREET	50282.78572	15.50' LT.
I1401	EL. 903.05	LEVER STREET	50301.66699	22.18' LT.
I1402	EL. 903.36	LEVER STREET	50315.89634	34.77' LT.
I1403	46.0' R.	LEVER STREET	50271.69966	60.50' LT.
I1404	EL. 903.49	LEVER STREET	50321.44808	39.48' LT.
I1405	EL. 903.25	LEVER STREET	50328.52695	41.17' LT.
I1406	15.7' R.	LEVER STREET	50328.52695	25.50' LT.
I1407	EL. 902.75	LEVER STREET	50281.55871	21.39' LT.
I1408	EL. 903.14	LEVER STREET	50298.27782	27.32' LT.
I1409	EL. 903.45	LEVER STREET	50311.05987	38.32' LT.
I1410	40.0' R.	LEVER STREET	50271.69966	60.50' LT.
I1411	EL. 903.58	LEVER STREET	50318.73746	44.83' LT.
I1412	EL. 903.34	LEVER STREET	50328.52695	47.17' LT.
I1413	21.7' R.	LEVER STREET	50328.52695	25.50' LT.
I1420	EL. 902.37	LEVER STREET	50275.14838	28.50' RT.
I1421	EL. 902.45	LEVER STREET	50286.34063	30.09' RT.
I1422	EL. 902.56	LEVER STREET	50296.70916	34.73' RT.
I1423	58.0' R.	LEVER STREET	50275.14838	86.50' RT.
I1424	EL. 903.06	LEVER STREET	50311.53965	41.42' RT.
I1425	EL. 902.86	LEVER STREET	50328.52695	44.03' RT.
I1426	67.5' R.	LEVER STREET	50330.19345	23.49' LT.
I1427	EL. 902.25	LEVER STREET	50275.14838	36.50' RT.
I1428	EL. 902.33	LEVER STREET	50284.52748	37.82' RT.
I1429	EL. 902.44	LEVER STREET	50293.26476	41.71' RT.
I1430	50.0' R.	LEVER STREET	50275.14838	86.50' RT.
I1431	EL. 903.06	LEVER STREET	50309.39433	49.10' RT.
I1432	EL. 902.98	LEVER STREET	50328.52695	52.03' RT.
I1433	76.3' R.	LEVER STREET	50330.40956	24.25' LT.

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NO	DATE	BY	CKD	APPR	REVISION

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Ben Robeck

Date: 03/28/19 License #: 53680

STATE PROJECT NO. 002-614-045
106-142-001

DESIGNED BY M. HARDEGGER
CHECKED BY B. ROBECK

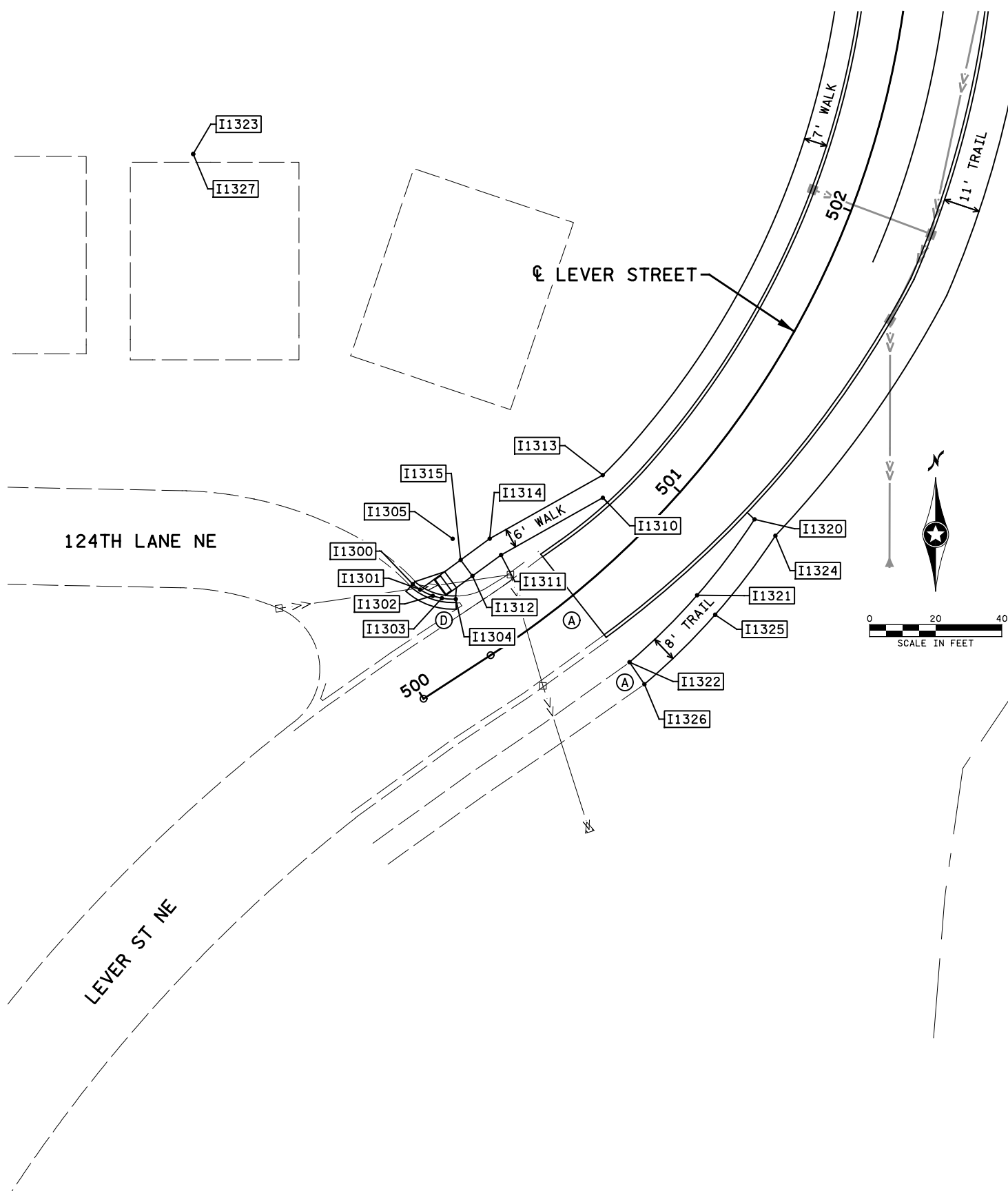
COMM. NO. 1811762



ANOKA COUNTY

INTERSECTION AND PEDESTRIAN RAMP DETAILS
CSAH 14 RECONSTRUCTION

SHEET
58
OF
107



LEGEND

<ul style="list-style-type: none"> GUTTER OUT EXISTING STORM SEWER EXISTING CATCH BASIN EXISTING MANHOLE EXISTING APRON PROPOSED STORM SEWER PROPOSED CATCH BASIN PROPOSED APRON PROPOSED MANHOLE DRAINAGE FLOW ARROW INTERSECTION POINT NUMBER PROPOSED SIGNAL POLE PEDESTRIAN PUSH BUTTON STATION 	<ul style="list-style-type: none"> PEDESTRIAN PUSH BUTTON PROPOSED SIGNAL CABINET TRUNCATED DOMES (SEE STANDARD PLATE 7038) CURB HEIGHT 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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GENERAL NOTES:

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SEE CONSTRUCTION PLAN SHEETS FOR CURB & GUTTER TYPES, LANE AND WALK DIMENSIONS.

SEE DRAINAGE AND SUPERELEVATION PLANS FOR ADDITIONAL INFORMATION.

SEE STANDARD PLAN SHEETS 14 TO 19 FOR ADDITIONAL PEDESTRIAN CURB RAMP INFORMATION.

LANDING AREAS SHALL BE 6" CONCRETE WALK.

NOTES:

- (A) MATCH EXISTING
- (D) SAWCUT BITUMINOUS PAVEMENT 2' FROM GUTTER LIP. REPLACE PAVEMENT WITH PAVEMENT INSET B ON SHEET 32.

POINT NO.	ELEV. OR RADIUS	ALIGNMENT	STATION	OFFSET
I1300	EL. 905.93	LEVER STREET	500+16.10	30.86' LT.
I1301	EL. 905.88	LEVER STREET	500+17.05	28.26' LT.
I1302	EL. 905.82	LEVER STREET	500+19.26	24.59' LT.
I1303	EL. 905.77	LEVER STREET	500+21.18	22.48' LT.
I1304	EL. 905.70	LEVER STREET	500+24.58	19.98' LT.
I1305	18.3' R.	LEVER STREET	500+35.08	35.60' LT.
I1310	EL. 905.45	LEVER STREET	500+82.23	15.85' LT.
I1311	EL. 905.81	LEVER STREET	500+45.06	23.02' LT.
I1312	EL. 906.16	LEVER STREET	500+33.33	22.99' LT.
I1313	EL. 905.50	LEVER STREET	500+87.44	20.67' LT.
I1314	EL. 905.90	LEVER STREET	500+45.31	29.02' LT.
I1315	EL. 906.25	LEVER STREET	500+33.17	28.99' LT.
I1320	EL. 904.99	LEVER STREET	501+08.12	22.42' RT.
I1321	EL. 904.31	LEVER STREET	500+81.71	25.15' RT.
I1322	EL. 905.74	LEVER STREET	500+55.39	26.51' RT.
I1323	202.6' R.	LEVER STREET	500+42.92	175.88' LT.
I1324	EL. 904.87	LEVER STREET	501+08.33	30.45' RT.
I1325	EL. 904.19	LEVER STREET	500+81.48	33.19' RT.
I1326	EL. 905.86	LEVER STREET	500+54.71	34.52' RT.
I1327	210.6' R.	LEVER STREET	500+42.92	175.88' LT.

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: BENJAMIN P ROBECK

Ben Robeck

Date: 03/28/19 License #: 53680

STATE PROJECT NO. 002-614-045
106-142-001

CITY OF BLAINE PROJECT NO. 18-09

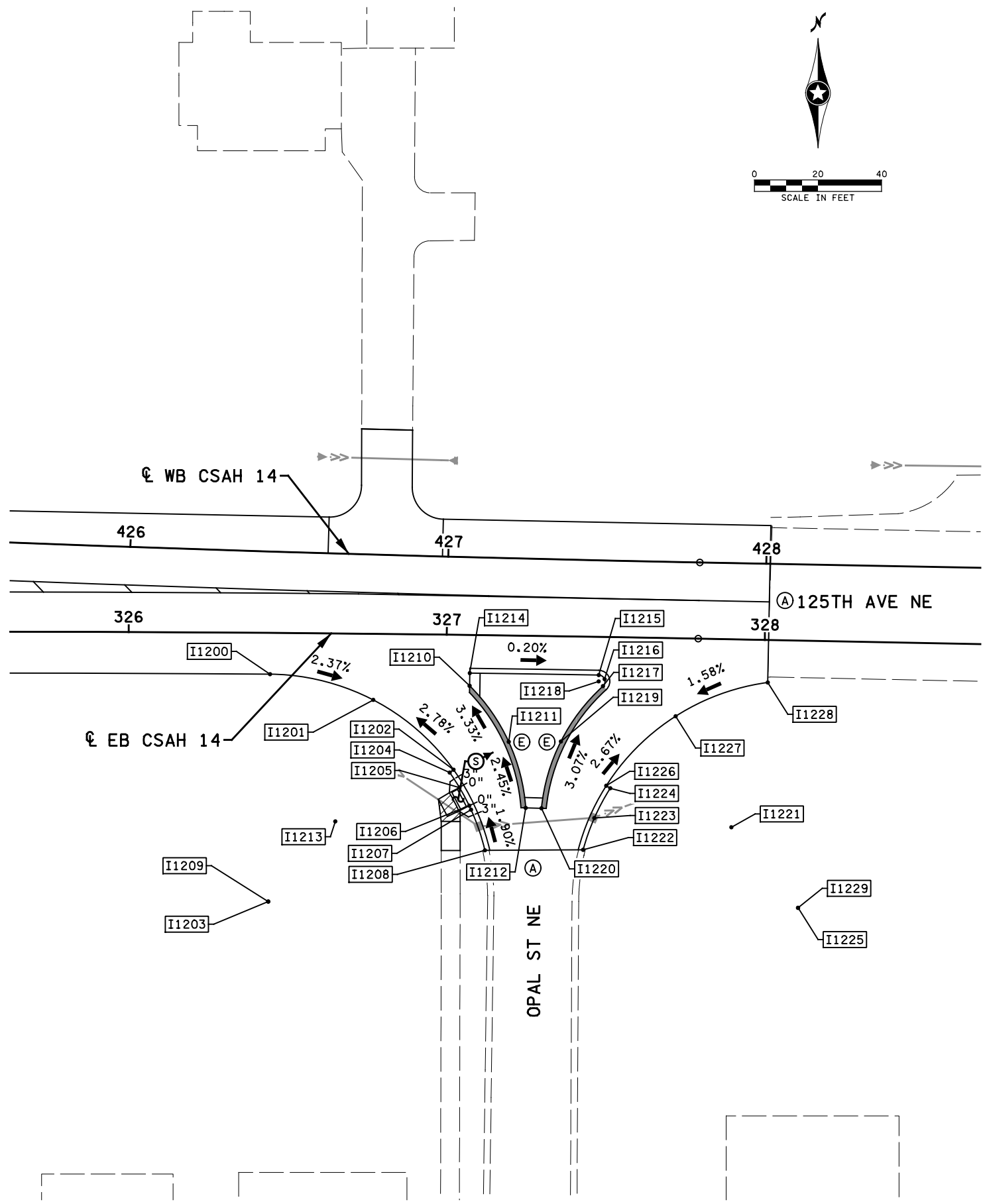
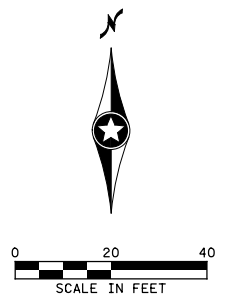
DRAWN BY S. MARTINS
DESIGNED BY M. HARDEGGER
CHECKED BY B. ROBECK
COMM. NO. 1811762



ANOKA COUNTY

INTERSECTION AND PEDESTRIAN RAMP DETAILS
CSAH 14 RECONSTRUCTION

SHEET
59
OF
107



LEGEND

- GUTTER OUT
- EXISTING STORM SEWER
- EXISTING CATCH BASIN
- EXISTING MANHOLE
- EXISTING APRON
- PROPOSED STORM SEWER
- PROPOSED CATCH BASIN
- PROPOSED APRON
- PROPOSED MANHOLE
- DRAINAGE FLOW ARROW
- INTERSECTION POINT NUMBER
- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- PROPOSED SIGNAL CABINET
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CURB HEIGHT
- 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%

GENERAL NOTES:

OFFSETS, ELEVATIONS AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT ACCOUNT FOR DRAINAGE STRUCTURE SUMPS.

SEE CONSTRUCTION PLAN SHEETS FOR CURB & GUTTER TYPES, LANE AND WALK DIMENSIONS.

SEE DRAINAGE AND SUPERELEVATION PLANS FOR ADDITIONAL INFORMATION.

SEE STANDARD PLAN SHEETS 14 TO 19 FOR ADDITIONAL PEDESTRIAN CURB RAMP INFORMATION.

LANDING AREAS SHALL BE 6" CONCRETE WALK.

NOTES:

- (A) MATCH EXISTING
- (E) GUTTER SHALL BE TIPPED OUT AND MATCH ROAD SLOPE.

POINT NO.	ELEV. OR RADIUS	ALIGNMENT	STATION	OFFSET
I1200	EL. 901.41	EB CSAH 14	326+44.52	13.00' RT.
I1201	EL. 900.61	EB CSAH 14	326+77.11	20.78' RT.
I1202	EL. 901.55	EB CSAH 14	327+02.68	42.45' RT.
I1203	71.5' R.	EB CSAH 14	326+44.52	84.50' RT.
I1204	EL. 901.46	EB CSAH 14	327+01.46	43.34' RT.
I1205	EL. 901.57	EB CSAH 14	327+04.61	48.02' RT.
I1206	EL. 901.69	EB CSAH 14	327+07.80	53.69' RT.
I1207	EL. 901.71	EB CSAH 14	327+08.37	54.95' RT.
I1208	EL. 901.97	EB CSAH 14	327+12.92	67.66' RT.
I1209	70.0' R.	EB CSAH 14	326+44.52	84.50' RT.
I1210	EL. 901.22	EB CSAH 14	327+07.39	16.00' RT.
I1211	EL. 901.94	EB CSAH 14	327+19.97	33.42' RT.
I1212	EL. 902.47	EB CSAH 14	327+25.62	54.14' RT.
I1213	60.0' R.	EB CSAH 14	326+65.53	59.12' RT.
I1214	EL. 901.32	EB CSAH 14	327+07.39	12.00' RT.
I1215	EL. 901.25	EB CSAH 14	327+48.00	12.00' RT.
I1216	EL. 901.19	EB CSAH 14	327+49.86	13.26' RT.
I1217	EL. 901.13	EB CSAH 14	327+49.37	15.46' RT.
I1218	2.0' R.	EB CSAH 14	327+48.00	14.00' RT.
I1219	EL. 901.80	EB CSAH 14	327+36.40	33.08' RT.
I1220	EL. 902.48	EB CSAH 14	327+30.60	54.18' RT.
I1221	60.0' R.	EB CSAH 14	327+90.63	59.09' RT.
I1222	EL. 902.02	EB CSAH 14	327+43.97	67.03' RT.
I1223	EL. 901.74	EB CSAH 14	327+47.36	56.98' RT.
I1224	EL. 901.45	EB CSAH 14	327+52.22	47.54' RT.
I1225	70.0' R.	EB CSAH 14	328+12.10	84.02' RT.
I1226	EL. 901.54	EB CSAH 14	327+50.94	46.76' RT.
I1227	EL. 900.69	EB CSAH 14	327+72.41	24.53' RT.
I1228	EL. 901.18	EB CSAH 14	328+01.20	13.35' RT.
I1229	71.5' R.	EB CSAH 14	328+12.10	84.02' RT.

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: BENJAMIN P ROBECK

Ben Robeck

Date: 03/28/19 License # 53680

STATE PROJECT NO. 002-614-045 106-142-001

DESIGNED BY M. HARDEGGER

CHECKED BY B. ROBECK

COMM. NO. 1811762



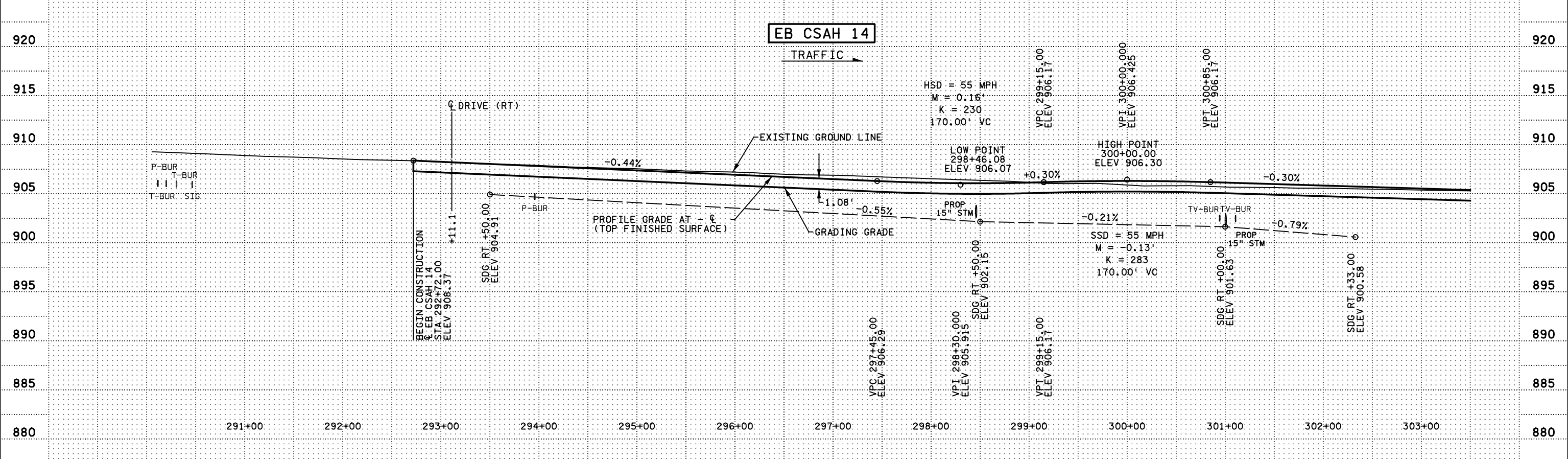
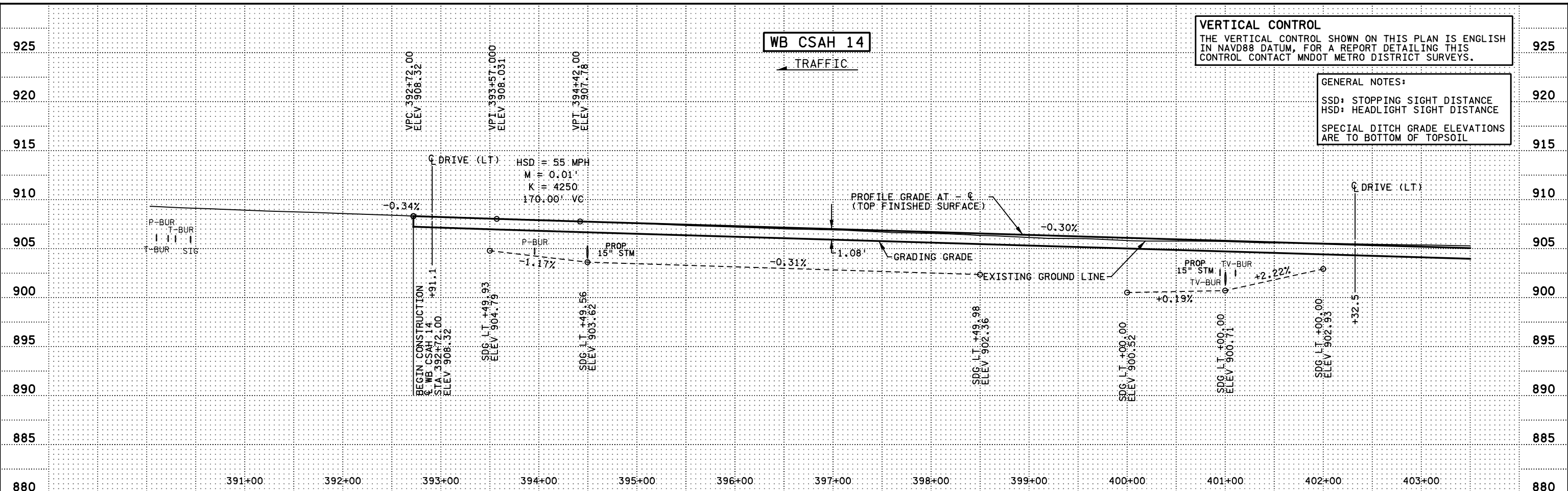
ANOKA COUNTY

INTERSECTION AND PEDESTRIAN RAMP DETAILS
CSAH 14 RECONSTRUCTION

SHEET
60
OF
107

VERTICAL CONTROL
 THE VERTICAL CONTROL SHOWN ON THIS PLAN IS ENGLISH IN NAVD88 DATUM, FOR A REPORT DETAILING THIS CONTROL CONTACT MNDOT METRO DISTRICT SURVEYS.

GENERAL NOTES:
 SSD: STOPPING SIGHT DISTANCE
 HSD: HEADLIGHT SIGHT DISTANCE
 SPECIAL DITCH GRADE ELEVATIONS ARE TO BOTTOM OF TOPSOIL



NO	DATE	BY	CKD	APPR	REVISION

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 Print Name: BENJAMIN P ROBECK
Ben Robeck
 Date: 03/28/19 License #: 53680

STATE PROJECT NO. 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO. 18-09
 DRAWN BY S. MARTINS
 DESIGNED BY M. HARDEGGER
 CHECKED BY B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 PROFILES
 CSAH 14 RECONSTRUCTION

SHEET 61 OF 107

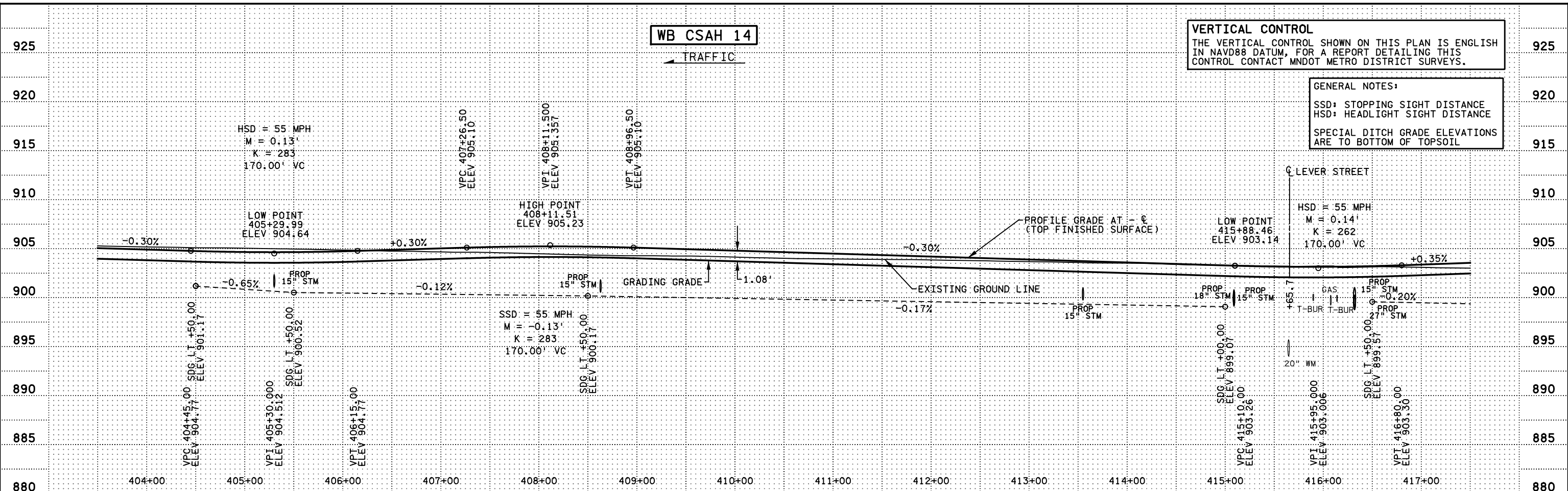
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WB CSAH 14

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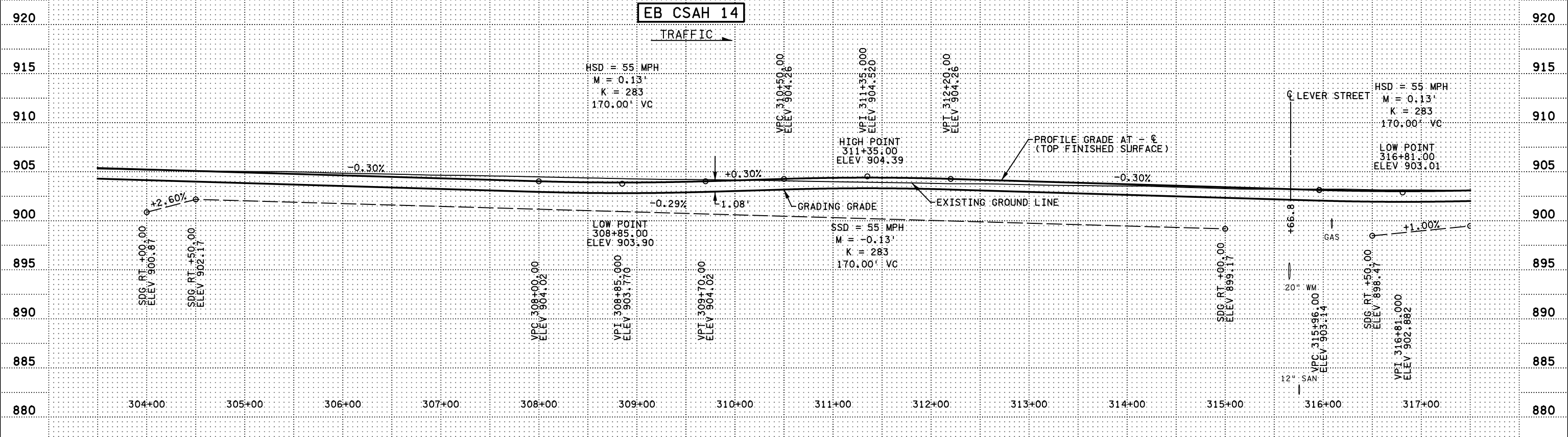
VERTICAL CONTROL
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 IN NAVD88 DATUM, FOR A REPORT DETAILING THIS
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GENERAL NOTES:
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 HSD: HEADLIGHT SIGHT DISTANCE
 SPECIAL DITCH GRADE ELEVATIONS
 ARE TO BOTTOM OF TOPSOIL



EB CSAH 14

→ TRAFFIC



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 Print Name: BENJAMIN P ROBECK
Ben Robeck
 Date: 03/28/19 License #: 53680

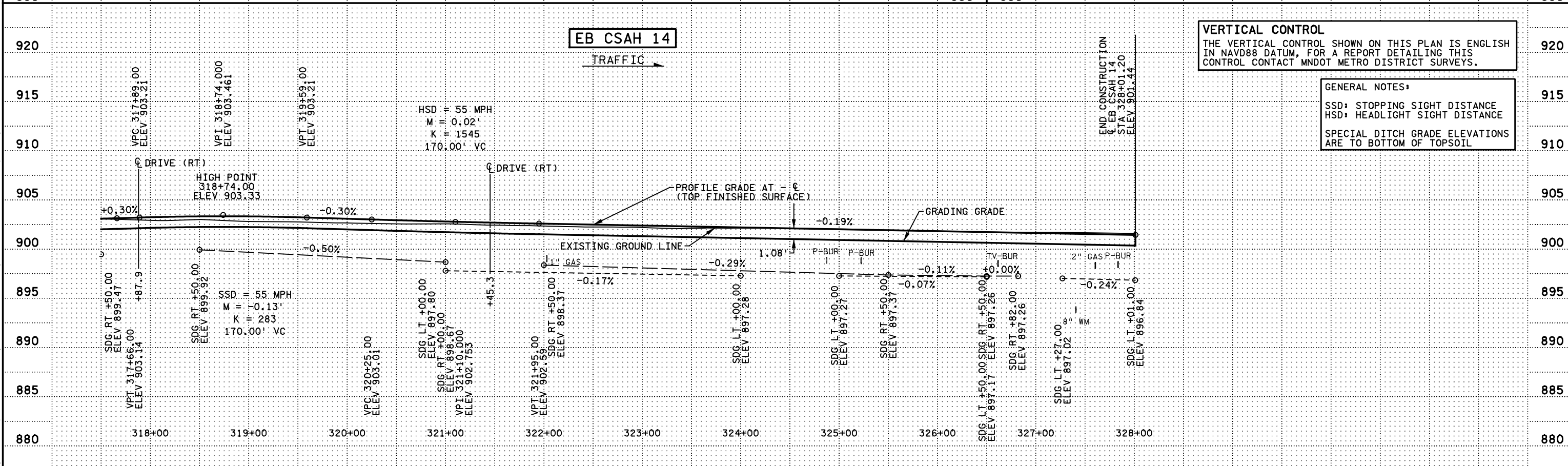
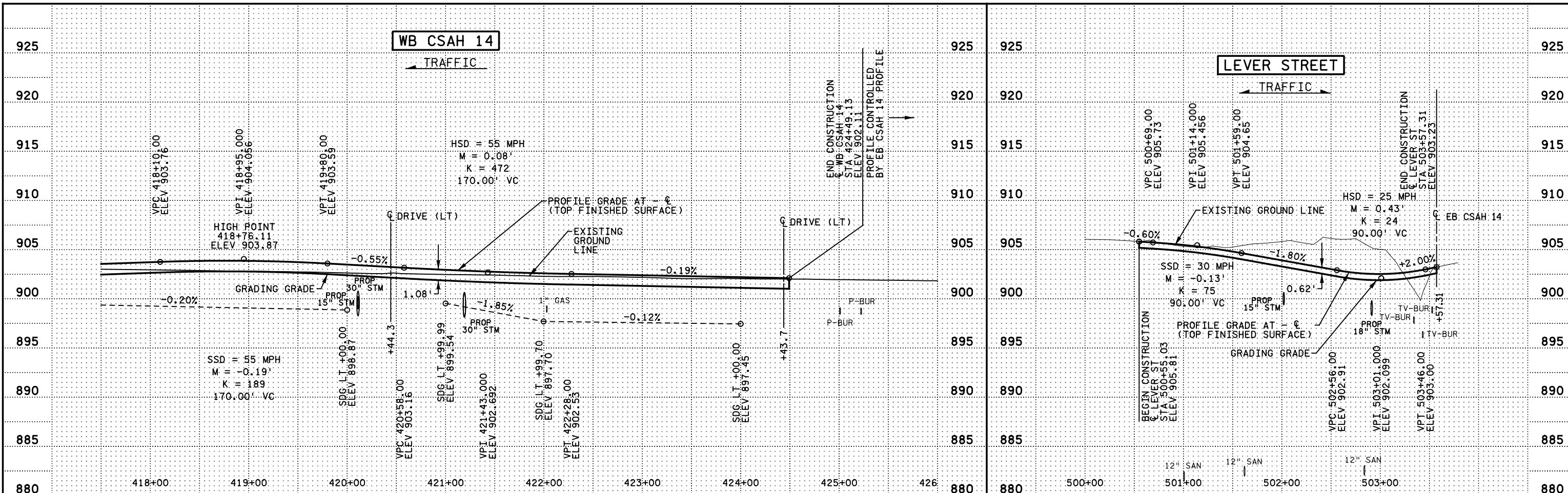
STATE PROJECT NO.
 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO.
 18-09

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 S. MARTINS
 DESIGNED BY
 M. HARDEGGER
 CHECKED BY
 B. ROBECK
 COMM. NO. 1811762



ANOKA COUNTY
 PROFILES
 CSAH 14 RECONSTRUCTION

SHEET
 62
 OF
 107



VERTICAL CONTROL
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GENERAL NOTES:
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 Print Name: BENJAMIN P ROBECK
Ben Robeck
 Date 03/28/19 License # 53680

STATE PROJECT NO. 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO. 18-09
 DRAWN BY S. MARTINS
 DESIGNED BY M. HARDEGGER
 CHECKED BY B. ROBECK
 COMM. NO. 1811762



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LEGEND	
	SUPERELEVATION TRANSITION FT/FT
	STORM SEWER STRUCTURE NO.
	PROPOSED STORM SEWER
	EXISTING STORM SEWER
	EXISTING/PROPOSED CATCH BASIN
	EXISTING/PROPOSED APRON
	EXISTING/PROPOSED MANHOLE
	SURFACE FLOW
	SOD AT APRON INLET
	RIPRAP
	DELINEATED WETLAND (ENVIRONMENTALLY SENSITIVE AREA)

GENERAL NOTES:

CROSS SLOPES ARE FT./FT.

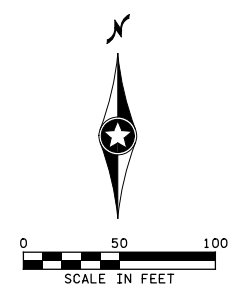
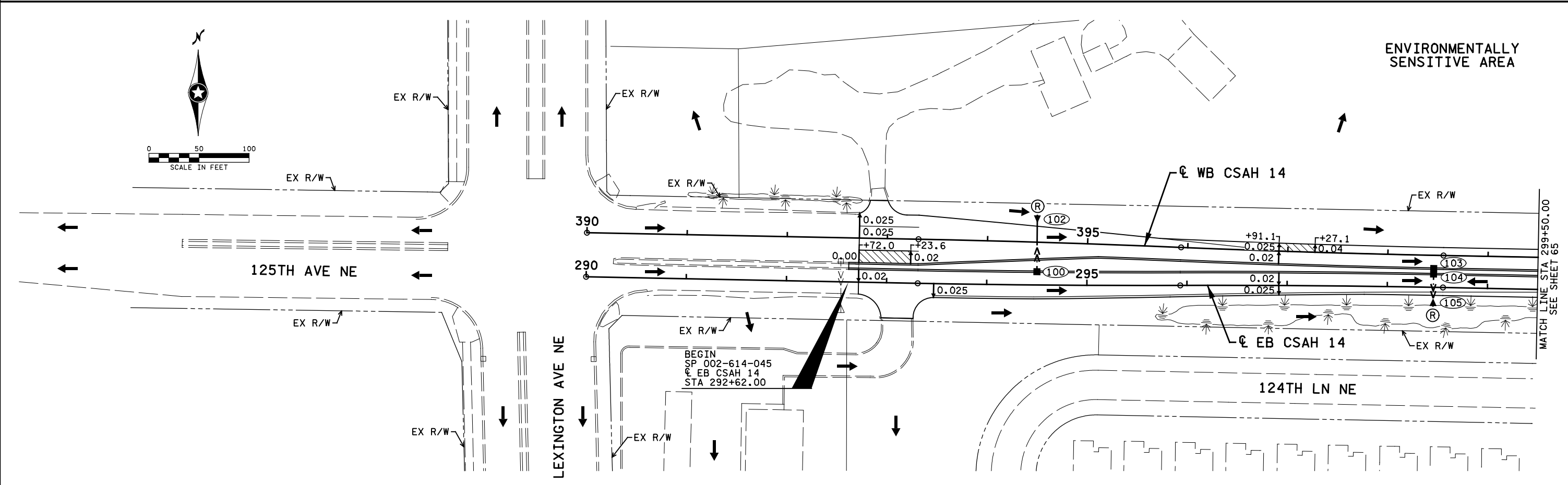
SEE CONSTRUCTION PLANS FOR BEGIN AND END TAPER STATIONING, LANE AND SHOULDER DIMENSIONS, AND MISCELLANEOUS INFORMATION.

SEE DRAINAGE DETAILS, DRAINAGE PROFILES, AND DRAINAGE TABULATION SHEETS FOR ADDITIONAL STORM SEWER INFORMATION.

SEE EXISTING UTILITY TABULATION AND REMOVAL PLAN FOR STORM SEWER AND CULVERTS TO BE REMOVED.

FIELD VERIFY ALL EXISTING UTILITY LOCATIONS.

SEE PROFILE SHEETS AND CROSS SECTIONS FOR SPECIAL DITCH GRADE INFORMATION.



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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: JEREMY M. NIELSEN

Jeremy M. Nielsen

Date: 03/26/19 License #: 45047

STATE PROJECT NO. 002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY S. MARTINS
DESIGNED BY Z. THELEN
CHECKED BY J. NIELSEN
COMM. NO. 1811762



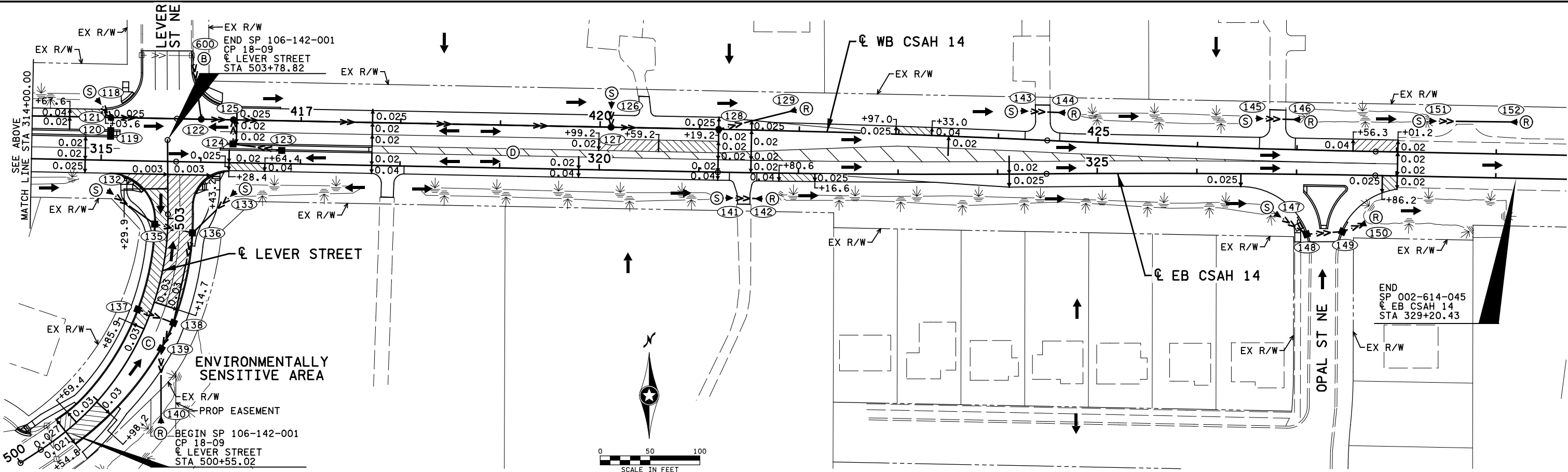
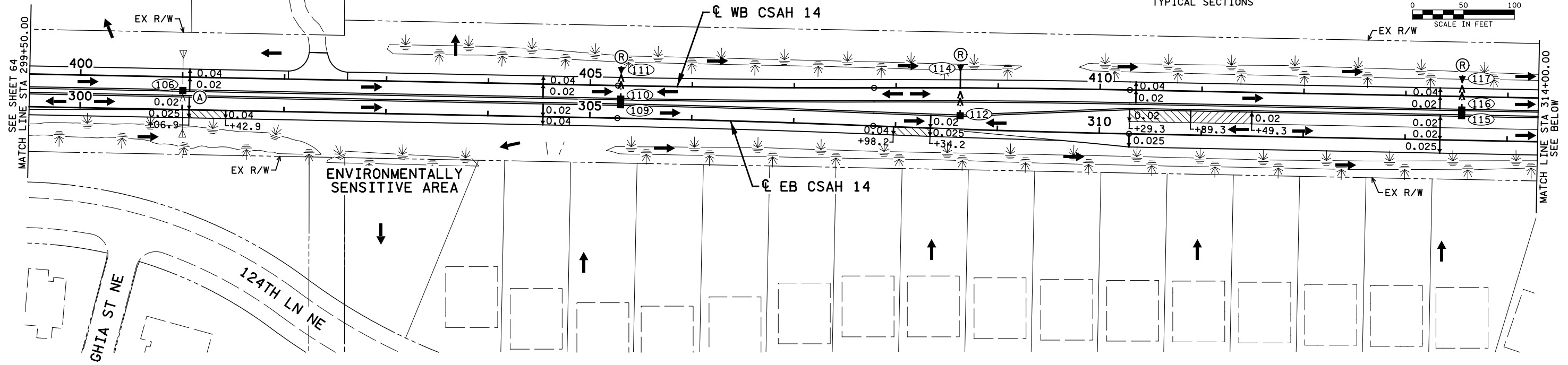
ANOKA COUNTY
DRAINAGE AND SUPERELEVATION PLANS
CSAH 14 RECONSTRUCTION

SHEET 64 OF 107

ENVIRONMENTALLY SENSITIVE AREA

SEE SHEET 64 FOR LEGEND AND GENERAL NOTES

- NOTES:
- (A) CONNECT TO EXISTING STORM SEWER
 - (B) CONNECT TO EXISTING DRAINAGE STRUCTURE
 - (C) PLACE WATER QUALITY BAFFLES (DES SP 2) IN STRUCTURE (SEE DRAINAGE DETAILS)
 - (D) VARIABLE CROSS SLOPE IN MEDIAN - SEE TYPICAL SECTIONS



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NO	DATE	BY	CKD	APPR	REVISION

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Print Name: JEREMY NIELSEN

Jeremy Nielsen

Date: 03/28/13 License #: 45047

STATE PROJECT NO. 002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO. 18-09

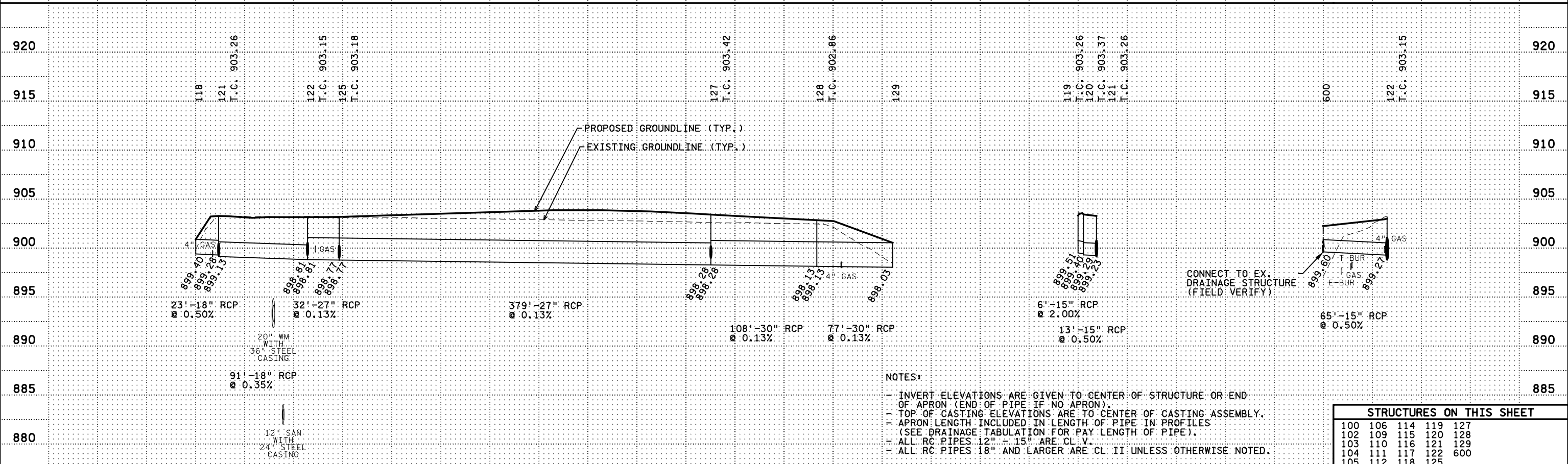
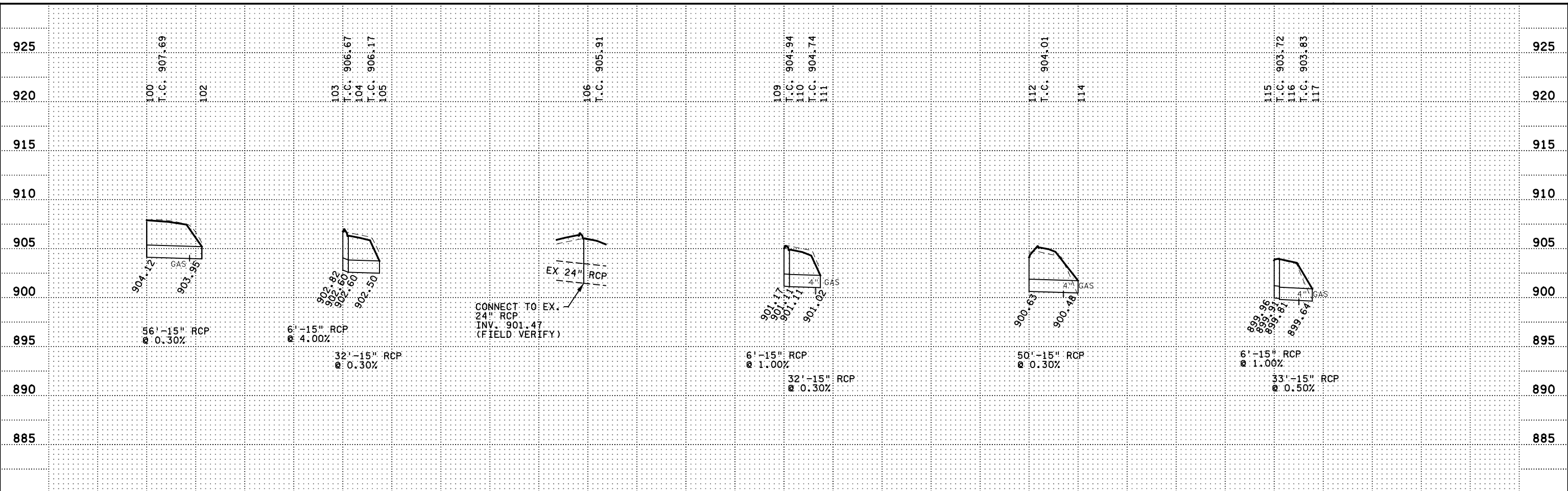
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COMM. NO. 1811762



ANOKA COUNTY
DRAINAGE AND SUPERELEVATION PLANS
CSAH 14 RECONSTRUCTION

SHEET 65 OF 107

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- NOTES:
- INVERT ELEVATIONS ARE GIVEN TO CENTER OF STRUCTURE OR END OF APRON (END OF PIPE IF NO APRON).
 - TOP OF CASTING ELEVATIONS ARE TO CENTER OF CASTING ASSEMBLY.
 - APRON LENGTH INCLUDED IN LENGTH OF PIPE IN PROFILES (SEE DRAINAGE TABULATION FOR PIPE LENGTH OF PIPE).
 - ALL RC PIPES 12" - 15" ARE CL V.
 - ALL RC PIPES 18" AND LARGER ARE CL II UNLESS OTHERWISE NOTED.

STRUCTURES ON THIS SHEET					
100	106	114	119	127	
102	109	115	120	128	
103	110	116	121	129	
104	111	117	122	600	
105	112	118	125		

NO	DATE	BY	CKD	APPR	REVISION

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Print Name: JEREMY M. NIELSEN

Jeremy M. Nielsen

Date: 03/26/19 License #: 45047

STATE PROJECT NO.
 002-614-045
 106-142-001

CITY OF BLAINE
 PROJECT NO.
 18-09

DRAWN BY
 S. MARTINS

DESIGNED BY
 Z. THELEN

CHECKED BY
 J. NIELSEN

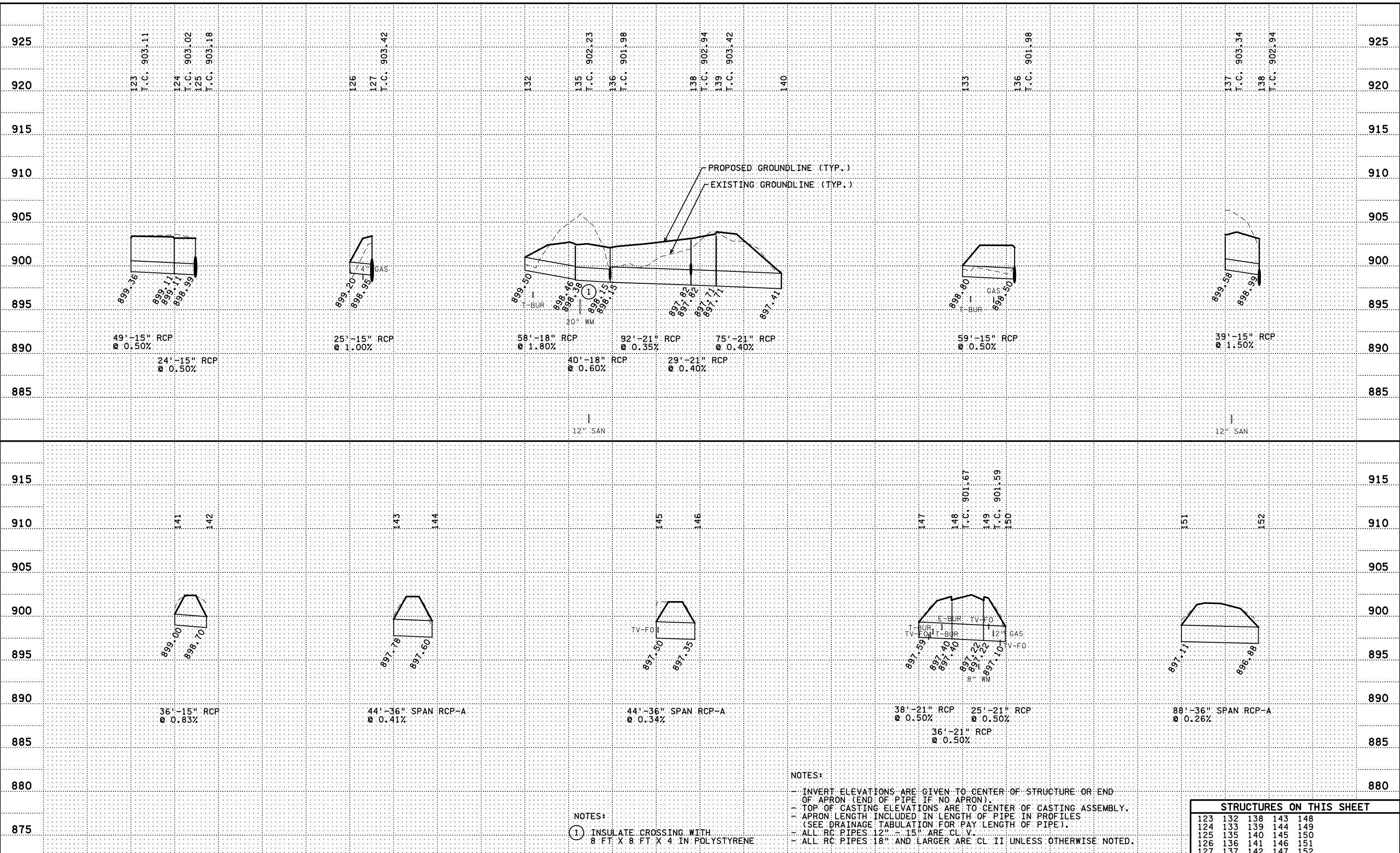
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ANOKA COUNTY
 DRAINAGE PROFILES
 CSAH 14 RECONSTRUCTION

SHEET
 66
 OF
 107

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Print Name: JEREMY M. NIELSEN

Jeremy M. Nielsen

Date: 03/26/19 License #: 45047

STATE PROJECT NO. 002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY S. MARTINS
DESIGNED BY Z. THELEN
CHECKED BY J. NIELSEN
COMM. NO. 1811762



ANOKA COUNTY
DRAINAGE PROFILES
CSAH 14 RECONSTRUCTION

SHEET 67 OF 107

- NOTES:
- INVERT ELEVATIONS ARE GIVEN TO CENTER OF STRUCTURE OR END OF APRON (END OF PIPE IF NO APRON).
 - TOP OF CASTING ELEVATIONS ARE TO CENTER OF CASTING ASSEMBLY.
 - APRON LENGTH INCLUDED IN LENGTH OF PIPE IN PROFILES (SEE DRAINAGE TABULATION FOR PIPE LENGTH OF PIPE).
 - ALL RC PIPES 12" - 15" ARE CL V.
 - ALL RC PIPES 18" AND LARGER ARE CL II UNLESS OTHERWISE NOTED.

STRUCTURES ON THIS SHEET				
123	132	138	143	148
124	133	139	144	149
125	135	140	145	150
126	136	141	146	151
127	137	142	147	152

FLOWS FROM			FLOWS TO			DRAINAGE TABULATION																				N	
STR. OR APRON INLET	STRUCTURE LOCATION			STR. OR APRON OUTLET	NEW STRUCTURE CONSTRUCTION				RC PIPE (DESIGN 3006)												FINE AGG BEDDING (E)	SOD	RIPRAP (F)		GUIDE POST		NOTES
POINT NO.	ALIGNMENT NAME	STATION	OFFSET FT	POINT NO.	DESIGN (A)	PAY HEIGHT LF (B)	CASTING ASSEMBLY TYPE (C)	STEPS REQ'D (D)	15" CLV		18" CLII		21" CLII		27" CLII		30" CLII		CU YD	SQ YD	CLASS II	GEO TEXTILE FILTER TYPE 4	POST TYPE B				
									LF	APR	LF	APR	LF	APR	LF	APR	LF	APR	LF	APR							
100	EB CSAH 14	294+50.00	13.25 L	102	H	3.2	C - 1		50																		
102	WB CSAH 14	394+48.96	26.72 L		APRON					1																	
103	WB CSAH 14	398+46.00	13.25 R	104	H	3.5	C - 1		6																		
104	EB CSAH 14	298+46.00	13.25 L	105	SD-48	3.2	C - 1		26																		
105	EB CSAH 14	298+46.00	18.65 R		APRON					1																	
106	WB CSAH 14	401+00.42	13.25 R		SD-48	4.1	C - 1	Y																			
109	EB CSAH 14	305+30.00	13.25 L	110	H	3.4	C - 1		6																		
110	WB CSAH 14	405+30.00	13.25 R	111	SD-48	3.3	C - 1		26																		
111	WB CSAH 14	405+30.00	18.34 L		APRON					1																	
112	EB CSAH 14	308+63.00	13.25 L	114	H	3.0	C - 1		44																		
114	WB CSAH 14	408+63.00	22.57 L		APRON					1																	
115	EB CSAH 14	313+55.00	24.25 L	116	H	3.4	C - 1		6																		
116	WB CSAH 14	413+55.00	13.25 R	117	SD-48	3.7	C - 1	Y	27																		
117	WB CSAH 14	413+55.00	20.15 L		APRON					1																	
118	WB CSAH 14	414+94.51	18.26 L	121	APRON						17	1															
119	EB CSAH 14	315+09.00	24.25 L	120	H	3.4	C - 1		6																		
120	WB CSAH 14	415+09.00	13.25 R	121	SD-48	3.7	C - 1	Y	13																		
121	WB CSAH 14	415+09.00	0.00 L	122	G	3.7	A - 7D	Y				91															
122	WB CSAH 14	415+99.65	0.00 L	125	SD-48	4.0	A - 7D	Y					32														
123	EB CSAH 14	316+81.00	13.25 L	124	H	3.4	C - 1		49																		
124	WB CSAH 14	416+32.00	24.25 R	125	G	3.5	C - 1		24																		
125	WB CSAH 14	416+32.00	0.00 L	127	SD-60	4.0	A - 7D	Y						379													
126	WB CSAH 14	420+11.09	25.28 L	127	APRON				19	1																	
127	WB CSAH 14	420+11.09	0.00 L	128	SD-60	4.8	A - 7D	Y							108												
128	WB CSAH 14	421+19.17	0.00 L	129	SD-60	4.3	A - 7D	Y							71												
129	WB CSAH 14	421+93.73	20.51 L		APRON										1												
132	LEVER ST	503+28.46	60.26 L	135	APRON						52	1															
133	LEVER ST	503+26.56	67.74 R	136	APRON				53	1																	
135	LEVER ST	502+94.00	13.50 L	136	SD-48	3.6	C - 2				40																
136	LEVER ST	502+87.00	25.50 R	138	SD-48	3.6	C - 2					92															
137	LEVER ST	502+02.00	13.50 L	138	DES SP 1	3.5	C - 2		39																		
138	LEVER ST	502+02.00	25.50 R	139	54-4020	4.9	C - 2	Y					29														
139	LEVER ST	501+75.58	24.43 R	140	48-4020	9.5	C - 2	Y					68														
140	LEVER ST	501+20.45	63.34 R		APRON									1													
STORM SEWER SUBTOTAL THIS SHEET									394	7	200	2	189	1	411		179	1									
									287.3		42		29.2		158.2		11										

GENERAL NOTES:

STA., OFFSETS, AND COORDINATES ARE GIVEN TO THE END OF APRON OR CENTER OF CASTING ASSEMBLY. CASTING SUMP = 0.10 FT FOR C - 1 CASTINGS, AND 0.17 FT FOR C - 2 CASTINGS. SUMP HAS BEEN INCLUDED IN TOP OF CASTING ELEVATIONS.

ROTATE STRUCTURES SUCH THAT MAJORITY OF STRUCTURE IS BEHIND CURB LINE UNLESS DIRECTED BY THE ENGINEER OR ALTERNATE ROTATION IS REQUIRED TO AVOID CONFLICTS (SEE DRAINAGE DETAILS).

SEE APPLICABLE MNDOT STANDARD PLATES FOR DETAILS OF DRAINAGE STRUCTURE DESIGN, EXCEPT AS NOTED BELOW. STRUCTURE DESIGN SD-XX SHALL BE CONSTRUCTED IN ACCORDANCE WITH MNDOT STD. PLATE 4024 WITH THE FOLLOWING EXCEPTIONS:

- STRUCTURE DIAMETER SHALL BE XX IN. FOR SD-XX AND DEPTH SHALL BE AS REQUIRED IN THE DRAINAGE TABULATION
- WALL AND BASE SLAB THICKNESS AND ALL REINFORCEMENT SHALL BE IN ACCORDANCE WITH MNDOT STD. PLATE 4020.
- DES SP 1 (DESIGN SPECIAL 1) SHALL BE A 2 FT X 3 FT RECTANGULAR CATCH BASIN PER CITY OF BLAINE STANDARD PLATE SD-1.

SEE DRAINAGE DETAILS FOR CASTING KEY AND SUMMARY TABULATION. PAYMENT FOR CULVERT PIPES MADE UNDER ITEM 2503.

(A) XX-4020 OR SD-XX STRUCTURES WITH CASTING ASSEMBLY C - 2 SHALL HAVE 2 FT x 3 FT OPENING PER MNDOT STD. PLATE 4022 (INCIDENTAL). TOP SLAB THICKNESS AND REINFORCEMENT SHALL BE PER MNDOT STD. PLATE 4020.

(B) ADJUSTING RINGS SHALL BE INCIDENTAL. PAY HEIGHT ASSUMES 0.5 FT OF ADJUSTING RINGS (OMITTED FROM PAY HEIGHT). ACTUAL PAY HEIGHT TO BE MEASURED IN FIELD.

(C) CURB SHAPE AT C - 2 CASTING LOCATIONS MUST BE TRANSITIONED TO TIE INTO CASTINGS. SEE CITY OF BLAINE STANDARD PLATE SD-5.

(D) STEPS REQUIRED WHEN DEPTH FROM TOP OF CASTING TO STRUCTURE INVERT IS GREATER THAN 4 FT.

(E) FINE AGGREGATE BEDDING SHALL BE INCIDENTAL. QUANTITY PROVIDED FOR INFORMATION ONLY. SEE DRAINAGE DETAILS.

(F) RIPRAP QUANTITY ASSUMES RIPRAP UTILIZED UNDER APRONS (INSTEAD OF GRANULAR FILTER) UNLESS NOTED OTHERWISE. GRANULAR FILTER MAY BE SUBSTITUTED FOR THE RIPRAP UNDER THE APRON PER MNDOT STANDARD PLATES 3133 & 3139. IF GRANULAR FILTER IS SUBSTITUTED IT SHALL BE PAID FOR AS RIPRAP OF THE CLASS INDICATED AT THAT LOCATION. GEOTEXTILE FILTER SHALL BE TYPE 4 AT ALL RIPRAP LOCATIONS.

(G) TIE ALL JOINTS FOR CULVERTS AND LAST 3 JOINTS FOR STORM SEWER RUNS CONTAINING APRONS. TIED JOINTS SHALL BE INCIDENTAL.

(H) FURNISH AND INSTALL TRASH GUARD WITH APRON. SEE DRAINAGE DETAILS.

(I) FURNISH AND INSTALL 1:4 SAFETY APRON & GRATE PER MNDOT STANDARD PLATE 3148. CONNECT TO CONCRETE PIPE USING TAPERED SLEEVE PER MNDOT STD PLATE 3128.

(J) INSULATE ALL CROSSINGS HAVING LESS THAN 2 FT OF CLEARANCE TO WATERMAIN OR 1 FT OF CLEARANCE TO SANITARY SEWER OR STORM SEWER WITH 8 FT x 8 FT x 4 IN POLYSTYRENE INSULATION.

(K) PLACE WATER QUALITY BAFFLES (DES SP 2) IN STRUCTURE. WATER QUALITY BAFFLE AND SKIMMER BAFFLE PAID FOR AS DESIGN SPECIAL 2. STRUCTURE AND CASTING PAID FOR SEPARATELY (PAY HEIGHT INCLUDES 4 FT SUMP BELOW LOWEST PIPE INVERT). SEE DRAINAGE DETAILS AND SPECIFICATIONS.

(L) BUILD OVER EXISTING PIPE OR CONNECT TO EXISTING PIPE. PIPE TO PIPE CONNECTIONS SHALL BE MADE AT AN EXISTING PIPE JOINT. FIELD VERIFY LOCATION AND ELEVATION.

(M) CONNECT INTO EXISTING DRAINAGE STRUCTURE. FIELD VERIFY LOCATION AND ELEVATION.

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: JEREMY M. NIELSEN

Jeremy M. Nielsen

Date: 03/26/19 License # 45047

STATE PROJECT NO. 002-614-045 106-142-001


CITY OF BLAINE PROJECT NO. 18-09

DRAWN BY S. MARTINS
DESIGNED BY Z. THELEN
CHECKED BY J. NIELSEN
COMM. NO. 1811762

ANOKA COUNTY

DRAINAGE TABULATIONS

CSAH 14 RECONSTRUCTION



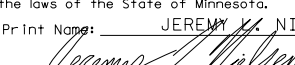

SHEET 68 OF 107

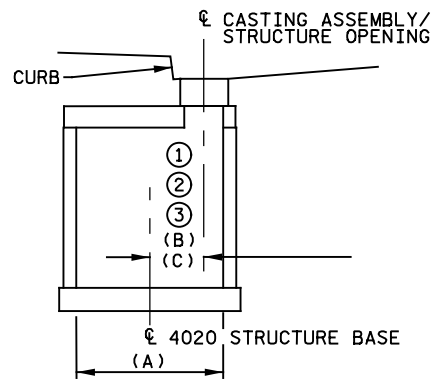
FLOWS FROM	DRAINAGE TABULATION																								N							
	STR. OR APRON INLET	STRUCTURE LOCATION			STR. OR APRON OUTLET	NEW STRUCTURE CONSTRUCTION				RC PIPE (DESIGN 3006)		ARCH RC PIPE										FINE AGG BEDDING (E)	SOD	RIPRAP (F)		GUIDE POST TYPE B	NOTES					
		ALIGNMENT NAME	STATION	OFFSET FT		POINT NO.	DESIGN (A)	PAY HEIGHT LF (B)	CASTING ASSEMBLY TYPE (C)	STEPS REQ'D (D)	15" CLV	21" CLII	36" SPAN CLIIA		LF		APR		LF		APR			LF				APR		CU YD	SQ YD	CU YD
141	EB CSAH 14	321+27.80	25.72 R	142	APRON				24	1															5.3	9			1	(G)		
142	EB CSAH 14	321+63.88	25.85 R		APRON																									(G)		
143	WB CSAH 14	424+21.60	28.33 L	144	APRON						28	1													9.8	22			1	(G) (H)		
144	WB CSAH 14	424+65.57	28.58 L		APRON							1																	1	(G) (H)		
145	WB CSAH 14	426+58.10	30.26 L	146	APRON						28	1													9.8	22			1	(G) (H)		
146	WB CSAH 14	427+02.22	30.26 L		APRON							1																	1	(G) (H)		
147	EB CSAH 14	326+79.04	39.64 R	148	APRON							32	1												7.1	14			1	(G) (H)		
148	EB CSAH 14	327+10.93	60.16 R	149	SD-48	4.1	C - 2	Y				36													6.8							
149	EB CSAH 14	327+47.02	56.91 R	150	SD-48	4.2	C - 2	Y				19													4.7							
150	EB CSAH 14	327+70.47	48.06 R		APRON							1																	5.1	24.1	1	(G) (H)
151	WB CSAH 14	428+32.42	31.66 L	152	APRON							72	1												19.7	22			1	(G) (H)		
152	WB CSAH 14	429+20.42	32.35 L		APRON							1																	8.3	37.3	1	(G) (H)
600	WB CSAH 14	415+89.80	64.48 L	122	EX MH				65																9.6						(M)	
STORM SEWER SUBTOTAL THIS SHEET									89	2	87	2	128	6												72.8	89	33.4	154.0	10		

GENERAL NOTES:
 STA., OFFSETS, AND COORDINATES ARE GIVEN TO THE END OF APRON OR CENTER OF CASTING ASSEMBLY
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- (D) STEPS REQUIRED WHEN DEPTH FROM TOP OF CASTING TO STRUCTURE INVERT IS GREATER THAN 4 FT.
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- (M) CONNECT INTO EXISTING DRAINAGE STRUCTURE. FIELD VERIFY LOCATION AND ELEVATION.

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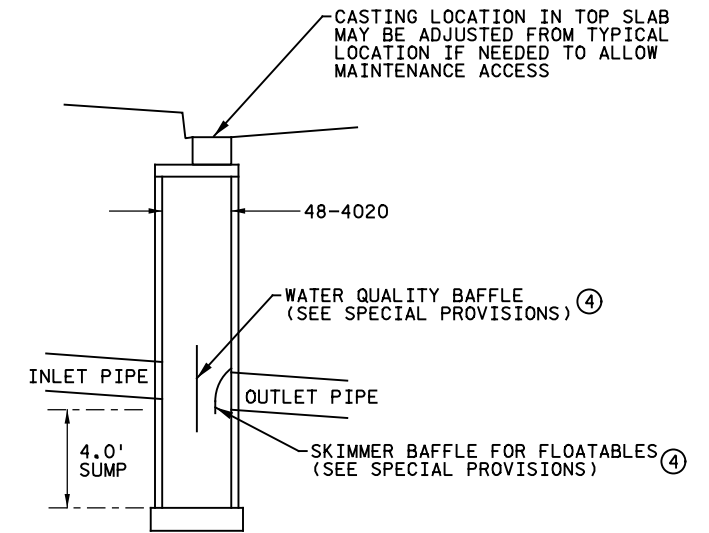
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: JEREMY M. NIELSEN  Date: 03/28/09 License #: 45047					STATE PROJECT NO. 002-614-045 106-142-001 CITY OF BLAINE PROJECT NO. 18-09		DRAWN BY S. MARTINS DESIGNED BY Z. THELEN CHECKED BY J. NIELSEN COMM. NO. 1811762					ANOKA COUNTY DRAINAGE TABULATIONS CSAH 14 RECONSTRUCTION			SHEET 69 OF 107
NO	DATE	BY	CKD	APPR	REVISION										
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(A)	(B)	(C)
4020 DIAMETER (IN.)	OFFSET FOR 27-IN. OPENING (FT.)	OFFSET FOR 24-IN. x 36-IN. OPENING (FT.)
48	0.79	0.25
54	1.08	0.54
60	1.29	0.83
66	1.58	1.13
72	1.79	1.42
78	2.08	1.71
84	2.29	2.00
90	2.58	2.29
96	2.87	2.58
102	3.16	2.88
108	3.29	3.08
120	3.79	3.67

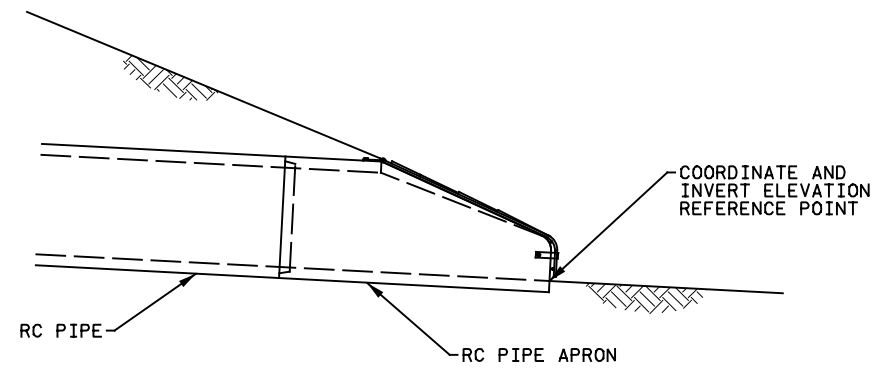
- NOTES:
- IN TYPICAL LOCATIONS WHERE CASTING IS IN CURB LINE, ROTATE STRUCTURE TO ALLOW AS MUCH AS POSSIBLE TO BE OUTSIDE OF ROADWAY (BEHIND CURB), OR ROTATE AS NECESSARY TO AVOID CONFLICTS.
 - LOCATE CENTER OF STRUCTURE OFFSET FROM CENTER OF STRUCTURE OPENING BY DISTANCE INDICATED IN TABLE.
 - AT MEDIAN LOCATIONS WITH STRUCTURES ON BOTH SIDES IN CLOSE PROXIMITY, ROTATE STRUCTURES TO MAXIMIZE CLEARANCE.

STAKING DETAIL: DESIGN XX-4020 OR SD-XX STRUCTURE
NOT TO SCALE

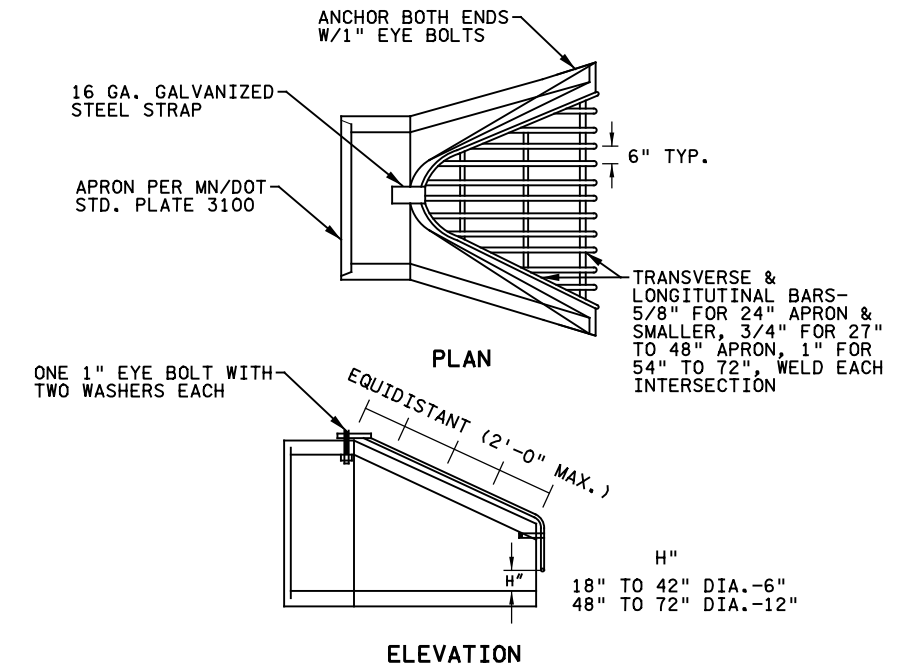


- NOTES:
- WATER QUALITY BAFFLE AND SKIMMER BAFFLE SHALL BE PAID FOR AS CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2. DRAINAGE STRUCTURE, CASTING AND PIPE SHALL BE PAID FOR UNDER OTHER ITEMS. SEE SPECIAL PROVISIONS.

DESIGN SPECIAL 2: WATER QUALITY BAFFLES
NOT TO SCALE



STAKING DETAIL: PIPE APRONS
NOT TO SCALE



- NOTES:
- ENTIRE HEAVY DUTY TRASH GUARD ASSEMBLY TO BE HOT-DIP GALVANIZED AFTER FABRICATION.
 - SIZE OF TRASH GUARD VARIABLE DEPENDENT ON SIZE OF FLARED END SECTION.

TRASH GUARD FOR CONCRETE APRON
NOT TO SCALE

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: JEREMY M. NIELSEN

Jeremy M. Nielsen

Date: 03/28/09 License # 45047

STATE PROJECT NO. 002-614-045
106-142-001

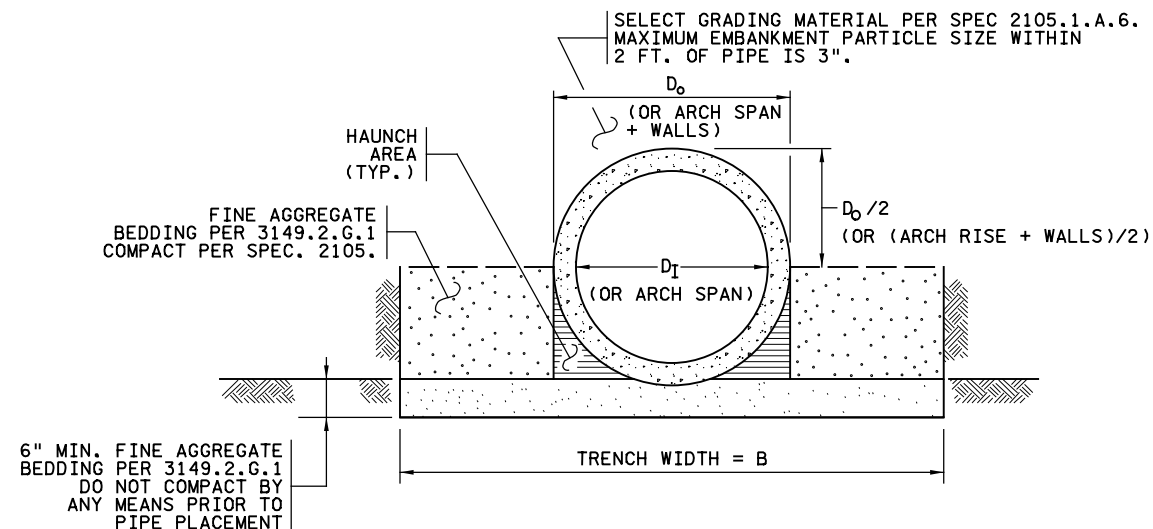
CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY S. MARTINS
DESIGNED BY Z. THELEN
CHECKED BY J. NIELSEN
COMM. NO. 1811762



ANOKA COUNTY
DRAINAGE DETAILS
CSAH 14 RECONSTRUCTION
STAKING DETAILS / TRASH GUARD / DESIGN SPECIAL 2

SHEET 70 OF 107



TRENCH BASE WIDTH Δ	
PIPE DIA. D_1 (OR SPAN)	TRENCH WIDTH B (C)
36" OR LESS	$D_0 + 24"$
42" TO 54"	$1.5 \times D_0$
60" OR OVER	$D_0 + 36"$

Δ MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.
 (C) FOR ARCH PIPES, D_0 INDICATES SPAN + WALLS.

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. FINISH AND INSTALL PIPE TO GRADE.
4. AFTER INSTALLATION OF 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 PIPE) THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK OR SIMILAR). COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF SPEC. 2105, ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
5. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE MID-HEIGHT WHEN COMPACTED.
6. 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. 2501 OR 2503.
 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.

RIGID STORM DRAIN PIPE BEDDING

NOT TO SCALE

CASTING ASSEMBLIES SUMMARY						0
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING (A)	CURB BOX	STANDARD PLATE NO.	QUANTITY (EACH)	REMARKS
A - 7D	700-7	715		4101	5	MANHOLE
			N/A	4110		
C - 1	(A)	(A)		(A)	13	ANOKA COUNTY CATCH BASIN
			N/A	(A)		
C - 2	(B)	(B)		(B)	7	CITY OF BLAINE CATCH BASIN
			(B)	(B)		
PROJECT TOTALS:					25	

NOTES:

- (A) CASTING TYPE: NEENAH R-3448-C; EAST JORDAN IRON WORKS PRODUCT NO. 00500050C01; D & L FOUNDRY MODEL NO. I-3741 STYLE 5; OR APPROVED EQUAL PER ANOKA COUNTY STANDARDS.
 (B) CASTING TYPE: NEENAH R-3067-V; EAST JORDAN IRON WORKS PRODUCT NO. 00703050C11; D & L FOUNDRY MODEL NO. I-3518; OR APPROVED EQUAL PER CITY OF BLAINE STANDARDS.

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: JEREMY M. NIELSEN
 Date: 03/28/19 License #: 45047

STATE PROJECT NO. 002-614-045
 106-142-001
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DRAWN BY S. MARTINS
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ANOKA COUNTY
 DRAINAGE DETAILS
CSAH 14 RECONSTRUCTION
 PIPE BEDDING / CASTING SUMMARY

SHEET 71 OF 107

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 1 OF 3)

PROJECT DESCRIPTION/LOCATION AND SCOPE

SEE COVER SHEET FOR LOCATION MAP, PROJECT NUMBERS AND DESCRIPTION OF PROJECT SCOPE. PERMANENT STORMWATER BEST MANAGEMENT PRACTICES (BMPs) ARE NOT REQUIRED BY THE NPDES PERMIT OR RICE CREEK WATERSHED DISTRICT (LESS THAN 10,000 SF OF INCREASED IMPERVIOUS AREA).

SPECIAL AND IMPAIRED WATERS

THERE ARE NO SPECIAL/IMPAIRED WATERS LOCATED WITHIN ONE MILE OF THE PROJECT LIMITS.

ENVIRONMENTALLY SENSITIVE AREAS

ALL ENVIRONMENTALLY SENSITIVE AREAS, INCLUDING WETLANDS, ARE LABELED AS "ENVIRONMENTALLY SENSITIVE AREAS" IN THE PLANS.

LONG TERM MAINTENANCE AND OPERATION

MAINTENANCE STAFF FROM ANOKA COUNTY AND THE CITY OF BLAINE ARE RESPONSIBLE FOR THE LONG TERM MAINTENANCE AND OPERATION OF THE PERMANENT STORMWATER SYSTEMS DIVIDED ACCORDING TO THE OWNERSHIP OF THE RIGHT OF WAY. ANOKA COUNTY AND THE CITY OF BLAINE EACH HAVE AN MS4 SWPPP THAT IS AVAILABLE ONLINE OR UPON REQUEST.

SWPPP DEVELOPMENT AND MAINTENANCE

THIS SWPPP WAS PREPARED BY PERSONNEL WHO ARE CERTIFIED IN THE DESIGN OF CONSTRUCTION SWPPPS. COPIES OF THE CERTIFICATIONS ARE AVAILABLE UPON REQUEST.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A CERTIFIED EROSION AND SEDIMENT CONTROL SUPERVISOR WHO SHALL BE RESPONSIBLE FOR FINALIZING, CERTIFYING, AND MAINTAINING THE SWPPP DOCUMENT AND OVERSEEING THE IMPLEMENTATION OF THE SWPPP. SEE PAGE 2 OF THE SWPPP NARRATIVE FOR ADDITIONAL REQUIREMENTS.

IN ADDITION, EACH CONTRACTOR OR SUBCONTRACTOR THAT PLACES EROSION OR SEDIMENT CONTROL DEVICES AS LISTED IN MNDOT SPECIFICATION 2573 SHALL PROVIDE AT LEAST ONE CERTIFIED INSTALLER AS INDICATED INT THE MNDOT SPECIFICATION.

THE SWPPP SHALL BE AMENDED WHEN:

- A. THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASON HAVING A SIGNIFICANT EFFECT ON DISCHARGE OF POLLUTANTS.
- B. INSPECTIONS INDICATE THE SWPPP IS NOT EFFECTIVE.
- C. A WATER QUALITY STANDARD CHANGES AND THE MPCA DETERMINES THE SWPPP SHALL BE AMENDED TO COMPLY.

A DESCRIPTION OF ANY CHANGE TO THE SWPPP, ALONG WITH THE DATE AND NAME OF THE REVISION SHALL BE RECORDED AND INCLUDED WITH THE SWPPP AND RETAINED ON SITE. THE OWNER SHALL RETAIN ALL RECORDS AFTER COMPLETION OF THE PROJECT.

SITE PLANS

THE CONTRACTOR SHALL PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR CONCRETE MANAGEMENT, CONCRETE SLURRY APPLICATION AREAS, WORK IN AND NEAR AREAS OF ENVIRONMENTAL SENSITIVITY, DEWATERING AREAS, AREAS IDENTIFIED AS "SITE MANAGEMENT PLAN AREAS" AND AS REQUESTED BY THE PROJECT ENGINEER. SUBMIT ALL SITE MANAGEMENT PLANS IN WRITING AND ALLOW A MINIMUM OF 7 DAYS FOR REVIEW BY THE PROJECT ENGINEER. WORK SHALL NOT BE ALLOWED TO COMMENCE IF A SITE MANAGEMENT PLAN IS REQUIRED UNTIL ACCEPTANCE HAS BEEN GRANTED BY THE PROJECT ENGINEER.

ENVIRONMENTAL REVIEW

THE REQUIREMENTS OF RICE CREEK WATERSHED DISTRICT AND THE CITY OF BLAINE ARE SATISFIED BY THE TEMPORARY MEASURES INCLUDED. THERE ARE NO ADDITIONAL STORMWATER MITIGATION MEASURES REQUIRED AS A RESULT OF AN ENVIRONMENTAL, ARCHAEOLOGICAL OR AGENCY REVIEW.

DRINKING WATER SOURCE MANAGEMENT AREA (DWSMA), EMERGENCY RESPONSE AREA (ERA) AND KARST REGIONS

THE PROJECT IS NOT LOCATED IN A DWSMA, ERA OR KARST AREA.

SOIL TYPES

SOIL TYPES FOUND ON THIS PROJECT ARE VARIABLE. SOIL TYPES ENCOUNTERED IMMEDIATELY BENEATH THE TOPSOIL OR ROADWAY SECTIONS CAN PREDOMINANTLY BE CHARACTERIZED AS SILTY SAND AND POORLY GRADED SAND.

SEE SPECIAL PROVISIONS FOR ADDITIONAL WATER RELATED PERMITS SUCH AS WATERSHED DISTRICT PERMITS, WETLAND PERMITS, ARMY CORPS OF ENGINEERS OR DNR PUBLIC WATERS WORK PERMIT.

FOR PUBLIC WATERS IN WHICH THE DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" NO WORK SHALL OCCUR IN LAKES FROM APRIL 1 - JUNE 30, IN NON-TROUT STREAMS FROM MARCH 15 - JUNE 15 OR IN TROUT STREAMS FROM SEPTEMBER 1 - APRIL 1. SEE DNR PERMIT FOR ADDITIONAL INFORMATION.

LAND FEATURE CHANGES

TOTAL DISTURBED AREA: 8.94 ACRES
 TOTAL EXISTING IMPERVIOUS SURFACE AREA: 5.13 ACRES
 TOTAL PROPOSED IMPERVIOUS SURFACE AREA: 5.31 ACRES
 TOTAL PROPOSED NET CHANGE IN IMPERVIOUS SURFACE AREA: 0.18 ACRES

PROJECT CONTACTS

THE OWNER AND CONTRACTOR ARE RESPONSIBLE FOR THE IMPLEMENTATION OF THE SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs BEFORE, DURING AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION HAS BEEN FILED.

ORGANIZATION	CONTACT NAME	PHONE
CITY OF BLAINE	DANIEL SCHLUENDER	763-785-6158
ANOKA COUNTY	DOUGLAS FISCHER	763-324-3100
MINNESOTA POLLUTION CONTROL AGENCY	BRANDON DAHL	651-757-2279
RICE CREEK WATERSHED DISTRICT	NICK TOMCZIK	763-398-3079
SRF WATER RESOURCES	JEREMY NIELSEN	763-475-0010

MPCA DUTY OFFICER 24 HOUR EMERGENCY NOTIFICATION: 651-649-5451
 800-422-0798

LOCATION OF SWPPP REQUIREMENTS

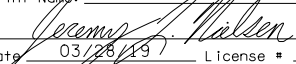
THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MANY PLACES WITHIN THE PLAN SET AS WELL AS IN THE SPECIAL PROVISIONS, MNDOT SPEC BOOK (2018 EDITION), CONSTRUCTION DIARIES OR ON FILE WITH THE PROJECT OWNER. THE NOTES AND TABLE BELOW ARE INTENDED TO BE A QUICK REFERENCE FOR THE CONTRACTOR AND PROJECT ENGINEER TO USE IN THE FIELD. THERE MAY BE ADDITIONAL REQUIRED SWPPP ELEMENTS INCLUDED ON THE PROJECT THAT ARE NOT LISTED ON THIS SHEET. IN ADDITION, THE MINNESOTA NPDES/SDS CONSTRUCTION STORMWATER GENERAL PERMIT (NPDES PERMIT) SHOULD BE REVIEWED AND CONSULTED BY THE EROSION AND SEDIMENT CONTROL SUPERVISOR.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	LOCATION
TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND STAGING	SHEET NOS. 33 TO 47
PERMANENT EROSION AND SEDIMENT CONTROL MEASURES	SHEET NOS. 75 TO 76
DIRECTION OF FLOW	SHEET NOS. 64 TO 65
FINAL STABILIZATION	SHEET NOS. 75 TO 76
SOILS AND CONSTRUCTION NOTES	SHEET NOS. 6
DRAINAGE STRUCTURES	SHEET NOS. 64 TO 65
DRAINAGE TABULATION	SHEET NOS. 68 TO 69
STORM SEWER PROFILE SHEETS	SHEET NOS. 66 TO 67
STORM SEWER TABULATION	SHEET NOS. 68 TO 69
EROSION AND SEDIMENT CONTROL DETAILS	SHEET NOS. 20 TO 27
EROSION CONTROL TABULATION	SHEET NOS. 13
TURF ESTABLISHMENT TABULATION	SHEET NOS. 13
STATEMENT OF ESTIMATED QUANTITIES	SHEET NOS. 3 TO 4

SITE MAPS AND DESIGN CALCULATIONS

IN ADDITION TO WHAT IS LOCATED WITHIN THIS PLAN, SITE MAPS AND BMP DESIGN CALCULATIONS ARE AVAILABLE UPON REQUEST. PLEASE CONTACT THE PROJECT ENGINEER WITH ANY QUESTIONS REGARDING THE SITE MAPS OR CALCULATIONS.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: JEREMY NIELSEN

 Date: 03/26/19 License #: 45047

STATE PROJECT NO.
 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO.
 18-09

DRAWN BY
 S. MARTINS
 DESIGNED BY
 Z. THELEN
 CHECKED BY
 J. NIELSEN
 COMM. NO. 1811762



ANOKA COUNTY
 STORM WATER POLLUTION PREVENTION PLAN
 CSAH 14 RECONSTRUCTION

SHEET
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STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 2 OF 3)

GENERAL SWPPP NOTES FOR CONSTRUCTION ACTIVITY

1. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION STORMWATER PERMIT AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA (FORM IS AVAILABLE FROM MPCA WEBSITE). THE CONTRACTOR SHALL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP SHALL BE IMPLEMENTED AND STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE, THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, AND THE NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.
2. THE CONTRACTOR SHALL PREPARE A WRITTEN, NOT ORAL, WEEKLY SCHEDULE OF PROPOSED EROSION CONTROL ACTIVITIES FOR THE PROJECT ENGINEER'S APPROVAL AS PER MNDOT SPEC. 1717.2.
3. BURNING OF ANY MATERIAL IS NOT ALLOWED WITHIN PROJECT BOUNDARY.
4. THE CONTRACTOR SHALL PLACE STABILIZED CONSTRUCTION EXITS, AS NECESSARY, TO PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES AND IN COMPLIANCE WITH THE NPDES PERMIT. STABILIZED CONSTRUCTION EXITS SHALL BE SUFFICIENTLY SIZED AND MAINTAINED TO PREVENT TRACK OUT.
5. ALL TOPSOIL IN DISTURBED AREAS SHALL BE REMOVED AND STOCKPILED FOR LATER PLACEMENT. AVOID COMPACTION AS MUCH AS IS FEASIBLE IN ALL AREAS WHERE COMPACTION IS NOT REQUIRED FOR CONSTRUCTION. COMPACTION SHALL BE AVOIDED IN ALL AREAS DESIGNATED FOR INFILTRATION.
6. DO NOT DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS OBTAIN WRITTEN PERMISSION PRIOR TO PROCEEDING. PRESERVE ALL BUFFERS (IF ANY) SHOWN ON THE PLANS.
7. DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS AND ROUTE STORMWATER AROUND UNSTABILIZED AREAS OF THE SITE WHENEVER POSSIBLE. PROVIDE EROSION CONTROL AND VELOCITY DISSIPATION DEVICES AS NEEDED TO PREVENT EROSION AND NUISANCE CONDITIONS.
8. PROVIDE STABILIZATION IN ANY TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES.
9. TEMPORARY DEWATERING ACTIVITIES MAY BE REQUIRED. THEREFORE, IT IS POSSIBLE THAT A PERMIT FOR THE TEMPORARY APPROPRIATION OF WATERS OF THE STATE FROM MNDNR SHALL BE REQUIRED FOR THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THIS PERMIT (FORMS ARE AVAILABLE FROM THE MNDNR WEBSITE). ALL TEMPORARY DEWATERING SHALL BE DISCHARGED TO AN APPROVED LOCATION FOR TREATMENT PRIOR TO DISCHARGE TO THE RECEIVING WATER. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT SITE MANAGEMENT PLANS TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK ACCORDING TO SPEC 1717.2. TEMPORARY DEWATERING SHALL BE INCIDENTAL.
10. BASIN DRAINING ACTIVITIES OF TURBID OR SEDIMENT LADEN WATER SHALL BE DISCHARGED TO TEMPORARY SEDIMENT BASINS WHENEVER POSSIBLE. IN THE EVENT THAT IT IS NOT POSSIBLE TO DISCHARGE THE SEDIMENT LADEN WATER TO A TEMPORARY SEDIMENT BASIN THE WATER SHALL BE TREATED SO THAT IT DOES NOT CAUSE A NUISANCE CONDITION IN THE RECEIVING WATERS OR TO DOWNSTREAM LANDOWNERS.
11. IT IS NOT ANTICIPATED THAT POLYMERS, FLOCCULANTS OR OTHER SEDIMENTATION TREATMENT CHEMICALS SHALL BE USED. HOWEVER, IF THE USE OF SUCH CHEMICALS BECOMES NECESSARY TO COMPLY WITH PERMIT REQUIREMENTS, IT SHALL BE IN ACCORDANCE WITH THE NPDES PERMIT.

POLLUTION PREVENTION NOTES

1. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS REGARDING POLLUTION PREVENTION MANAGEMENT DURING CONSTRUCTION, WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, PROVIDING THE FOLLOWING (ITEMS LISTED ARE INCIDENTAL):
 - A. WASHOUT AREAS FOR CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS FOR USE BY ALL SUBCONTRACTORS AND MATERIAL TESTING PERSONNEL. LOCATION OF WASHOUT AREAS SHALL BE IDENTIFIED BY SIGNAGE AND SHALL BE AT LEAST 200 FT FROM SITE MANAGEMENT PLAN REQUIREMENT AREAS (IF APPLICABLE) OR ENVIRONMENTALLY SENSITIVE AREAS, AND UTILIZE A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER THAT PREVENTS RUNOFF ONTO ADJACENT SOILS. AN ENGINEERED COLLECTION SYSTEM CAN ALSO BE USED IF IT IS APPROVED BY THE PROJECT ENGINEER.
 - B. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE PROJECT ENGINEER FOR A CHEMICAL STORAGE AREA AND SHALL DESIGNATE AN AREA FOR FUELING AND MINOR MAINTENANCE OF CONSTRUCTION VEHICLES (INCLUDING WASHING) WITH MEANS TO CAPTURE ANY FUEL SPILLS. RUNOFF SHALL BE CONTAINED IN A TEMPORARY SEDIMENT BASIN OR OTHER EFFECTIVE CONTROL AND ALL WASTE GENERATED SHALL BE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE.
 - C. SOLID WASTE COLLECTION AND REMOVAL
 - D. SECONDARY CONTAINMENT FOR STORAGE OF HAZARDOUS MATERIALS
 - E. SECURED HAZARDOUS WASTE STORAGE CONTAINERS
 - F. CHEMICAL SPILL KITS (SHALL BE PROVIDED AT EACH LOCATION WHERE CHEMICALS ARE USED OR STORED AND ANY LOCATION WHERE VEHICLES ARE FUELED OR MAINTAINED).
 - G. PORTABLE RESTROOM FACILITIES THAT ARE ANCHORED TO PREVENT TIPPING
2. CHEMICALS SHALL BE KEPT IN A SECURE STORAGE AREA WITH RESTRICTED ACCESS IN SEALED CONTAINERS WHEN NOT IN USE. RETURN ALL CHEMICALS TO THE DESIGNATED STORAGE AREA BY THE END OF THE DAY UNLESS INFEASIBLE. CHEMICAL STORAGE CONTAINERS SHALL HAVE SECONDARY CONTAINMENT WHEN BEING USED OR STORED ON THE PROJECT SITE, AND PRODUCTS OR CHEMICALS THAT MAY LEACH POLLUTANTS SHALL BE UNDER COVER (PLASTIC SHEETING OR TEMPORARY ROOF). CHEMICAL SPILLS OF ANY KIND (OIL, FUEL, FERTILIZER, ETC.) SHALL BE CLEANED UP AND REMOVED FROM THE SITE IMMEDIATELY. THE CONTRACTOR SHALL HAVE A SPILL KIT ON SITE AT ALL TIMES.

POLLUTION PREVENTION NOTES (CONT.)

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING AND FOLLOWING A WRITTEN DISPOSAL PLAN FOR ALL HAZARDOUS WASTE MATERIALS. THE PLAN SHALL INCLUDE HOW THE MATERIAL SHALL BE DISPOSED OF AND THE LOCATION OF THE DISPOSAL SITE AND SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO WORK ON SITE. LEAKS, SPILLS, OR OTHER RELEASES SHALL BE RESPONDED TO IN ACCORDANCE WITH MPCA SPILL CONTAINMENT AND REMEDIAL ACTION PROCEDURES.
4. THE CONTRACTOR SHALL 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 ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.
5. THE CONTRACTOR SHALL USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT CONCRETE DUST, PARTICLES, SAW CUT SLURRY, PLANING WASTE AND OTHER CONCRETE WASTES FROM LEAVING PUBLIC RIGHT OF WAY, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS OR ENTERING STORMWATER CONVEYANCE SYSTEM INCLUDING INLETS AND CURB FLOW LINES. ONSITE RELEASE OF CONCRETE SLURRY IS PERMISSIBLE IF MINNESOTA POLLUTION CONTROL GUIDANCE FOR ROAD CONSTRUCTION CONCRETE SLURRY AND THE REQUIREMENTS OF THE SPECIAL PROVISIONS ARE FOLLOWED.

EROSION CONTROL SUPERVISOR, INSPECTIONS AND MAINTENANCE NOTES

1. IN ACCORDANCE WITH SPEC. 2573.3 A1, THE CONTRACTOR SHALL PROVIDE A CERTIFIED EROSION CONTROL SUPERVISOR IN GOOD STANDING WHO IS KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS. PROVIDE PROOF OF CERTIFICATION (UNIVERSITY OF MINNESOTA - CONSTRUCTION SITE MANAGEMENT) AT THE PRECONSTRUCTION MEETING. WORK SHALL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED.
2. THE EROSION CONTROL SUPERVISOR SHALL WORK WITH THE PROJECT ENGINEER TO OVERSEE THE IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE, DURING AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA.
3. THE EROSION CONTROL SUPERVISOR IS RESPONSIBLE FOR COMPLYING WITH ALL THE INSPECTION AND MAINTENANCE REQUIREMENTS STATED IN THE NPDES PERMIT. INSPECTIONS OF THE ENTIRE CONSTRUCTION SITE SHALL OCCUR A MINIMUM OF ONCE EVERY SEVEN DAYS (3 DAYS FOR PROHIBITED WATERS) DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS (IN NO CASE SHALL THE TIME BETWEEN INSPECTIONS EXCEED 7 DAYS; 3 DAYS FOR PROHIBITED WATERS). RAINFALL AMOUNTS SHALL BE OBTAINED USING A PROPERLY MAINTAINED RAIN GAUGE ONSITE OR BY A WEATHER STATION THAT IS WITHIN ONE MILE. THE EROSION CONTROL SUPERVISOR SHALL THOROUGHLY INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS TO ENSURE INTEGRITY AND EFFECTIVENESS OF EACH BMP.
4. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION SHALL BE RECORDED IN WRITING WITHIN 24 HOURS AND THESE RECORDS SHALL BE RETAINED WITH THE SWPPP. INSPECTION REPORTS SHALL BE SUBMITTED TO THE PROJECT ENGINEER AND SWPPP DESIGNER IN A FORMAT APPROVED BY THE ENGINEER. INSPECTION RECORDS SHALL INCLUDE:
 - A. DATE AND TIME OF INSPECTIONS;
 - B. NAME OF PERSONS CONDUCTING INSPECTIONS;
 - C. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS;
 - D. CORRECTIVE ACTIONS TAKEN INCLUDING DATES, TIMES, AND THE PARTY COMPLETING MAINTENANCE ACTIVITIES;
 - E. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCH IN 24 HOURS;
 - F. LOCATION, DESCRIPTION AND PHOTO OF ANY DISCHARGES OFF THE PROJECT SITE.
 - G. DOCUMENTS AND CHANGES MADE TO THE SWPPP.
5. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS (INSPECTIONS MAY BE REDUCED UNDER CERTAIN CONDITIONS AS COVER IS ESTABLISHED AND CONDITIONS CHANGE AS DESCRIBED IN THE NPDES PERMIT):
 - A. SILT FENCE SHALL BE REPAIRED, REPLACED OR SUPPLEMENTED WHEN IT BECOMES NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT OF THE SILT FENCE.
 - B. INLET PROTECTION DEVICES SHOULD BE REPAIRED WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT AND/OR DEPTH OF THE DEVICE.
 - C. TEMPORARY SEDIMENT BASINS, IF REQUIRED, SHALL HAVE THE SEDIMENT REMOVED ONCE THE SEDIMENT HAS REACHED 1/2 THE STORAGE VOLUME.
 - D. REMOVE ANY SEDIMENT DEPOSITED IN SURFACE WATERS. SEDIMENT SHALL BE REMOVED AND ANY AREA DISTURBED BY THE REMOVAL RESTABILIZED WITHIN 7 DAYS OF DISCOVERY. A SITE MANAGEMENT PLAN IS REQUIRED FOR WORK IN ANY SURFACE WATER AND APPROPRIATE AUTHORITIES SHALL BE CONTACTED PRIOR TO COMMENCING WORK.
 - E. TRACKED SEDIMENT SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OF TRACKING ONTO PAVED SURFACES.
 - F. ALL NONFUNCTIONAL BMPS SHALL BE REPAIRED, REPLACED, OR SUPPLEMENTED BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY (UNLESS NOTED OTHERWISE ABOVE).
 - G. REINSTALL AS QUICKLY AS POSSIBLE ANY BMP REMOVED TO ACCOMMODATE SHORT TERM ACTIVITIES.
 - H. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION, AND THE NOTICE OF TERMINATION HAS BEEN SUBMITTED TO THE MPCA IN ACCORDANCE WITH THE NPDES PERMIT. SEDIMENT REMOVAL AND MAINTENANCE OF BMPS IS INCIDENTAL.
6. CLEAN OUT ALL PERMANENT STORMWATER BASINS REGARDLESS OF WHETHER USED AS A TEMPORARY SEDIMENT BASIN OR SEDIMENT TRAP TO THE DESIGN CAPACITY AFTER ALL UPGRADE LAND DISTURBING ACTIVITY IS COMPLETED.

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: JEREMY M. NIELSEN

Jeremy M. Nielsen

Date: 03/26/19 License #: 45047

STATE PROJECT NO. 002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY S. MARTINS
DESIGNED BY Z. THELEN
CHECKED BY J. NIELSEN
COMM. NO. 1811762



ANOKA COUNTY

STORM WATER POLLUTION PREVENTION PLAN
CSAH 14 RECONSTRUCTION

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STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 3 OF 3)

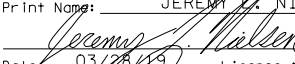

STABILIZATION AND SEDIMENT CONTROL NOTES

1. THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs SHALL BE PLACED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ONSITE. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY REMOVAL WORK AND/OR GROUND DISTURBING ACTIVITIES AND SHALL BE MAINTAINED UNTIL THE POTENTIAL FOR EROSION HAS BEEN ELIMINATED. IF SEDIMENT CONTROLS ARE OVERLOADED (BASED ON FREQUENT FAILURE OR EXCESSIVE MAINTENANCE), ADDITIONAL UPGRADIENT OR REDUNDANT BMPs SHALL BE PLACED.
2. SEDIMENT CONTROL DEVICES SHALL BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. SEDIMENT CONTROL DEVICES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - A. PERIMETER CONTROL SHALL BE LOCATED ON THE CONTOUR TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS DOWN GRADIENT OF ALL EXPOSED SOILS AND PRIOR TO DISCHARGING TO SURFACE WATERS. THE BMP SHALL BE J-HOOKED AT A MAXIMUM OF 100 FOOT INTERVALS AND EACH SECTION SHALL CONTAIN NO MORE THAN 1/4 ACRE OF DRAINAGE AREA.
 - B. SEDIMENT DAMAGE FROM STOCKPILES SHALL BE MINIMIZED BY PLACING A ROW OF SUPER DUTY SILT FENCE A MINIMUM 5 FEET FROM THE TOE. IF THERE IS NOT ADEQUATE PROJECT AREA TO PLACE THE SILT FENCE MORE THAN 5 FEET FROM THE TOE OF THE SLOPE, THE CONTRACTOR MAY SUBMIT AN ALTERNATIVE TO THE PROJECT ENGINEER FOR APPROVAL.
 - C. DITCH CHECKS (IF REQUIRED) SHALL BE PLACED AS INDICATED ON THE PLANS DURING ALL PHASES OF CONSTRUCTION.
 1. TEMPORARY DITCH CHECKS (IF REQUIRED) SHALL CONSIST OF USING ROCK DITCH CHECKS, SEDIMENT CONTROL LOGS AND ROCK WEEPERS IN FRONT OF CULVERT INLETS. IN LIEU OF REMOVING TEMPORARY DITCH CHECKS, THE ROCK MAY BE PUSHED INTO THE GROUND.
 2. FILTER LOGS (IF REQUIRED) SHALL BE PLACED DURING PERMANENT TURF ESTABLISHMENT AT THE INTERVALS IDENTIFIED IN THE PLAN.
 - D. FLOTATION SILT CURTAIN MAY BE USED AS PERIMETER CONTROL BUT ONLY FOR WORK ON THE SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE CONSTRUCTION IN THE AREA IS COMPLETE, AN UPLAND BMP SHALL BE PLACED IF EXPOSED SOILS CONTINUE TO DRAIN TO THE SURFACE WATER.
 - E. TEMPORARY SEDIMENT BASINS ARE REQUIRED WHERE TEN OR MORE ACRES DRAIN TO A COMMON LOCATION (FIVE IF DRAINING TO A SPECIAL OR IMPAIRED WATER).
 1. BASIN VOLUME SHALL BE A MINIMUM OF 1,800 CUBIC FEET PER ACRE OF DRAINAGE AREA TO THE BASIN (3,600 CUBIC FEET PER ACRE IF NO CALCULATIONS ARE PERFORMED)
 2. OUTLET SHALL ALLOW COMPLETE DRAWDOWN FOR MAINTENANCE AND A STABILIZED OVERFLOW. THE OUTLET SHALL WITHDRAW WATER FROM THE SURFACE EXCEPT DURING FROZEN CONDITIONS.
 3. IF A TEMPORARY BASIN OF THE REQUIRED SIZE IS INFEASIBLE THE REASONS SHALL BE DOCUMENTED IN THE SWPPP AND ALTERNATE BMPs SHALL BE PLACED.
3. PRESERVE A NATURAL BUFFER OF AT LEAST 50 FEET (100 FEET IF WITHIN 1 MILE OF AND DRAINS TO A SPECIAL OR IMPAIRED WATER) BETWEEN DISTURBED AREAS AND FLOWS TO A SURFACE WATER (NOT REQUIRED AT DITCHES OR STORMWATER CONVEYANCE CHANNELS, STORM DRAIN INLETS OR SEDIMENT BASINS). IF A BUFFER IS INFEASIBLE, PROVIDE AS LARGE A BUFFER AS POSSIBLE AND REDUNDANT SEDIMENT CONTROLS.
4. STORM SEWER INLETS SHALL BE PROTECTED AT ALL TIMES WITH THE APPROPRIATE INLET PROTECTION FOR EACH SPECIFIC PHASE OF CONSTRUCTION. PROVIDE INLET PROTECTION DEVICES WITH EMERGENCY OVERFLOW CAPABILITIES. SILT FENCE PLACED IN THE INLET GRATE IS NOT AN ACCEPTABLE INLET PROTECTION BMP FOR GRADING OPERATIONS (THIS BMP SHALL BE ACCEPTED ONLY FOR SHORT INTERVALS DURING MILLING OR PAVING OPERATIONS). INLET PROTECTION DEVICES MAY NEED TO BE PLACED MULTIPLE TIMES IN THE SAME LOCATION OVER THE LIFE OF THE CONTRACT. INLET PROTECTION DEVICES SHALL BE PAID FOR ONCE PER INLET REGARDLESS OF THE NUMBER OF TIMES THE BMP IS PLACED. ALL STORM SEWER INLET PROTECTION DEVICES SHALL BE KEPT IN GOOD FUNCTIONAL CONDITION AT ALL TIMES. IF THE PROJECT ENGINEER DEEMS AN INLET PROTECTION DEVICE TO BE NONFUNCTIONAL, IN POOR CONDITION, INEFFECTIVE OR NOT APPROPRIATE FOR THE CURRENT CONSTRUCTION ACTIVITIES IT SHALL BE REPLACED WITH A SUITABLE ALTERNATIVE AT NO COST TO THE OWNER.

STABILIZATION AND SEDIMENT CONTROL NOTES (CONT.)

5. PAVEMENT SURFACES SHALL BE SWEEPED WITHIN 24 HOURS OF DISCOVERY OF SEDIMENT OR TRACKING ONTO PAVEMENT THAT DRAINS TO CURB, INLETS, DITCHES OR PONDS. PAVEMENT SHALL BE LIGHTLY WETTED PRIOR TO SWEEPING. THIS WORK IS INCIDENTAL.
6. OUTLETS INTO SURFACE WATERS SHALL BE STABILIZED WITH ENERGY DISSIPATION WITHIN 24 HOURS OF BEING CONSTRUCTED.
7. DITCHES AND EXPOSED SOILS SHALL BE KEPT IN AN EVEN ROUGH GRADED CONDITION IN ORDER TO BE ABLE TO APPLY EROSION CONTROL MULCHES AND BLANKETS.
8. INITIATE STABILIZATION OF ALL EXPOSED SOIL AND STOCKPILE AREAS IMMEDIATELY AFTER CONSTRUCTION ACTIVITY ON THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN NO MORE THAN 14 DAYS (7 DAYS IF IT IS WITHIN 1 MILE OF AND DRAINS TO A SPECIAL OR IMPAIRED WATER). ALL EXPOSED SOIL WITHIN 200 LINEAL FEET OF AND DRAINING TO A PUBLIC WATER WITH "WORK IN WATER RESTRICTIONS" AND DURING SPECIFIED FISH SPAWNING TIME FRAMES, SHALL BE STABILIZED WITHIN 24 HOURS. IN MANY INSTANCES, THIS SHALL REQUIRE STABILIZATION TO OCCUR MORE THAN ONCE DURING ROUGH GRADING. RAPID STABILIZATION METHOD 3 SHALL BE USED TO PROVIDE TEMPORARY COVER IN THESE AREAS AS APPROPRIATE. SUBSTITUTE SEED MIXTURE 21-112 OR 21-111 FOR THE SPECIFIED SEED MIXTURE AS APPROPRIATE FOR THE SEASON. SEE NPDES PERMIT FOR EXCEPTIONS.
9. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT DRAINS WATER FROM THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE CONSTRUCTION SITE, SHALL BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE OR POINT OF DISCHARGE TO ANY SURFACE WATER. STABILIZATION SHALL OCCUR WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, EXISTING GUTTER, STORM SEWER INLET, DRAINAGE DITCH, OR OTHER STORMWATER CONVEYANCE SYSTEM ACCORDING TO SPEC 1717.2. RAPID STABILIZATION METHOD 4 SHALL BE USED TO STABILIZE THESE AREAS (SUBSTITUTE SEED MIXTURE 21-112 OR 21-111 FOR THE SPECIFIED SEED MIXTURE AS APPROPRIATE FOR THE SEASON). THE REMAINDER OF THE DITCH SHALL BE STABILIZED WITHIN 14 DAYS (7 DAYS IF IT IS WITHIN 1 MILE OF AND DRAINS TO A SPECIAL OR IMPAIRED WATER) OF CONNECTING TO THE SURFACE WATER. PERMANENT EROSION CONTROL BLANKET OR RAPID STABILIZATION METHOD 4 (SUBSTITUTE SEED MIXTURE 21-112 OR 21-111 FOR THE SPECIFIED SEED MIXTURE AS APPROPRIATE FOR THE SEASON) SHALL BE USED TO STABILIZE THESE AREAS AS INDICATED IN THE PLANS. IN LOCATIONS WHERE THE DITCH SLOPE IS LESS THAN 2 PERCENT, DISC ANCHORED MULCH AND HYDRAULIC SOIL STABILIZERS MAY BE USED FOR DITCH BOTTOM STABILIZATION AS INDICATED IN THE PLANS OR WITH THE APPROVAL OF THE ENGINEER.
10. ALL EXPOSED SOIL AREAS SHALL BE STABILIZED PRIOR TO THE ONSET OF WINTER. ANY WORK STILL BEING PERFORMED SHALL BE SNOW MULCHED, SEEDED, OR BLANKETED WITHIN THE TIME FRAMES LISTED IN THE NPDES PERMIT.
11. ALL TOPSOIL BERMS SHALL BE STABILIZED AS FOLLOWS:
 - A. BETWEEN APRIL 1 - AUGUST 31, SEED WITH SEED MIXTURE 21-111
 - B. BETWEEN SEPTEMBER 1 AND MARCH 31, SEED WITH SEED MIXTURE 21-112 AND TOP WITH RAPID STABILIZATION 2.
12. TILLING FOR BEDS OR TREE HOLES SHALL BE PLANTED AND MULCHED WITH WOODCHIP WITHIN 7 DAYS OR STRAW MULCHED UNTIL PLANTING OPERATIONS CAN BE COMPLETED. FILTER LOGS SHALL BE PLACED, AS NEEDED, TO TRAP SEDIMENT ON THE LOWER EDGE OF BEDS OR TREE HOLES. FILTER LOGS SHALL BE LEFT TO PHOTO DEGRADE.

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					I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>JEREMY M. NIELSEN</u>  Date: <u>03/28/19</u> License # <u>45047</u>	STATE PROJECT NO. 002-614-045 106-142-001 CITY OF BLAINE PROJECT NO. 18-09	DRAWN BY S. MARTINS DESIGNED BY Z. THELEN CHECKED BY J. NIELSEN COMM. NO. 1811762	 ANOKA COUNTY STORM WATER POLLUTION PREVENTION PLAN CSAH 14 RECONSTRUCTION	SHEET 74 OF 107												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">NO</th> <th style="width: 10%;">DATE</th> <th style="width: 5%;">BY</th> <th style="width: 10%;">CKD</th> <th style="width: 10%;">APPR</th> <th style="width: 60%;">REVISION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>					NO	DATE	BY	CKD	APPR	REVISION							...P\an\F\Ina\P\an\11762_swp03.dgn				
NO	DATE	BY	CKD	APPR	REVISION																

LEGEND	
	SEED MIX 25-121
	SEED MIX 35-221
	EROSION CONTROL BLANKET CATEGORY 3N
	DIRECTION OF FLOW
	DELINEATED WETLAND
	SEDIMENT CONTROL LOG TYPE WOOD FIBER

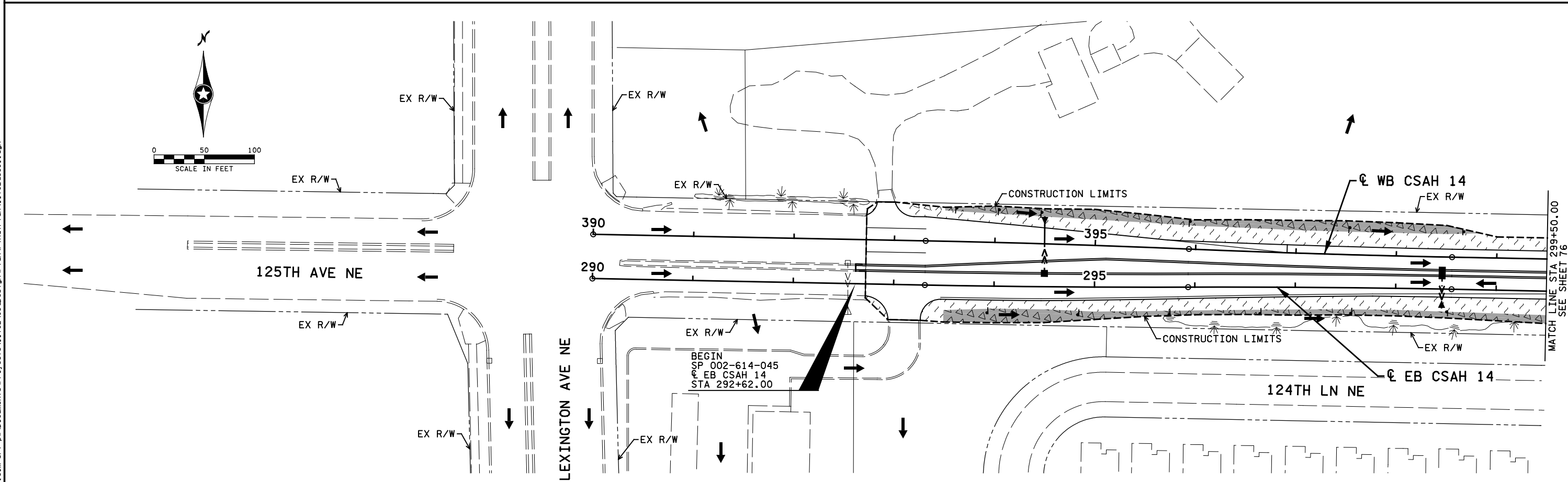
GENERAL NOTES:

SEE STAGING AND TRAFFIC CONTROL PLANS FOR ADDITIONAL EROSION CONTROL AND TEMPORARY TURF ESTABLISHMENT MEASURES.

SEE CONSTRUCTION AND SOILS NOTES FOR ADDITIONAL DETAILS.

SEE DRAINAGE PLANS AND SUPERELEVATION PLANS FOR LOCATIONS OF RIPRAP AND SOD.

EROSION CONTROL BLANKET CATEGORY 0 SHALL BE USED ON ALL SEEDED AREAS NOT COVERED BY EROSION CONTROL BLANKET CATEGORY 3N.



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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: BENJAMIN P ROBECK

Ben Robeck

Date: 03/28/19 License #: 53680

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS

DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

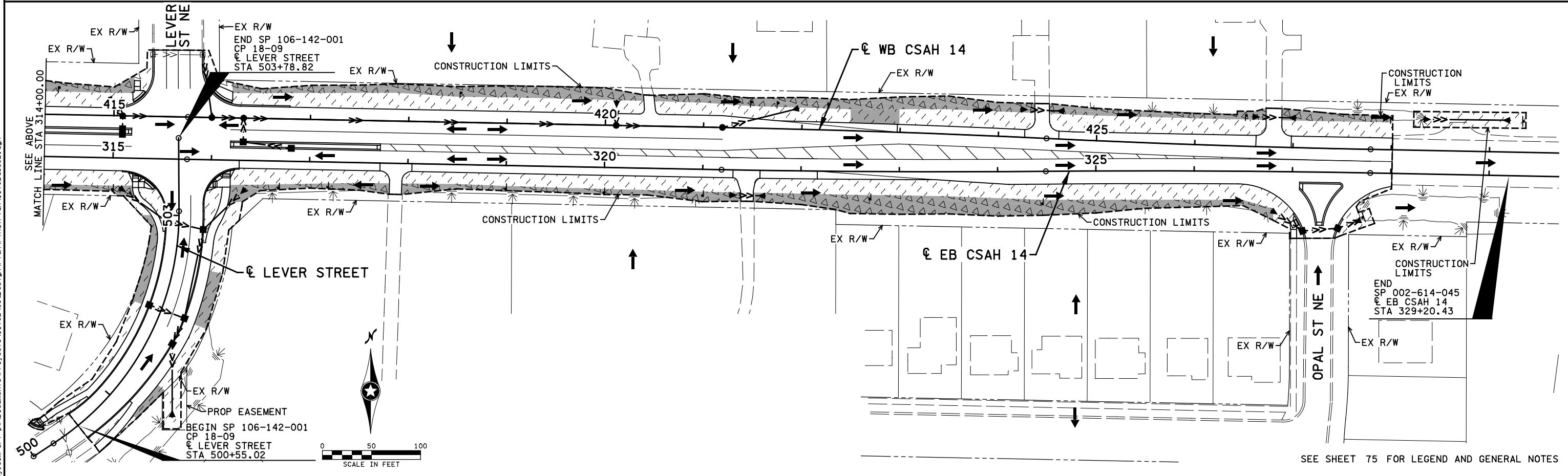
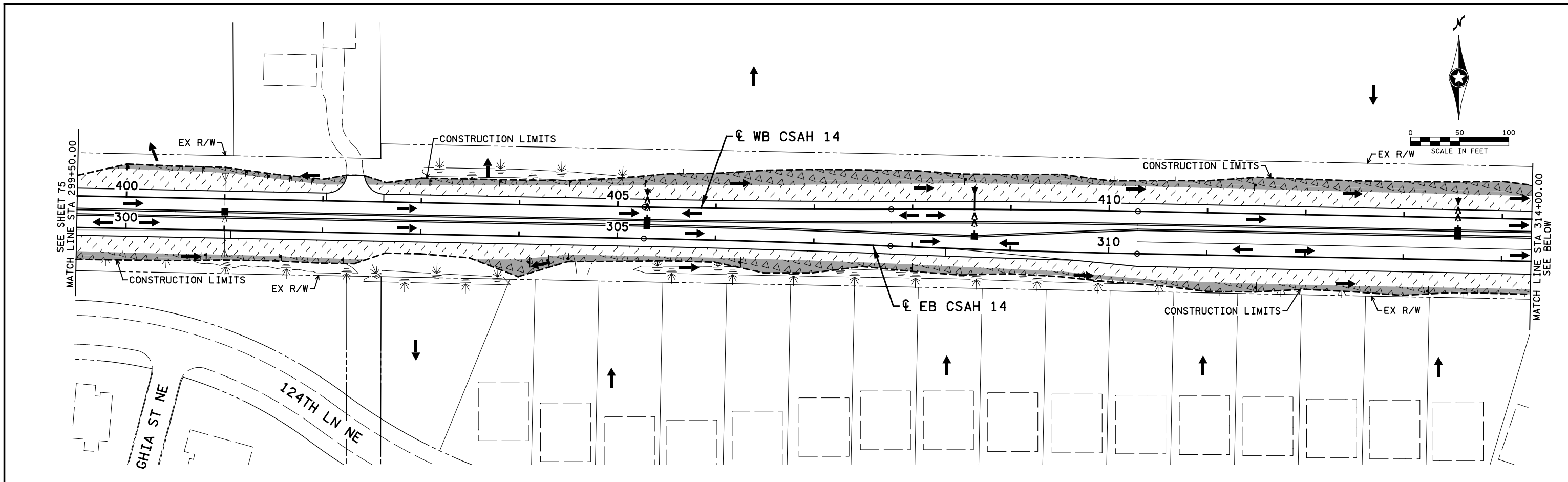
COMM. NO. 1811762



ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLANS
CSAH 14 RECONSTRUCTION

SHEET
75
OF
107



SEE SHEET 75 FOR LEGEND AND GENERAL NOTES

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NO	DATE	BY	CKD	APPR	REVISION

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Print Name: BENJAMIN P ROBECK

Ben Robeck

Date: 03/28/19 License #: 53680

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS

DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

COMM. NO. 1811762



ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLANS
CSAH 14 RECONSTRUCTION

SHEET
76
OF
107

PERMANENT PAVEMENT MARKING PLAN

NOTES & GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR 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 AN AGENCY PLACED 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 3 INCHES 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.

JUST PRIOR TO THE PLACEMENT OF PAVEMENT MARKINGS THE ROAD SURFACE SHALL BE CLEANED AND FREE OF CONTAMINATION AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE.

APPLY ALL PAVEMENT MARKINGS AS RECOMMENDED BY THE MATERIAL MANUFACTURER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

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.

REFER TO SPECIAL PROVISIONS OR SPEC BOOK FOR GROUND IN/RECESSED PAVEMENT MARKING APPLICATION REQUIREMENTS.

MULTI-COMPONENT LIQUID:

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 TREATMENTS AND/OR LAITANCE.

THE MULTI-COMPONENT LIQUID MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI-COMPONENT LIQUID PAVEMENT MARKING.

APPLY MULTI-COMPONENT LIQUID MARKINGS WITH A MINIMUM THICKNESS OF 20 MILS; GLASS BEADS SHALL BE APPLIED AT A RATE OF AT LEAST 25 LB/GAL. THE "NO-TRACKING" CONDITION SHALL BE DETERMINED ON AN APPLICATION OF SPECIFIED THICKNESS TO THE PAVEMENT AND COVERED WITH GLASS BEADS AT THE RATE OF AT LEAST 25 LB/GAL.

PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES ARE 40°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

PREFORMED MARKINGS:

MANUFACTURER CERTIFICATIONS ARE REQUIRED FOR INSTALLERS, AND WRITTEN CERTIFICATION SHALL BE PRESENTED AT ANYTIME UPON REQUEST OF ENGINEER OR OTHER STATE PERSONAL.

DO NOT USE LINE MATERIAL TO PIECE TOGETHER INDIVIDUAL LETTERS, SYMBOLS, OR CROSSWALKS BLOCKS. UTILIZE PRECUT KITS PROVIDED BY THE MANUFACTURER. TWO STRIPS OF 18" LINE MATERIAL MAY BE USED TO FORM CROSSWALK BLOCKS OF 36" WIDTH.

DO NOT USE NARROWER LINE MATERIAL TO PIECE TOGETHER WIDER LINES.

IF THERE IS A CRACK OR JOINT IN ROAD SURFACE. (FOR TAPE LAY OVER CRACK OR JOINT THEN CUT TAPE 1" ON EACH SIDE OF CRACK OR JOINT). (FOR THERMO MAKE A DEEP SCORE IN THE MATERIAL ONCE IT HAS SET UP BUT NOT ENTIRELY COOLED DOWN).

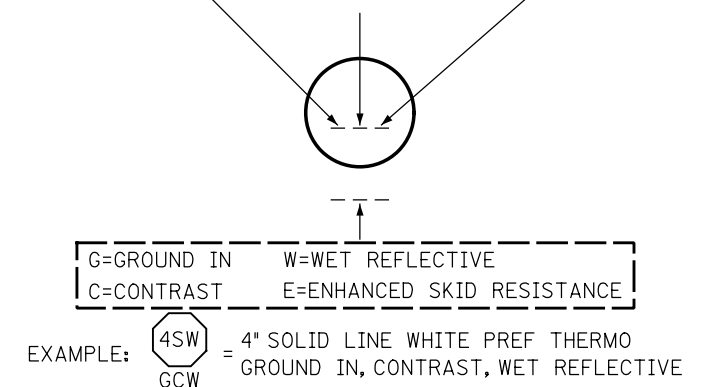
SYMBOLS & MATERIALS LEGEND

- — — — — BROKEN LINE-50' CYCLE (10' LINE, 40' GAP)
- - - - - DOTTED LINE-15' CYCLE (3' LINE, 12' GAP, UNLESS SHOWN OTHERWISE IN THE PLAN)
- CROSSWALK BLOCK
- ↩ PAVEMENT MESSAGE (LEFT ARROW)

STRIPING KEY

- CIRCLE-MULTI COMP
- ⬡ OCTAGON-PREF THERMO

- | | | |
|------------------------------------|---|--|
| 1ST DIGIT
WIDTH
4", 8", ETC. | 2ND DIGIT
PATTERN
S - SOLID
B - BROKEN
T - DOTTED
D - DOUBLE
K - DOUBLE BROKEN
H - DOUBLE DOTTED | 3RD DIGIT
COLOR
W - WHITE
Y - YELLOW
B - BLACK |
|------------------------------------|---|--|



PARTICIPATION	PERMANENT PAVEMENT MARKINGS				P	
	4" SOLID LINE MULTI COMP	4" DOUBLE SOLID LINE MULTI COMP (YELLOW)	4" BROKEN LINE MULTI COMP	24" SOLID LINE PREF THERMO	PAVEMENT MESSAGE PREF THERMO (WHITE)	CROSSWALK PREF THERMO (WHITE)
	LIN FT	LIN FT	LIN FT	LIN FT	SQ FT	SQ FT
SP 002-614-045	16496	1925	290	747	185.4	1296
SAP 106-142-001	635	249			91.08	
PROJECT TOTALS	17131(P-1)	2174	290(P-2)	747(P-3)	276.48	1296

SPECIFIC NOTES

- (P-1) 11387' WHITE, 5744' YELLOW
- (P-2) 180' WHITE, 100' YELLOW
- (P-3) 217' WHITE, 530' YELLOW

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: NATHAN A. POOLE

Nathan A. Poole

Date: 03/28/19 License #: 56071

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
B. BETTS

DESIGNED BY
B. BETTS

CHECKED BY
N. POOLE

COMM. NO. 1811762

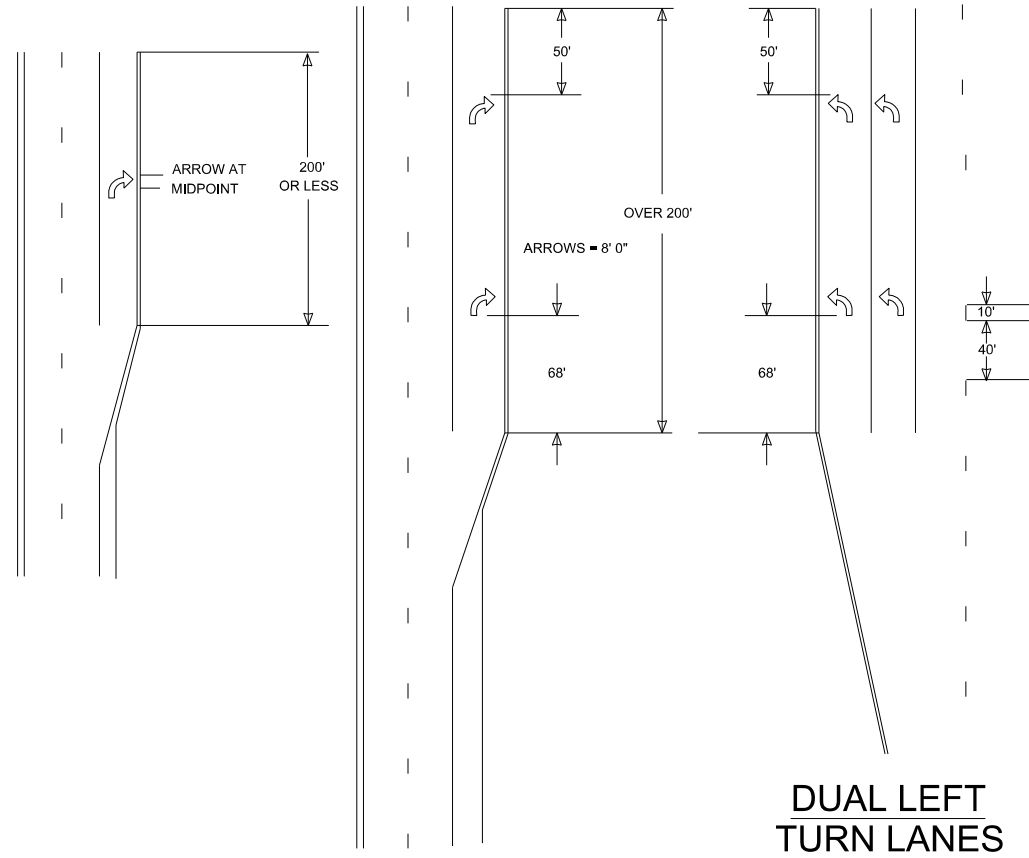


ANOKA COUNTY

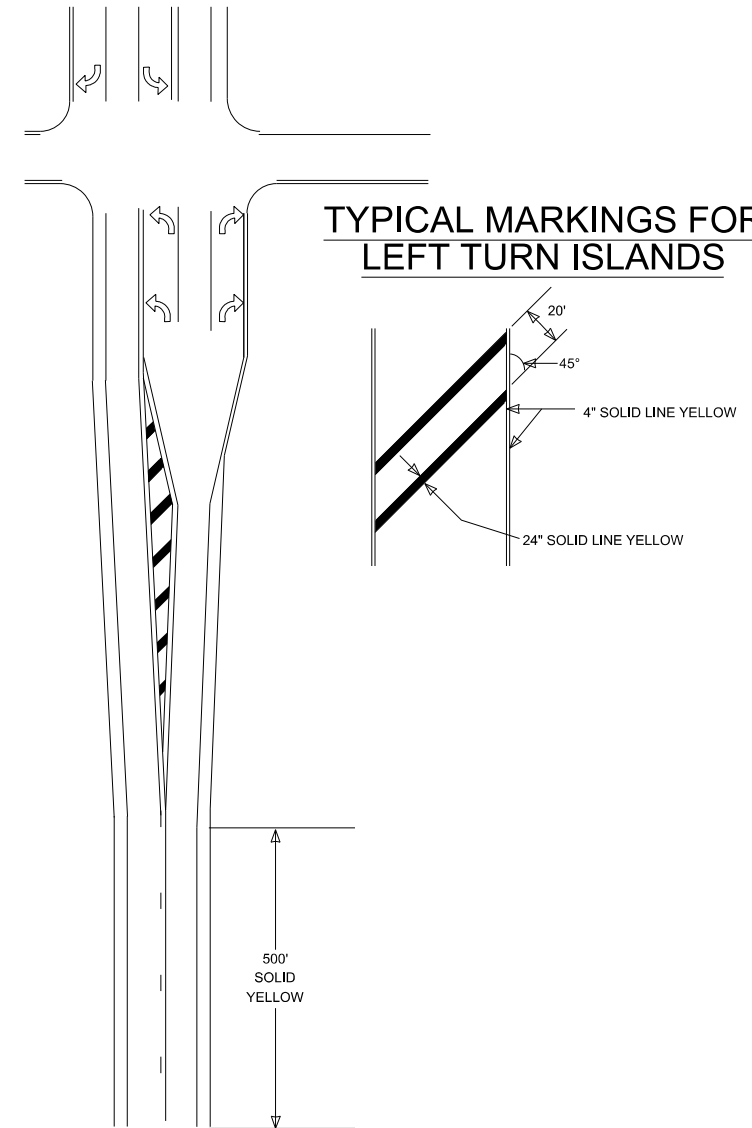
SIGNING AND PAVEMENT MARKING DETAILS
CSAH 14 RECONSTRUCTION
PAVEMENT MARKING NOTES, LEGEND AND TABULATION

SHEET
77
OF
107

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



4/26/18 PM
3/21/2019
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NO	DATE	BY	CKD	APPR	REVISION

...\\P\an\F\Ina\I\an\11762_PMD02.dgn

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Nathan A. Poole

Date 03/28/19 License # 56071

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COMM. NO. 1811762



ANOKA COUNTY

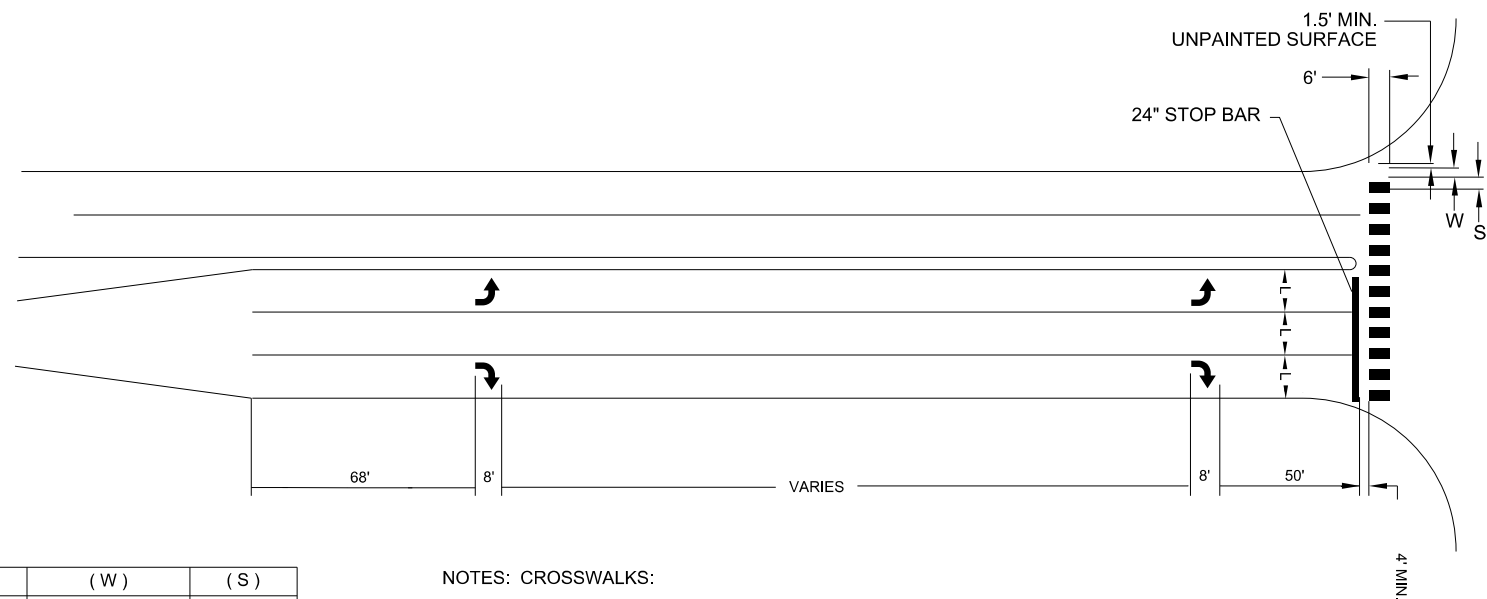
SIGNING AND PAVEMENT MARKING DETAILS

CSAH 14 RECONSTRUCTION

PAVEMENT MARKING DETAILS

SHEET
78
OF
107

MARKINGS FOR PEDESTRIAN CROSSWALKS

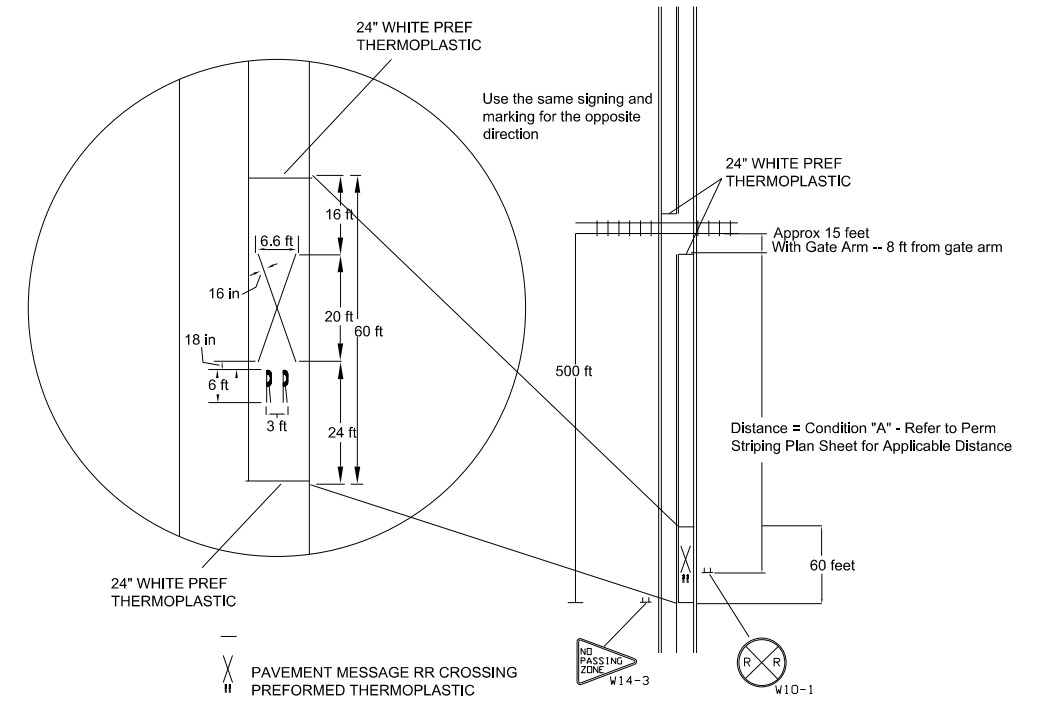


(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

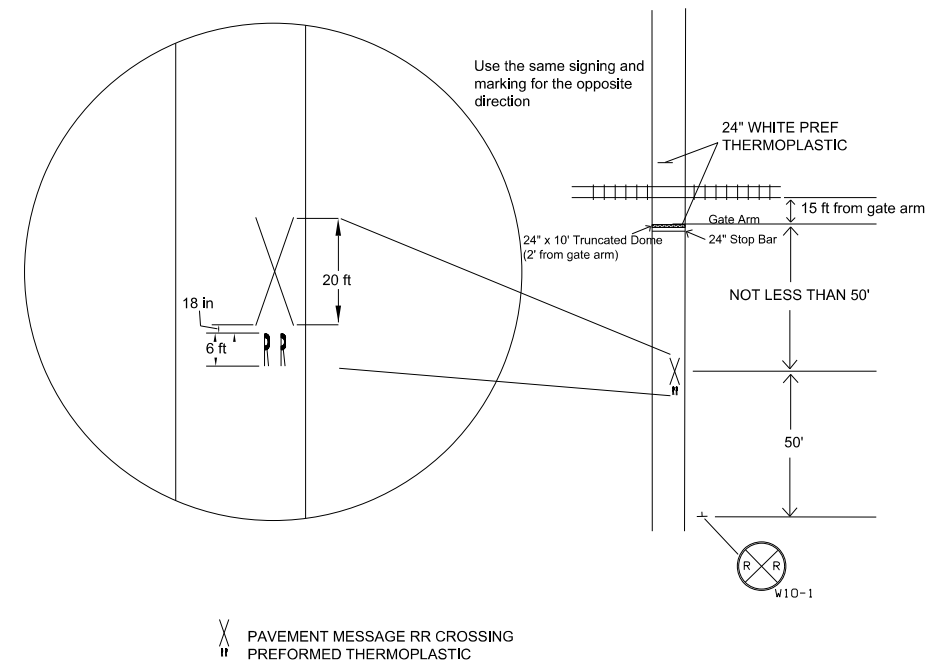
NOTES: CROSSWALKS:

- 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 RAMPERS 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.

RAILROAD CROSSING PAVEMENT MARKINGS



RAILROAD CROSSING PAVEMENT MARKINGS TRAIL GRADE CROSSING



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NO	DATE	BY	CKD	APPR	REVISION

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Print Name: NATHAN A. POOLE

Nathan A. Poole

Date: 03/28/19 License #: 56071

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
B. BETTS

DESIGNED BY
B. BETTS

CHECKED BY
N. POOLE

COMM. NO. 1811762



ANOKA COUNTY

SIGNING AND PAVEMENT MARKINGS DETAILS

CSAH 14 RECONSTRUCTION

PAVEMENT MARKING DETAILS

SHEET
79
OF
107

REMOVE MARKER		Q
	SP 002-614-045	QTY
		EACH
REMOVE MARKER	1	1
PROJECT TOTAL		1

REMOVE SIGN TYPE C			R
	SP 002-614-045	SP 106-142-001	QTY
			EACH
	24		24
PROJECT TOTAL			24

REMOVE SIGN TYPE SPECIAL			S
	SP 002-614-045	SP 106-142-001	QTY
			EACH
	1		1
PROJECT TOTAL			1

SALVAGE & INSTALL SIGN TYPE SPECIAL					T
SIGN NO	QTY	POSTS		MTG HT (T-1)	PANEL LEGEND
		NO & TYPE	LENGTH FEET		
S-1	1	1-0	11	7	125TH AVE OPAL ST NE
TOTAL	1				

SPECIFIC NOTE:
(T-1) MOUNTING HEIGHT IS MINIMUM (WITH A +6 INCH TOLERANCE)

GENERAL NOTE:
1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT ACCOUNT FOR DITCH GRADE.

DELINEATOR			U
	SP 002-614-145 QUANTITY EACH		
CODE NO	COLOR		TOTAL
	WHITE	YELLOW	
(U-1) X4-13	2		2

SPECIFIC NOTES:
(U-1) MOUNTED BELOW TYPE C SIGNS. X4-13 ARE MOUNTED ON 3 LB POSTS.
GENERAL NOTES:
1. FOR DELINEATOR PLACEMENT, SEE SHEET #SND04
2. SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR DELINEATOR DETAIL.

OBJECT MARKER				V
CODE NO	SIZE INCH	COLOR		
X4-2	18 x 18	YELLOW ON BLACK		
TOTAL QUANTITIES				
CODE	SP 002-614-145		TOTAL QTY	
	EACH		EACH	
X4-2	4		4	
X4-2	1		1	
PROJECT TOTAL			5	

SPECIFIC NOTES:
(V-1) MOUNT BELOW R4-7 SIGN. SEE TAB W.

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CITY OF BLAINE
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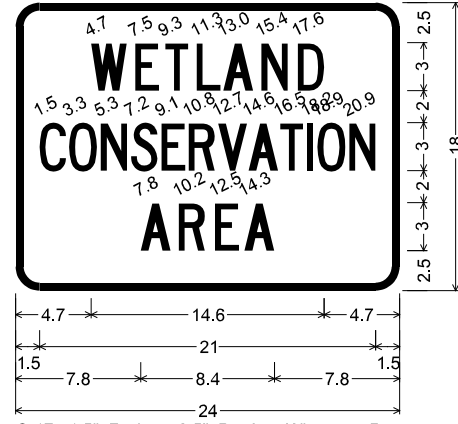
DRAWN BY
B. BETTS
DESIGNED BY
B. BETTS
CHECKED BY
N. POOLE
COMM. NO. 1811762



ANOKA COUNTY
SIGNING AND PAVEMENT MARKING DETAILS
CSAH 14 RECONSTRUCTION
SIGNING TABULATIONS

SHEET
80
OF
107

SIGN PANELS TYPE C											W	
SIGN NO	SP 002-614-045	SP 106-142-001	POSTS			PANEL					CODE NO	PANEL LEGEND
			NO. & TYPE	KNEE BRACES QTY	LENGTH	MTG HT (W-1)	SIZE	AREA	AREA			
									SP 002-61-045	SP 106-142-001		
FEET	FEET	INCH	SQ FT	SQ FT	SQ FT							
C-1	1		1-U		16	7	24 x 12	2.00	2.00		M3-2a	EAST (BLUE)
							24 x 24	4.00	4.00		M1-6	ANOKA COUNTY 14
C-2	1		1-U		16	7	24 x 24	4.00	4.00		M1-6	ANOKA COUNTY 17
							21 x 15	2.19	2.19		M6-4a	DOUBLE ARROW
C-3	3		1-U	1	16	7	36 x 36	9.00	27.00		R5-1	DO NOT ENTER
C-4	2		1-U	1	16	7	36 x 36	9.00	18.00		R3-7L	LEFT TURN LANE (W-3)
C-5	1		2-U		16	7	36 x 36	9.00			W4-2(R)	LANE REDUCTION
C-6	3		1-U	1	16	7	36 x 36	9.00	27.00		R3-7R	RIGHT TURN LANE (W-3)
							54 x 18	6.75	6.75		R6-1R	ONE WAY (W-3)(W-6)
							54 x 18	6.75	6.75		R6-1R	ONE WAY
C-7	1		2-U	1	14	7	36 x 36	9.00	9.00		R1-1	STOP
C-8	1		2-U		16	7					X4-13	CYLINDER STYLE DELINEATOR (W-4)
C-9	1		2-U		16	7	30 x 36	7.50	7.50		R2-1	SPEED LIMIT 55
C-10	1	1	2-U	1	17	7	48 x 48	16.00	16.00	16.00	W3-3	SIGNAL AHEAD
C-11	2		1-U	1	15	7	24 x 24	4.00	8.00		R8-3	NO PARKING
							24 x 30	5.00	15.00		R4-7	KEEP RIGHT (W-3)
C-12	3		1-ST		15	7					X4-2	OBJECT MARKER (W-4)
C-13		1	2-U		15	7	36 x 30	7.50		7.50	R3-8AD	L-TR
							36 x 30	7.50	7.50		R3-8CA	T-R
C-14	1		2-U	1	15	7	24 x 24	4.00	4.00		R8-3	NO PARKING
C-15	1		2-U		15	7	54 x 30	11.25	11.25		R3-8ACA	L-T-R
C-16	2		1-U		15	7	24 x 24	4.00	8.00		R3-2	NO LEFT TURN
							24 x 18	3.00	3.00			WETLAND CONSERVATION AREA (W-5)
C-17	1		2-U		16	7	24 x 24	4.00	4.00		R5-3	NO MOTOR VEHICLES
							24 x 30	5.00	5.00		R4-7	KEEP RIGHT (W-3)(W-6)
							24 x 30	5.00	5.00		X4-2	OBJECT MARKER (W-4)
C-18	1		2-U		17	7					R3-4	NO U-TURN SYMBOL
SUBTOTAL								208.94	23.50			
PROJECT TOTAL								232.44				



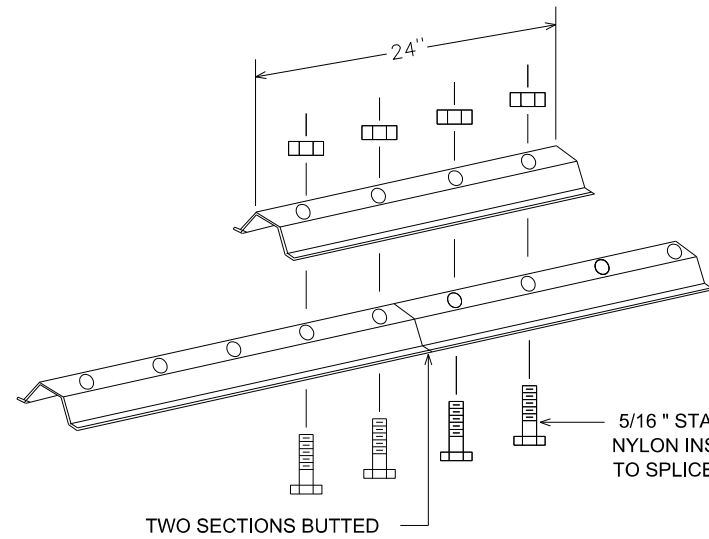
C-17; 1.5" Radius, 0.5" Border, White on Brown;
[WETLAND] C;
[CONSERVATION] C specified length;
[AREA] C;

GENERAL NOTE:
ALL DIMENSIONS ARE IN INCHES, UNLESS NOTED OTHERWISE.

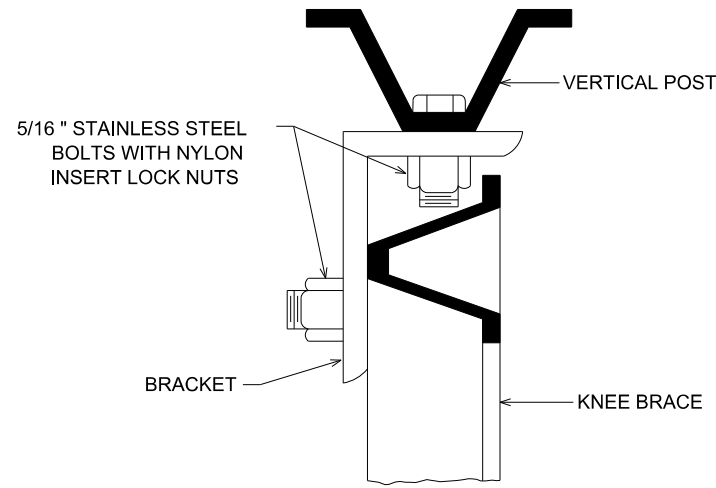
- SPECIFIC NOTES:
- (W-1) MOUNTING HEIGHT IS MINIMUM (WITH A +6 INCH TOLERANCE) SEE SHEET 84 FOR TYPICAL MOUNTING.
 - (W-2) FOR PUNCHING AND MOUNTING DETAILS, SEE MNDOT STANDARD SIGNS AND MARKING MANUAL PAGE 110.
 - (W-3) MOUNT IN CONCRETE.
 - (W-4) SEE PAGE 80 FOR TABULATION .
 - (W-5) SEE THIS SHEET FOR PANEL DETAILS.
 - (W-6) MOUNT BACK-TO-BACK.
- GENERAL NOTES:

- POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
- SEE SHEET 84 FOR SIGN PLACEMENT DETAILS.
- SEE SHEET 82 FOR STRUCTURAL DETAILS.
- SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.

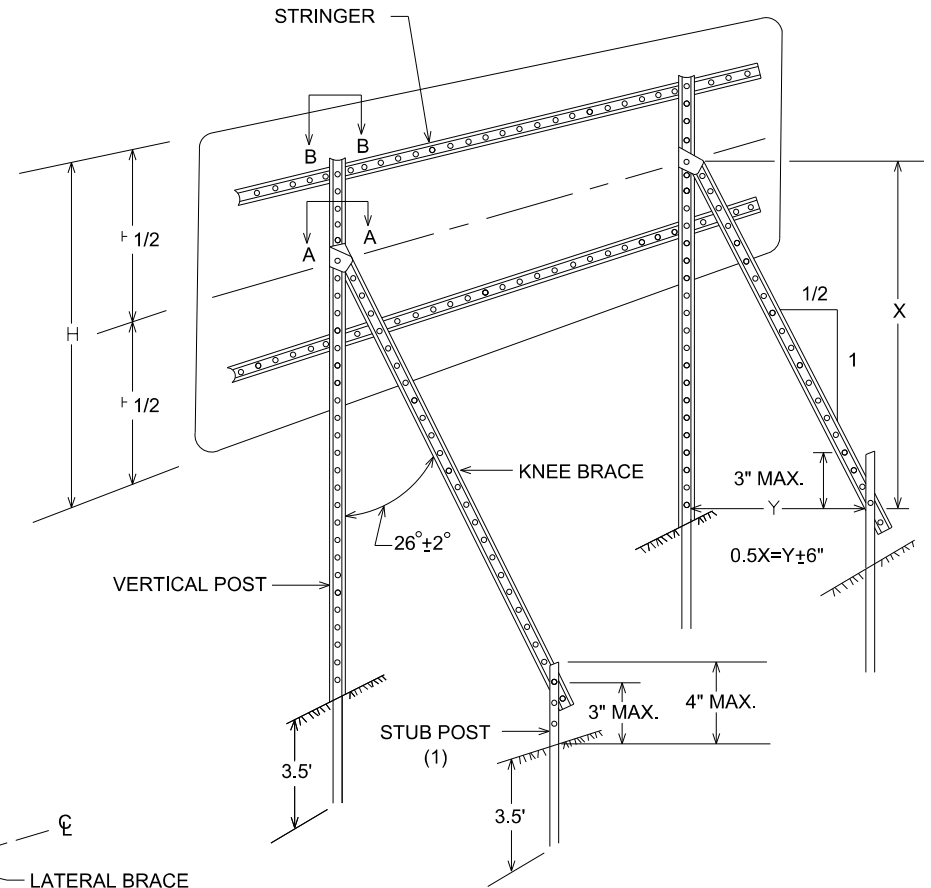
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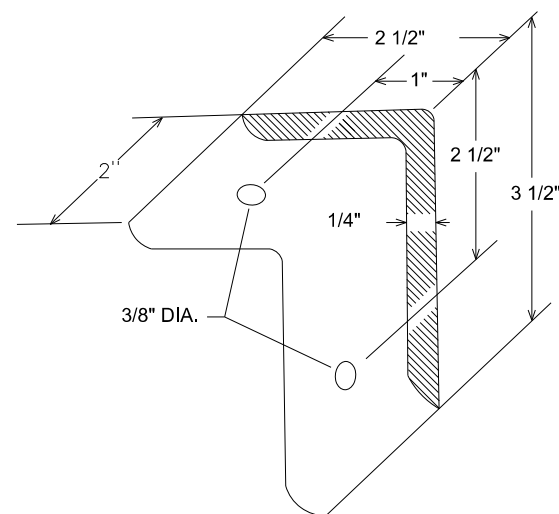
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

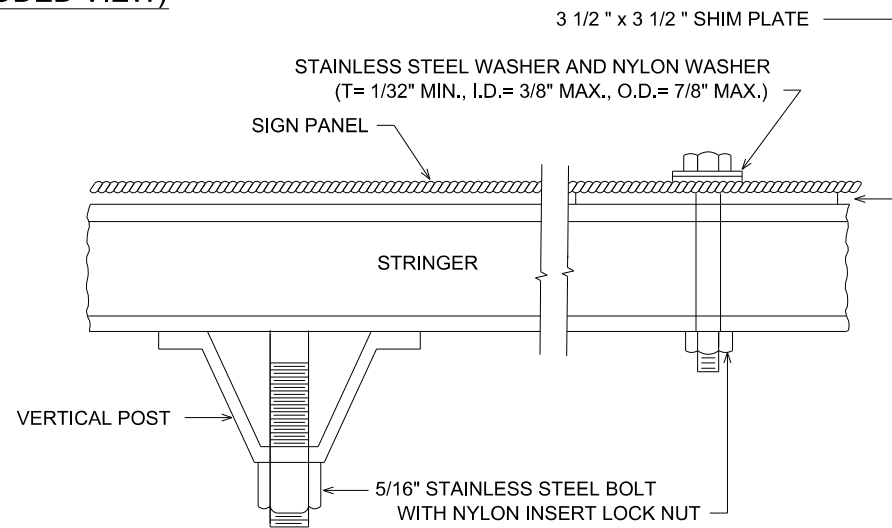


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS



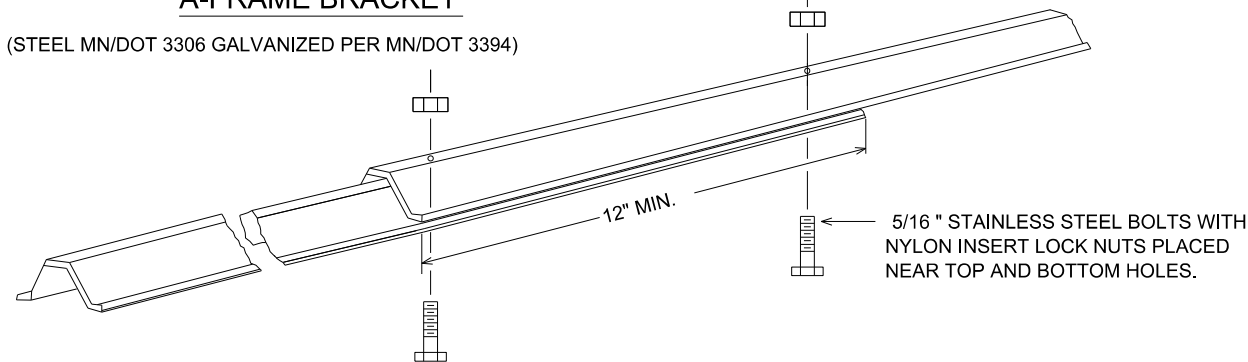
A-FRAME BRACKET

(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)

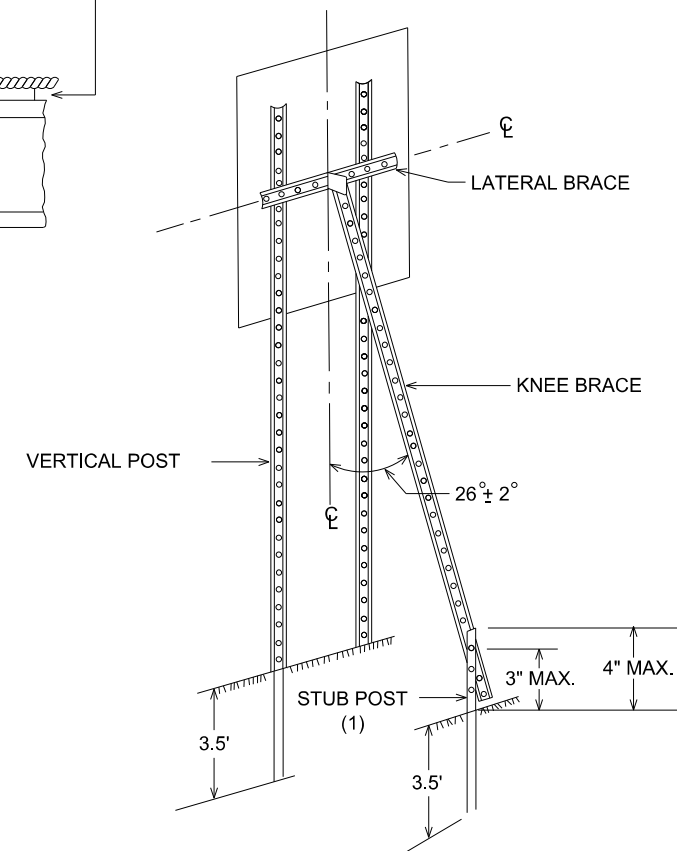


SECTION B-B

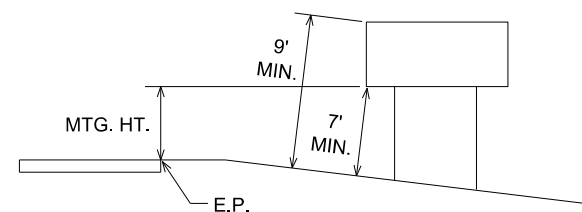
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



KNEE BRACE SPLICE



TYPICAL "A-FRAME" INSTALLATION
TYPE "C" SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY
RELATIVE TO VERTICAL POST.

TYPE C & D SIGN
STRUCTURAL DETAILS

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: NATHAN A. POOLE
Nathan A. Poole
Date: 03/28/19 License #: 56071

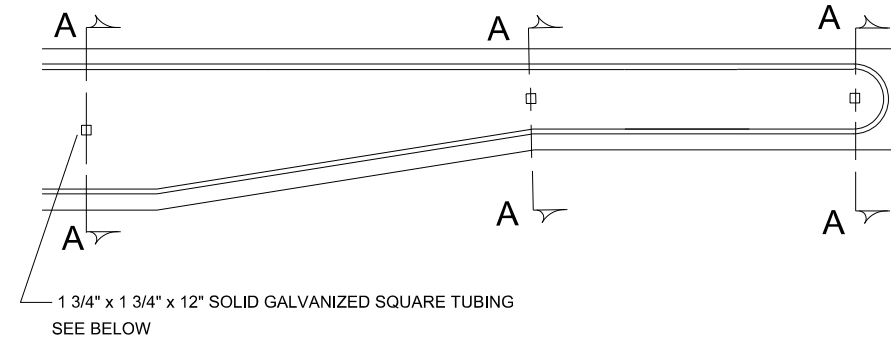
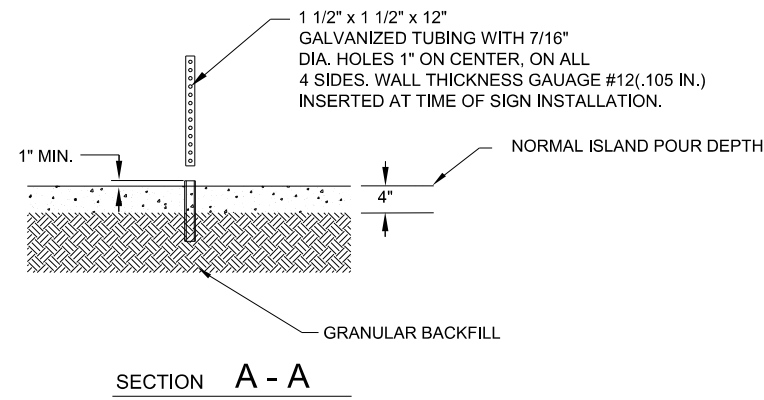
STATE PROJECT NO.
002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
B. BETTS
DESIGNED BY
B. BETTS
CHECKED BY
N. POOLE
COMM. NO. 1811762

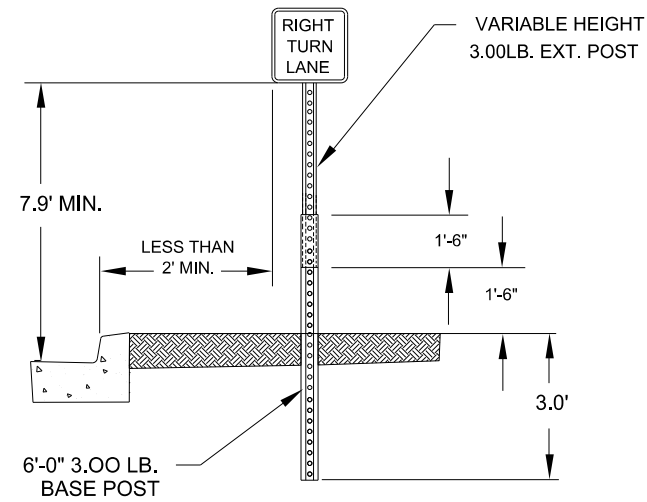


ANOKA COUNTY
SIGNING AND PAVEMENT MARKING DETAILS
CSAH 14 RECONSTRUCTION
SIGNING DETAIL

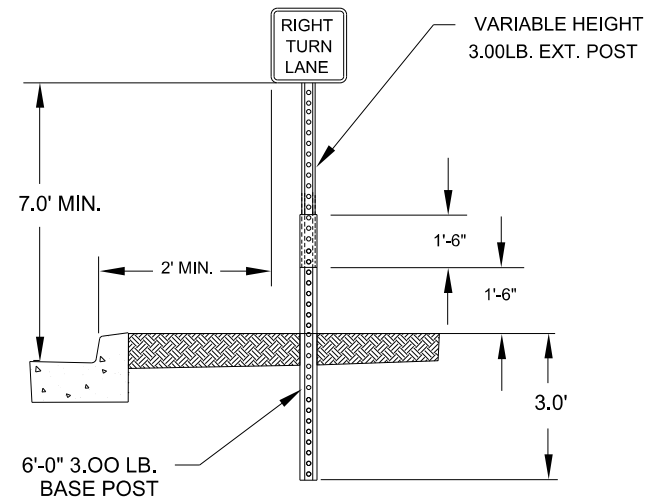
SHEET
82
OF
107



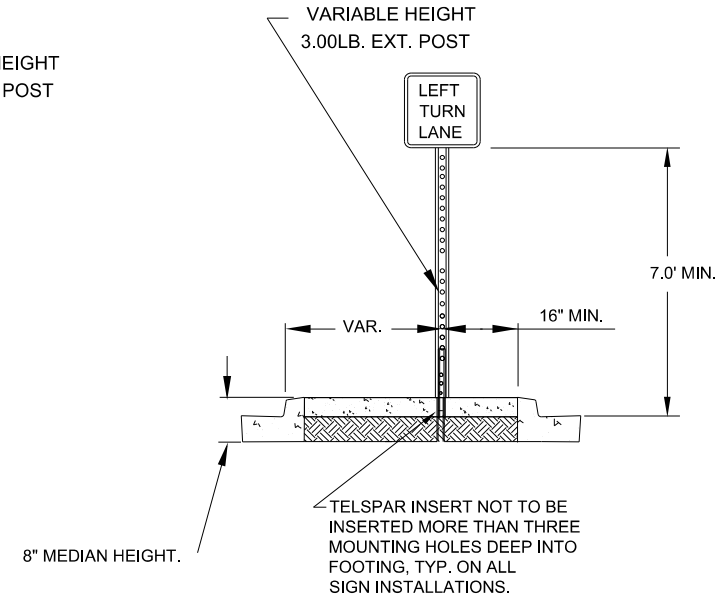
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL
FOR AREAS LESS THAN THE 2' MIN



GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



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Print Name: NATHAN A. POOLE

Nathan A. Poole

Date 03/28/19 License # 56071

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

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B. BETTS

DESIGNED BY
B. BETTS

CHECKED BY
N. POOLE

COMM. NO. 1811762



ANOKA COUNTY

SIGNING AND PAVEMENT MARKING DETAILS

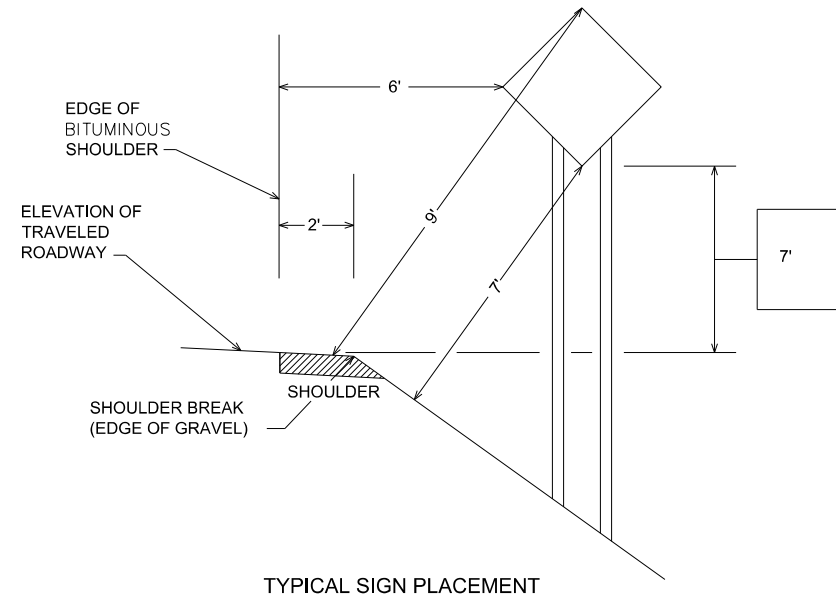
CSAH 14 RECONSTRUCTION

SIGNING DETAIL

SHEET
83
OF
107

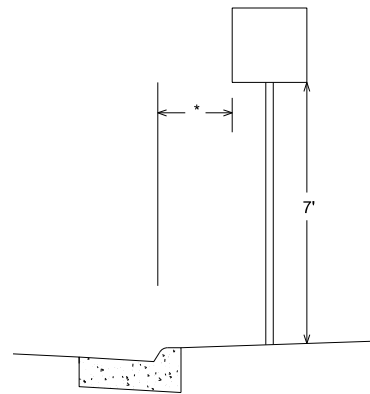
RURAL

URBAN

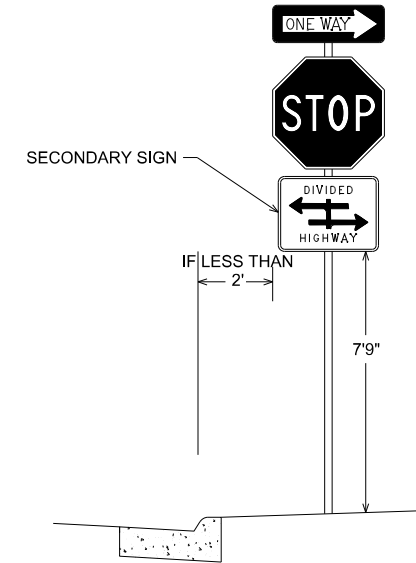
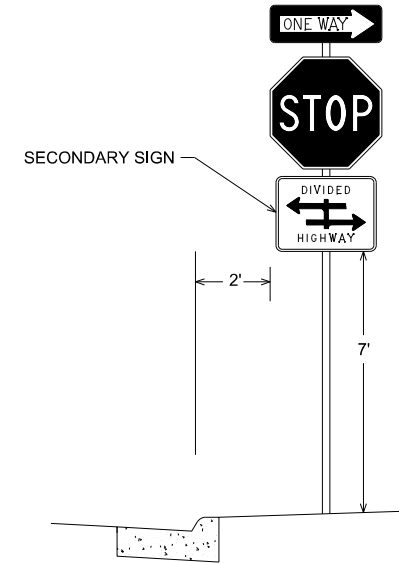


TYPICAL SIGN PLACEMENT

- 2' - NARROW BOULEVARD (< 8' WIDE)
- 6' - WIDE BOULEVARD

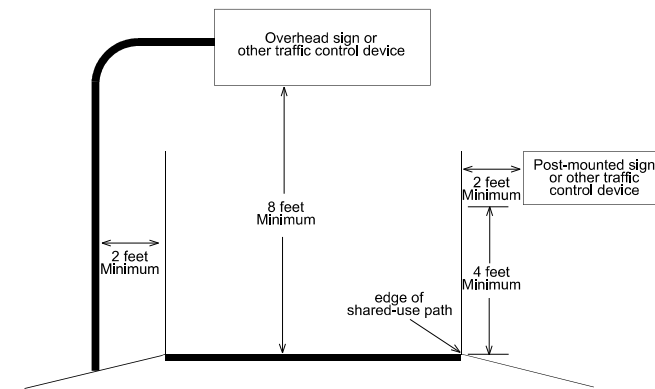


TYPICAL SIGN PLACEMENT



NOTE:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN 2' CLEAR FROM SIGNS TO BITUMINOUS TRAIL



TYPICAL SIGN PLACEMENT SHARED-USE PATH

4/27/28 PM 3/27/2019 P:\Users\Bentley.com\sr-f-pa\Documents\Projects\11762\03_Des\gn\Ina\Ina\11762_snd07.dgn

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Print Name: NATHAN A. POOLE

Nathan A. Poole

Date 03/28/19 License # 56071

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

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B. BETTS

CHECKED BY
N. POOLE

COMM. NO. 1811762



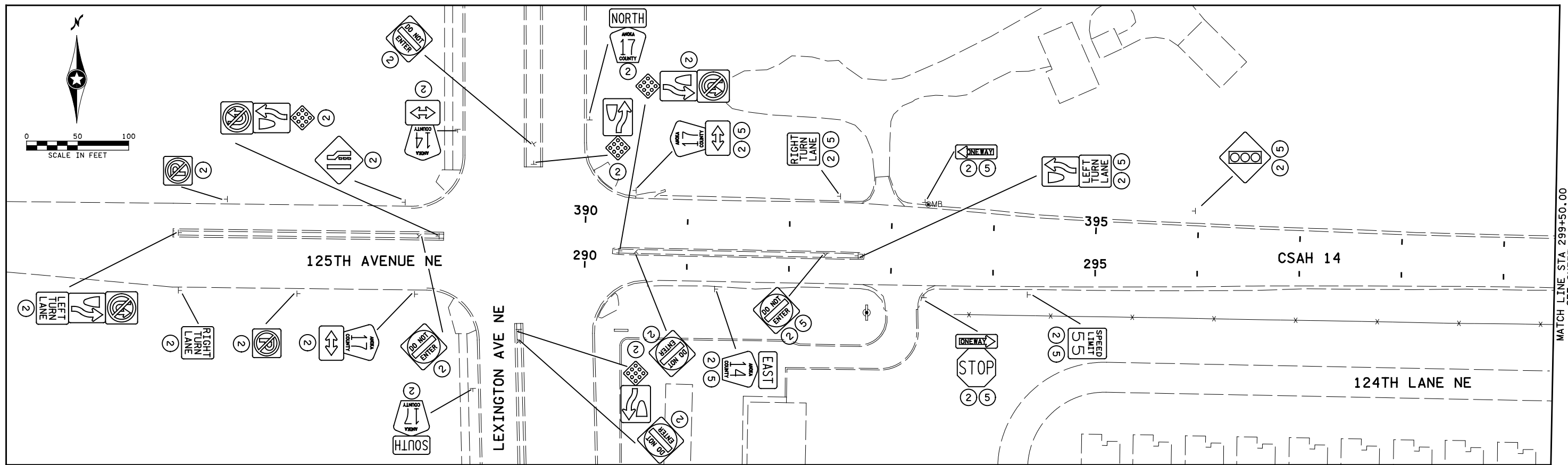
ANOKA COUNTY

SIGNING AND PAVEMENT MARKING DETAILS
CSAH 14 RECONSTRUCTION
SIGNING DETAIL

SHEET
84
OF
107

GENERAL NOTE:
 CENTERLINE ALIGNMENT LINE NOT
 SHOWN FOR CLARITY.

SPECIFIC NOTES:
 (2) INPLACE
 (5) REMOVE C SIGN



MATCH LINE STA 299+50.00
 SEE SHEET 86

4:27:39 PM
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 Print Name: NATHAN A. POOLE
Nathan A. Poole
 Date 03/28/19 License # 56071

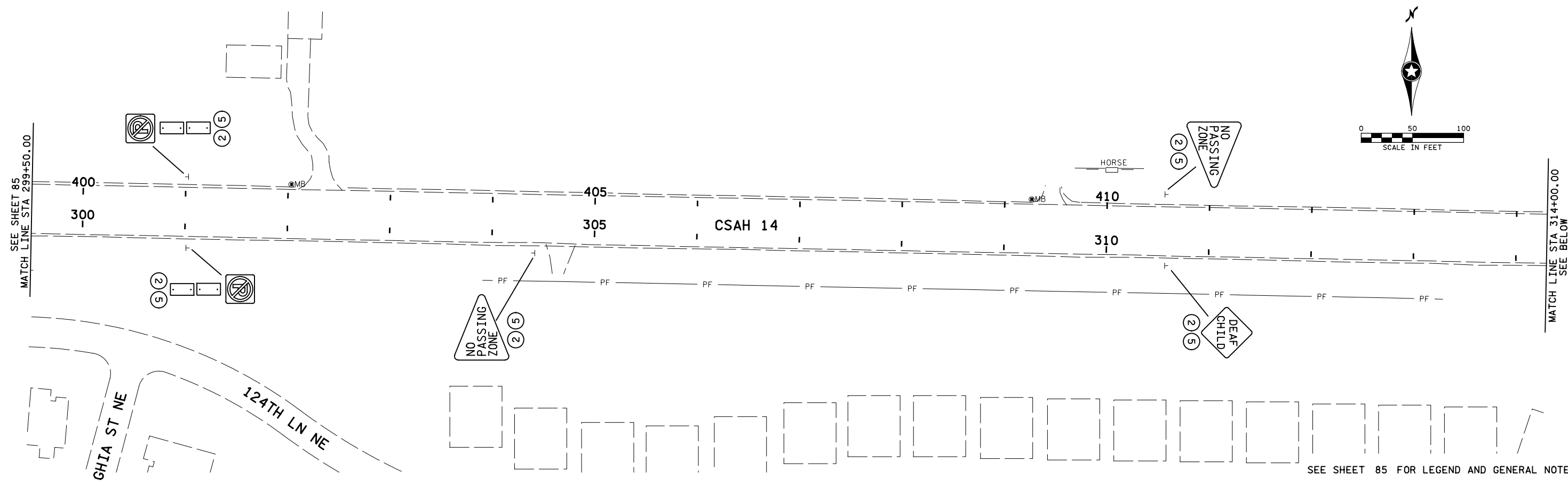
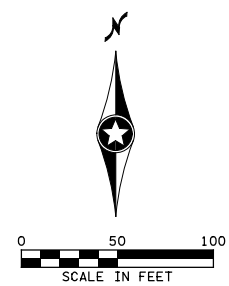
STATE PROJECT NO.
 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO.
 18-09

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 B. BETTS
 DESIGNED BY
 B. BETTS
 CHECKED BY
 N. POOLE
 COMM. NO. 1811762

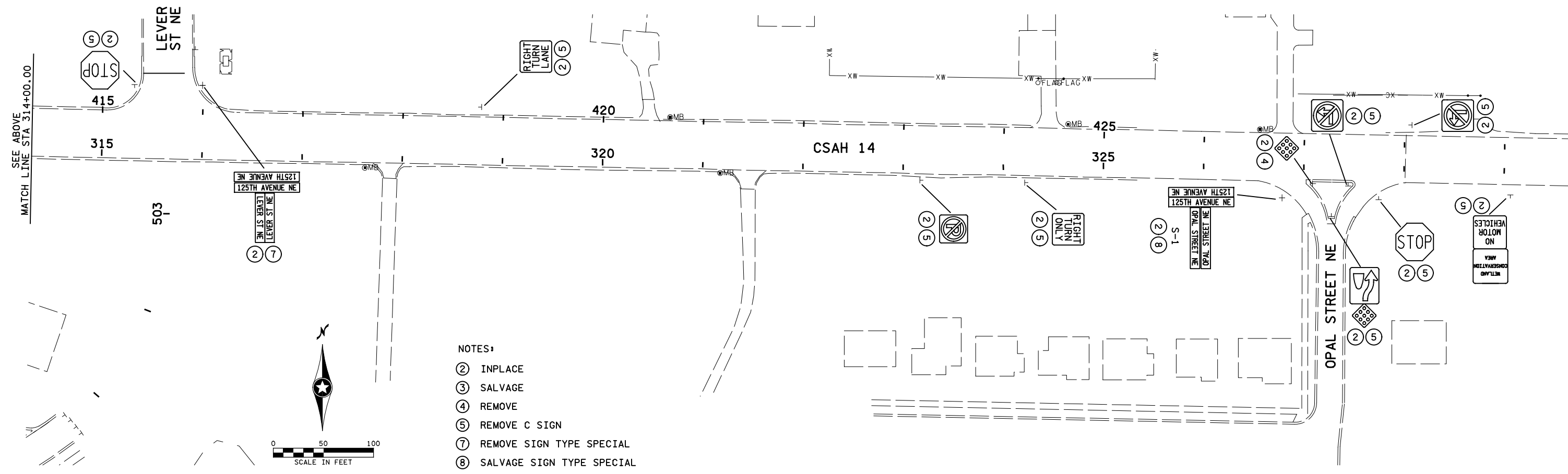


ANOKA COUNTY
 SIGNING REMOVAL PLANS
 CSAH 14 RECONSTRUCTION

SHEET
 85
 OF
 107



SEE SHEET 85 FOR LEGEND AND GENERAL NOTE.



- NOTES:
- ② INPLACE
 - ③ SALVAGE
 - ④ REMOVE
 - ⑤ REMOVE C SIGN
 - ⑦ REMOVE SIGN TYPE SPECIAL
 - ⑧ SALVAGE SIGN TYPE SPECIAL

4:27:50 PM 3/27/2019 P:\Users\pwbentley.com\sr-f-pa\Documents\Projects\11762\03_Des\gn\11762_r_emsgn02.dgn

NO	DATE	BY	CKD	APPR	REVISION
...F InaIP\an\11762_r_emsgn02.dgn					

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Print Name: NATHAN A. POOLE

Nathan A. Poole

Date: 03/28/19 License #: 56071

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

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B. BETTS

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B. BETTS

CHECKED BY
N. POOLE

COMM. NO. 1811762



ANOKA COUNTY
SIGNING REMOVAL PLANS
CSAH 14 RECONSTRUCTION

SHEET
86
OF
107

GENERAL NOTES:

ALL MULTI COMPONENT & PREFORM PAVEMENT MARKINGS AND MESSAGES TO BE APPLIED AFTER PLACEMENT OF FINAL WEARING COURSE. IN THE INTERIM, QUANTITIES PROVIDED FOR STRIPING PER PLAN USING PAINT MARKINGS AND MESSAGES. MULTIPLE MOBILIZATIONS MAY BE NECESSARY. (INCIDENTAL)

REMOVAL OF CONFLICTING PAVEMENT MARKINGS AND/OR MESSAGES FOR PERMANENT CONSTRUCTION IS INCIDENTAL.

ALL SIGNS SHALL BE INSTALLED TO MAINTAIN A 2.0' MINIMUM CLEARANCE FROM TRAIL EDGE.

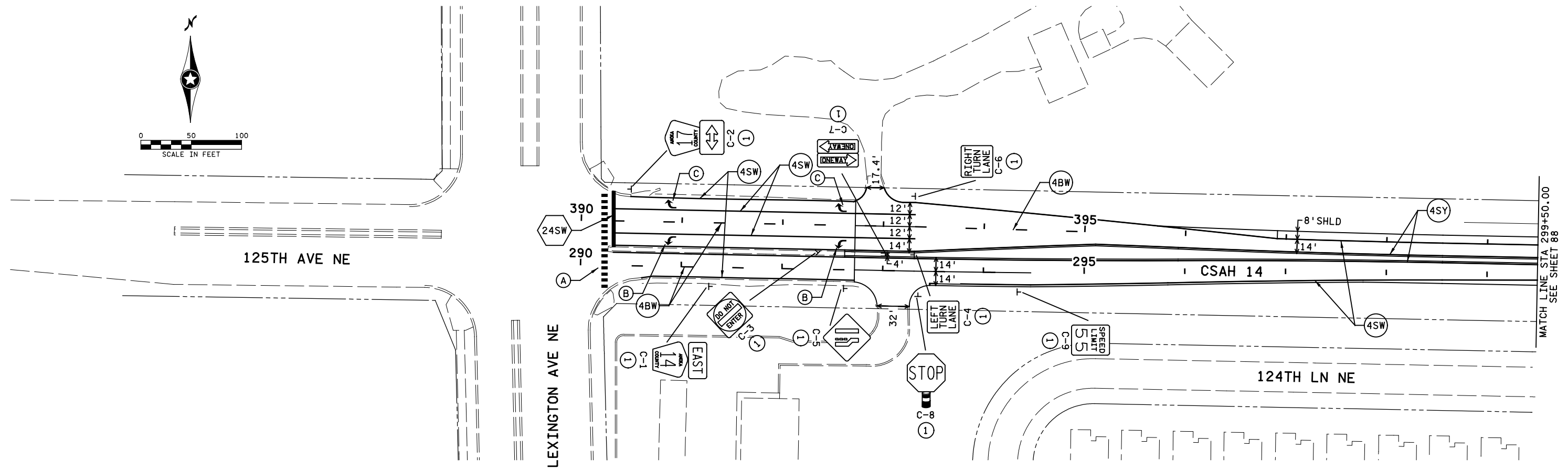
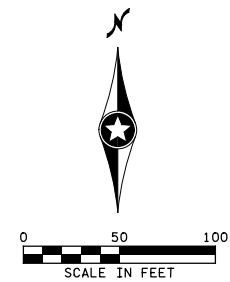
ALIGNMENT LINE NOT SHOWN TO IMPROVE PLAN CLARITY.

SIGNING NOTE:

① FURNISH AND INSTALL

PAVEMENT MARKING NOTES:

- Ⓐ CROSSWALK MARKING - 6' WIDE [WHITE] PREFORM THERMOPLASTIC
- Ⓑ PAVEMENT MESSAGE - LEFT ARROW [WHITE] PREFORM THERMOPLASTIC
- Ⓒ PAVEMENT MESSAGE - RIGHT ARROW [WHITE] PREFORM THERMOPLASTIC



9:50:01 AM
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 ... \Plan\Ina\Plan\11762.stp01.dgn

NO	DATE	BY	CKD	APPR	REVISION

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Print Name: NATHAN A. POOLE

Nathan A. Poole

Date: 03/28/19 License #: 56071

STATE PROJECT NO.
 002-614-045
 106-142-001

CITY OF BLAINE
 PROJECT NO.
 18-09

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 B. BETTS

DESIGNED BY
 B. BETTS

CHECKED BY
 N. POOLE

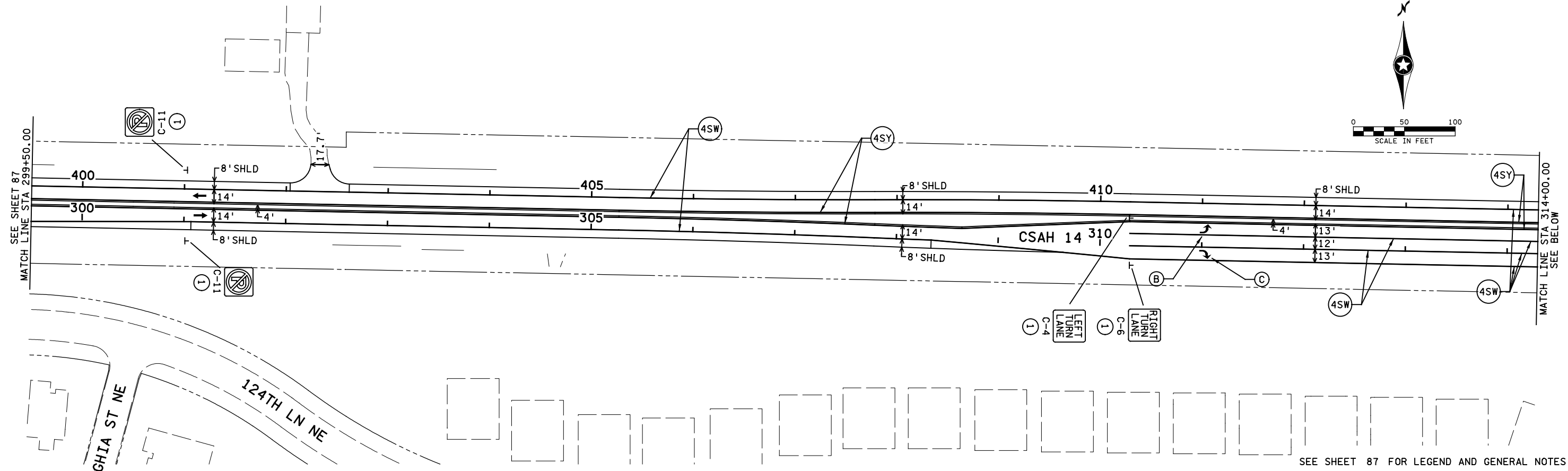
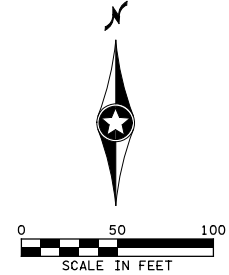
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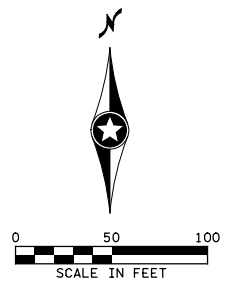
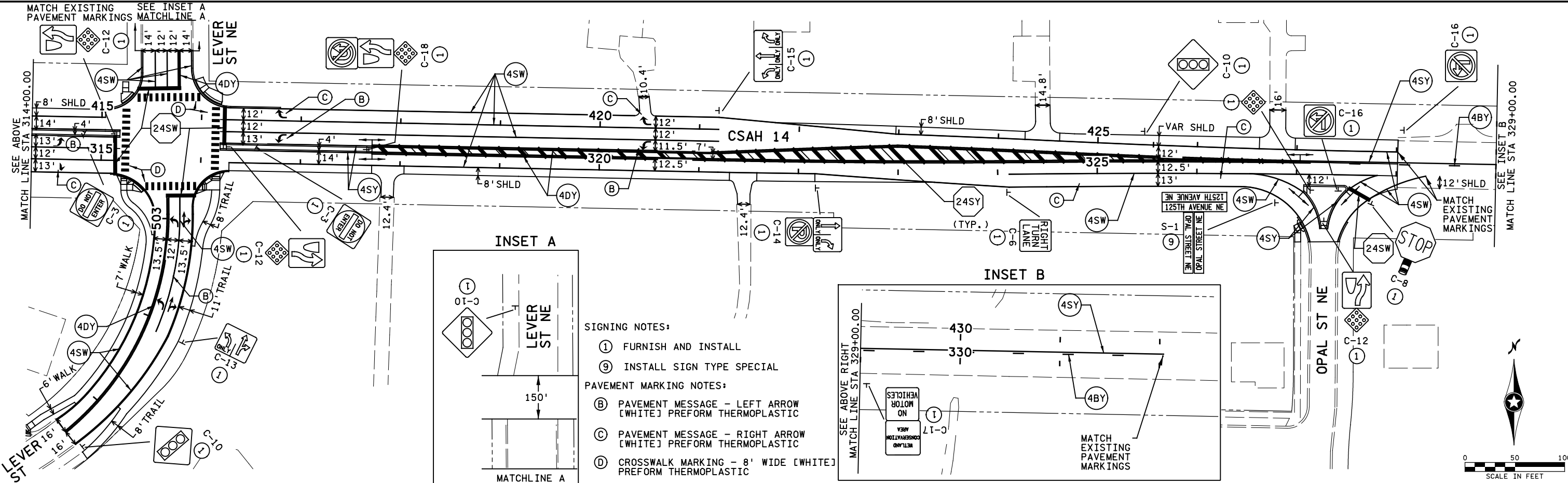
ANOKA COUNTY

SIGNING AND PAVEMENT MARKING PLANS
 CSAH 14 RECONSTRUCTION

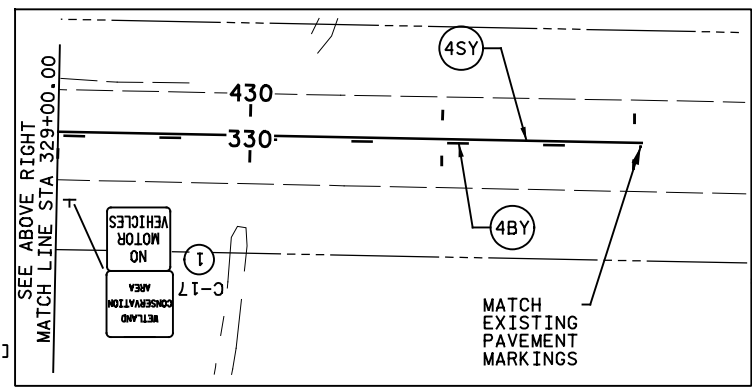
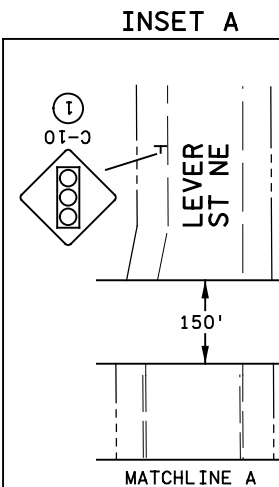
SHEET
 87
 OF
 107



SEE SHEET 87 FOR LEGEND AND GENERAL NOTES



- SIGNING NOTES:**
- ① FURNISH AND INSTALL
 - ⑨ INSTALL SIGN TYPE SPECIAL
- PAVEMENT MARKING NOTES:**
- (B) PAVEMENT MESSAGE - LEFT ARROW [WHITE] PREFORM THERMOPLASTIC
 - (C) PAVEMENT MESSAGE - RIGHT ARROW [WHITE] PREFORM THERMOPLASTIC
 - (D) CROSSWALK MARKING - 8' WIDE [WHITE] PREFORM THERMOPLASTIC



4/28/23 PM 3:27:01 PM ... \P\an\F\Ina\I\an\11762_stp02.dgn

NO	DATE	BY	CKD	APPR	REVISION

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Nathan A. Poole

Date: 03/28/19 License #: 56071

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

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B. BETTS

DESIGNED BY
B. BETTS

CHECKED BY
N. POOLE

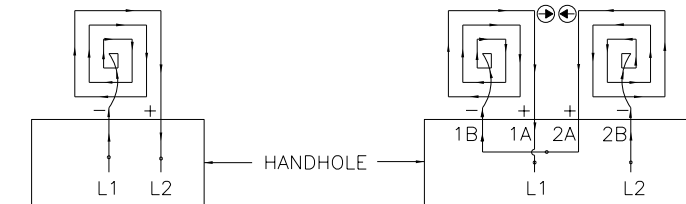
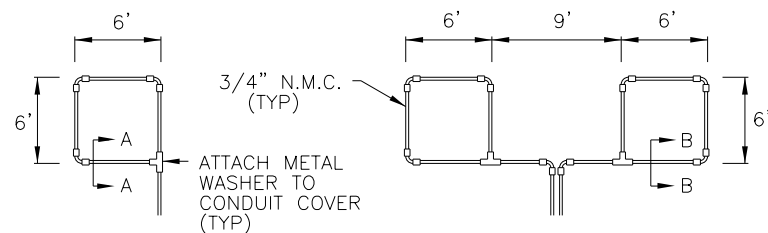
COMM. NO. 1811762



ANOKA COUNTY

SIGNING AND PAVEMENT MARKING PLANS
CSAH 14 RECONSTRUCTION

SHEET
88
OF
107

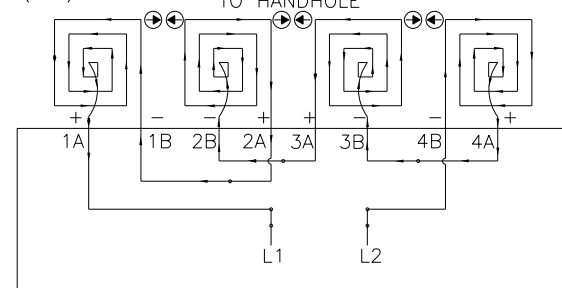
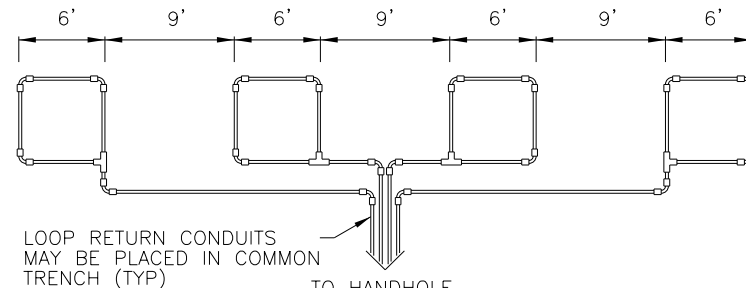


LOOP DETECTOR
DETAIL 'A'
(LOOP PHASING FOR
SINGLE CONNECTION)

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)

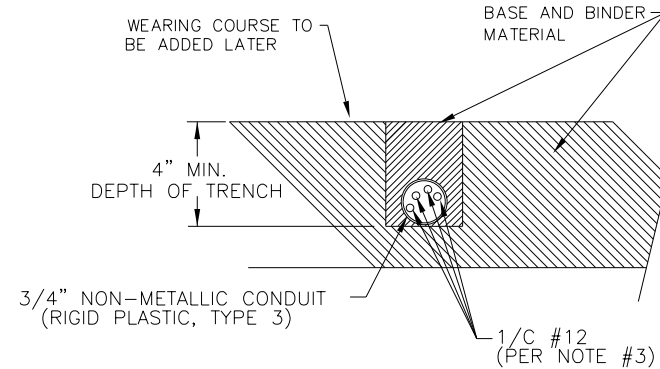


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED
IN THE HANDHOLE AS FOLLOWS:

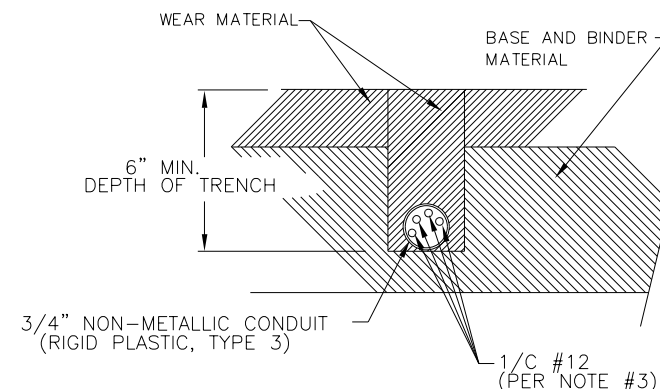
L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE.
ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE
(1A, 1B, ECT)

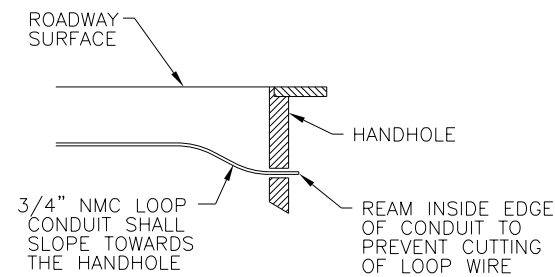
LOOP DETECTOR
DETAIL 'C'
(LOOP PHASING FOR
SERIES CONNECTION)



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.	(1)
SIGNAL FACE NO.	(1-)
LUMINAIRE NO.	(A)
CONTROLLER AND CABINET	(A)
CONTROLLER AND CABINET - IN PLACE	(A)
HANDHOLE	(A)
HANDHOLE - IN PLACE	(A)
RIGID STEEL CONDUIT (RSC)	(A)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(A)
SIGNAL FACE WITH BACKGROUND SHIELD	(A)
SIGNAL FACE W/O BACKGROUND SHIELD	(A)
SIGNAL FACE - IN PLACE	(A)
PEDESTRIAN INDICATORS	(A)
PEDESTRIAN INDICATORS - IN PLACE	(A)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(A)
PEDESTRIAN PUSH BUTTON STATION	(A)
TRAFFIC SIGNAL PEDESTAL	(A)
TRAFFIC SIGNAL PEDESTAL - INPLACE	(A)
TRAFFIC SIGNAL POLE AND MAST ARM	(A)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(A)
STREET LIGHT POLE AND LUMINAIRE	(A)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(A)
MAST ARM AND LUMINAIRE	(A)
MAST ARM AND LUMINAIRE - INPLACE	(A)
WOOD POLE	(A)
WOOD POLE - IN PLACE	(A)
SOURCE OF POWER	(A)
RAILROAD SIGNAL - IN PLACE	(A)
RIGHT OF WAY LINE	(A)
CENTERLINE	(A)
EDGE OF ROADWAY	(A)
SHOULDERLINE	(A)
CURB LINE	(A)
STOP BAR	(A)
EMERGENCY VEHICLE PREEMPTION DETECTOR	(A)

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

TABULATION OF SIGNAL QUANTITIES					
ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATION	
				SP 002-614-045	CP 18-09
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM	LS	1	-	1
2565	TRAFFIC CONTROL INTERCONNECT	LS	1	1	-
2565	TRAFFIC CONTROL SIGNAL SYSTEM	SYSTEM	1	-	1
2565	REVISE SIGNAL SYSTEM	SYSTEM	1	1	-

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NO	DATE	BY	CHKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: NATHAN A. POOLE
Nathan A. Poole
Date: 03/28/19 License #: 56071

STATE PROJECT NO. 002-614-045
106-142-001
CITY OF BLAINE PROJECT NO. 18-09

DRAWN BY M. BRESSLER
DESIGNED BY M. BRESSLER
CHECKED BY N. POOLE
COMM. NO. 1811762

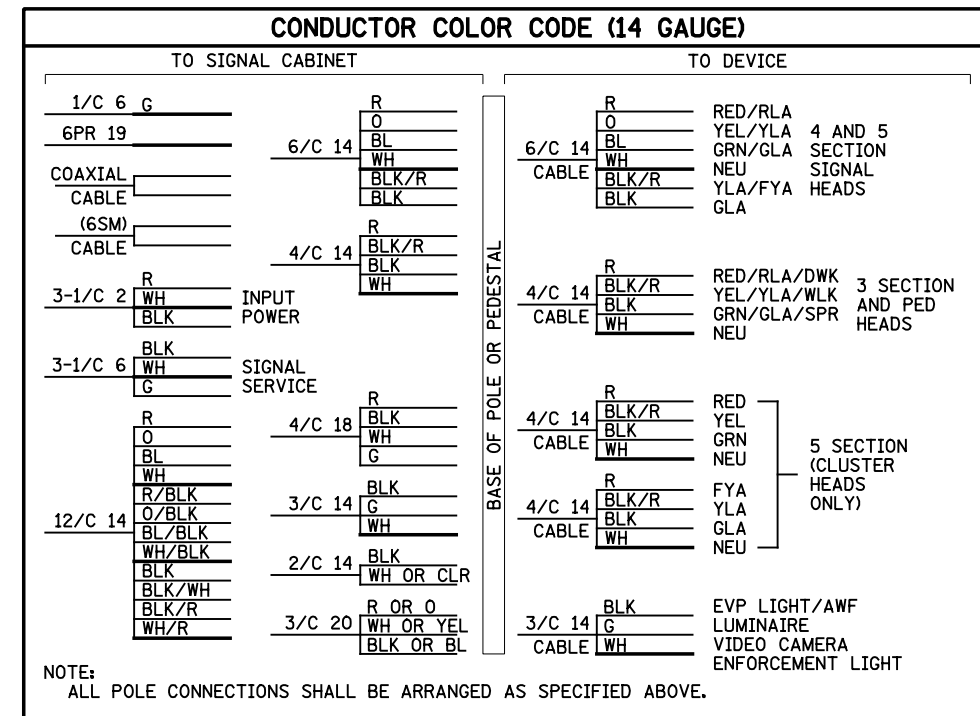


ANOKA COUNTY
TRAFFIC SIGNAL PLANS
CSAH 14 RECONSTRUCTION
LEGENDS, ABBREVIATIONS AND LOOP DETAILS

SHEET 89 OF 107

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

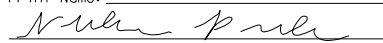

WIRE COLOR CODE KEY	
R	Red
O	Orange
BL	Blue
WH	White
BLK	Black
BRN	Brown
CL	Clear
G	Green
R/BLK	Red with Black Stripe
O/BLK	Orange with Black Stripe
BL/BLK	Blue with Black Stripe
WH/BLK	White with Black Stripe
WH/R	White with Red Stripe
BLK/WH	Black with White Stripe
BLK/R	Black with Red Stripe



NOTES:

1. LEAVE 24 INCHES OF SLACK ON EACH CABLE IN EACH POLE BASE/JUNCTION BOX.
2. STRIP 5 IN TO 6 IN OF THE OUTER JACKET OF EACH SIGNAL CABLE IN POLE BASES.
3. STRIP 1/4 IN OF INSULATION FROM EACH INDIVIDUAL CONDUCTOR IN EACH POLE BASE.
4. LABEL EACH CABLE WITH THE DEVICE DESIGNATION AS SHOWN ON THE WIRING DIAGRAM USING A PERMANENT BLACK MARKER.

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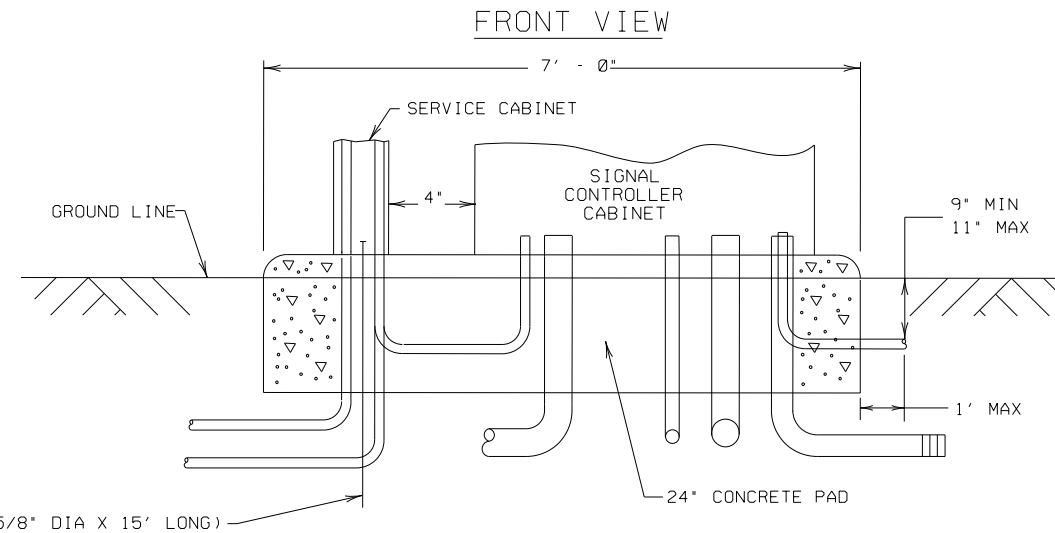
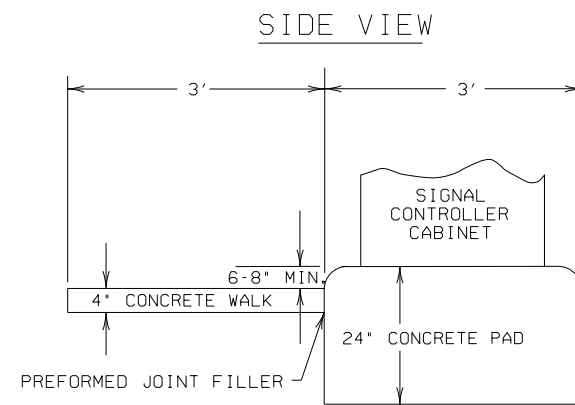
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>NATHAN A. POOLE</u>  Date: <u>03/28/19</u> License # <u>56071</u>					STATE PROJECT NO. 002-614-045 106-142-001 CITY OF BLAINE PROJECT NO. 18-09	DRAWN BY M. BRESSLER DESIGNED BY M. BRESSLER CHECKED BY N. POOLE COMM. NO. 1811762		ANOKA COUNTY TRAFFIC SIGNAL PLANS CSAH 14 RECONSTRUCTION TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL	SHEET 90 OF 107	
NO	DATE	BY	CKD	APPR	REVISION					
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TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

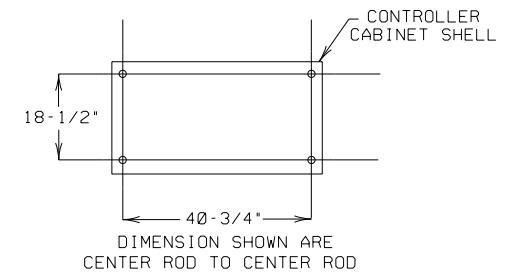
SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

NOTES:

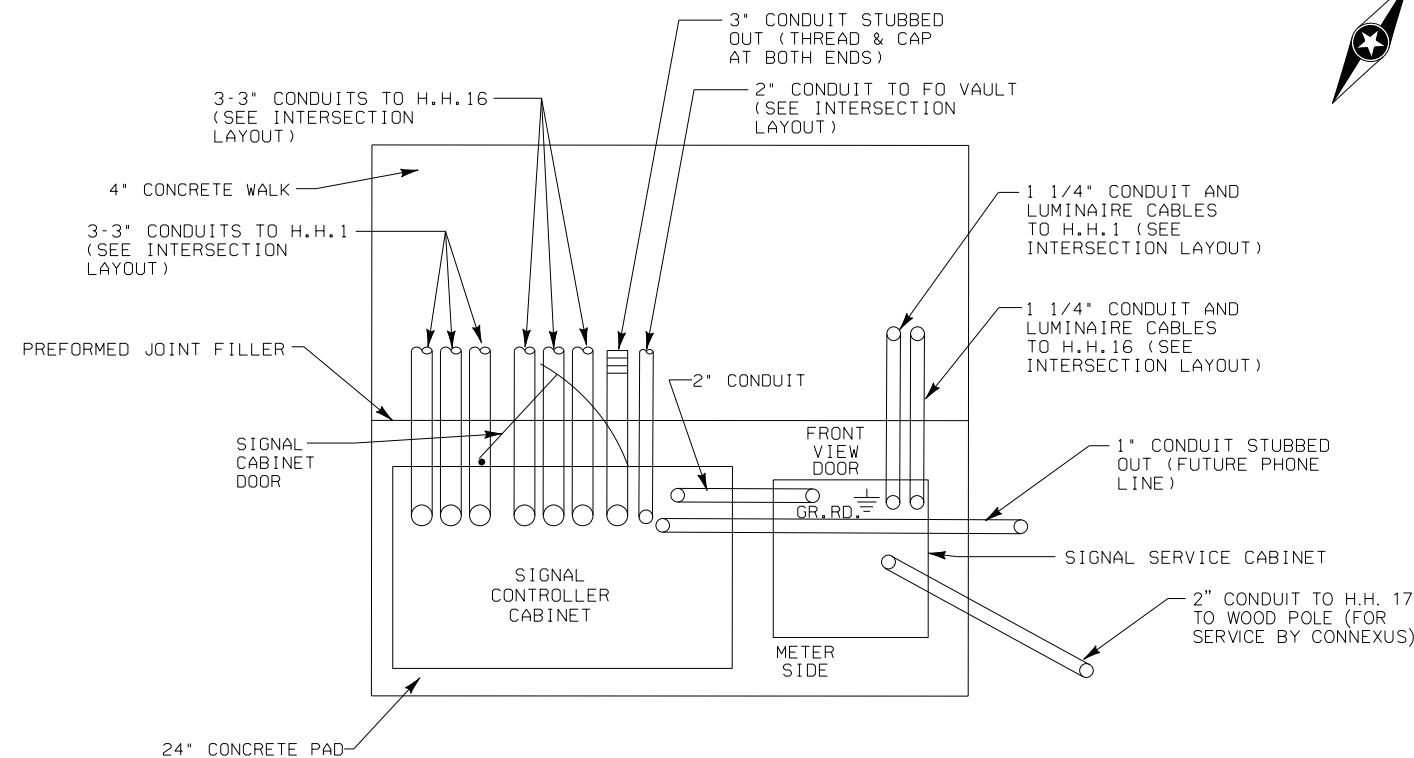
1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE COUNTY FURNISHED CONTROLLER AND CABINET SHALL BE FURNISHED BY THE COUNTY AND INSTALLED BY THE CONTRACTOR.
2. THE UPPER PART OF THE NEW EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL 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.



CONTROLLER CABINET TYPE "P" & "R" BOLT PATTERN



PLAN VIEW LOCATION



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Print Name: NATHAN A. POOLE

Nathan A. Poole

Date: 03/28/19 License #: 56071

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
M. BRESSLER

DESIGNED BY
M. BRESSLER

CHECKED BY
N. POOLE

COMM. NO. 1811762



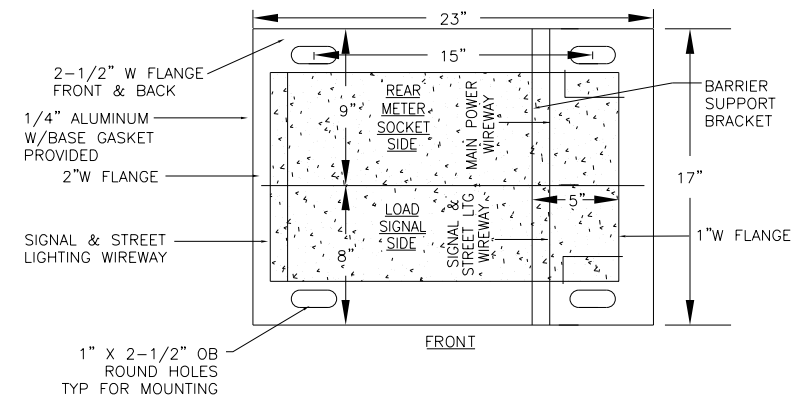
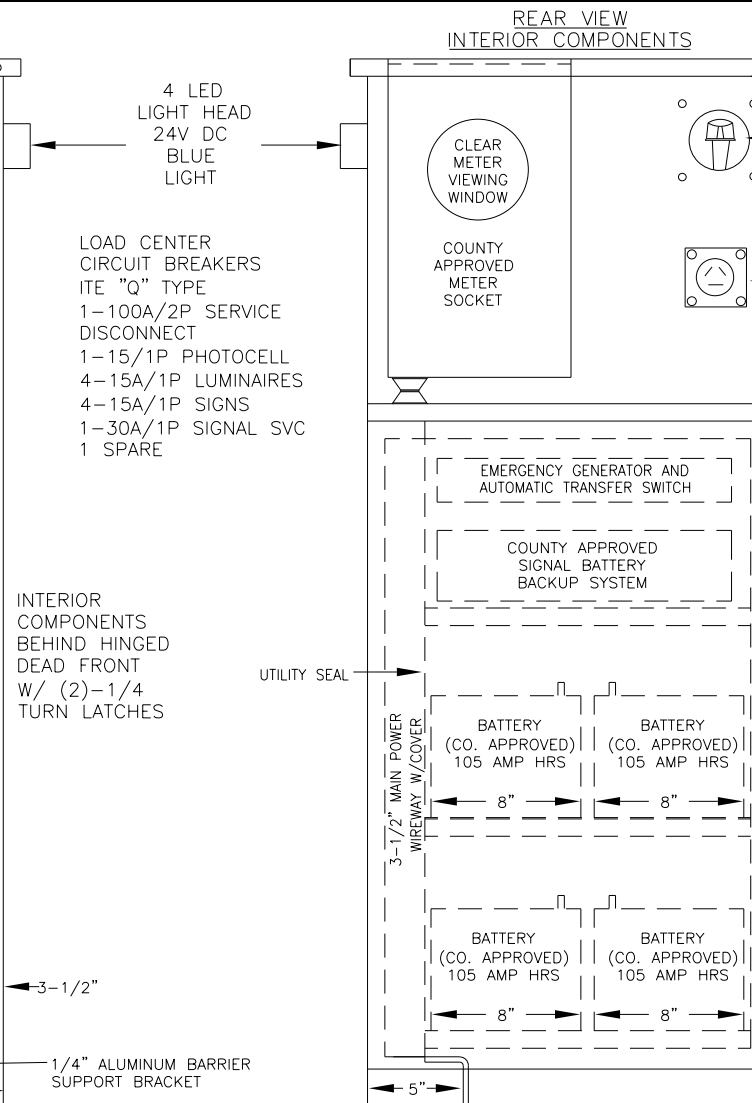
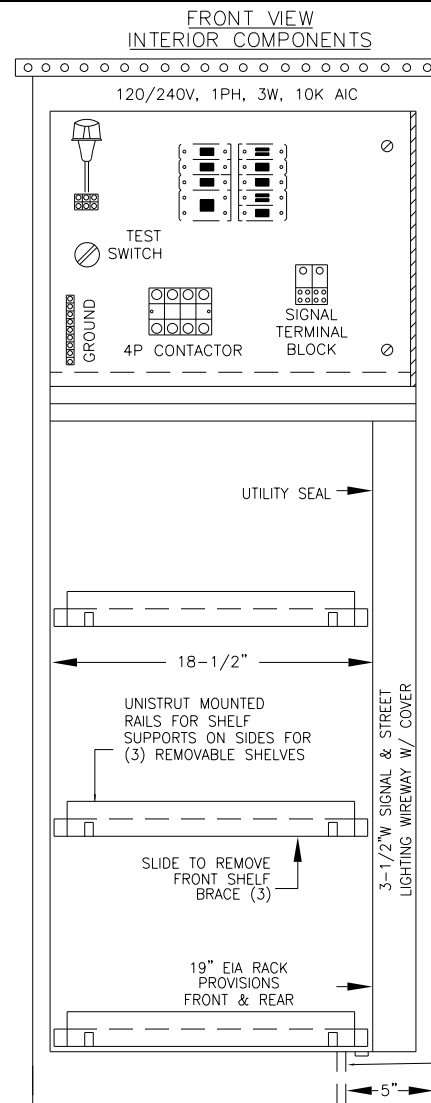
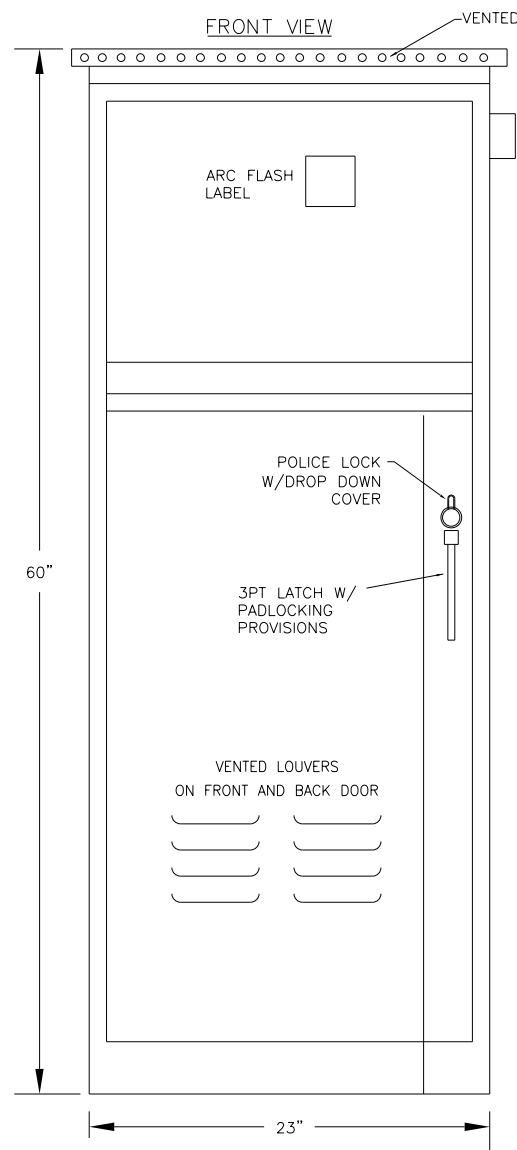
ANOKA COUNTY

TRAFFIC SIGNAL PLANS

CSAH 14 RECONSTRUCTION

EQUIPMENT PAD FOUNDATION

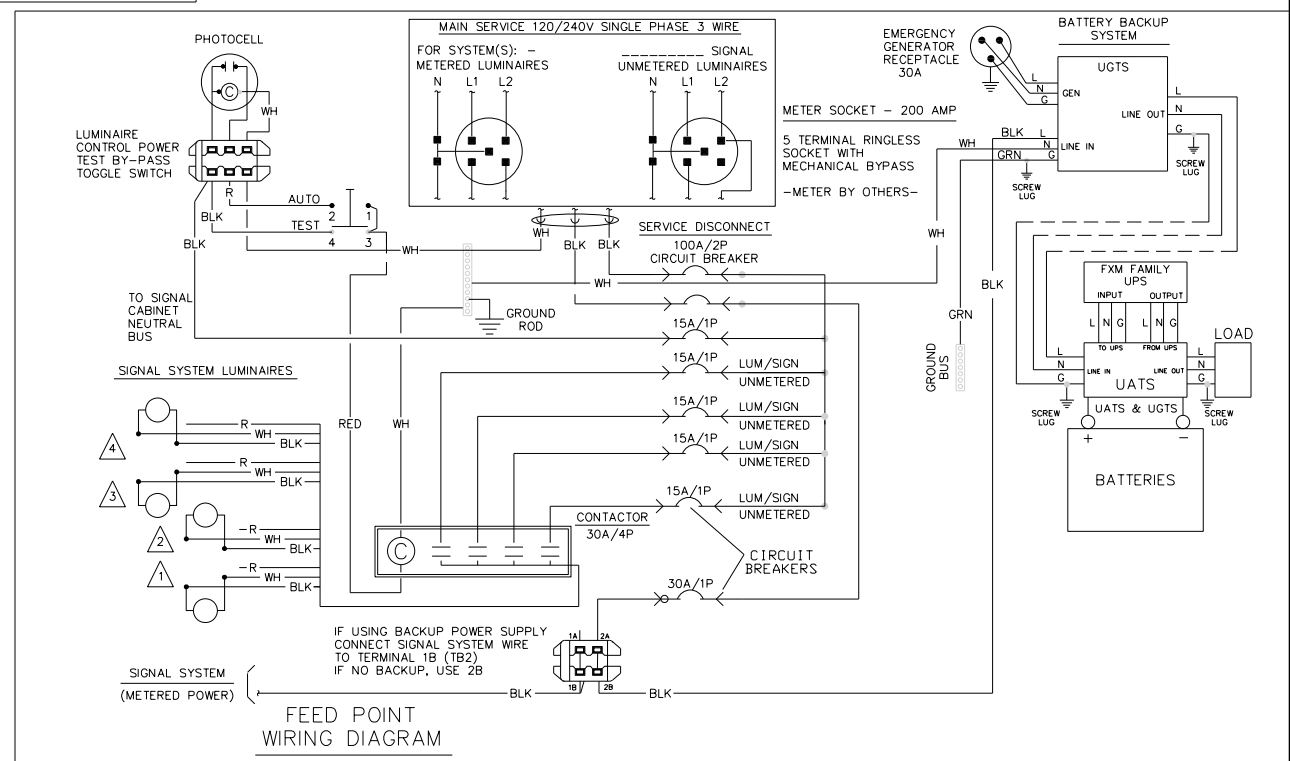
SHEET
91
OF
107



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.



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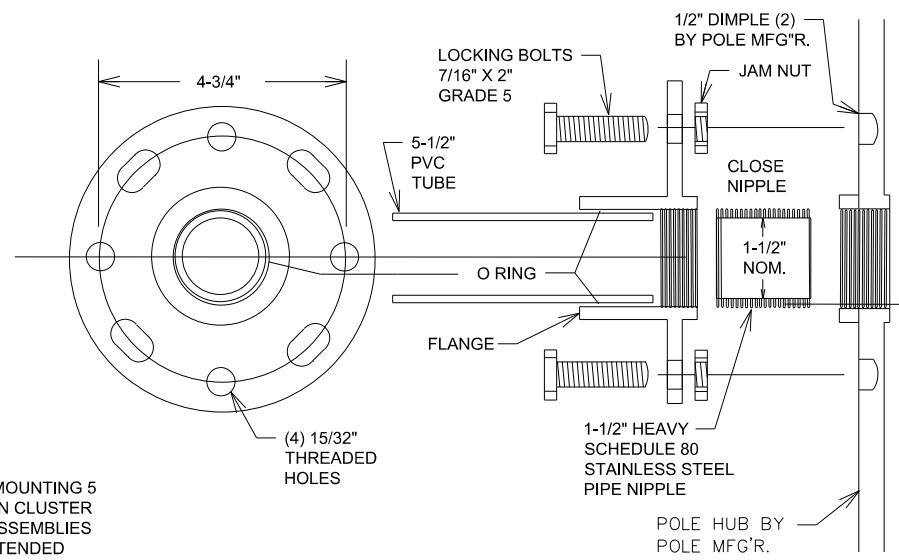
STATE PROJECT NO. 002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY M. BRESSLER
DESIGNED BY M. BRESSLER
CHECKED BY N. POOLE
COMM. NO. 1811762

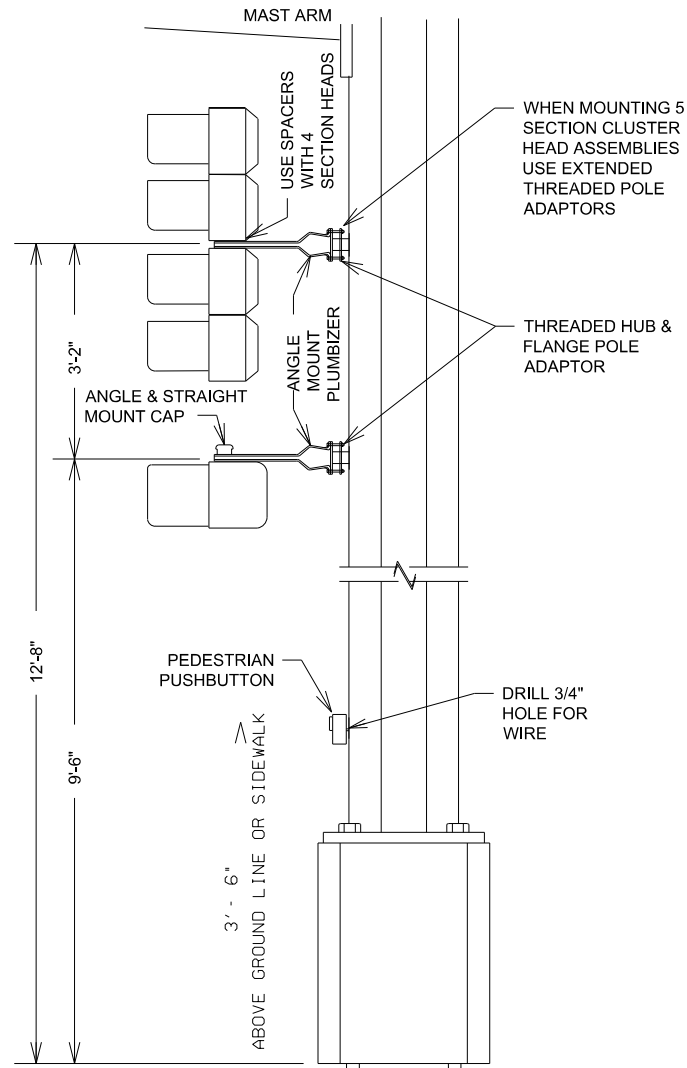


ANOKA COUNTY
TRAFFIC SIGNAL PLANS
CSAH 14 RECONSTRUCTION
SERVICE CABINET DETAILS

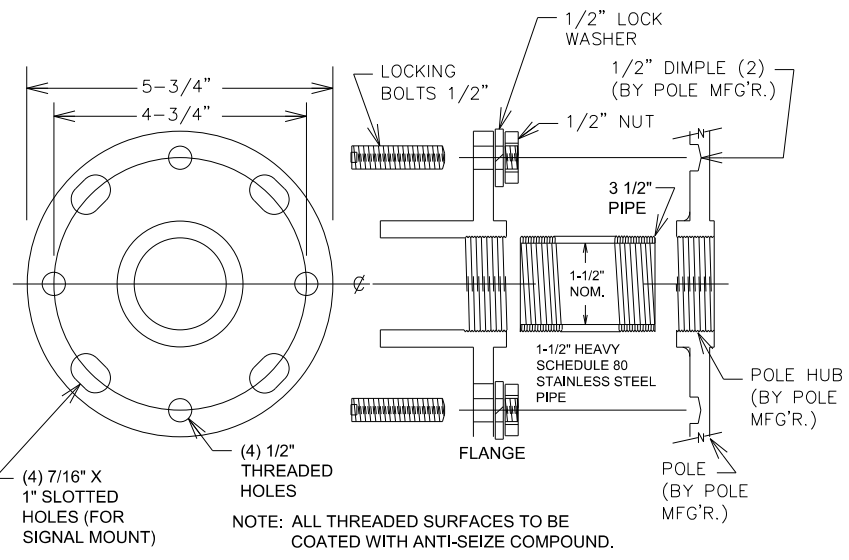
SHEET 92 OF 107



THREADED HUB AND FLANGE POLE ADAPTOR

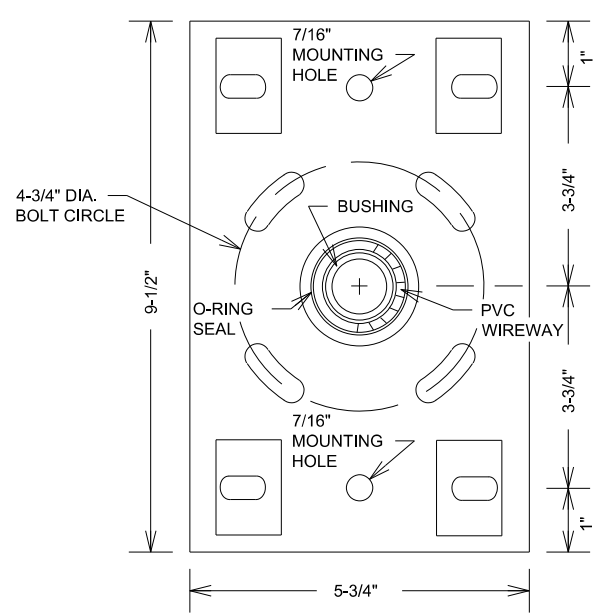


TYPICAL SIGNAL POLE MOUNTING
NOT TO SCALE

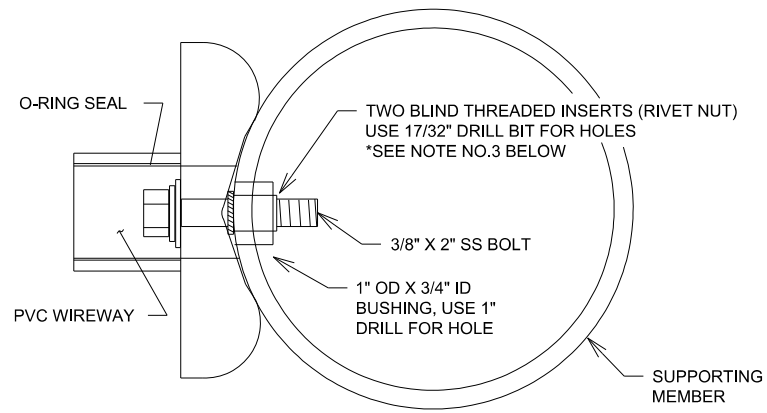


EXTENDED THREADED POLE ADAPTER

- 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.



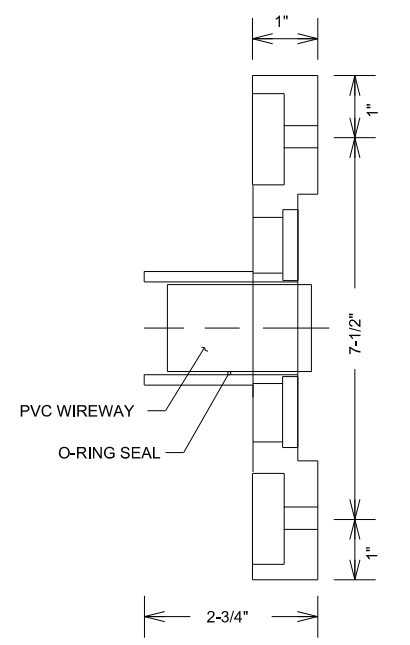
BOLT ON HUB & FLANGE



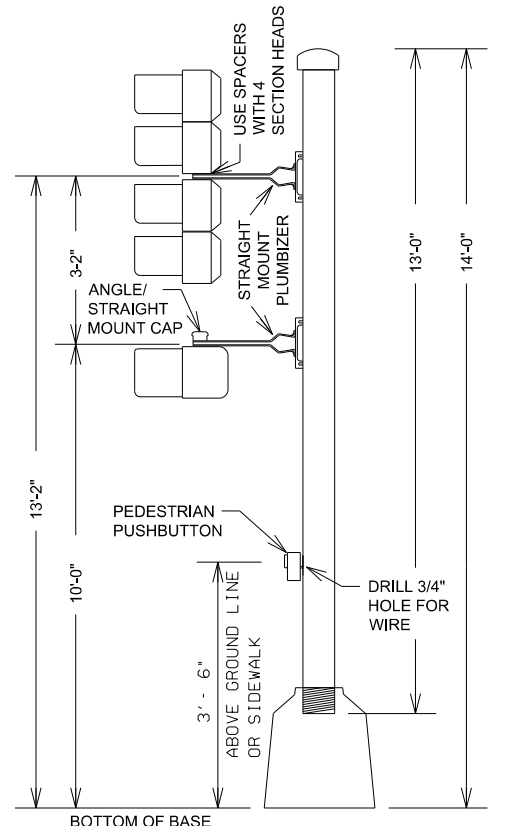
TOP VIEW



- 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.



SIDE VIEW



TYPICAL PEDESTAL MOUNTING
NOT TO SCALE

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 Print Name: NATHAN A. POOLE
Nathan A. Poole
 Date 03/28/19 License # 56071

STATE PROJECT NO. 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO. 18-09

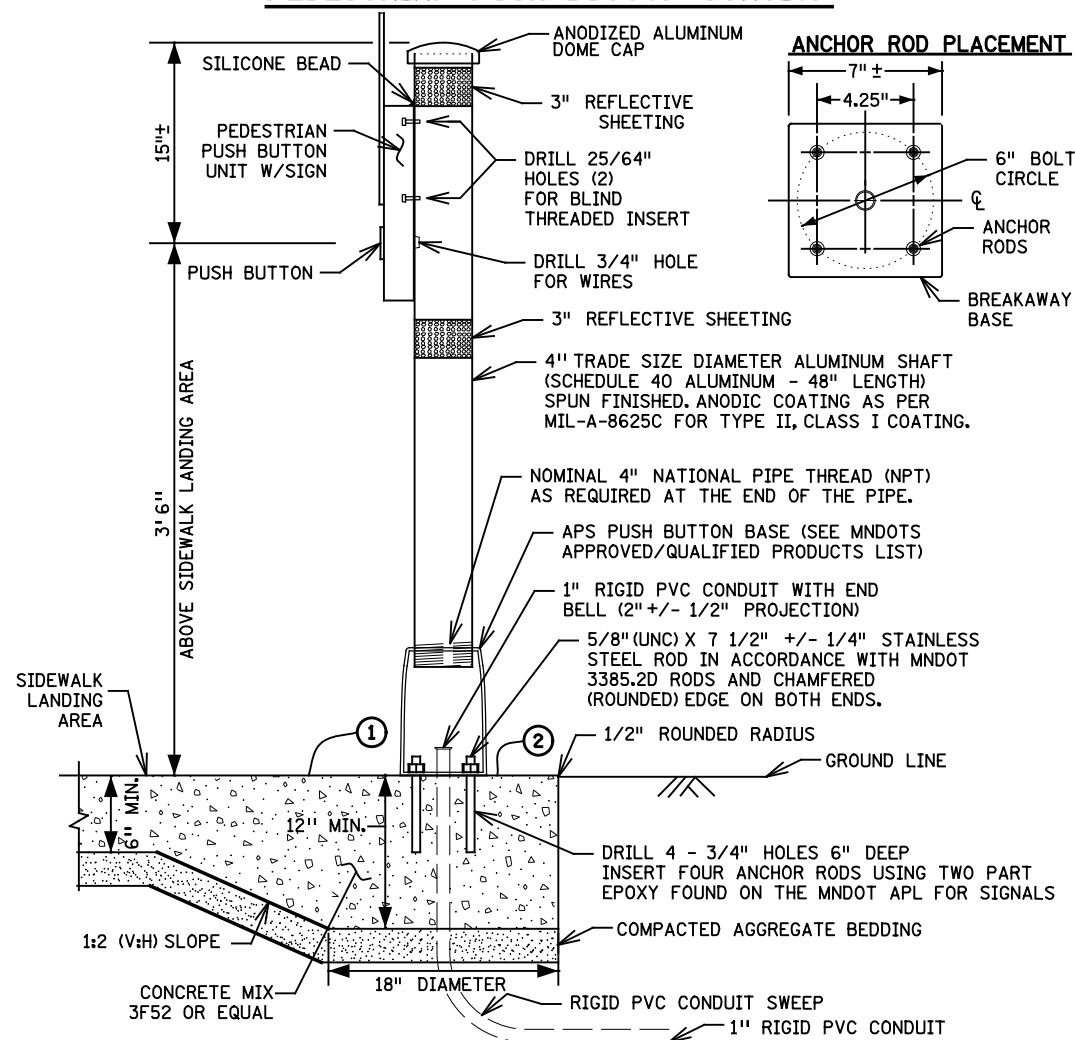
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 COMM. NO. 1811762



ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
CSAH 14 RECONSTRUCTION
 POLE MOUNT DETAILS

SHEET 93 OF 107

PEDESTRIAN 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.

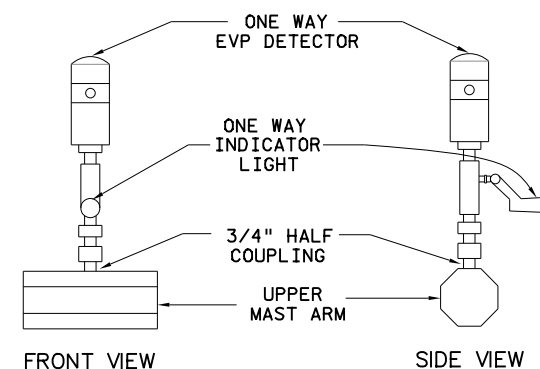
APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" SHAFT.

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.

EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



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Nathan A. Poole
 Date: 03/28/19 License #: 56071

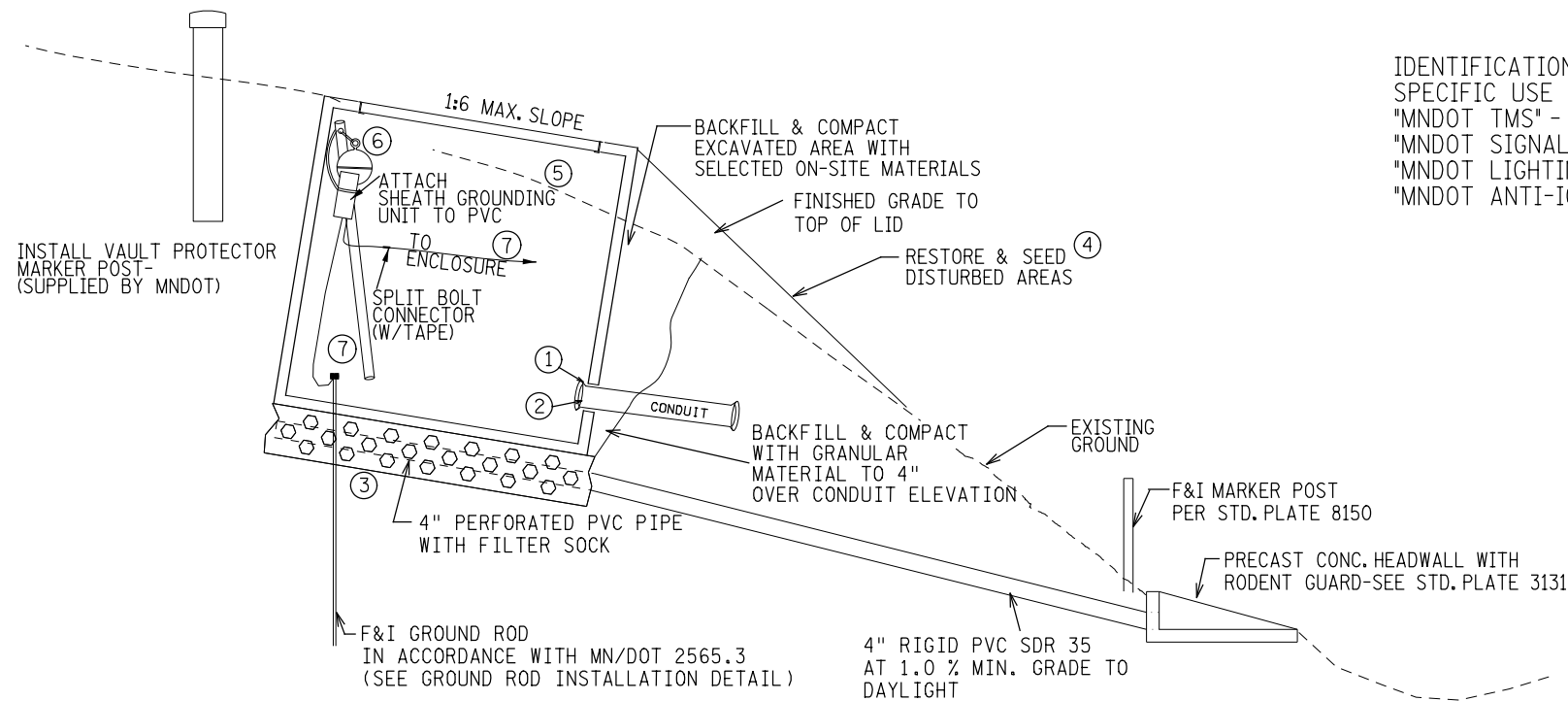
STATE PROJECT NO. 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO. 18-09

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 DESIGNED BY M. BRESSLER
 CHECKED BY N. POOLE
 COMM. NO. 1811762



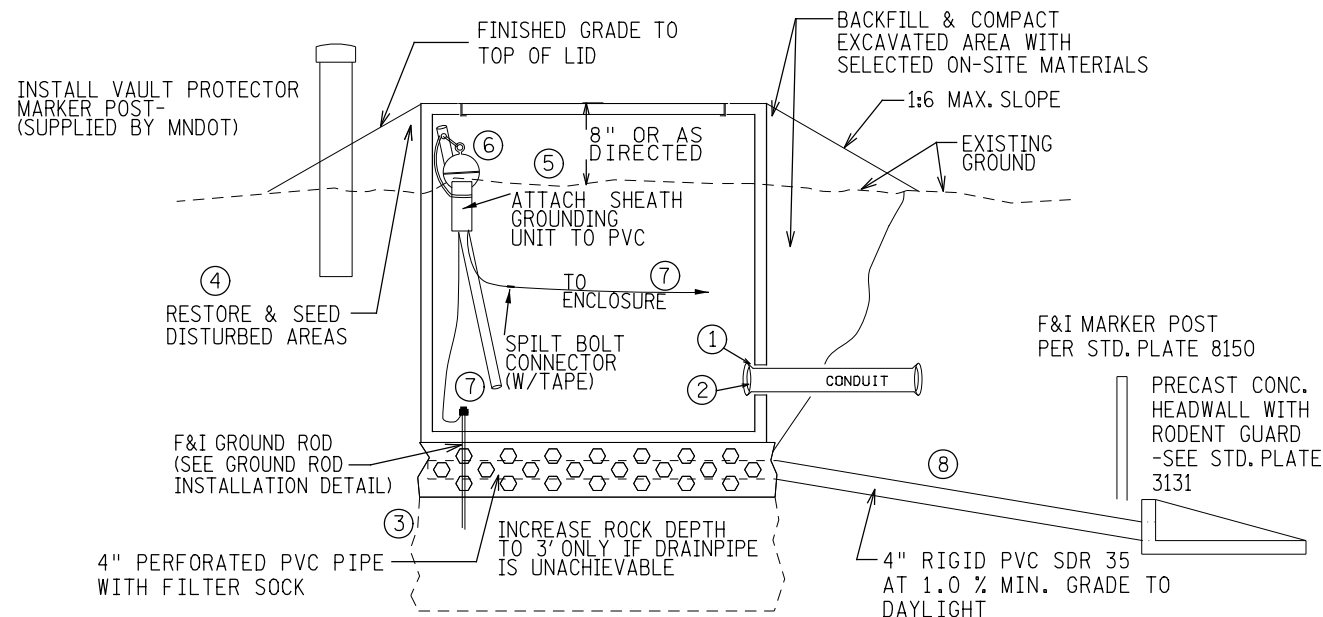
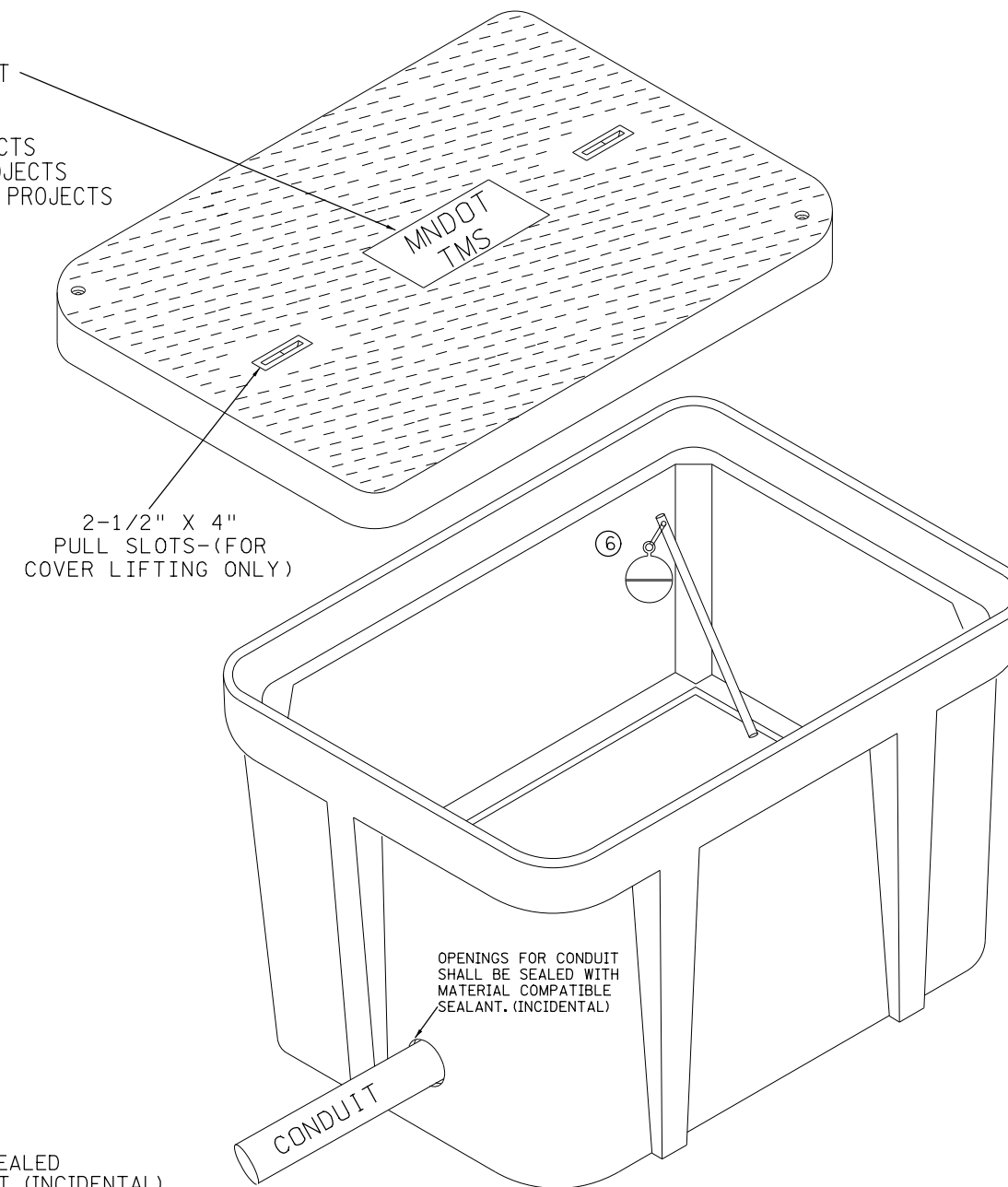
ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
 CSAH 14 RECONSTRUCTION
 MISCELLANEOUS DETAILS

SHEET 94 OF 107



VAULT INSTALLATION & DRAINAGE SYSTEM (SLOPED AREAS)

IDENTIFICATION LOGO TO REFLECT SPECIFIC USE APPLICATION:
 "MNDOT TMS" - ITS PROJECTS
 "MNDOT SIGNALS" - SIGNAL PROJECTS
 "MNDOT LIGHTING" - LIGHTING PROJECTS
 "MNDOT ANTI-ICING" - ANTI-ICING PROJECTS



VAULT INSTALLATION & DRAINAGE SYSTEM (LEVEL GROUND & ACHIEVABLE DRAINAGE AREAS)

SPECIFIC NOTES

- ① OPENINGS FOR CONDUIT SHALL BE SEALED WITH MATERIAL COMPATIBLE SEALANT. (INCIDENTAL)
- ② PLUG CONDUIT OPENING WITH A DRAINABLE COMPOUND (INCIDENTAL)
- ③ F&I 1.0' COARSE FILTER AGGREGATE UNDER BASE COMPLYING WITH MN/DOT 3149.2H. F&I 4" PERFORATED PVC PIPE WITH FILTER SOCK TO PROVIDE DRAINAGE. (INCIDENTAL)
- ④ RESTORE DISTURBED AREAS FOR TMS INSTALLATION WITH SEED AND EROSION CONTROL BLANKET CAT 3N PER MNDOT 2575.3 (INCIDENTAL)
- ⑤ STRIP TOPSOIL FROM VAULT AND SLOPE AREAS PRIOR TO VAULT INSTALLATION (INCIDENTAL)
- ⑥ MOUNT LOCATOR BALL ATTACHED WITH BLACK TIE WRAP TO 40' LENGTH OF 3/4" PVC CONDUIT TO SIT WITHIN 6" OF COVER
- ⑦ 6' OF NO.6 GREEN INSULATED STRANDED WIRE
- ⑧ DRAIN PIPE MAY BE PLACED IN SIDEWALL OF PULL VAULT TO ACHIEVE DRAINAGE IN AREAS WHERE MINIMUM PIPE OUTFALL IS AVAILABLE INCREASE ROCK DEPTH TO 3.0' IF DRAIN PIPE IS PLACE ABOVE FLOOR HEIGHT.

GENERAL NOTES

1. GROUND CONNECTIONS SHALL BE COATED WITH OXIDATION PROHIBITING COMPOUND.
2. CABLE SHALL ENTER BELOW THE SUPPORT BRACKETS WITH MIN. 70' OF SLACK OUTSIDE OF THE ENCLOSURE FOR EACH CABLE. CABLE SHALL BE COILED AROUND INSIDE OF SUPPORT BRACKETS. CABLES SHALL BE CUT TO THE SAME LENGTH AT THE ENCLOSURE.
3. DO NOT LIFT ENTIRE PULL VAULT WITH COVER ATTACHED BY COVER LIFTING SLOTS.
4. SHEATH GROUNDING DEVICE AND GROUND ROD ARE NOT PLACED IN VAULTS WHERE SPLICING DOES NOT TAKE PLACE.

REVISED 6/27/18

NO	DATE	BY	CKD	APPR	REVISION

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 Print Name: NATHAN A. POOLE
Nathan A. Poole
 Date: 03/28/19 License #: 56071

STATE PROJECT NO. 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO. 18-09

DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY N. POOLE
 COMM. NO. 1811762



ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
 CSAH 14 RECONSTRUCTION
 FO VAULT DETAILS

SHEET 95 OF 107

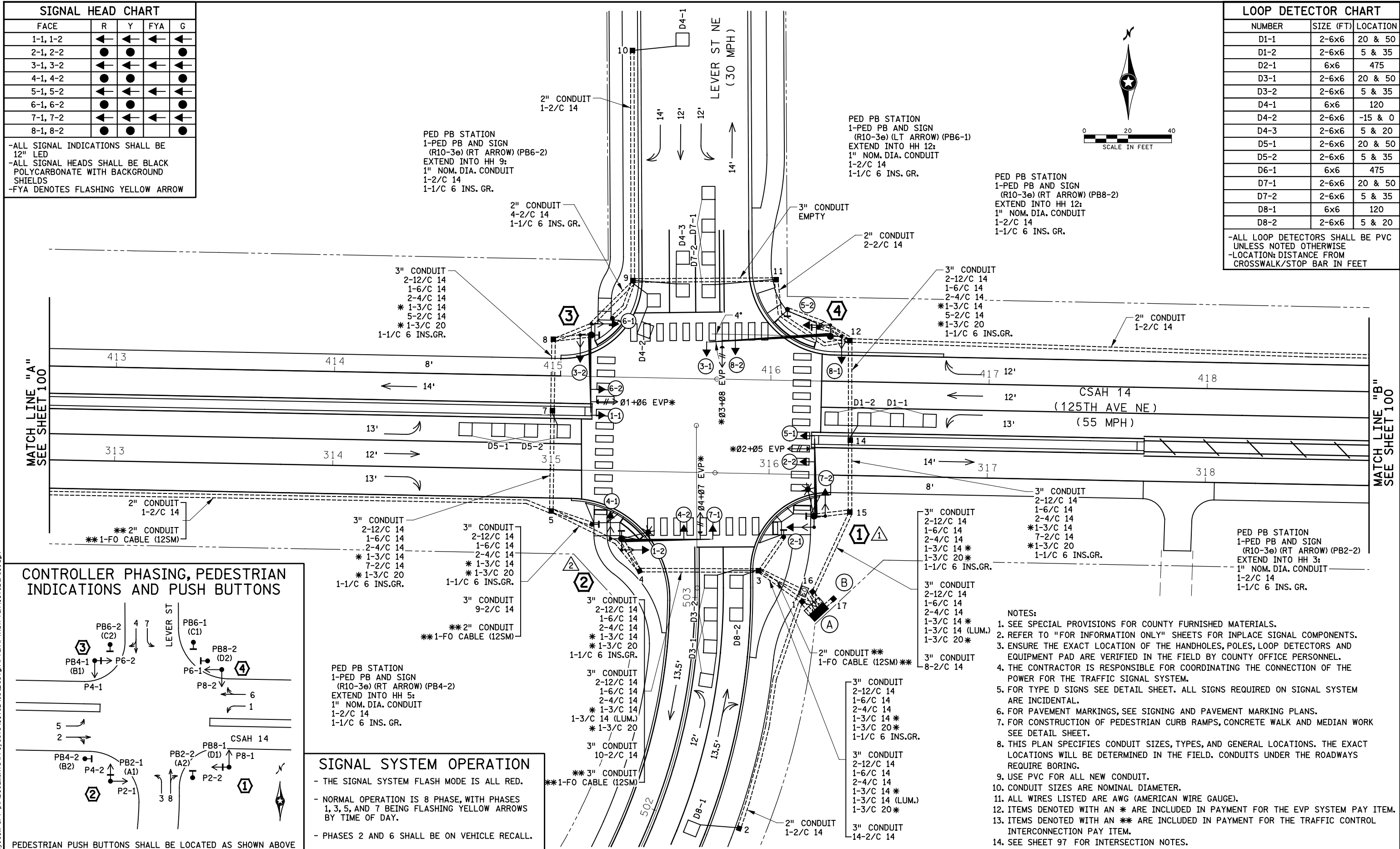
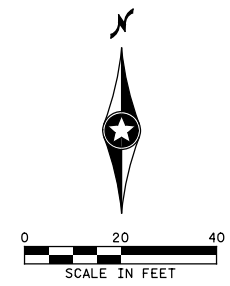
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SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2	●	●	●	●
3-1, 3-2	←	←	←	←
4-1, 4-2	●	●	●	●
5-1, 5-2	←	←	←	←
6-1, 6-2	●	●	●	●
7-1, 7-2	←	←	←	←
8-1, 8-2	●	●	●	●

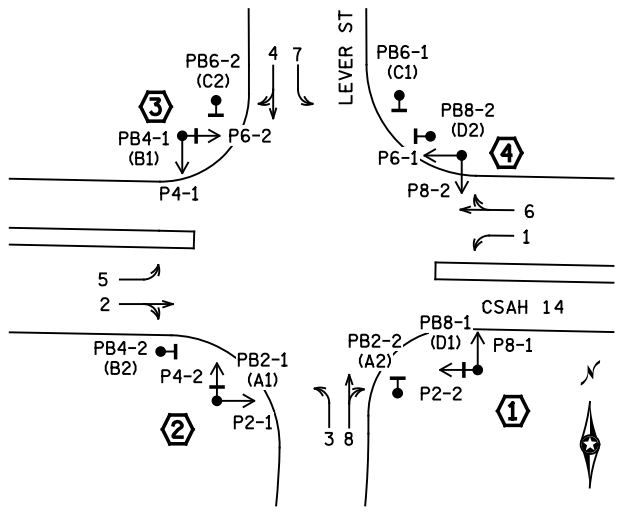
-ALL SIGNAL INDICATIONS SHALL BE 12" LED
 -ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
 -FYA DENOTES FLASHING YELLOW ARROW

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	20 & 50
D1-2	2-6x6	5 & 35
D2-1	6x6	475
D3-1	2-6x6	20 & 50
D3-2	2-6x6	5 & 35
D4-1	6x6	120
D4-2	2-6x6	-15 & 0
D4-3	2-6x6	5 & 20
D5-1	2-6x6	20 & 50
D5-2	2-6x6	5 & 35
D6-1	6x6	475
D7-1	2-6x6	20 & 50
D7-2	2-6x6	5 & 35
D8-1	6x6	120
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 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.

NOTES:

- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- REFER TO "FOR INFORMATION ONLY" SHEETS FOR INPLACE SIGNAL COMPONENTS.
- 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 ON SIGNAL SYSTEM ARE INCIDENTAL.
- FOR PAVEMENT MARKINGS, SEE SIGNING AND PAVEMENT MARKING PLANS.
- 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 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.
- SEE SHEET 97 FOR INTERSECTION NOTES.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: NATHAN A. POOLE

Date: 03/28/19 License #: 56071

STATE PROJECT NO. 002-614-045 106-142-001

CITY OF BLAINE PROJECT NO. 18-09

DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY N. POOLE
 COMM. NO. 1811762



ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
 CSAH 14 RECONSTRUCTION
 INTERSECTION LAYOUT

SHEET 96 OF 107

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INTERSECTION NOTES

① PA90 POLE FOUNDATION
 INSTALL—TYPE PA90-A-35-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 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-PED PB AND SIGN (R10-3e) (LT ARROW) (PB8-1)
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)
 2-R6-1 SIGNS POLE MOUNTED
 3" CONDUIT TO HH 15:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14
 1-3/C 14 (LUM)
 1-2/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

② PA100 POLE FOUNDATION
 INSTALL—TYPE PA100-A-40-D30-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'
 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-PED PB AND SIGN (R10-3e) (LT ARROW) (PB2-1)
 1-R10-X12 SIGN ADJACENT TO HEAD (7-1)
 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
 * 1-3/C 14
 1-3/C 14 (LUM)
 1-2/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

③ PA90 POLE FOUNDATION
 INSTALL—TYPE PA90-A-35
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 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 1+6)
 1-PED PB AND SIGN (R10-3e) (LT ARROW) (PB4-1)
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)
 2-R6-1 SIGNS POLE MOUNTED
 3" CONDUIT TO HH 8:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14
 1-2/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

④ PA100 POLE FOUNDATION
 INSTALL—TYPE PA100-A-55
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'
 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)
 1-R10-X12 SIGN ADJACENT TO HEAD (3-1)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 12:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB)
 INSTALL—CONTROLLER AND CABINET (COUNTY FURNISHED)
 3" CONDUIT TO HH 1:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 3" CONDUIT TO HH 16:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.
 3" CONDUIT TO HH 1:
 15-2/C 14
 3" CONDUIT TO HH 16:
 8-2/C 14

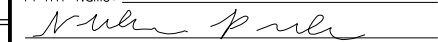
** 2" CONDUIT TO FO VAULT:
 1-FO CABLE (12SM)

GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD
 2-3" AND 1-1" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
 CONTROLLER CABINET TO SERVICE CABINET:
 2" CONDUIT
 3-1/C 6
 CONTROLLER CABINET TO SERVICE CABINET (COMMS):
 2" CONDUIT
 1-4/C 14
 1-6PR 19
 SERVICE CABINET TO HH 17 TO POLE MOUNTED TRANSFORMER:
 2" CONDUIT
 3-1/C 2

SERVICE CABINET TO HH 1:
 1 1/4" CONDUIT
 1-3/C 14 (LUM)
 SERVICE CABINET TO HH 16:
 1 1/4" CONDUIT
 1-3/C 14 (LUM)
 SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.
 (SEE EQUIPMENT PAD LAYOUT)

Ⓑ SOP-WOOD POLE MOUNTED
 TRANSFORMER
 2" CONDUIT TO HH 17 TO SERVICE CABINET:
 3-1/C 2

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Print Name: NATHAN A. POOLE

 Date: 03/28/19 License #: 56071

STATE PROJECT NO.
 002-614-045
 106-142-001
 CITY OF BLAINE
 PROJECT NO.
 18-09

DRAWN BY
 M. BRESSLER
 DESIGNED BY
 M. BRESSLER
 CHECKED BY
 N. POOLE
 COMM. NO. 1811762



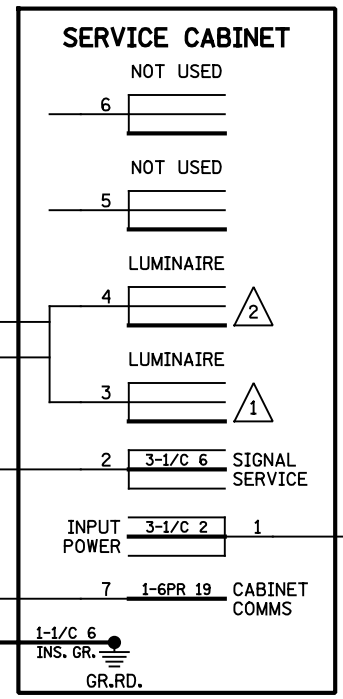
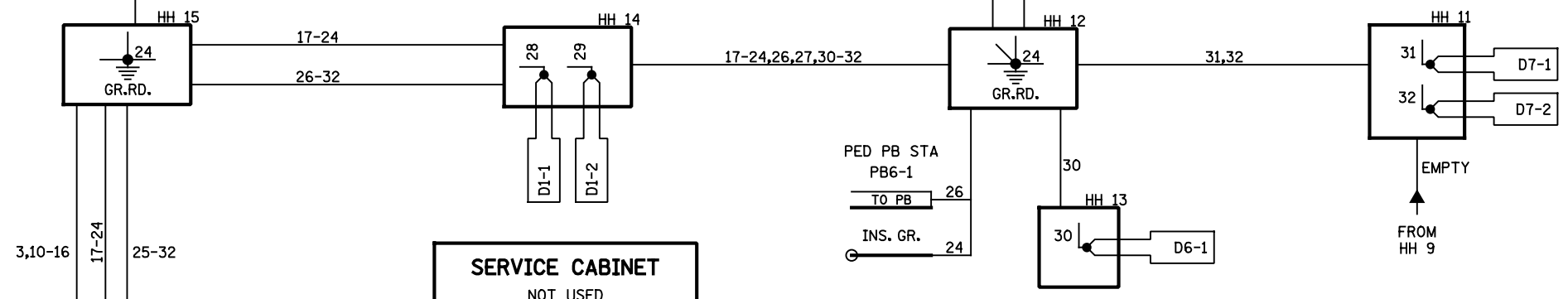
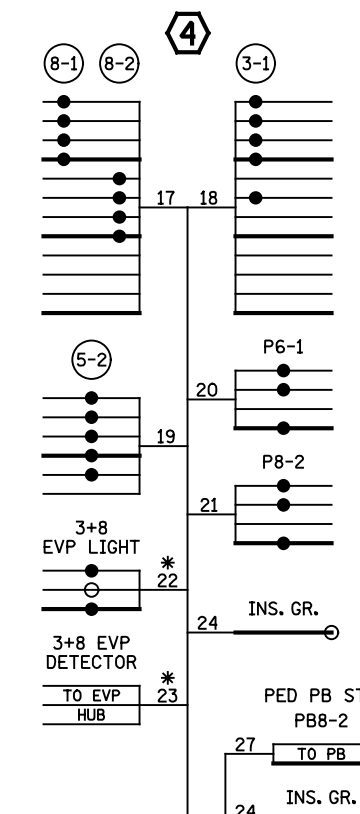
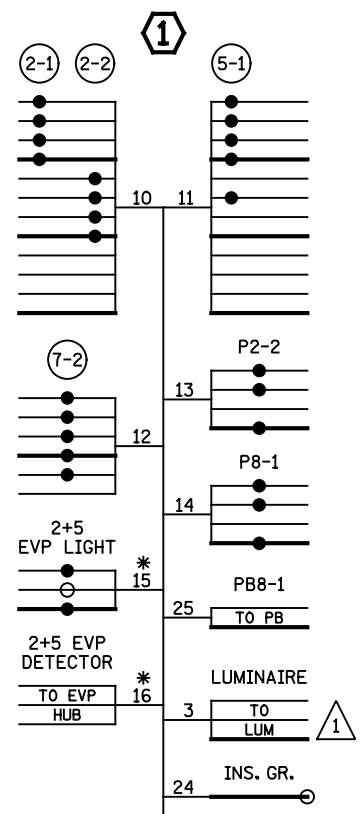
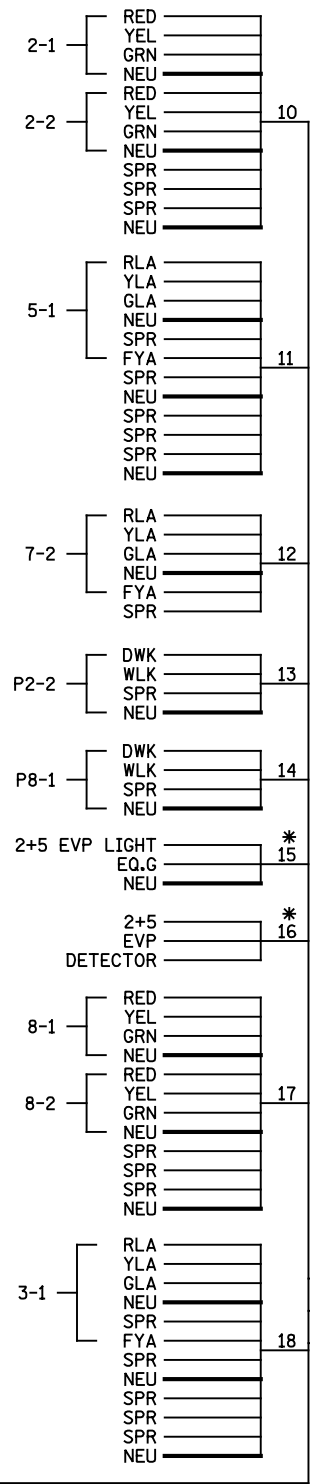
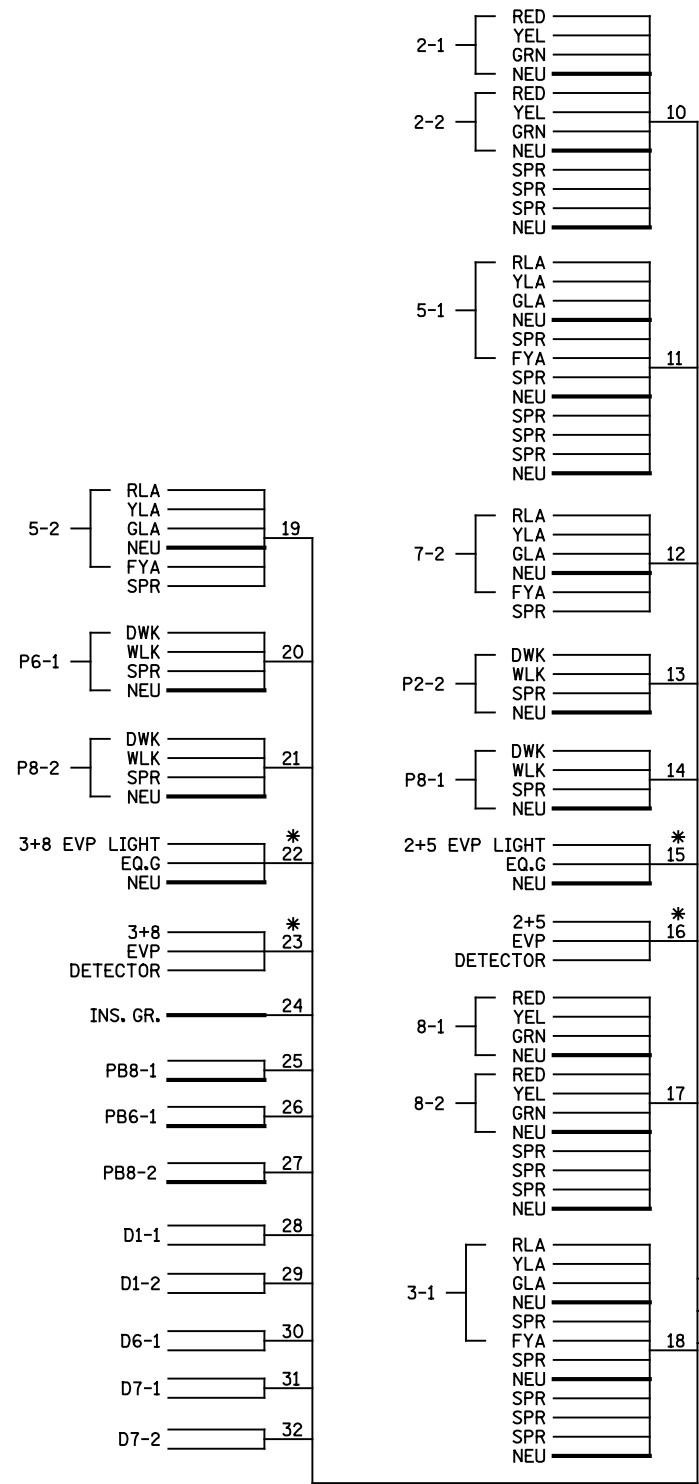
ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
 CSAH 14 RECONSTRUCTION
 INTERSECTION NOTES

SHEET
 97
 OF
 107

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NO	DATE	BY	CKD	APPR	REVISION

CONTROLLER CABINET



- NOTES:**
1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (WITH BATTERIES & UPS).
 2. FOR CONDUCTOR COLOR CODE, SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
 3. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 4. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

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Print Name: NATHAN A. POOLE

Nathan A. Poole

Date: 03/28/19 License #: 56071

STATE PROJECT NO. 002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO. 18-09

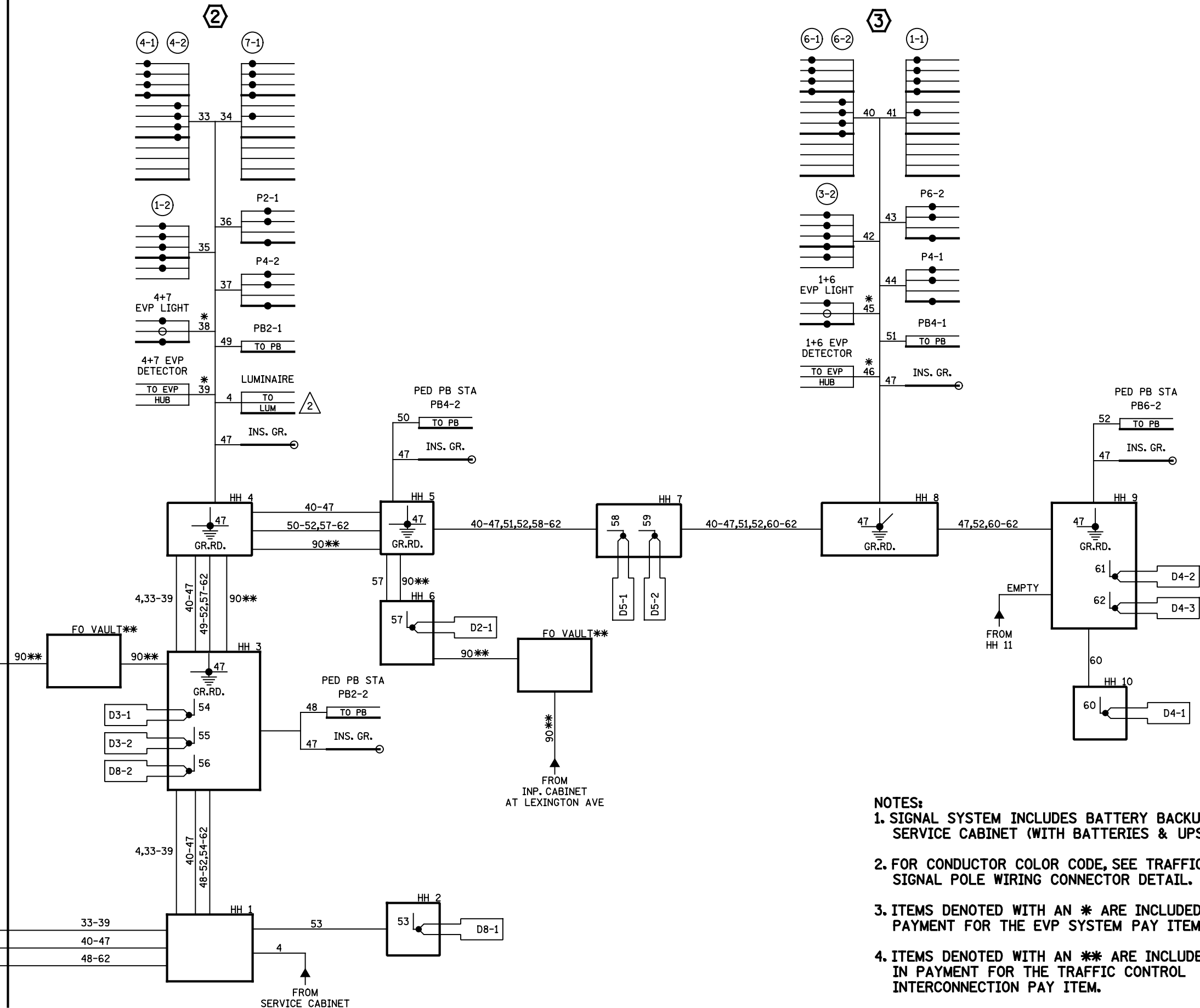
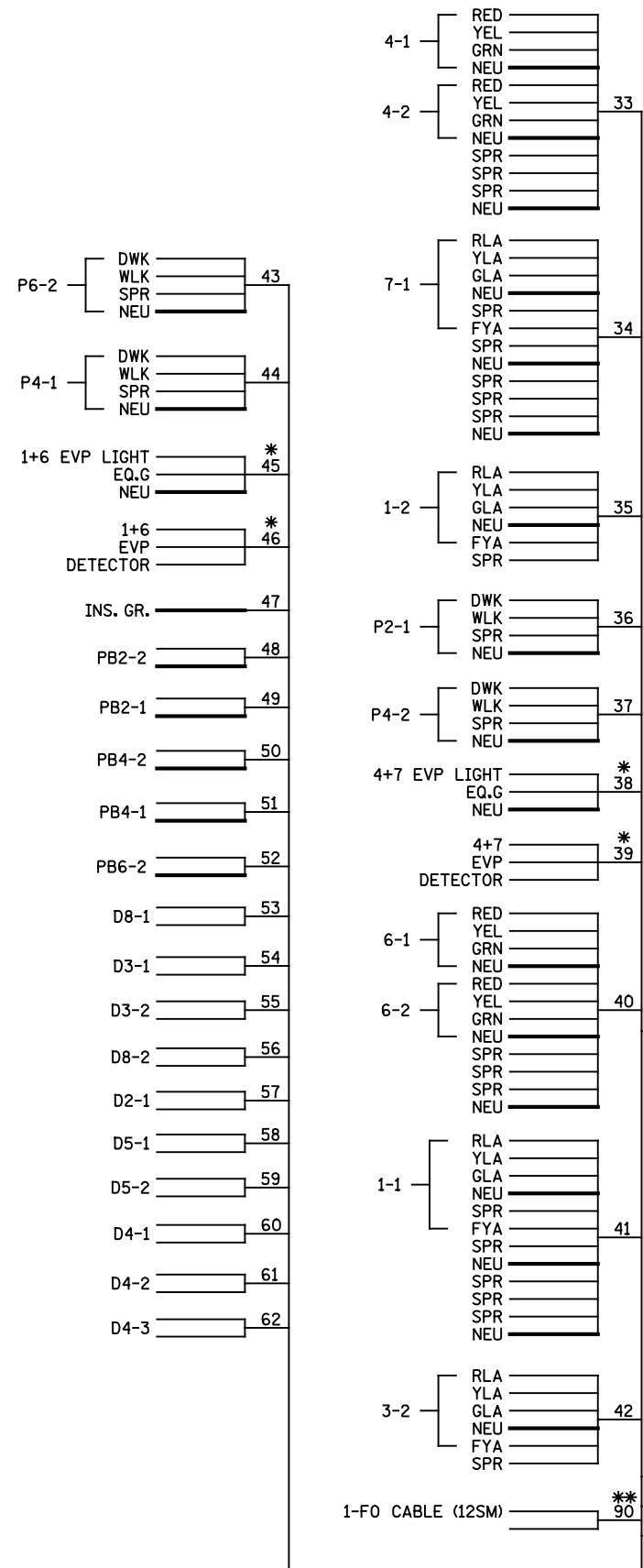
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DESIGNED BY M. BRESSLER
CHECKED BY N. POOLE
COMM. NO. 1811762



ANOKA COUNTY
TRAFFIC SIGNAL PLANS
CSAH 14 RECONSTRUCTION
FIELD WIRING DIAGRAM

SHEET 98 OF 107

CONTROLLER CABINET



- NOTES:**
1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (WITH BATTERIES & UPS).
 2. FOR CONDUCTOR COLOR CODE, SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
 3. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 4. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

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Print Name: NATHAN A. POOLE

Nathan A. Poole

Date: 03/28/19 License #: 56071

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106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

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DESIGNED BY
M. BRESSLER

CHECKED BY
N. POOLE

COMM. NO. 1811762



ANOKA COUNTY

TRAFFIC SIGNAL PLANS

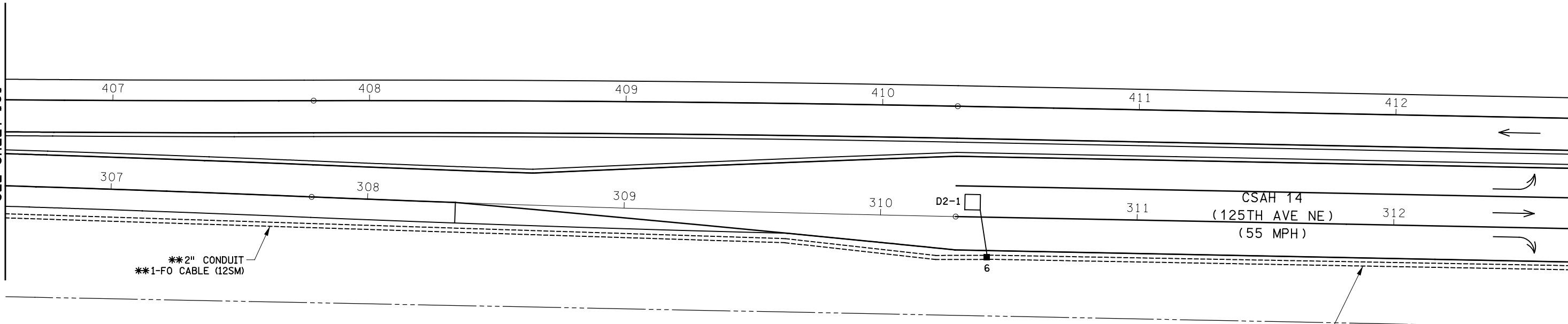
CSAH 14 RECONSTRUCTION

FIELD WIRING DIAGRAM

SHEET
99
OF
107

MATCH LINE "C"
SEE SHEET 101

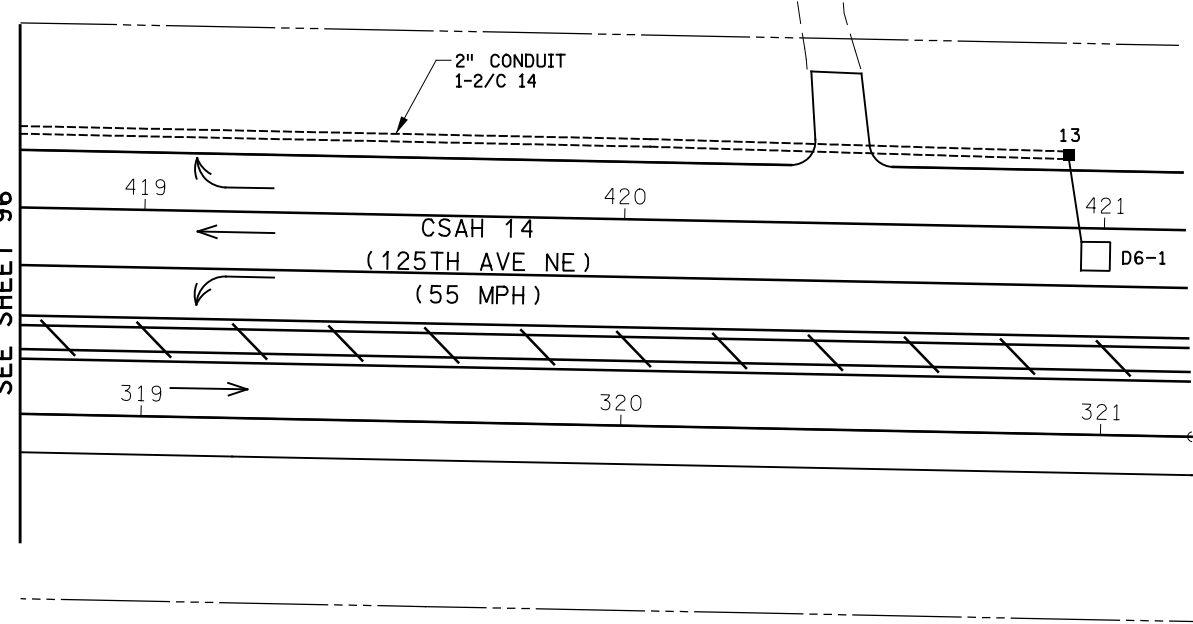
MATCH LINE "A"
SEE SHEET 96



**2" CONDUIT
**1-F0 CABLE (12SM)

2" CONDUIT
1-2/C 14
**2" CONDUIT
**1-F0 CABLE (12SM)

MATCH LINE "B"
SEE SHEET 96



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Nathan A. Poole

Date: 03/28/19 License #: 56071

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106-142-001

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PROJECT NO.
18-09

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DESIGNED BY
M. BRESSLER

CHECKED BY
N. POOLE

COMM. NO. 1811762



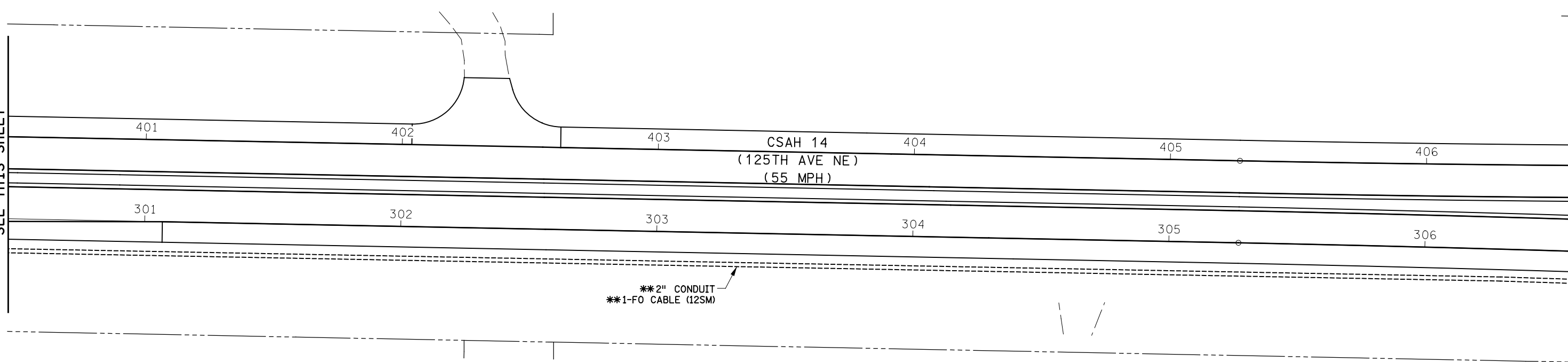
ANOKA COUNTY

TRAFFIC SIGNAL PLANS
CSAH 14 RECONSTRUCTION
MATCH LINE/INTERCONNECT LAYOUT

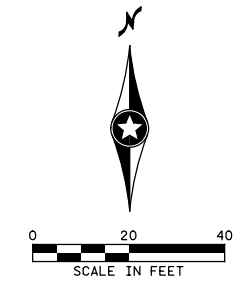
SHEET
100
OF
107

MATCH LINE "D"
SEE THIS SHEET

MATCH LINE "C"
SEE SHEET 100

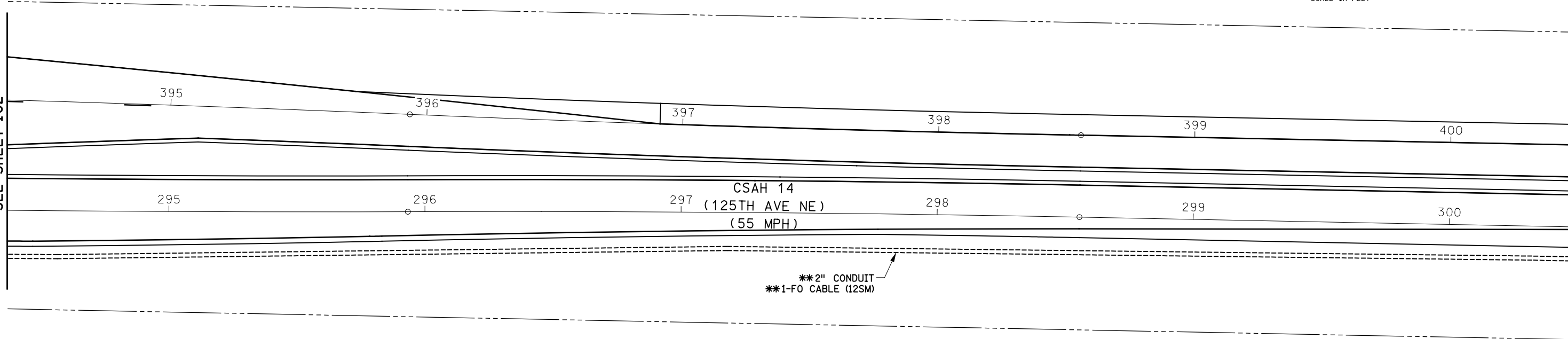


**2" CONDUIT
**1-FO CABLE (12SM)



MATCH LINE "E"
SEE SHEET 102

MATCH LINE "D"
SEE THIS SHEET



**2" CONDUIT
**1-FO CABLE (12SM)

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Nathan A. Poole

Date: 03/28/19 License #: 56071

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106-142-001

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PROJECT NO.
18-09

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M. BRESSLER

DESIGNED BY
M. BRESSLER

CHECKED BY
N. POOLE

COMM. NO. 1811762



ANOKA COUNTY

TRAFFIC SIGNAL PLANS

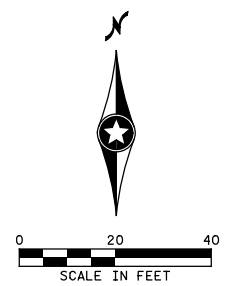
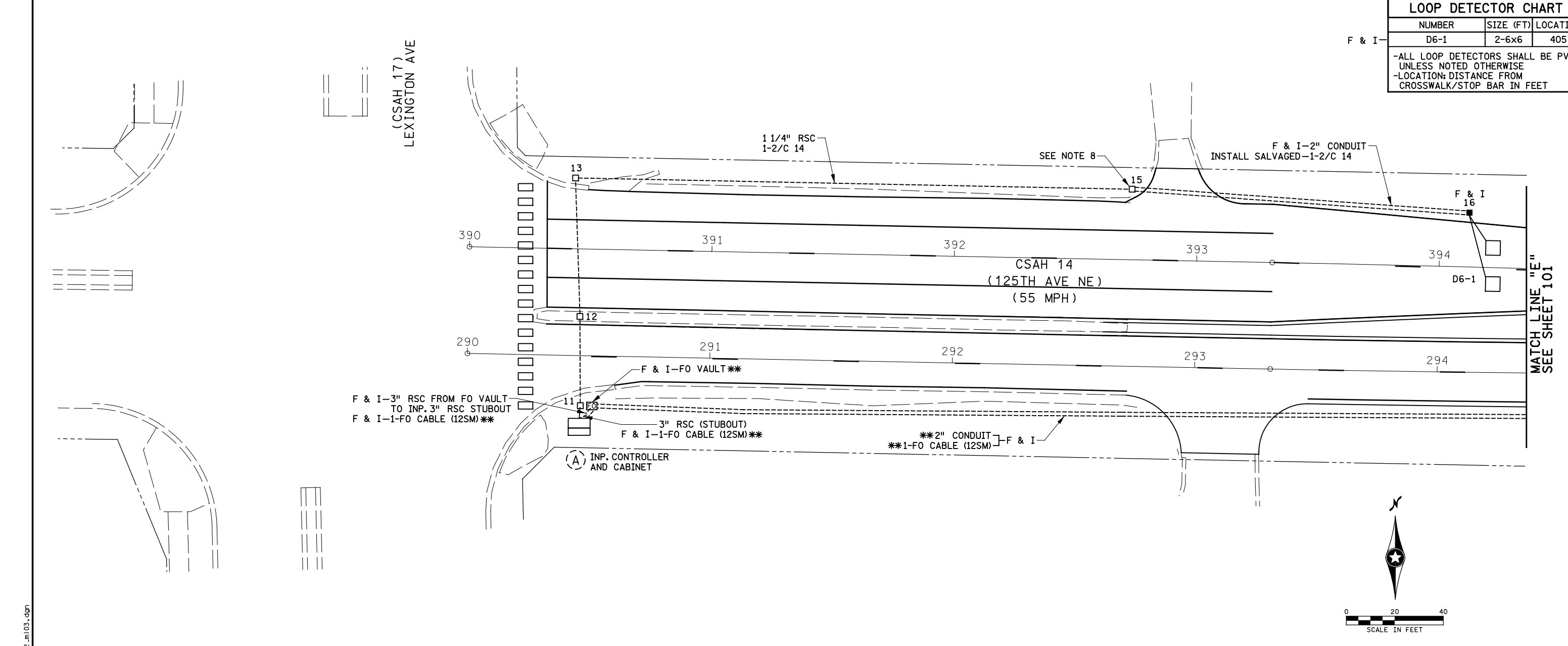
CSAH 14 RECONSTRUCTION

INTERCONNECT LAYOUT

SHEET
101
OF
107

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D6-1	2-6x6	405

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



- NOTES:
1. ALL ITEMS SHOWN ARE INPLACE AND SHALL REMAIN INPLACE UNLESS NOTED OTHERWISE.
 2. REFER TO "FOR INFORMATION ONLY" SHEETS FOR INPLACE SIGNAL COMPONENTS.
 3. SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 4. ENSURE THE EXACT LOCATION OF THE HANDHOLE, CONDUIT AND LOOP DETECTORS ARE VERIFIED IN THE FIELD BY COUNTY OFFICE PERSONNEL.
 5. THIS PLAN SPECIFIES CONDUIT SIZE, TYPE, AND GENERAL LOCATION. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 6. USE RSC FOR ALL NEW CONDUIT.
 7. CONDUIT SIZES ARE NOMINAL DIAMETER.
 8. INTERCEPT EXISTING HH 15 WITH NEW CONDUIT TO NEW HH 16. CONTRACTOR SHALL COIL AND PROTECT SALVAGED LOOP DETECTOR LEAD-IN CONDUCTOR IN EXISTING HH 15. CONTRACTOR SHALL INSTALL SALVAGED CONDUCTORS AS SHOWN AND MAKE ALL NECESSARY SPLICES TO NEW LOOP DETECTOR D6-1 TO MAKE THE REVISED SIGNAL SYSTEM OPERATIONAL TO THE SATISFACTION OF THE ENGINEER.
 9. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

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NO	DATE	BY	CKD	APPR	REVISION

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Nathan A. Poole

Date: 03/28/19 License #: 56071

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

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M. BRESSLER

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M. BRESSLER

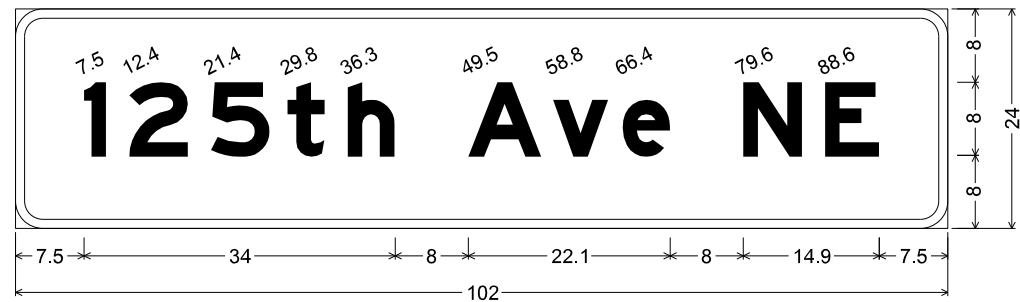
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N. POOLE

COMM. NO. 1811762

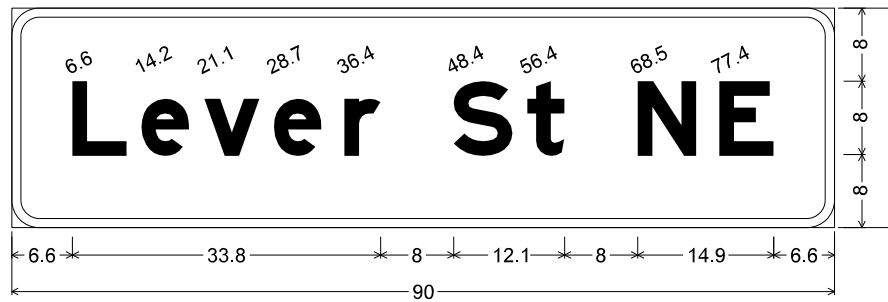


ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
CSAH 14 RECONSTRUCTION
 REVISED INTERSECTION/INTERCONNECT LAYOUT

SHEET
102
OF
107



D-1; 3.0" Radius, 1.0" Border, White on Green;
[125th Ave NE] E Mod;

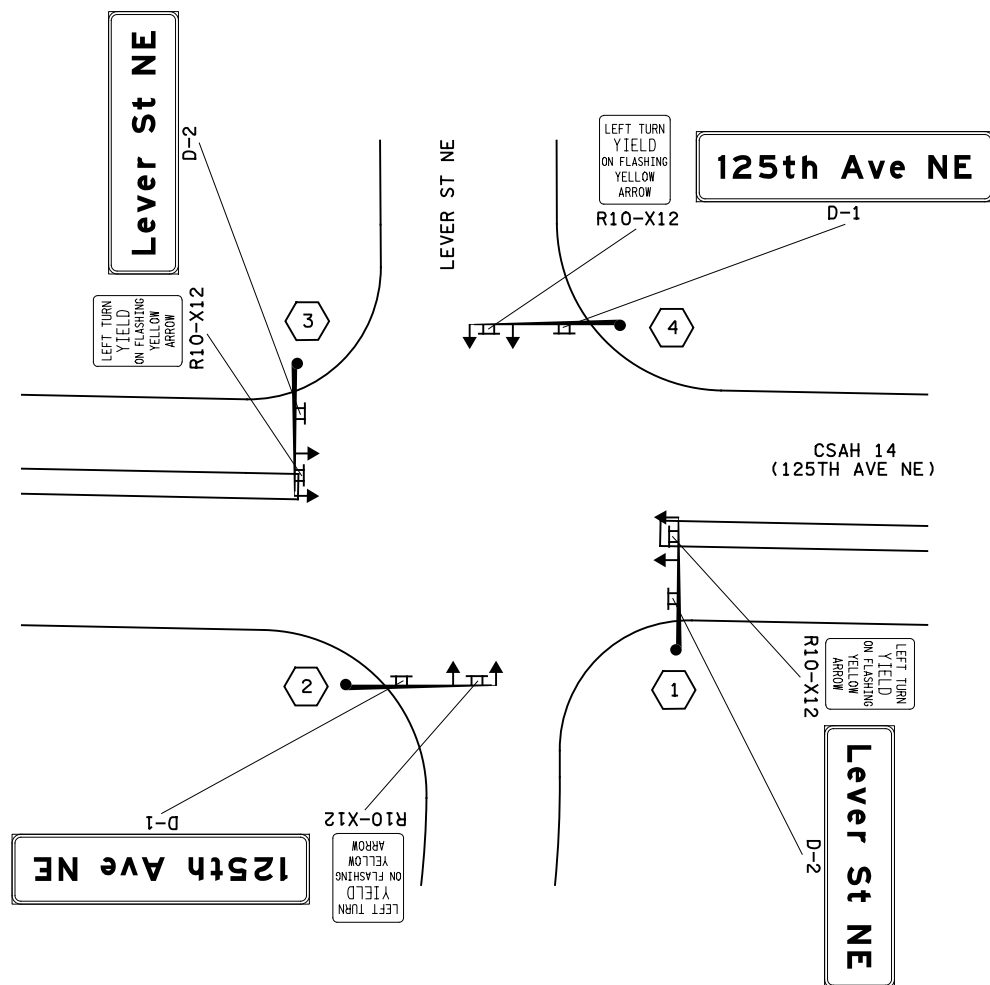
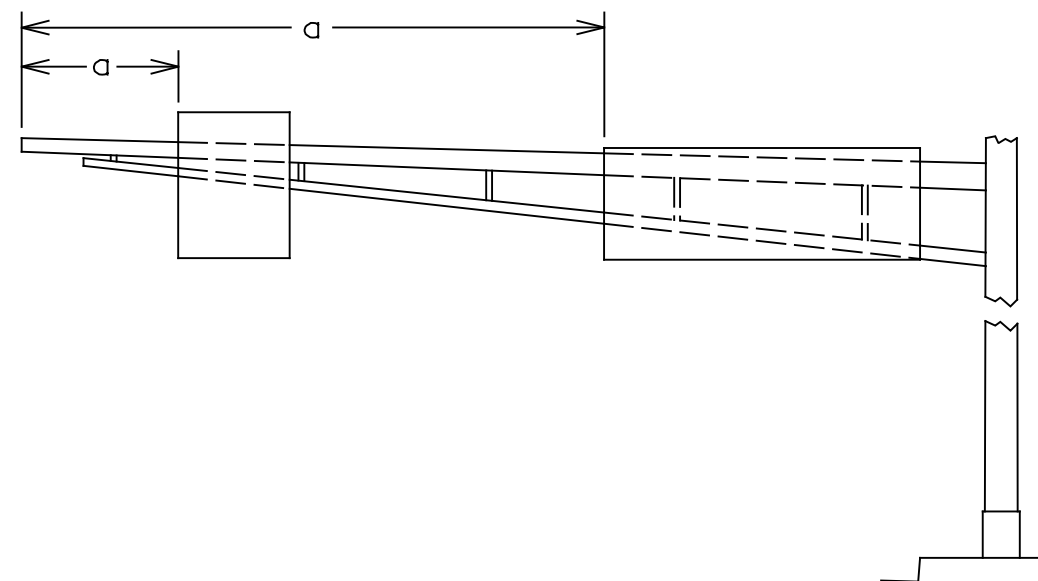


D-2; 3.0" Radius, 1.0" Border, White on Green;
[Lever St NE] E Mod;

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE.

SIGN DETAILS

MAST ARM SIGN LOCATION



**CSAH 14 (125TH AVE NE) AT LEVER ST NE
SIGN LAYOUT**

MAST ARM MOUNTED SIGNS									
SIGN/CODE	PANEL LEGEND	QUANTITY	PANEL			MOUNTING STIFFENERS		POLE	d FEET
			SIZE INCH	AREA SQ FT	TOTAL AREA SQ FT	NUMBER	SPACING (1)		
R10-X12	LEFT TURN YIELD ON FLASHING YELLOW ARROW	4	36 x 42	10.50	42.00	2	24	1	1
								2	1
								3	1
								4	1
D-1	125TH AVE NE	2	102 x 24	17.00	34.00	4	24	2	18
								4	22
D-2	LEVER ST NE	2	90 x 24	15.00	30.00	4	24	1	20
								3	20

SPECIFIC NOTE:

(1) SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED.
SEE MNDOT STANDARD SIGNS AND MARKING MANUAL, PAGE 105A FOR STIFFENER SPACING REQUIREMENTS.

GENERAL NOTES:

- CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
- CORNERS OF TYPE D SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL, PAGE 105A.
- FOR TYPE D STRINGER AND PANEL JOINT DETAILS SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL, PAGE 105.
- THE MAST ARM MOUNTED SIGNS ARE INCLUDED IN THE TRAFFIC CONTROL SIGNAL SYSTEM PAY ITEM.
- ALL NEW TYPE C AND D SIGN PANELS SHALL BE FABRICATED USING HP SHEETING. SEE SPECIAL PROVISIONS.

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NO	DATE	BY	CKD	APPR	REVISION

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Print Name: NATHAN A. POOLE
Nathan A. Poole
Date 03/28/19 License # 56071

STATE PROJECT NO. 002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO. 18-09
DRAWN BY M. BRESSLER
DESIGNED BY M. BRESSLER
CHECKED BY N. POOLE
COMM. NO. 1811762



ANOKA COUNTY
TRAFFIC SIGNAL PLANS
CSAH 14 RECONSTRUCTION
MAST ARM SIGN DETAILS

SHEET 103 OF 107

NOTES:

- LOCATION OF CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS, POLE BASES AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- EACH SIGNAL FACE SHALL BE 12"-3 SECTION R-Y-G, EXCEPT THAT SIGNAL FACES (1-1), (1-2), (5-1), (5-2), (5-3), (5-4), (5-5), (5-6), (5-7) AND (7-2) SHALL BE 12"-3 SECTION RLTA-YLTA-GLTA.
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
- EACH LUMINAIRE SHALL INCLUDE PHOTOELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
- SEE SPECIAL PROVISIONS AND DETAILS FOR ANOKA COUNTY SERVICE CABINET INFORMATION.
- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- EACH HANDHOLE SHALL BE CONCRETE HANDHOLE WITH TYPE "C" COVER PER Mn/DDT STANDARD PLATE NO.8117F.
- SEE SPECIAL PROVISIONS AND DETAILS REGARDING TYPE "D" SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO.2565.511).
- SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (INCIDENTAL TO ITEM NO.2565.511).
- SEE SPECIAL PROVISIONS REGARDING ADDITIONAL SIGNAL MATERIALS TO BE FURNISHED BY THE CONTRACTOR (FOR OTHERS TO INSTALL).
- SEE SPECIAL PROVISIONS REGARDING ADDITIONAL TRAFFIC SIGNAL CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

- TYPE A100-A-45-D30-9 (DAVIT AT 0°) A100 POLE FOUNDATION
3-ONE WAY SIGNALS-OVERHEAD
2-TYPE 10B-POLE MOUNTED 90° AND 180° MID MAST ARM MOUNTS AT 12' AND 25'
2-PEDESTRIAN PUSH BUTTONS
TYPE "D" SIGN PANEL (66"x18")-OVERHEAD
LUMINAIRE-200 WATT H.P.S.
EXTEND INTO H.H.18:
3"R.S.C.
3-12/c#12
1-3/c#12
4-2/c#14
2-1/c#10

- TYPE A100-A-45-D30-9 (DAVIT AT 0°) A100-POLE FOUNDATION
2-ONE WAY SIGNALS-OVERHEAD
2-TYPE 10B-POLE MOUNTED 90° AND 180° MID MAST ARM MOUNTS AT 12' AND 25'
2-PEDESTRIAN PUSH BUTTONS
TYPE "D" SIGN PANEL (66"x18")-OVERHEAD
LUMINAIRE-200 WATT H.P.S.
EXTEND INTO H.H.13:
3"R.S.C.
3-12/c#12
1-3/c#12
4-2/c#14
2-1/c#10

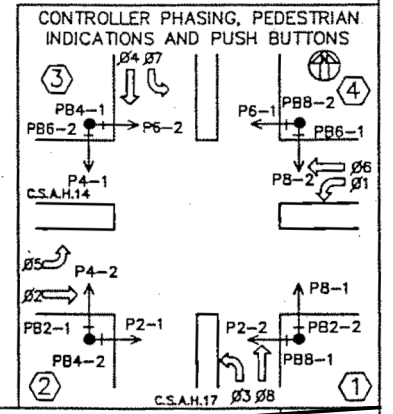
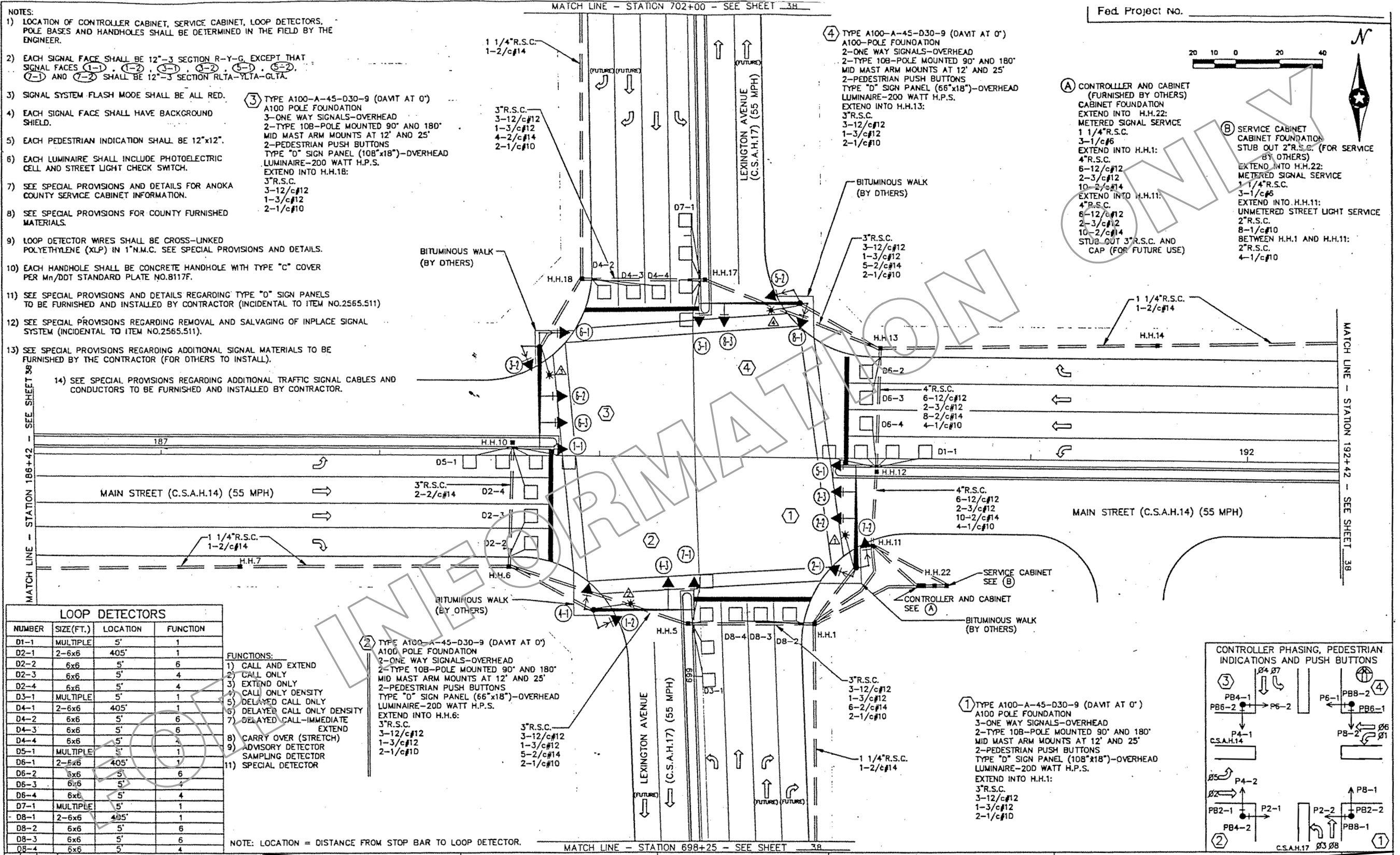
- (A) CONTROLLER AND CABINET (FURNISHED BY OTHERS)**
CABINET FOUNDATION
EXTEND INTO H.H.22:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.1:
4"R.S.C.
6-12/c#12
2-3/c#12
10-2/c#14
EXTEND INTO H.H.11:
4"R.S.C.
6-12/c#12
2-3/c#12
10-2/c#14
STUB OUT 3"R.S.C. AND CAP (FOR FUTURE USE)
- (B) SERVICE CABINET CABINET FOUNDATION STUB OUT 2"R.S.C. (FOR SERVICE BY OTHERS)**
EXTEND INTO H.H.22:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.11:
UNMETERED STREET LIGHT SERVICE
2"R.S.C.
8-1/c#10
BETWEEN H.H.1 AND H.H.11:
2"R.S.C.
4-1/c#10



LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	MULTIPLE	5'	1
D2-1	2-6x6	405'	1
D2-2	6x6	5'	6
D2-3	6x6	5'	4
D2-4	6x6	5'	4
D3-1	MULTIPLE	5'	1
D4-1	2-6x6	405'	1
D4-2	6x6	5'	6
D4-3	6x6	5'	6
D4-4	6x6	5'	4
D5-1	MULTIPLE	5'	1
D6-1	2-6x6	405'	1
D6-2	6x6	5'	6
D6-3	6x6	5'	4
D6-4	6x6	5'	4
D7-1	MULTIPLE	5'	1
D8-1	2-6x6	405'	1
D8-2	6x6	5'	6
D8-3	6x6	5'	6
D8-4	6x6	5'	4

- FUNCTIONS:
1) CALL AND EXTEND
2) CALL ONLY
3) EXTEND ONLY
4) CALL ONLY DENSITY
5) DELAYED CALL ONLY
6) DELAYED CALL ONLY DENSITY
7) DELAYED CALL-IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)
9) ADVISORY DETECTOR
10) SAMPLING DETECTOR
11) SPECIAL DETECTOR

NOTE: LOCATION = DISTANCE FROM STOP BAR TO LOOP DETECTOR.



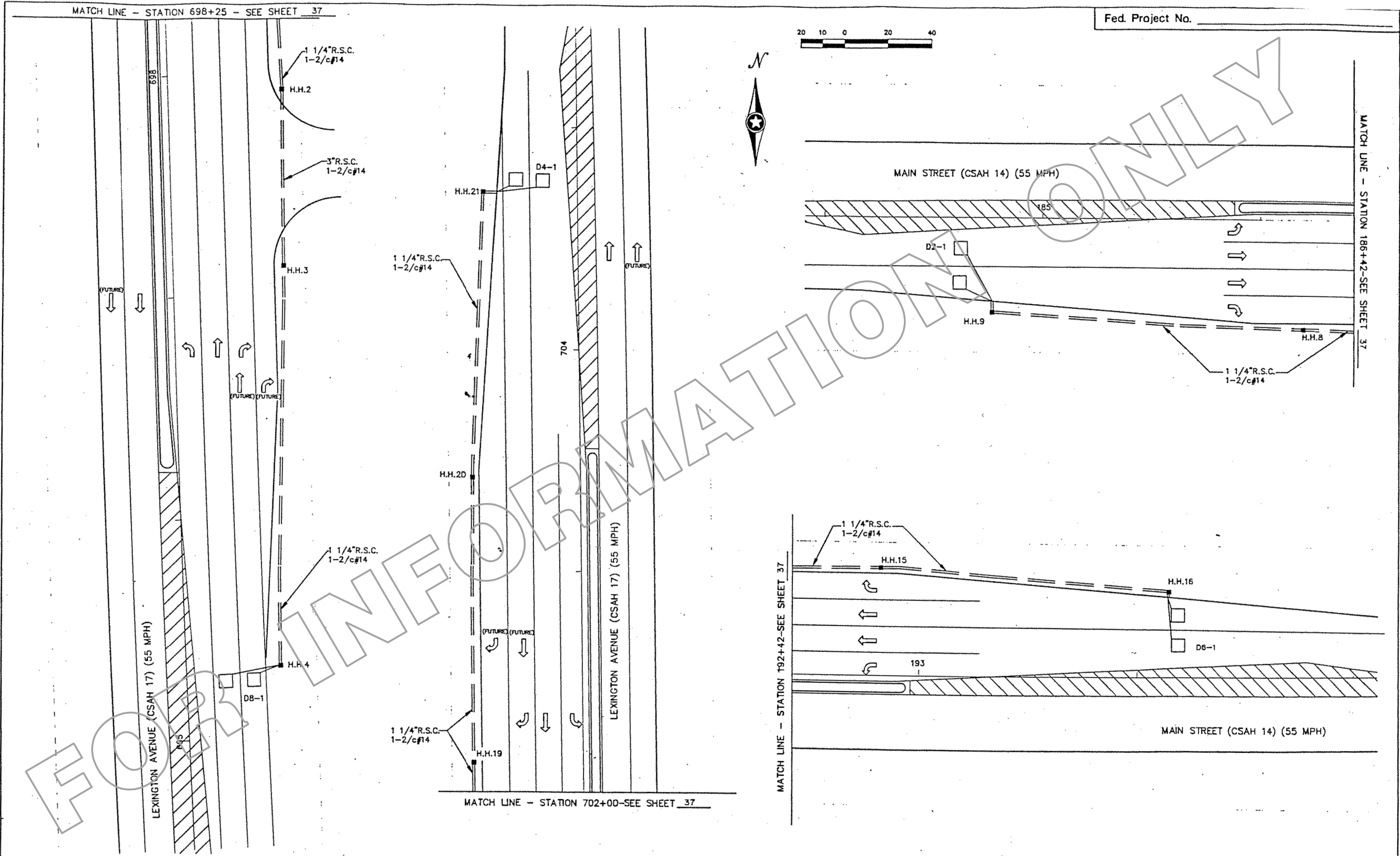
<p>ELECTRICAL ENGINEER CERTIFICATION</p> <p>I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.</p> <p>Date: 7-2-22 Reg. No. 5559</p>		<p>REGISTERED PROFESSIONAL ENGINEER CERTIFICATION</p> <p>I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.</p> <p>Date: 7-2-22 Reg. No. 20943</p>		<p>ES&H ENGINEERS & SURVEYORS PLANNERS</p>		<p>ANOKA COUNTY, MINNESOTA CITY OF BLAINE</p>		<p>TRAFFIC SIGNAL SYSTEM "B" INTERSECTION LAYOUT MAIN STREET (CSAH 14) AT LEXINGTON AVENUE (CSAH 17)</p>		<p>FILE NO. 92219 DATE</p>	
<p>S.A.P. 02-614-14</p>		<p>SP.</p>		<p>C.P.</p>		<p>Sheet No. 37 of 117 Sheets</p>		<p>NO. BY DATE REVISIONS</p>		<p>STATE PROJECT NO. 002-614-045 106-142-001 CITY OF BLAINE PROJECT NO. 18-09</p>	
<p>DRAWN BY</p>		<p>DESIGNED BY</p>		<p>CHECKED BY</p>		<p>COMM. NO. 1811762</p>		<p>ANOKA COUNTY TRAFFIC SIGNAL PLANS CSAH 14 RECONSTRUCTION FOR INFORMATION ONLY</p>		<p>SHEET 104 OF 107</p>	

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MATCH LINE - STATION 698+25 - SEE SHEET 37

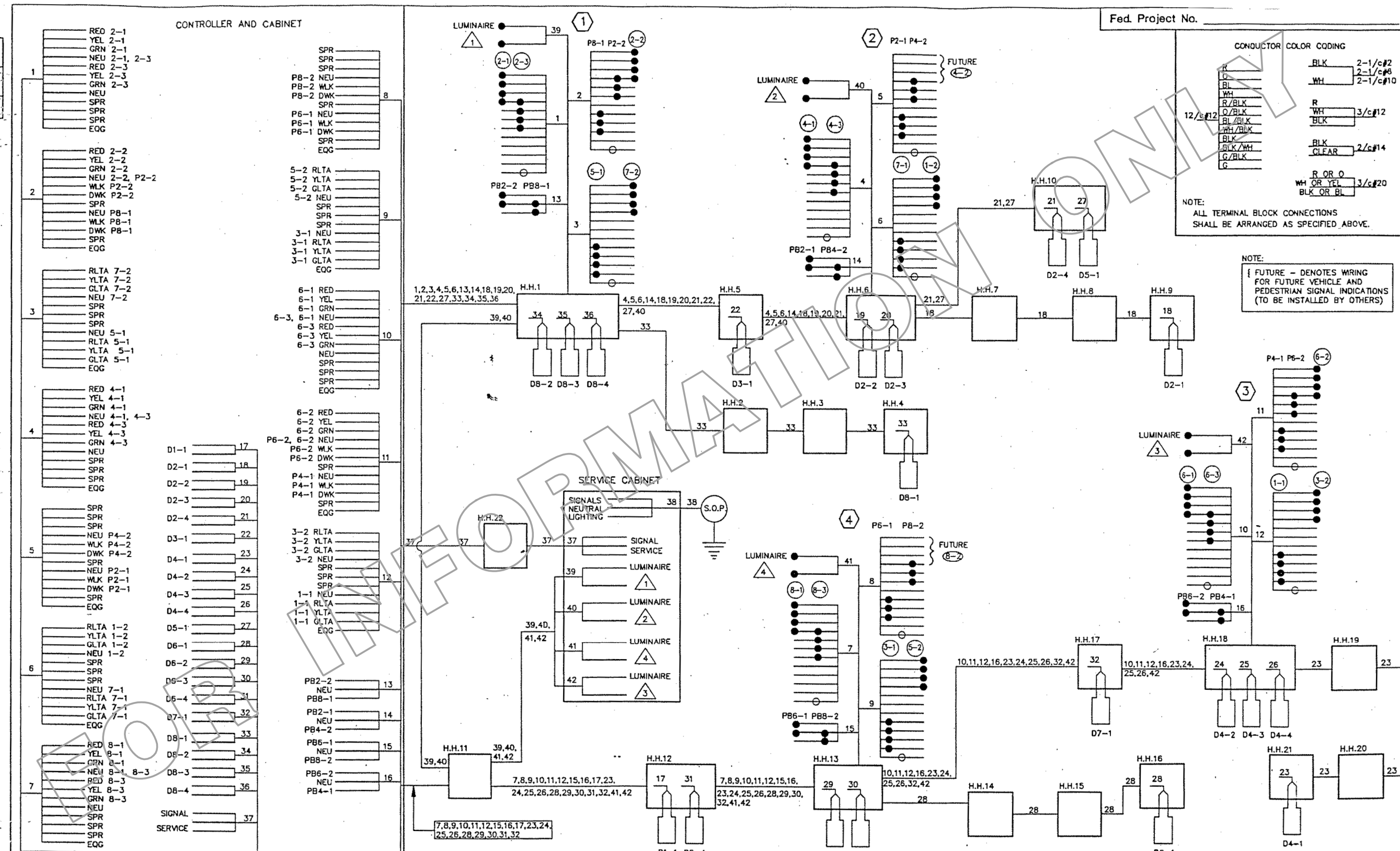
Fed. Project No. _____



NO. BY DATE		REVISIONS		"ELECTRICAL ENGINEER CERTIFICATION" I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota. Date: 7-2-92 Reg. No. 20943		"REGISTERED PROFESSIONAL ENGINEER CERTIFICATION" I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota. Date: 7-2-92 Reg. No. 20943		ES&I ENGINEERS & SURVEYORS ANOKA COUNTY, MINNESOTA CITY OF BLAINE		TRAFFIC SIGNAL SYSTEM "B" INTERSECTION LAYOUT MAIN STREET (CSAH 14) AT LEXINGTON AVENUE (CSAH 17)		FILE NO. 92219 DATE			
								S.A.P. 2-614-14		SP. _____		C.P. _____		Sheet No. 38 of 117 Sheets	

STATE PROJECT NO. 002-614-045 106-142-001				DRAWN BY				ANOKA COUNTY				SHEET 105 OF 107
CITY OF BLAINE PROJECT NO. 18-09				DESIGNED BY				TRAFFIC SIGNAL PLANS				
				CHECKED BY				CSAH 14 RECONSTRUCTION				
				COMM. NO. 1811762				FOR INFORMATION ONLY				

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"ELECTRICAL ENGINEER CERTIFICATION"

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.

[Signature]

ESEN ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
MAIN STREET (CSAH 14) AT LEXINGTON AVENUE (CSAH 17)

FILE NO. 92219
DATE _____

S.A.P. _____ C.P. _____

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NO	DATE	BY	CKD	APPR	REVISION

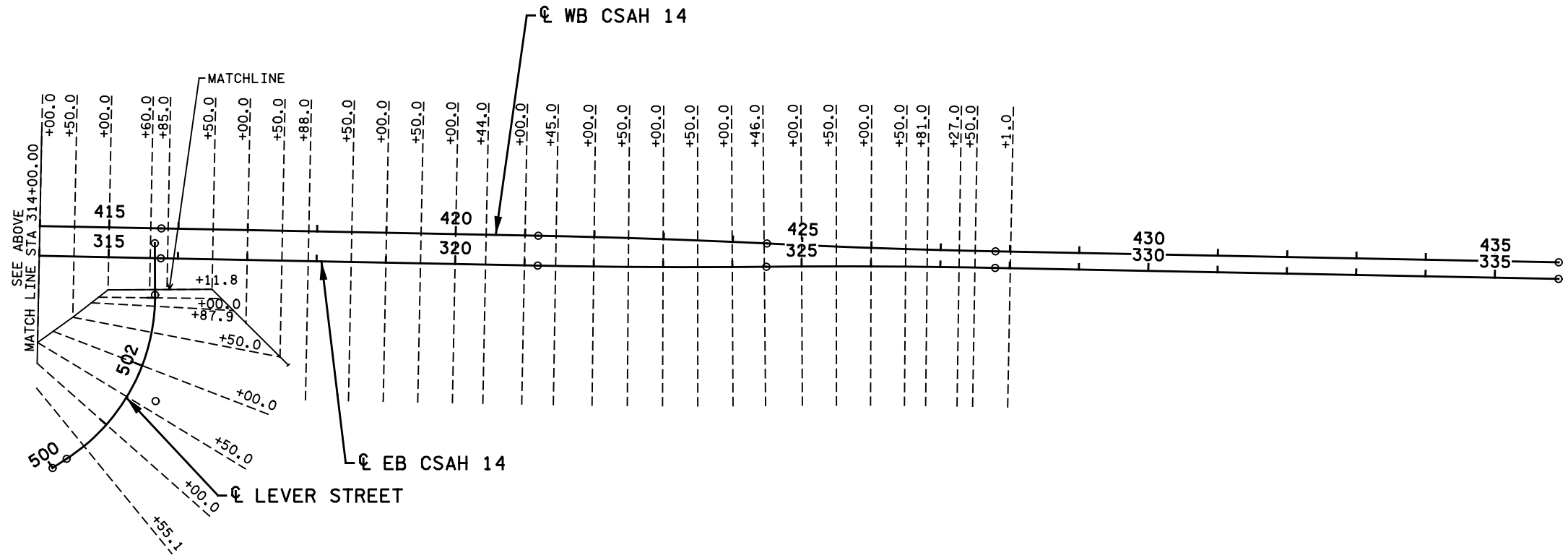
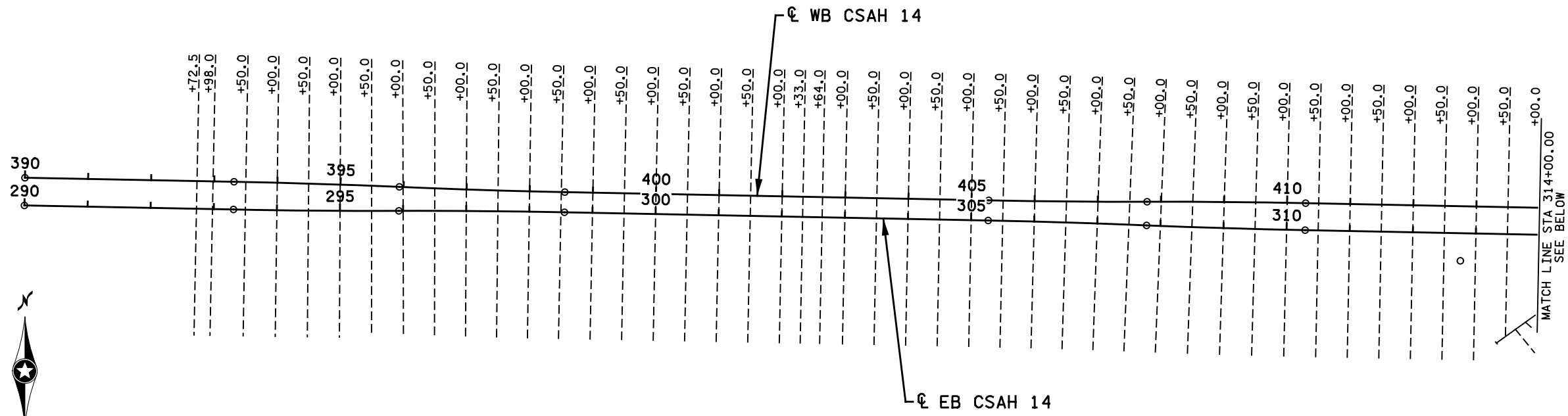
STATE PROJECT NO. 002-614-045
106-142-001
CITY OF BLAINE
PROJECT NO. 18-09

DRAWN BY _____
DESIGNED BY _____
CHECKED BY _____
COMM. NO. 1811762

SRH

ANOKA COUNTY
TRAFFIC SIGNAL PLANS
CSAH 14 RECONSTRUCTION
FOR INFORMATION ONLY

SHEET 106 OF 107



LEGEND

----- CROSS SECTION PATTERN LINE

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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: BENJAMIN P ROBECK

Ben Robeck

Date: 03/28/19 License # 53680

STATE PROJECT NO.
002-614-045
106-142-001

CITY OF BLAINE
PROJECT NO.
18-09

DRAWN BY
S. MARTINS

DESIGNED BY
M. HARDEGGER

CHECKED BY
B. ROBECK

COMM. NO. 1811762

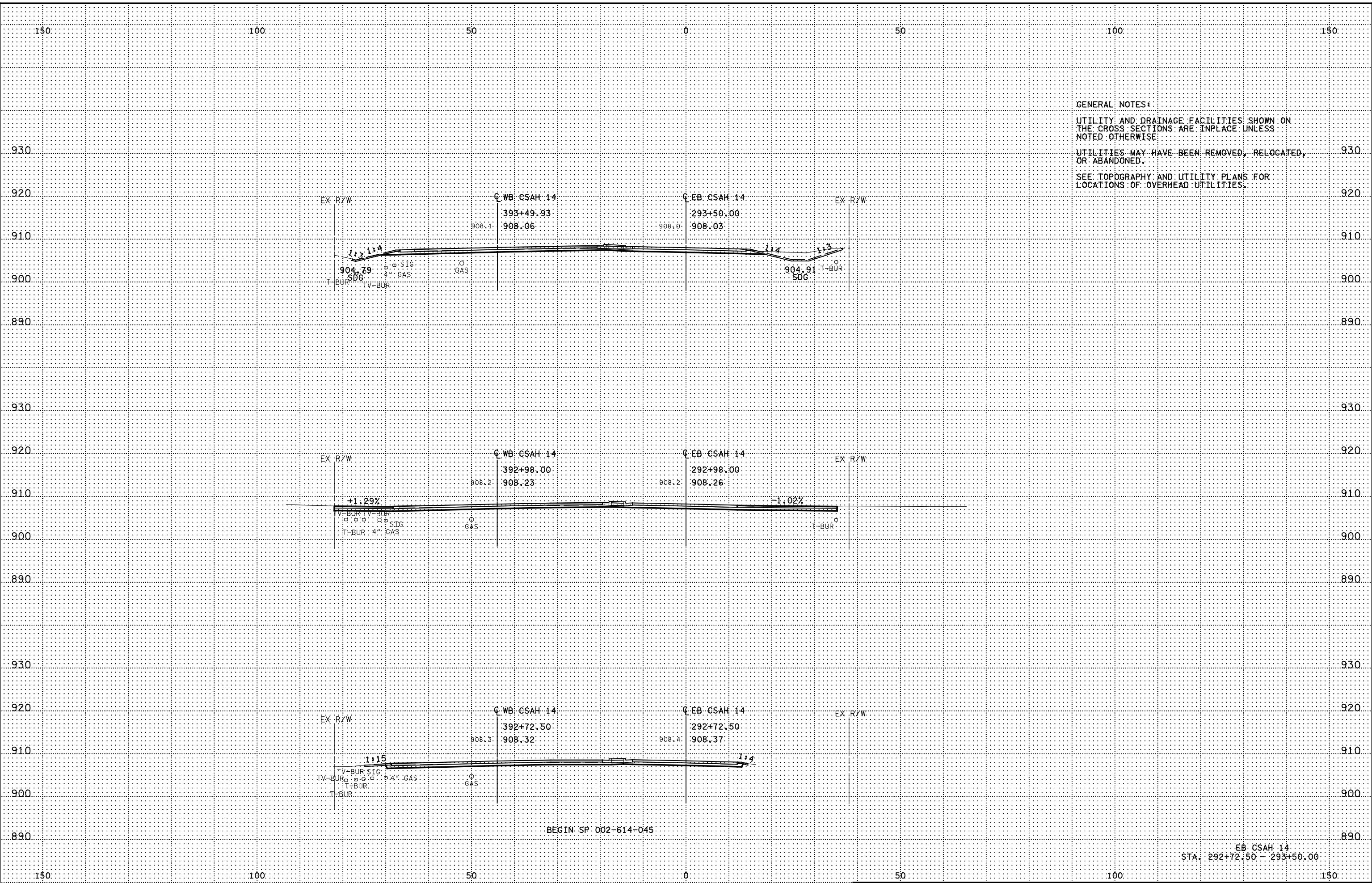


ANOKA COUNTY

CROSS SECTION MATCHLINE LAYOUT PLAN
CSAH 14 RECONSTRUCTION

SHEET
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OF
107

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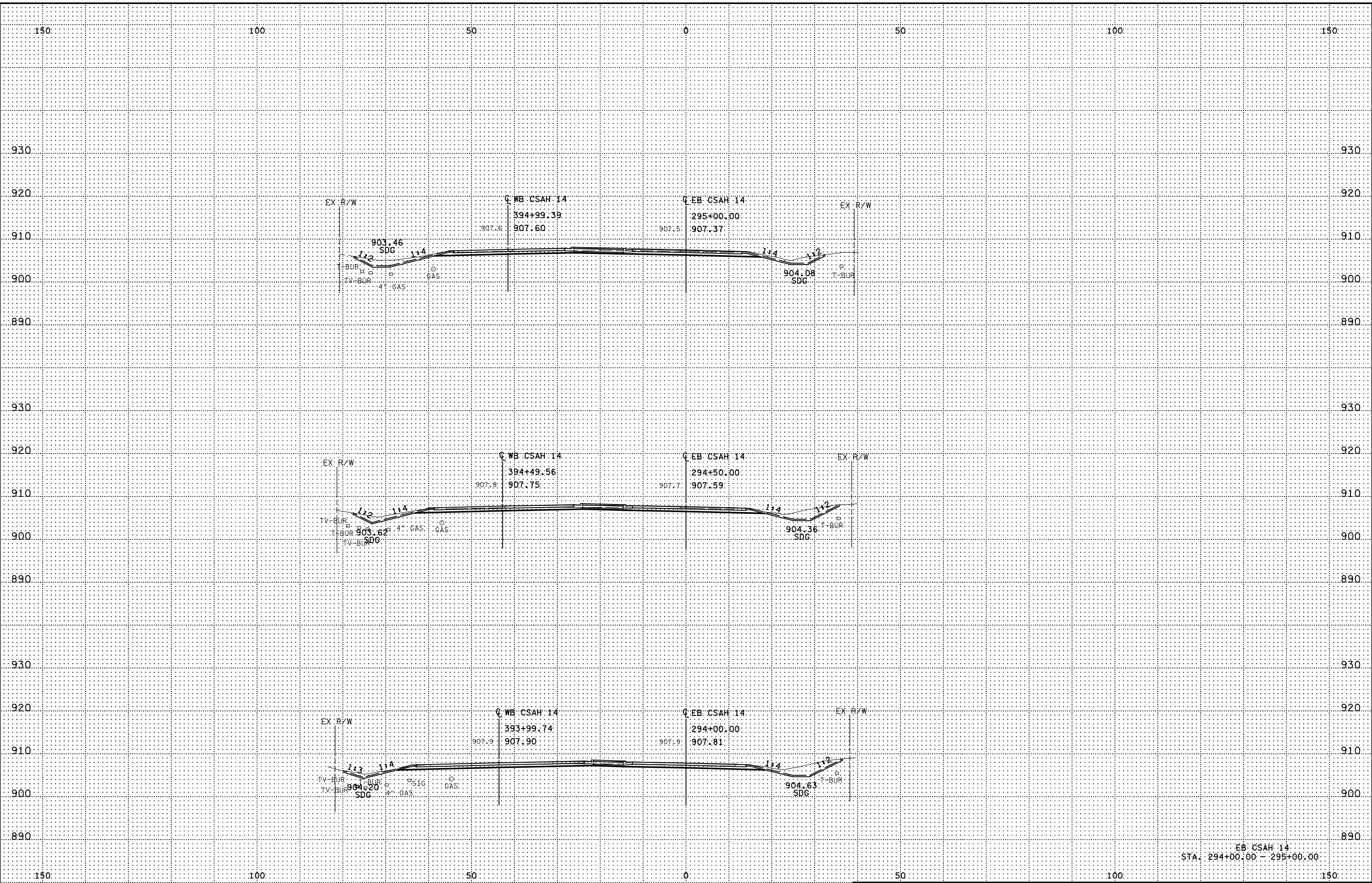


GENERAL NOTES:
UTILITY AND DRAINAGE FACILITIES SHOWN ON THE CROSS SECTIONS ARE IN PLACE UNLESS NOTED OTHERWISE.
UTILITIES MAY HAVE BEEN REMOVED, RELOCATED, OR ABANDONED.
SEE TOPOGRAPHY AND UTILITY PLANS FOR LOCATIONS OF OVERHEAD UTILITIES.

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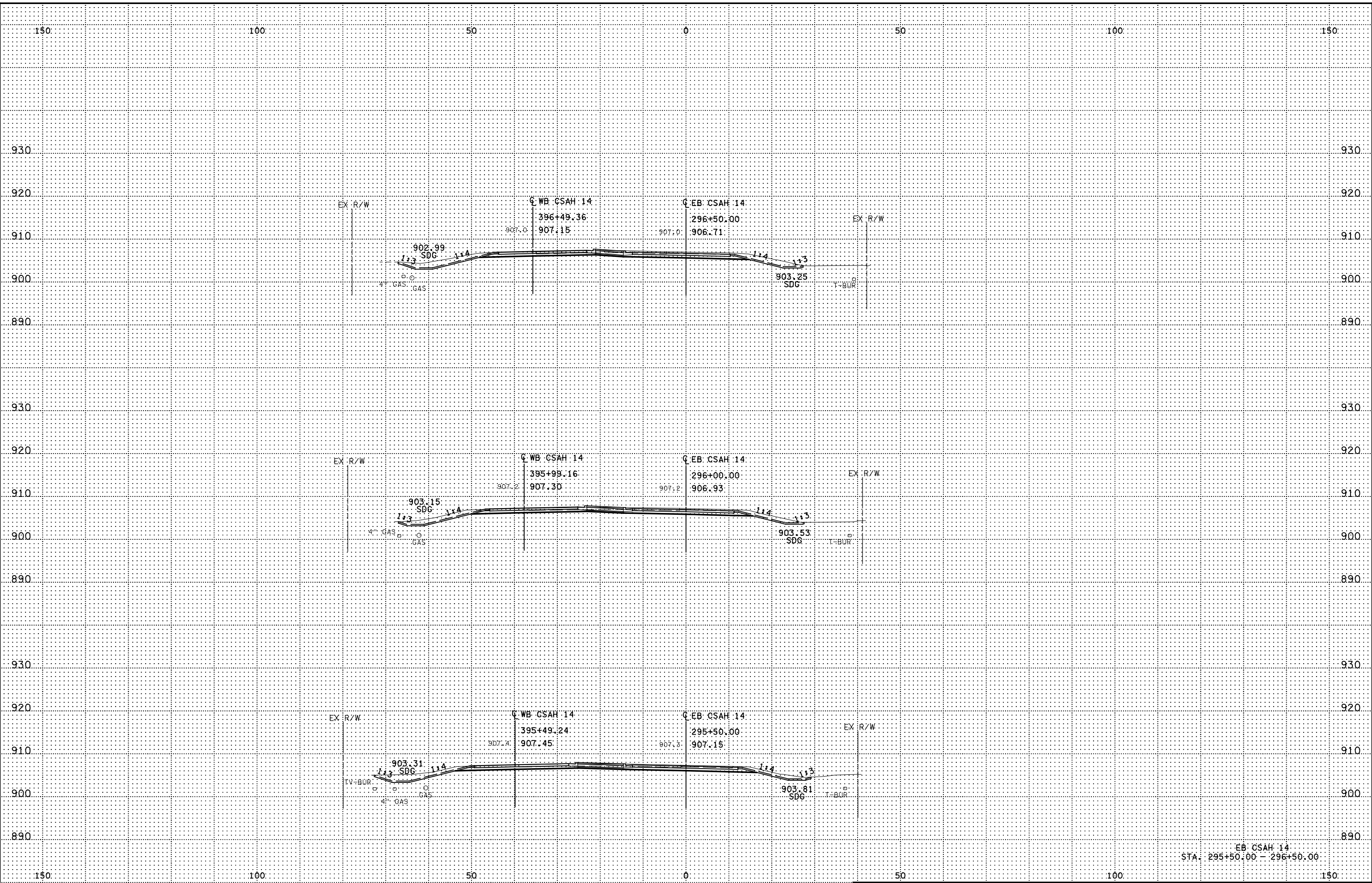
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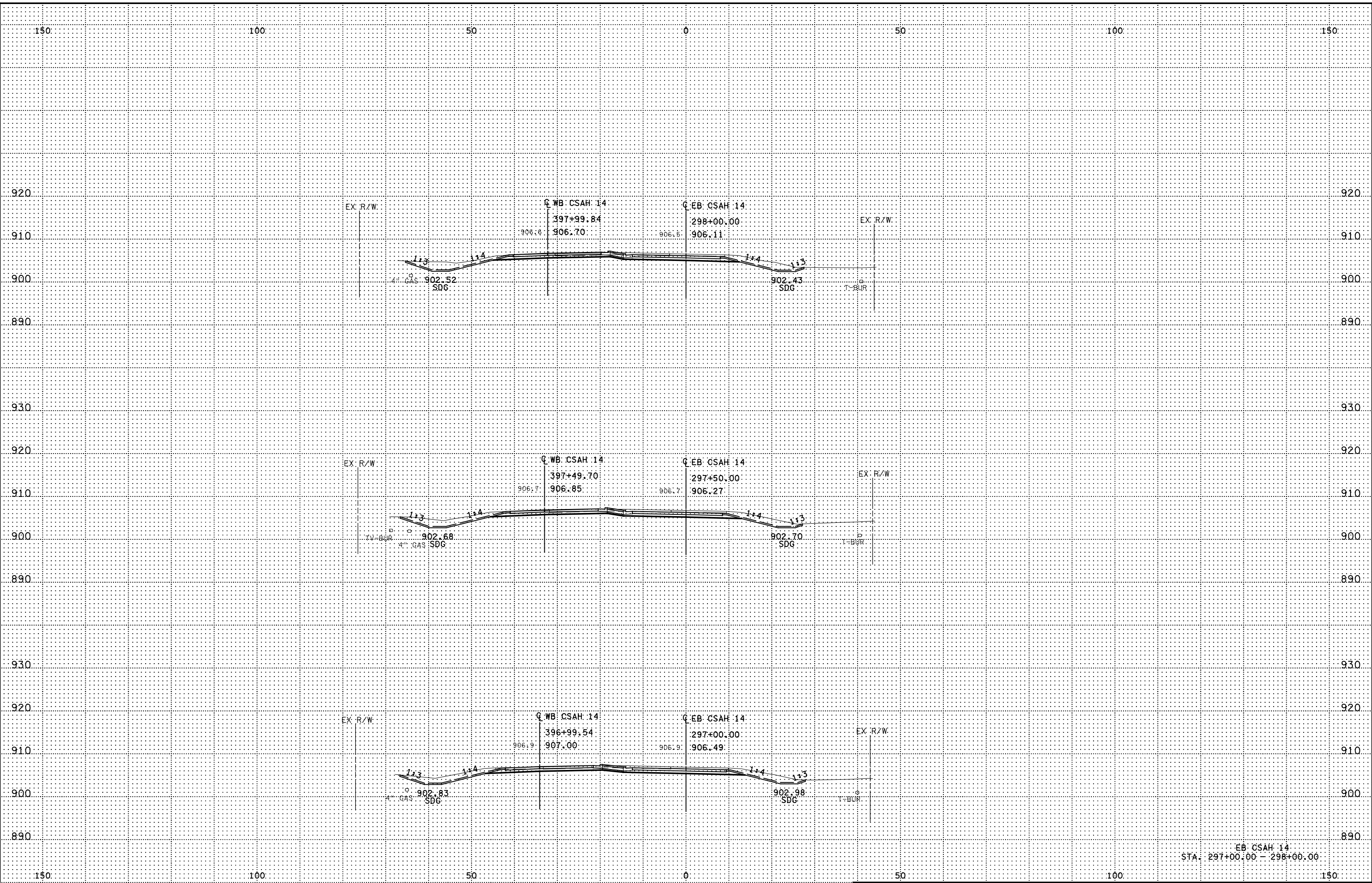
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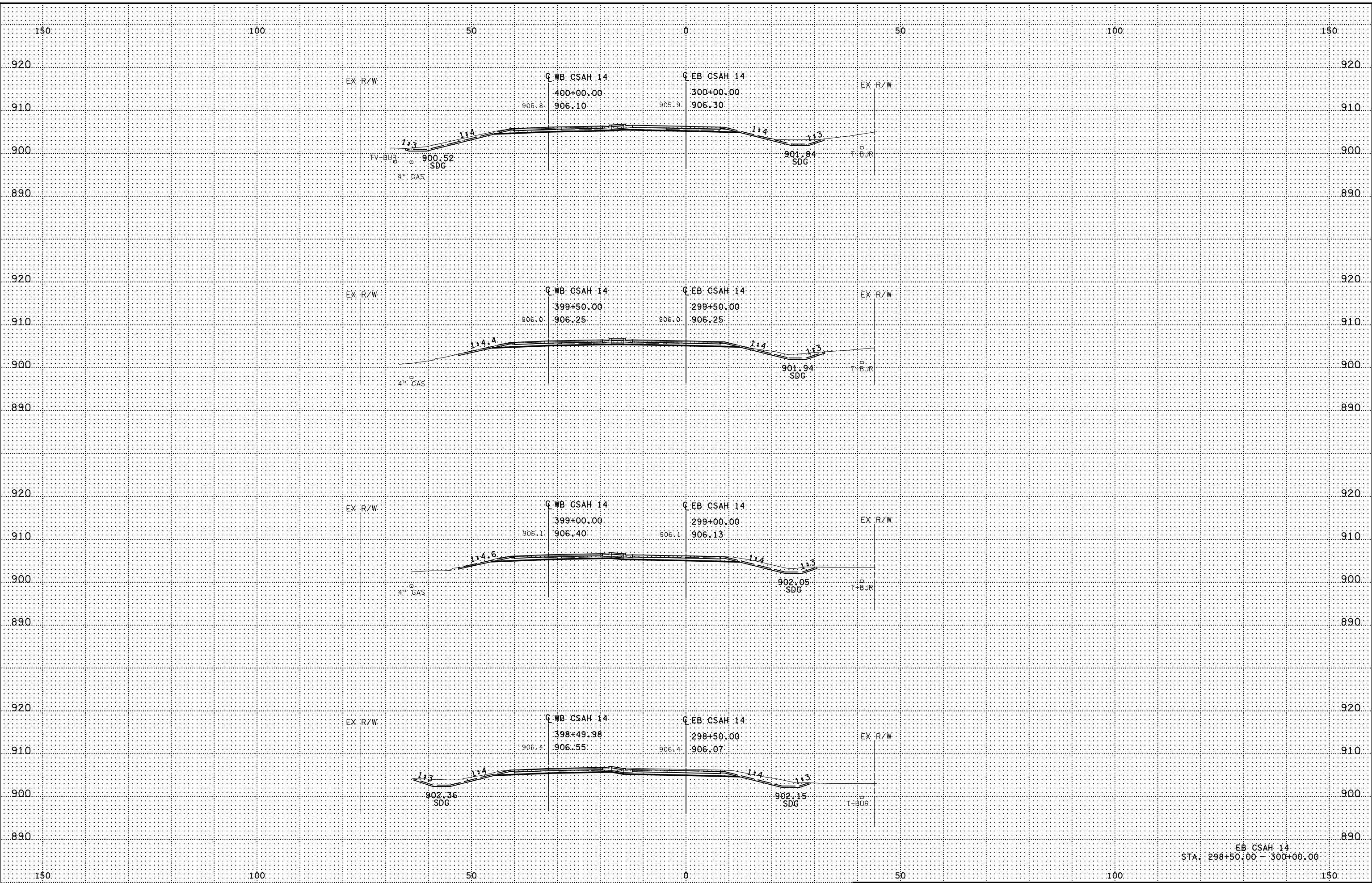
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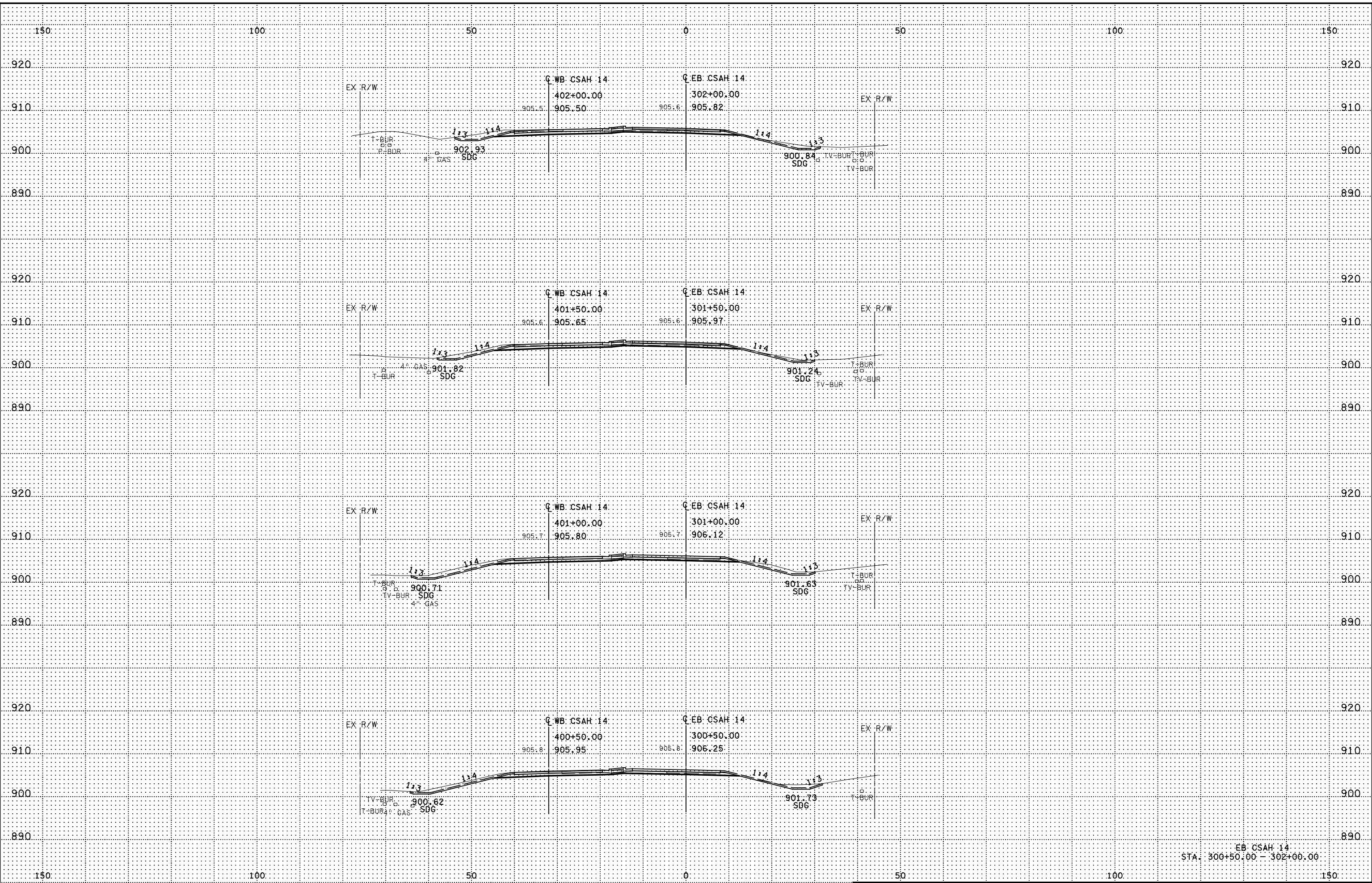
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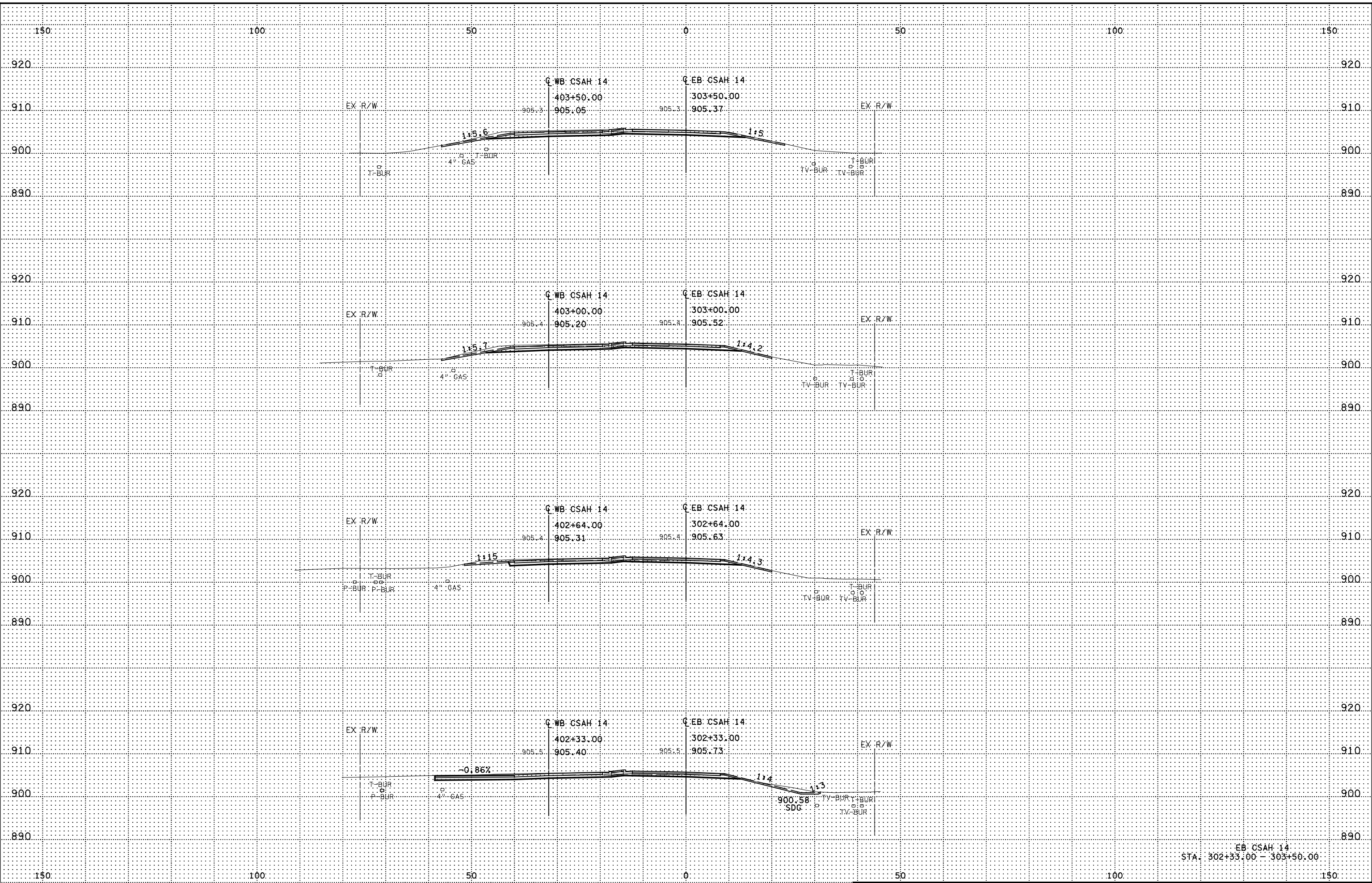
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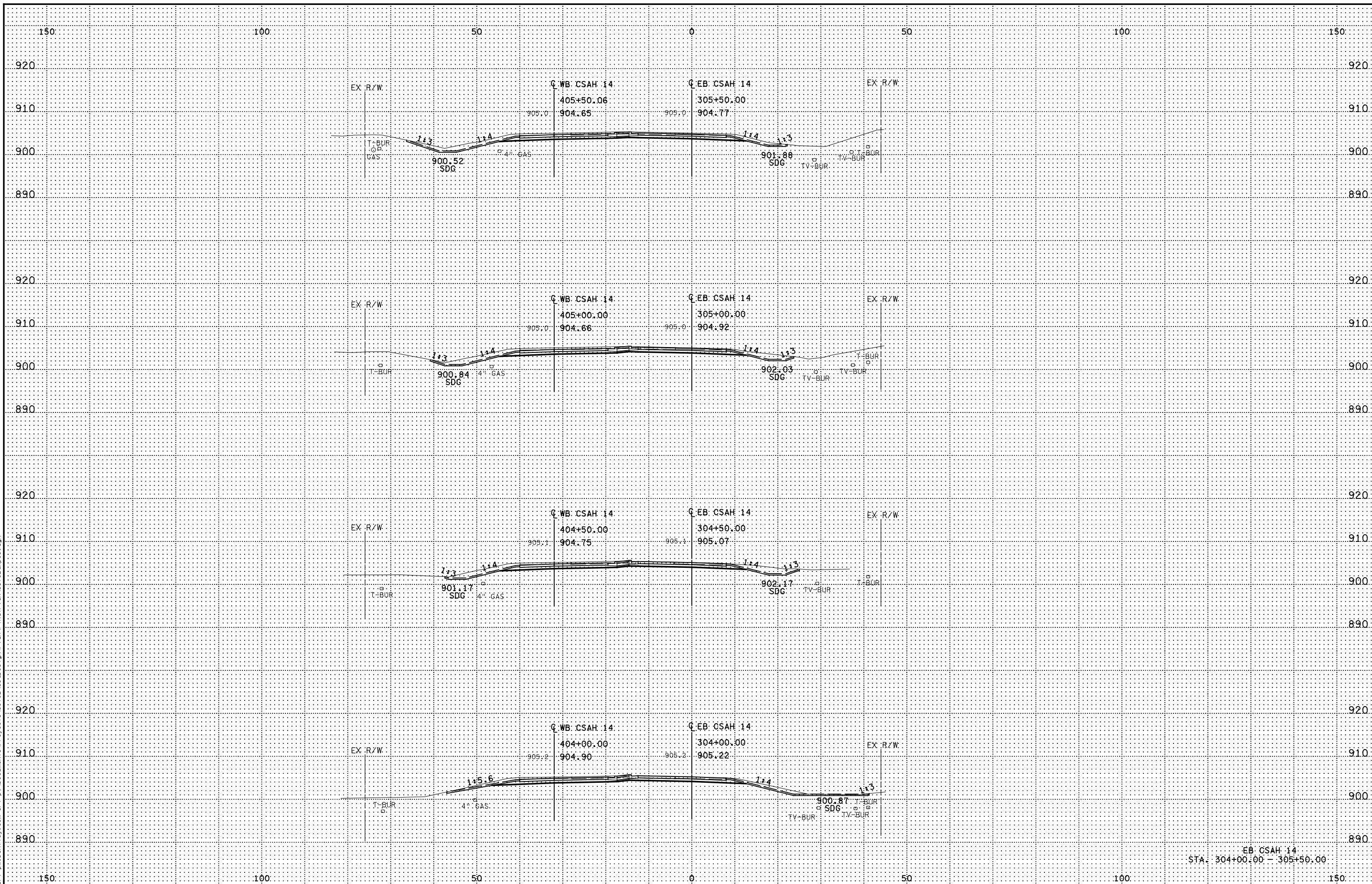
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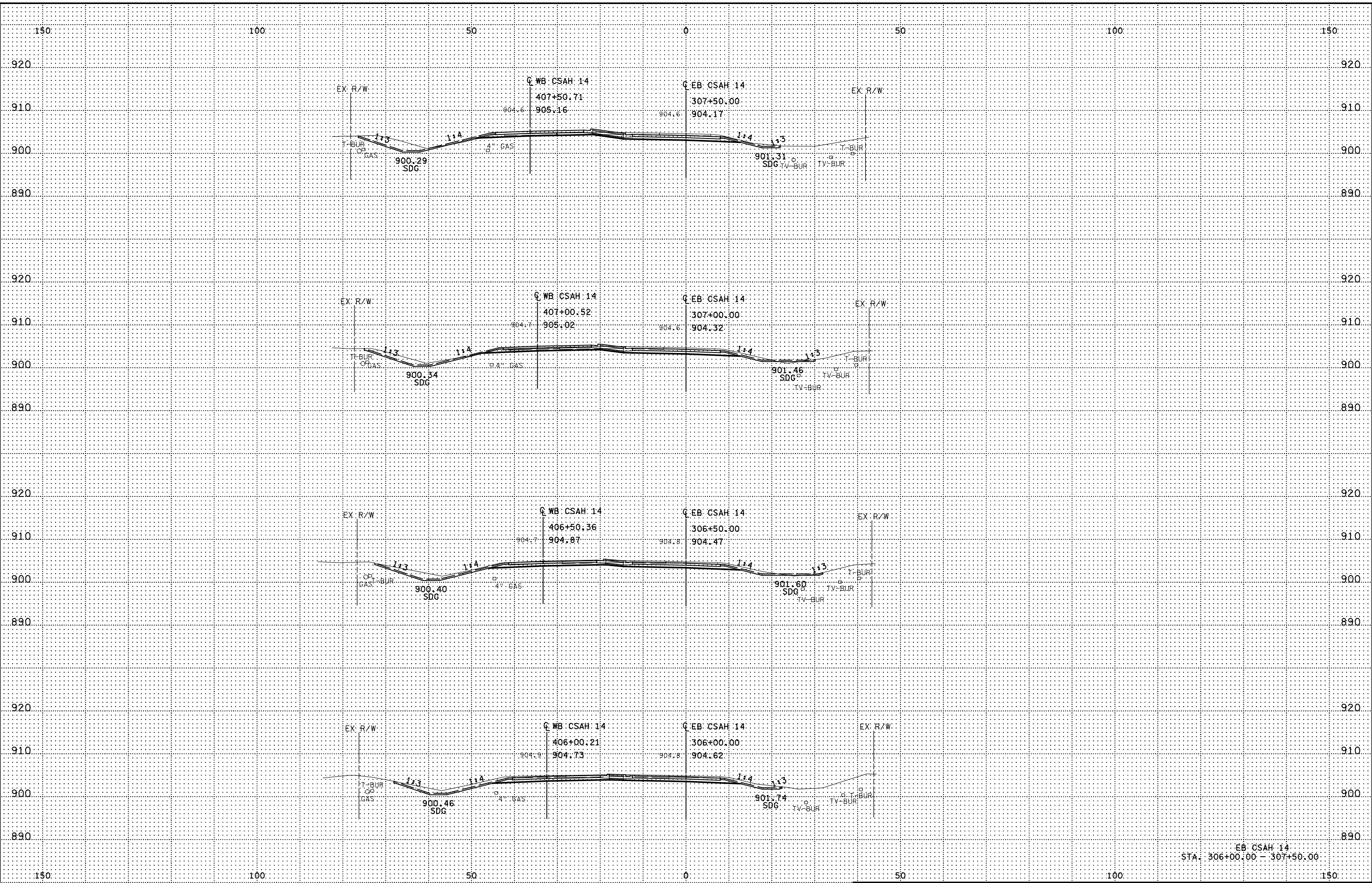
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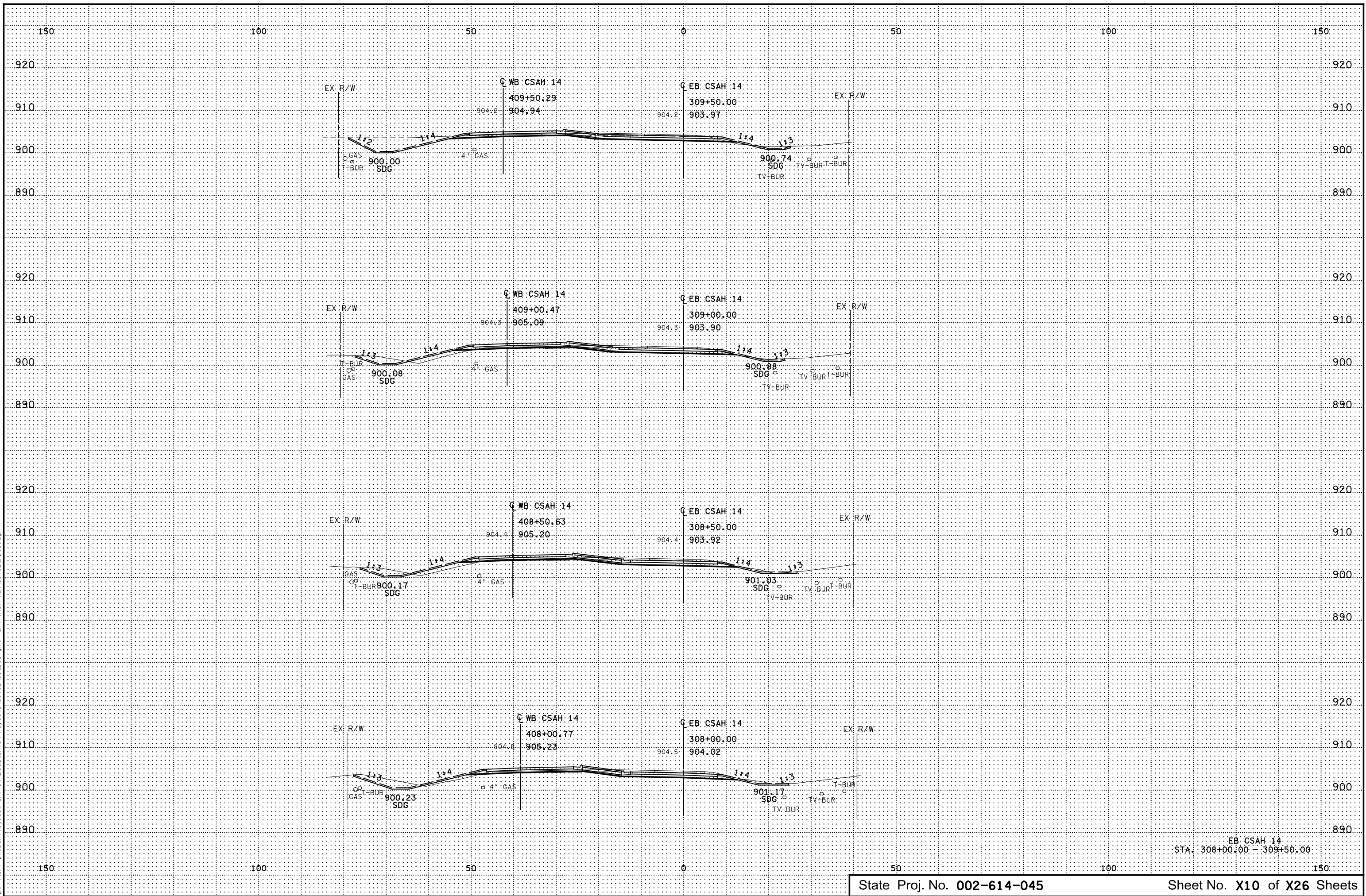
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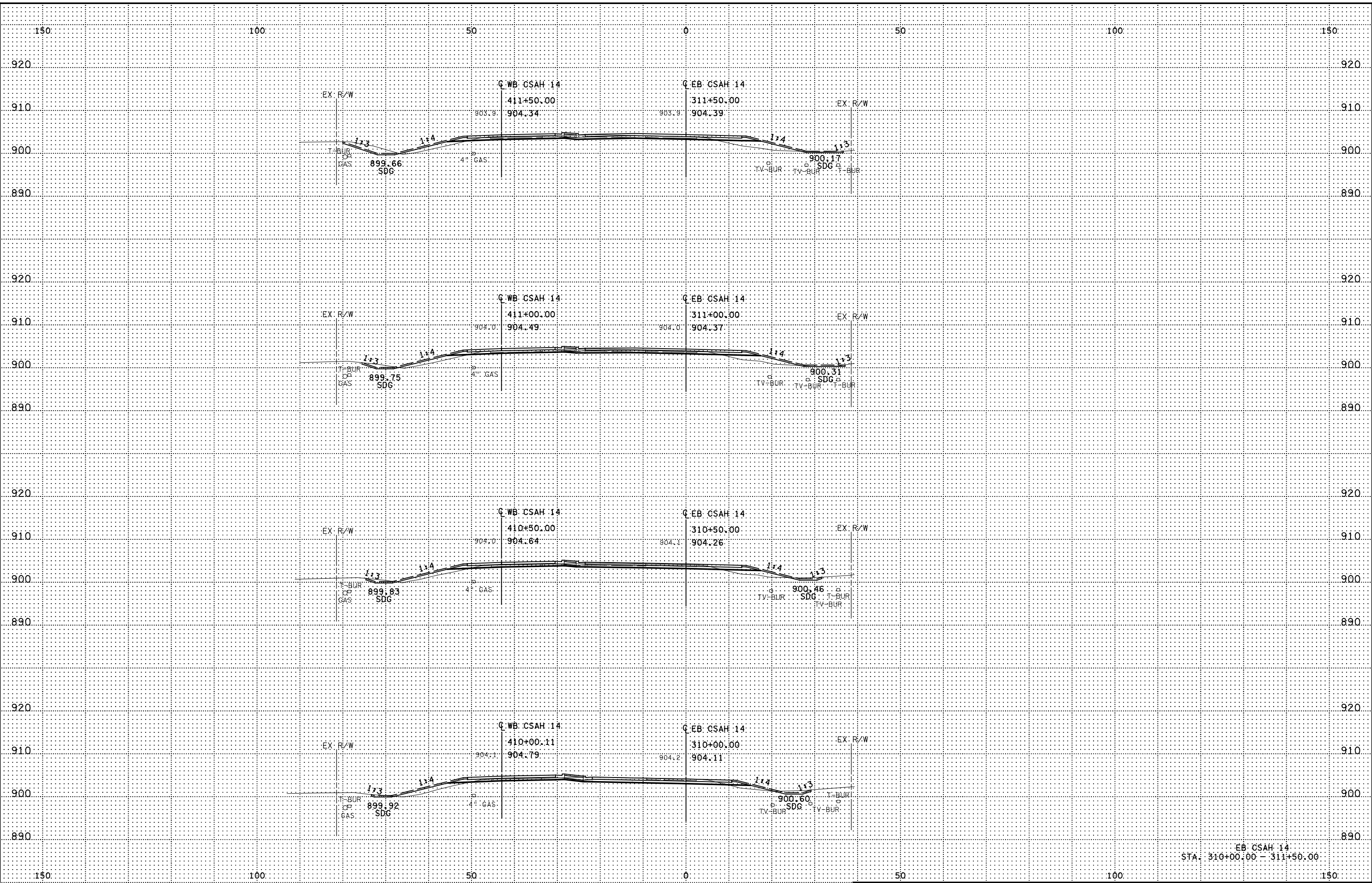
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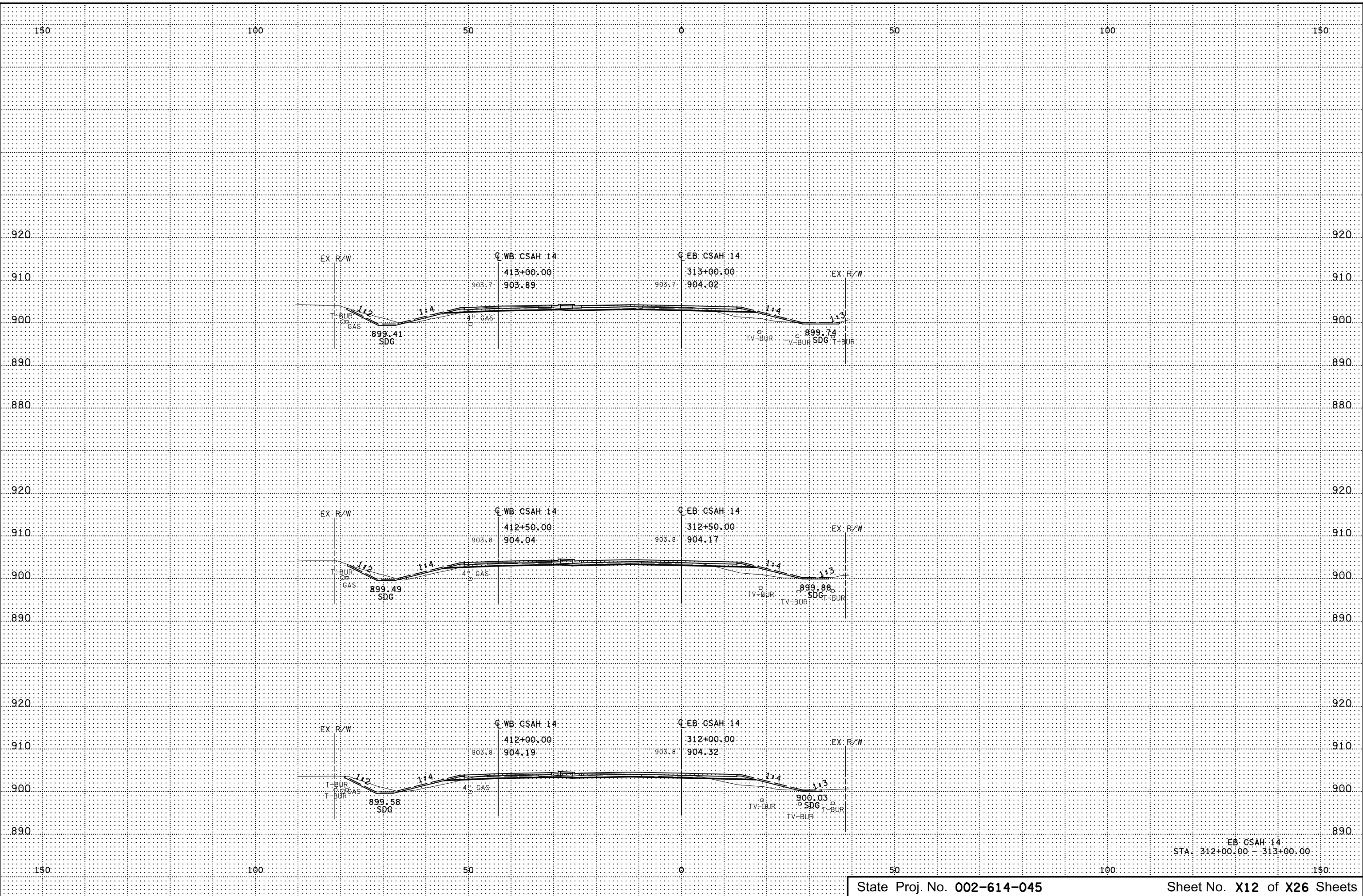
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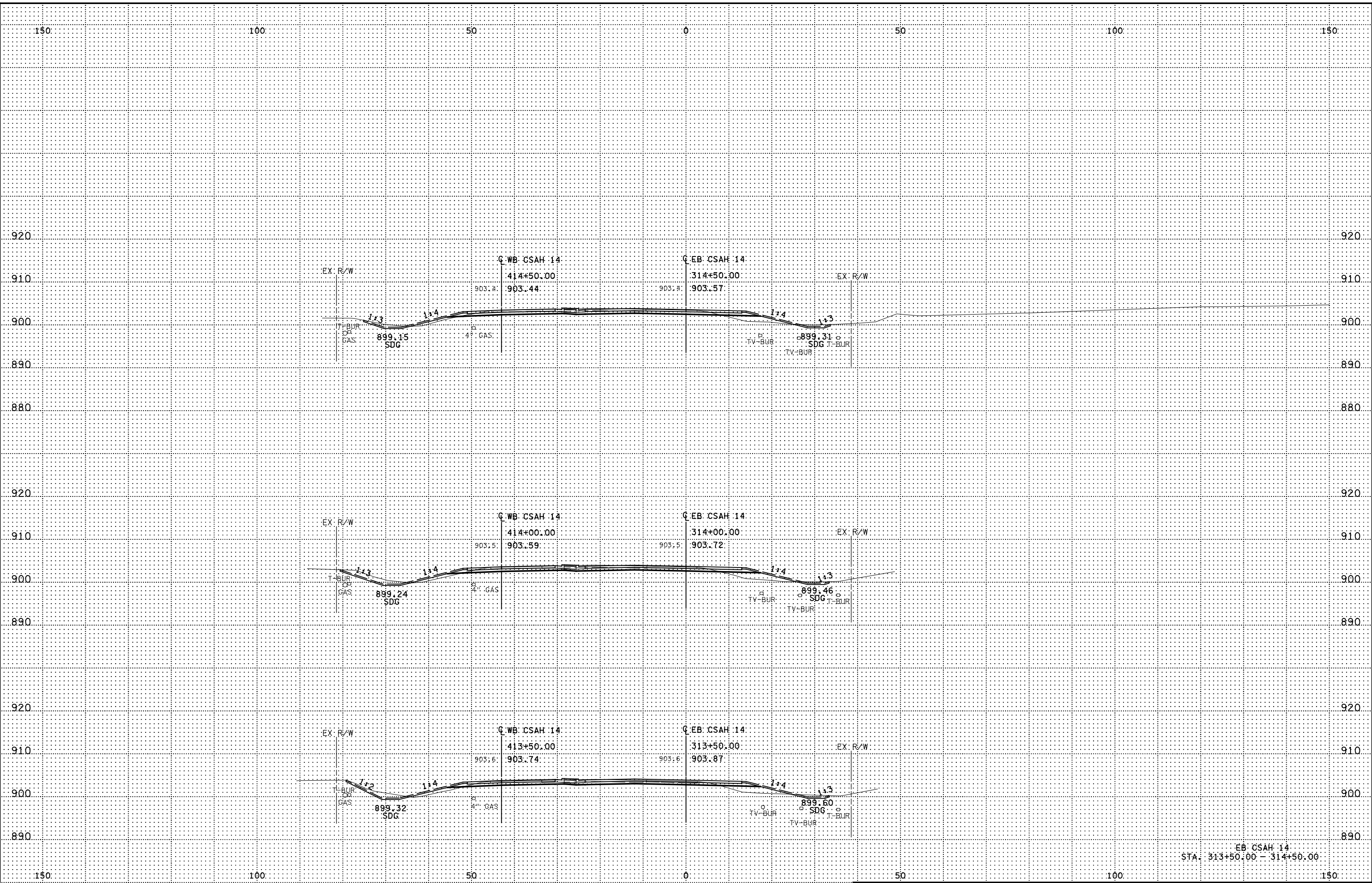
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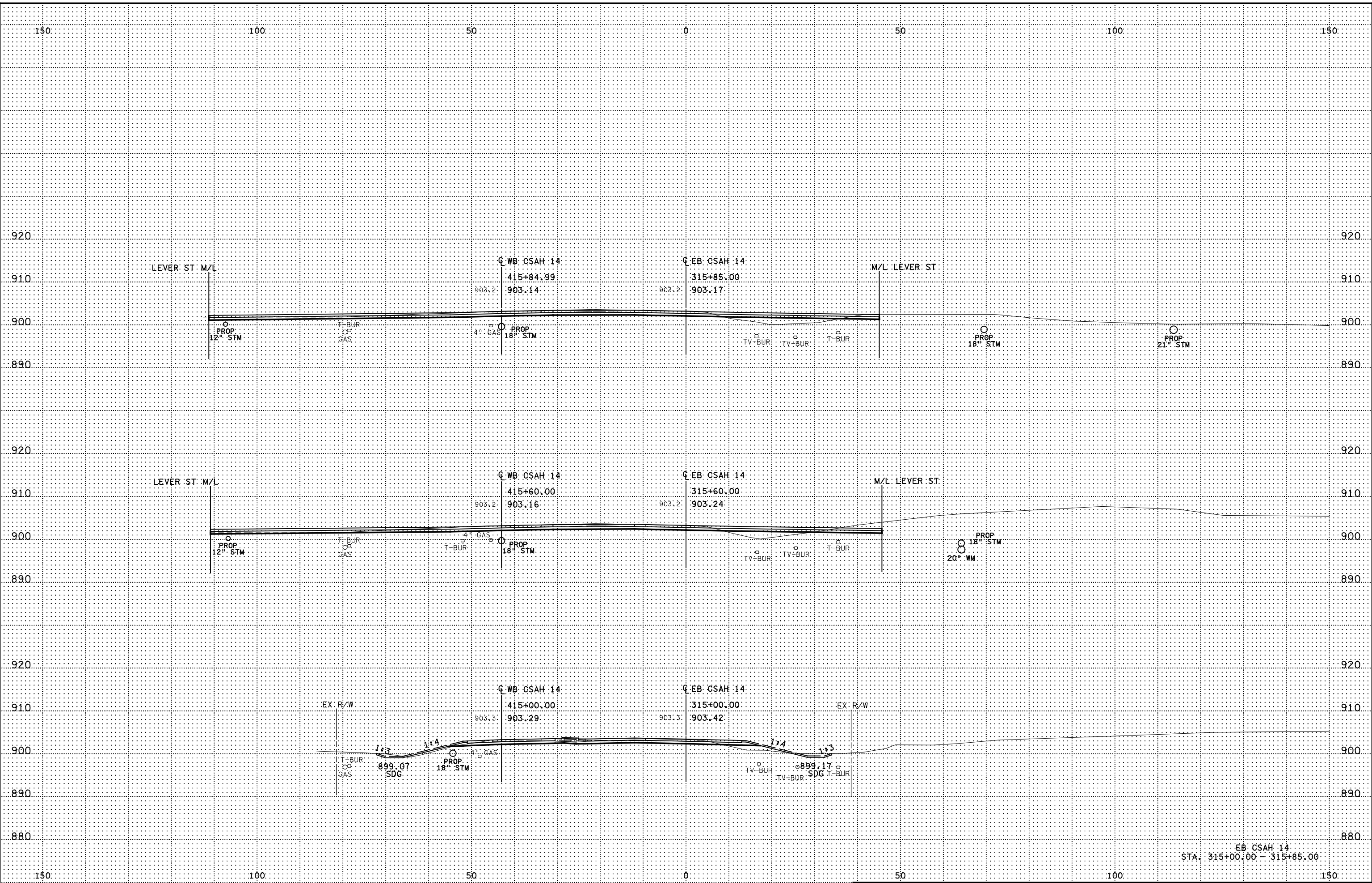
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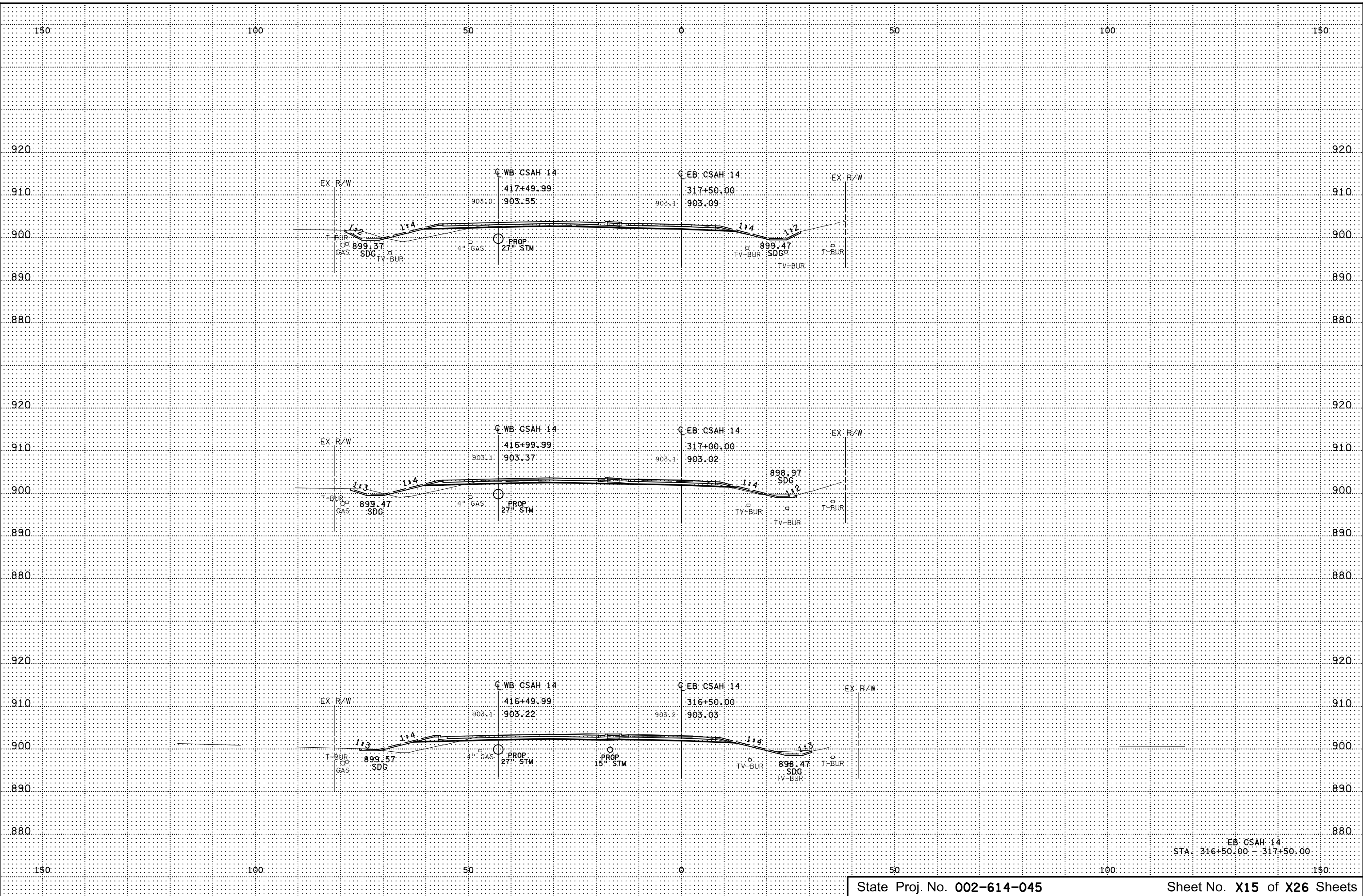
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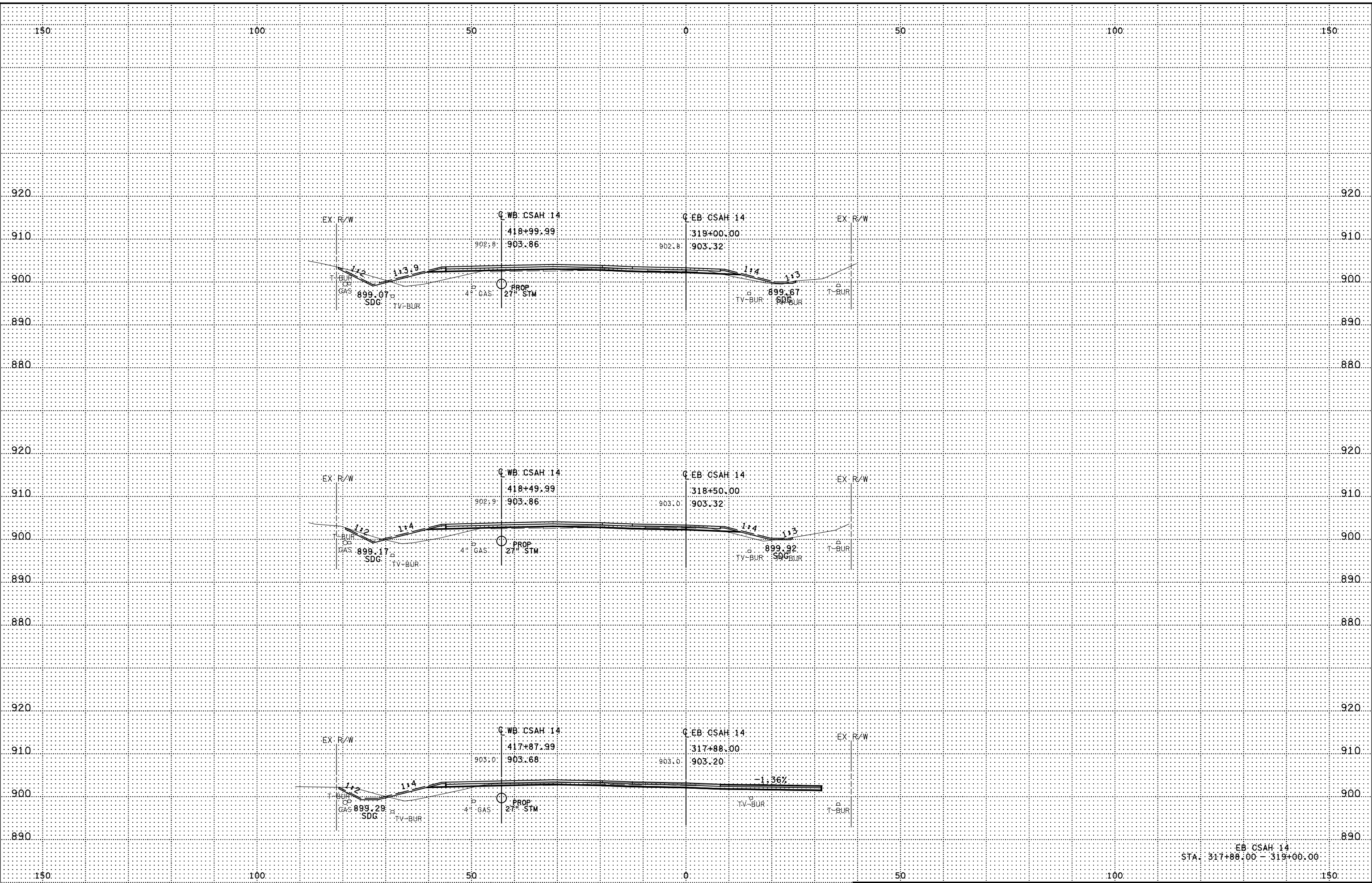
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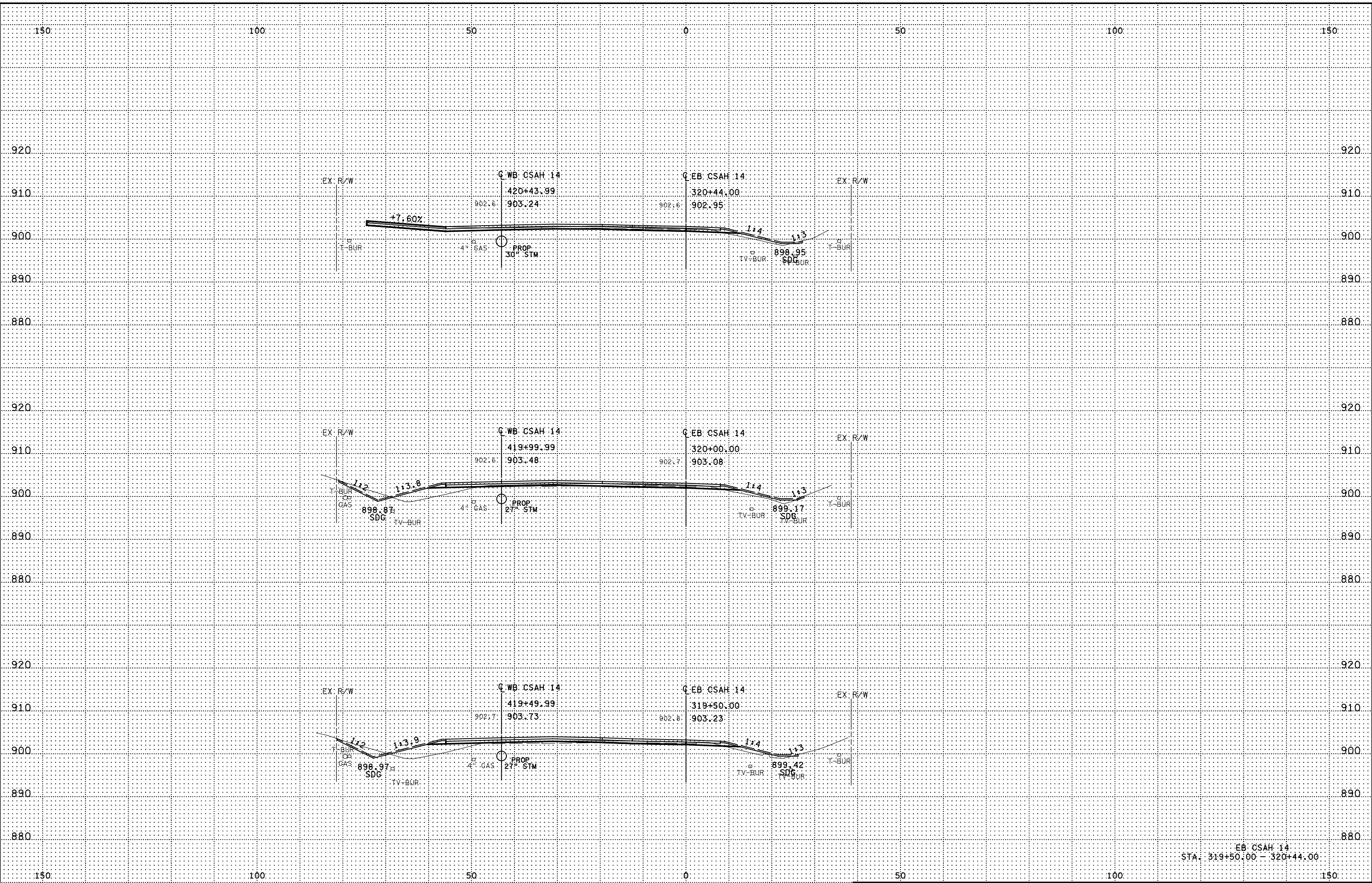
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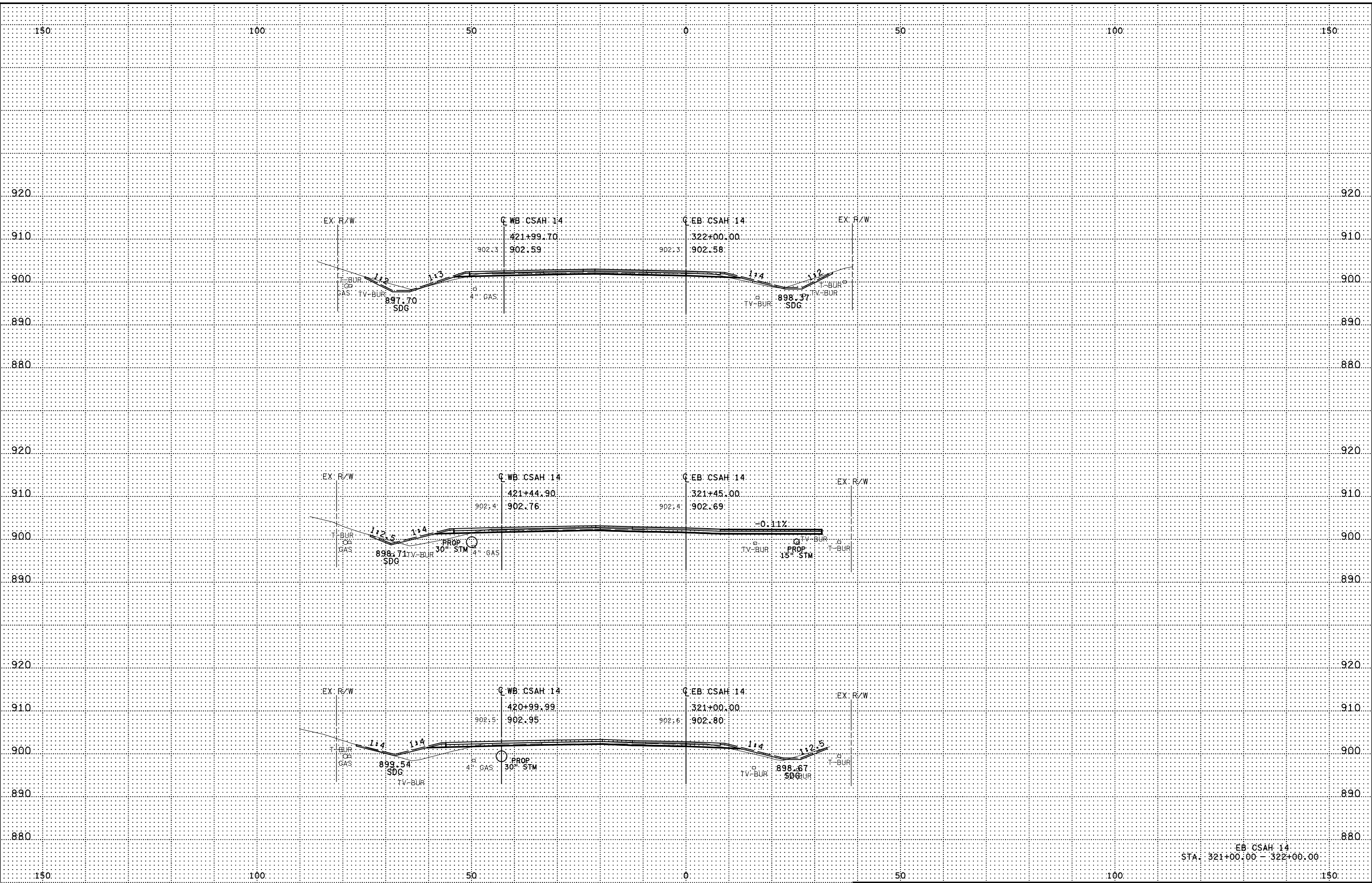
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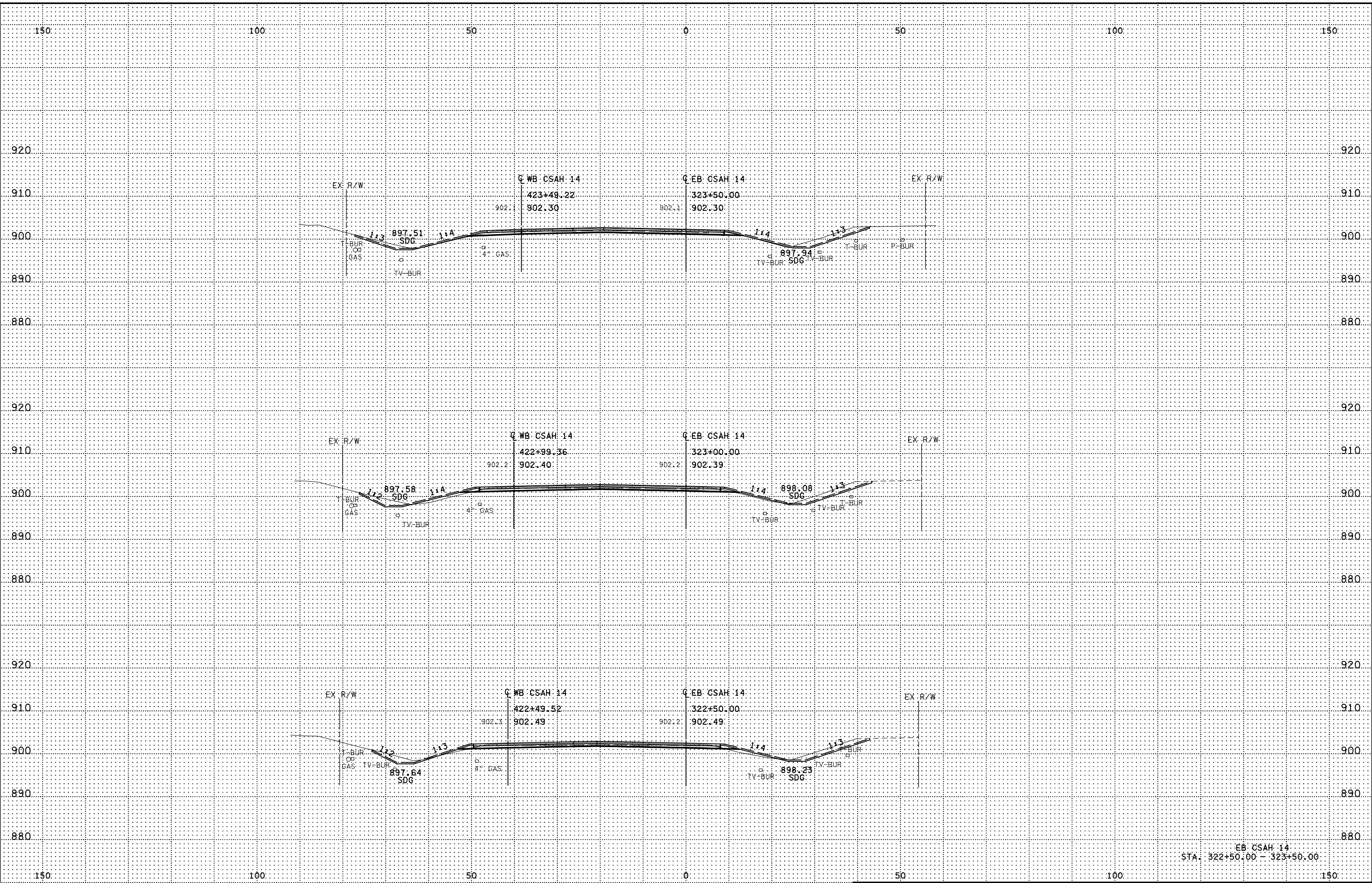
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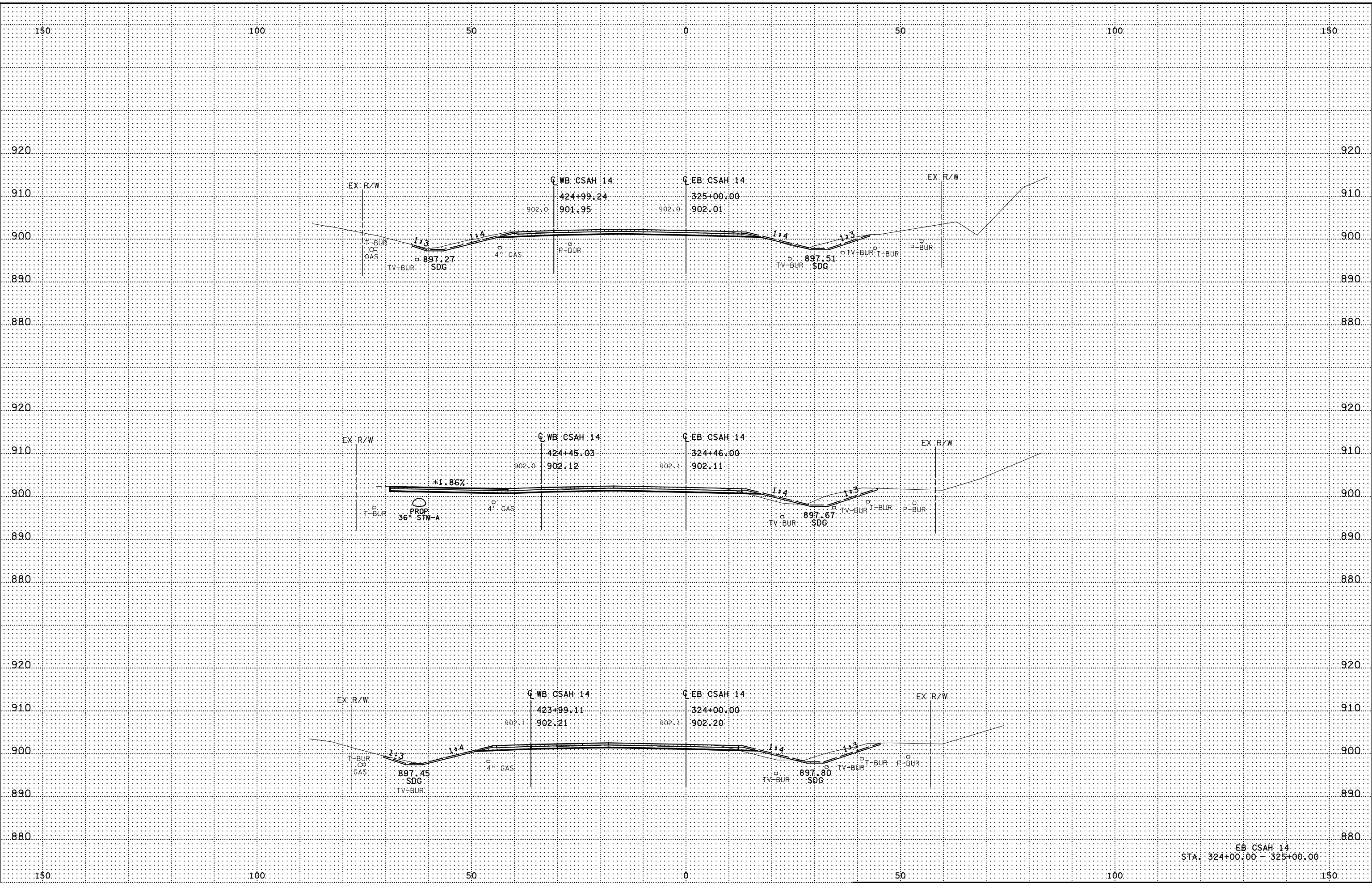
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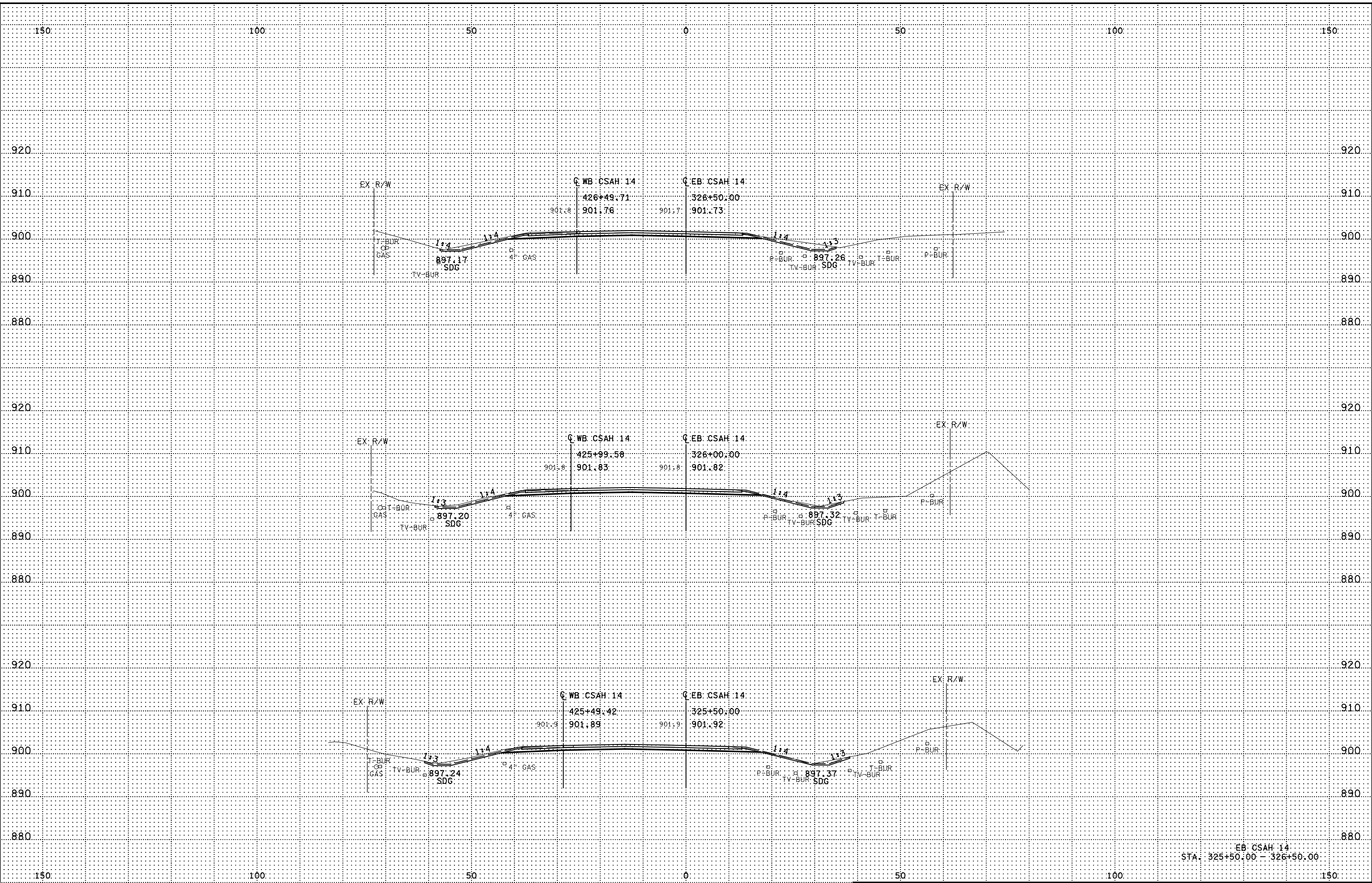
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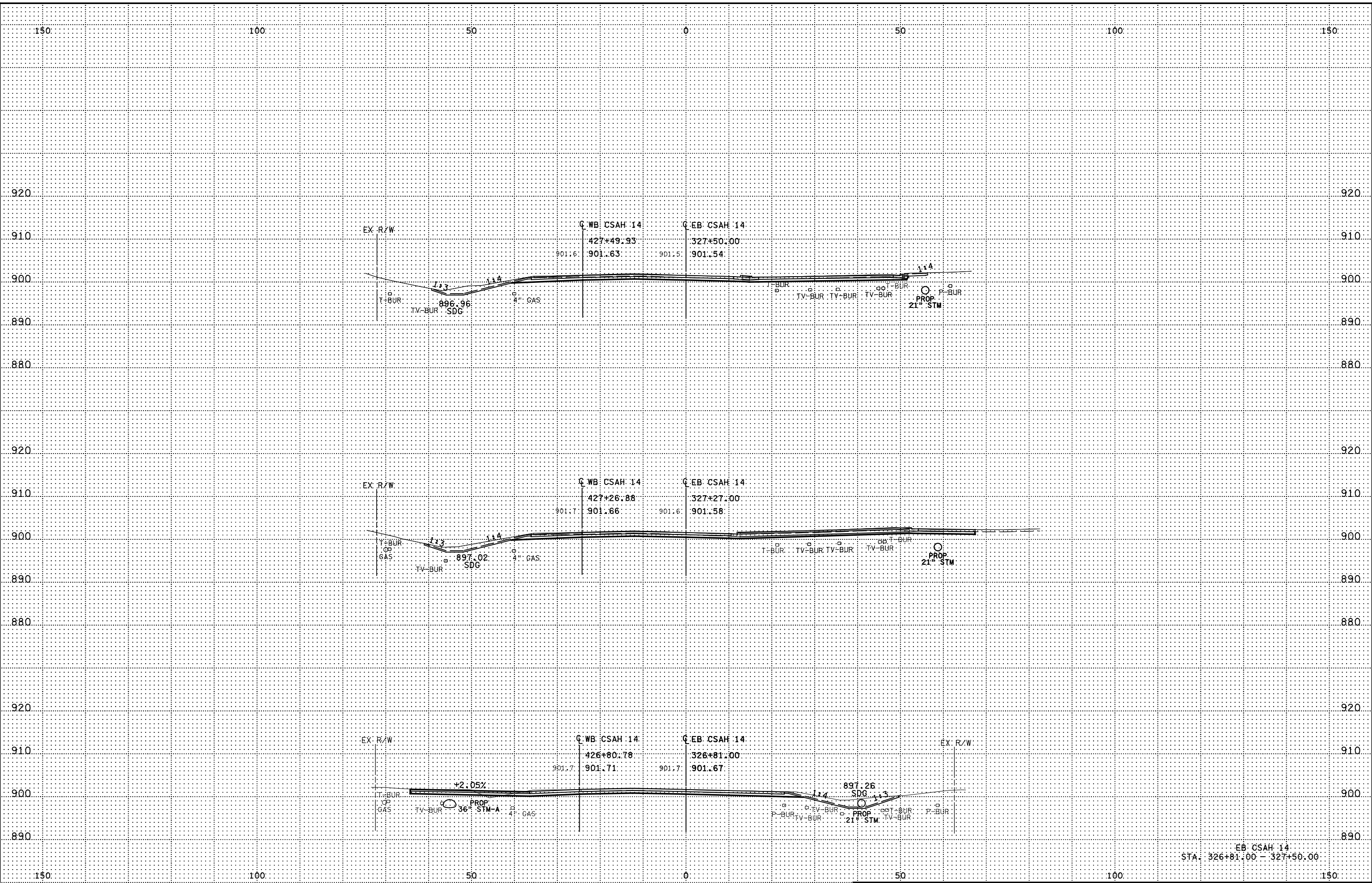
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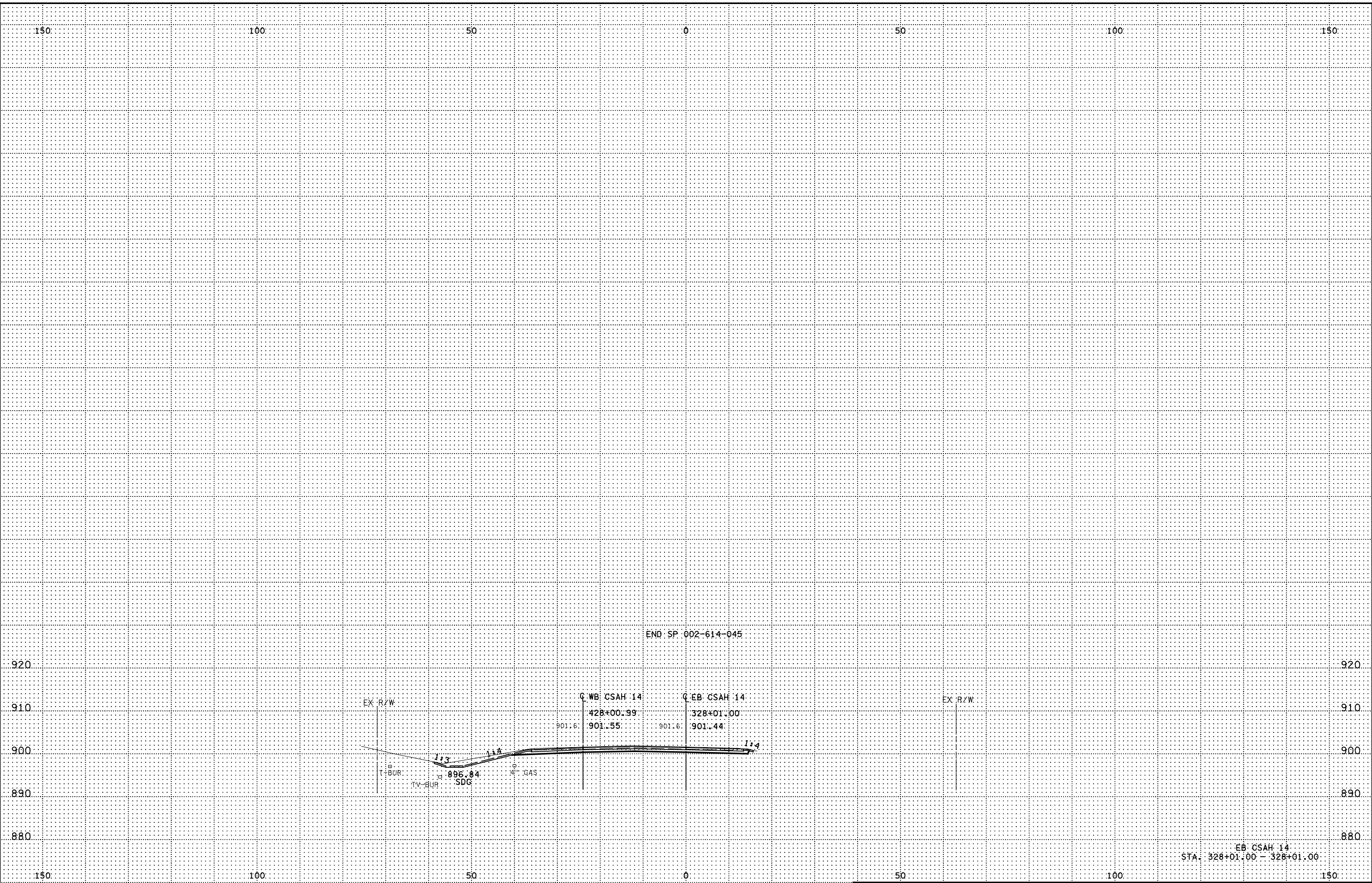
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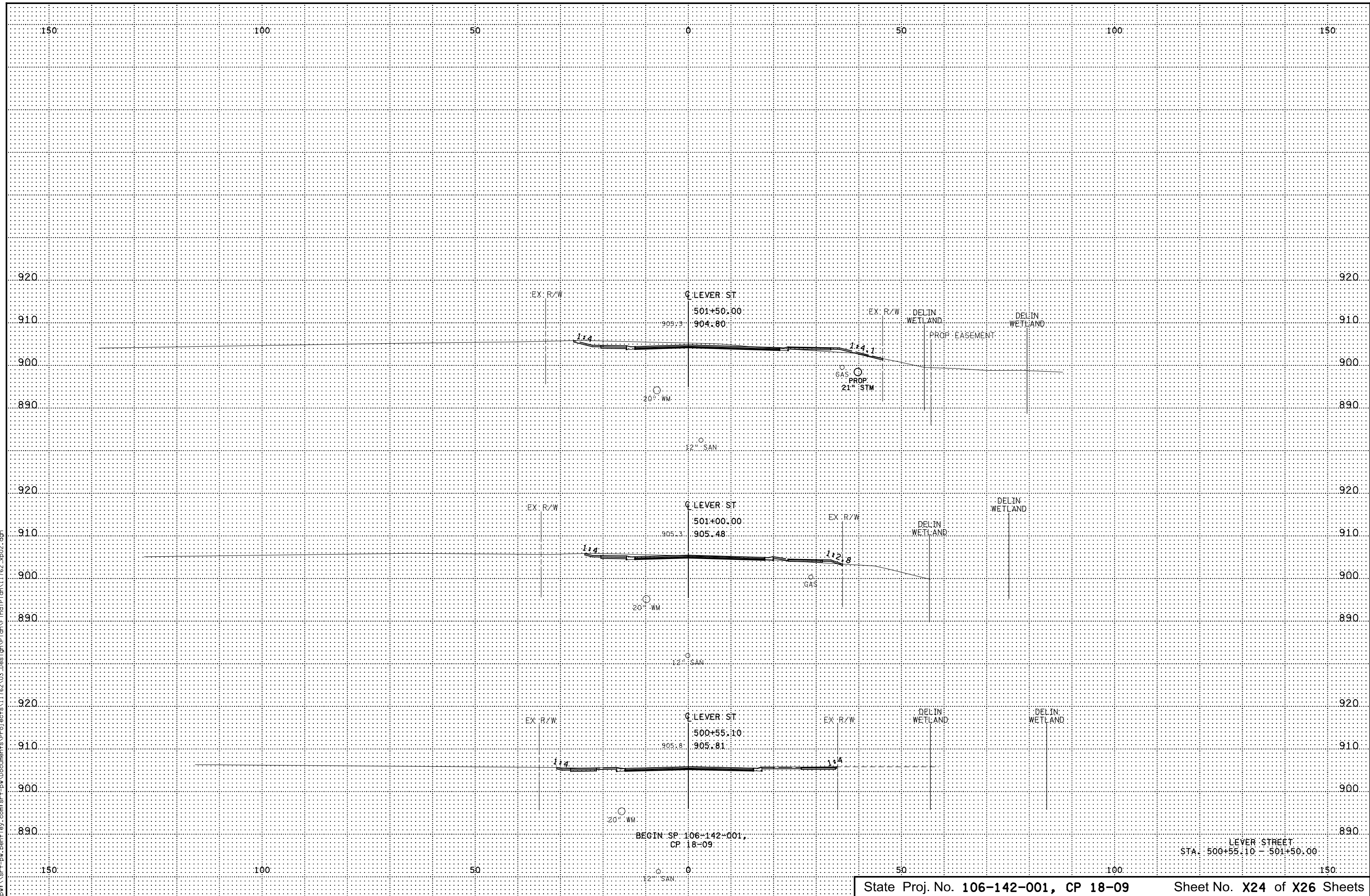


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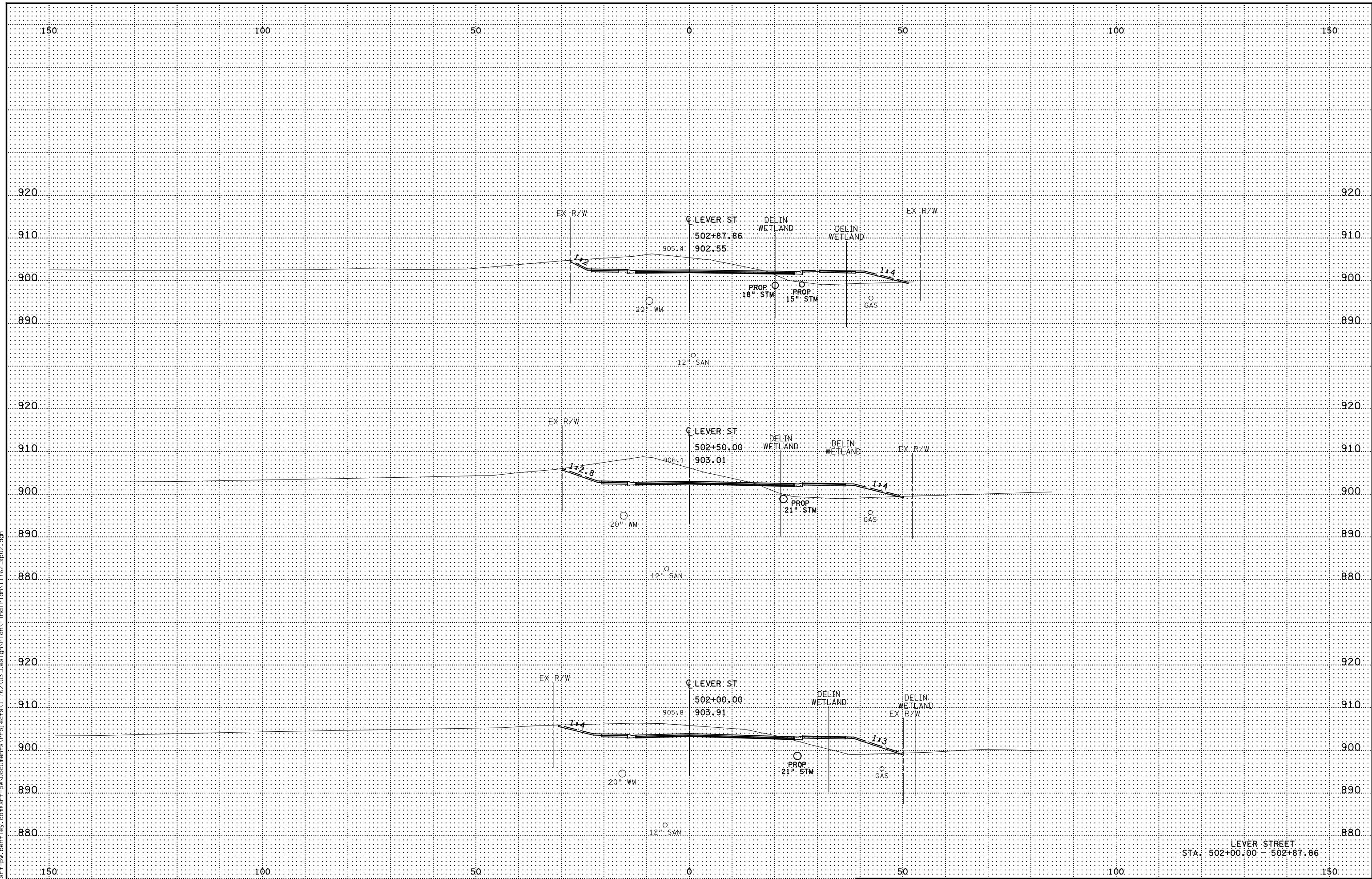
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